Microsoft

Microsoft Dynamics 365

2019 RELEASE WAVE 2 PLAN

Features releasing from October 2019 through March 2020

Contents

Dynamics 365: 2019 release wave 2 plan

The release plan (formerly release notes) for the 2019 release wave 2 describes all new features releasing from October 2019 through March 2020 for Dynamics 365. You can either browse the release notes online or download the document as a PDF file.

New for wave 2: All of the Power Platform apps coming in release wave 2 have been summarized in a separate release plan. However, we have included PowerApps, Microsoft Flow, and Common Data Model and data integration in this release plan as well.

2019 release wave 2 overview

The 2019 release wave 2 for Dynamics 365 brings new innovations that provide you with significant capabilities to transform your business.

The enhancements to Dynamics 365 applications include hundreds of new capabilities across the business process applications:

- Sales
- Marketing
- Customer Service
- Field Service
- Project Service Automation
- Finance and Operations
- Talent
- Retail
- Business Central

The 2019 release wave 2 enhances artificial intelligence capabilities to help organizations accelerate their transformation of customer service, sales, and marketing functions:

- **Sales Insights** empowers teams with more foresight, to enhance productivity and better anticipate outcomes across the sales lifecycle.

- **Customer Service Insights** provides an actionable view into critical performance metrics, operational data, and emerging trends using industry-leading artificial intelligence.
- **Virtual Agent for Customer Service** enables organizations to create AI-powered bots that chat with customers and provides new opportunities for organizations to improve customer service through digital transformation.
- **Customer Insights** enables every organization to unify and understand their customer data to harness it for intelligent insights and actions.
- **Market Insights** enables business users to gather actionable insights based on what consumers say, seek, and feel about their brands and products.
- **Fraud Protection** enables the e-commerce merchants to drive down fraud loss, increase bank acceptance rates to yield higher revenue, and improve the online shopping experience.

The 2019 release wave 2 continues to add a whole new set of experiences to enhance employee productivity using mixed reality:

- **Remote Assist** empowers technicians to solve problems faster the first time.
- **Layout** provides a new way for space planners to bring designs from concept to completion with confidence and speed.
- **Product Visualize** empowers salespeople to convey the true potential of their products to their customers by harnessing the power of augmented reality on their mobile devices.
- **Guides** is a mixed-reality application for Microsoft HoloLens that enables employees to learn in the flow of work by providing holographic instructions when and where they need them.

This release plan describes functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

Key dates for the 2019 release wave 2

Here are the key dates for the 2019 release wave 2.

Milestone	Date	Description
Release plans available	June 10, 2019	Learn about the new capabilities coming in the 2019 release wave 2 (October 2019 – March 2020) across Dynamics 365 and the Power Platform.

Milestone	Date	Description
Early access available	August 2, 2019	Try and validate the new features and capabilities that will be a part of the 2019 release wave 2, October update, before they get enabled automatically for your end-users.
General availability	October 1, 2019	Production deployment for the 2019 release wave 2 begins. Specific deployment dates for each country or region or instance will be communicated in advance.

We are listening: New for 2019 release wave 2

In the April '19 release, we heard feedback that it was not clear which features were turned on automatically and when exactly each feature would be delivered. To address this, we specify when each feature will be available. In addition, we call out how each feature is enabled:

- **End users, automatically**: These features include change(s) to the user experience for end users and are enabled automatically.
- **Admins, makers, or analysts, automatically**: These features are meant to be used by administrators, makers, or business analysts and are enabled automatically.
- **End users by admins, makers, or analysts**: These features must be enabled or configured by the administrators, makers, or business analysts to be available for their end users.

You can get ready with confidence knowing which features will be enabled automatically.

We've done this work to help you — our partners, customers, and users — drive the digital transformation of your business on your terms. We're looking forward to engaging with you as you put these new services and capabilities to work, and we're eager to hear your feedback as you dig into the 2019 release wave 2.

Let us know your thoughts. Share your feedback on the Dynamics 365 community forum. We will use your feedback to make improvements.

Change history

This topic is updated when features are added, or when a feature's release date changes. To find out about updates to these release plans, follow us on Twitter @MSFTDynamics365.

Dynamics 365 for Customer Service

Features added to release plan

Feature	Date added
Knowledge management inline image enhancement	June 17, 2019

Release date changed

Feature	Change	Date updated
Knowledge management search and rendering enhancement	Changed Public Preview date from October 2019 to August 2019. Changed General Availability date from December 2019 to October 2019.	June 12, 2019

Features removed from release plan

Feature	Reason	Date removed
Automatic record creation enhancements	This feature is being removed from Public Preview and will be added later in the Wave 2 release as an Admin/Maker option to enable.	June 25, 2019

Dynamics 365 for Project Service Automation

Release date changed

Feature	Change	Date updated
Comprehensive project operations	Changed General Availability date from January 2020 to February 2020.	June 17, 2019

Dynamics 365 for Finance and Operations

Features added to release plan

Feature	Date added
URS-based resource management for projects in Finance and Operations	June 16, 2019
Visual refresh of the web client to align with the Fluent design language	June 10, 2019
Remove project group dependency from project	June 10, 2019
Remove project type dependency from project	June 10, 2019

Release date changed

Feature	Change	Date updated
Further catch weight integration 10.0.3	Changed General Availability date from October 2019 to December 2019.	June 14, 2019
Further catch weight integration 10.0.2	Changed General Availability date from October 2019 to December 2019.	June 14, 2019
Further catch weight integration 10.0.1	Changed General Availability date from October 2019 to December 2019.	June 14, 2019

Feature	Change	Date updated
Further catch weight integration 10.0.4	Changed General Availability date from October 2019 to December 2019.	June 14, 2019
Inventory on-hand service	Changed Public Preview date from September 2019 to August 2019.	June 10, 2019

Dynamics 365 for Retail

Features added to release plan

Feature	Date added
Translations for charges codes in POS	June 10, 2019
E-commerce Inventory API improvements	June 10, 2019

Dynamics 365 Business Central

Features added to release plan

Feature	Date added
Support for technical upgrades	June 16, 2019
Convert tables from C/AL definitions to AL table definitions	June 10, 2019

Release date changed

Feature	Change	Date updated
Write larger item cross-reference numbers	Public Preview date updated to August 2019.	June 17, 2019

Feature	Change	Date updated
Carry line descriptions to general ledger entries when posting	Public Preview date updated to August 2019.	June 17, 2019
Cancel issued reminders and finance charge memos	Public Preview date updated to August 2019.	June 17, 2019
Switch between companies in your Business Inbox in Outlook	Public Preview date updated to August 2019.	June 14, 2019
Improvements in update testing and preparation	Public Preview date updated to August 2019.	June 14, 2019
Multiple production environments	Public Preview date updated to August 2019.	June 14, 2019
Ability to download a database backup file	Public Preview date updated to August 2019.	June 14, 2019
Enhancements to Excel integration	Public Preview date updated to August 2019.	June 14, 2019

Dynamics 365 Sales Insights

Release date changed

Feature	Change	Date updated
Capture more customer communications	Changed Public Preview date from October 2019 to December 2019.	June 10, 2019

Dynamics 365 Market Insights

Features added to release plan

Feature	Date added
Get alerts when people talk about your product, brand, or company on the web	June 16, 2019
Additional types of insights (March 2020)	June 10, 2019
Share insights with others	June 10, 2019
Drill into details of your insights directly from the newsfeed	June 10, 2019
Initial set of insights (October 2019)	June 10, 2019
Define relevant topics for your business	June 10, 2019
Integrate with Dynamics 365 for Sales	June 10, 2019

Microsoft Forms Pro

Release date changed

Feature	Change	Date updated
Survey incentives	Public Preview date updated to September 2019.	June 11, 2019
Categorize survey comments automatically	Public Preview date updated to October 2019. Changed General Availability date from October 2019 to **To be announced**.	June 11, 2019

Dynamics 365 for Marketing

Overview of Dynamics 365 for Marketing 2019 release wave 2

Dynamics 365 for Marketing is a marketing automation solution that can help businesses turn more prospects into business relationships. Since its launch in April 2018, Dynamics 365 for Marketing has seen increasing adoption by organizations looking to align sales and marketing, make smarter decisions, and grow with an adaptable platform. The app goes beyond basic email marketing to provide deep insights and generate qualified leads for your sales teams. Its graphical content-creation and design tools make visually rich emails, landing pages, and customer journeys easy to design and execute.

Our customers are looking to achieve more with less effort through an intuitive experience that doesn't require the assistance of technical experts to perform common tasks. The 2019 release wave 2 doubles down on ease-of-use and simplification while continuing to invest in intelligent scenarios. Here are the key investment areas for this release:

- **Marketing made simple**: Having simplified trial sign-ups, we are continuing to streamline the rest of the product by concentrating on the scenarios most often mentioned in user feedback. We've simplified processes, eliminated extra clicks, and added many small improvements that help make marketers' lives easier. Improvements include: new email layouts, subscription-list management, and much more.

- **Personalized marketing**: The system helps marketers build effective content effortlessly. With A/B testing, marketers can set up powerful experiments with a few clicks and let the system take care of the rest. Thanks to a robust platform, large organizations can customize their marketing execution to run independently for each business unit.

- **Connected business apps**: Sales teams are looking for marketing-powered insights that let them drill down into details to learn more about their customers, for example while preparing for meetings or replying to emails.

- **Actionable intelligence** lets you build optimized audiences and orchestrate effective communication strategies. With Dynamics 365 Customer Insights, marketers can leverage the power of the Microsoft ecosystem to increase the effectiveness of their marketing initiatives.

- **Fundamental investments** continue to deliver improved performance, scalability, system management, extensibility, and throughput for campaign execution and email marketing. Improved provisioning makes life easier for admins and power users.

What's new and planned for Dynamics 365 for Marketing

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Feature	Enabled for	Public preview	General availability	Early access?*
Marketing support for business units	End users by admins, makers, or analysts		October 2019	No
Customer Insights integration	End users, automatically		October 2019	Yes
Easy setup for subscription lists	End users, automatically		October 2019	Yes
Email A/B testing	End users, automatically		October 2019	Yes
Layout editor	End users, automatically		October 2019	Yes
Support approvals using Microsoft Flow	End users, automatically		October 2019	Yes
Support for surveys using Microsoft Forms Pro	End users, automatically		October 2019	Yes
Quick send	End users by admins, makers, or analysts		December 2019	No

* Some features are available for you to opt-in as part of early access on August 2, 2019, including all mandatory changes that impact end users. Learn more about early access.

Description of **Enabled for** column values:

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For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Marketing support for business units

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts		October 2019	No

Feature details

Large organizations with multiple customer bases often use multiple *business units* to manage their marketing datasets and campaigns. On top of these, a parent business unit often manages centralized reporting or creates templates to be propagated across all the child business units. The Dynamics 365 for Customer Engagement platform supports this model, and the Marketing app now supports this during all aspects of marketing execution, including: access to contact records, display of segment members, access to contact insights, availability of email templates, and more.

Customer Insights integration

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

The new Customer Insights app for Dynamics 365 applies artificial intelligence to analyze rich pools of customer data collected from across other apps like Dynamics 365 for Sales, Service, and Marketing. Its standard functionality generates powerful analytical displays for each contact, which makes the information easy to understand and use. The integrated solution can:

- Push marketing interactions to the Customer Insights data lake to produce a complete 360° view for each contact.

- Apply data cleansing, enrichment, and fuzzy matching.
- Use segments created by Customer Insights to target customer journeys in Dynamics 365 for Marketing.

Easy setup for subscription lists

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

Marketers often run campaigns that target subscription lists directly, without applying any additional filters or criteria to establish the target segment. We now make this scenario easy to accomplish by helping marketers to work end-to-end with subscription lists throughout the marketing lifecycle. Key improvements include:

- Subscription lists are now available natively from the main navigator in the Dynamics 365 for Marketing app.
- Read, create, edit, and delete subscription lists directly in Dynamics 365 for Marketing.
- Use the new *subscription lists* design element to add lists to subscription forms.

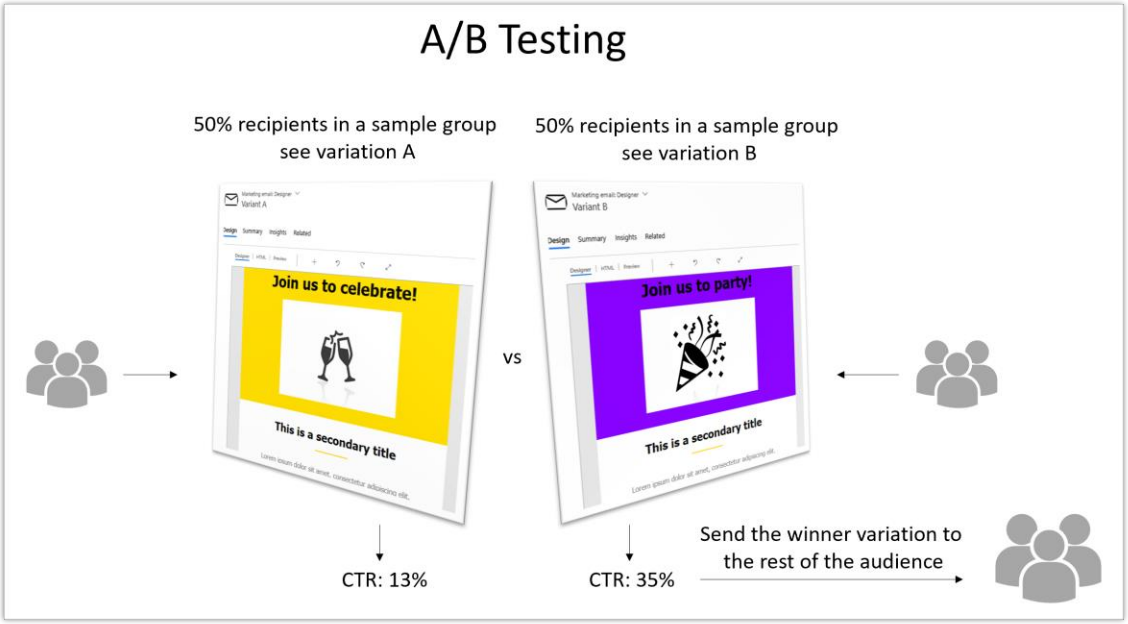
Email A/B testing

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

One of the best ways to find out which of several possible email designs will produce the best results is to try each design on a different subset of your audience and then analyze interaction records to see how each design was received. Marketers call this *A/B testing*.

We've now built this capability right into the Marketing product by allowing marketers to create alternative versions of a message and define their business goals for it. The system establishes a few small test groups within the target segment and sends a different version of the message to each group, followed by statistical analysis that automatically identifies the winning design based on the stated business goal. The winner is then delivered to the rest of the segment.



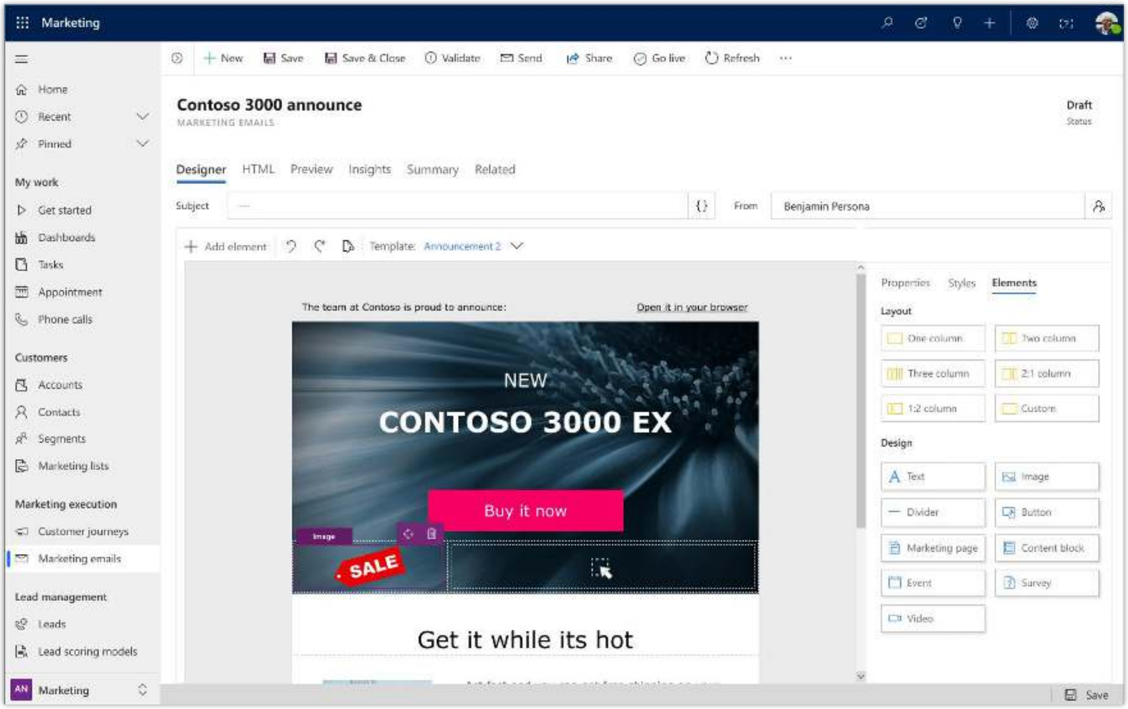
A/B testing process overview diagram

Layout editor

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

With this release, we continue to make it easier for marketers to design and modify published content. The visual email designer now provides a layout editor for designing multi-column layouts. This provides a quick an easy way to alter the appearance of email messages, which is a feature that marketers often look for.



The layout editor

Support approvals using Microsoft Flow

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

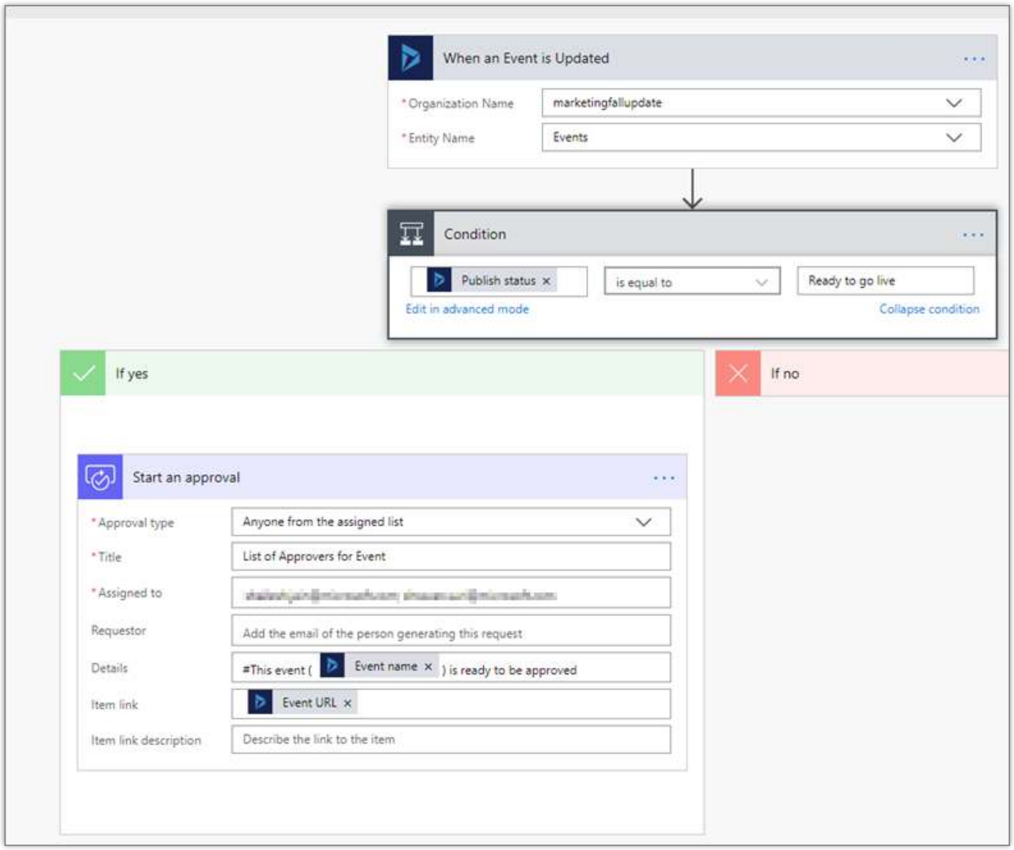
Dynamics 365 for Marketing now supports a customizable approval workflow that helps make sure that new marketing materials and campaigns are properly approved before going into effect.

After a marker has finished setting up a new record, such as a marketing email or customer journey, he or she can send that record for approval with just a single click. Based on how the approval workflow is set up, the relevant manager is then notified of the approval request. Core approval scenarios include:

- Request approval for a record
- Cancel request for approval

- Approve or reject an approval request
- Delegate a request for approval
- Manage an overdue approval request

The approval system is delivered as a Microsoft Flow app that can enforce a simple approval process based on core marketing entities. Because each organization probably has its own business process and hierarchy, Flow provides the flexibility required for easy customization by business users, makers, or partners.



Approval workflow designer

Support for surveys using Microsoft Forms Pro

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

Create stellar customer experiences by using surveys to measure customer sentiment and satisfaction at every touchpoint. Surveys also help you make smarter decisions by capturing and analyzing customer feedback.

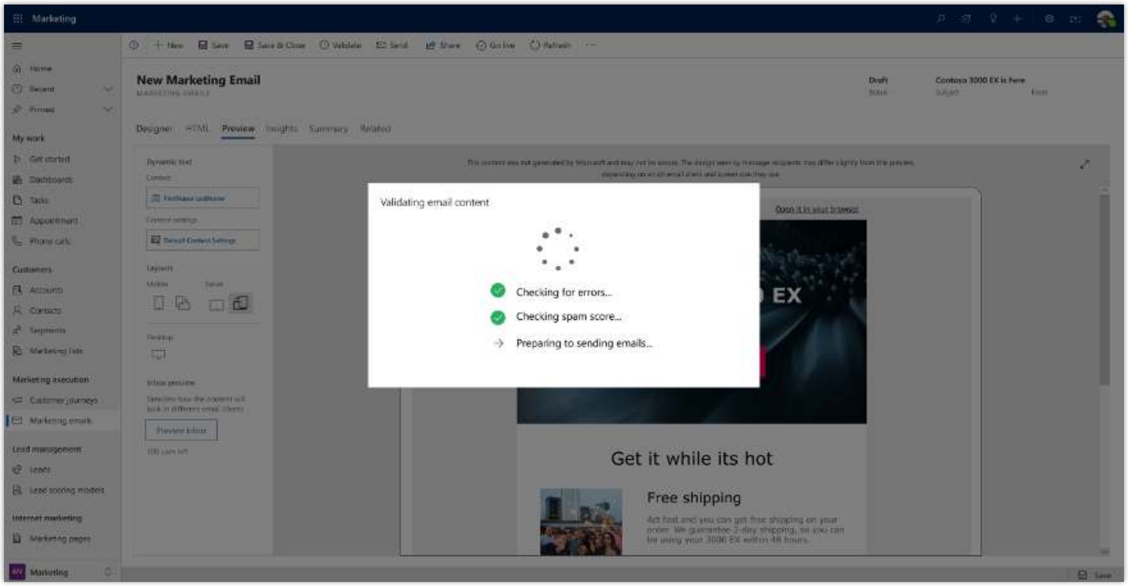
Surveys based on Microsoft Forms Pro bring a rich set of capabilities for inquiring about your customers' needs, thereby preparing you make data-driven decisions and to apply your findings to your marketing initiatives. You can also make automated use of survey responses by including them in the criteria for segmentation, lead scoring, or branching a customer journey.

Quick send

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts		December 2019	No

Feature details

Often, marketers just need to send out a quick email blast to a target audience without requiring follow-up automation or behavioral triggers. We've optimized this experience by making it easy to craft and send emails to a large audience in just a few clicks. Users can gradually move on to create more complex, multi-step customer journeys when needed.



Quick send

Dynamics 365 for Sales

Overview of Dynamics 365 for Sales 2019 release wave 2

Dynamics 365 for Sales is an enterprise-grade customer engagement software that enables sales teams to build strong relationships with their customers, take actions based on insights, and close deals faster. As the most popular application on the Dynamics 365 platform, Sales encompasses many scenarios that range from traditional outbound sales models to complex configurations that meet many large enterprise business needs.

The product is designed to offer a turn-key solution for lightweight needs with Dynamics 365 for Sales Professional, supporting customized experiences as these organizations grow and expand. Dynamics 365 for Sales is purpose-built, helping organizations increase revenue with actionable insights that drive more relevant and authentic customer engagements, all while maximizing productivity.

Our customers and prospects seek stability and satisfaction in their investment with Dynamics 365. To bet their sales strategies on Dynamics 365 for Sales, these customers need to trust the stability of our software. Stability includes standard fundamentals like availability, performance, and supportability, but also other important aspects such as compliance, data protection, security, and communications. Satisfaction needs are primarily centered on the ease of use of the product and a minimum number of steps to complete each scenario.

In the 2019 release wave 2, we are investing heavily in the stability and satisfaction of the platform, delivering more value to our customers. These improvements are centered around the following themes:

- **Reliability and performance**: Continue to provide improved performance, scalability, availability, extensibility, and supportability to help sellers focus on customer relationships.
- **Modern and simple user interface**: Continue to streamline and simplify key scenarios most mentioned in user feedback. Simplified processes, eliminating extra clicks, and improvements that help make sellers' lives easier.
- **Relationship-selling enhancements**: Invest in integrations that let sellers quickly transition between CRM and communications, without the need to switch context, ensuring conversations are authentic and meaningful.
- **Sales productivity**: Go beyond simplification to offer intelligence, turning data into insights that can help organizations increase revenue and empower sellers to have more personal conversations.

- **Ecosystem enablement**: With Dynamics 365 for Sales, sellers can leverage the power of the Microsoft ecosystem to increase the effectiveness of their selling activities.

What's new and planned for Dynamics 365 for Sales

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

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Feature	Enabled for	Public preview	General availability	Early access?*
Contextual email communication	End users by admins, makers, or analysts	October 2019		No
LinkedIn Sales Navigator Data validation	End users by admins, makers, or analysts	November 2019		No
Improve or simplify most common sales workflows	End users, automatically		October 2019	Yes
LinkedIn Sales Navigator integration enhancements	End users, automatically		October 2019	Yes
Microsoft Teams integration enhancements	End users, automatically		October 2019	Yes
Simplified signup experience for Sales Professional	End users by admins, makers, or analysts		October 2019	No
Softphone dialer	End users by admins, makers, or analysts		October 2019	Yes

Feature	Enabled for	Public preview	General availability	Early access?*
Business card scan	End users, automatically		October 2019	Yes
Customization of Opportunity Close dialog box	End users by admins, makers, or analysts		October 2019	Yes
Enhance the adding or editing Opportunity/Quote/Order/Invoice products experience	End users, automatically		October 2019	Yes
Out-of-the-box hierarchical relationship on the Territory entity	End users, automatically		October 2019	Yes
Simplified lead management experience	End users, automatically		October 2019	Yes

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Contextual email communication

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019		No

Business value

A top request by customers.

Because Microsoft provides several integrations of Dynamics 365 for Sales with Outlook, we have relied on lightweight email editor experiences for many years. Email is a central component every day in the life of salespeople, who are in constant contact with their leads and stakeholders. When composing emails, sales teams frequently refer to data displayed on a page and they don't want to navigate away from it. By overlaying an email composition screen on top of the existing form, sellers will be able to compose an email without having to navigate away from the screen they are on. This allows them to compose more thoughtful emails to their customers and improve the quality of engagement.

Feature details

With a rich text editor and a pop-up non-blocking window, composing email has never been better in Dynamics 365 for Sales. Salespeople will be able to write email with context of the record they are working on, navigate between records, have multiple active draft emails open simultaneously, preview the content before sending, add attachments, and be able to use email templates to optimize commonly used tasks. The email opening up in a non-blocking window gives sales people all the relevant content at a glance, while they compose their email to the customer.

NOTE This feature is available in the Unified Interface only.

Improve or simplify most common sales workflows

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Business value

Simplified workflows will introduce ease of access to commonly used components. Enhancements to sales stakeholder and sales team management processes will help improve their productivity while offering flexibility in product management and UI-based product reparenting.

Feature details

- Make the **Documents** tab visible in the main form for Contact, Opportunity, Lead, and Account entities.
- Enhance the Opportunity form user experience.
- Support reparenting of products and the addition of properties at the product level (supported on both the legacy web client and the Unified Interface).
- While defining a product catalog, admins can update the parent of a product, bundle, or family in cases where products need to be realigned. Additionally, they can add properties directly at the product or bundle level.

NOTE This feature is available in the Unified Interface only.

LinkedIn Sales Navigator integration enhancements

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Business value

Microsoft Relationship Sales solution brings together LinkedIn Sales Navigator and Dynamics 365 for Sales to empower sellers to drive more personalized and meaningful engagements with buyers. LinkedIn's InMails are a commonly used communication channel for sales representatives to connect with their customers. Dynamics 365 for Sales will foster efficient customer engagement by allowing sales reps to compose and send InMail from within Dynamics 365 for Sales entities.

Feature details

- A new LinkedIn widget will be introduced inside a Dynamics 365 record to host the LinkedIn InMail component. This LinkedIn widget will allow sales representatives to send InMails to their contact, opportunity, lead, and entity contacts while viewing the LinkedIn profile information alongside.
- Sales users will be able to access the InMail component while working on the Org chart feature in Dynamics 365 for Sales. They can just double-click the Org chart node and select the InMail icon to be able to send LinkedIn InMails directly from Dynamics 365 for Sales.

If the organization has enabled the sync, the sent InMail is also added as an activity in the activity timeline of the contact, opportunity, lead, and account entity from where the InMail was sent.

NOTE This feature is available in the Unified Interface only.

Microsoft Teams integration enhancements

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Business value

Dynamics 365 integration with Teams was introduced in April 2019. Enhancements help to connect Dynamics 365 records to Teams channels without leaving the Dynamics 365 app. Sellers will receive team member recommendations, during the connection flow, based on Dynamics 365 access privileges. To further improve the extensibility, file sharing can now be enabled for any out-of-the-box and custom entities, across Dynamics and Teams connections. Connections refer to the ability to add a Dynamics 365 tab to a Teams channel.

Feature details

- When connecting a Dynamics 365 record to a Teams channel, relevant members are suggested based on users associated with the Dynamics 365 record. Member suggestions will be available to a user if designated as a channel owner.
- SDK support is now available for the Microsoft Teams integration feature for any entity type, including custom entity types.
- When creating a Teams channel from the Dynamics 365 record page, users can automatically connect the Dynamics 365 record to the selected channel.

NOTE This feature is available in the Unified Interface only.

Simplified signup experience for Sales Professional

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts		October 2019	No

Business value

Reduced time and effort for users to sign up for a trial or paid version of Dynamics 365 for Sales Professional.

Feature details

The trial and purchase experience for Dynamics 365 for Sales Professional is being overhauled so that new customers can easily and quickly reach the Sales Professional app and get started. The app is enhanced to look modern and welcoming, enabling users to discover its value instantly.

- Future users can sign up for trials easily and quickly. On signing up, they will land in the Sales Professional app quickly with minimal administrative tasks.
- New users who purchase Sales Professional licenses will be able to land in the Sales Professional app directly after purchase.
- New users will be greeted with a welcome screen that helps them understand the key scenarios that the application helps them achieve immediately.
- Users will get guided help for the most common actions they expect to achieve in the application.

NOTES

This capability is intended only for Dynamics 365 Sales Professional.

No preview will be available for this capability.

This feature is available in the Unified Interface only.

Softphone dialer

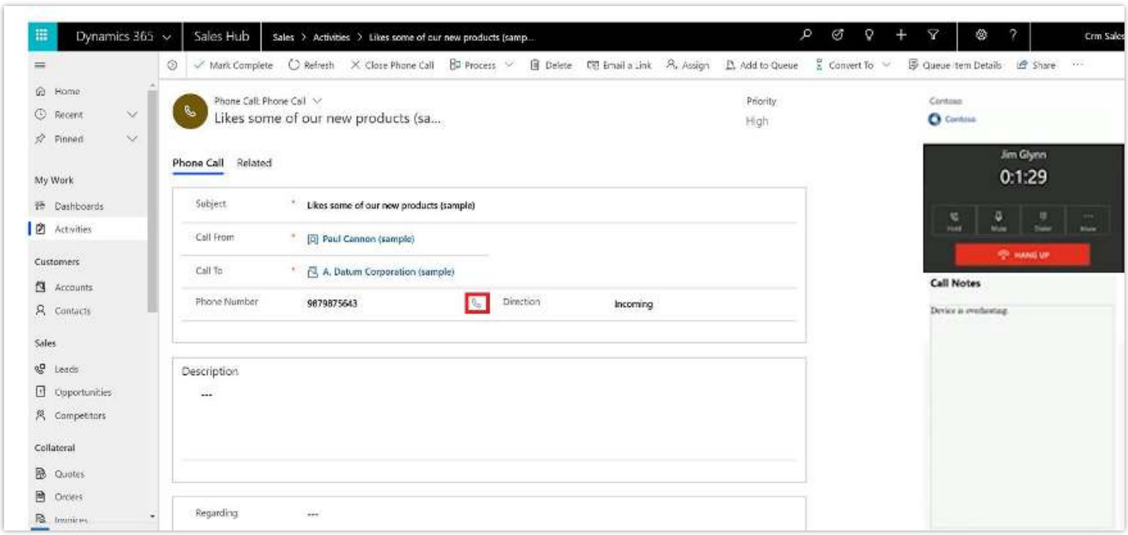
Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts		October 2019	Yes

Business value

Remote selling is a constantly growing segment, driven by the increasing trend of online and over-the-phone purchasing. Sellers and inside sellers reach out to their customers over the phone every day, always seeking to simplify and streamline these communications. By integrating the calling experience and automating how these communications are captured in Dynamics 365 for Sales, we help sellers be more productive and focus on having more meaningful conversations.

Feature details

Customers can leverage the channel integration framework in Dynamics 365 for Sales to integrate the softphone dialer from their telephony provider, within the customer engagement app. Sales reps can quickly dial numbers directly from the browser to call contacts by selecting a phone number. The softphone dialer immediately appears and initiates the call.



Softphone dialer

NOTE This feature is available in the Unified Interface only.

Business card scan

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

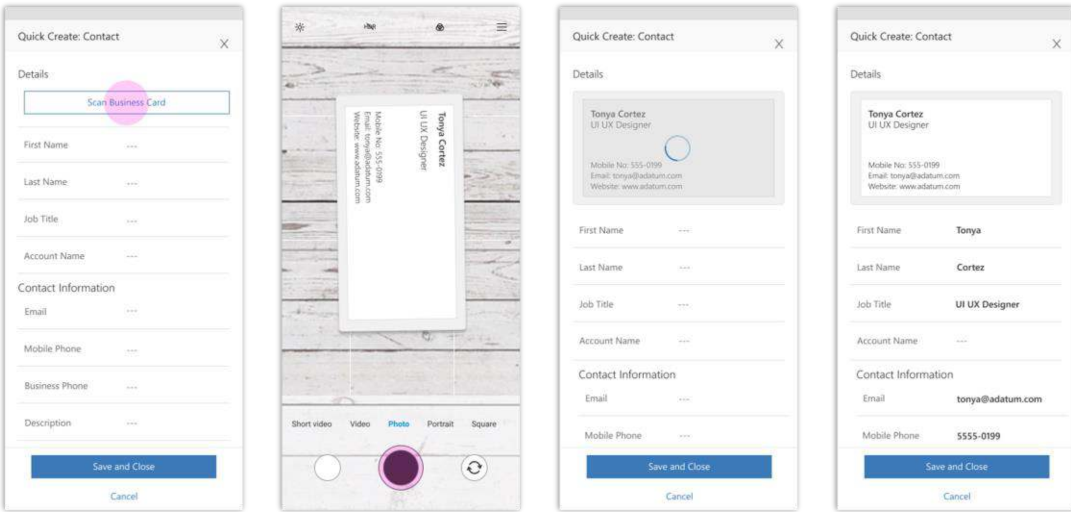
Business value

A top request by customers.

Business cards are typically handed out at meetings, then often misplaced or lost. Sales professionals need a way to quickly capture information from these cards, freeing them to focus on more important tasks. Scanning business cards is particularly useful when on the go, at conferences, or offsite meetings.

Feature details

Business cards can be scanned via mobile or web. The scanner will analyze the card for relevant information, and automatically update respective fields in the system. The feature also offers configuration, allowing users to select alternative fields to populate.



Examples of scanned business cards

NOTE This feature is available in the Unified Interface only.

Customization of Opportunity Close dialog box

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts		October 2019	Yes

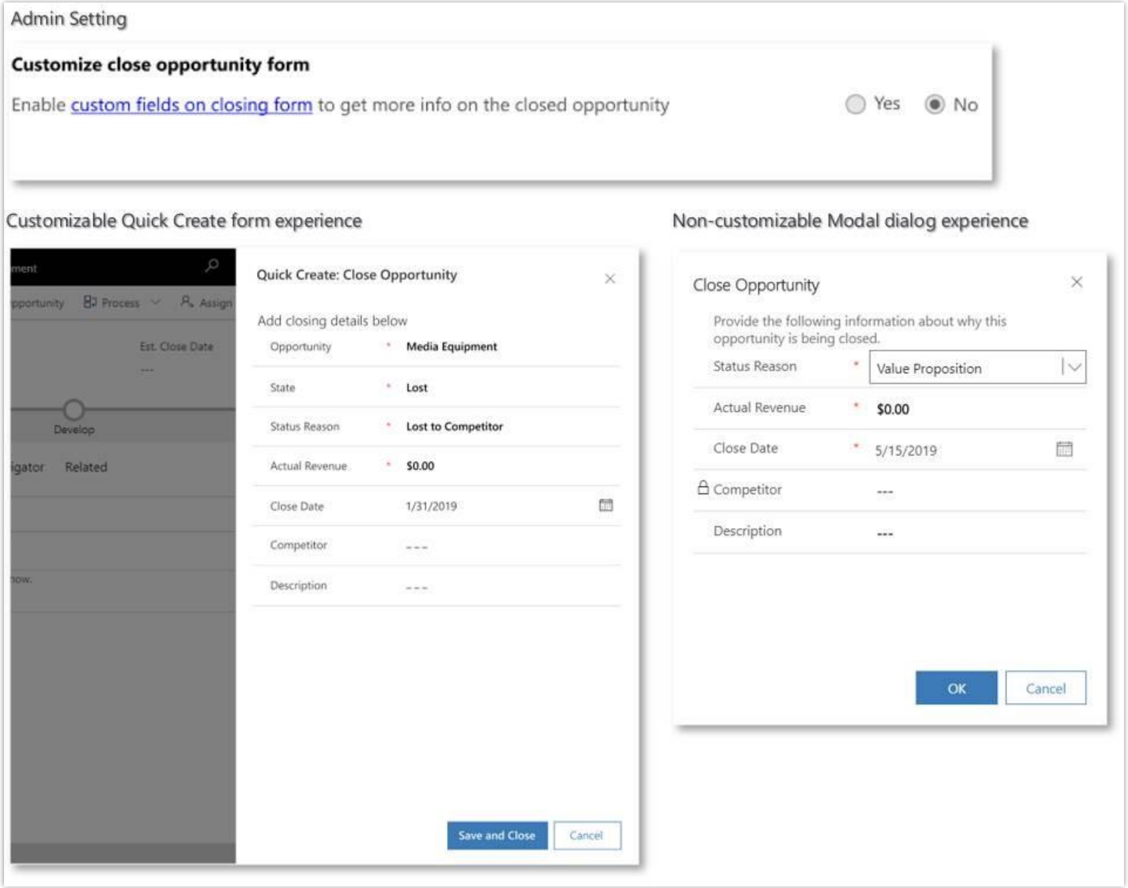
Business value

A top request by customers.

When closing an opportunity, businesses often need to understand why the opportunity was lost or won to build upon past losses and successes or to try new strategies for improving win rates. By supporting customization of the Opportunity Close dialog box, Dynamics 365 for Sales helps companies capture close/win details based on their strategic sales initiatives. Furthermore, sales managers can see which competitors are trending in losses, or what drove success in wins. This information helps managers identify products and services that are performing well, to form future product and service strategies. In addition, the data captured can benefit analysis and machine learning models, helping to predict the likelihood of future opportunities to close.

Feature details

- Administrators can add fields such as Profit Margin or Winning Product in the Close as Won form/dialog box of the Opportunity entity.
- Administrators can add fields such as Competitive Advantage in the Close as Lost form/dialog box of the Opportunity entity.
- Administrators can introduce new client-side business validations or remove existing ones.
- Administrators can customize the Opportunity Close entity.
- Administrators can choose between the non-customizable modal dialog experience (default setting) and the customizable form experience.
- Sales reps can close an opportunity via the desktop or mobile app and provide relevant details required by their organization for closing the opportunity.



Opportunity Close

NOTE This feature is available in the Unified Interface only.

Thank you for your idea

Thank you for submitting this idea. We listened to your idea, along with comments and votes, to help us decide what to add to our product roadmap.

Enhance the adding or editing Opportunity/Quote/Order/Invoice products experience

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Business value

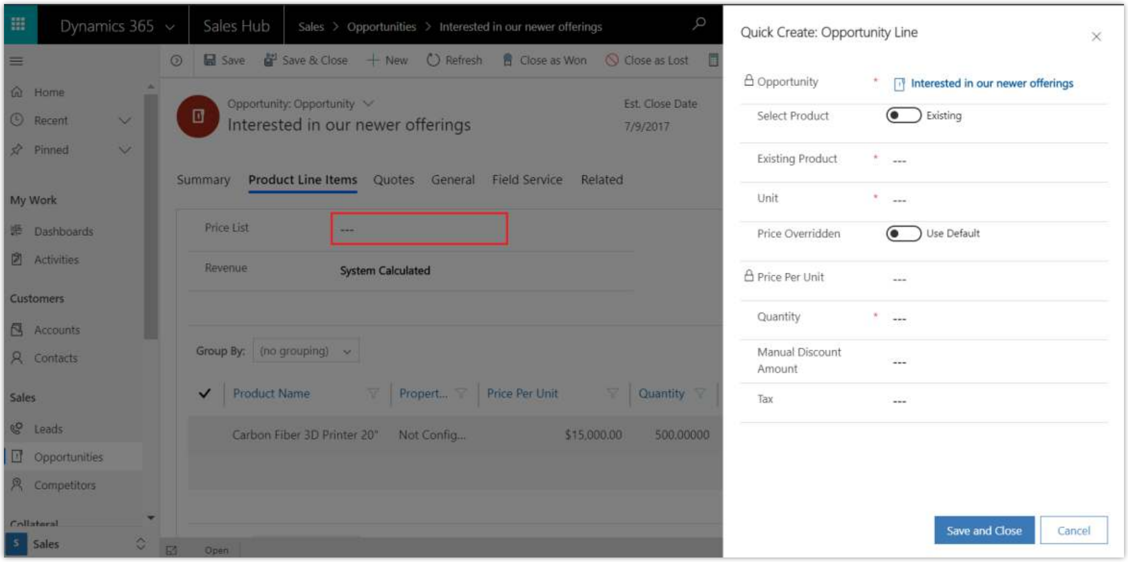
A top request by customers.

Enhancements to this feature help improve searching and filtering experiences by allowing salespeople to select a product on any line item, empowering them to be more productive and avoid unnecessary context switching.

Feature details

Creation of multiple product line items, which can be a repetitive task, is now streamlined with the new “Create & Add” capability. By quickly iterating on adding new products to an opportunity, an end user can save time and quickly shift focus to more important tasks. In addition:

- Users can add an existing product to an Opportunity, Quote, Order, and Invoice, with or without a price list.
- Administrators can choose whether to enforce selection of a price list.
- Users can quickly view and edit properties for a product, even while editing Opportunity or Quote line items.
- Administrators can use additional customization options on the price list item entity.



Add existing product to an opportunity

NOTE This feature is available in the Unified Interface only.

Out-of-the-box hierarchical relationship on the Territory entity

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Business value

Organizations will be able to get valuable insights by visualizing hierarchically related territories.

Feature details

A hierarchical relationship will now be available out of the box on the Territory entity. This will allow organizations to model and visualize their sales territories in a hierarchical format.

NOTE This feature is available in the Unified Interface only.

Simplified lead management experience

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

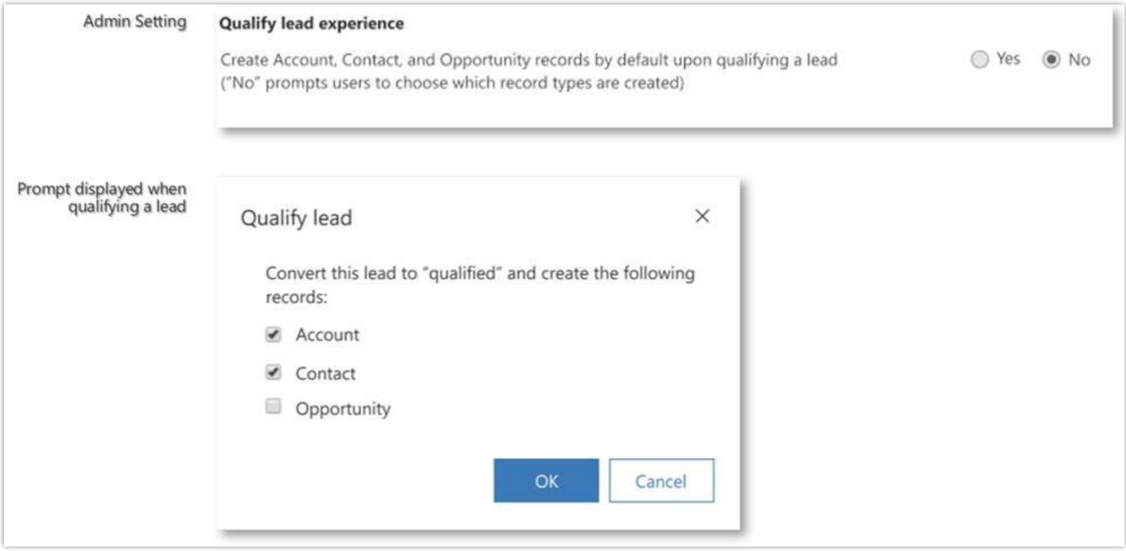
Business value

To help our customers maximize productivity, we are introducing improvements across top scenarios related to lead management.

Feature details

Top scenarios include:

- Autopopulate contact and/or company-related fields when a sales rep selects an existing contact and/or account at the creation of a new lead.
- Display notes and attachments captured by a sales rep when promoting a lead in the opportunity record after the lead is qualified.
- Enable sales reps to qualify leads and quickly move to the next stage of the sales cycle: optionally create opportunity, account, or contact records based on the organization-level settings configured by the admin for the lead creation experience. The default setting would be **Yes**, which would automatically create an account, contact, and opportunity when qualifying a lead.



Qualify lead additional options

NOTE This feature is available in both the legacy web client and the Unified Interface.

LinkedIn Sales Navigator Data validation

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	November 2019		No

Business value

The Data validation capability that we are introducing as part of the LinkedIn integration will enable salespeople to stay up to date on the career movements of their contacts. They can use this information to quickly refine their deal strategies, assess new opportunities that might open up, and foster relevant engagement with their connections.

Feature details

For Microsoft Relationship Sales users with CRM sync enabled, the Data validation capability can be turned on from **Admin Settings**.

Once this feature is on, users will be notified of job changes of all of their owned contacts that are posted on LinkedIn. The organization chart capability of Dynamics 365 will indicate all contacts with a recent job change and allow users to update their contact information within Dynamics 365 for Customer Engagement.

NOTE This feature is available in the Unified Interface only.

Dynamics 365 for Customer Service

Overview of Dynamics 365 for Customer Service 2019 release wave 2

Dynamics 365 for Customer Service is an end-to-end, self- and assisted-support service that supports multiple channels of customer engagement, provides comprehensive and efficient case routing and management for agents, and enables authoring and consumption of knowledge management articles. For wave 2 of 2019, we are focused on the following three areas:

- **Agent productivity**: Delivering improvements that help agents be more productive such as improved email authoring experiences and timeline enhancements.
- **Omnichannel for Customer Service**: Enabling customers to experience a seamless personalized service as they switch across support channels.
- **Service insights**: Investing in improved insights for supervisors and managers to drive better business decisions.

The next sections offer details on the specific features being released across these areas.

What's new and planned for Dynamics 365 for Customer Service

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Customer Service

Dynamics 365 for Customer Service aims to enable businesses to differentiate themselves from their competition by providing world-class customer experiences.

Feature	Enabled for	Public preview	General availability	Early access?*
Knowledge management inline image enhancement	Admins, makers, or analysts, automatically		October 2019	No
Knowledge management search and rendering enhancement	End users, automatically	August 2019	October 2019	No
Timeline usability enhancements	End users, automatically		October 2019	Yes

Omnichannel for Customer Service

Omnichannel for Customer Service offers a suite of capabilities that extend the power of Dynamics 365 for Customer Service to enable organizations to instantly connect and engage with their customers via additional channels like Chat for Dynamics 365 and SMS.

Feature	Enabled for	Public preview	General availability	Early access?*
Integration with Dynamics 365 Virtual Agent for Customer Service	End users by admins, makers, or analysts	August 2019	October 2019	No
Unified routing and queues	End users, automatically	August 2019	October 2019	No
Analytics for third-party channels	End users by admins, makers, or analysts	October 2019	January 2020	No
Bot-assisted agent guidance	End users by admins, makers, or analysts	October 2019	January 2020	No
Dynamics 365 Channel Integration Framework v2	End users by admins, makers, or analysts	October 2019	January 2020	No
Enhanced search experience	End users by admins, makers, or analysts	October 2019	January 2020	No

Feature	Enabled for	Public preview	General availability	Early access?*
[Facebook messaging]	End users by admins, makers, or analysts	October 2019	January 2020	No
Guide customer interactions with agent scripts	End users by admins, makers, or analysts	October 2019	January 2020	No
Macros	End users by admins, makers, or analysts	October 2019	January 2020	No
Multiple-provider support	End users by admins, makers, or analysts	October 2019	January 2020	No
Notification customization	End users by admins, makers, or analysts	October 2019	January 2020	No
Proactive chat	End users by admins, makers, or analysts	October 2019	January 2020	No
Sentiment analysis enhancement	End users by admins, makers, or analysts	October 2019	January 2020	No
Skill-based routing	End users by admins, makers, or analysts	October 2019	January 2020	No
User navigation history	End users by admins, makers, or analysts	October 2019	January 2020	No

* Some features are available for you to opt-in as part of early access on August 2, 2019, including all mandatory changes that impact end users. Learn more about early access.

Description of **Enabled for** column values:

- **End users, automatically** – These features include change(s) to the user experience for end users and are enabled automatically.
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- **End users by admins, makers, or analysts** – These features must be enabled or configured by the administrators, makers, or business analysts to be available for their end users.

For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Customer Service

Overview

Customers today value the ease and speed of resolution and they want to receive service on their preferred channel of engagement, at any time, and on any device. We are enabling these capabilities by building an intelligent omnichannel customer experience and an empowered agent experience.

A true omnichannel experience in the product will preserve context and provide a continuous experience as customers seamlessly switch across self-service, peer-to-peer service, and assisted-service channels. An empowered agent experience will provide an application experience that is unified across channels and line-of-business (LOB) applications, is contextual to the engagement, and comes with productivity tools to resolve issues faster.

Knowledge management inline image enhancement

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

Investments in improving knowledge management will benefit knowledge authors, customer service agents, and customers. Knowledge authors will be able to author more easily. The ability to create professional presentations of articles will help drive self-service adoption by making knowledge base articles more effective at shifting customers toward self-help.

Knowledge authors will have an improved inline image experience in which they can directly copy, paste, and drag and drop images, or select them from File Explorer and add them to knowledge articles, instead of sourcing them from links, as is done today.

Knowledge management search and rendering enhancement

Enabled for	Public preview	General availability	Early Access
End users, automatically	August 2019	October 2019	No

Feature details

Investments in improving knowledge management will benefit knowledge authors, customer service agents, and end customers. Currently knowledge base search control supports filtering only on status and language of articles. To provide a better knowledge search experience for agents, this feature extends the filtering capability to other attributes.

Timeline usability enhancements

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

The current timeline experience provides users with an overview of notes and activities associated with the entity for which it is shown (case, account, contact, and so on). However, the lack of information density prevents users from finding the information that they need efficiently.

Updates to the timeline experience will enable customers to see larger amounts of information. Sales managers, salespeople, and customer service agents who are looking at the history of interactions with an account, contact, or case will benefit from the ability to find data quickly.

Timeline enhancements will include an improved information density for greater visibility of items without the need to scroll.

Omnichannel for Customer Service

Overview

Omnichannel for Customer Service provides a modern, customizable, high-productivity app that allows agents to engage with customers across different channels. This app offers contextual customer identification, real-time notification, integrated communication, and agent productivity tools like knowledge base (KB) integration, search, and case creation to ensure agents are effective.

Supervisors get real-time and historical visibility and insights into the operational efficiency of agents and the utilization across various channels.

The enterprise-grade routing and work distribution engine allows customers to configure agent presence, availability, and routing rules, thus ensuring agents are working on the most relevant engagements.

Integration with Dynamics 365 Virtual Agent for Customer Service

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	August 2019	October 2019	No

Feature details

This feature enables Dynamics 365 Virtual Agent for Customer Service integration with Chat. Virtual Agent for Customer Service allows organizations to automate routine conversations, letting agents focus on high-value interactions. The key capabilities from integration of virtual agents with Chat include:

- Routing incoming chat requests to virtual agents created with Dynamics 365 Virtual Agent for Customer Service.
- Enabling seamless escalation of conversations from virtual agents to a human agent.
- Providing complete context to human agents by making available the full transcript of virtual agent conversations while human agents engage with customers.

Unified routing and queues

Enabled for	Public preview	General availability	Early Access
End users, automatically	August 2019	October 2019	No

Feature details

Today, Customer Service Hub and Chat have their own separate set of queues for routing. With this enhancement, customers will have a single unified routing capability across both the applications.

Analytics for third-party channels

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

Omnichannel for Customer Service already provides several out-of-the-box channel-specific metrics for first-party channels—for example, average handling time and conversation volume. As part of this feature, third-party channel providers using Dynamics 365 Channel Integration Framework can provide relevant measures for their channels. This enables organizations to get a holistic view of KPIs and insights across different channels and providers.

Bot-assisted agent guidance

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

Bot-driven conversation context-based recommendations can help agents resolve issues faster. Some potential capabilities that can be built are:

- Suggest quick replies based on the conversation context.
- Knowledge article suggestions for agent to share with customer.
- Suggestions on the next best action that can be taken by the agent.
- Similar-case suggestion for current conversation.

Dynamics 365 Channel Integration Framework v2

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

Dynamics 365 Channel Integration Framework version 2 will support new APIs for session management, application tab management, and notifications, and will provide support for multiple providers for blended agents. Like Dynamics 365 Channel Integration Framework v1, partners can build their solutions only once and deploy them on their browser and Unified Service Desk clients. The new framework will be fully backward compatible with previous versions and will allow solutions to fall back to single session mode.

Enhanced search experience

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

The existing search experience allows the agent to search based on account, contact, and case attributes. The upcoming enhancements make the search experience suitable for enterprises with more complex requirements.

Key enhancements include:

- Search customization: Enterprises need agents to search based on attributes that are not included in the out-of-the-box list of attributes. The enhancements in search experience allow easy customization of the search fields.
- Faster and more intuitive experience for agents: The agents benefit from an improved search and link experience with increased usability, thus enabling them to meet their productivity KPIs.

Facebook messaging

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

While large numbers of consumers are using social messaging channels like Facebook Messenger for their personal communication needs, they also prefer to use these mobile messaging channels to engage with businesses. The asynchronous nature of these channels gives consumers the convenience of getting their issues resolved as and when they find time, unlike real-time channels like live chat where the session ends when the chat window is closed.

The social messaging feature gives companies an opportunity to capitalize on this trend and engage with their customers right where they are, providing them with a seamless and personalized experience that can help them become fans and brand advocates.

This feature has the following capabilities:

- Administrators can configure social channels like Facebook Messenger to engage with their customers.
- Customers can reach out to the company through these channels and seek support in an asynchronous nature.
- Agents can use the same unified, contextual, and productive interface used by Chat to engage with customers and resolve their issues.
- Supervisors and managers have access to rich reports to help them run the support center efficiently and effectively.

Guide customer interactions with agent scripts

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

Businesses have a critical need to continuously train agents on the latest processes and products due to a high degree of churn in people, products, and processes. Despite regular trainings, recurrent errors and delays in service delivery are common, resulting in customer dissatisfaction. To ensure the required levels of regulatory compliance and offer a consistently positive customer experience, process adherence is critical. This feature provides organizations a means to configure scripts that provide step-by-step guidance to agents. These steps can be configured and automated based on session types (such as chat or phone calls) to ensure adherence to the appropriate processes.

Macros

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

Macros enable agents to stay efficient and productive by automating a series of repetitive tasks with a single click. For example, agents will be able to automate tasks like resolving a case after updating a field, assigning it to a different user after capturing notes, or sending an acknowledgement email with contextual data from the session using macros.

Administrators and agents will also be able to configure their own macros to suit specific business or process needs.

Multiple-provider support

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

For a true omnichannel experience, agents should be able to work on different channels from different providers in a unified and consistent manner. This capability helps maximize the agent capacity use for contact centers and enables Dynamics 365 customers to reach their users in channels of their choice while the agent continues to have a consistent experience. The multi-provider support has two flavors:

- A UI level integration where agents get a unified agent experience, while third-party channels are routed by respective channel providers. This allows channels to provide mature routing infrastructure to coexist with Chat on the agent experience level.
- A deeper integration between Chat and third-party channel providers for routing services. It comes with the benefits of better agent, supervisor, and business analytics for the contact center irrespective of the channel providers used by organizations.

Notification customization

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

Notifications alert the agents when a record is assigned to them or when there are incoming requests from users who need assistance. These notifications include additional context about important customer attributes like name and location of the user.

Notification customization allows users to customize the notification pop-ups to include relevant information based on their business needs, like user entitlements and relationship type. This helps the agent get a quick glimpse of the user information prior to accepting an incoming request.

Proactive chat

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

Chat channel allows end users to effortlessly engage with organizations via a chat widget on the website. Proactive chat enables organizations to engage with end users by automatically inviting them to a chat conversation based on the configured rules. Organizations can use end-user data, user journey information, time spent on web page, and more to decide when to best engage with them. Organizations can control the proactive chat experience using personalized trigger messages and configurable rules to define the target audience, time frame, and target location.

Sentiment analysis enhancement

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

The ability to identify negative sentiment events in ongoing messaging sessions is key as it provides an opportunity for agents and supervisors to act on that data and ensure a positive customer outcome. We will introduce some additional sentiment analytics enhancements in this update:

- **Additional language support**: Sentiment analysis support of additional languages makes the text analytics feature available to additional markets.

- **Agent sentiment alert**: Agents can identify and get alerted when a support session doesn't go well, and they can proactively request supervisor or peer help in addressing the issue.
- **Admin configuration improvement**: Administrators can configure sentiment based on real-time alert thresholds and escalations.

Skill-based routing

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

Skill-based routing enables conversations to be routed to agents based on their skills and proficiencies. This improves the efficiency of automatic work distribution by looking for an agent with the right skills who can handle a conversation and resolve a customer issue most effectively.

Administrators and supervisors can optimize the work distribution by assigning the right skills to the agents based on their proficiency. They can directly route the conversations to agents without managing the queues.

User navigation history

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	October 2019	January 2020	No

Feature details

Agents can provide a more personalized service if they have visibility into the user's activity on the website that led the user to request support. Today, the Recent activities view on the Customer Summary page displays the activities recorded as part of the Account/Contact/Case record in Dynamics 365 for Customer Engagement. With the User navigation history enhancement, agents can view additional information on the Customer Summary page to understand the user's activity on the website, such as pages visited by the user on the website, knowledge base articles viewed by the user, and more.

Dynamics 365 for Field Service

Overview of Dynamics 365 for Field Service 2019 release wave 2

Dynamics 365 for Field Service is an end-to-end solution for on-site service that empowers organizations to move from being reactive to providing proactive or predictive field service, and to embrace new business models such as outcome-based service or "anything-as-a-service."

For the 2019 release wave 2, we are focused on the following areas:

- Technician success through integration with Dynamics 365 Guides.
- Continued investment in proactive service with Azure IoT.
- Ongoing improvements in resource scheduling.

What's new and planned for Dynamics 365 for Field Service

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Feature	Enabled for	Public preview	General availability	Early access?*
Mixed reality guides for Field Service	End users by admins, makers, or analysts		October 2019	Yes

* Some features are available for you to opt-in as part of early access on August 2, 2019, including all mandatory changes that impact end users. Learn more about early access.

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For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Mixed reality guides for Field Service

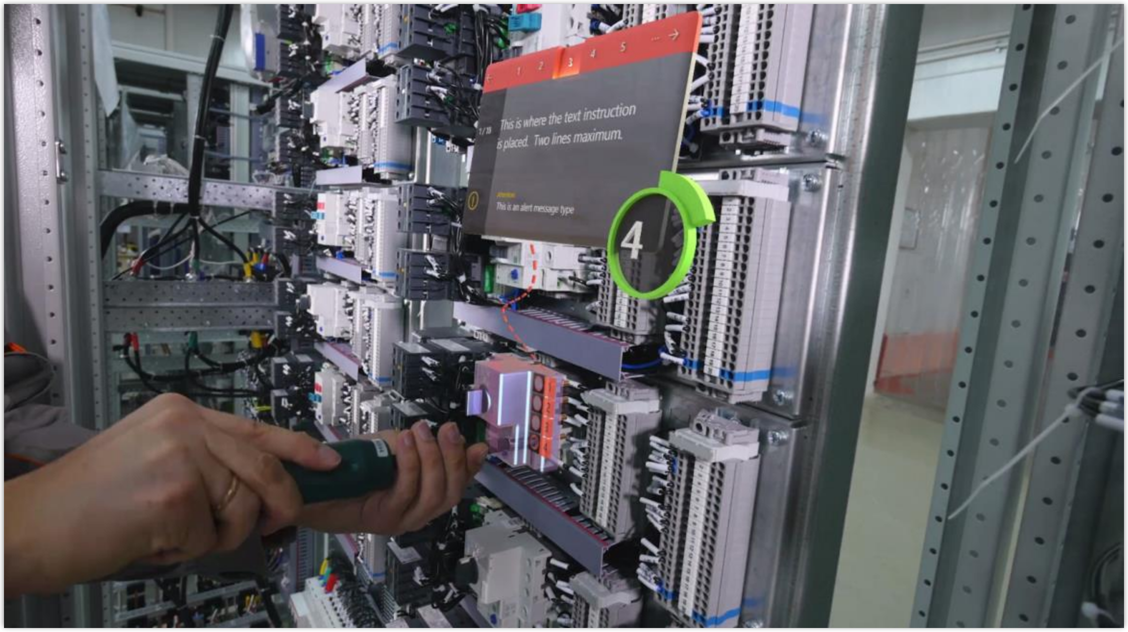
Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts		October 2019	Yes

Feature details

Dynamics 365 Guides is a new mixed reality app that empowers employees to learn by doing. Dynamics 365 Guides enhances learning with step-by-step instructions that guide employees to the tools and parts they need, and shows them how to use these tools in real-world situations.

With Dynamics 365 Guides, we've eliminated a longstanding problem that's existed with augmented reality (AR) and virtual reality (VR) experiences: the need for an easy way to create content. In addition to the experience of using Dynamics 365 Guides on HoloLens, a Dynamics 365 Guides PC app makes it easy to create interactive content, attach photos and videos, import 3D models, and customize training to turn institutional knowledge into a repeatable learning tool.

Mixed reality guides for Field Service enables Dynamics 365 Guides' capability to be seamlessly integrated within the Field Service experience. Field Service incident types can have associated Dynamics 365 Guides that can be easily accessed by technicians when out on the jobsite.



Mixed reality guides for Field Service

NOTE This feature is available in the Unified Interface only.

Dynamics 365 for Project Service Automation

Overview of Dynamics 365 for Project Service Automation 2019 release wave 2

Dynamics 365 for Project Service Automation is an end-to-end solution for project-based organizations to manage projects from sales through delivery. The application has deep resource management, sales, pricing, invoicing, time and expense entry, and approval capabilities along with a minimum set of project task and work breakdown structure (WBS) capabilities. With Microsoft Project replatforming onto the Common Data Service platform, the Project Service Automation application that is already on the Common Data Service platform is uniquely positioned to leverage this industry-standard set of project-planning and task-scheduling capabilities. The service industries module in Dynamics 365 for Finance and Operations is especially strong in project accounting, with revenue recognition and customer-facing invoicing that leverage date-effective exchange rates and a rich sales tax feature set.

The 2019 release wave 2 investments will be focused on providing modular offerings where capabilities across Microsoft Project, Project Service Automation, and Finance and Operations service industries will complement each other in a seamless fashion when combined and will provide a simple go-to-market story that is easily consumable. The themes that will inform the features for this release wave are:

- **Leverage the best of Office and Dynamics 365 for projects**

  The focus for this release wave will be completing the Project Online move to Common Data Service and creating a combined offering that brings together Microsoft Project Online and Project Service Automation capabilities into a singular experience on Common Data Service. The Microsoft Project capabilities on the Common Data Service platform will offer rich and fluid experiences for planning projects with rich task-scheduling capabilities and collaboration platforms, and the Dynamics 365 for Project Service Automation capabilities will extend the project-scheduling capabilities to provide configurable pricing and costing setup for human resources, resource scheduling and calendar management, time and expense entry and approval with tracking of project revenue and spend, and generating billable project transactions for the project manager to review. Together these two solutions are expected to offer a comprehensive set of capabilities for project-based organizations.

- **Model alignment with project functionality in Finance and Operations**

  This release will also see major investments in aligning the data models between Project Service Automation and Finance and Operations service industries with the future vision to seamlessly integrate operational project data to a financial system of record for revenue recognition, invoicing, and proper accounting. These investments will accrue toward reducing duplication of capabilities across Finance and Operations service industries and Project Service Automation and leverage the best of the two products for lighting up a Sales to General ledger thread to manage projects.

What's new and planned for Dynamics 365 for Project Service Automation

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

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Feature	Enabled for	Public preview	General availability
Comprehensive project operations	End users by admins, makers, or analysts		February 2020
Joint Dynamics 365 and Office offering for project-based organizations	End users by admins, makers, or analysts		February 2020
Upgrade from Dynamics 365 for Project Service Automation to Better Together	End users by admins, makers, or analysts		March 2020

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Comprehensive project operations

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		February 2020

Feature details

Extending the new Project Service and Dynamics Sales Extensions for Project with the Project Financials capabilities in Dynamics 365 for Finance and Operations will provide a comprehensive offering for project-based organizations. This initiative will center around combining the existing Project Service Automation and Finance and Operations service industries capabilities to complete the business processes for projects.

The following additions to the Project Service Automation functionality are targeted for this release wave:

- **Ability to set up split-billing for project contracts**: With this feature, customers using the project-quoting and contracting capabilities of the Better Together or the current Project Service Automation solution will be able to set up multiple customers for each contract with a percentage split of the billings for each of those customers. This setup for billing will help in scenarios where there is a manufacturer or product vendor involved who is willing to pay a portion of the cost of customized implementation or value-add, as required by the customer.

- **Ability to set up not-to-exceed limits for project contracts and quotes and enforce them during invoicing**: For time and material (T&M) project contract types, there is often a cap negotiated between the customer and the service provider (vendor) in order to prevent overages and inefficiencies in service delivery. With this feature, customers of Dynamics 365 for Project Operations will be able to set up a cap or a monetary limit on T&M project contracts that will be enforced by the system during invoicing.

- **Ability to set up billing and chargeability options for work breakdown structure (WBS) tasks**: In project organizations, it is common to have different contractual agreements for different phases of work. For example, a vendor could negotiate a fixed-price billing setup for the prototype phase of a project and a T&M type of arrangement for the actual implementation. Certain tasks on the project could also be categorized as chargeable while others could be non-chargeable or complimentary. With this feature, it will be possible to associate project tasks to project contract lines, thereby subjecting them to the same billing method on that contract line. The feature will also allow for a project manager to mark certain tasks as chargeable, non-chargeable, or complimentary, which will then be enforced when recording sales values and creating invoices for the costs incurred on those project tasks.

- **Support for retainers on project contracts**: Retainer-type of contracts are those that will allow the customer to have a predictable cash outflow. The customer will have a standard monthly payment that will be used by the services provider to draw down against for the cost of services delivered in that period. Any services in that period in excess of the retainer will be invoiced at the end of that period or pushed to the next period's billings until the end of the project. With this feature, a vendor will be able to draw up a contract that will have a set retainer schedule and retainer billings by period. These retainers will be used during invoicing to draw down against the cost of services delivered.
- **Point-of-origin-based project operations**: Projects from sales to pro forma invoicing can be originated in Project Service Automation or Finance and Operations service industries. Projects initiated in either system will be visible in the other in a read-only fashion. This feature will allow customers to manage their projects in their system of choice based on divisional requirements. Our investments to remove duplicate project capabilities across Finance and Operations and Project Service Automation will continue and once we have feature-parity, the need to make a system-of-origin choice will be eliminated.
- **Revenue recognition for Project Service Automation projects**: For projects originating in Project Service Automation and being managed in the Project Service Automation app, there will be an out-of-the-box integration of that data to the Finance and Operations service industries module, which will then enable the continuation of the business process in Finance and Operations. Projects can be managed from sales to pro forma invoicing in Project Service Automation, and Finance and Operations service industries will enable the generation of a customer-facing invoice and revenue recognition.

Joint Dynamics 365 and Office offering for project-based organizations

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		February 2020

Feature details

Built on Common Data Service, the new project service solution will be released by Office in the third quarter of 2019. This solution will introduce the Project Scheduling Service, a cloud-based version of Microsoft Project's highly performant scheduling engine. We have designed a set of core project entities based on the intersection of key Project Service Automation entities and Microsoft Project capabilities. This experience will be delivered only through the new project service user interface, and only include the capabilities shipping with that product, including work breakdown structure (WBS), Gantt, and task scheduling.

Our 2019 release wave 2 will build on this new project service and will deliver the Dynamics 365 for Project Service Automation capabilities with Microsoft Project in a single experience. This will include capabilities such as bookings, sales, pricing, costing, time and expense capture, and approvals and project actuals. These capabilities will be packaged as a solution representing **Dynamics Sales Extension for Projects**. New customers will have the ability to build on these joint features at this time. We will be releasing an upgrade strategy for existing Project Service Automation customers after this new experience is available.

Upgrade from Dynamics 365 for Project Service Automation to Better Together

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		March 2020

Feature details

The 2019 release wave 2 will include investments that allow existing Dynamics 365 for Project Service Automation customers to move to the new combined Office (new Project Service) and Dynamics (Dynamics Sales Extensions for Projects) offering in a frictionless manner. We will leverage capabilities from the platform team to provide a frictionless upgrade of data from the old Project Service Automation application to the new offering.

Dynamics 365 for Finance and Operations

Overview of Dynamics 365 for Finance and Operations 2019 release wave 2

Dynamics 365 for Finance and Operations unifies global financials and operations to empower people to make fast, informed decisions. Finance and Operations helps businesses adapt quickly to changing market demands and drive rapid business growth.

To enable businesses everywhere to accelerate their digital transformation, we are continuously enhancing Dynamics 365 for Finance and Operations with new capabilities. As we add product enhancements at a rapid pace, we deliver monthly updates that will help customers stay current in a consistent, predictable, and seamless manner. The core capabilities introduced with the 2019 release wave 2 will be persona opt-in enabled, which allows customers to implement new features at their own cadence. The key driver for all of the new core capabilities is to increase productivity and return on investment.

This release also focuses on fundamentals to enhance the user experience. The targeted areas of these enhancements include performance, compliance, automation, and supportability of service.

What's new and planned for Dynamics 365 for Finance and Operations

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Cloud operations and Lifecycle Services

Feature	Enabled for	Public preview	General availability
Migration to self-service deployments	Admins, makers, or analysts, automatically		October 2019
Geo expansion to South Africa, United Arab Emirates, and France	Admins, makers, or analysts, automatically	October 2019	October 2019
Cross-project management	Admins, makers, or analysts, automatically		February 2020
Implementation metrics	Admins, makers, or analysts, automatically		February 2020

Data and process integration

Feature	Enabled for	Public preview	General availability
Data feeds for third-party integrations	End users by admins, makers, or analysts	October 2019	March 2020
Trigger and monitor a flow directly from Finance and Operations	End users by admins, makers, or analysts	January 2020	March 2020
Finance and Operations data in Common Data Service	End users by admins, makers, or analysts	June 2019	To be announced

Financial management

The 2019 release wave 2 focuses on insights and digital transformation in finance and supporting a data driven economy.

Feature	Enabled for	Public preview	General availability
Intelligent insights in financials	End users by admins, makers, or analysts	December 2019	To be announced

Globalization

Microsoft continuously delivers regulatory updates to respond to legislation changes in 37 supported countries/regions. Also customers can now easily adjust their business documents in Office formats to meet local requirements and route the generated documents to different distribution channels.

Feature	Enabled for	Public preview	General availability
Configurable business documents reporting in Word, Excel, and PDF	End users by admins, makers, or analysts		October 2019
Expanded regional coverage of Regulatory Configuration Service to China and Europe	End users by admins, makers, or analysts	June 2019	October 2019
Simplified localization configuration management in Regulatory Configuration Service	End users by admins, makers, or analysts	October 2019	January 2020
Simplifying configuration of tax extensions for India	Admins, makers, or analysts, automatically	October 2019	January 2020

Platform

Feature	Enabled for	Public preview	General availability
User productivity new grid	End users by admins, makers, or analysts	October 2019	
User productivity saved views	End users by admins, makers, or analysts	October 2019	

Feature	Enabled for	Public preview	General availability
Visual refresh of the web client to align with the Fluent design language	End users, automatically		October 2019
Embed Power BI solutions directly into analytical workspaces	End users by admins, makers, or analysts	May 1, 2019	October 2019
Priority-based scheduling for batch jobs	Admins, makers, or analysts, automatically	September 2019	October 2019
User productivity filtering enhancements	End users by admins, makers, or analysts		January 2020
User productivity personalization enhancements	End users by admins, makers, or analysts		January 2020
Developer tools as installable components	Admins, makers, or analysts, automatically	October 2019	January 2020
Improved experience on mobile devices	End users by admins, makers, or analysts	January 2020	To be announced

Service Industries

Feature	Enabled for	Public preview	General availability
URS-based resource management for projects in Finance and Operations	End users, automatically		October 2019
Remove project group dependency from project	End users by admins, makers, or analysts		March 2020
Remove project type dependency from project	End users by admins, makers, or analysts		March 2020

Supply chain management

Feature	Enabled for	Public preview	General availability
Calculate PO delivery date based on lead times and working days (public sector)	End users by admins, makers, or analysts		October 2019
Purchase agreement enhancements	End users by admins, makers, or analysts		October 2019
RFQ activities	End users by admins, makers, or analysts		October 2019
Vendor bidding—questions from vendors and summarized responses	End users by admins, makers, or analysts		October 2019
Confirm and transfer	End users by admins, makers, or analysts	February 2019	October 2019
Advanced load building during a wave	End users by admins, makers, or analysts	February 2019	October 2019
Wave status visualization	End users, automatically	March 2019	October 2019
Replenishment Slotting Plan - part I (Slotting)	End users by admins, makers, or analysts	March 2019	October 2019
Pick-line grouping	End users by admins, makers, or analysts	March 2019	October 2019
Location wizard enhancements	End users by admins, makers, or analysts	March 2019	October 2019
Location status logic	End users by admins, makers, or analysts	March 2019	October 2019
Split demand replenishment work from create pick work step	End users by admins, makers, or analysts	April 2019	October 2019

Feature	Enabled for	Public preview	General availability
Wave label printing enhancements	End users by admins, makers, or analysts	April 2019	October 2019
Cancel work	End users by admins, makers, or analysts	April 2019	October 2019
Cluster full	End users by admins, makers, or analysts	April 2019	October 2019
Advanced allocation strategies - FIFO and LIFO	End users by admins, makers, or analysts	April 2019	October 2019
Release to warehouse rule	End users by admins, makers, or analysts	April 2019	October 2019
Zone-based replenishment	End users by admins, makers, or analysts	April 2019	October 2019
Wave template grouping	End users by admins, makers, or analysts	May 2019	October 2019
Consolidate shipment enhancements	End users by admins, makers, or analysts	May 2019	October 2019
Split work	End users by admins, makers, or analysts	May 2019	October 2019
Change work pool button	End users by admins, makers, or analysts	June 2019	October 2019
Deferred put processing	End users by admins, makers, or analysts	June 2019	October 2019
Pallet building post-packing station	End users by admins, makers, or analysts	June 2019	October 2019

Feature	Enabled for	Public preview	General availability
Put to wall/Put to store	End users by admins, makers, or analysts	June 2019	October 2019
System-directed cluster picking	End users by admins, makers, or analysts	June 2019	October 2019
System-directed clustering	End users by admins, makers, or analysts	June 2019	October 2019
Shipment auto update	End users by admins, makers, or analysts	June 2019	October 2019
Wave step code	End users by admins, makers, or analysts	June 2019	October 2019
Advanced cross-docking	End users by admins, makers, or analysts	July 2019	October 2019
Auto release shipment for cross dock	End users by admins, makers, or analysts	July 2019	October 2019
Location product dimension mixing	End users by admins, makers, or analysts	July 2019	October 2019
Material handling/warehouse automation	End users by admins, makers, or analysts	July 2019	October 2019
Put-away clusters	End users by admins, makers, or analysts	July 2019	October 2019
Receive sortation and cluster put-away	End users by admins, makers, or analysts	July 2019	October 2019
Packing vs. storage dimensions	End users by admins, makers, or analysts	July 2019	October 2019

Feature	Enabled for	Public preview	General availability
Country of origin enhancements	End users by admins, makers, or analysts	August 2019	October 2019
External catalog enhancements	End users by admins, makers, or analysts	August 2019	October 2019
Hazardous materials product information management	End users by admins, makers, or analysts	August 2019	October 2019
Hazardous materials shipping documentation	End users by admins, makers, or analysts	August 2019	October 2019
Inventory on-hand service	End users by admins, makers, or analysts	August 2019	October 2019
Purchase-order delivery via cXML	End users by admins, makers, or analysts	August 2019	October 2019
Sales process control via enhanced order holds	End users by admins, makers, or analysts	August 2019	October 2019
Self-billing invoice control for procurement	End users by admins, makers, or analysts	August 2019	October 2019
Self-billing invoice control for sales	End users by admins, makers, or analysts	August 2019	October 2019
Further catch weight integration 10.0.1	End users by admins, makers, or analysts	March 1, 2019	December 2019
Further catch weight integration 10.0.2	End users by admins, makers, or analysts	April 1, 2019	December 2019
Further catch weight integration 10.0.3	End users by admins, makers, or analysts	May 1, 2019	December 2019

Feature	Enabled for	Public preview	General availability
Further catch weight integration 10.0.4	End users by admins, makers, or analysts	June 1, 2019	December 2019
Dock management planning	End users by admins, makers, or analysts	June 2019	February 2020
QC inbound dock check	End users by admins, makers, or analysts	June 2019	February 2020
Advanced transportation planning	End users by admins, makers, or analysts	July 2019	February 2020
Carrier assignment/routing wave step	End users by admins, makers, or analysts	July 2019	February 2020
Retail store pack and ship	End users by admins, makers, or analysts	July 2019	February 2020
Small package shipping (SPS)	End users by admins, makers, or analysts	August 2019	February 2020
Blind returns receiving	End users by admins, makers, or analysts	August 2019	February 2020
Quality management – item sampling	End users by admins, makers, or analysts	August 2019	February 2020
Product variant uptake of volumetric data	End users by admins, makers, or analysts	October 2019	February 2020

Description of **Enabled for** column values:

- **End users, automatically** – These features include change(s) to the user experience for end users and are enabled automatically.
- **Admins, makers, or analysts, automatically** – These features are meant to be used by administrators, makers, or business analysts and are enabled automatically.

- **End users by admins, makers, or analysts** – These features must be enabled or configured by the administrators, makers, or business analysts to be available for their end users.

For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Cloud operations and Lifecycle Services

Overview

Dynamics 365 for Finance and Operations is expanding its availability in specific geographies. A data resident cloud for Finance and Operations will ensure that all customer data, code, metadata, and diagnostics remain within the designated geography.

Several other planned improvements will enhance the self-service capabilities within Lifecycle Services to deliver easier lifecycle management for applications.

Migration to self-service deployments

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Microsoft enabled self-service deployments for new customers in the fall of 2018. Starting in summer 2019, Microsoft will coordinate with customers on Dynamics 365 for Finance and Operations to migrate their environments to self-service deployment. The default sandbox is migrated first, seven calendar days before the production environment is migrated. Two notification emails are also sent. The first email is a 30-day advance notice, and the second email is a reminder notice five days before the scheduled migration. Migration can be rescheduled through an online form in extenuating circumstances.

Preparing for migration

Customers should start updating their environments on the current online service with combined deployable packages going forward. This was always the recommended best practice and will now be enforced.

What's new or changed

Customers will no longer have direct access to server admin credentials on Tier 2+ environments. They will continue to have access to Azure SQL Database and will be able to connect using just-in-time access from Lifecycle Services (LCS).

Customers will no longer have access to remote desktop credentials on Tier 2+ environments. All operations needing remote desktop access have been made available as self-service operations on LCS.

Zero downtime update for self-service deployments

With 2019 release wave 2, customers will be added to the zero-downtime update flow for Microsoft monthly service updates. Customers with zero downtime enabled are now able to configure an update window during which the update will happen. Interactive users will not experience any connection loss during the update. In the unlikely event a user session has to be terminated to complete the update in the specified window, a notification indicates that the user should save their work and refresh their browser. Any running batch jobs will be terminated during the preconfigured update window. All terminated batch jobs will be restarted when the update completes. New batch jobs can be started in the update window. Customers will be notified about the status of the update through email and through LCS update history.

Geo expansion to South Africa, United Arab Emirates, and France

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	October 2019

Feature details

As a business-critical application managing confidential data, there is high demand for Microsoft Dynamics 365 for Finance and Operations to be available locally and to be data resident within specific geographical areas. A data-resident cloud for Finance and Operations ensures that all customer data, code, metadata, and diagnostics remain within the designated geo. Finance and Operations and Lifecycle Services (LCS) will be made available in the following clouds:

- France
- United Arab Emirates
- South Africa

Today Finance and Operations, without LCS, is already deployed across 15 data regions and can be used when an environment is deployed.

Cross-project management

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		February 2020

Feature details

Several large customers (approximately 10 percent of our current customer base) have multiple instances of Dynamics 365 for Finance and Operations that are hosted across different geographies to support a global presence. The current view for the customer is at the project level in Lifecycle Services (LCS). The customer has to sign in to a separate project representing each region and operate it in a silo. With the cross-project management feature, these customers can manage, update, and monitor their environments across projects.

Partners, system integrators, and ISVs often manage multiple customer environments. Today they can only view these environments separately, provided they have been given access to the customer project. A new cross-customer workspace will be introduced in LCS to make it easier to manage multiple functions. For example, this workspace will allow you to view usage and issues that arise with environment monitoring, as well as manage updates across projects.

Implementation metrics

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		February 2020

Feature details

Dynamics 365 Finance and Operations supports flexible and extensive customizations from our partners, customers, and ISVs. Often, customers have code from multiple ISVs in their project. This calls for rigorous quality gates across all code in a production instance to ensure that we maintain quality of service with high availability and reliability. We are introducing a new mandatory phase in the lifecycle for our partners and system integrators to evaluate their implementation. Metrics, based on both static and runtime analysis in sandbox and production environments, will be made available to partners from within Lifecycle Services. The analysis and detailed logs will include errors and warnings. Unresolved errors will prevent the code from being moved and deployed to production. Specific performance benchmarking will also be available to indicate how customizations have deterred productivity for commonly used scenarios.

Data and process integration

Overview

Common Data Service will now include additional out-of-the-box entity mappings. This release will target supporting end-to-end scenarios covering project, inventory, sales, and procurement through to financials. These entities will enable deeper extensibility scenarios through the Microsoft Power Platform. Dynamics 365 for Finance and Operations will have business events added in several business process areas (for example, manufacturing, warehouse and transportation, and bank and cash management) as well as the ability to trigger and monitor Microsoft Flow, making it the primary driver of workflow in Finance and Operations.

With the general availability of Entity store in Azure Data Lake Gen2, customers can go live with the next-generation AI and analytics platform. Transactional data from Finance and Operations is available in a customer's own Azure Data Lake Storage Gen2 in real time (within minutes). Legacy data warehouses will also transition to Azure Data Lake, and standard Finance and Operations entities will be in Azure Data Lake Gen2.

Data feeds for third-party integrations

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	March 2020

Feature details

Data feeds will enable near real-time incremental export of Dynamics 365 for Finance and Operations data. The incremental export occurs when data in Finance and Operations changes and is sent to generic consumers, like Azure Data Lake and Azure messaging services. External business applications and systems can subscribe to specific data feeds, such as customer data feeds or sales-order data feeds using Azure messaging services to receive close to real-time updates of data from Finance and Operations. Data feeds will also support full push use cases and will be based on event-driven architecture to enable message-based data integration. This will create high throughput and reduced latency between applications.

Trigger and monitor a flow directly from Finance and Operations

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	January 2020	March 2020

Feature details

An administrator can configure Dynamics 365 for Finance and Operations to add buttons in Finance and Operations forms or workspaces that will trigger flows. Users can trigger and monitor the execution of those flows. This complements the flow integration features that were introduced between April and July 2019 that enabled integration of Finance and Operations workflow events, tasks, and approvals with Microsoft Flow. These integration capabilities are an important competitive advantage and reduce the cost of implementation for our partners and customers.

Finance and Operations data in Common Data Service

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	To be announced

Business value

This feature facilitates seamless data exchange between Dynamics 365 for Finance and Operations and Common Data Service.

Feature details

Get your Dynamics 365 for Finance and Operations data in Common Data Service and keep it up to date.

We are making the dual-write setup an out-of-the-box experience. This will allow businesses to exchange near real-time data seamlessly in a synchronous bidirectional fashion, beyond application boundaries. We want to provide users a "One Dynamics 365" experience.

Knowing every business is unique in itself, we have made the dual-write framework extensible. This includes enabling custom entities, as well as extensions to existing entities, to fully utilize Common Data Service and surrounding tools for your most important business data.

Phase 1 release

The Phase 1 release provides multi-mastering capabilities for customers, vendors, and products, along with an introduction to the company concept in Common Data Service and to the single-user management experience for Dynamics 365 users. These features will be released in public preview in June and made generally available in the October time frame.

Entities that are being covered are as follows:

OMOrganizationHierarchyPurposeEntity

OMOrganizationHierarchyPublishedEntity

OMOrganizationHierarchyTypeEntity

OMOperatingUnitEntity OMLegalEntity

CustCustomerGroupEntity

PaymentTermEntity CustomerPaymentMethodEntity

CustCustomerV3Entity

VendVendorV2Entity

VendVendorGroupEntity

VendorPaymentMethodEntity

SmmContactPersonEntity

RetailLoyaltyCardEntity

PaymentScheduleEntity

PaymentScheduleLineEntity

CDSPaymentDayEntity

CDSPaymentDayLineEntity

EcoResProductCDS

CDSEcoResProductMaster

EcoResProductProperties

EcoResProductBarcode

EcoResProductDefaultOrderSettings

EcoResProductDimensionGroup

UnitOfMeasures

NameAffix

Phase 2 release

The Phase 2 release will target supporting end-to-end scenarios covering project, inventory, sales, and procurement through to financials. Out-of-the-box scenarios supporting the most important entities in these areas will be provided by default. These scenarios can be further enriched by customers and partners so that they extend across Finance and Operations and Common Data Service.

These features will be released in public preview in October and made generally available in the April timeframe. Entity coverage will be revealed at a future date.

Financial management

Overview

Insights and digital transformation

CFOs want and expect a world-class system that lets them intelligently analyze financial data. Insights into when a customer will pay show users what the risks and benefits are and allow them to focus on making strategic decisions instead of manually analyzing data.

Data-driven organizations

We have introduced transaction types for specific journal scenarios, and the data model has been changed to reflect the new types. This change is critical because it communicates the intention of a specific journal entry, which is an open and over-flexible experience today. By understanding the intention and being able to get to key attributes of a transaction, analytics and reporting light up, giving users functionality they need to perform day-to-day activities.

Regulation around reporting on the leasing of assets is today a manual and external process. Acquiring the fixed-assets solution provides an automated way to track and report on this accounting standard.

Intelligent insights in financials

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	December 2019	To be announced

Business value

Optimizing cash flow is critical for any organization. Having insights into when a customer will pay helps to forecast one part of cash flow and reduce risk.

Feature details

Features include:

- Pre-predictions to run predictions in batch and save prediction data in Dynamics 365 for Finance and Operations to use later
- Embed predictions on list pages and workspaces
- Predictions per invoice
  - Open invoices list page
  - Collections details
  - Collections workspace
  - Customer transactions
  - Settle customer transactions
  - Customer invoicing workspace
  - Customer payments workspace
  - All free text invoices
  - All sales orders
- Predictions per customer
  - All customers
  - Customers on hold
  - Customers past due
  - Aged balances
  - Collections details
  - Collections workspace
  - All sales orders

Globalization

Overview

Supported countries/regions and languages

Microsoft Dynamics 365 for Finance and Operations is localized for 37 countries or regions and provided in 42 languages directly by Microsoft. For information about the list of countries or regions localized and languages provided by Microsoft, refer to Product localization and translation availability guide. Information about localization features provided by Microsoft per country or region can be found in Localization and Regulatory features. For information about localization and translation solutions supported by channel partners that extend the localizations and languages provided by Microsoft, visit appsource.microsoft.com.

Regulatory updates

Microsoft continuously delivers regulatory updates to respond to legislation changes in 37 countries or regions supported by Microsoft. The list of planned and recently shipped regulatory updates can be found at Localization and Regulatory features – Regulatory updates. Alternatively, you can sign into Lifecycle Services (LCS) and view planned and released regulatory updates through the LCS Issue Search tool, where you can search by country, types of features, and releases.

Configurable localization

Customers deploying globally need to easily adjust their business documents to meet regulatory and other local requirements. To enable that flexibility, we provide modern business document templates in Office formats out-of-the-box. Now business users can easily modify these documents in Word and Excel and easily route the generated documents to different distribution channels. For users extending tax configurations in India, we have simplified the user experience to add new tax codes and apply predefined tax rules.

Global services

We shipped Regulatory Configuration Service (RCS) in October 2018 with deployment options in the United States and India. In 2019 release wave 2, we extended RCS deployment options to China and Europe to meet data residency requirements. RCS lets business and power users configure the regulatory reports, invoices, payment formats, and tax rules that are frequently affected by changing legal requirements. These configurations can be shared and reused in multiple applications. To simplify the storage, handling, and sharing of these configurations, RCS will support a new type of global repository through which users can centrally keep and manage their configurations directly in RCS.

Configurable business documents reporting in Word and Excel

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

One of the top pain points reported by customers is the absence of a business user experience to customize printable business documents. By using Microsoft Office-based and PDF templates, we provide customers with predefined documents in the most familiar tools available in the market to customize business documents. This also opens the door to create a marketplace around standard and regulatory business documents that are tailored for specific industries or regions not covered by Microsoft Dynamics 365 for Finance and Operations

Feature details

This functionality delivers well-designed Microsoft Word and Microsoft Excel template capabilities in phases.

Account Receivable (General availability - October 2019):

- Collections letter note
- Customer account statement
- Interest note
- Payment advice
- Sales agreement confirmation
- Sales order confirmation
- Sales order packing slip
- Sales quotation
- Sales quotation confirmation

Account Payable (General availability - October 2019):

- Payment advice
- Purchase advance invoice

- Purchase agreement confirmation
- Purchase order
- Purchase order packing slip
- Purchase order purchase inquiry
- Purchase order receipts list
- Request for quotation
- Request for quotation - accept
- Request for quotation - reject
- Request for quotation - return
- Vendor invoice

Project (General availability - November 2019):

- Customer retention release
- Project invoice with billing rules
- Project invoice without billing rules
- Project quotation
- User-defined project invoice

Inventory (General availability - November 2019):

- Picking list (order)

Warehouse (General availability - December 2019):

- Shipping pick list
- Production pick list
- Picking list
- Load list
- Bill of lading
- Container contents

Transportation management (General availability - December 2019):

- Commercial invoice
- Certification of origin
- Route
- Load tender

Business user experience for document customization and routing:

- Changing the document layout
- Adding/removing fields in the document
- Simple routing

Consultant (power user) experience for more complex document customizations and routing:

- Extending Data Model
- Complex formulas
- Complex routing
- Customizing reports in PDF (including precision reports)
- Document lifecycle management, versioning (including rebase of new configurations from Microsoft and ISVs)

Expanded regional coverage of Regulatory Configuration Service to China and Europe

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	October 2019

Business value

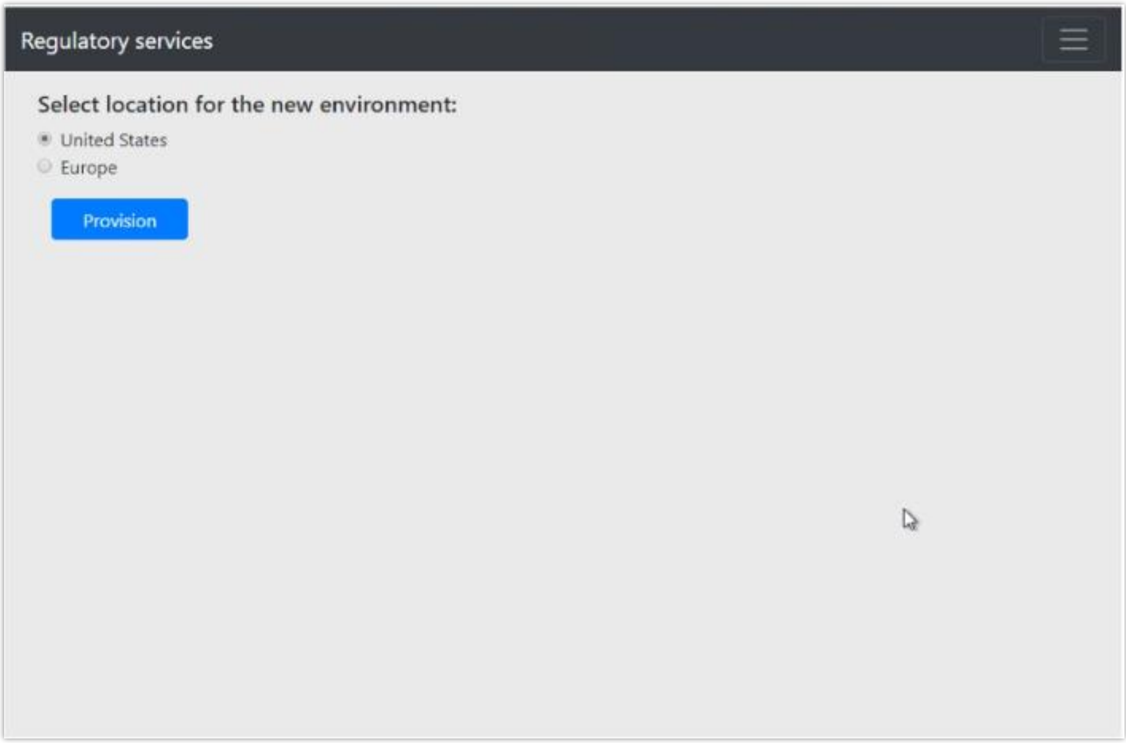
This regional expansion will allow customers in China and Europe to meet local data residency requirements and utilize the benefits of Regulatory Configuration Service (RCS) instead of relying on the configuration designers built into Dynamics 365 for Finance and Operations, which has limited functionality.

Feature details

As part of the ongoing enhancements, we are increasing the breadth of regional coverage where the RCS environments can be deployed. The system admin, when undertaking the initial service sign up, can select to have their RCS environments deployed in the existing supported regions, or select to deploy their instance in the new regions being supported. In 2019 release wave 2, users can select to host their RCS environments in the following countries/regions:

- United States (already available)
- India (already available)
- Europe (general availability in October 2019)
- China (general availability in October 2019)

As part of the RCS provisioning flow, users can select the geographic data center where their environment will be provisioned. For example:



Users can select a geographic data center

Simplified localization configuration management in Regulatory Configuration Service

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	January 2020

Business value

Currently, users need to complete a multistep process to leverage Microsoft Dynamics 365 Lifecycle Services (LCS) in order to publish and export their configurations and share them with external users or organizations. By using the new centralized configuration storage in the Regulatory Configuration Service (RCS), users will be able to easily share their configurations directly from the configuration designer.

Feature details

As part of 2019 release wave 2, the following capabilities will be supported in RCS:

- Users will have access to all Microsoft-produced configurations directly in RCS (without using LCS).
- Users will be able to centrally store, publish, and share their configurations with their own organization.
- Users will have the ability to share configurations with external users or organizations.
- Users will be able to broadcast (push) new configurations to external users or organizations.

Simplifying configuration of tax extensions for India

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	January 2020

Business value

A tax accountant can now create a new tax component with predefined tax rules in GTE with minimal training and effort. A functional consultant, or power user, can configure more complex tax rules in GTE that are not predefined (for example, complex tax calculations or tax posting).

Feature details

This feature allows users to create tax components that support the most common scenarios. New functionality includes new and enhanced controls to use when creating tax components. These new controls include Reverse change, Non-deductible, and Tax in price. The Dynamics 365 for Finance and Operations system automatically generates all required tax measures, tax formulas, and posting profiles.

Platform

Overview

User productivity and experiences

Investments in improved user experiences and enhancements to existing capabilities are focus areas for 2019 release wave 2. Saved views will become generally available, and several improvements to this feature will follow as part of monthly updates, such as saved view support for workspaces and dialogs, as well as improved management of modified views. The new grid control (in preview as of July 2019) will be generally available with an improved user experience due to new capabilities such as the ability to see totals for numeric columns in tabular grids, the ability to group data based on the values in one or more columns, as well as the ability to freeze a column so it doesn't scroll out of view.

Improvements to filtering, such as easier and more useful ways to filter on **enum** and **datetime** fields, will be provided to enhance the experience for most users and business scenarios. Personalization capabilities that allow users to build optimized experiences will be made, and investments in improving mobile experiences will greatly improve the usability of applications on mobile devices.

With 2019 release wave 2, management of batch jobs and batch queues will be greatly improved, giving administrators the ability to prioritize batch jobs by business processes. In addition, document reporting, routing, and printing will become more configurable and scalable to enterprise scenarios.

Developer tools

We are introducing a mandatory new phase in the lifecycle of partners and system integrators to evaluate their implementation. Metrics will be made available to partners from within Lifecycle Services that are based on both static analysis and runtime analysis in sandbox and production environments. These quality gates will enable blocking custom packages that could negatively impact production environments from being deployed. These metrics will be aggregated across implementations for a partner and made available in the partner portal.

Many large customers have multiple projects within Lifecycle Services and would like to manage, update, and monitor their environments across projects. Partners and ISVs also need aggregated views across their customers. A new cross-project workspace will be introduced in Lifecycle Services to manage updates and functions and monitor health across these projects. This will also be integrated with the centralized Microsoft Azure ISV portal. Developer tools will be available as standalone installable components.

Microsoft Power Platform integration

Common Data Service will now include additional out-of-the-box entity mappings. This release will target supporting end-to-end scenarios covering project, inventory, sales, and procurement through to financials. These entities will enable deeper extensibility scenarios through the Microsoft Power Platform. Dynamics 365 for Finance and Operations will have business events added in several business process areas (for example, manufacturing, warehouse and transportation, and bank and cash management) as well as the ability to trigger and monitor Microsoft Flow, making it the primary driver of workflow in Finance and Operations.

A single admin experience will be available in the Microsoft Power Platform Admin center for Common Data Service integration scenarios where customers will need to extend and troubleshoot integration scenarios between Finance and Operations, Customer Engagement, and Common Data Service. Support cases can be centrally logged, and this will enable faster resolution. To assist with troubleshooting, the environments and diagnosis capabilities will also be available in the Microsoft Power Platform Admin center.

Geo expansion and availability zones in Azure

Finance and Operations is expanding to be available in certain geographies within six months of Microsoft Azure availability in that location, and where there is viable business opportunity. A data resident cloud for Finance and Operations will ensure that all customer data, code, metadata, and diagnostics remain within the designated geography.

Availability zones (physically separate locations within an Azure region made up of one or more datacenters equipped with independent power, cooling, and networking) will be supported across Finance and Operations and enable the service to offer business continuity when partial region or zonal outages occur.

User productivity new grid

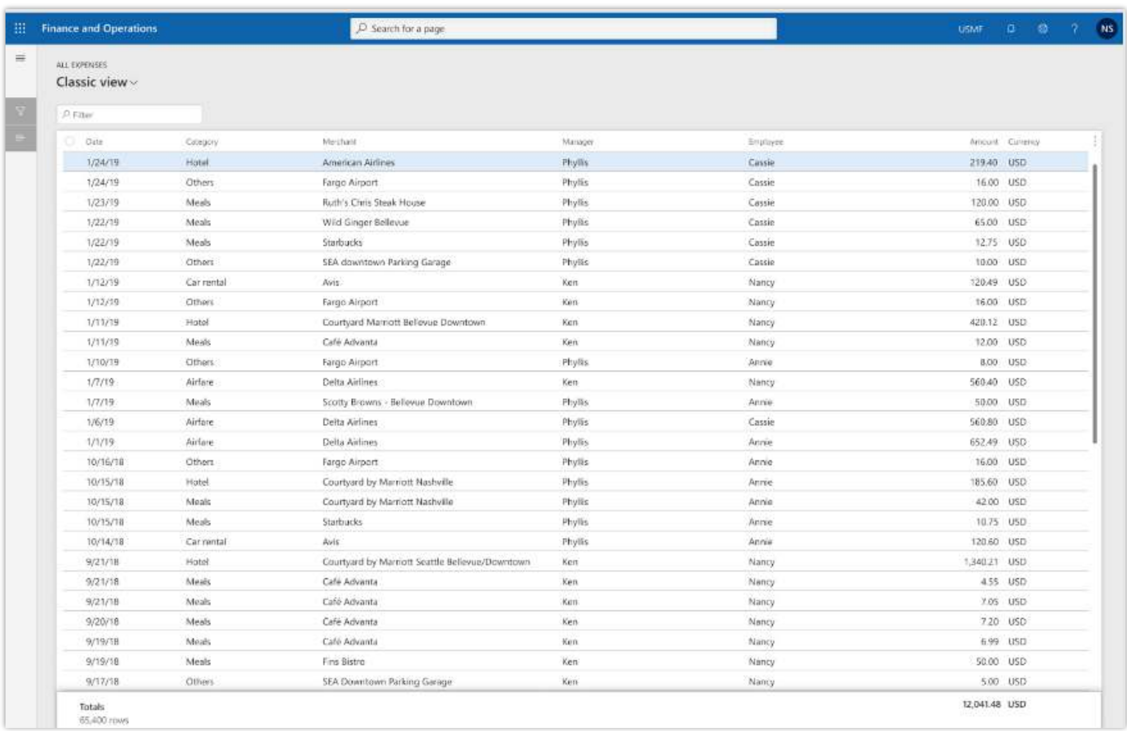
Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	

Feature details

A preview of a new and improved grid control is scheduled for October 2019. The new grid provides improved rendering speed and a much faster scrolling experience. Users are also able to positionally scroll within the data that has been loaded in the browser.

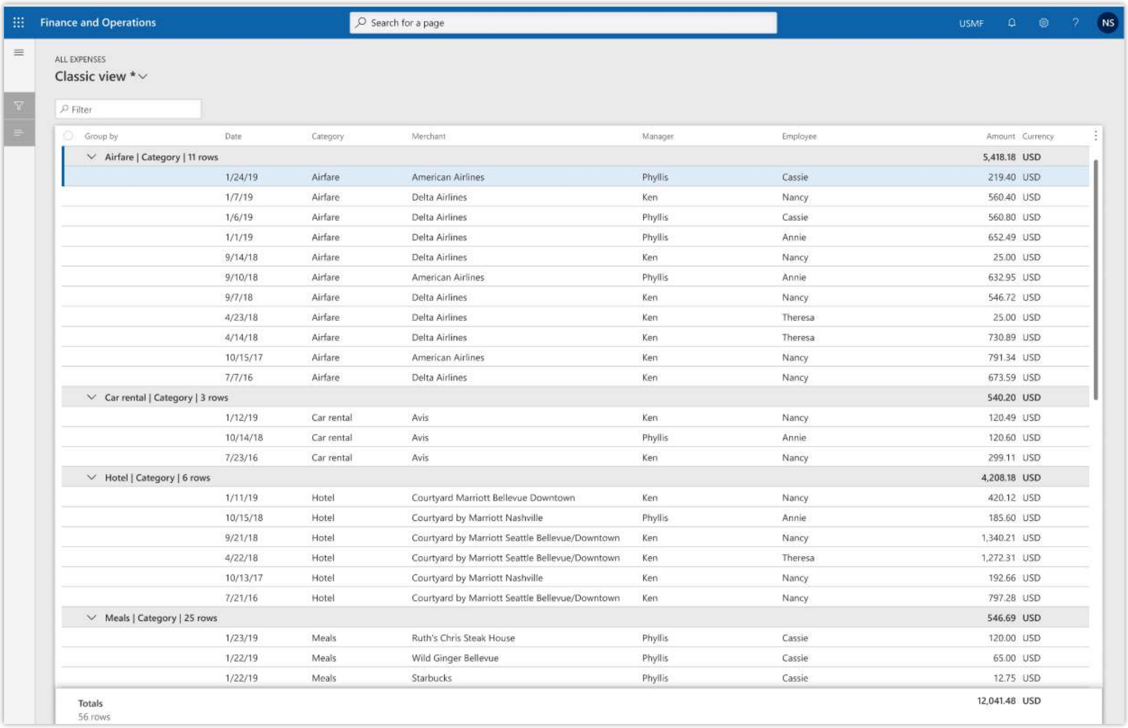
The following enhancements to the grid are planned for subsequent monthly updates:

- **Totals**: Business users can see totals for numeric columns in tabular grids. For example, financial users will be able to view totals for a filtered set of transactions for a specific customer.



Total shown for the Amount column

- **Grouping with subtotals**: In tabular lists, business users can group data based on the values in one or more columns. Once grouped, users can expand or collapse each group. Also, users can see subtotals in numeric columns for each group.



Expense list grouped by category

- **Fast data entry**: This feature aims at allowing users to enter data in a grid as quickly as possible, minimizing the need for users to wait for the server to validate a row before moving to another row in the grid.

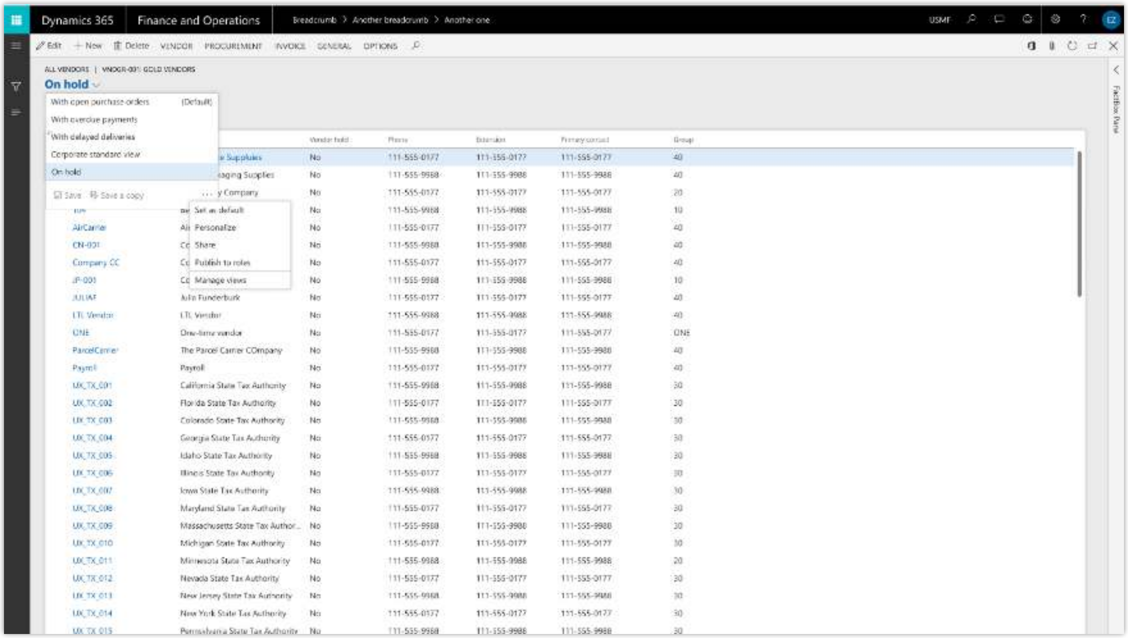
User productivity saved views

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	

Feature details

A preview of saved views is scheduled for October 2019. Further saved views enhancements will be introduced as part of monthly updates:

- Overhaul of the administrator's form for managing views and personalization
- Improved management of modified views that had been published or cloned
- Saved views for workspaces and dialogs



Multiple views on the All Vendors page

Visual refresh of the web client to align with the Fluent design language

Enabled for	Public preview	General availability
End users, automatically		October 2019

Feature details

Finance and Operations, in conjunction with the other products in Dynamics 365, will be incrementally working towards a visual refresh of the web client to more closely align controls and pages with the Microsoft Fluent design language. An initial set of changes will be included in October 2019, with enhancements to follow in subsequent monthly updates.

Embed Power BI solutions directly into analytical workspaces

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	May 1, 2019	October 2019

Business value

Power users of Dynamics 365 for Finance and Operations are able to embed Microsoft Power BI reports directly in application workspaces. Customers are finding amazing success using the Power BI service to author graphically rich analytical solutions and then share the solutions with members of their organization. The latest platform enhancement allows customers to integrate existing Power BI solutions that can include views sourced from external data systems. Best of all, there are no service interruptions required to distribute updates, giving customers greater flexibility to publish, at their own pace, enhancements to analytical solutions hosted on Power BI.

Feature details

Users love analytical workspaces in Dynamics 365 for Finance and Operations, with rich visualizations shown in the context of business operations. In addition to the analytical workspaces shipped by Microsoft, ISVs and partners have also built specialized analytical workspaces. Using guidance and tools, power users can transition analytical workspaces authored with entity store into Power BI template apps based on data flows. They can also submit apps to the Microsoft AppSource marketplace.

The analytical workspace experience that your users expect will remain unaffected while you get the benefit of better application lifecycle management. ISVs and partners who build analytical workspaces can now market their solutions to Dynamics 365 customers through AppSource.

Priority-based scheduling for batch jobs

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	September 2019	October 2019

Feature details

With the urgent need for elasticity and scalability, a smarter approach to handling batch processing is needed. Additionally, assigning batch jobs to batch servers based on batch groups does not meet the complexity of business-process requirements in a modern cloud service. Customers do not need to be concerned about their application's infrastructure—they would rather focus on their business processes.

With these reasons in mind, we will enable administrators to prioritize their batch jobs per business process, and they will not need to manage batch groups.

User productivity filtering enhancements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		January 2020

Feature details

Filtering is one of the most common and important foundational features of the user interface and affects most users and business scenarios. Being able to find data easily is critical to user success and satisfaction. To improve the filtering in Dynamics 365 for Finance and Operations, several improvements are planned, including:

- Making it easier to find the field you want to filter on.
- Improving the filtering experience with **enum** and **datetime** fields.
- Introducing easy-to-use filter variables for parameterized queries (for example, @Me, @Today, @ThisWeek, @ThisMonth).

These features will be incrementally available as part of monthly releases starting in January of 2020.

User productivity personalization enhancements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		January 2020

Feature details

Continual improvements and enhancements will be made to personalization capabilities that enable customers and individual users to build optimized form experiences that maximize usability and user productivity. Examples are:

- Making it easier to reorder fields and actions.
- Improving the speed of hiding, skipping, or locking fields and actions.
- Allowing a field to be marked as mandatory via personalization.
- Allowing precision placement when adding new fields.
- The ability to move a field or action between containers.

- The ability to add more types of fields to forms and grids (from passively or actively joined data sources).

These features will be incrementally available as part of monthly releases starting in January of 2020.

Developer tools as installable components

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	January 2020

Feature details

Setting up development environments for Dynamics 365 for Finance and Operations is simple and reliable through the availability of ready-to-use cloud and on-premises virtual machines (VMs). This popular feature is also costly, because you need to manage many development environments as your development team grows or when you are developing multiple applications or multiple versions of the same application. You can now install developer tools and associated runtime components on your own computer or VM and manage more than one application on the same box. Preconfigured cloud-hosted VMs are (optionally) still available for quick setup and deployment of development environments via Lifecycle Services (LCS).

Improved experience on mobile devices

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	January 2020	To be announced

Feature details

The Dynamics 365 for Finance and Operations web client and its form patterns will be responsive on mobile devices, enabling a majority of the application user interfaces to be usable on smaller screens. This will significantly improve the usability of the application on mobile devices, minimizing the need to build separate user interfaces for smaller screens. The Finance and Operations client will also be available as an Android or iOS native app.

Service Industries

Overview

The Service Industries solution provides capabilities to plan and deliver services and products to customers and to plan and deliver internal projects across multiple industries. Functionality to control costs, optimize resource usage, and track the profitability of a project helps organizations to deliver products and services on time and on budget.

URS-based resource management for projects in Finance and Operations

Enabled for	Public preview	General availability
End users, automatically		October 2019

Feature details

In our journey to the **Better Together** and **Dynamics 365 Project Operations** offerings, we are extending capabilities, such as Resource Management, into horizontal modular components that can be leveraged by ISV solutions or applications such as the new Project service and Microsoft Dynamics 365 for Finance and Operations. Finance and Operations will be the first application to leverage the Universal Resource Scheduling (URS) capabilities in the project management area of the Service Industries (SI) module. This greatly enhances resource bookings, availability calendars, resource requirements, skills and competencies, and resource search for scheduling resources to projects. The schedule board as the singular and primary surface for managing bookings and utilization comes with rich and intuitive user experiences and deep configurability and extensibility options. The board and the controls that power the URS capabilities are also fully accessible and highly performant. This is expected to be a powerful enhancement for resource managers and project managers who are using the Finance and Operations Project module.

Remove project group dependency from project

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		March 2020

Feature details

This feature will remove the dependency of "Project group" from the project. Project group will become an optional grouping mechanism for projects. A new entity, "Project revenue profile," will be created that will contain the configuration related to work in progress (WIP)/revenue accrual and revenue recognition for fixed-price projects. The project revenue profile will be set on the contract line.

Remove project type dependency from project

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		March 2020

Feature details

When this feature is enabled, a project will no longer have a type of Fixed-price, Time and material, Cost, Time, Internal, or Investment. The project contract line will determine whether a project is Fixed-price or Time and material, allowing for the same project to have both a fixed-price component and a time-and-material component. Projects that do not have a contract will track costs but will not track revenue.

Supply chain management

Overview

Trade, product information, and inventory management

The continuous feedback obtained by operating the service allows us to identify specific subprocesses within the inventory management area that can be subject to tangible performance improvements. This is an ongoing effort with broad impact on several areas of the service, allowing for faster feedback, less waiting time, and the ability to unblock resources that otherwise would be waiting for a process to finish.

We continue to invest in both our product information management and inventory management capabilities. New classes of products and production processes will drive an evolution of the product definition and supporting elements. The inventory-valuation capabilities will be expanded to support scenarios where multiple valuation methods and multiple currencies are required—for example, in cases of different managerial reporting and statutory reporting requirements. We will also invest in making inventory on-hand information more readily available in distributed scenarios, for example, in the retail industry.

This release will bring usability enhancements in sales and procurement that increase users' productivity and satisfaction. Super users will be able to propose filtered views and to purpose-build forms where unnecessary fields or actions can be removed, allowing for a quick understanding of the purpose of the form and fast interaction with it. The benefits are two-fold.

The knowledge of super users can be disseminated to the organization, and all skill levels of users can benefit from targeted views crafted to fit the task at hand.

The focus for the sales, procurement, and sourcing areas will be on improving franchising capabilities, Evaluated Receipt Settlement (ERS) capabilities, hazardous material handling, business support within areas of supplier collaboration (looking into extended self-service, data sharing, and data maintenance capabilities), and improving business support within integration scenarios covering purchase requisition, request for quotation, and purchase ordering relative to data flow and accounting distribution constraints.

Going forward, across the sales and procurement areas, the primary focus will be on improvements in our ability to track and account for goods in transit scenarios. Enhancing support of business scenarios within kit to stock as well as kit to order and extending our support for sales price and promotion management by adding extended price-management flexibility leads to improved efficiency and lower cost of maintenance.

Warehouse management

The Warehouse Management System (WMS) is a recent successful addition to the application suite that serves several industries, each with specific requirements on how to operate a warehouse. The solution has been gradually enhanced since the introduction in Microsoft Dynamics AX 2012, and a large suite of enhancements has recently been licensed from an ISV.

With the 2019 release wave 2, we will continue enhancing the released catch weight feature by adding capabilities of the second catch weight purpose-built solutions, with the aim of allowing existing customers to upgrade to the April release or its following monthly releases. The solution will both fit the needs of distributors as well as manufacturers. The lack of this integration has been hampering the uptake of the WMS solution for certain customers—this reservation will be removed. The suite of 30+ distinct features will be integrated as a preview after the April '19 release as part of the subsequent monthly releases. For example, a feature like "enable label printing during wave" adds flexibility in configuration and operation.

All feature exposures will be achieved through flighting to allow for a controlled roll-out. Investments include enabling warehouse automation using Microsoft HoloLens and enabling spatial data analytics using video feeds.

Manufacturing and planning

It is a core priority to leverage the continuous feedback obtained from operating the service to drive tangible performance improvements as well as optimize core manufacturing business processes. With the 2019 release wave 2, the Planning Service will be enhanced to support manufacturing-industry-related materials requirements planning.

We are continuously enhancing and evolving current manufacturing functionality to support the connected, intelligent operations of modern manufacturers. We will integrate with the intelligent

Microsoft Azure IoT service to help manufacturing customers close the digital feedback loop. This will consolidate close to real-time information from the shop floor with business data to generate business events and actionable insights. With the acquisition, we will introduce enterprise asset management capabilities that will enable customers to track the total cost of ownership of operations assets, as well as to manage the ongoing maintenance of those assets.

Calculate PO delivery date based on lead times and working days (public sector)

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

This feature is helpful for organizations that want to track vendor compliance. When a vendor submits a lead time on an RFQ, the delivery date is automatically calculated on the resulting purchase order. The purchaser can run reports to view vendor performance based on their original proposals and commitments.

Feature details

Calculate a delivery date for a line based on a vendor's lead time and your organization's working-days calendar. Vendors can enter a lead time for each line. When a purchase order is confirmed, a delivery date for a line is calculated from the confirmation date, based on the lead time and the working-days calendar. If no lead time is specified, the delivery date is the confirmation date. After the feature is enabled by the admin, it must be enabled by using the procurement and sourcing parameters.

Purchase agreement enhancements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Feature details

This feature will allow users to identify the employees that are responsible for maintaining purchase agreements. When a purchase agreement is closed, marking the agreement as no longer actively used, users will not be able to create release orders from the purchase agreement. Users can define an invoice matching policy to use for purchase orders released from a purchase agreement. Purchase agreements are used by different persons in the organization; however, there is often one person who is responsible for maintaining the agreement. To avoid mistakes, it is important that it is clearly visible who is responsible for the agreement and whether it can be used or not.

RFQ activities

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Feature details

This feature will enable the user to create tasks, appointments, and events that are assigned to other users to develop RFQ documents. Multiple people on the customer side are collaborating to create the RFQ case, and they are also collaborating after the bids have been received. Having the ability to create tasks and appointments in the context of the RFQ will facilitate such collaboration.

Vendor bidding—questions from vendors and summarized responses

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Feature details

This feature will provide added ability for a vendor to submit questions via an RFQ reply in a free-form text format that can be grouped, and allows for a summary question and answer for the grouped questions. During a bidding process, a vendor might have questions about the requested services or products, and this feature will facilitate communication between vendor and customer in the context of the RFQ.

Confirm and transfer

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	February 2019	October 2019

Feature details

This functionality supports the scenario in which all product cannot fit onto a truck or where some of the load should leave the warehouse before the remainder is ready for shipping. The left-over product can be transferred to a new load and consequently to a new truck. This feature can be used with loads that are otherwise intended to allow only full-load shipping and, as a result, gives more flexibility to transport managers for solving nonstandard or unforeseen scenarios.

Advanced load building during a wave

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	February 2019	October 2019

Feature details

Advanced load building allows the wave to assign the shipment to an existing load, if one exists that meets the criteria, or create a new load if required. This feature allows for the system to automatically build loads to represent a route, carrier, or other concepts as needed by the business. Loads can be built based on information from the sales order or containers created in an earlier wave step. Load building will also integrate with transportation management when using the route plan functionality.

Wave status visualization

Enabled for	Public preview	General availability
End users, automatically	March 2019	October 2019

Business value

This feature enables more information and visibility in wave processing and the current status of the wave.

Feature details

This feature enables more information and visibility in wave processing and the current status of the wave. This will allow the user to understand the degree of completion of the waving and allow the user to wait until completion or to do an ad hoc cancellation and understand the amount of resources that has been used prior to a possible cancellation.

This feature adds information on the wave progress by visualizing the following:

- Progress of the wave as a percentage.
- Wave completion estimate, based on current processing performance of the wave.
- Wave allocation progress with total of load lines, allocated load lines, total pending allocations, and total processed pending allocations.
- Wave submethods, updating processed load lines for each one.

Replenishment Slotting Plan: Part I (Slotting)

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	March 2019	October 2019

Feature details

Picking locations can be replenished before releasing orders to the warehouse. Slotting allows you to create replenishment work at any time based on order demand. This feature will collect demand from orders in the system based on a user-defined query and make the consolidated demand available to be viewed by warehouse personnel. Once demand has been identified, the slotting process will assign all of the demand to picking locations. After pick locations have been identified, replenishment work can be created to bring inventory to the pick locations. When the demand is released to the warehouse, it can use the inventory that has "just" been brought to the pick location. A part 2 feature will also allow linking to any incomplete replenishment work as needed.

Pick-line grouping

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	March 2019	October 2019

Feature details

Pick-line grouping setup allows users to dynamically group together and aggregate multiple pick lines into a single pick execution step on a mobile device. The system groups together all pick lines with a matching dimension set, namely item ID and location ID, and the user will only have to visit the pick location once for a single work order with multiple matching pick lines. This feature offers faster execution of picking work and reduces worker pick path significantly in certain scenarios. The functionality is applied automatically via the setup of the mobile device. All matching pick lines and associated transactions of the work order being processed will be updated by the system mutually. The work order structure will remain as initially created, and the lines will not be aggregated within the client. However, the pick lines should be sorted by item ID for this functionality to work.

Location wizard enhancements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	March 2019	October 2019

Feature details

This enhancement includes three additional zone fields and support for them in the location setup wizard. These additional zone fields in the location setup can be used in queries for filtering the information. This adds flexibility to the warehouse structure, with additional zones for the same location and processing of data by queries.

Location status logic

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	March 2019	October 2019

Feature details

This functionality introduces several new fields on the locations table for more flexibility in working with and maintaining locations. Location statuses (empty, storage, picking, or frozen) can be included in the location directives query for better warehouse flow control. Blocking causes can be set up and can later be assigned to any location to either block inbound or outbound transactions against such a location. Location blocking does not exclude locations for reservations. It is meant only as a temporary operational blocking.

Split demand replenishment work from create pick work step

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	April 2019	October 2019

Business value

This feature allows for future performance enhancements of each of the transactions. It also intrinsically reduces the impact of a potential lock, by reducing the transaction size.

Feature details

In the version 7.1 timeframe, we improved the allocation step of waving by introducing multithreading. The remainder of the steps are not currently multithreaded and run in a single long database transaction. One of the issues with optimizing the long transaction that creation of pick work represents is the fact that demand replenishment is created within that transaction. For future performance optimization purposes, we are separating the replenishment work creation step into its own thread that has its own transaction.

Wave label printing enhancements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	April 2019	October 2019

Business value

These changes will make it more efficient to support the labeling of cartons prior to palletizing. Some customers for whom compliance is an issue are vendors to large retailers that mandate the layout and content of labels for each carton. These large customers have a “label receiving process” where the cartons, while in receiving, are placed on conveyors, and the bar code is read automatically, allowing for automated creation of put-away.

Feature details

Wave label printing functionality was included in Dynamics 365 for Finance and Operations version 10.0.0. The functionality is enhanced with the following:

- Allow for labels to be printed according to number of cartons on a single work line. Without using the containerization feature, this would mean that for a quantity of 100 cartons, the feature will print out 100 labels.
- Include an enumeration of the labels (1/124, 2/124…124/124).
- Allow for a bill of lading (BOL) to be created and printed on the label.
- Allow a unique Serial Shipping Container Code (SSCC) to be created per carton and included on the label.

- Allow for the creation of a GS1-compliant number sequence for BOL and SSCC numbers.
- Allow for a HAZMAT code to be included (if relevant) on the label.
- Support reprint of labels (from hand-held devices, as from a rich client).
- Support for voiding of labels (for example, for short pick scenarios) and reprint.
- Support for clean-up of wave label history.

These changes will make it more efficient to support labeling of cartons prior to palletizing. It is especially helpful to companies shipping to large retailers that perform order receipt confirmation automatically by scanning each individual carton.

Cancel work

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	April 2019	October 2019

Business value

The Cancel work feature is an attractive and secure alternative to SQL corrective scripts that are typically requested through IcM tickets to fix inconsistent data that can now be employed by the company's users with admin rights.

Feature details

Warehouse Work Force Cancel is an admin facility available from the user interface that enables the user to cancel specific warehouse work that is currently in progress but is blocked (often, but not necessarily, due to data corruption). Unlike the standard **Cancel** button (the one available directly from the Work page), the new cancel work function does not have a pre-condition for the last completed work line to be of type **Put**; in other words, it does not require item quantity on a work line to be on a non-user location. Only work of type **Sales**, **Transfer issue**, **Raw material picking**, or **Replenishment** can be canceled by this job. Cancellation will not be executed for frozen raw material picking work or work that can be canceled by a regular cancel function (as described earlier). To unblock the work, the system will cancel any remaining work lines and fix the warehouse data that is associated with the work ID. This will allow any regular warehouse-handling operations that involve the impacted item quantity to resume.

Cluster full

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	April 2019	October 2019

Feature details

When used with cluster picking, this feature offers a flexible manner of breaking the pick work and acknowledges the need for a larger margin of error in volumetric constraints of containers or totes. The functionality introduces the ability to execute the "full" option on one of the work units within a cluster. The feature differs from the standard "full" button flow in that it cancels the remaining work. Additionally, it does not suggest adding another bin to the same cluster because it does not create new work automatically.

Advanced allocation strategies: FIFO and LIFO

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	April 2019	October 2019

Feature details

Two new picking-location directive strategies are introduced: FIFO (first in, first out) and LIFO (last in, first out). These work in conjunction with aging date fields on the location and license plate to track when inventory first entered the warehouse. These strategies can be used for both batch and nonbatch tracked items, to ship items to customers based on when the inventory entered the warehouse. This can be especially useful for nonbatch tracked inventory where an expiration date is not available to use for sorting. When inventory is first received/created in the warehouse, the license plate is updated with the current date populated as the aging date. This date is then used by the strategies to determine the oldest/youngest inventory in the warehouse. If inventory is moved to a non-license-plate-tracked location, the location itself is updated with an aging date, which will also be used by the strategies.

Release to warehouse rule

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	April 2019	October 2019

Feature details

The release to warehouse rule introduces new abilities for greater flexibility when releasing to the warehouse. It controls whether release of partially reserved order lines is allowed by the system or not. It works hand-in-hand with advanced cross-docking functionality where part of an order line might be marked against a supply source, and part of the order line can still be processed in the warehouse, to allow the release of such a line and continue with warehouse processing for the available inventory quantity.

Zone-based replenishment

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	April 2019	October 2019

Feature details

Zone-based replenishment is a feature that utilizes min/max replenishment strategy but evaluates warehouse zones instead of individual locations. By not taking a dependency on a fixed location setup, the functionality allows for replenishment of dynamic locations. This opens up a min/max replenishment process for companies using dynamic locations, such as retailers that have numerous stocked items with a short live time. At the replenishment template for min/max replenishment, the user specifies whether the threshold should be evaluated per location or per zone. In the case of zones, specific zones are then added to the zone-selection query. As it is for location-based min/max replenishment, zone-based min/max replenishment is based on setting up a minimum threshold of inventory that triggers the creation of a replenishment work order for selected items and item variants. In return, replenishment will be created for the quantity that increases inventory up to the desired zone maximum threshold.

Wave template grouping

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	May 2019	October 2019

Feature details

Wave template grouping functionality is similar to existing work-template grouping behavior, but instead it enables grouping and breaking by functionality already on the wave template. This can be useful in warehouses where waves are being created based on a certain criterion but where automatic wave creation is preferred to manual.

Consolidate shipment enhancements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	May 2019	October 2019

Business value

The system allows for a flexible setup accommodating consolidated shipments per customer, warehouse, mode of delivery, and all types of characteristics defined for the customer or item. This ultimately allows for higher efficiency at the warehouse and better customer service.

Feature details

This feature will allow for a more flexible configuration of the consolidated shipment that takes place when releasing the outbound source document to the warehouse. A consolidate shipment policy is introduced as well as a shipment consolidation template. These new entities will allow the user to define, per query, how to apply the policy when releasing the shipments and how to apply the template when consolidating the shipments. The current functionality is limited to a toggle at the warehouse level, making it difficult to select or deselect which customer or orders should be consolidated.

Split work

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	May 2019	October 2019

Business value

This feature helps to increase the utilization of the warehouse workforce, allowing for flexibility in planning day-to-day tasks. It allows the user to manually correct some automatically created assignments.

Feature details

This feature helps solve the business challenge in which a single employee cannot finalize work within a given time and other users are available to assist completing it. The work can be split in two or more work headers in order to assign it to available employees. The feature adds the flexibility of restructuring work after it has been created and is in either an open or in-progress state. A worker will not be able to proceed with work lines that might concurrently be split to another user. The existing blocking mechanism has been refactored.

Change work pool button

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	October 2019

Feature details

The **Change work pool** button is a simple addition to the system that enables the warehouse manager to simply change the work pool of the already-created work ID. It introduces the ability to react faster to any possible changes on the shop floor and to better streamline the physical process when required by changing situations.

Deferred put processing

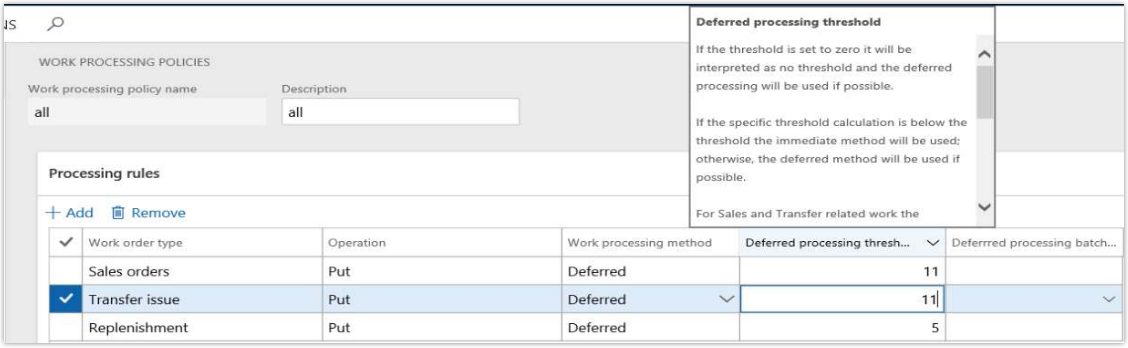
Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	October 2019

Business value

Deferred put processing will free up mobile devices right away, allowing the user to pick up new tasks. The system will also become resilient to random peak times of put processing—all processing time will be handled by batch servers, allowing warehouse workers to operate without disruption when there is unexpected slow server performance for registration of puts.

Feature details

This is a performance-related feature focused on increasing the productivity of warehouse workers. Instead of requiring online processing of the various inventory updates each time a put is complete, which "freezes" the mobile device, we will allow for that process to be performed asynchronously. Warehouse workers will experience an increase of performance for all operations requiring a certain number of updates—for example, a put registration of a pick of 10 lines involves 20 inventory updates for the locations involved and 10 source document lines updates. These operations will be automated through batches, and the load of the system will be more balanced. Warehouse workers will not be dependent on sporadic or random peak utilization of the system. The feature will be flighted so that we can test the feature with some customers—we want to understand the impact on various follow-up processes such as the manifesting and printing of shipping documents.



Work processing policies

Pallet building post-packing station

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	October 2019

Feature details

Pallet building offers the ability to sort packed containers to a correct pallet after the packing station and to build a packing hierarchy. Such pallets can later be moved to the correct staging location with a single work order capturing all packed containers. The warehouse worker has the freedom to choose which pallet the packed container should be put to, the maximum number of boxes a pallet can have, and how many pallets are needed in any given scenario.

A container packing policy and a sorting location profile are introduced, which together offer greater flexibility in handling packed containers from the packing station. Different consolidation criteria are introduced—after the user has assigned a criterion for each destination pallet, all subsequent packed containers will be guided to the matching pallet, and the worker must confirm only the put step of the work order. When the pallet is full, the pallet position is closed, and it can be moved as a single unit. This means faster handling and better overview of containers because it reduces the necessary steps for movement of packed containers within the warehouse. This feature does not use containerization processes when merging containers to a pallet, but it extends the existing container group license plate functionality. The pallet content list can therefore not be printed via this enhancement. This feature is subject to change as it is integrated with existing system features.

Put to wall/Put to store

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	October 2019

Feature details

With this feature, you can handle scenarios where consolidation of product to a prepack staging area based on configurable criteria is required. Companies shipping to stores or handling small items will benefit from this functionality due to decreased picking time—it allows for picking to a single target license plate, and it can leverage a greater number of put positions than cluster picking. The put-to-wall workflow directs picked products to a sorting location for distribution into various types of containers. Generally, each sorting location includes multiple sort positions. Each sort position is assigned according to the criteria set by the business process, most commonly destination, store, shipment, or load.

Once the product is picked, it is taken to the sorting station and distributed to the sort position by the quantity associated to the order, destination, shipment, or load. When a container is full or complete, it is moved to a staging location or a shipping location for further handling, depending on the business process. Technically, the put-to-wall functionality allows for individual items or quantities to be taken from the target license plate assigned during picking, sorted to a sort position, and assigned to a sort license plate, typically representing a container. As the sort position is closed, work is created according to the warehouse management setup.

System-directed cluster picking

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	October 2019

Feature details

With system-directed cluster picking, pick work headers are clustered based on a system-generated cluster. The system will cluster picking orders up to the number of positions specified on the cluster profile. This feature is an alternative to manual cluster building where the system uses a cluster profile to create clusters. The cluster profile elaborates on "Number of positions," which corresponds to the number of orders included in a cluster and consequently to the number of totes; "Break cluster at" determines when the cluster should be broken; "Generate cluster ID" controls whether the cluster ID will be generated by the system or entered by the user; and "Sort verification type" determines whether any position verification is needed or not.

The warehouse workers will automatically be presented with a created cluster where picking orders have been pre-assigned to cluster positions. The worker can pick an item for multiple work orders by visiting the pick location only once, as with user-directed cluster picking.

System-directed clustering

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	October 2019

Feature details

With the setup of system-directed cluster picking, you can cluster pick work headers based on a system-generated cluster. The system clusters picking orders up to the number of positions specified on the cluster profile and allows the user to pick multiple orders at the same time without having to create a cluster manually. This feature offers an alternative to manual cluster building by offering to use a cluster profile that the system will use to create a cluster. Several setup lines should be determined on the cluster profile before use. "Number of positions" will correspond with the number of orders that will be put on a cluster and consequently to the number of totes; "Break cluster at" will determine when the cluster should be broken; "Generate cluster ID" will control whether the cluster ID will be generated by the system or entered by the user; and "Sort verification type" will determine whether any position verification is needed or not.

The new mobile-device menu item should be used for system-directed cluster picking with the new "Directed by" option, where the wanted cluster profile ID must be specified. The assignment of work orders can be further optimized by specifying customized sorting criteria on the system-directed query order, which can group orders based on company-specific criteria. At the time of picking via system-directed cluster, warehouse workers will be automatically presented with a created cluster where picking orders have been pre-assigned to cluster positions. The worker can therefore start picking an item for multiple work orders by visiting the pick location only once. The picking process for this feature is the same as for user-directed cluster picking.

Shipment auto update

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	October 2019

Business value

This feature allows a business to seamlessly provide updates to a warehouse without having to worry about order line updates not being reflected on related shipments and loads. Without this feature, users have to manually update or delete and then re-release lines if order quantities increase or new order lines are added.

Feature details

This functionality in this feature automatically updates quantities, increases as well as decreases, on a load line associated with a shipment after it's been released to warehouse. This will occur as long as the load line on the shipment or load has not been processed on a wave. This implies that the feature will allow any order updates to automatically flow through to the warehouse without manual intervention as long as warehouse work hasn't been created. Without this feature, only quantity decrease automatically flows through for as long as warehouse work hasn't been created. This feature applies to sales order lines and transfer order lines.

The feature is enabled for a specific warehouse. This allows the company to apply different shipment auto update policies across warehouses, when required. By default, the shipment auto update policy applied for all warehouses that use a warehouse management process is on quantity decrease. With this policy setting, only quantity decreases automatically flow through to a shipment and load for as long as warehouse work hasn't been created.

Wave step code

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	October 2019

Business value

This feature allows for a more robust handling of the wave step codes that are modified from free text to code. The utilization of it will become more robust, including unique values that are set up and unified throughout warehouses and that are less error prone. Users will not be able to alter a value if it is in use.

Feature details

Wave step codes will allow users to set up codes that are used to link specific wave method instances with their corresponding template. This includes templates for replenishment, containerization, label printing, load building, and sorting. Without this feature, users will have to reference a specific template from the wave process method using free text only. Using free text is error prone because it requires a user to ensure that the wave step text added for a specific wave template matches the exact wave step text in the target template. Wave step codes are set up for a specific wave step type in a separate form. Each wave step method in a wave template that requires a wave step code will require the wave step code to be selected from a drop-down list. Linking a wave step method in a wave template to a target template for the method will no longer rely on free text, but on setup codes. This reduces the risk and impact of human errors.

It is optional to uptake wave step codes and move away from wave step free text. The uptake is done per legal entity. As part of the uptake per legal entity, all existing wave step codes in the specific legal entity are upgraded into the new structure.

Advanced cross-docking

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	October 2019

Feature details

This functionality introduces advanced planned cross-docking where the inventory quantity required to satisfy an order will be directed to the correct outbound dock or staging area straight from receipt or creation. All remaining inventory from the inbound source will be directed to the correct storage location through regular put-away process. Cross-docking therefore allows a worker to skip inbound put away and outbound picking of inventory that is already marked to an outbound order. The result is a minimized number of touches of inventory where possible, together with greater time and space savings on the warehouse shop floor due to less interaction with the system. The user must configure a new cross-dock template where the supply source and other requirements for cross-docking are specified. As the outbound order is created, the line must be marked against an inbound order containing the identical item. Marking is the process of matching the outbound order with inbound inventory. It will be used to create the cross-dock work order, and it can be done manually or automatically via release to warehouse. At the time of inbound order receiving, cross-docking setup will automatically identify the need for a cross-dock and create the movement work for the required quantity based on location directive setup.

Auto release shipment for cross dock

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	October 2019

Feature details

When creating cross-dock work with a supply source of a production order, it’s possible to set up the cross-dock template to be "opportunistic." When set up this way and if the production order is marked to a sales or transfer order, when the user completes the report as a finished transaction on a mobile device, the system will automatically release the marked sales order to the warehouse, creating a shipment and allowing cross-dock work to be created.

Location product dimension mixing

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	October 2019

Feature details

This new location profile functionality enables better location utilization when using product variants. It allows you to decide whether configurations, colors, style, and sizes can be mixed on a certain location (profile) or if only one or a combination of some of those dimensions can be put to the same location.

Material handling/warehouse automation

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	October 2019

Feature details

The material handling feature is a framework for interfacing with warehouse automation and material handling equipment. Users can set up outbound subscriptions on warehouse events, such as work creation, completion, and cancellation. These events, along with associated data, will be tracked in a queue, which can be accessed via a web service by external equipment. The data associated with each transaction is completely user configurable. Up to 10 fields can be specified to accompany each queue record. The status of each record will be tracked from blocked through sent. Similarly, an inbound queue exists, which external equipment can populate via a web service. When the inbound queue records are consumed, warehouse actions will be triggered, such as work completion and license plate receiving. Work can be executed one work line at a time, or a pick/put pair can be executed in a single transaction. Short pick and location override are also supported.

Put-away clusters

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	October 2019

Feature details

Put-away clusters is a functionality that enables clustering to be used during the put-away process. It allows workers to group put-away work into a cluster and pick multiple license plates at once, which are later taken to different warehouse locations. This feature is especially useful for retail warehouses or any other scenario where received license plates are not full pallets. It provides enhanced efficiency on inbound processes of the warehouse, allowing a faster alternative to single license plate put-away, where a user must repeat the process for each license plate individually.

Receive sortation and cluster put-away

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	October 2019

Feature details

Receive sortation functionality extends the put-away cluster functionality by sorting the inventory at the receiving dock. The sorted inventory is added to the put-away cluster profile prior to creating put-away clusters. Using this function, received items can be sorted by the destination location zone, handling equipment, or any other configurable criteria, and workers can move multiple license plates to different locations at the same time. It therefore provides enhanced efficiency to the put-away clusters functionality on the inbound side of warehouse processes.

Packing vs. storage dimensions

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	October 2019

Feature details

Some items are packed or stored in such a way that there is a need to track physical dimensions for the different processes. A new field is being added to the **Physical dimensions** page to allow users to specify what process the specified dimensions are used for: packing, storage, or nested packing. The storage dimensions will be used along with location volumetrics to determine how much of the item can be stored in locations in the warehouse. The packing dimensions will be used during containerization and the manual packing process to determine how many of the items will fit in different container types. The nested packing dimensions will be used when the packing process contains multiple levels.

Country of origin enhancements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

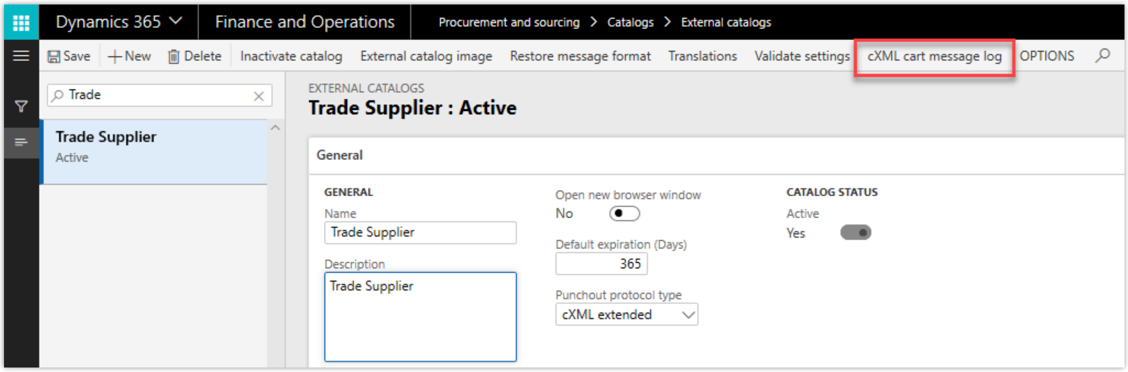
Trading across country borders often requires that companies include information about the country of origin of the products they are moving. Microsoft Dynamics 365 for Finance and Operations includes a field on the product master document. These enhancements will build on that existing capability. Often, suppliers will provide a certificate to customers that has an expiry date and certificate number. These enhancements will provide the capability for the procurement organization to document this information. This information can then be used in preparing paperwork for shipping documentation. The feature also enables the procurement organization to follow up with suppliers when a certificate expires. Sales organizations can also verify this information before making sales. For example, if product from a specific country shouldn't be shipping into another country due to possible tariffs or additional paperwork that the shipping department will need to prepare. These updates will help organizations build trade-compliance processes.

External catalog enhancements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

Procurement organizations were able to leverage the external catalogs cXML protocol in Microsoft Dynamics 365 for Finance and Operations version 7.2. Due to different vendor systems, setting up and testing external catalogs can involve some troubleshooting. With the new catalog enhancements, the procurement organization can enable the logging feature that captures common issues that might require changes to external catalog parameters.



External catalog enhancements

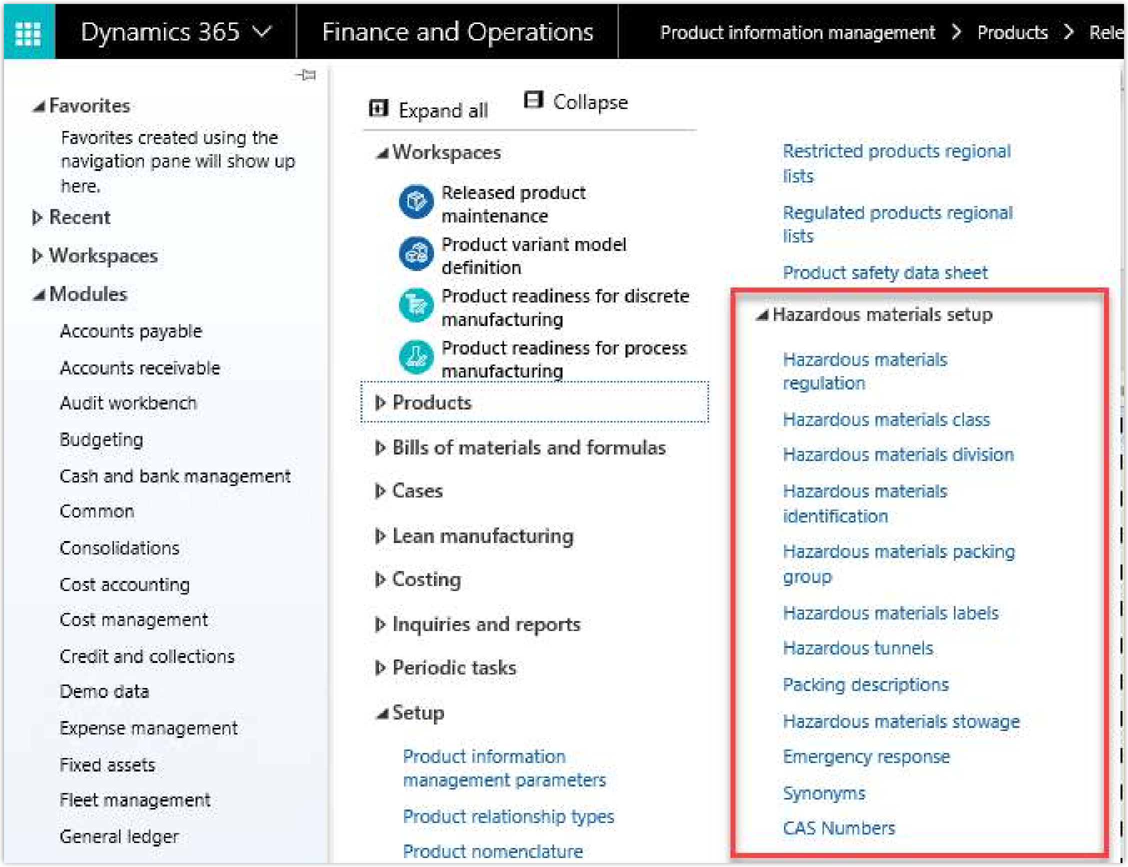
Additional support is being added to allow the return of the **SupplierPartIAuxiliary** ID from the shipping basket and to capture it on the purchase requisition and the related purchase order. This identification is used by some suppliers to represent a unique configuration for an item.

Hazardous materials product information management

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

Distribution companies that handle products that contain hazardous or dangerous goods need to be able to store additional information about those products. This information will help the company build a process to conform with regulations around shipping and handling these products. With this enhancement, product information management will include additional setup options to store data related to the item, including item descriptions per the different shipping regulations on the dangerous-goods lists.



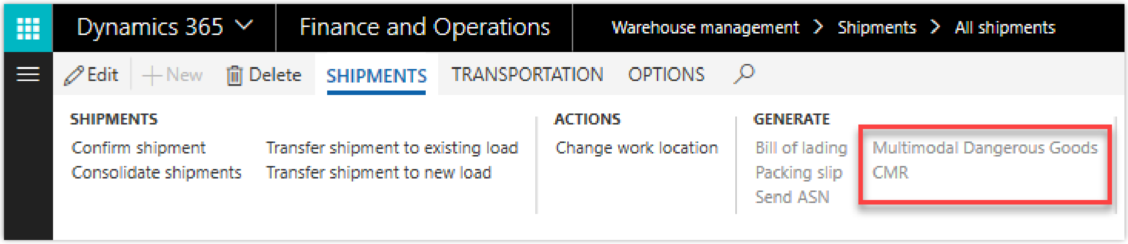
Hazardous materials setup

Hazardous materials shipping documentation

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

Because additional information regarding hazardous materials will now be stored for products, we are introducing additional documents that can be used in the warehouse to manage shipments that contain hazardous materials. The new document will be an enhanced bill of lading, CMR document, multimodal dangerous goods document, enhanced packing list, and Verified Gross Mass (VGM) document. These documents will work similarly to the existing bill of lading. The operator can generate the data for the document and then edit as needed to include external data or adjustments needed to represent the shipment.



Multimodal dangerous goods

Inventory on-hand service

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Business value

Making inventory on-hand information available via a dedicated service will simplify integration with and improve performance of both Dynamics 365 for Finance and Operations and external systems.

Feature details

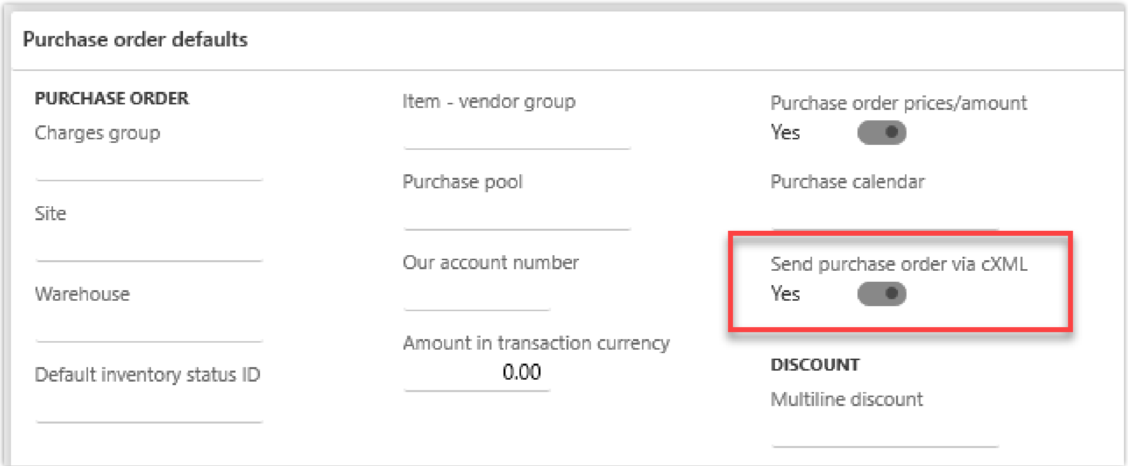
Organizations that leverage Dynamics 365 for Finance and Operations for managing their inventory on-hand might also have other external systems that could benefit from on-hand inventory information. These could be external sales solutions or mobile solutions but could also include the possibility of sharing inventory on-hand information with trading partners. We envision simplified integration work and faster performance for Dynamics 365 for Finance and Operations and external systems if this information is available via a service.

Purchase-order delivery via cXML

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

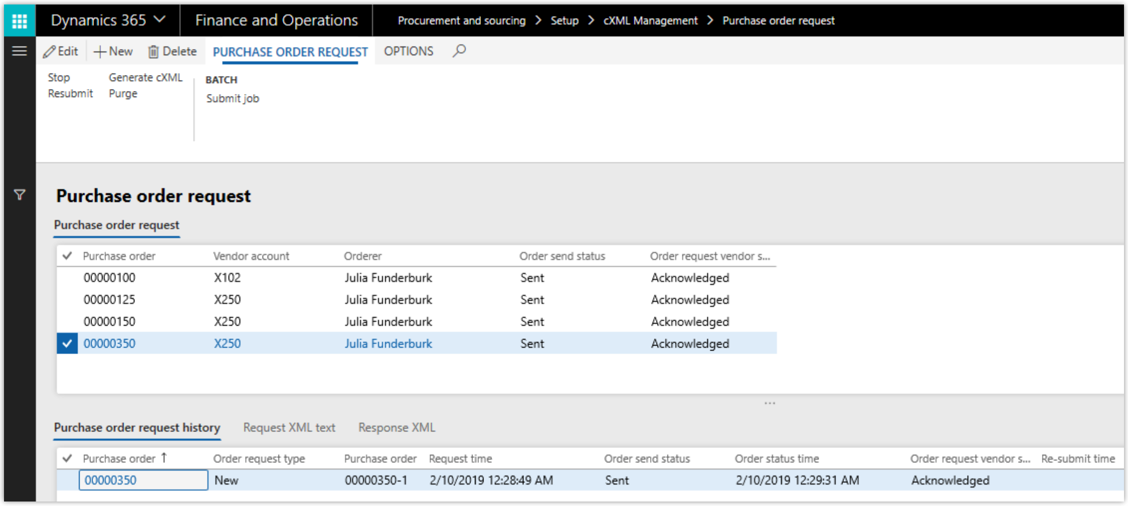
Feature details

Procurement organizations can gain operational efficiencies and provide value-added service to their organization by enabling external catalogs and allowing employees to purchase directly from suppliers' e-commerce sites. When the requisition is returned, approved, and converted to a purchase order, the communication of the purchase order back to the vendor is manual. With this enhancement, we have added support for the cXML Purchase Order Request message. Vendors can be enabled for this feature if your supplier supports receiving the purchase order. Additional setup and parameters are enabled through the external catalog configuration.



Purchase order defaults

Purchased orders are sent using confirmed purchase orders. The procurement team can enable background processing for the purchase order sending the order, and they can monitor the acknowledgment of purchase orders.



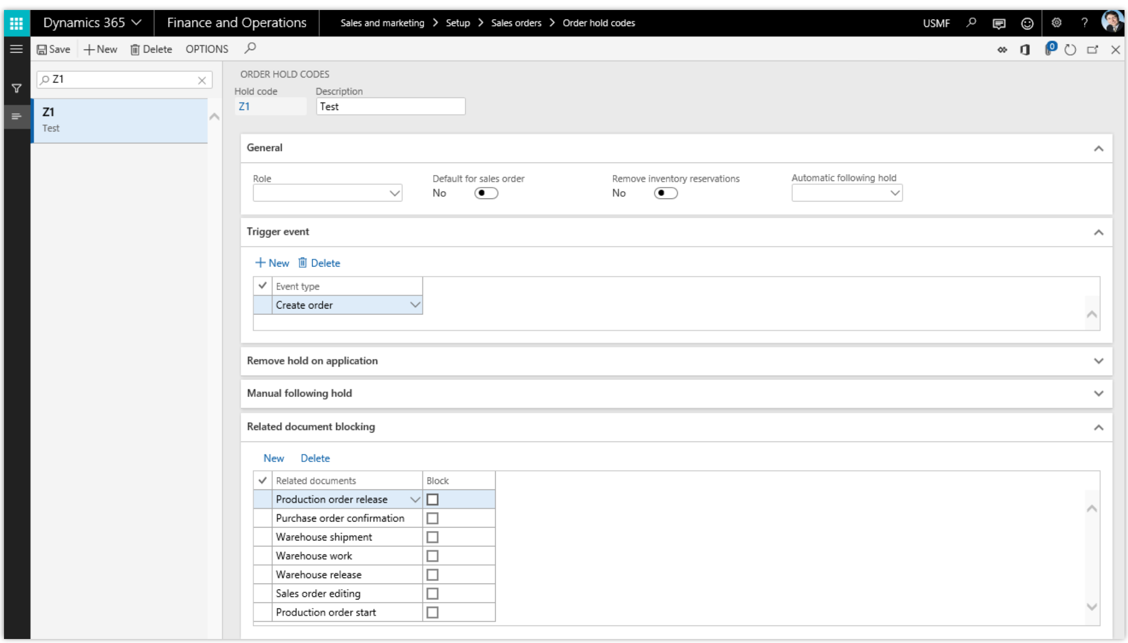
Purchase order request

Sales process control via enhanced order holds

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

In B2B trading scenarios, departments are trying to reduce the time involved in processing a sales order through the organization. This often involves collaboration between customer services, financial teams, and operation teams to review the order and deal with exceptions. Often, a full workflow process is too much overhead for the sales order. With this enhancement, organizations can use additional parameters on order holds to create virtual workflows, and they can use status indication processes to enable communication of the order status and requirements for follow-up activities to control the order. The status information is visible on the warehouse release and shipment, which enables the communication of status information between the sales representatives and the operational fulfillment teams.



Enhanced order holds

Self-billing invoice control for procurement

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

Collaboration with trade partners to reduce the process overhead in business documents is common in some industry verticals that have a high movement of inventory in reliable trade relationships. Trade partners can set up processes where they will pay for goods based on defined trade terms like the receipt of product. This allows the vendor to avoid having to send a specific invoice document. The trade partners will have a reconciliation process to audit processes and deal with exceptions rather than have the overhead of processing every business document. With these features, the procurement and accounts payable organizations can enable payment of receipts by using the self-billing process.

Self-billing invoice control for sales

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

Collaboration with trade partners to reduce the process overhead in business documents is common in some industry verticals that have a high movement of inventory in reliable trade relationships. Trade partners can set up processes where they receive payment for goods based on defined trade terms like the receipt of product. This avoids having to send an invoice to the customer because the customer has agreed to pay on receipt of product. The trade partners will have a reconciliation process to audit processes and deal with exceptions, rather than have the overhead of processing every business document. With these features, the sales and accounts receivable organizations can enable receipts and reconciliation of payments by using the self-billing process.

Further catch weight integration 10.0.1

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	March 1, 2019	December 2019

Business value

This feature provides various enhancements on the catch weight solution following additional integration work of various scenarios supported in the Fullscope solution.

Feature details

This feature provides various enhancements on the catch weight solution following additional integration work of various scenarios supported in the Fullscope solution:

- Enables intercompany scenarios: it will be possible to use catch weight products enabled for warehouse management in intercompany scenarios.
- Clean-up job for the catch weight tag integration: clean up historical information related to catch weight tag registrations.
- Mixed license plate receiving for purchase order and load receiving: enable this process for CW items.

Further catch weight integration 10.0.2

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	April 1, 2019	December 2019

Feature details

This feature provides various enhancements on catch weight product processing within warehouse management processes. We are providing the following additional integration work supported in the Fullscope ISV solution:

- Mixed license plate receiving (transfer and return sales orders): enables warehouse app processing for catch weight products to use mixed license plate receiving for transfer and return sales orders.
- Restrict weight adjustments: enables the possibility of restricting the warehouse management picking processes from capturing weights resulting in catch weight profit/loss adjustments for the following warehouse app processes:
  - Sales order
  - Transfer order
  - Production order

  - Movement
  - Movement by templates
  - Adjustment out
- Weight capturing during movements: enables the possibility of capturing weight during internal inventory movements.
- Catch weight tag maintenance enhancements: enables creation and correction actions directly in the catch weight tag form.
- Data entity support for catch weight tags: enables a public OData-enabled data entity, supporting creation and maintenance of the catch weight tags.

Further catch weight integration 10.0.3

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	May 1, 2019	December 2019

Feature details

This feature provides various enhancements on the catch weight product processing within warehouse management processes. The feature adds the following additional integration work supported in the Fullscope ISV solution:

- Counting weight capturing method: enables the warehouse app counting processing to capture the weight per catch weight unit.
- Warehouse transfer weight capturing method: enables the warehouse app to capture the weight per catch weight unit as part of the warehouse transfer process.
- Restrict weight adjustments for additional processes: enables the possibility to restrict the picking processes from capturing weights resulting in catch weight profit/loss adjustments as part of warehouse app:
  - Warehouse transfer
  - Inventory status change
- Weight information as part of warehousing app inquire operations: enables the warehouse app inquire processes to display weight information and units.

- Change inventory status (periodic) for catch weight products: enables the change inventory status process for non–catch weight tag products.

Further catch weight integration 10.0.4

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 1, 2019	December 2019

Feature details

This feature provides various enhancements on catch weight product processing within warehouse management processes. We are providing the following additional integration work in the Fullscope ISV solution:

- Quality order validation (with inventory status change).
- Inventory status change from on-hand by location.
- Inventory status change via movement work processing.
- Enable the "Complete work" capability for final pick-put work lines pairs.

Dock management planning

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	February 2020

Feature details

This feature adds a graphical calendar view to the appointment schedule form that lets users view scheduled appointments in multiple views—month, week, and day. Users can also create new appointments directly from the calendar view. Additionally, users can now specify a location type on their appointment rule, to decide if the list of locations available to make the appointment against include staging locations or dock locations.

QC inbound dock check

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	June 2019	February 2020

Feature details

With this functionality, you can perform rapid quality checks on the spot at the time of receiving to the inbound dock area. These spot checks are beneficial when packaging or any other easily recognizable part of the item is being inspected. They serve as quick looks to see if anything is standing out as faulty before stocking the inventory to its location. This function offers an alternative to existing quality-check processes, with more flexibility and faster processing. It does not require any quality orders to be created but instead creates one after a license plate is rejected on initial inspection. At the time of receiving, the worker is required to perform a desired quality check and must decide whether to accept or reject each license plate scanned. Accepted license plates will be guided to the storage location as normal, while rejected license plates will be diverted to a quality check location for further inspection. Existing put-away work will be cancelled, a new “Quality In Quality Check” work order will be created, and the user will automatically continue with the put step. This process can also be automated to divert all scanned license plates to the quality check location immediately.

Advanced transportation planning

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	February 2020

Feature details

Sometimes shipments take multiple legs of transport to arrive at the distribution facility. A new concept of “trip” is introduced that allows multiple loads to be grouped together into a single trip for transportation planning purposes. If transport from the vendor origin requires multiple legs—for example, a truck to the port, then a ship across the ocean, followed by another truck to the distribution facility—one trip can be created containing three loads to model this transport. Each individual load can be rated and tracked individually, while the single trip record consolidates all of the information about the journey.

Carrier assignment/routing wave step

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	February 2020

Feature details

Some distributors need to assign transport carriers to orders as they are processed through the warehouse but don’t want to do this process manually. A new wave step is introduced that allows an order to rate automatically during the waving process. When a shipment is waved using a wave template that has the AssignCarrierRate step selected, the system will automatically rate shop the associated sales order and apply the cheapest rate. Once the order has been rated, the rest of the warehouse processing can take the assigned carrier/service into account to direct the order to the correct dock door, to print labels, and so on.

Retail store pack and ship

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	February 2020

Feature details

Retail store pack and ship allows retailers or distributors to systematically pack inventory into containers without using the rest of the warehousing module. Users can initiate packing from an existing sales order or transfer order, create containers, assign items to containers, assign container weights, and manifest containers as they are closed. A new order can also be created directly from the packing screen. Most normal packing functionality is retained, including the ability to rate with small package shipping.

Small package shipping (SPS)

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	February 2020

Business value

The small package shipping feature allows packed containers to be rated and have tracking numbers assigned from custom carrier rating engines.

Feature details

Small package shipping (SPS) allows packed containers to be rated and have tracking numbers assigned from custom carrier rating engines. SPS works in conjunction with either manual warehouse management packing, wave containerization, or retail store pack-and-ship to send details about a packed container to a shipping carrier and receive back a rate and tracking number. The returned rate will be added to the associated sales order as a miscellaneous charge. The returned label can optionally be printed to a ZPL printer automatically. Users specify their account information for each carrier that will be used, and the container information is sent to the associated service, which will return a rate, tracking number, and label information. Additionally, a third-party account number can be specified for each customer, as desired. Note that specific carrier rating engines are not included and must be acquired separately.

Blind returns receiving

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	February 2020

Feature details

Often a warehouse will receive a return shipment with items that were not added on the matching return order. This feature extends standard return order processing by enabling workers to receive items that were not present on the original return order without having to adjust the order beforehand. When such a return shipment arrives to the warehouse and a missing item is scanned by the worker, a confirmation message is shown on the mobile device. If confirmed, a new line is created on the return order for the received item with the matching quantity. This functionality can be managed on the user level.

Quality management—item sampling

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	February 2020

Business value

This functionality extends the existing quality order feature by introducing the ability to create a work order to move the inventory to and from the quality check location via a mobile device.

Feature details

This functionality extends the existing quality order feature by introducing the ability to create a work order to move the inventory to and from the quality-check location via mobile device. Upon the receipt of inbound inventory, a quality order can be created using quality associations. This functionality is used when a set sample of inventory coming into the warehouse needs to be examined for quality purposes. It could be a new vendor who needs to be kept to business standards or a vendor who has had issues in the past and needs closer examination.

Product variant uptake of volumetric data

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	February 2020

Business value

Businesses who buy, make, or sell products with variants that have different physical dimensions can now capture the precise volumetric data so that charges, space, and equipment that are dependent on and constrained by accurate volumetric data are correctly calculated and optimally utilized.

Feature details

This functionality adds the ability to create physical dimensions for a product variant. The dimensional values (length, width, and depth) give the volumetric data of a distinct product variant. The volumetric data is used in warehouse and transportation processes to calculate storage space, warehouse equipment, container size requirements, and more, including calculating charges based on the exact volumetric information for the product variant. The feature enables scenarios such as one in which one unit of large-size shirts has a different volumetric requirement than one unit of small-size shirts and then uses the calculated volumetric data for downstream processes.

Dynamics 365 for Talent

Overview of Dynamics 365 for Talent 2019 release wave 2

We continue to invest the majority of our energy on the talent acquisition and onboarding portion of the broad Human Capital Management (HCM) space. Our investments currently rise up in two applications that are separate but complementary to one another: Attract and Onboard. We are also making incremental investments in Core HR to support our ongoing customer deployments.

What's new and planned for Dynamics 365 for Talent

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Attract

Feature	Enabled for	Public preview	General availability
Intelligent candidate recommendations	End users by admins, makers, or analysts	April 2019	October 2019
Improve diverse hiring with detection of bias and cryptic language in job descriptions	End users by admins, makers, or analysts	August 2019	October 2019
Customize and extend analytics reports	End users by admins, makers, or analysts	August 2019	To be announced

Core HR

Feature	Enabled for	Public preview	General availability
Streamlined employee data entry	End users, automatically	July 2019	October 2019
Deeper experience integration with Finance and Operations and third-party applications	End users by admins, makers, or analysts	September 2019	October 2019
Embed third-party apps	End users by admins, makers, or analysts	September 2019	October 2019
Broader environment management	Admins or makers automatically	October 2019	October 2019
Expand data entities in Common Data Service	Admins, makers, or analysts, automatically	February 2020	March 2020

Onboard

Feature	Enabled for	Public preview	General availability
Add a mixed reality guide as an onboarding task	Admins, makers, or analysts, automatically	October 2019	December 2019
Create guides in minutes with intelligent suggestions for activities and content	Admins, makers, or analysts, automatically	October 2019	December 2019

Description of **Enabled for** column values:

- **End users, automatically** – These features include change(s) to the user experience for end users and are enabled automatically.
- **Admins, makers, or analysts, automatically** – These features are meant to be used by administrators, makers, or business analysts and are enabled automatically.

- **End users by admins, makers, or analysts** – These features must be enabled or configured by the administrators, makers, or business analysts to be available for their end users.

For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Attract

Overview

The 2019 release wave 2 will continue to turn Attract into a more powerful product that increases recruiter productivity. Our efforts will be focused on enabling a better integration experience with Core HR, providing intelligent recommendations for candidate matching and helping you keep your talent networked engaged. We are also improving the candidate experience to reflect your brand and drive more visits to your open positions.

Intelligent candidate recommendations

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	April 2019	October 2019

Feature details

Recruiters deal with large volumes of applicants, which makes triaging challenging. Similarly, candidates have to process information about several positions in order to find the right fit. While people find it difficult to process large volumes of data, Attract can do so with ease, and thanks to its intelligence engine, it can help both recruiters and candidates find the right candidates and jobs, respectively. Our machine-learning models analyze job requirements and the candidate's profile to determine a match. Attract then displays both sets of recommendations to help you make decisions faster.

Improve diverse hiring with detection of bias and cryptic language in job descriptions

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

Attract helps you attract the largest set of diverse candidates possible by alerting you to possible noninclusive language in your job descriptions.

Job descriptions play a crucial part in helping prospective candidates make up their mind to apply for a job. Studies show that candidates are very sensitive to the language used in job descriptions and that noninclusive words and terms can skew the composition of applicant pools. To attract a diverse group of talented individuals, recruiters and hiring managers need to author great job descriptions that are free of biased language.

Attract helps you during the authoring process by intelligently analyzing job descriptions and highlighting any parts that might contain noninclusive language. With Attract's customizable language assistant, you can ensure you attract a diverse applicant pool.

Customize and extend analytics reports

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	To be announced

Feature details

The default reports in Attract provide valuable hiring-process insights for any hiring team, but hiring is unique to every company, department, and team. Attract now allows you to adapt these reports with little effort and tailor them to the unique needs of your organization. This feature allows hiring teams to work with Dynamics 365 for Talent partners to:

- Modify existing Attract reports.
- Build custom reports that leverage the Attract data model.

Core HR

Overview

The 2019 release wave 2 continues the work started in the April ‘19 release. This release brings Core HR and Dynamics 365 for Finance and Operations closer together with additional integration and linking. It also provides further integration with third-party apps through an expanded set of entities available in Common Data Service. In addition, streamlined data entry and navigation makes it easier to keep employee records current.

Streamlined employee data entry

Enabled for	Public preview	General availability
End users, automatically	July 2019	October 2019

Feature details

Streamlined data entry and navigation makes it easier to keep your employee records up to date. You can enter data for the future or update data retroactively, giving you the flexibility you need to provide accurate data for your upcoming new hires or for exiting employees.

Deeper experience integration with Finance and Operations and third-party applications

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	September 2019	October 2019

Feature details

Last year's October release added the ability to link to specific forms in Dynamics 365 for Finance and Operations from Core HR. This brought the applications closer together and provided a more unified experience. This release deepens the experience by passing additional contextual information in Finance and Operations while also allowing context-specific linking to third-party applications.

This feature enables customers and partners to:

- Open screens in Finance and Operations in context (such as by worker or by job).
- Open screens in third-party applications in context (such as by worker or by job).

Embed third-party apps

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	September 2019	October 2019

Feature details

You might have third-party apps that work in conjunction with Core HR, either built in house or by a Microsoft partner. This feature provides seamless integration with third-party apps by allowing you to:

- Include third-party apps within the Core HR experience.
- Navigate to third-party applications within Core HR.

Broader environment management

Enabled for	Public preview	General availability
Admins or makers automatically	October 2019	October 2019

Feature details

During your testing and implementation, you might need to move information from your test to production environments, or vice versa. This feature lets you start a process to move data from one environment to another.

Expand data entities in Common Data Service

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	February 2020	March 2020

Feature details

Customers need efficient means to drive the digital transformation of their HR and Talent experiences to attract and retain critical talent. A single coherent view of people is one of the critical foundations needed to achieve this. Most Core HR entities are already available in Common Data Service. Other areas are now available to drive this digital transformation:

- Performance
- Competencies
- Training and courses
- Health and safety

- Compliance

Onboard

Overview

The 2019 release wave 2 will provide a frictionless experience for creating and administering onboard guides. Traditionally, most hiring managers don't use a dedicated onboarding tool to get their employees ramped up. For the onboarding application to be impactful, managers must put some up-front effort into the creation of an onboarding guide. If it takes too much effort to create this guide, hiring managers will fall back to their old ways and just not use our onboarding application. By providing intelligent content recommendations, we are finding creative ways to enable hiring managers to create powerful, impactful guides with the least amount of effort.

Add a mixed reality guide as an onboarding task

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	December 2019

Feature details

Accelerate the impact of your new hires and improve employee retention by providing an engaging and interactive onboarding experience. You can empower employees to learn new tasks through step-by-step holographic instructions by creating and adding Dynamics 365 Guides to an onboarding guide. With this feature, you can also track the completion of a Dynamics 356 guide.

Create guides in minutes with intelligent suggestions for activities and content

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	December 2019

Feature details

Onboard's intelligent suggestions for activities and content helps you build onboarding guides in minutes. Onboard finds relevant tools and content you might not even have thought of and suggests them to you while you're building your guide. All you have to do is drag and drop.

Dynamics 365 for Retail

Overview of Dynamics 365 for Retail 2019 release wave 2

Today's consumers demand delightful and integrated shopping experiences across channels, while traditional channels are getting disrupted and new ones are constantly emerging. Retailers need a modern, flexible cloud solution that will help them be nimble, compete better, and build lasting relationships with their shoppers. Dynamics 365 for Retail provides an end-to-end integrated solution for retailers that includes back office processes, such as merchandising and inventory, as well as front office channels.

The investments will span these pillars:

Fundamentals

- **Deployment and servicing**: Easily deploy, service, and manage distributed retail components.
- **Store and Cloud Scale Units**: Retailers can choose the best topology that will meet their business needs.
- **Extensibility and integrated developer experiences**: Enhanced extensibility for headquarters, in-store, and e-commerce channels with integrated experiences for developers to build solutions.

Industry excellence

- **Inventory management**: Centralized and in-store inventory capabilities such as picking, receiving, stock counting, and inventory visibility.
- **Omnichannel capabilities**: Order capture, order processing, merchandising, and payments to enhance experiences across channels.
- **Regulatory and compliance**: Regulatory and compliance-related enhancements will provide service in all supported countries.

What's new and planned for Dynamics 365 for Retail

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Fundamentals

Investments in infrastructure, servicing, quality, and performance.

Feature	Enabled for	Public preview	General availability
Auto-refresh device activation token	Admins, makers, or analysts, automatically		October 2019
E-commerce inventory API improvements	End users by admins, makers, or analysts		October 2019
Enhancements to Retail statement posting	End users by admins, makers, or analysts		October 2019
Environment history for Retail Cloud Scale Unit	Admins, makers, or analysts, automatically		October 2019
In-store components mass deployment	Admins, makers, or analysts, automatically		October 2019
One Version – Auto-update for Retail Cloud Scale Unit	Admins, makers, or analysts, automatically		October 2019
POS and Headquarters extensions	Admins, makers, or analysts, automatically		October 2019
Secure access to secrets	Admins, makers, or analysts, automatically		October 2019
Store Scale Unit improvements	Admins, makers, or analysts, automatically		October 2019

Feature	Enabled for	Public preview	General availability
Translations for charges codes in POS	End users by admins, makers, or analysts		October 2019
Independent packaging for Modern POS	Admins, makers, or analysts, automatically		November 2019
Regression Suite Automation Tool for POS	Admins, makers, or analysts, automatically		November 2019

Industry excellence

Investments in core retail business processes, industry requirements, and capabilities.

Feature	Enabled for	Public preview	General availability
Enhancements for product discoverability	End users by admins, makers, or analysts	October 2019	
Clienteling - Empower sales associates to become trusted advisors and establish long-term relationships with customers	End users by admins, makers, or analysts		October 2019
External gift card support for Adyen connector in e-commerce and call center	End users by admins, makers, or analysts		October 2019
Improved inventory (inbound and outbound) operations in store	End users by admins, makers, or analysts		October 2019
Improved order recall for omnichannel orders in Customer Service	End users by admins, makers, or analysts		October 2019
Merchandising improvements	End users by admins, makers, or analysts		October 2019

Feature	Enabled for	Public preview	General availability
Tender based discounts	End users by admins, makers, or analysts		October 2019
Management of customer registration numbers from POS for India	End users by admins, makers, or analysts		November 2019
Call center localization for Eastern Europe	End users by admins, makers, or analysts		December 2019
Consistency in payments management across retail channels	End users by admins, makers, or analysts		December 2019
In-store employee task management	End users by admins, makers, or analysts		December 2019
Sales order modification improvements	End users by admins, makers, or analysts		December 2019
Clienteling - Cross sell using product collections	End users by admins, makers, or analysts		January 2020
Intelligent stores through spatial driven insights	End users by admins, makers, or analysts		January 2020
Enhanced inventory dimension support in Retail order processing	End users by admins, makers, or analysts		March 2020
Franchising	End users by admins, makers, or analysts		March 2020
Improved support for batch inventory dimension in store	End users by admins, makers, or analysts		March 2020

Description of **Enabled for** column values:

- **End users, automatically** – These features include change(s) to the user experience for end users and are enabled automatically.

- **Admins, makers, or analysts, automatically** – These features are meant to be used by administrators, makers, or business analysts and are enabled automatically.
- **End users by admins, makers, or analysts** – These features must be enabled or configured by the administrators, makers, or business analysts to be available for their end users.

For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Fundamentals

Overview

We continue to invest in the fundamental aspects of the solution and platform to ensure quality, improve performance and scalability, and to ensure our partners and ISVs can extend the solution to meet retailers' needs.

Auto-refresh device activation token

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

This will alleviate the need for retailers to reactivate POS devices in their stores each time the activation tokens expire. This feature will also improve security by reducing the default token expiration period, which will alleviate the need for retailers to manually configure this value.

Feature details

This feature will introduce auto-refresh capabilities for device activation tokens, using industry standard JSON web tokens.

E-commerce Inventory API improvements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

Businesses need reliable performant APIs to obtain estimated on-hand item inventory availability.

Feature details

New APIs will provide an estimation of on-hand inventory for a requested item and warehouses. These APIs replace the existing GetProductAvailabilities and GetAvailableInventoryNearby APIs that are currently in-market. These new APIs have improved calculation logic and caching to improve performance.

Additionally, new parameters will uptake these new APIs as well as turn off the existing expensive logic of the current APIs that attempted to find the "best" warehouse to source the cart order lines based on default order settings for the item. This logic will not be in the new APIs. Organizations can choose to utilize our Distributed Order Management functionality in the future to enable optimized fulfillment location selection for non in-store pickup saleslines; therefore, this expensive logic will no longer be part of the new APIs.

Enhancements to Retail statement posting

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

In Microsoft Dynamics 365 for Retail, the statement posting process is used to account for the transactions that occur in Cloud point of sale (POS) or Modern POS (MPOS). This process is an integral and vital function of a physical store operation as all the transactions in the store in terms of sales, payments, cash movements, etc. for a business day is reflected back to the Headquarters (HQ) through this process. All key daily reporting that personnel in the HQ rely on for decision making like sales by store for a day, collections by store for a day, inventory movements for different products/categories, and so on are made available through the statement posting process. The statement posting process also plays a pivotal role in loss prevention function of a retail organization as data from statement posting is used by the sales audit clerks to monitor and track issues and patterns around fraud and loss prevention. Given the above, it is imperative that a reliable and performant statement posting process is vital for any retail organization with physical stores

Feature details

This feature will enhance the current statement posting process in the following ways.

Data fidelity checker

The reliability of a statement posting process is highly dependent on the quality of the data that feeds this process. This data is generated and sent over from the retail stores based on transactions in the first party or third-party POS systems. It is often seen that the fidelity of the data that comes from the store is questionable due to factors like bugs in the POS client, which writes inconsistent data to the store database or data brought in from third-party POS systems through the integration framework. As a result, this creates issues and bugs in the downstream process of statement postings. To overcome these challenges, the data fidelity checker will check the data for omissions and anomalies and only those transactions that pass the validation will be included in the statement process. The following are some of the types of validation that the data fidelity checker will perform:

- Validate that gift card items are not associated to return lines.
- Validate that the records in the discount table match the discount amount in the retail transaction line tables for every transaction.
- Validate that the amount on the retail transaction payment lines add up to the payment amount on the header retail transaction table.
- Validate that the records in the tax table match the tax amount in the retail transaction line tables for every transaction.

The data fidelity checker feature will also allow a user to fix transactions that are not consistent with the expectations set for auditing for traceability and reconciliation purposes.

Trickle feed order creation

The current statement posting process is managed in two major parts:

- Based on the data synchronized to the HQ, an “inventory job” reserves the inventory for products at a defined recurring schedule.
- At the end of the day when the stores are closed and the end of day operations are performed in the store, the remaining data is synchronized to the HQ. Based on a defined schedule, the system creates a statement document for every store, and when this statement document is posted, the system removes the reservation for inventory created and then creates sales orders, payment journals, and ledger journals in the system.

As evident from the above points, only temporary inventory reservations are created during the day. These inventory reservations are then removed at the end of the day and all transactions are processed as sales orders, new inventory transactions are created along with other transactions at the end of the day. There is no processing of these transactions happening during the day, and all of them are back loaded to the end of the day. This creates a situation where large transactions have to be processed in a limited time window and results in phenomenal load and locks, which can result in statement posting failures.

To address these issues, the following improvements will be made to the statement posting process:

- Deprecate the “inventory job” that creates temporary reservations.
- Create a new job that will at a pre-defined schedule create sales order, invoice them, create, post, and apply payments for all the transactions that are synchronized to the HQ at that point of time. In addition, it will also create any ledger journals that need to be created for discounts, gift cards, etc.
- The statement document that gets created at the end of the day will only be used to calculate and post any counting variances.

Handling of return lines

To ensure that the return lines are posted with the correct return cost, the current retail statement posting process requires the original sale to be posted before allowing the return posting; however, in scenarios where a statement for the original sale is not posted, then the statement associated with the return transaction also cannot be posted. This results in statements getting backed up and involves users trying to figure out the dependency before posting them manually in the correct sequence. To resolve this and not enforce chronological dependency between the statements, the returns will be posted leveraging the inventory costs from the business date of the original sale.

Handling of batch-controlled items

For batch-tracked items, Retail POS does not support the capture of batch numbers at the time of sale; however, batch numbers are required while posting the sales of these products in the HQ. The current statement posting framework picks an already existing batch number at the time of statement posting; however, in scenarios when quantity with batch numbers do not exist for these products, the statement posting process fails even when negative inventory is turned on for these products. This feature will ensure that statement posting is not blocked for batch-tracked items if the inventory is zero or the batch number is not available if negative inventory is turned on for these items.

Environment history for Retail Cloud Scale Unit

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

This capability is valuable for IT personas when troubleshooting issues and working with Microsoft support. The environment history serves as an audit trail of key operations performed on an environment.

Feature details

This feature will enable an IT Pro persona operating on environment configuration in the Lifecycle Services portal to view the history of system operations related to Retail Cloud Scale Unit (RCSU). This will include operations, such as new scale unit deployment, update, or extension deployment. Users will be able to view time stamp, user, version, and related metadata details as part of the history.

In-store components mass deployment

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

To utilize hardware with Cloud point of sale (POS), a hardware station is required. With larger businesses, massive deployment and installation of hardware station have become unmanageable. Not only will this feature dramatically reduce the difficulty of initial and long-term deployment and maintenance, but it will enhance the flow of hardware station that increases reliability and resiliency.

Feature details

These new features allow users to silently and mass deploy the hardware station. Customers can choose the deployment tool of their choice, such as System Center to deploy and service these components. Additionally, as merchant account information is critical to hardware station functionality, improvements will be made to allow the required information to be downloaded automatically through Modern POS (MPOS) or Cloud POS. This will provide improvements to reliability and resiliency over time of the hardware station.

One Version – Auto-update for Retail Cloud Scale Unit

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

This feature will alleviate the need for the IT Pro persona in a retail organization to manually apply updates. Auto-updates will enable customers to always be up to date with newest system improvements and features.

Feature details

This feature will enable auto-update for Retail Cloud Scale Units (RCSUs). You can choose from one of three delivery mechanisms for auto updating RCSUs:

1. **Scheduled updates**: RCSUs, along with the rest of the environment, are updated on a scheduled monthly basis.

2. **Early access**: If you opt into this program, you will get early access to updates and will have the ability to manually update Retail Cloud Scale Units before the scheduled auto-update time.

3. **First release**: If you opt into this program, your RSCUs, along with the rest of the environment, will be auto updated as soon as the monthly release is available. You will not be able to specify an update schedule if you opt in to first release.

This feature will not include auto-update capability for components installed in-store, such as Modern point of sale (MPOS), RCSU, or hardware station.

POS and Headquarters extensions

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

Nearly all retailers have the need or choose to extend Dynamics 365 for Retail to modify the existing business logic or add some new feature to the product to meet their business goals. In the point of sale (POS), commerce runtime (CRT), and Headquarters (HQ) we are adding more extension points to support custom business scenarios. The goal of this feature is to add the necessary core extension points in the product to support extension scenarios.

Feature details

Framework enhancements

After moving toward the binary based extension model, we are wrapping and exposing all our core POS logic and user interface (UI) controls as SDK (APIs) to help the extension to easily consume and override our logic. Without these APIs it will be difficult for the extension to write some custom logic. In some cases, the extension has to rewrite some of the existing code or write too many lines of code to do a simple scenario. To avoid this and to reduce the number of lines of code, we’re introducing more advanced APIs and configuration-driven development to simplify the overall development process.

POS UI and API extension

We are continuously enhancing the POS framework to add more POS APIs to consume our logic in extension and UI extension points to add custom columns, app bar buttons, and custom controls in core POS views.

POS overridable requests and triggers

New overridable requests are added in POS to override the POS workflow or POS business logic and to add custom logic or validation. POS trigger framework helps you to run custom logic before or after core POS logic. With this new pattern, developers can easily customize any workflow in POS.

Dev infrastructure and tools improvements

Reference to NuGet: Retail SDK references, including commerce runtime and Retail server references, are shipped in the Retail SDK for extensions to consume, but now we are planning to publish all the reference to NuGet package manager for the extension project to easily consume our references. With this approach, the extension project can get the latest updates for the reference library with a few clicks instead of going through the Lifecycle Services (LCS) update flow.

Samples to GitHub: Currently all the development samples for Retail extensions are included in the SDK but we are planning to move all the samples to GitHub. That way they can be easily consumed and updated.

Commerce runtime analyzer: The commerce runtime analyzer tool helps to identify which request and response is used in CRT for any POS operation or workflow. For example, if a developer wants to customize a search workflow to get some additional information needed to modify the right request in CRT, this tool helps to identify the exact request used in that scenario.

Code samples and documentation: Many new code samples and documentation will be published to help with any development scenarios. With these new samples, developers can virtually copy and paste the code, and only make a few changes to complete their extensions.

Secure access to secrets

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

This feature will enable a standardized and secure mechanism for customizations to access customer-owned secrets using key vault. Customizations hosted in Retail Cloud Scale Unit (RCSU) will be able to access a customer-owned key vault to securely retrieve secrets and use them, for example, to connect to external systems. This will provide a secure and manageable means of using secrets and credentials within customizations.

Feature details

This feature will enable an IT Pro to securely use configurations and secrets using key vault, for integrating with third-party systems within Dynamics 365.

Store Scale Unit improvements

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

A Retail Store Scale Unit provides a retailer with an in-store (on-premises) deployment option to help ensure uptime and reduce latency in locations with connectivity and network infrastructure issues. It is important that this scale unit maintains reliability and security at all times. To fulfill this need, it is critical for the usage of the scale unit to continue when connectivity is limited or non-existent.

Feature details

This feature has been supported for many releases now and has been used by many retailers worldwide. There are, however, some design limitations that prohibit the use of the scale unit as needed. This investment reduces the dependency a Retail Store Scale Unit has with back office (headquarters) connectivity when renewing authentication tokens, while still maintaining security. This functionality will allow point of sale (POS) to function in cross-terminal scenarios even when the back office is not available, providing greater offerings and depths of hybrid-style deployments.

Translations for charges codes in POS

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

Charges codes can now be used in point of sale (POS) to add additional charges to POS orders and order lines. The translations that can be defined for these charges codes will be made available to the POS application to allow a user to see the description of the charges in their configured language.

Feature details

If translations have been defined on charge codes in Headquarters, the data can be pushed to the channel database and shown to users based on their configured POS user interface language setup.

Independent packaging for Modern POS

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		November 2019

Business value

With the current extension packaging model, retailers or partners always need to repackage the channel extension with the core product to apply a hotfix or to upgrade. This requires more effort because every time repackaging is done, test and build is required, and for every hotfix, the same process happens again and again. This limits both the retailer and Microsoft to roll out the changes because repackaging and validation is always required, and this can be done only by a developer. For example, if Microsoft wants to roll out some critical fixes or some major functional enhancement, the retailer who has extensions will not be able to easily uptake it because they have to involve a developer and then build, repackage, test, and so on. Many retail implementations will have partner extension, ISV solution, and in some cases in-house customization—in this case, to apply any hotfix, all the parties need to share the code with the retailer or partner to create one combined package with the core product. We are minimizing this problem with the new independent package extension model.

Feature details

We are developing a new feature called "independent packaging model," which helps to separate extensions from the core and provide service independently. We will also support separate packages by extensions in the future. For Modern point of sale (MPOS) to support this new packaging model, we are changing the POS framework to support Windows optional package extension model, Desktop bridge, and MSIX. There will be some change to how extensions are developed, but changes will be done mostly in the extension template, packaging, and deployment.

With this new model, all MPOS extensions will be created as separate appx files and core POS will load these appx files as add-ins and will run under the core MPOS app identity. Previously, the core POS and extensions were packaged as one appx, but now there will be core appx and extension add-ins appx so that developers can independently service their extension appx. We will ship template files to support the extension appx scenarios. The extensions developed will work for both Cloud POS and MPOS, the template may be different, but the code is shared between both.

Regression Suite Automation Tool for POS

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		November 2019

Business value

Retailers or partners can use task recorder and business process modeler (BPM) in Lifecycle Services (LCS) to create user acceptance test libraries for point of sale (POS). Task recorder is a powerful tool for recording test cases. The test cases can then be organized by business process using BPM. BPM can be synchronized with Azure DevOps and automatically create test cases (including test steps) in an Azure DevOps project. Azure DevOps can then serve as a test configuration and test management tool where users can create targeted test plans and test suites, manage the execution of tests, and investigate results. The test can support omnichannel scenarios, for example, create an order in Dynamics 365 for Finance and Operations and pick up in a store using the POS.

Feature details

The following is an example of the end-to-end flow that is available with this functionality:

- Author and execute business cycle tests on any environment that can access POS and via a web browser.
- Run tests against sandbox environments with a copy of your production database.
- Record once, playback multiple times with different data sets, different legal entities.
- Validate against expected values.
- Chain test cases (end-to-end test) by passing parameters from one test case to the next.
- Use Azure DevOps to manage test suites, test runs, and investigate test results.
- Author and distribute by doing the following:
  - Configure the test plan.
  - Execute tests and manage results.

Industry excellence

Overview

Key areas of investment include centralized and in-store inventory management enhancements as well as omnichannel management and order processing improvements.

Enhancements for product discoverability

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	

Business value

Product discoverability is a quick and easy way for a retail customer to be able to discover products by browsing through categories and using search and filtering. Product discovery is a primary tool for customer interaction across all retail channels.

Customers are used to web search engines, sophisticated e-commerce websites, and social apps that offer relevant search suggestions as you type, faceted navigation, highlighting matching terms, and more—all with near-instantaneous response times. If consumers do not find the right product quickly enough, they do not hesitate to move to another retail site that offers better performance.

This investment for enhancing product discoverability in Dynamics 365 for Retail will empower retailers to meet expectations of their consumers by assisting them in their shopping journey, which would help retailers grow their share of consumer retention and conversion rates across all channels, including both e-commerce and POS.

Feature details

Current support for search, browse, and filter using refiners available with our in-market solution is slow and not particularly robust. New functionality in Retail will provide better product discoverability, and discovery will be scalable and performant.

- **Browse and search**: Search relevance and performance is key to our omnichannel experience, as product discovery relies primarily on search for information retrieval and content navigation. An effective and efficient search helps increase conversion.
- **Refiners/faceted navigation**: Faceted navigation helps users browse for content more easily by filtering on refiners that are tied to terms in a term set. By using faceted navigation, you can configure different refiners for different terms in a term set without having to create additional pages.
- **Immersive auto-suggest**: Current auto-suggest shows only keywords that trigger search for the matching keyword. With new enhancements, users will be able to surface links to products, directly navigable to product details. There will also be support for "keywords match in various categories" which enables users to see the count of matching keywords in categories and trigger the search for the keyword for that category.
- **Sort**: With this enhancement, users will be able to sort search, browse, and refine search results by details, such as price, product name, product number, new, top-selling, or recently added.

Clienteling – Empower sales associates to become trusted advisors and establish long-term relationships with customers

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

Many retailers, especially high-end specialty retailers, want their sales associates to form long-term relationships with their key customers. The sales associates are expected to know their customers' likes and dislikes, purchase histories, product preferences, and important dates, such as anniversaries and birthdays. The associates need a place to capture and easily find such information.

Moreover, a retailer engages with the customer using multiple applications (for example, e-commerce for purchases, social media for sentiment tracking, Dynamics 365 for Sales for presales, and Dynamics 365 for Customer Service for post-sales). All this data can help with valuable customer insights that can empower the sales associate to better understand their customers and thus better meet their needs.

Feature details

Associates can use the Client book to add their key customers and capture additional information, such as birthdays, anniversaries, likes, and dislikes. With this investment, the retailer can configure whether the captured information is private to the sales associate who manages the customer or is available to all associates. Additionally, if the retailer uses Dynamics 365 for Customer Insights, then the retailer will be able to choose the insights that should be displayed in the point of sale (POS).

Sales associates will be able to take notes on the customer profile that will leverage Common Data Service as the data source so that any other application that leverages Common Data Service can show the notes, and the notes taken in the other applications will be displayed in the POS.

Lastly, sales associates will be able to create a collection of products and send it to their customers using the customers' preferred means of communication (for example, email, WhatsApp, WeChat, and Messenger). Associates will also be able to see analytics around the effectiveness of the communications sent to the customer.

External gift card support for Adyen connector in e-commerce and call center

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

With the advent of online shopping, giving gift cards in lieu of actual gifts has experienced about the same growth as e-commerce itself. As such, merchants must be able to issue gift cards as part of an online order and accept them as a form of payment. Many merchants also choose to have a third party manage their gift card services in order to ensure that the cards can be redeemed across legal entities and financial backend systems. With this new capability, external gift cards will be supported through the Dynamics 365 payment connector for Adyen in e-commerce and call center scenarios. In addition, ISVs will have a fully supported path for enabling other external gift card connectors for those same channels using the payments SDK.

Feature details

This feature will add out-of-the-box support for configuring SVS and Givex gift card payments for use in e-commerce and call center channels. With this feature, retailers will have an external gift card solution in Dynamics 365. This capability is being built into the core product and brings enhancements to the payment SDK. This means that if a retailer doesn't use one of the out-of-the-box supported gift card schemes, the payments SDK can be used to implement the needed support.

Improved inventory (inbound and outbound) operations in store

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

This feature will improve upon the point of sale (POS) application by adding new operations to allow for receiving inventory and the creation or fulfillment of transfer orders. These new operations will allow these store inventory tasks to be performed in a more usable and reliable way compared to the capabilities that have historically existed in the POS application.

Feature details

This feature will create new user interfaces to specifically support workflows common to retail receiving and transfer order creation and fulfillment scenarios. These new interfaces will be optimized for bar code scanning and provide an easier way to view items on the related inbound/outbound documents. Additional features will also be added to enhance and validate the data being entered and to ensure smooth processing and error handling when posting receipts or shipments.

Improved order recall for omnichannel orders in Customer Service

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

Dynamics 365 for Retail provides solutions to allow order capture and processing through multiple sales channels (POS, call center, e-commerce, and so on). When dealing with multiple order capture systems, the methods used to provide the customer with their order reference data are different. Point of sale (POS) transactions use receipt IDs, call center orders use order numbers from a Headquarters (HQ) sequence, and e-commerce orders use a different order number sequence. Eventually, these orders are centralized in HQ and reassigned an HQ order number. From a customer service perspective, today, our HQ users are challenged to properly locate transactions and orders in the HQ if they were created as “guest checkout” or “customer unknown” transactions.

By adding more visibility and cross-referencing all of these various order identifiers through our customer service and order search functionality in both the HQ and POS applications, we can provide users with an easier time of locating the order in question in a customer service scenario.

Feature details

This feature will enhance the existing HQ Customer Service pages to allow for cross-reference and easier lookup of sales orders by not only customer or order number, but also by receipt ID or e-commerce transaction ID.

POS order recall features will also be improved to allow for lookup by receipt ID, order number, or e-commerce order number.

E-commerce will be improved to ensure that a customer has the ability to view their order history and see reference to receipt numbers, HQ sales order numbers, and/or e-commerce sales order numbers as applicable.

Merchandising improvements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

As more businesses and larger organizations are leveraging the Dynamics 365 for Retail functionality for online, call center, and store channels, the Retail solution needs to grow to support the more complex business processes that these organizations require.

By adding support for some of these complex business scenarios to our standard product, we eliminate the need for more complex extensions and customizations that can delay the organization's ability to quickly configure and be live on a new selling channel.

In order to provide a seamless omnichannel merchandising solution and provide a consistent set of experiences to our retailers for configuration of products, categories, and attributes for any retail channel, we must re-factor some of these areas to ensure consistency of merchandising features and the flow of catalog, products, and attributes related data in all channels.

Feature details

Custom "Display sort order" for various merchandising entities

The custom "Display sort order" for various merchandising entities feature will empower the merchandising manager to be able to configure the custom sort order for various merchandising entities across all end-user clients including HQ and call center.

The following scenarios will be supported:

- Configurable sort order for **categories** in channel **navigation hierarchy**.
- Configurable sort order for **products** associated with category in **navigation hierarchy of a channel**.
- Configurable sort order for **products** associated with category in **navigation hierarchy of a catalog**.
- Configurable sort order for **related products** associated with an **individual product**.
- Configurable sort order for **dimension groups** for a given **product master**.
- Configurable sort order for **categories** in the **Retail product hierarchy**.
- Configurable sort order for **products** in the **Retail product hierarchy**.
- Observe the display order for **attributes** defined in **attribute groups** for products.
- Configurable sort order of **attribute values** for **fixed list** attribute type.
- Configurable sort order for **configuration** product **dimension values**.

- Configurable sort order for **products & categories** for all **other category hierarchy purposes** like supplemental hierarchy.

Tender based discounts

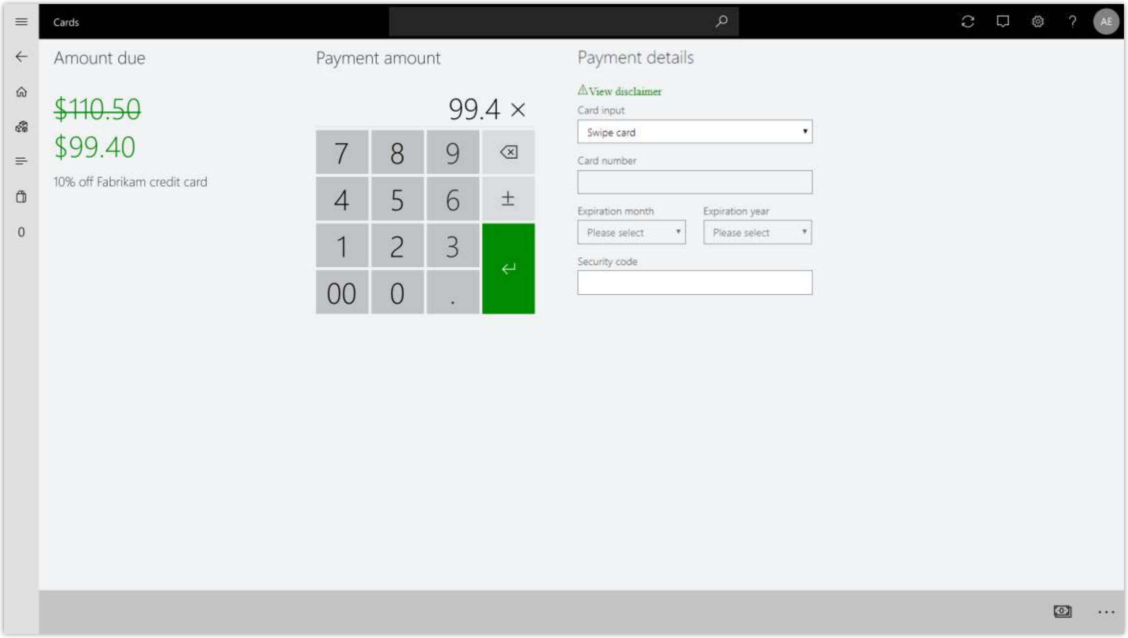
Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

It is a common practice for large retailers to release private branded credit cards. Retailers benefit from getting preferred rates from the banks, and according to a study by GE Capital Retail Finance, such credits cards result in an increase in the store visit frequency, thus directly improving the bottom line of the retailer. As a result, retailers are motivated to increase the usage frequency of their credit cards and tender based discounts is a commonly used motivator. Similarly, some retailers want to motivate the customers to pay by alternate means (for example, cash, check, or loyalty) and thus reduce the expense in credit card processing fees. Such retailers want to create discounts for these alternate tender types.

Feature details

With this investment, we will allow the retailer to configure discount percentage on a selected tender type. When a tender with configured discount is selected, the customer will see the discounted amount as the new balance. The customer can choose to do partial payment or a full payment and would accordingly get the appropriate discount amount. The discount information can be printed on a physical paper receipt or sent via email using a virtual receipt.



Calculating tender discount

Management of customer registration numbers from POS for India

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		November 2019

Business value

In many cases, having a GSTIN number specified for a named customer is required in retail sales. Without the ability to manage customer registration numbers from Retail point of sale (POS), the only workaround is to manage the registration numbers from Retail Headquarters (HQ), which leads to additional efforts and significant delays due to data synchronization. This is especially critical when a new customer record is being created from POS.

Feature details

This functionality provides a user with the following capabilities:

- Enter a customer registration number when creating a new customer record from POS. Synchronize the data to Retail HQ.
- View and modify customer registration numbers in POS.

- Search by customer registration number in POS.
- Print customer registration numbers in receipts for retail sales.

Call center localization for Eastern Europe

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		December 2019

Business value

This functionality allows customers operating in Czech Republic, Estonia, Hungary, Latvia, Lithuania, and Poland to automate their call center operations in these countries or regions using Dynamics 365 for Retail.

Feature details

Call center localization for Eastern Europe includes support for petty cash payments and prepayments per local requirements in Czech Republic, Estonia, Hungary, Latvia, Lithuania, and Poland.

Consistency in payments management across retail channels

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		December 2019

Business value

Retailers want to provide the same level of customer service across all channels while ensuring that back office employees have a consistent experience when managing those orders. Today, depending on which channel an order was placed in, back office employees must use different tools to manage payments for those orders depending on where the order was created. In addition, some channels have more flexibility than others when it comes to payments. This feature provides a consistent and robust order payment management experience regardless of the channel where the order originated.

Feature details

This feature will enable the management of point of sale (POS) and e-commerce order payments using the **Call center customer service** page. Currently, when those orders are displayed in the call center, the payments management capabilities are not available. This feature will allow call center users to have equal payments management capabilities for orders from all retail channels.

In-store employee task management

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		December 2019

Business value

In the omnichannel world of retail where orders can be placed from one channel and the fulfillment can happen from another, there is need for efficient information flow between the various channels to ensure positive customer impact. Moreover, certain personas in headquarters (such as regional managers) want the capability to create tasks for one or more stores for various initiatives and activities that these stores need to perform. Consequently, store managers want the ability to easily allocate tasks to workers who should be empowered to quickly find what they need to do to perform their assigned roles. Historically, retailers have relied on tools such as email, conference calls, or binders for such communications. These tools have numerous challenges, for example, important emails can get buried under unimportant emails, headquarters personas and store managers may not have real time visibility in to the progress of tasks, and an updated prioritized list of tasks may not be available.

Feature details

The new task management solution aims to allow headquarters personas and store managers to quickly create tasks and view their progress in real time. Store workers will have access to a prioritized list of tasks, enabling them to pick the critical tasks ahead of the other tasks. Leveraging this task management solution will also result in improvement in the store compliance and efficiency.

Sales order modification improvements

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		December 2019

Business value

Retailers must be able to properly support customer orders through their entire lifecycle. This is especially important when sales transactions are not cash and carry and when the customer will have the opportunity to modify their order prior to fulfillment. A strong omnichannel solution provides consistent process flows for not only the same-channel order changes, but also cross-channel order modification scenarios.

Feature details

Call center and point of sale (POS) order management interfaces will be improved to provide users with the ability to manage order modifications in a consistent way. The feature enhancements will ensure that any changes to customer totals, amounts due, or amounts to be refunded due to modification are properly handled. Prepayments and pre-authorizations of payment from other channels will be shared across channels to ensure these previously processed payments are taken into account when orders are modified and order totals increase or decrease. These features will support modifications to the order within the same channel it was created, as well as support order modifications occurring in a channel that was not the original channel of order creation.

Clienteling – Cross sell using product collections

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		January 2020

Business value

Retailers are commonly looking for innovative ways to increase the basket size of transactions by leveraging various upselling and cross-selling techniques. One of the popular mechanisms for cross-selling is to display a collection of products for a particular intent. For example, a fashion retailer might create a collection for party attire or office attire, a furniture retailer might create a collection for a living room or bedroom, a restaurant might create a collection for a multi-course meal, and a gardening retailer might create a collection for plants, soil, and compost for a particular climate. Customers can browse through these collections and buy one or more items from the collection, which results in a higher basket size.

Feature details

This introduces the capability for merchandizing managers to create "product collections" that can be assorted to various stores. From the **Product detail** page, customers will be able to easily navigate to the collections where this product belongs and buy one or more items from the collection. Retailers will also be able to create discounts if all the items of the collections are bought.

Sales associates will be able to create private collections and send them for approval to the merchandizing managers. The retailers can optionally decide to reward employees whose collections perform well.

Intelligent stores through spatial driven insights

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		January 2020

Business value

Retailers today can derive insights from data collected and analyzed on digital platforms by using A/B testing, click-thru analysis, abandoned carts information, etc. This analysis help retailers find online behavioral patterns, which can help them to personalize consumer experiences; however, when it comes to gaining insights from the physical world, the level of sophistication is not the same as online. There are not many solutions that overlay signals from the physical world in terms of spatial data and co-relate that to transactional data to derive insights and successful actions. This feature will allow retailers to overlay spatial data with transactional data, enabling them to mine insights for uses cases like loss prevention, foot-traffic analysis, dwell time analysis, and experimentation.

Feature details

This feature will enable the following use cases for retailers:

- **Loss prevention analysis**: In fiscal year 2017, retailers suffered losses worth $42 billion due to theft and pilferages in retail stores. Of this, the US accounted for $42 billion. In a highly competitive and wafer-thin margin environment, these losses cause a significant dent in the retailer’s profitability. Currently, Dynamics 365 does not offer any real solutions to address this perennial problem faced by its retail customers. The Dynamics 365 Loss Prevention Analytics feature will focus on pilferages due to employee theft and returns. This feature will be complemented by both first-party and third-party video feed solutions using first-party devices and the existing camera infrastructure in the retailer’s store. The feature will create reports based on transaction data with embedded video feed that co-relates to the transaction data, which will help retailers to investigate and remediate employee theft and returns. Among the huge volume of transactions, this feature will allow retailers to focus on transactions of concern backed by video evidence thereby allowing them to dedicate resources on pilferage investigations in a meaningful way. Currently, most solutions either provide video surveillance without the top-down analysis to understand what to monitor or provide the top-down drill-through without the ability to confirm findings complemented by video feeds.

- **In-store analytics**: There is a void in analyzing and taking remedial action based on customer behavior at physical stores. At present, retailers have disjointed applications and data to understand dwell time and foot traffic in their stores. This feature will provide Dynamics 365 with physical inputs from retail stores to answer and address questions. For example, how much time customers spend in certain parts of the store, where there is high foot traffic versus low foot traffic in the store, how does dwell time in certain parts of the store co-relate with sales, are promotions placed in areas that attract high foot traffic, or how to impact promotions based on in-store placement. This feature, based on video analysis, can stitch together an in-depth customer journey at physical stores. This journey is the equivalent of a "click stream analysis" on digital platforms, which allows digital platforms to understand customer behavior. Through a "foot traffic/dwell time/experimentation workspace," this feature will enable retailers to increase revenue by product and promotional analysis. Using the workspace, the feature will enable a store manager to have access to video feeds for their store on a timeline view, which can be overlaid with either foot traffic data or dwell time data that will be expressed as color codes of red, yellow, and green, indicating high, medium, or low foot traffic/dwell time. The feature will also have the ability to map the store layout and product placements in the store and based on this, co-relate the foot traffic/dwell time to determine the effectiveness of product placements, promotions, and so on.

Enhanced inventory dimension support in Retail order processing

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		March 2020

Business value

To better support Retail users, the point of sale (POS) application needs to be improved to better handle the order creation and processing of sales and return transactions when inventory is controlled by location, batch, serial number, or owner dimension.

Feature details

POS functionality will be improved to support the ability for users to optionally enter a selling location, batch ID, or serial number dimension at the time of sale of products that are tied to these tracking dimensions. In cases where the retailer does not want to prompt for a specific selling location, existing functions for using a default selling location will still be used. In cases where the retailer does not want to prompt for a specific batch ID at the time of selling, the application will be enhanced with added business logic to link a batch ID to the processed sales order based on business rules. Owner dimension support will be added to ensure that the owner dimension, if required, is properly applied to the sales line during processing.

Franchising

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		March 2020

Business value

Franchising is a business model in which a parent company (the "franchisor") allows other entrepreneurs and businesses (the "franchisee") to use the parent company's brand, products, strategies, and trademarks. In exchange, the franchisee pays a consideration to the franchisor which could be a combination of one-time or recurring fees and royalties based on revenues. In most scenarios, the franchisor also provides the franchisee with support, including advertising and training, IT systems, and so on as part of the franchising agreement.

Franchising is a faster, cheaper form of expansion than adding company-owned stores because it costs the parent company much less when new stores are owned and operated by a third party. On the flip side, potential for revenue growth is more limited because the parent company will only earn a percentage of the earnings from each new store.

While the franchising business model is widely used in multiple industries, such as fast food restaurants and hotel, rental, and leasing services, its significance and usage in the retail industry is incomprehensible as is evident based on the below metrics:

- 50% of retail sales come from franchised outlets (Source: International Franchise Association)
- 3,000 retail franchisors with 800,000 outlets in the US (Source: Retail Management by Berman, Evans)

As of date, Dynamics 365 does not provide fully rounded capability for a retailer to model franchisee stores in their environment, which includes the capability to share master and referential data among all the franchisees, support omnichannel scenarios across the franchisees, data segregation among the franchisees, etc. This feature aims to deliver some core platform and app level capabilities that will enable partners and customers to leverage the same to build out an end-to-end franchisee solution as required by their customers and businesses.

Feature details

This feature will enable multiple scenarios that are required by a franchising solution by modeling each franchisee entity as an individual legal entity in the solution with each legal entity having relevant retail stores configured under them. The following scenarios will be supported by this feature:

- Ability to list and de-list group of items that will be available for a Franchisee organization with the capability for global and centralized management of all item attributes (fields).
- Ability for franchisees to list their own local items for their legal entity.
- Ability for franchisor to define recommended prices and discounts for all items which can be overridden (increased or decreased) by the franchisees for their own legal entities.
- Ability for franchisor to centrally define and manage loyalty schemes and programs that work across all franchisee legal entities.
- Ability for franchisees to create and maintain vendors and purchase orders for their own legal entities.
- Data stripping of all global entities in the system so that a user in a legal entity can only see records that are relevant to their legal entities.
- Enhanced system capabilities around print management and batch jobs processing so that users in each legal entity can see and manage data that is only relevant to them.
- Enhanced franchisee system admin capabilities around user management, workflows, and other sysadmin functions so that only relevant data for these entities are presented and managed by the system administrators of each legal entity.

Improved support for batch inventory dimension in store

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		March 2020

Business value

Dynamics 365 for Retail is backed by a very powerful back office system that provides a robust set of inventory features that support how inventory is managed and tracked within a warehouse. Our current in-market point of sale (POS) application uses a limited set of these dimensions, and the dimensions it does use are often not fully supported in the way our retailer users desire. This feature will be the first of an ongoing series of improvements to allow for the storage tracking dimensional features of the back office to be utilized in the POS inventory processes.

Feature details

This feature will enhance the POS application to make better use of the batch ID dimension data when receiving and working with store warehouse inventory.

Dynamics 365 Business Central

Overview of Dynamics 365 Business Central 2019 release wave 2

Dynamics 365 Business Central provides a complete business application solution designed and optimized for SMB organizations. Since its launch in April 2018, Dynamics 365 Business Central has seen increasing adoption by organizations looking to digitally transform their businesses. In the October '18 update, we updated Business Central to include on-premise deployments as well. The latest version, the April '19 update, brought an update to Business Central that improves the productivity of users.

The Independent Software Vendor (ISV) eco-system is important for customers who want vertical or horizontal solutions for Business Central. We will accelerate this ISV ecosystem to begin moving new and existing customers to Business Central online. To achieve that goal, the following development pillars define the 2019 release wave 2 update:

- **Service fundamentals**: Laser focus on performance, reliability, supportability, and security is essential to ensure that service quality remains ahead of the growth in service usage. Accessibility, already in a strong position, must be preserved.
- **Modern client**: With the 2019 release wave 2, users access Business Central in the browser, Windows 10 desktop app, mobile apps on Android and iOS, or in Outlook. We accelerate our investment in speed and productivity features for the modern browser experience, achieving a major milestone in its transformation into a world-class desktop experience for new and expert users alike. 2019 release wave 2 is the first version that does not include the Dynamics NAV Client connected to Business Central (also known as the Windows client). The modern clients now support so many productivity features that the Windows client is discontinued for Business Central going forward. The legacy Dynamics NAV client remains supported in the April '19 update and earlier versions in alignment with the support lifecycle.
- **Modern developer tools**: 2019 release wave 2 is the first version that does not include the classic development environment (also known as C/SIDE). The modern developer experience based on Visual Studio Code with Azure DevOps, and an AL language that supports an extension-based approach to customization now supports developing large apps such as the base application from Microsoft, and so C/SIDE is discontinued for Business Central going forward. The classic development environment remains supported in the April '19 update and earlier versions in alignment with the support lifecycle.

- **Empower ISV acceleration**: The 2019 release wave 2 update delivers a set of features designed to simplify ISV development for new solutions and, specifically, for streamlining the migration from the source code customization model of Dynamics NAV to Business Central. The Dynamics NAV business has been driven by strong vertical ISV solutions, surrounded by add-on solutions. For the 2019 release wave 2 update, our focus will be streamlining the path for ISVs to bring their solutions – and in turn their customers – to Business Central online.

- **Customer migration tools**: After enabling Dynamics NAV ISVs to bring their solutions to Business Central online, the next step is simplify the journey for existing Dynamics SMB customers coming from Dynamics NAV, Dynamics GP, or Dynamics SL to migrate from their current on-premises solutions to Business Central online. A set of tools already exist; these will be enhanced with 2019 release wave 2.

Limited extension to the Business Central online localizations is planned for 2019 release wave 2 in order to prioritize the service fundamentals work ahead of expanding the service footprint. Additional partner developed localizations, will be added following the 2019 release wave 2.

What's new and planned for Dynamics 365 Business Central

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Application enhancements

We will continue to enhance the application through our focus on performance in the most used areas. The Business Central Ideas site continues to be a source for application enhancements.

Feature	Enabled for	Public preview	General availability
Cancel issued reminders and finance charge memos	End users, automatically	August 2019	October 2019
Carry line descriptions to general ledger entries when posting	End users, automatically	August 2019	October 2019

Feature	Enabled for	Public preview	General availability
Write larger item cross-reference numbers	End users, automatically	August 2019	October 2019

Application lifecycle management

Once partners have customers live on Business Central, there is an immediate need to be able to manage the lifecycle of the customer, the solution, provide support, manage updates, testing, and so on. We will continue our investment in expanding the scope of the tools available to partners.

Feature	Enabled for	Public preview	General availability
Support for performant data upgrade from C/AL tables to AL tables	Admins, makers, or analysts, automatically		October 2019
Support for technical upgrades	Admins, makers, or analysts, automatically		October 2019
Ability to download a database backup file	Admins, makers, or analysts, automatically	August 2019	October 2019
Improvements in update testing and preparation	Admins, makers, or analysts, automatically	August 2019	October 2019
Multiple production environments	Admins, makers, or analysts, automatically	August 2019	October 2019
New option to report production outage in the Business Central Administration Center	Admins, makers, or analysts, automatically	August 2019	October 2019

Empower ISV acceleration

The Dynamics NAV business has been driven by strong vertical ISV solutions, surrounded by add-on solutions. For the 2019 release wave 2, our focus will be on streamlining the path for ISVs to bring their solutions – and in turn their customers – to Business Central online.

Feature	Enabled for	Public preview	General availability
Design for extensibility	Admins, makers, or analysts, automatically		October 2019

Migrations to Business Central online

This area details our migrations to Business Central online roadmap.

Feature	Enabled for	Public preview	General availability
Enhancements for customer migration tools	Admins, makers, or analysts, automatically		October 2019

Modern clients

We accelerate our investment in speed and productivity features for the modern browser experience, achieving a major milestone in its transformation into a world-class desktop experience for new and expert users alike.

Feature	Enabled for	Public preview	General availability
Add links to your navigation menu	End users, automatically		October 2019
Customize a user profile without writing code	End users, automatically		October 2019

Feature	Enabled for	Public preview	General availability
Filter option fields by multiple values	End users, automatically		October 2019
General user experience adjustments	End users, automatically		October 2019
Personalize more of your Role Center	End users, automatically		October 2019
Powerful filtering for reports	End users, automatically		October 2019
Resize columns with fewer clicks	End users, automatically		October 2019
Save and personalize list views	End users, automatically		October 2019
Speed and agility of data entry	End users, automatically		October 2019
Add notes and links to data	End users, automatically	August 2019	October 2019
Enhancements to Excel integration	End users, automatically	August 2019	October 2019
Explore your role or system capabilities	End users, automatically	August 2019	October 2019
Full keyboard shortcut support	End users, automatically	August 2019	October 2019

Feature	Enabled for	Public preview	General availability
[Modern clients only for Business Central]	Admins, makers, or analysts, automatically	August 2019	October 2019
[Multi-tasking across multiple pages]	End users, automatically	August 2019	October 2019
[Switch between companies in your Business Inbox in Outlook]	End users, automatically	August 2019	October 2019

Modern developer tools

For the 2019 release wave 2, Business Central retires the legacy development tool, C/SIDE, and development language, C/AL, replacing them with a modern solution based on Visual Studio Code, Azure DevOps, and an AL language that supports an extension-based approach to customization.

Feature	Enabled for	Public preview	General availability
[Access modifiers]	Admins, makers, or analysts, automatically	August 2019	October 2019
[Attach and debug next]	Admins, makers, or analysts, automatically	August 2019	October 2019
[Base application delivered as AL applications, and end of life for C/SIDE]	Admins, makers, or analysts, automatically	August 2019	October 2019
[Code documentation attributes]	Admins, makers, or analysts, automatically		October 2019

Feature	Enabled for	Public preview	General availability
Convert tables from C/AL definitions to AL table definitions	Admins, makers, or analysts, automatically		October 2019
Database insights made available in AL	Admins, makers, or analysts, automatically		October 2019
Improved app dependency handling on build and deploy	Admins, makers, or analysts, automatically	August 2019	October 2019
More power to developers using Designer	Admins, makers, or analysts, automatically		October 2019
Translating other extensions	Admins, makers, or analysts, automatically		October 2019

Service fundamentals

Laser focus on performance, reliability, supportability and security is essential to ensure that service quality remains ahead of the growth in service usage. Accessibility, already in a strong position, must be preserved.

Feature	Enabled for	Public preview	General availability
Lock-free number series	End users, automatically	August 2019	October 2019
New Support Request option in the Business Central Administration Center	Admins, makers, or analysts, automatically	August 2019	October 2019

Feature	Enabled for	Public preview	General availability
Page background tasks	Admins, makers, or analysts, automatically	August 2019	October 2019
Partners can enter support contact details in the Business Central Administration Center	Admins, makers, or analysts, automatically	August 2019	October 2019
Surrogate keys	Admins, makers, or analysts, automatically	August 2019	October 2019

Description of **Enabled for** column values:

- **End users, automatically** – These features include change(s) to the user experience for end users and are enabled automatically.
- **Admins, makers, or analysts, automatically** – These features are meant to be used by administrators, makers, or business analysts and are enabled automatically.
- **End users by admins, makers, or analysts** – These features must be enabled or configured by the administrators, makers, or business analysts to be available for their end users.

For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Application enhancements

Overview

We will continue to enhance the application through our focus on performance in the most-used areas. We will continue to improve the application to make it easier for ISVs to build extensions on top of our applications. The Business Central Ideas site continues to be a source for application enhancements.

Cancel issued reminders and finance charge memos

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

You can quickly correct mistakes in the close-of-period work by canceling issued reminders or finance charge memos.

Feature details

Reminders and finance charge memos are usually created in batches, for example at the end of the month, to remind your customers of due or overdue invoices. If incorrect information is detected in this busy period, you must be able to quickly correct such errors by canceling issued reminders or finance charge memos.

Tell us what you think

Help us improve Dynamics 365 Business Central by discussing ideas, providing suggestions, and giving feedback. Use the forum at https://aka.ms/bcideas.

Thank you for your idea

Thank you for submitting this idea. We listened to your idea, along with comments and votes, to help us decide what to add to our product roadmap.

Carry line descriptions to general ledger entries when posting

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

When reconciling or auditing data such as expenses, it is useful to see the source document line description in the general ledger entries.

Feature details

From the **General Ledger Setup** page, you can choose the **Source Description Posting Setup** action to define for sales, purchase, and service documents whether the line description text is carried to the resulting item ledger entries depending on the line type. Note that when you select to copy source line descriptions to the resulting entries, such G/L entries will also be grouped per document line.

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Write larger item cross-reference numbers

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

Vendor item numbers or bar codes are often more than 20 characters long. The fact that the **Cross-Reference No.** field can now hold 50 characters allows for faster and easier purchase processing when vendors' item numbers are converted to internal item numbers.

Feature details

When setting up or importing your item master data, you can now write larger numbers in the **Cross-Reference No.** field and use them on purchase document lines.

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Application lifecycle management

Overview

As partners move customers and solutions to the Business Central service, there is an immediate need for tools to manage both the customers and solutions. We are adding functionality to cover the complete lifecycle, first with focus on VARs/SIs, and subsequently with the focus on ISVs building extensions for AppSource.

Support for technical upgrades

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Starting with the 2019 release wave 2 update, you can use the PowerShell cmdlet Invoke-NAVApplicationDatabaseConversion to move a database from version 14 to the latest version in what is known as a technical upgrade. Moving forward, we continue to support this type of upgrade using the same Windows PowerShell cmdlet.

Ability to download a database backup file

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Business value

Many countries have legal requirements that customers be able to have access to the data files. Additionally, this provides the option for customers to download the file locally to import it into a local database.

Feature details

In the Business Central Administration Center, tenant administrators can create and download a database backup for each environment for that tenant.

Thank you for your idea

Thank you for submitting this idea. We listened to your idea, along with comments and votes, to help us decide what to add to our product roadmap.

Improvements in update testing and preparation

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Feature details

There are several improvements that further streamline the process of updating Business Central environments. First, customization compatibility validation will be more firmly embedded in the update process. When a new update is available, an automated validation runs to ensure that any tenant environment customizations are compatible with the new version. If the tool detects incompatibility, the environment is flagged and cannot be updated or scheduled for update to the new version until customizations are updated to be compatible with the new version of the base application. This includes compatibility indicators in the Business Central Administration Center, as well as automated notifications to inform administrators about validations through the update process.

A second key enhancement is in the feedback provided to tenant administrators when an environment update fails. Administrators receive email notifications with detailed information on update failures, including actionable information when correcting the cause of the failure requires action from the administrator.

The third enhancement provides visibility into the availability of updates for AppSource extensions. Administrators will see a notification in the Extension Management page in Business Central when an update is available for an AppSource extension that has been published on the environment. The option will also be available to apply the new update directly from the **Extension Management** page.

Multiple production environments

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Business value

Multinational companies must be able to manage their finances based on the legal requirements in the countries in which they operate. With this update, you can create a Business Central production environment for business divisions, subsidiaries, and so on, that operate in different countries or regions across the world.

Feature details

For each tenant, administrators can create multiple production environments. This will include the option for environments to be on different country-specific or region-specific versions of Business Central.

Thank you for your idea

Thank you for submitting this idea. We listened to your idea, along with comments and votes, to help us decide what to add to our product roadmap.

New option to report production outage in the Business Central Administration Center

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Feature details

Once a partner knows that the customer's tenant is down, they can quickly create a support ticket in the Business Central Administration Center. When you choose the customer's production environment, a new option, **Report Production Outage**, is enabled. If the partner chooses this action, they must answer a few questions about the situation, and then they can submit the ticket. The resulting support ticket is filled in with the specified information about the customer's tenant.

Support for performant data upgrade from C/AL tables to AL tables

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

When converting customers with an on-premises C/AL code customized solution to an AL-based solution, data must be carried forward from the former to the latter as part of the upgrade process.

Feature details

When you convert C/AL to AL code customizations, such as the conversion of the Business Central base application to AL, there will likely be a need to transfer data for existing customers from "old C/AL" tables to "new AL" tables. To support this, we rename tables by adding the AL extension's AppId as part of the table names.

Using the PowerShell cmdlet Sync-NAVApp, partners can convert all C/AL tables to AL tables with minimal database overhead and without the need to write any upgrade code. The command `Sync-NAVApp -Mode BaseAppUpgrade` renames tables on the tenant database to conform to the naming convention for AL tables. This corresponds to the technical platform upgrade for a tenant, bringing the table structure from the base application to the table structure for extensions.

Empower ISV acceleration

Overview

The 2019 release wave 2 update delivers a set of features designed to simplify ISV development for new solutions and, specifically, for streamlining the migration from the source code customization model of Dynamics NAV to Business Central. The Dynamics NAV business has been driven by strong vertical ISV solutions, surrounded by add-on solutions. For the 2019 release wave 2 update, our focus will be streamlining the path for ISVs to bring their solutions – and in turn their customers – to Business Central online.

Design for extensibility

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

The first release of the source code for the Microsoft application in AL is a new era where all applications are extensions, and extensibility begins to replace code customization. To facilitate this change, we're working to make the core application thinner, more extensible, and easier to localize by extracting more and more of our system logic into modules, forming a system application and an application foundation.

These modules are putting simplicity in focus by following a *one feature = one module* principle. Each module encapsulates the complexity and replaces implementation details with clean, documented, and stable APIs.

The smaller modules speed up the development cycle, and make it easier to monitor and optimize functionality from security and performance perspectives. The number of modules can vary, depending on the configuration, and you can update each module individually.

Because this is a major shift in the development paradigm for both Microsoft and our partner community, we make each module available well ahead of the 2019 release wave 2. As we finish modules, we publish the source code in the ALAppExtensions repo on GitHub so that you can provide direct feedback and make contributions.

Currently the following modules are published:

Name	Responsibility
Auto Format Management	Formats the appearance of decimal data types in fields of a table, report, or page. For example, you can change how amounts that include decimals appear in a Cue on a Role Center.
Blob Storage	Provides a way to store various kinds of data. It consists of the TempBlob container to store BLOB data in-memory, the Persistent BLOB Management interface for storing BLOB data between sessions, and the TempBlob List interface for storing sequences of variables, each of which stores BLOB data. Potential uses are storing images, very long texts, PDF files, and so on.
Caption Class	Defines how the CaptionClass property displays captions for pages and tables. You can define rules for how captions display.
Compression Management	The purpose of this module is to provide the ability to create, update, read, and dispose of a binary data compression archive.
Confirm Management	Contains helper methods that either display a confirm dialog when logic is run, or suppress it if UI is not allowed, such as background sessions or webservice calls.
Cryptography Management	Provides helper functions for encryption and hashing. For encryption in an on-premises version, use it to turn encryption on or off, and import and export the encryption key. Encryption is always turned on for online versions.

Name	Responsibility
Data Classification	Helps you comply with data privacy standards by enabling you to classify data for objects that might contain sensitive information. Classifications for data sensitivity include normal, personal, company confidential, and sensitive.
Date-Time Dialog	Helper page for entering a date-time value.
Environment Information	Contains helper methods for getting information about the tenant and general settings, such as determining whether this is a production or sandbox environment, or deployed as an online or on-premises version, and so on.
Extension Management	Provides features for installing and uninstalling, downloading and uploading, and publishing extensions and their dependencies. It can also check whether an extension and its dependencies are installed.
Field Selection	Provides a page where you can look up and select one or more fields from one or more tables. For example, this is useful when you want to set up a KPI on a Role Center.
Filter Tokens	This module enhances filtering by enabling users to enter additional filter tokens. The Code or Text filters accept the %me, %user, and %company filter tokens. The Date, Time, and DateTime filters accept the %today, %workdate, %yesterday, %tomorrow, %week, %month, %quarter filter tokens. In addition, the Date filters support date formulas. Developers can add more filter tokens by subscribing to the OnResolveDateFilterToken, OnResolveTextFilterToken, OnResolveTimeFilterToken, OnResolveDateTokenFromDateTimeFilter, and OnResolveTimeTokenFromDateTimeFilter events.
Language	Changes the language for Windows and applications, and converts language codes to language IDs, and vice versa. The Language table is a subset of Windows languages. You can add languages, and edit translations and descriptions in the list.
Object Selection	Lookup page for all of the application objects, including objects from installed extensions.
Password Dialog	This module introduces a dialog for the user to enter a password.

Name	Responsibility
Record Link Management	Record links features allow user to add notes and links to almost any record into the system. The current module provides APIs for developers to deal with records — for example, to transfer/copy links from one record to another, transform text input into BLOB format expected by the platform, and clean up orphaned links.
Server Settings	Exposes methods that get settings from the server configuration file. For example, it checks whether the Excel add-in is installed, or whether online services can be installed on the server.
Tenant License State	Retrieves the current state of the tenant license, such as trial, paid, or suspended, including the start and end dates of the license.
User Login Times	Records the date when users sign in for the first time, and keeps track of their two most-recent sign-ins.
User Selection	Provides a page where you look up and select one or more registered users. For example, this is useful for assigning someone to things like documents, processes, or items.

Thank you for your idea

Thank you for submitting this idea. We listened to your idea, along with comments and votes, to help us decide what to add to our product roadmap.

Migrations to Business Central online

Overview

Moving from an on-premises solution to Business Central online is a major area of focus for our partners and customers. Today we have tooling in market that makes this process fairly simple for certain scenarios around migrating from Business Central on-premises, Dynamics NAV 2018, Dynamics GP 2018 R2, and Dynamics SL 2018 R2. We also have tooling for older versions of Dynamics GP and Dynamics SL if you are interested in only the chart of accounts and beginning balances. With our future work we are going to streamline the update process even more so that we reduce friction and make the process of moving from on-premises to online as simple and seamless as possible.

Enhancements for customer migration tools

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

After enabling ISVs to bring their solutions to Business Central online, the next step is to simplify the journey for existing Dynamics SMB customers using Dynamics 365 Business Central on-premises, Dynamics NAV 2018, Dynamics GP 2018 R2, and Dynamics SL 2018 CU1.

Feature details

The existing data replication tooling is based on Azure Data Factory and is updated to add additional tables that are needed for the migration to be complete. For the 2019 release wave 2 update, migration tooling for Business Central on-premises and Dynamics NAV 2018 comes first, followed later with enhancements for Dynamics GP and Dynamics SL. The setup process remains the same, but there will be a rebranding component and additional tables added to support a more streamlined migration. The migration tool also supports migrating data from installed extension by default, so a customer who has extended their Dynamics NAV 2018 or Business Central on-premises application with extensions can bring that data with them to Business Central online without any additional effort.

This tool currently allows a user to use Azure Data Factory to connect their SQL Server database to a Business Central online tenant and bring their data across. In addition, the 2019 release wave 2 adds a checklist for information needed to complete the migration.

Modern clients

Overview

With the 2019 release wave 2, users access Business Central in the browser, Windows 10 desktop app, mobile apps on Android and iOS, or in Outlook. 2019 release wave 2 is the first version that does not include the classic development environment (also known as C/SIDE) or the Dynamics NAV Client connected to Business Central (also known as the Windows client). The modern developer experience based on Visual Studio Code now supports developing large apps such as the base application from Microsoft, and so C/SIDE is discontinued for Business Central going forward. Similarly, the modern clients now support so many productivity features that the Windows client is discontinued for Business Central going forward. The legacy Dynamics NAV client is retired in this release but remains supported for the April '19 release and earlier versions in alignment with the support lifecycle. We accelerate our investment in speed and productivity features for the modern browser experience, achieving a major milestone in its transformation into a world-class desktop experience for new and expert users alike.

Add links to your navigation menu

Enabled for	Public preview	General availability
End users, automatically		October 2019

Business value

Business Central is ready to adapt to the unique needs of each business, department, and user. Desktop users are fully empowered to optimize their workspace to support their daily tasks and the most common data they work with.

Feature details

Bookmark a link to any page in Business Central, and add the link to the navigation menu of your Role Center.

Add notes and links to data

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

An ability to add notes that represent slightly more unstructured data is essential in modern business applications. Notes and links are already available for on-premises deployments of Business Central and now we bring these capabilities to the online world as well, enriching its capabilities to store data in the cloud.

Feature details

You can add internal notes on card pages to business data that is captured and processed in Business Central online. Notes are shown next to the data on the card page in a FactBox (divided into two sections now), and you can add, edit, and delete notes from a menu. Notes are organized by date and can have multiple lines. You can also insert hyperlinks to online content from card pages, opening up for even more advanced scenarios.

Explore your role or system capabilities

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

Finding the pages or features in an easy navigation structure is essential for all users. While the navigation bar is very prominent and useful, it doesn't offer an expanded view. Similarly, prospects commonly request a high-level overview of what's in the product. Role Center navigation defines this structure already, but is now presented in a more prominent way, allowing the user more ability to explore.

Feature details

Finding functionality becomes easier with a role explorer based on the navigation structure defined in the Role Centers. This makes it much easier for users to explore and navigate to the right page, and it serves as an overview of Role Centers and their content. As a supplement to using the current Role Centers navigation bar, the command bar, or Tell Me, this new capability brings the different areas of Business Central closer to you, so that you can explore either your Role Center or the breadth of the product to stay productive.

Enhancements to Excel integration

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

Excel is one of the most common tools used with financial systems. Based on customer feedback, these planned enhancements add more scenarios for using the Microsoft Dynamics add-in for Excel with Dynamics 365 Business Central.

Feature details

When the user selects the **Edit in Excel** action from a list page, most filters set on the list page are applied to the list when it is exported to Excel. This also enables publishing changes back into Business Central from a filtered list of records in Excel. Additionally, the number of fields available for reading and publishing edits from Excel is expanded. This includes being able to view and edit fields that are added to pages through extensions.

Full keyboard shortcut support

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

Proficient users are more productive when they can access commonly used features using their keyboard, without having to explore the action bar to find each one. Developers now also get the possibility to respond to end-user feedback by adding keyboard shortcuts to their solutions.

Feature details

Developers can add keyboard shortcuts to most actions and operations via an AL property. This means that application developers can specify keyboard shortcuts for actions in the base application and their own objects from the extensions. This complements the predefined list of keyboard shortcuts in Business Central and enables more flexible development for partners. This also enables some of the new keyboard shortcuts built into the base application (like F9 shortcut for invoice posting).

Learn more about the shortcuts at [Business Central Keyboard Shortcuts].

General user experience adjustments

Enabled for	Public preview	General availability
End users, automatically		October 2019

Business value

Business users often work across productivity and business apps to complete their tasks. As they transition back and forth, differences in user experiences cause friction and lost productivity.

Feature details

Continuing our familiar look and feel across Dynamics 365 and Office 365, this update includes the addition of more fluent design elements on rows and bricks, button styling, and minor stylistic changes to captions on parts. Stylistic changes to bricks also make it easier to select an individual brick, allowing users to display related FactBoxes as well as use the Ctrl+C keyboard shortcut to copy the brick.

Role Centers no longer automatically separate root-level actions from action groups. The sequence in which they were defined in code is respected and reflected in the client for each action area.

Modern clients only for Business Central

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Business value

Businesses and users want to be comfortable that the tools they use are fit for new hardware, operating systems, and changing environments. They can access Business Central through a range of modern clients, so they can be sure that only the newest, most advanced, and up-to-date tools are being used.

Feature details

Business Central continues to evolve the modern client experiences where users work with Business Central in the browser, Windows 10 desktop app, or mobile apps on Android and iOS (both tablet and phone). With this release of Business Central on-premises, the legacy Dynamics NAV Windows Client (known also as RTC or simply WinCli) is no longer available for deployment. Instead, users can switch to the modern experience in any supported web browser, in the Android or iOS mobile apps, in the Windows 10 desktop app, or using Microsoft Outlook and Excel. For more information, see https://aka.ms/BusinessCentralApp.

Personalize more of your Role Center

Enabled for	Public preview	General availability
End users, automatically		October 2019

Business value

Business Central is ready to adapt to the unique needs of each business, department, and user. Desktop users are fully empowered to optimize their workspace to support their daily tasks and the most common data they work with.

Feature details

Personalizing the navigation menu includes:

- Moving menu items to another position within the same or a different group.
- Moving menu item groups to another position.
- Hiding menu items or entire groups.
- Clearing your personalization, effectively returning the Role Center to its original navigation menu layout.

Personalizing Role Center actions includes:

- Moving actions to another position within the same or different group.
- Moving action groups to another position.
- Hiding actions or entire groups of actions.
- Clearing action personalization, effectively returning the Role Center to its original action layout.

As with all other personalization, the changes are effective immediately and roam with the user, no matter which device they sign in to.

Powerful filtering for reports

Enabled for	Public preview	General availability
End users, automatically		October 2019

Business value

As the business grows, so do the data sources powering reports, increasing the need for control over precisely how much data is processed.

Feature details

When running a report in Business Central, users are presented with a request page where they can specify various options and filters. The filter experience has been greatly improved with an experience similar to filtering lists, which includes the ability to quickly add more fields, get assistance and validation feedback when specifying filter criteria, and apply expressions and filter tokens.

Resize columns with fewer clicks

Enabled for	Public preview	General availability
End users, automatically		October 2019

Business value

Business Central is ready to support the unique needs of businesses, departments, and users. Users need to quickly and easily adjust the interface to get a better view of their business data. As users switch between business and productivity apps, consistency in fundamental interactions such as resizing columns keeps the learning curve low.

Feature details

Adjusting the width of any column just got easier. Even though you can resize columns on any list at any time, your changes roam with you no matter which device you sign in to.

Save and personalize list views

Enabled for	Public preview	General availability
End users, automatically		October 2019

Business value

As the business grows, so does table data in the database, making quick analysis or finding records more challenging without the right tools. Defining the perfect set of filters can be a time-consuming, iterative process where the ability to persist filters will save having to recreate them the next time they are needed.

Feature details

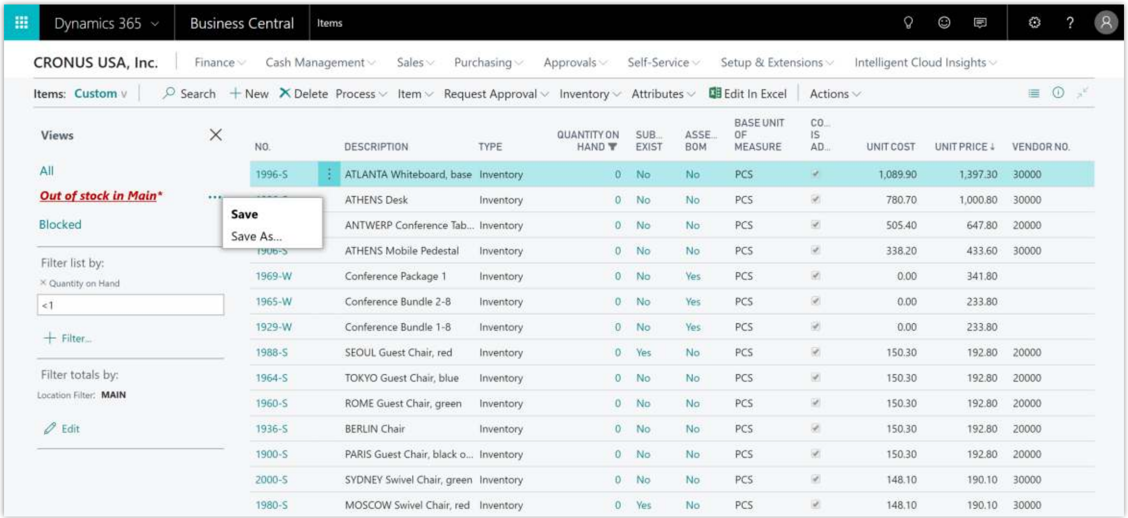
Users will be able to save their list filters and similar personalizations to create different ways of slicing their data. List views are given a name, such as "Items I sell", and might include:

- Filters on totals and dimensions.
- Filter tokens (such as %MyCustomers) to dynamically filter to the right data.

- Different sorting to allow more complex and tailored views of a list.

Users can quickly switch between different views of a list, which includes their own personal views or views that come as standard in their business application, in apps, or for their role.

Similar to other personalization, list views roam with the user, no matter which device or browser they sign in to.



Concept design for saving changes to a list view

Switch between companies in your Business Inbox in Outlook

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

Many businesses use multiple companies in Business Central, and users want to be able to switch between companies in their Business Inbox in Outlook. With the ability to quickly switch companies, users save time and feel more productive.

Feature details

Use the new action in the Business Inbox in Outlook to switch between companies in Business Central.

Customize a user profile without writing code

Enabled for	Public preview	General availability
End users, automatically		October 2019

Business value

Business Central is ready to adapt to the unique needs of the business, departments, and users. Power users, department owners, and consultants demand control over which data and tasks their users get access to for their unique roles.

Feature details

Formerly known as profile configuration mode in the Dynamics NAV Windows client, the Business Central desktop experience allows lightweight UI customizations for groups of users that share the same user profile. This can be done entirely without the use of Visual Studio Code and AL. Capabilities include:

- Add, edit, or remove user profiles from within Business Central.
- Get a more detailed overview of your profiles and focus on one of them to begin customizing it.
- Leverage all the rich capabilities of the Designer to make lightweight UI customization of that profile and test your customization while you design.

Customization of user profiles does not secure access to objects or data. Administrators are still required to apply the relevant user groups or permissions sets.

Filter option fields by multiple values

Enabled for	Public preview	General availability
End users, automatically		October 2019

Business value

Back-office information workers spend significant time working with lists and reports, applying filters to narrow down their data to the relevant records. Users often need a higher degree of control as the size of the business database grows.

Feature details

Option fields are essentially enumerations with predefined values. Until now, users have been able to choose only a single value when they set a filter in option fields. With this wave, we introduce a new multi-selection control so that users can filter by multiple values. This is treated as an OR operation. For example, you can filter the **Color** field by red, green, or blue. Multi-selection of values is available only when filtering, not when specifying the field value on the record.

Multi-tasking across multiple pages

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

Users often work on multiple tasks at a time and have to manage several interruptions to the current task that they are working on, such as when a call comes in that they have to take action on in Business Central.

Feature details

When accessed through the web browser, Business Central allows users to open a second page in another tab or browser window, giving them a platform to do multiple tasks at the same time while working with the same company.

In the same way, users can easily work with multiple companies by having multiple windows open. The new, colorful company badge indicator helps them figure out which window represents a given company.

Speed and agility of data entry

Enabled for	Public preview	General availability
End users, automatically		October 2019

Business value

Back-office workers often need to capture information or digitize paper material at high speed. For some users, this represents their sole task and entire workday. When this cannot be automated through means such as OCR and AI, users require an efficient interface that does not get in the way of quickly typing in data.

Feature details

Business Central greatly accelerates repetitive data entry in lists through a combination of productivity features, raw performance, and a responsive experience.

Modern developer tools

Overview

As we make the move entirely to Visual Studio Code, we continue to invest in areas that enhance productivity for developers. Specifically, we are enhancing the troubleshooting and debugging experiences, improving performance and usability when you work on multiple and large projects, empowering code insights and telemetry for ourselves and our partners, and extending capabilities in the AL language with, for example, profile extensibility.

The 2019 release wave 2 is the first version that does not include the classic development environment (also known as C/SIDE). Because the classic development environment contains tooling for many areas not directly related to actual development, we are also working on finding new homes for the features that currently reside in C/SIDE.

Code documentation attributes

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

You now have access to up-to-date documentation for methods and parameters in code and IntelliSense.

Feature details

Similar to C#, you can provide code comments using XML tags. These comments will be used as documentation in the developer experience, such as IntelliSense and Help, and can be used to generate OpenAPI (Swagger) documentation for custom APIs.

Convert tables from C/AL definitions to AL table definitions

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

The Windows PowerShell cmdlet Sync-NAVApp is updated so that you can convert all C/AL tables to AL tables with a minimal database overhead and without the need to write any upgrade code. The command `Sync-NAVApp -Mode BaseAppUpgrade` renames tables on the tenant database to conform with the naming convention for AL tables. This corresponds to a technical upgrade of the tenant, converting the table structure from the base application in earlier versions to the table structure for AL apps.

Database insights made available in AL

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

AL developers can write test code that includes tests on database usage. This way, some performance issues can be caught during development and not in production.

Feature details

Selected database insights that surfaced in the April '19 release of the debugger will be available from AL.

Translating other extensions

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

Translate other apps, including the base app.

Feature details

In earlier versions of Business Central, you could only provide translations of strings that were in that same extension. Now that the base application is reworked into multiple extensions, we are adding support for providing translations across extensions, including the base application.

Access modifiers

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Business value

By using access modifiers, you have control over where it can be called from, be it your own code or third-party code building on top of your code.

Feature details

You can control access and encapsulation of your code by adding local/private, protected, internal, or public access modifiers to AL language elements. This is similar to the way C# uses access modifiers.

Attach and debug next

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Business value

Sometimes you cannot or do not want to publish and invoke functionality to debug it, but instead attach a session to the server and await a process to trigger the breakpoint. With attach and debug next you can do that.

Feature details

Set a breakpoint in code and attach to a running server, online or on-premises, and the debugger will break if the breakpoint is hit while it is attached to the server.

Base application delivered as AL applications

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Business value

All code customization on-premises is now in AL and the modern Visual Studio Code developer environment, finally unifying the tools for code customization and creating extensions, and enabling much richer developer scenarios going forward.

Feature details

The 2019 release wave 2 marks the first release of the base application on AL, and code customization on-premises now happens in AL and Visual Studio Code, unifying the tools for code customization and extensions. With the volume of investments in Visual Studio Code, and the stronger compiler support for AL, this allows much richer developer scenarios.

2019 release wave 2 is the first version that does not include the classic development environment (also known as C/SIDE) or the Dynamics NAV Client connected to Business Central (also known as the Windows client). The modern developer experience based on Visual Studio Code now supports developing large apps such as the base application from Microsoft, and so C/SIDE is discontinued for Business Central going forward.

Improved app dependency handling on build and deploy

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Business value

Avoid tedious and manual work on compiling and deploying extensions in the correct order.

Feature details

Until now, you have been forced to manually ensure that projects with dependencies are built in the correct order, and deploying extensions with dependencies required manually uninstalling and reinstalling dependent extensions. With the 2019 release wave 2, this is managed by the tools, by traversing the dependency graph.

More power to developers using Designer

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

Writing code in Visual Studio Code is efficient, but designing and adjusting page layout may be cumbersome without having a faithful and visual overview of what the page looks like and how it behaves.

Feature details

With this update, developers can also use the Designer to:

- Adjust actions and action groups on a Role Center.
- Adjust the navigation menu items and grouping on a Role Center, including building up the menu from scratch by pinning relevant lists to the menu.
- Customize user profiles by designing page changes that will apply only to a specific profile in your extension.

Service fundamentals

Overview

No matter the industry or size of a small or medium-sized business (SMB), business users expect a dependable service and platform on which to run their business, collaborate, and get work done. Along with our wave of innovative new features, we've invested heavily in boosting performance, reliability, and scalability of Business Central, across the platform and business application.

Business Central runs much faster with a focus on typical business scenarios and usage patterns. The experience in the browser is more responsive thanks to on-demand loading of page elements, server resources that are optimized for fast user interaction, and the database being tuned to handle more data and faster load times. We will continue to improve the application performance and are prioritizing common usage scenarios.

Users experience an even more stable service with scheduled upgrades that suit the individual business, maintenance during non-working hours, and matured service health practices to ensure maximum uptime. Users requiring assistance now have a single screen through which to find self-help material, share ideas with the community, and request support with streamlined response time.

The Business Central security team works tirelessly behind the scenes to safeguard the security of your data. In addition to continual improvements of our security infrastructure and processes, we ensure Business Central continues to meet ISO27001, ISO27017, ISO27018, SOC 1 & 2 Type 2, HIPPA BAA, and FERPA industry security and privacy compliance standards. For more details and a list of all certificates, see Microsoft Dynamics 365 Cloud services compliance.

Lock-free number series

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Feature details

End users can choose to mark number series to allow gaps in the series. These number series will be non-blocking, which will boost performance.

Selected non-financial number series in the application will be made non-blocking.

New Support Request option in the Business Central Administration Center

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Feature details

In the Business Central Administration Center, a new support option will improve the support process for partners. In the Dynamics shell click the question mark to see **New Support Request**. You will then be directed to a new portal to enter support tickets for Business Central. To get updates and manage the support request, you will use the new portal. The Business Central Administration Center is the new starting point so partners have clear direction on where to enter the tickets.

Page background tasks

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Feature details

A page background task can run a codeunit (without an UI) in a read-only child session of the page session. On completion of the task, a completion trigger with the result is invoked on the page session.

If the page is closed before the task completes or the page record ID changed, the task is cancelled.

Partners can enter support contact details in the Business Central Administration Center

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Feature details

In the Business Central Administration Center, the reselling partner can choose an environment, and then specify their name, email address, and/or a website for support. This information is then presented to the customer in their Business Central tenant when they go to the **Help & Support** page. Customers now have a clear picture of how to get support from their reselling partner. Partners do have the option to update all tenants when entering their information to save them time from entering it on all environments.

Surrogate keys

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Feature details

A surrogate key will be added to all tables. AL developers can look up a record based on the key.

Artificial intelligence

Overview of Dynamics 365 Sales Insights 2019 release wave 2

For many years, customer relationship management (CRM) was a one-dimensional system of records. Sales teams spent long hours entering data into the system, in practice "working for the system." Dynamics 365 Sales Insights helps sales teams transform CRM systems to work on their behalf, leveraging the power of predictive and personalized intelligence.

Dynamics 365 Sales Insights empowers teams with more foresight to enhance productivity and better anticipate outcomes across the sales lifecycle. This empowerment helps sales professionals be consistently ahead of each customer's needs and every competitor's potential move.

Dynamics 365 Sales Insights makes AI accessible to everyone across the sales organization, giving sales teams time back so they can focus on building relationships with customers. Insights tailored to every member of the sales team are now available with a new digital assistant. The assistant offers sellers contextual relationship insights and transforms guided selling with next-best-action recommendations. Sales managers benefit from smart coaching suggestions based on customer conversations.

With the 2019 release wave 2, we will continue to enhance these services and make them available worldwide in more regions and languages.

Our 2019 release wave 2 will focus on the following themes:

- **Availability in more regions and languages**: We continue to invest in making Dynamics 365 Sales Insights available in more regions and in supporting more languages through our machine learning models.
- **Personalized and actionable intelligence**: We are committed to help sellers build meaningful relationships effortlessly. With the new digital assistant and AI-based guided engagement, sales professionals are empowered with contextual assistance that helps them focus on the right activity at the right time and in the right way.
- **Meaningful and relevant conversations**: We continue to invest in assisting sellers to lead meaningful customer interactions by offering seamless and automated analysis across multiple conversation channels. By highlighting gaps as well as compelling product pitches, teams can improve engagement quality, focusing on behaviors that are likely to lead to positive outcomes.
- **Enhanced automation and privacy**: We continue to deliver enhancements to intelligent services based on ongoing customer feedback. This includes in-depth and flexible

automation as well as more granular privacy controls to help promote adoption across the organization.

What's new and planned for Dynamics 365 Sales Insights

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Feature	Enabled for	Public preview	General availability
Customize scoring to adapt to organizational needs	End users by admins, makers, or analysts	October 2019	
More personalized and guided assistance	End users by admins, makers, or analysts	October 2019	
Capture more customer communications	End users by admins, makers, or analysts	December 2019	
Better privacy controls for Who knows whom	End users by admins, makers, or analysts		October 2019
Improve seller coaching with Conversation intelligence	End users by admins, makers, or analysts		October 2019
Guide sellers with next best actions through the Assistant Studio	End users by admins, makers, or analysts	April 1, 2019	October 2019

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For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Customize scoring to adapt to organizational needs

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	

Business value

Organizations rely on intelligent predictions to make critical business decisions. To make predictions more meaningful, it is key to adapt to the nuances of each organization's processes and strategies. Now organizations can add their unique business-specific inputs to the overall scoring models and customize them to fit to their specific business needs.

Feature details

- **Add custom entities and custom fields to predictive opportunity scoring and predictive lead scoring**: Business analysts can add custom signals that are specific to the business, extending out-of-box predictive models.

More personalized and guided assistance

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	

Business value

To focus on selling, sellers can benefit from a personal assistant that knows their specific context and is available to help across all interactions with Dynamics 365. The assistant can offer guidance and in-the-moment suggestions for the next best course of action, helping to advance every customer engagement.

Feature details

Assistant in Microsoft Teams: The new assistant in Teams helps sellers be proactive, productive, and personal, offering timely insights and freeing time to focus on relationships. Supported in Teams mobile application.

- **Prepare for your day**: Get a digest of important customer engagements and key information, all in a single place. Receive personalized insights during every phase of the sales journey.
- **Prepare for meetings**: Arrive informed and prepared to meetings by reviewing a summary of customer interactions across the team, as well as latest news about the customer. Learn who in your company knows the meeting attendees and receive talking points based on past conversations, all helping to build rapport and start the meeting smoothly.
- **Next best action**: Nothing falls between the cracks with the insights feed, proactively offering next best-action suggestions throughout the day. Sales operations can customize the insights feed, adapting to specific processes and guidelines of the organization.
- **Follow up after a meeting**: Transform note taking. Instead of tediously typing handwritten notes into Dynamics 365 after a meeting, save time by using your phone's camera to capture the notes and analyze them, using optical character recognition to convert writing into text.
- **Capture business cards**: Save time manually entering contacts with the new business card scanner. Easily use your phone's camera to capture business cards, analyze, and save relevant information as new contacts in Dynamics 365.

Assistant in Sales Insights for managers: Assistant displays relevant insights on each seller to help managers recognize issues that require immediate attention or action. By tying together Dynamics 365 sale outcomes and processes with Office 365 activities and sales calls, the assistant can surface out-of-box coaching insights to help managers and sellers directly in the app.

Capture more customer communications

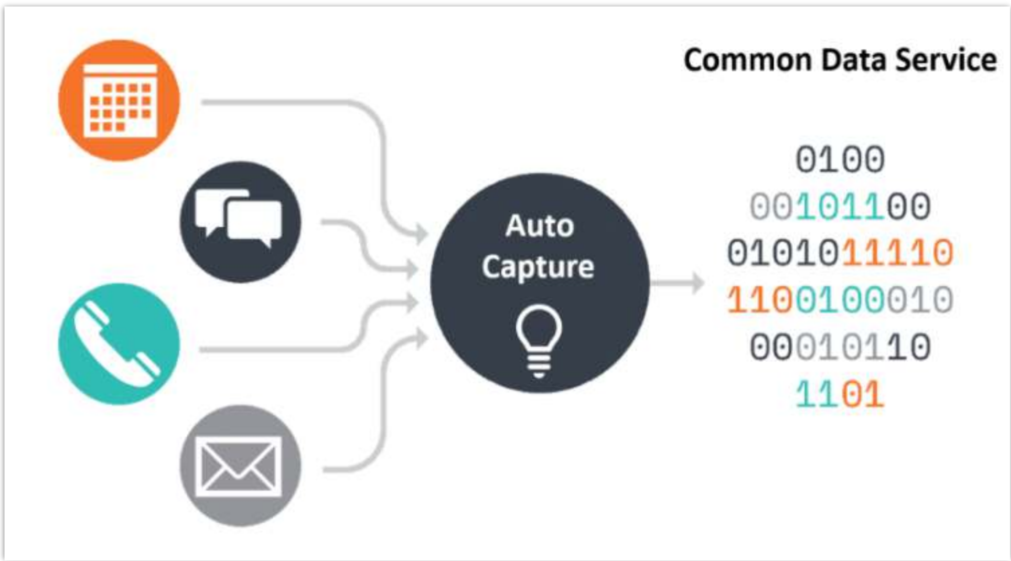
Enabled for	Public preview	General availability
End users by admins, makers, or analysts	December 2019	

Business value

Sellers seek to focus their time on selling rather than updating Dynamics 365 and logging every customer-related activity. Now Auto capture goes beyond capturing emails with customers to also capture meetings on the calendar, logging them into appropriate records. Auto capture also provides suggestions to create new contacts, based on communications, reducing overall time spent on these tedious tasks and freeing sellers to focus on what matters most.

Feature details

- **Automatically capture communication with customers**: Automatically add emails and meetings with customers to the timeline of related records and share them across the organization.
- **Enrich CRM by proposing to track specific emails, meetings, and contacts**: Surface suggestions to enrich data in Dynamics 365 and make sure nothing falls between the cracks by proposing emails, meetings, and contacts.
- **Privacy controls**: Allow admins to manage privacy settings with highly granular controls.



Zero-click Auto capture

Better privacy controls for Who knows whom

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

It is important to ensure that every person in the organization has control over personal information. Who knows whom now supports more granular privacy controls to meet the privacy preferences of different individuals. Office 365 users are empowered to control connection graph inclusion with opt-in and opt-out controls, and to control whether their identity is always shared, or hidden until granted.

Feature details

- **User controls**: Sellers can independently opt in and opt out from the connection graph without requiring involvement from the tenant admin.
- **Anonymous controls for organizational users**: Organizational users can remain anonymous in the connection graph, with their identity revealed only if permission is requested and granted.

Improve seller coaching with Conversation intelligence

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Business value

Customer conversations are a critical part of the sales cycle, directly contributing to sales and revenue generation. Conversation intelligence offers a seamless and automated process for analyzing conversations across multiple channels to ensure quality is monitored and improved over time.

Feature details

- **Emotion and brand detection**: New AI models for emotion detection provide granularity to understand customer sentiments during calls. Brand detection helps to discover new products and brands that customers are talking about in sales calls.
- **Timely insights**: Assistant in the app continuously provides unique and timely insights.
- **Natural language Q&A**: Data exploration on sales and conversational data offers an opportunity to ask simple questions in English and to dynamically receive reports that address these questions.
- **Analyze seller behaviors**: Analysis of top seller behaviors empowers managers to understand common patterns leading to positive sales outcomes.

- **Cross-channel and sales KPIs**: Highlight valuable information leading to win/loss in sales, across the team, out of the box.
- **Conversation review**: A detailed view of conversations, surfacing areas that are effective versus those that are unsuccessful, highlighting brand mentions and gaps where sellers can benefit from coaching.

Sales coaching journey

Guide sellers with next best actions through the Assistant Studio

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	April 1, 2019	October 2019

Business value

Insights that optimize the next best action help maximize sales effectiveness and improve productivity. In April 2019, we introduced a new capability for organizations to create custom insights for their sellers. These insights empower organizations to help their sellers with more targeted action suggestions. Organizations use events and conditions to customize the circumstances under which these suggestions are created, offering valuable flexibility to push information into the seller’s workflow at the right moment, ultimately helping to close deals faster.

Feature details

- **Create next best action cards**: Using Microsoft Flow and the assistant, organizations can create new insight cards for Dynamics 365 for Sales. The insight cards can be based on events that come from over 200 services registered with Microsoft Flow, such as emails received or updates in a database.
- **Target roles**: Selecting the addressable audience for each action helps to target “next best action” recommendations to the right seller roles.

Overview of Dynamics 365 Customer Service Insights 2019 release wave 2

Dynamics 365 Customer Service Insights provides an actionable view into critical performance metrics, operational data, and emerging trends using industry-leading artificial intelligence. These insights empower customer service managers to make better decisions to improve customer satisfaction and operational efficiency with confidence. Thanks to the power of artificial intelligence (AI), machine learning, and business intelligence (BI), you can easily get a clear view into your contact center on what is happening, why it is happening, and what could happen, and then decide your best course of action. The AI model used by Customer Service Insights proactively learns from users' gestures and optimizes over time per each individual customer. Best of all, the AI capabilities are included out of the box and don't require any AI expertise to use.

With the product's general availability (GA) in April 2019, we enabled an integrated experience with more enterprise capabilities that give you a richer view into your customer service organization.

In the 2019 release wave 2 updates, you'll see a number of new capabilities released every month. These features include the ability to create shared workspaces that connect to your case data stored in Dynamics 365 and Common Data Service, which can include data from Salesforce, Zendesk, ServiceNow, or other data sources.

In addition, you'll be able access Customer Service Insights directly from the Dynamics 365 for Customer Service application without losing context. Additional dashboards and metrics in your Customer Service Insights workspaces will provide a deeper view into your organization and opportunities to improve. Enhancements to existing AI-driven topic generation features as well as additional features using artificial intelligence will continue to help you make better decisions and proactively improve customer satisfaction with confidence.

Throughout the 2019 release wave 2, you'll see a number of new capabilities in Customer Service Insights. Review the "what's new" page regularly for the latest updates. Additional feature requests can be added in the Customer Service Insights ideas page.

What's new and planned for Dynamics 365 Customer Service Insights

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

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Feature	Enabled for	Public preview	General availability
Continuous topic improvement such as additional topic controls, opportunities for user feedback	Admins, makers, or analysts, automatically	December 2019	
Additional AI capabilities such as anomaly detection, prediction, sentiment analysis	Admins, makers, or analysts, automatically	March 2020	
Improved integrations across business application products	Admins, makers, or analysts, automatically	March 2020	
Support topic generation based on case titles in French, German, and Spanish	Admins, makers, or analysts, automatically		October 2019
Get a combined overview of human and virtual agents	Admins, makers, or analysts, automatically		December 2019
Improved support for topic generation for non-English case titles	Admins, makers, or analysts, automatically		December 2019
Improve Dynamics 365 Virtual Agent for Customer Service through topics for automation	Admins, makers, or analysts, automatically		March 2020

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Continuous topic improvement such as additional topic controls, opportunities for user feedback

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	December 2019	

Feature details

Customer Service Insights provides AI-driven topic generation based on the case titles imported into the system. While the AI model has been tuned for customer service scenarios, we understand not every business is the same and have enabled multiple controls and feedback avenues within the products, so that customers can ensure the model works best for them. In this wave of updates you'll see additional capabilities around topic generation and the different controls available in order to influence and provide feedback to the model, including better highlighting of topics and cases that need the most feedback. This will help users improve the topic clustering result more efficiently and effectively.

Additional AI capabilities such as anomaly detection, prediction, sentiment analysis

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	March 2020	

Feature details

Customer Service Insights proactively creates AI-generated topics and ensures their stability with every refresh. In this wave of updates you'll see additional AI capabilities to help you make better decisions more quickly. Some capabilities that are being considered include anomaly detection, KPI prediction, and sentiment analysis. These new features would be deeply integrated with the existing AI in Customer Service Insights, including new controls and settings to ensure the behavior meets your business needs.

Improved integrations across business application products

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	March 2020	

Feature details

Customer Service Insights works better with other business application products and in this wave of updates you'll see improved integrations with products such as Dynamics 365 for Customer Service, Dynamics 365 Virtual Agent for Customer Service, Common Data Service, Voice of the Customer, and others based on customer requests. These integrations provide improved access to your Insights, easier configurations within the product, and more, all to help you better understand your customer service business and make the right decisions with confidence.

Support topic generation based on case titles in French, German, and Spanish

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Customer Service Insights now supports AI-generated topics from case data in more languages than English. Previously, an English-only model was used to understand the case titles and automatically group the similar cases into topics. While this model could be used with case titles that were in other languages, the accuracy and relevance of the topics would be decreased as the full meaning of the case titles was not understood. With this addition of specific language models, including French, German, and Spanish, customer service managers that work with cases in those particular languages will now receive benefit from much more accurate topic generation. In addition, if the customer service organization serves customers in a dominant language we support as well as English case titles, the language-specific model will still perform and provide accurate topic generation across both languages. The support for additional languages will be continuously added into the service.

Get a combined overview of human and virtual agents

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		December 2019

Feature details

Improve the entire customer service experience with a 360-degree view of both human and virtual agents. Dashboards provide an aggregated single view of the support team's overall performance, giving you a full picture of how the support team is performing without going back and forth between different services. These metrics are integrated into the existing Customer Service Insights dashboards, allowing you to view metrics for the whole support team, including human and virtual agents for case volume, resolution rates, handling time, escalation rate, and customer satisfaction.

Improved support for topic generation for non-English case titles

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		December 2019

Feature details

Customer Service Insights started with topic generation based on case titles with an AI model focused on English only. The 2019 release wave 2 includes support for additional languages including French, German, and Spanish as well as accounts that have a mix between one of those languages and English. While that expands the capabilities to many more customers, we understand that there are additional dominant languages in customer case titles that are not fully addressed by these models. This wave of updates will include even more language support, focusing on mix-Latin languages. Additional support can be requested through our ideas forum.

Thank you for your idea

Thank you for submitting this idea. We listened to your idea, along with comments and votes, to help us decide what to add to our product roadmap.

Improve Dynamics 365 Virtual Agent for Customer Service through topics for automation

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		March 2020

Feature details

Customer Service Insights identifies the topics that are best suited for automation using Virtual Agent for Customer Service. You can review the list of suggestions, import the suggested topics into a virtual agent, and deploy the virtual agent in minutes using the integrated experience with the Virtual Agent Designer.

- Discover all potential topics from support data, and efficiently identify high business value topics best suited for virtual agents.
- Analyze and present the potential business impact for each suggested topic; for example, the impact on customer satisfaction (CSAT), or agent handling time.
- Select and import suggested topics into virtual agents with an integrated experience, to help create the virtual agent content quickly.

Overview of Dynamics 365 Virtual Agent for Customer Service 2019 release wave 2

Dynamics 365 Virtual Agent for Customer Service enables organizations to create AI-powered bots that chat with customers to help them with support topics, and provides new opportunities for organizations to improve customer service through digital transformation. Virtual Agent for Customer Service frees up valuable cycles for the support team, allowing human agents to focus on more complex and strategic cases. In addition, bots can greatly improve customer satisfaction because they are always available, require no hold times, and allow customers to get help immediately.

Typically, creating a bot has been a complex and time-intensive undertaking, with long content update cycles and requiring a team of developers and AI experts. Dynamics 365 Virtual Agent for Customer Service enables any customer service manager to create a powerful custom bot using an easy, code-free graphical interface, without the need for AI experts or teams of developers. The bot can chat with customers, ask appropriate clarifying questions to identify issues, and guide customers to a resolution.

With tight integration with Dynamics 365 Customer Service Insights, support teams use AI-driven dashboards to identify high-volume support topics that can be automated with a bot. These conversation topics can easily be created using an intuitive, graphical experience in a conversation editor without the need for AI experts, data scientists, or teams of professional developers. And as customers interact with the bot, the customer service manager can see which topics are performing well and which need further improvement.

What's new and planned for Dynamics 365 Virtual Agent for Customer Service

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

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Analytics dashboards

See at a glance how your bot is performing and identify which topics need further improvement.

Feature	Enabled for	Public preview	General availability
Deployment to web channels	Admins, makers, or analysts, automatically	May 2019	October 2019
Customer satisfaction (CSAT) dashboards	Admins, makers, or analysts, automatically	July 2019	October 2019
Hours saved	Admins, makers, or analysts, automatically	July 2019	October 2019

Core authoring

Utilize the Virtual Agent conversational editor to construct your dialogs, add variables or synonyms, and incorporate Microsoft Flows that enable you to connect to other systems.

Feature	Enabled for	Public preview	General availability
Customize the canvas themes	Admins, makers, or analysts, automatically		October 2019
Import and export of conversation topics	Admins, makers, or analysts, automatically		October 2019
Support for multiple users editing topics at the same time within a bot	Admins, makers, or analysts, automatically		October 2019
Enable actions or access data from back-end systems with Microsoft Flow	Admins, makers, or analysts, automatically	May 2019	October 2019
Enhanced conversation testing and debugging	Admins, makers, or analysts, automatically	May 2019	October 2019
Variable capabilities	Admins, makers, or analysts, automatically	May 2019	October 2019

Enhanced natural language capabilities

AI and natural language capabilities enable the system to understand and parse complex user language.

Feature	Enabled for	Public preview	General availability
Entity extraction with custom entities	Admins, makers, or analysts, automatically	July 2019	October 2019
Entity extraction with system entities	Admins, makers, or analysts, automatically	July 2019	October 2019
Slot-filling capabilities	Admins, makers, or analysts, automatically	July 2019	October 2019

Handoff to a human agent

Gracefully hand off customer conversation from the bot to a human agent.

Feature	Enabled for	Public preview	General availability
Hand off to a generic live-chat provider	Admins, makers, or analysts, automatically	July 2019	October 2019
Hand off to Chat for Dynamics 365 Customer Service	Admins, makers, or analysts, automatically	July 2019	October 2019
Integration with Dynamics 365 Customer Service Insights	Admins, makers, or analysts, automatically	August 2019	October 2019

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Analytics dashboards

Overview

To effectively resolve customer problems, customer service managers need to have a clear view of the performance of their bot in terms of resolutions, escalations to human agents, abandons, and customer satisfaction. Dynamics 365 Virtual Agent for Customer Service provides intuitive and actionable dashboards with recommendations on which topics to focus on and how to continuously improve a bot's performance.

In the 2019 release wave 2, we have some new features that further amplify these analytics.

Deployment to web channels

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	May 2019	October 2019

Feature details

Businesses want to drive higher customer satisfaction and need to be able to resolve customer problems effectively and quickly regardless of what channel the customer engages with them on.

In the 2019 release wave 2 of Virtual Agent for Customer Service, bot authors have the ability for their bot to be present on the dominant web channel, which in most cases is their organization's website.

In addition, in order the improve the confidence of authors that their bot is performing as expected on the web channel, the bot can be deployed on a demo website that can be shared internally within the customer support organization. The demo website provides the team an opportunity to test the bot and provide feedback before the bot is enabled at scale on the external customer-facing website.

Customer satisfaction (CSAT) dashboards

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	July 2019	October 2019

Feature details

A customer service manager is interested in the topics that are having the most impact on customer satisfaction and topics that are not addressing customer problems. Through a detailed customer satisfaction dashboard, the customer service manager can get a view into the overall customer satisfaction (CSAT) score and the bot topics that drive that score.

The CSAT drivers display topics in order of their impact on customer satisfaction over the specified time. These actionable insights can inform the customer service managers about managing topics to drive the overall customer experience.

Hours saved

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	July 2019	October 2019

Feature details

With Hours saved metrics, customer service managers can easily see their return on investment in building a bot. Without a bot, every session resolved by the bot would have been handled by a human agent.

The Hours saved metrics estimate the amount of human agent time saved by the sessions handled by the bot. The estimate of hours saved is derived from a customer's case data for live chat support and displayed in the analytics dashboard.

Core authoring

Overview

Use the Virtual Agent conversational editor to construct your dialogs, add variables or synonyms, and incorporate flows that enable you to connect to other systems.

Customize the canvas themes

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Organizations look to create differentiated experiences that reflect the personality of their brands through customized bots.

Off-the-shelf bots lack the personality and the custom look and feel that organizations want their bots to personify.

Dynamics 365 Virtual Agent for Customer Service offers the ability to personalize canvas elements like the avatar, background colors, chat bubble and colors.

Import and export of conversation topics

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

In a customer service organization where multiple team members are building bots, it's important to be able to reuse bot content assets.

With the ability to import and export conversation topics, you can easily reuse and share topics from one bot to another, enabling easy collaboration and transfer of bot content.

Support for multiple users editing topics at the same time within a bot

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

This release enables multiple users to edit different conversation topics within a bot, helping organizations ensure that employees with the right domain expertise implement conversation improvements.

For example, one author can be editing the topic about networking issues, while another author is editing the topic about store hours.

Enable actions or access data from back-end systems with Microsoft Flow

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	May 2019	October 2019

Feature details

There are situations where solutions require a bot to trigger a back-end workflow or business process—for example, when a user asks a question about upcoming deals to be sent to an email address.

Virtual Agent for Customer Service integrates with Microsoft Flow, empowering customer service managers to trigger existing flows or create new ones that call back-end systems, without writing code.

Microsoft Flow has hundreds of connectors to common services that can be used to automate existing internal workflows. These connectors can then be called directly from dialogs authored in the Virtual Agent for Customer Service.

Custom code and connections to legacy systems can also be supported through custom connectors, providing opportunities to extend the Virtual Agent for Customer Service as your business needs change and grow.

Enhanced conversation testing and debugging

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	May 2019	October 2019

Feature details

Dynamics 365 Virtual Agent for Customer Service offers an easy-to-use graphical interface. Using a simple, no-code conversation editor, customer service managers and subject matter experts can build, manage, and maintain their own bots.

Virtual Agent for Customer Service provides a test bot to help authors verify functionality before deploying a bot broadly. The test bot allows authors to trace conversations through dialog trees by highlighting the current place in the conversation path. The conversation editor displays highlighted nodes in green with check marks.

Interactive chat bubbles allow quick navigation to a specific node within a dialog, making it simple and effective for a bot author to identify and fix problems in the conversations they build.

Variable capabilities

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	May 2019	October 2019

Feature details

Variables are used to store customer information that can be referenced or manipulated, saving the bot author time in creating complex dialogs and communicating with other systems.

The system can parse the user's natural language response, extracting the appropriate customer information and assigning it to a variable for use in a dialog. This capability enables complex and rich conversations with the customer, and is a powerful customer interaction tool for responding to or preventing customer service agent calls.

Key capabilities for variables

- Variable use in dialogs
- Variables used as Microsoft Flow inputs and outputs
- Powerful variable dialog debugging tools
- Support for mathematical operations on variables
- Variable reassignment
- Custom variable types and synonyms
- System-supplied variable types

Enhanced natural language capabilities

Overview

Dynamics 365 Virtual Agent for Customer Service is powered by conversational AI and natural language capabilities, which enable the system to understand rich, complex, and natural user language, parse it for the appropriate information, and ask for clarification when needed.

Entity extraction with custom entities

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	July 2019	October 2019

Feature details

In addition to predefined system entity types, an author can easily create custom entities to recognize and use in user conversations.

For example, the author can define a list of supported payment types: Visa, Mastercard, Discover, Amex, PayPal.

The system will be able to recognize responses such as “I have an American Express card” and be able to route the conversation correctly.

Entity extraction with system entities

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	July 2019	October 2019

Feature details

Virtual Agent for Customer Service can recognize, extract, and act on dozens of common entities in a user’s responses. For example: colors, time zones, currencies, ages, dates and times, names, telephone numbers, durations, cities, states, addresses, zip codes, email addresses, languages, weights, speeds, temperatures, organizations, percentages, points of interests, links, and more.

The system uses state-of-the-art natural language capabilities to match a user’s responses to these entities. For example, if a bot asks a user to choose between burgers and soup, the system understands that the response “I think I’ll go with the sandwich” maps to a preference for burgers.

Moreover, the system validates these entities. For example, when asking the user for a color, it will reject a response like “dog” and ask the user to pick an actual color.

Slot-filling capabilities

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	July 2019	October 2019

Feature details

Every time a user says something to interact with a bot, the response might contain useful information that helps guide the conversation. The system continuously parses the user's responses for information that it uses to guide the conversation.

Most industry chatbots ignore any missing or extra information in a user's response, and move on to the next scripted question without adapting the conversation.

In contrast, with intelligent conversation AI, Virtual Agent for Customer Service recognizes information that the user has already provided or that is missing, asks clarifying questions if needed, and continues with the dialog, providing truly delightful conversation. This capability is called slot filling.

For example, to ask about the weather, the user might naturally include the topic (weather forecast), the location (Redmond), and the time (Thursday). For example:

User: *What's the weather in Redmond on Thursday?*

Bot: *The weather forecast for Thursday in Redmond Washington is sunny with a chance of rain…*

However, sometimes a user's response is more ambiguous and less scripted, and the user might not give all the information needed to perform a task. With slot filling, the bot is able to have a short conversation with the user to find out the missing information required to complete the task.

For example, to ask about the weather, here's what the conversation with slot filling might look like:

User: *What's the weather like?*

Bot: *I can look up the weather for you. Where should I check?*

User: *Redmond Washington*

Bot: *Okay, for when?*

User: *Thursday*

Bot: *The weather forecast for Thursday in Redmond Washington is sunny with a chance of rain…*

Handoff to a human agent

Overview

When a bot can't handle the user's requests or the user asks to talk to an agent at any point in the conversation, it's important to gracefully bring in a human agent. In Dynamics 365 Virtual Agent for Customer Service, we are providing customer service managers with the ability to configure and connect to multiple live chat engagement hubs.

Hand off to a generic live-chat provider

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	July 2019	October 2019

Feature details

In the 2019 release wave 2, IT admins have the ability to configure the hand-off to other live chat engagement hubs. Virtual Agent for Customer Service will include an interface and sample code that can be used by system integrators to connect to other human agent chat providers.

Hand off to Chat for Dynamics 365 Customer Service

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	July 2019	October 2019

Feature details

Dynamics 365 Virtual Agent for Customer Service comes integrated out of the box with Chat for Dynamics 365 Customer Service.

The bot hands off seamlessly to agents using Chat for the agent-facing experience, providing the human agent with the full context of its conversation with the user, and helping the human agent avoid questions the bot has already asked.

Integration with Dynamics 365 Customer Service Insights

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Feature details

Dynamics 365 Customer Service Insights gives you an actionable view into critical performance metrics, operational data, and emerging trends for your customer service organization.

Built-in dashboards, interactive charts, and visual filters provide insights into support operations across channels, automatically highlighting areas for improvement with the greatest impact on customer satisfaction levels.

With the 2019 release wave 2 of Dynamics 365 Virtual Agent for Customer Service, a customer service manager using Customer Service Insights can select topics to automate from within Customer Service Insights, and click through seamlessly to the Virtual Agent conversation editor to build and deploy them.

Overview of Dynamics 365 Market Insights 2019 release wave 2

Today, businesses face several challenges to understanding their customers and their market. Information is siloed or not easily available. It might take weeks or months to collect and understand information about the market, and this information is expensive to gather and process. These challenges result in low visibility into market trends and missed opportunities to build customer relationships. With Dynamics 365 Market Insights, you can close this significant gap with proprietary search, browse behavior, and web data presented in easy-to-understand insights and analytics.

Market Insights enables business professionals to take actions based on what consumers say, seek, and feel about your products and brands. In addition, Dynamics 365 Market Insights leverages AI and machine learning capabilities to turn data into semantically meaningful insights about topics that are important to you, such as your brands, products, customers, community, events, employees, partners, and competitors. With the Market Insights service, we've made these insights available within minutes instead of weeks. We continuously update these insights, identify and recommend actions, and help you improve customer satisfaction.

What's new and planned for Dynamics 365 Market Insights

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Feature	Enabled for	Public preview	General availability
Get alerts when people talk about your product, brand, or company on the web	End users, automatically	April 1, 2019	October 2019
Define relevant topics for your business	End users, automatically	August 2019	October 2019
Drill into details of your insights directly from the newsfeed	End users, automatically	August 2019	October 2019

Feature	Enabled for	Public preview	General availability
Initial set of insights (October 2019)	End users, automatically	August 2019	October 2019
Share insights with others	End users, automatically	August 2019	October 2019
Additional types of insights (March 2020)	End users, automatically	January 2020	March 2020
Integrate with Dynamics 365 for Sales	End users, automatically	January 2020	March 2020

Description of **Enabled for** column values:

- **End users, automatically** – These features include change(s) to the user experience for end users and are enabled automatically.
- **Admins, makers, or analysts, automatically** – These features are meant to be used by administrators, makers, or business analysts and are enabled automatically.
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For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Get alerts when people talk about your product, brand, or company on the web

Enabled for	Public preview	General availability
End users, automatically	April 1, 2019	October 2019

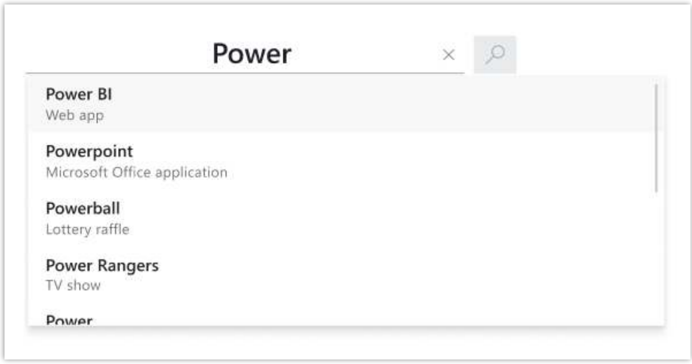
Business value

Use alerts to keep up with developments in the market and make informed decisions that help you stay ahead of the competition and serve your customers better. Alerts help you maximize business impact by notifying you about what's most important and reducing much of the noise using artificial intelligence (AI).

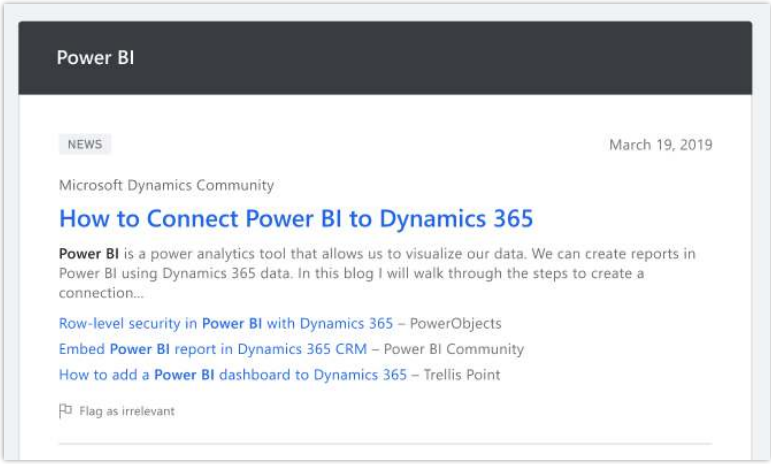
Feature details

Since April 2019, the alerts feature has been available for preview.

Use it to recognize top products, brands, and companies so you only see results for the business-related topic of interest.

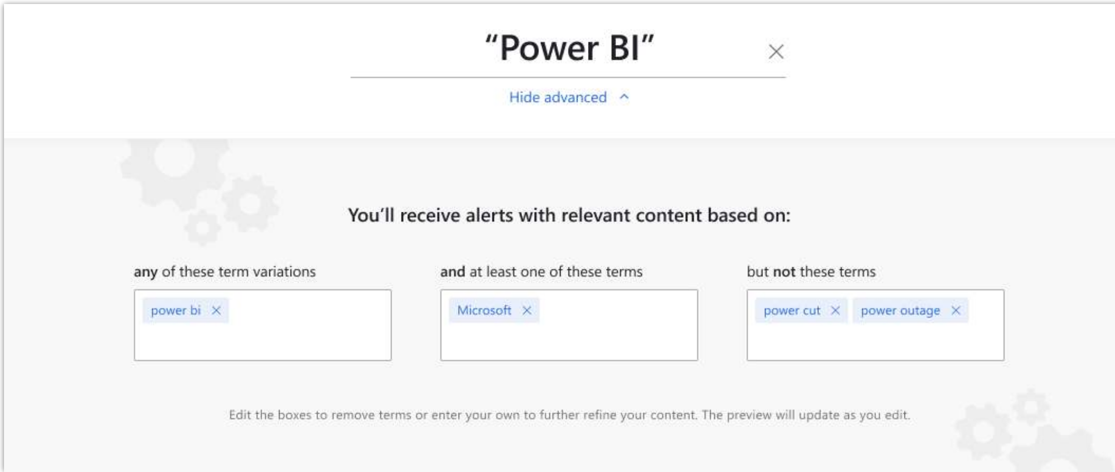


Matches for top brands and companies



Content for relevant match

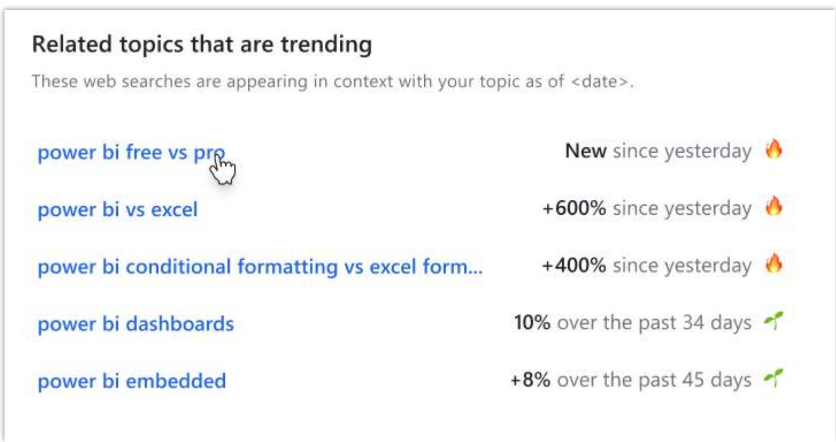
Leveraging AI, we send a notification email only when something is important enough, therefore eliminating the noise from less relevant articles. The focus is on content that is most relevant to business professionals, such as mergers, acquisitions, product launches or sunsets, customer issues, and more. As a user, you can customize topics to tailor the content and stay focused on what matters most for your business.



How users tailor when they receive alerts

This goes beyond what's in the news about the topic and identifies trending topics or anomalies to help you make decisions and take action.

You can monitor what people are browsing and searching for on the web, and get information on what's trending related to a topic before it even makes it to the news.

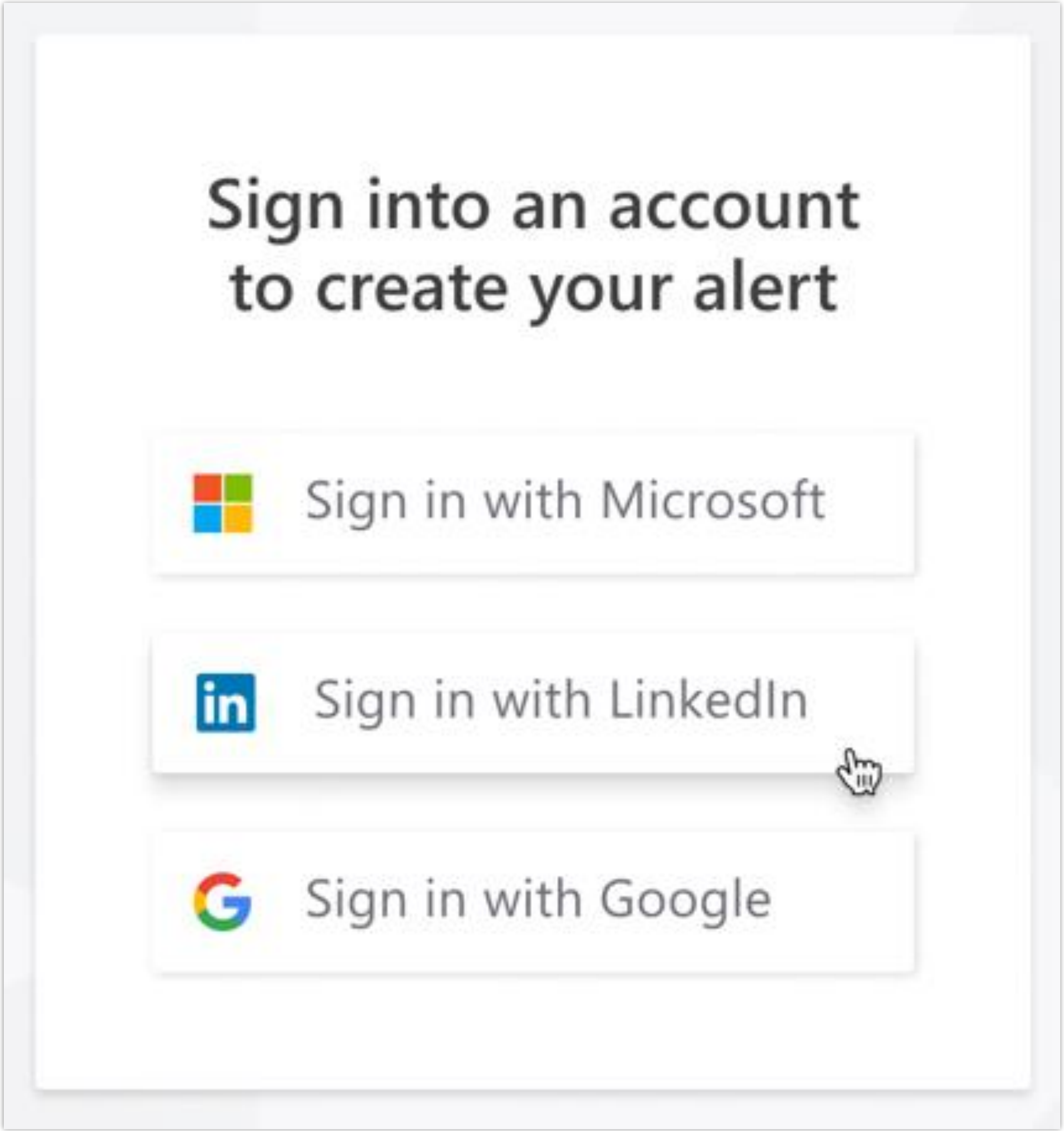


Related topics that are trending

You can edit and manage your alerts at any time to ensure they are always relevant for your business context.

List of alerts for a user

Choose from several sign-in options, and use accounts you already have to sign in.



Sign-in options for Market Insights alerts

The 2019 release wave 2 includes the following enhancements:

- **Tailored alerts**: Get more relevant content for your job function or needs by choosing from a set of categories of interest to organize, filter, and prioritize content. Get insights specific to your needs and job functions.
- **Richer insights from the market**: Get even more insights about what consumers and competitors are doing online.

- **Sentiment and tone insights**: Understand at a glance the overall public sentiment and media tone of developing content.
- **Advanced alerts refinement**: Specify details for topics using Boolean operators.
- **Grouped alerts**: Group multiple related topics into a single digest notification for easy organization and consumption, saving people time and promoting efficiency.

Define relevant topics for your business

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

You can define multiple topics of interest around your business ecosystem and relationships between these topics. The Assisted Query capabilities allow semantic understanding of topics and increase relevancy and accuracy of insights.

Feature details

Automatic and manual definition of topics lets the app understand the semantics in your business universe. This will find news and generate insights that are more relevant to those topics and lets you take faster business decisions and actions. Assisted Query helps you define the best possible setup of your topics. Additionally, you can provide fine-grained classification of your topics, define the relationship of your topics toward yourself, and toward your competitors.

Drill into details of your insights directly from the newsfeed

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

Keep up with developments in the market and make informed decisions that help you stay ahead of the competition and serve your customers better.

Feature details

See the latest updates, upcoming events, and emerging insights about your topics of interest, all in one place on the Insights feed. Drill into any of the insights to see data and information in more detail to understand what's behind the insight most relevant to you.

Initial set of insights (October 2019)

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

Gaining insights and seeing broad patterns about what people are saying, feeling, and searching for about your topics of interest allows you to understand how your product, brands, and competitors are doing in the marketplace, and helps you make informed business decisions.

Feature details

The product release October adds the following new types of insights for your topics:

- *Rising topics* allow you to see anomalies in online activity related your topics as they happen.
- *Search trends* allow you to understand changes in how people are searching for your topics.
- *Product launches* notify you of new products in the market related to your topics.
- *Product attributes* help you understand what attributes of your product people are talking about most.
- *Navigation patterns* help you understand how people browse the web for your content or your competitor’s content, and other online activities related to navigation patterns.
- *Audience demographics* help you understand the demographic distribution of your audience.

Share insights with others

Enabled for	Public preview	General availability
End users, automatically	August 2019	October 2019

Business value

Make decisions collaboratively by sharing insights with other people.

Feature details

Share insights with others by sharing the link to a publicly accessible page with your insight via popular social media platforms (Twitter, LinkedIn), or by sending this link via standard messaging platforms such as email, WhatsApp, and Microsoft Teams.

Additional types of insights (March 2020)

Enabled for	Public preview	General availability
End users, automatically	January 2020	March 2020

Business value

Gaining insights and seeing broad patterns about what people are saying, feeling, and searching for about your topics of interest allows you to understand how your product, brands, and competitors are doing in the marketplace, and helps you make informed business decisions.

Feature details

The product release in March 2020 adds several new types of insights:

- *Negative news alerts* notify you when potential online activity occurs that may require proactive damage control.
- *Benchmark comparisons* let you to understand differences between related topics of interest and their trends over time.
- *Audience location insights* allow you to understand trends in online activity based on geographic location.
- *Customer decision journey insights* allow you to understand in an aggregated way the journey customers take when considering your products or your competitor’s products.
- *Workforce and talent insights* enable you to better understand the job market for your business.
- *Community insights* help you understand what top influencers in the community around your topics are talking about.

- *Industry insights* help you understand the overall industry landscape related to your business universe.
- *Top themes* identify broad patterns of topics people are engaging with related to your topics.

Integrate with Dynamics 365 for Sales

Enabled for	Public preview	General availability
End users, automatically	January 2020	March 2020

Business value

Give salespeople more context to help them make better decisions throughout the sales cycle.

Feature details

In Dynamics 365 for Sales, find query suggestions, replace the Bing results feed in Relationship Assistant with an improved feed containing more insights, and get insights about sales content in the context of your business ecosystem.

Overview of Dynamics 365 Customer Insights 2019 release wave 2

Customer experience is at the very core of every organization's digital transformation ambitions. To compete in today's market, organizations need to build meaningful relationships with their customers on a personal level. The ability to effectively personalize at scale requires a complete, unified view of customers. Build a deep understanding of customers by connecting customer data from various transactional, behavioral, and observational sources to create a 360-degree customer view to deliver insights that drive customer-centric experiences and processes.

The latest release of Microsoft Dynamics 365 Customer Insights includes new capabilities to help businesses further unify data across sources to get a single view of customers, optimize engagement, and discover insights that drive personalized experiences.

What's new and planned for Dynamics 365 Customer Insights

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Feature	Enabled for	Public preview	General availability
Ability to link accounts and contacts in the customer model	Admins, makers, or analysts, automatically	October 2019	
AI-driven experience to create customer segments	Admins, makers, or analysts, automatically	October 2019	
Extending Customer Insights with Power Platform	Admins, makers, or analysts, automatically	October 2019	

Feature	Enabled for	Public preview	General availability
Guided experience to predict customer patterns	Admins, makers, or analysts, automatically	October 2019	
Infusing Customer Insights into Dynamics 365 for Customer Engagement	End users by admins, makers, or analysts	October 2019	
Customer Insights consulting services available in Microsoft AppSource	Admins, makers, or analysts, automatically		October 2019
Data unification improvements	Admins, makers, or analysts, automatically		October 2019
Extend Customer Insights with Azure Machine Learning	Admins, makers, or analysts, automatically		October 2019
Flexible deployment options	Admins, makers, or analysts, automatically		October 2019
Guided experience helps users to create KPIs and dashboards	Admins, makers, or analysts, automatically		October 2019
Recommended segments and measures	Admins, makers, or analysts, automatically		October 2019
Segment builder and measures wizard enhancements	Admins, makers, or analysts, automatically		October 2019

Description of **Enabled for** column values:

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Ability to link accounts and contacts in the customer model

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Business value

Create more actionable customer insights depending on your business model for both organizations (B2B) and individuals (B2C).

Feature details

Users can now build segments and measures to combine the activities and attributes of both individuals and organizations by using the Account to Contact relationship functionality.

That relationship will become available in other areas of Customer Insights such as segments and measures.

AI-driven experience to create customer segments

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Business value

Create insights that are actionable to help increase customer engagement by providing AI-driven segments that are tailored to your specific business goals.

Feature details

A new AI-driven experience provides recommendations to create segments based on data patterns. Examples are customers likely to churn or customers likely to engage with new offers.

Extending Customer Insights with Power Platform

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Business value

Get started quickly with out-of-box templates and connectors for Power BI, Microsoft Flow, and PowerApps.

Feature details

Extend Customer Insights with Power Platform:

- Out-of-box templates for PowerApps help users to build apps more quickly.
- Enhanced Microsoft Flow connectors include triggers to set up workflows.
- Updated Power BI connectors improve the get-data experience and performance.

Guided experience to predict customer patterns

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Business value

Spend less time building machine learning capabilities and more time benefiting from the results they deliver.

Feature details

Guided experience:

- Helps create predictions based on unified customer profiles.
- Adds ability to use results in measures, segments, and reporting.

Infusing Customer Insights into Dynamics 365 for Customer Engagement

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	

Business value

Unlock more insights and take more decisive action with an improved customer card that provides a more comprehensive timeline of the customer journey across the marketing, sales, and customer service functions.

Feature details

A variety of enhancements in the customer card include visual indicators for measures, the ability to display data sources to direct users to the source document, options to re-order fields, as well as the ability to expand and collapse timeline controls.

Customer Insights consulting services available in Microsoft AppSource

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

Quickly identify Microsoft partners to help you implement Customer Insights.

Feature details

Microsoft AppSource now includes consulting service offers for Dynamics 365 Customer Insights to help business users find a partner and get started quickly.

Data unification improvements

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

Advanced configuration options provide users with greater control on how data is unified.

Feature details

Advanced configuration options provide:

- Ability to manually overwrite system-generated matches.
- Ability to implement weighted scores to better control how the system matches records—for example, name and address can have a different weighted score.
- Ability to normalize addresses to help increase match results.

Extend Customer Insights with Azure Machine Learning

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

Easily extend Customer Insights through your own Azure Machine Learning models, predict outcomes, and create deeper insights within your unified customer profile—for example, by predicting next steps.

Feature details

Extend Customer Insights with Azure Machine Learning:

- Automate the export of Customer Insights unified profiles to your Azure subscription, run your models using Azure Machine Learning, and ingest the results back into Customer Insights.
- Add the ability to use model results in measures, segments, and reporting.

Flexible deployment options

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

Enable customers to bring their own Azure data storage for data ingestion and storage of unified data, providing flexible configuration options and helping to support customer-specific requirements.

Feature details

As part of the initial deployment and configuration process, admins can now select their own Azure storage for data ingestion and storage of unified customer data.

Guided experience helps users to create KPIs and dashboards

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

Gain a more holistic view of your business and customers by identifying and tracking your business goals through a new guided experience and dashboard. The wizard helps reduce user time and effort and unlock the full set of insights that drive your business goals.

Feature details

New guided experience and dashboard:

- **Guided experience** allows users to select from a list of predefined business goals—for example, to reduce customer churn. The wizards provide recommendations on which insights to create.
- **Business goal dashboard** allows users to track progress toward achieving the business goal.

Recommended segments and measures

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

Reduce the manual efforts needed by getting recommendations for segments and measures.

Feature details

System-generated recommendations for segment creation-based data patterns found in the unified customer profiles.

Segment builder and measures wizard enhancements

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Business value

Enhanced wizard functionality helps build customer segments and measures that business analysts can use to more effectively track customer activity and engagements.

Feature details

Improved segment and measures creation wizard to author your own queries, support for additional operators, and complex query definition capabilities.

Overview of Dynamics 365 Fraud Protection 2019 release wave 2

Today’s digitally transformed enterprise conducts most of its business online and in real time with little human intervention. This reduces costs and improves the customer experience, but it also exposes the enterprise to serious threats from those who attempt to take advantage of the online channel's relative anonymity and accessibility.

For example, in e-commerce, people may attempt to use compromised accounts and stolen payment instruments to commit payment fraud. They also attempt other nefarious activities like account takeover, free-trial abuse, fake product reviews, warranty fraud, refund fraud, reseller fraud, abuse of program discounts, and many more—all of which impact the enterprise’s profitability and reputation.

Some types of fraud even have grave consequences to society at large. Examples include laundering money and posting fake news. Because the ROI for online fraud is so high, it is highly likely that every vulnerability of an enterprise will ultimately be discovered and fully exploited. Moreover, unlike during the nascent years of the internet, fraud today is committed by well-funded and well-equipped rings of professionals. Fraud protection professionals are best equipped to fight them.

It is our mission to help digitally transformed enterprises to fight fraud while keeping their doors open for genuine customers and partners.

Dynamics 365 Fraud Protection will initially focus on payment fraud protection and related scenarios in e-commerce. It will help enable an e-commerce merchant to drive down fraud loss, increase bank acceptance rates to yield higher revenue, and improve the online shopping experience of its customers.

Microsoft has many years of experience protecting our own e-commerce businesses from fraud. We have developed a sophisticated technology stack that uses connected big data across multiple lines of business and applies cutting-edge artificial intelligence (AI) to help provide more accurate decisions in real time. We have core differentiators such as device fingerprinting, operations research, a fraud protection network, and a trust knowledge exchange with banks.

Using Dynamics 365 Fraud Protection, you can help protect your business from fraud using innovative and advanced capabilities, including:

- Artificial intelligence and insights from the fraud protection network
- A rules engine and virtual fraud analyst
- Graph explorer and KPI scorecard
- Transaction acceptance booster

These are part of a comprehensive set of features grouped into three user experiences that will accelerate your journey into full production.

- Gain insights into fraud issues in your environment using the *Diagnose* experience in Dynamics 365 Fraud Protection.
- Assess and evaluate the effectiveness of Dynamics 365 Fraud Protection relative to your incumbent fraud protection solution using a guided *Evaluate* experience.
- Obtain recommendations for your e-commerce transaction decisions by customizing business rules using the *Protect* experience in Dynamics 365 Fraud Protection.

NOTE You can enter any of these three experiences at any time.

Capability	Diagnose	Evaluate	Protect
Be secure and compliant, and have full transparency into data handling and privacy.	X	X	X
Understand the conditions of your business. Diagnose and analyze the state of your fraud protection.	X	X	X
Send transactions through application programming interfaces (APIs) in real time, and gain risk insights through inline evaluation that includes explanations.		X	X
Use the scorecard to understand the performance of Dynamics 365 Fraud Protection. Compare Dynamics 365 Fraud Protection to your existing fraud solution.		X	X
Upload your historical data to tune the machine learning model to your business scenarios. Extend and tailor Dynamics 365 Fraud Protection to the needs of your business.		X	X
Reap the benefits of AI, and derive insights from the fraud protection network.		X	X
Configure lists and model operating points to shape real-time decision making.		X	X
Use the virtual fraud analyst to configure optimal risk score thresholds.		X	X

Capability	Diagnose	Evaluate	Protect
Use the graph explorer to investigate fraud and do linkage analysis.		X	X
Use device fingerprinting to help identify devices that engage with your business, while respecting customer privacy.		X	X
Use the customer (risk) support tool to evaluate and act on customer escalations for risk-related rejections.		X	X
Use the transaction acceptance booster to help improve bank acceptance.			X
Make Dynamics 365 Fraud Protection your solution of record.			X

What's new and planned for Dynamics 365 Fraud Protection

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

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Feature	Enabled for	Public preview	General availability
Artificial intelligence and insights from the fraud protection network	End users, automatically	April 23, 2019	October 2019
Boost bank acceptance rates	End users, automatically	April 23, 2019	October 2019
Device fingerprinting	End users, automatically	April 23, 2019	October 2019
Diagnose	End users, automatically	April 23, 2019	October 2019
Evaluate	End users, automatically	April 23, 2019	October 2019

Feature	Enabled for	Public preview	General availability
Graph explorer	End users, automatically	April 23, 2019	October 2019
Protect	End users, automatically	April 23, 2019	October 2019
Rules engine	End users, automatically	April 23, 2019	October 2019
Scorecard	End users, automatically	April 23, 2019	October 2019
Virtual fraud analyst	End users, automatically	April 23, 2019	October 2019
Sign-up assessment	End users by admins, makers, or analysts	July 2019	October 2019
Account protection	End users by admins, makers, or analysts	October 2019	To be announced
Extend and tailor Dynamics 365 Fraud Protection	End users by admins, makers, or analysts	October 2019	To be announced
External compliance certification	End users, automatically	October 2019	To be announced

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Artificial intelligence and insights from the fraud protection network

Enabled for	Public preview	General availability
End users, automatically	April 23, 2019	October 2019

Feature details

Dynamics 365 Fraud Protection enables merchants to assess, in real time, whether an incoming purchase transaction or sign-up event should be approved or rejected. Dynamics 365 Fraud Protection assesses a transaction's likelihood of fraud using Microsoft's industry-leading AI platform. The AI platform uses transactional data to train machine learning models and detect linkages of fraud that occur across all merchants in the fraud protection network. By participating in this network, merchants can derive insights from the collective experience of other merchants who use Dynamics 365 Fraud Protection. In this way, merchants can help businesses handle emerging fraud vectors.

Boost bank acceptance rates

Enabled for	Public preview	General availability
End users, automatically	April 23, 2019	October 2019

Feature details

Microsoft fraud detection technology has a proven track record with banks and issuers based on many years of experience protecting our own multi-billion-dollar business. Dynamics 365 Fraud Protection helps merchants boost their acceptance rates with banks and reduce wrongful rejections. This market differentiator, called the transaction acceptance booster, shares information about the risk exposure of the transaction to banks and issuers, who can incorporate this information in their own evaluation to make a more informed assessment. The transaction risk exposure is shared to banks and issuers by one of the following methods:

- Signaling a Dynamics 365 Fraud Protection-verified transaction through a dedicated Merchant Identification Number (MID).
- Sharing select data points about the transaction, called trust knowledge, with banks and issuers in a programmatic way using an API.

Device fingerprinting

Enabled for	Public preview	General availability
End users, automatically	April 23, 2019	October 2019

Feature details

Dynamics 365 Fraud Protection offers device fingerprinting based on cutting-edge machine learning and artificial intelligence. This enables the service to identify the devices that engage with protected merchants. Device fingerprinting runs on Azure. It is cloud-scalable, reliable, and provides enterprise-grade security. A major advantage over similar products in the marketplace is that device fingerprinting is being continually tested against the latest fingerprinting-evasion tools.

Diagnose

Enabled for	Public preview	General availability
End users, automatically	April 23, 2019	October 2019

Feature details

This feature will focus on enabling merchants trying the introductory Diagnose experience of Dynamics 365 Fraud Protection to experience the power of the fraud protection network. In this feature, the assessment will not only include an evaluation of the merchant's data, but will be augmented using the features and enriched capabilities of the network. By expanding the Diagnose experience, Dynamics 365 Fraud Protection will provide a more realistic view to merchants without requiring them to allocate resources to a full-fledged proof of concept.

Evaluate

Enabled for	Public preview	General availability
End users, automatically	April 23, 2019	October 2019

Feature details

The Evaluate experience in Dynamics 365 Fraud Protection enables merchants to use their real-time transactional traffic to compare Dynamics 365 Fraud Protection with their existing fraud solution. Not only can merchants send their transactions through real-time APIs to get an inline evaluation, they can also upload their historical data and load asynchronous data (for example, chargebacks) to tune the model to their business scenarios.

Graph explorer

Enabled for	Public preview	General availability
End users, automatically	April 23, 2019	October 2019

Feature details

Dynamics 365 Fraud Protection provides a graph explorer for easy viewing of your e-commerce data. You can use the graph explorer to search and find linkages between entities, like payment instruments, users, addresses, and many others. This includes connections to valid purchases by legitimate accounts, and connections to fraudulent transactions from illegitimate accounts (for example, if someone used a stolen payment instrument to make purchases across several user accounts). The graph explorer can therefore be a powerful fraud investigation tool.

Protect

Enabled for	Public preview	General availability
End users, automatically	April 23, 2019	October 2019

Feature details

The Protect experience embeds Dynamics 365 Fraud Protection into a merchant's full production environment. Dynamics 365 Fraud Protection can provide risk-related recommendations for transactions, which merchants can leverage to make their own decisions about acceptance or rejection. Merchants can use the customer support tool to efficiently adjudicate any escalations from customers regarding rejections, and can use the transaction acceptance booster to share pertinent information about transaction trustworthiness with banks and issuers to boost their acceptance rates.

Rules engine

Enabled for	Public preview	General availability
End users, automatically	April 23, 2019	October 2019

Feature details

Using the rules engine, merchants can create model operating points and policy rules to help manage the handling of their transactions. These model operating points and rules leverage payload attributes, custom lists (safe and block lists of customers, along with custom lists of data relevant to your business scenarios), and more to help merchants manage the trade-offs inherent in preventing fraud and abuse while minimizing false positives.

Scorecard

Enabled for	Public preview	General availability
End users, automatically	April 23, 2019	October 2019

Feature details

Use the scorecard to understand the month-by-month performance of your fraud protection. In the Evaluate experience, your scorecard lets you evaluate the capabilities of Dynamics 365 Fraud Protection. In the Protect experience, you can monitor the real-time performance of Dynamics 365 Fraud Protection as your system of record. The scorecard can be filtered and pivoted on predefined attributes, markets, and product categories, and provides valuable snapshots of key performance indicator (KPI) trends.

Virtual fraud analyst

Enabled for	Public preview	General availability
End users, automatically	April 23, 2019	October 2019

Feature details

The virtual fraud analyst will support additional functionality to allow for a more customized fraud protection strategy. It will offer benchmarking and a flexible rules engine alongside the powerful model operation experience that exists today. Updates will include:

- Ability to set margins for precise fraud protection calculation.
- Ability to view model operation and policy rules holistically to make decisions for a merchant's full stack quickly and easily.
- Updates to the risk score thresholds to achieve optimal profitability.

- A flexible rules engine that supports multiple event types.

Sign-up assessment

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	July 2019	October 2019

Feature details

Users intending to commit fraudulent activity might create fake accounts to obtain free or promotional benefits as a new user, or create sleeper accounts that can be leveraged later for fraud attacks against a merchant. These actions can lead to financial losses. Dynamics 365 Fraud Protection will provide merchants the capability to assess accounts created in their ecosystem and protect themselves from abuse or automated attacks. It will also help minimize the impact to legitimate customers, thus maintaining a seamless sign-up experience.

Account protection

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	To be announced

Feature details

As businesses shift focus to e-commerce, they are facing new fraud challenges that didn’t exist with the traditional brick-and-mortar sales channel. In this environment, protecting customer accounts is a growing challenge. Account Takeover (ATO) and fake accounts are examples of fraud vectors that can lead to financial and reputation loss for merchants. Dynamics 365 Fraud Protection will provide features to businesses to protect their customers' accounts and will augment existing purchase protection capabilities.

Account sign-in assessment

ATO is becoming a growing challenge for merchants, leading to increased chargeback rates, revenue loss, and reputation damage. Dynamics 365 Fraud Protection will provide merchants the ability to assess sign-in events within their ecosystem and detect fraudulent sign-in activity that might be intended to test credentials and get unauthorized access to accounts. Merchants will be empowered to block such fraudulent sign-in attempts or trigger two-factor authentication or other challenges on suspicious attempts.

Fraud protection network

Dynamics 365 Fraud Protection has an existing fraud protection network that can detect fraud patterns across multiple businesses and protect them before there is any significant damage. We will enrich account protection-specific knowledge in this network that will enhance protection for all existing and new fraud scenarios covered by Dynamics 365 Fraud Protection.

Extend and tailor Dynamics 365 Fraud Protection

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	To be announced

Feature details

There are several cases where a merchant might need capabilities beyond the core features provided by Dynamics 365 Fraud Protection.

Extend the base ontology with custom knowledge

In the marquee scenarios of payment fraud and account takeover, merchants might want to use specialized data beyond the base ontology of Dynamics 365 Fraud Protection to improve the fraud protection capability of the product. For example, for airline ticket purchases, the seat class might be an important attribute to consider. Furthermore, customers might have niche fraud protection scenarios such as refunds, loyalty programs, and warranty programs, each with their own set of relevant data. We will enable merchants to bring specialized data into the product by extending the ontology as needed.

Define custom rules

Custom knowledge can be used to create and update the model operating point configuration using specialized data. These model operating points can consume the full spectrum of available knowledge to produce decisions for each type of event.

External compliance certification

Enabled for	Public preview	General availability
End users, automatically	October 2019	To be announced

Feature details

A key area of concern for customers is the security and protection of their data both in transit and at rest. Dynamics 365 Fraud Protection addresses this concern with high standards of compliance.

Dynamics 365 Fraud Protection will be certified to be compliant with ISO/IEC 27001 and ISO/IEC 27018 by an accredited third-party certification body. This provides independent validation that applicable security controls are in place and operating effectively. As part of this compliance verification process, auditors will validate in their statement of applicability that the Microsoft in-scope cloud service has incorporated ISO/IEC 27018 controls for the protection of PII in Azure as well. To remain compliant, Dynamics 365 Fraud Protection will be subject to annual third-party reviews.

Mixed reality

Overview of Dynamics 365 Remote Assist 2019 release wave 2

Dynamics 365 Remote Assist empowers technicians to solve problems faster the first time. With heads-up, hands-free video calling on Microsoft HoloLens, technicians can collaborate with remote experts on a PC or mobile device to troubleshoot issues in context.

The list of capabilities for the 2019 release wave 2 includes:

- Capture and share annotations without being in a call.
- Improved call experience for low-bandwidth situations.
- Remote Assist for mobile phones.

What's new and planned for Dynamics 365 Remote Assist

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Feature	Enabled for	Public preview	General availability
Remote Assist for mobile phones	End users, automatically		October 2019
Capture and share annotations without being in a call	End users, automatically		January 2020
Improved call experience for low-bandwidth situations	End users, automatically		February 2020

Description of **Enabled for** column values:

- **End users, automatically** – These features include change(s) to the user experience for end users and are enabled automatically.

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For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Remote Assist for mobile phones

Enabled for	Public preview	General availability
End users, automatically		October 2019

Feature details

Our first augmented reality application for mobile phones launched as an Android-based public preview in April 2019. We'll add iOS support and additional features to bring the mobile and HoloLens experiences closer to parity. First-line workers will be able to annotate and mark up the world in a method similar to using a HoloLens, but with their phone.

The Remote Assist mobile application will provide a pathway for customers who are unable to meet all of their Remote Assist needs due to limited HoloLens device ability. The app will also result in wider usage of Remote Assist due to the scale that mobile phones represent.

Capture and share annotations without being in a call

Enabled for	Public preview	General availability
End users, automatically		January 2020

Feature details

We have received feedback from customers asking us to support scenarios where remote assistance is needed, but a call can't be established due to network limitations.

Example scenarios:

- Capturing information about an issue when there's no internet connection or the connection can't support a video call. Examples: oil company cargo ship carrying liquified natural gas; remote power substation.

- Capturing information about an issue when an expert isn't available and sending via chat/email. Example: airline company needs to communicate with the FAA.
- Recording remote inspections. Examples: factory acceptance tests; safety inspections; incident inspections.
- Documenting procedures for future training and reference.

This feature includes support for the following:

No-call annotations. First-line workers will be able to begin a session without making a call. They will be able to annotate their world to provide additional context about what they're looking at or trying to do, so an expert (colleague, third party, and so on) can provide efficient assistance at the appropriate time.

No-call photo and video capture. Photos and videos help convey necessary information and context about an issue so an expert can provide assistance. Photos and videos also serve as required artifacts for inspections, audits, and training documentation.

Asynchronous file sharing. First-line workers will be able to send captured information in different ways, depending on the scenario. They'll be able to save information on the device, upload it to OneDrive, or send it to someone on Microsoft Teams.

Improved call experience for low-bandwidth situations

Enabled for	Public preview	General availability
End users, automatically		February 2020

Feature details

Customers experience various types of bandwidth situations. With the added support for low-bandwidth scenarios, Remote Assist will scale gracefully from full two-way video with annotations (available today) to live annotations and audio over a still image, as well as points in between.

Overview of Dynamics 365 Layout 2019 release wave 2

Dynamics 365 Layout provides a new way for space planners to bring designs from concept to completion with confidence and speed. Lay out spaces with imported or gray box assets and view high-quality holograms overlaid in the real world with Microsoft HoloLens or in a virtual representation in Windows Mixed Reality. Import 3D models and experience designs as high-quality holograms.

The list of capabilities for the 2019 release wave 2 includes:

- Application compatibility with HoloLens 2.
- Optimized room-scanning capabilities.
- Locked assets view for Dynamics 365 Layout reviews.

What's new and planned for Dynamics 365 Layout

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Feature	Enabled for	Public preview	General availability
App compatibility with HoloLens 2	End users, automatically		October 2019
Asset lock	End users, automatically		October 2019
Optimized room scan	End users, automatically		October 2019

Description of **Enabled for** column values:

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For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

App compatibility with HoloLens 2

Enabled for	Public preview	General availability
End users, automatically		October 2019

Feature details

Dynamics 365 Layout will be available as an in-box application on Microsoft HoloLens 2. Users will be able to continue using all the currently supported features, but with a better field of view and better performance supported by the new device. We'll also include a new out-of-the-box experience through a non-interactive tour to introduce the application and demonstrate its value.

Asset lock

Enabled for	Public preview	General availability
End users, automatically		October 2019

Feature details

Users will be able to use a view to lock 3D models for reviewing purposes, so the models can’t be edited by other collaborators or peers. This will help reduce any intentional or unintentional manipulation of spaces.

Optimized room scan

Enabled for	Public preview	General availability
End users, automatically		October 2019

Feature details

Set up a new layout and start planning in seconds with optimized room scan. Users can simply select the floor and rotate the floor grid to adjust the coordinate system to their preferred orientation. Users can still place walls and ceilings, but it's not required to start a new layout.

Overview of Dynamics 365 Product Visualize 2019 release wave 2

A salesperson's ability to achieve a shared understanding with the customer as early as possible in the sales process is critical for faster deal closure, fewer changed orders, and increased customer trust. Microsoft Dynamics 365 Product Visualize will empower salespeople to convey the true potential of their products to their customers by harnessing the power of augmented reality on their mobile devices (iOS devices only for the 2019 release wave 2).

Deep integration with Dynamics 365 for Sales ensures salespeople have a continuous workflow between opportunity management and product visualization. Additional tools for creating notes with spatial context and integration with Microsoft Teams ensures the full context of the conversation can be captured and shared with colleagues across the organization.

For the 2019 release wave 2, we're focusing on integrating customer feedback to make our app more usable. Usability updates include (but are not limited to) user interface improvements for 3D model layers, and improvements that will make the app more inclusive and accessible. We'll also focus on localizing the app for new regions and languages.

What's new and planned for Dynamics 365 Product Visualize

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

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Feature	Enabled for	Public preview	General availability
Usability improvements	End users, automatically	October 2019	
Accessibility	End users, automatically	March 2020	
Localization	End users, automatically	March 2020	

Description of **Enabled for** column values:

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For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Usability improvements

Enabled for	Public preview	General availability
End users, automatically	October 2019	

Feature details

We'll integrate customer feedback to make our app more usable. Updates include (but are not limited to) user interface improvements for 3D model layers, and improvements that will make the app more inclusive and accessible.

Accessibility

Enabled for	Public preview	General availability
End users, automatically	March 2020	

Feature details

Through user research and best practices, Product Visualize is working toward a more accessible, inclusive experience.

Localization

Enabled for	Public preview	General availability
End users, automatically	March 2020	

Feature details

Product Visualize will expand support for new regions and languages.

Overview of Dynamics 365 Guides 2019 release wave 2

Dynamics 365 Guides is a mixed-reality application for Microsoft HoloLens that enables employees to learn in the flow of work by providing holographic instructions when and where they need them. Dynamics 365 Guides:

- Engages employees through hands-on learning.
- Helps organizations improve training efficiency.
- Generates data to improve processes.

Dynamics 365 Guides addresses the needs of three key personas: content authors, operators, and managers/analysts.

Content authors

Authoring includes two steps:

Step 1: Create the guide. Using the Dynamics 365 Guides PC app, create the guide by defining the steps required to perform a task and attach 2D images/videos and/or 3D assets to each step from a central content library. Media files are automatically optimized for best quality and performance on HoloLens.

Step 2: Preview the guide and place the objects. Using the Dynamics 365 Guides HoloLens app, preview the guide flow and place the instruction cards and 2D/3D assets in the appropriate place in the physical world. Add aids such as 3D tethers and styles (such as a warning or caution).

Operators

The Dynamics 365 Guides HoloLens app provides employees both first-time training or on-the-job assistance—by placing the information employees need in the physical space where they work. Users gaze at icons to navigate through the app, allowing them to control the experience completely hands-free. Instructions follow users around but don’t get in the way, and when users don’t need the instructions anymore, they can turn them off with a glance.

Managers/analysts

Dynamics 365 Guides Analytics provides insight into details behind every step of each guide, which can be used to assess production line processes, measure improvements, and drive efficiencies by modifying processes and updating the corresponding guide.

Focus for 2019 release wave 2

The list of capabilities for the 2019 release wave 2 includes:

- Assign guides through prebuilt or custom entities.
- Integration with Dynamics 365 for Field Service.
- Localization wave 2.

What's new and planned for Dynamics 365 Guides

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Feature	Enabled for	Public preview	General availability
Assign guides through prebuilt or custom entities	Admins, makers, or analysts, automatically		October 2019
Localization wave 2	End users by admins, makers, or analysts		October 2019
Integration with Dynamics 365 for Field Service	Admins, makers, or analysts, automatically	August 2019	October 2019

Description of **Enabled for** column values:

- **End users, automatically** – These features include change(s) to the user experience for end users and are enabled automatically.
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For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Assign guides through prebuilt or custom entities

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Dynamics 365 Guides will expose a configuration that allows customers to define a view in the Guides entity. They can use this view to specify the guides assigned to a signed-in user. The user will see an ordered list of guides when they sign in to the HoloLens app, which will make it easy to find the content they need to do their assigned tasks. This view retrieves information from entities in Common Data Service, which makes it easy for customers to integrate Dynamics 365 Guides with their existing systems via the Common Data Service API.

Localization wave 2

Enabled for	Public preview	General availability
End users by admins, makers, or analysts		October 2019

Feature details

In this localization wave, we'll localize the Dynamics 365 Guides user interface for the following countries or regions: Netherlands, South Korea, Switzerland, Italy, Spain, Austria, Sweden, Finland, Norway, Denmark, Belgium, and Singapore.

Integration with Dynamics 365 for Field Service

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Feature details

Dynamics 365 Guides will be integrated with Dynamics 365 for Field Service workflows. Field Service users will be able to assign guides to operators directly. Operators will be able to view assigned work from a dedicated tab in the Dynamics 365 Guides HoloLens app.

Microsoft Forms Pro

Overview of Microsoft Forms Pro 2019 release wave 2

Customers today expect businesses to adapt and align to their needs continually. When those needs are not met, they are often quick to share their opinions with others or turn to alternative solutions. It is therefore important for every business to actively listen to customers so they can quickly address any gaps and improve experiences, transforming one-time casual purchasers into loyal customers.

While there are multiple solutions for collecting customer feedback, results are often disparate. With Forms Pro, businesses can build on their familiarity with Microsoft Forms, connecting input from the full customer journey—purchase through support—and offering a comprehensive and meaningful perspective that can help make meaningful changes.

Following our public preview release in March 2019, we have collected customer feedback and made improvements accordingly. Key improvement areas for this release include:

- **Survey distribution**: Improve your survey response rate through built-in survey incentives from Microsoft.
- **Survey insights**: Autotag your survey response comments using the AI model powered by the new Microsoft AI Builder.

What's new and planned for Microsoft Forms Pro

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that might not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Survey distribution

Enhanced distribution allows survey owners to increase responses.

Feature	Enabled for	Public preview	General availability
Survey incentives	End users, automatically	September 2019	October 2019

Survey insights

Feature	Enabled for	Public preview	General availability
Categorize survey comments automatically	End users by admins, makers, or analysts	October 2019	To be announced

Description of **Enabled for** column values:

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For a list of the countries or regions where Dynamics 365 business applications are available, see the International availability guide.

Survey distribution

Overview

Survey response rate is one of the key metrics when you send out surveys. Microsoft Forms Pro helps you improve your response rate by making sure the survey is sent by a trusted sender and making it easy for your survey recipient to fill out the survey. Forms Pro also helps survey owners to easily follow up with contacts and remind them to respond to the survey.

Survey incentives

Enabled for	Public preview	General availability
End users, automatically	September 2019	October 2019

Business value

One of the key goals for a survey owner when sending a survey is to get as many responses as possible. The more survey responses received, the better insights the survey owner can get from the survey. Offering incentives to people when they are filling out a survey has been proven to be an effective way to increase the response rate.

Feature details

Microsoft Rewards and Microsoft Forms Pro are partnering to offer Microsoft Rewards as incentives for survey respondents to fill in surveys created by Forms Pro. When Forms Pro users send Forms Pro surveys, the survey recipients are informed that they will be entered into the Microsoft Reward Sweepstakes for a chance to win a Microsoft Surface Book when they complete the survey.

Survey insights

Overview

Analyzing comments in a survey has always been challenging. In the past, survey owners have had to read each comment and classify it, based on predetermined categories, for further follow-up. The ability to automatically categorize comments can save significant time and effort for many survey owners.

Categorize survey comments automatically

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	To be announced

Business value

Analyzing comments in a survey has always been challenging. In the past, survey owners have had to read the comments to determine the essence of the comment. The comment then needs to be classified based on predetermined categories for further follow-ups. The ability to automatically categorize comments will save significant time and effort for many survey owners.

Feature details

Microsoft Forms Pro enables survey owners to automatically categorize survey comments through integration with the new AI Builder. Survey owners can provide sample comments and information on how they should be categorized. Based on this sample, AI Builder will use machine learning to automatically categorize the rest of the survey response comments.

Change history

This topic is updated when features are added, or when a feature's release date changes. To find out about updates to these release plans, follow us on Twitter @MSFTDynamics365.

Microsoft PowerApps

Features added to release plan

Feature	Date added
Usability enhancements to lookups in Unified Interface	June 16, 2019
Timeline wall filter improvements	June 10, 2019

Release date changed

Feature	Change	Date updated
Improved capacity governance	Public Preview date updated to May 2019.	June 17, 2019
Admin connectors for Microsoft PowerApps	Public Preview date updated to August 2018.	June 17, 2019
PowerApps cmdlets for admins	Public Preview date updated to May 2018.	June 17, 2019
One admin center to rule them all	Public Preview date updated to September 2018.	June 17, 2019

Features removed from release plan

Feature	Reason	Date removed
External users can access apps on the PowerApps mobile app	Merged the feature information with **Share apps with users outside your tenant B2B or B2C** feature.	June 10, 2019
Model-driven app for Outlook to be generally available	Changed release date from October 2019 to June 2019.	June 26, 2019

Common Data Model and data integration

Release date changed

Feature	Change	Date updated
Write existing data before turning on Dual Write	Public Preview date updated to July 2019.	June 14, 2019
Making Dual Write resilient to planned or unplanned maintenance	Changed Public Preview date from May 2019 to July 2019.	June 14, 2019
Support for data and metadata changes in Azure Data Lake	Changed Public Preview date from June 2019 to August 2019.	June 14, 2019
Support incremental writes to Azure Data Lake	Changed Public Preview date from June 2019 to August 2019.	June 14, 2019
Hydrate Azure Data Lake with Common Data Service data and create rich reports	Changed Public Preview date from July 2019 to August 2019.	June 14, 2019
Enable analytics on Common Data Service data in Azure Data Lake	Changed Public Preview date from June 2019 to August 2019.	June 14, 2019

Features removed from release plan

Feature	Reason	Date removed
Support for multiple legal entities	Changed Public Preview date from October 2019 to July 2019 and moved to April 2019 release notes.	June 14, 2019

Microsoft PowerApps

Overview of Microsoft PowerApps 2019 release wave 2

PowerApps is a suite of apps, services, connectors, and a data platform that provides an environment for rapidly developing custom apps for your business needs. Using PowerApps, you can quickly build custom business apps that connect to your business data stored either in the underlying data platform (Common Data Service) or in various online and on-premises data sources (SharePoint, Excel, Office 365, Dynamics 365, SQL Server, and so on). Use PowerApps documentation to get expert information and answers to address your needs, regardless of how you use PowerApps.

The 2019 release wave 2 provides major improvements across the themes in this list to enable app makers to build higher-quality apps more easily, while still supporting more advanced enterprise and administrator requirements.

Improvements in PowerApps focus not only on introducing capabilities but also on simplifying existing concepts to improve maker and end-user productivity in PowerApps and Dynamics 365 apps built upon PowerApps and the Unified Interface.

What's new and planned for Microsoft PowerApps

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Add intelligence using AI Builder

Feature	Enabled for	Public preview	General availability	Early access?*
Add intelligence to PowerApps with AI Builder	Admins, makers, or analysts, automatically	June 2019	October 2019	No

Easier to deliver high-quality apps

Provide the right tools and components to build awesome apps for end users.

Feature	Enabled for	Public preview	General availability	Early access?*
PowerApps component framework for canvas apps	End users by admins, makers, or analysts	November 2019		No
Build responsive, reflowing canvas pages	End users by admins, makers, or analysts	December 2019		No
Build and consume reusable canvas components	End users by admins, makers, or analysts		October 2019	No
Faster, reliable, and stable canvas and model-driven apps on mobile	End users, automatically		October 2019	No
New Common Data Service form designer adds support for event handlers	Admins, makers, or analysts, automatically		October 2019	No
Office 365 suite header coming to PowerApps	Admins, makers, or analysts, automatically		October 2019	No
PowerApps component framework for model-driven apps	End users by admins, makers, or analysts		October 2019	No
Sign in using an email address in the Dynamics 365 mobile app on an Android device	End users, automatically	August 2019	October 2019	No
Improvements to entity designer	Admins, makers, or analysts, automatically	August 2019	October 2019	No

Integrated experience and tooling for administrators

Admin experiences are key to the adoption of any trusted platform.

Feature	Enabled for	Public preview	General availability	Early access?*
Data loss prevention policy enhancements	Admins, makers, or analysts, automatically		October 2019	No
PowerApps cmdlets for admins	Admins, makers, or analysts, automatically	May 21, 2018	October 2019	No
Admin connectors for Microsoft PowerApps	Admins, makers, or analysts, automatically	August 30, 2018	October 2019	No
One admin center to rule them all	Admins, makers, or analysts, automatically	September 26, 2018	October 2019	No
Improved capacity governance	Admins, makers, or analysts, automatically	May 22, 2019	October 2019	No

Portal capabilities for PowerApps

Feature	Enabled for	Public preview	General availability	Early access?*
Power BI Embedded support for portals	End users by admins, makers, or analysts		October 2019	No
PowerApps Portals	End users by admins, makers, or analysts	July 2019	October 2019	No
Portal Checker enhancements	Admins, makers, or analysts, automatically		November 2019	No

Scalable enterprise solutions

Enterprises have scalable solutions as part of the Power Platform.

Feature	Enabled for	Public preview	General availability	Early access?*
[PowerApps test framework]	Admins, makers, or analysts, automatically	October 2019		No
[Runtime telemetry]	Admins, makers, or analysts, automatically	October 2019		No
[Modern Solution Explorer is the default customization experience]	Admins, makers, or analysts, automatically		October 2019	No
[New solution components get full support]	Admins, makers, or analysts, automatically		October 2019	No
[The PowerApps Checker includes rules for canvas apps and flows]	Admins, makers, or analysts, automatically		October 2019	No
[Enhanced offline capabilities for apps on the Dynamics 365 mobile app]	End users by admins, makers, or analysts	August 2019	October 2019	No
[Share apps with users outside your tenant, B2B or B2C]	End users by admins, makers, or analysts	August 2019	October 2019	No

Unified Interface for everybody

Feature	Enabled for	Public preview	General availability	Early access?*
[Anchoring error notifications in Unified Interface]	End users, automatically		October 2019	Yes
[Connection role enabled in Unified Interface]	End users, automatically	August 2019	October 2019	Yes

Feature	Enabled for	Public preview	General availability	Early access?*
Form header usability improvements	End users, automatically		October 2019	Yes
Improved usability, density, and filtering capabilities for the Unified Interface grid	End users, automatically		October 2019	Yes
Manage email on the timeline wall in Unified Interface	End users, automatically		October 2019	Yes
Timeline wall filter improvements	End users, automatically	August 2019	October 2019	Yes
Timeline wall improvements in Unified Interface	End users, automatically		October 2019	Yes
Usability enhancements to lookups in Unified Interface	End users, automatically	August 2019	October 2019	No
View inline images for emails that are read-only	End users, automatically		October 2019	Yes

* Some features are available for you to opt-in as part of early access on August 2, 2019, including all mandatory changes that impact end users. Learn more about early access.

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Add intelligence using AI Builder

Overview

AI Builder is a new Power Platform capability for teams with the business expertise to easily automate processes and predict outcomes to improve business performance. AI Builder is a turnkey solution that brings the power of Microsoft AI through a point-and-click experience. You can now build AI without knowing programming or data science. Using AI is made even easier with integration directly into PowerApps and Microsoft Flow.

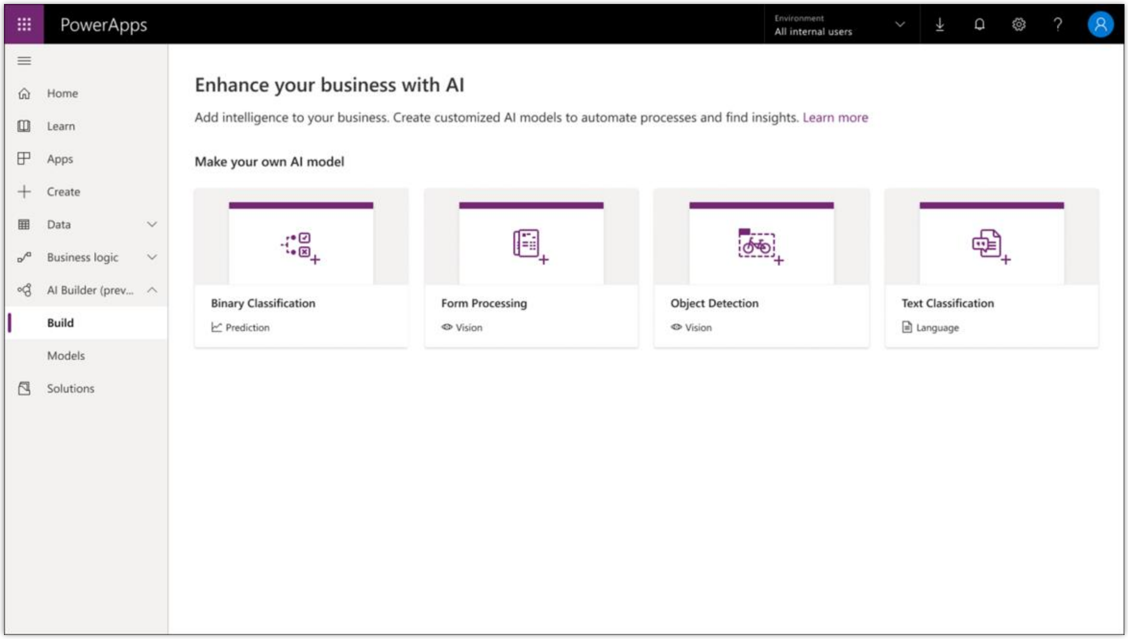
Add intelligence to PowerApps with AI Builder

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically	June 2019	October 2019	No

Feature details

To start using AI Builder from Microsoft PowerApps:

1. Sign in to Microsoft PowerApps.
2. Select **Build** under **AI Builder (preview)** in the menu on the left side of the page.
3. Select one of the templates.
4. Get started creating AI models for your organization.



AI Builder in PowerApps

More information: [Overview of AI Builder]

Easier to deliver high-quality apps

Overview

Improvements for app makers and end users are focused on improving productivity by introducing capabilities and simplifying existing concepts to remove barriers while still providing rich capabilities for advanced users. PowerApps introduces capabilities for pro-developer components and reusable components, as well as improvements for working with Common Data Service for both canvas and model-driven apps. In addition to improvements to the app-maker experiences, PowerApps also introduces updates to the Unified Interface to improve density, usability, and navigation.

PowerApps component framework for canvas apps

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	November 2019		No

Business value

By taking advantage of PowerApps component framework, customers can build the components and features they need and not have to wait for support from Microsoft.

Feature details

PowerApps component framework allows professional developers to build custom components that can be used in canvas apps. Makers can import custom components to enhance their canvas apps with the functionality that is not available out of the box.

Public preview of PowerApps component framework allows developers and makers to test their custom components in canvas apps, taking advantage of the growing list of supported APIs, as well as the new theming system.

Build responsive, reflowing canvas pages

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	December 2019		No

Feature details

In PowerApps Studio, app makers can build pages that are fully responsive to changes in screen size and orientation but that also offer the same flexibility for custom UI and data binding as standard canvas-app screens. These pages contain prebuilt layouts with regions that automatically reflow as the available real estate on the screen changes, as well as supporting all existing canvas concepts, such as reusable custom components. App makers can build these components in PowerApps Studio, or a professional developer can build them by using PowerApps component framework.

All app developers, including implementers of Dynamics 365, can build fully custom and responsive experiences into their applications, thus improving experiences that are tailored to the needs of end users and increasing their satisfaction. Many people in the PowerApps community have requested this important step on the journey toward unifying app types.

Thank you for your idea

Thank you for submitting this idea. We listened to your idea, along with comments and votes, to help us decide what to add to our product roadmap.

Build and consume reusable canvas components

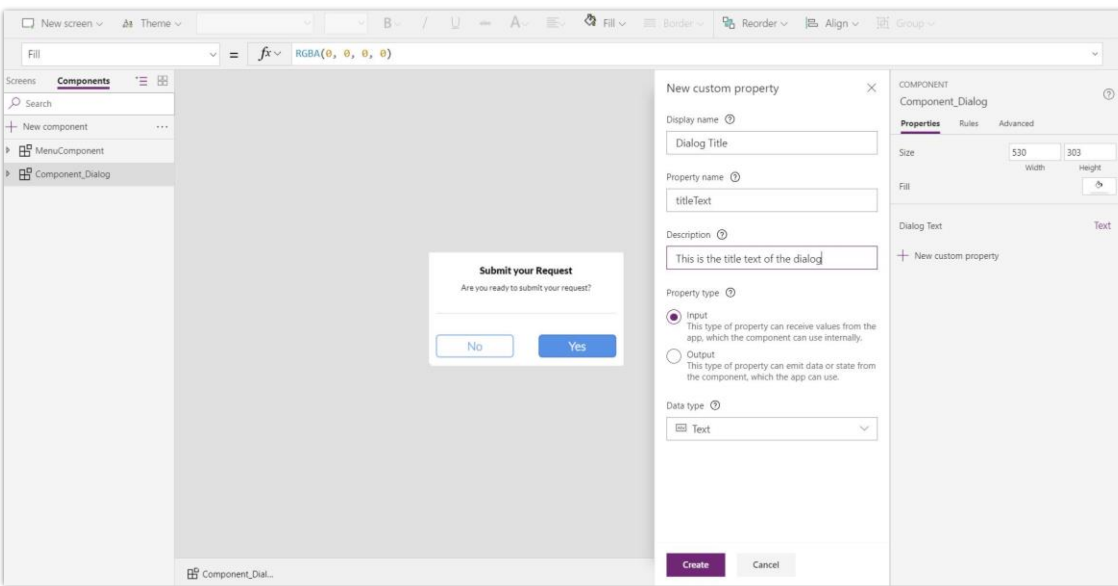
Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts		October 2019	No

Feature details

Canvas components are generally available for app makers to use in production apps. App makers can build and share elements, such as menus or calendars, on multiple screens of the same app or in multiple apps. App makers can build these reusable components and composite controls in PowerApps, just as they build canvas apps.

In addition, canvas components are fully supported as part of solutions and PowerApps environments. These components participate in the solution lifecycle for managing and updating components and apps between environments. App makers can browse components across their environments and insert them directly into their apps without importing or exporting the component.

By using canvas components, app makers can quickly create, consume, and share their building blocks across screens and apps, build apps more quickly, and maintain apps more easily.



Pane for defining a custom property

Faster, reliable, and stable canvas and model-driven apps on mobile

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	No

Feature details

Canvas applications on mobile devices are more reliable and faster. With improved reliability, errors and unexpected experiences are minimized. Load time of applications has significantly improved. Time to load data and navigate through the application has also improved, contributing to a better user experience.

- With optimizations to the email sign-in and app-loading experience, the Dynamics 365 Mobile app is significantly faster for end users.
- First-time users can sign in and get to their app of choice within a few seconds reliably.
- Returning users can jump right into their app from their previous session and view their most up-to-date information, with background refresh.
- Errors and unexpected experiences are minimized, with reliability of actions and updates greatly improved.

New Common Data Service form designer adds support for event handlers

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

The new Common Data Service form designer offers a major experience improvement from the legacy Dynamics 365 for Customer Engagement experience of authoring forms.

Following the general availability release, the form designer will enable support to add and configure event handlers on the form and its child controls.

Using event handlers, makers will be able to achieve advanced customizations on the display and behavior of forms. For example, using event handlers, makers will be able to hide or show certain fields based on logic (JavaScript) when the form is loaded or when another field's value is changed.

The new form designer will not only improve the experience of adding and configuring event handlers, it will also tackle other common problems faced by makers such as discoverability of configured events on the form.

Using the classic form designer, makers do not have an easy way to find the elements on the form that have event handlers associated with them. The new form designer will readily surface this information in the Tree view, enabling makers to instantly identify and inspect elements of the form that have event handlers associated with them.

Office 365 suite header coming to PowerApps

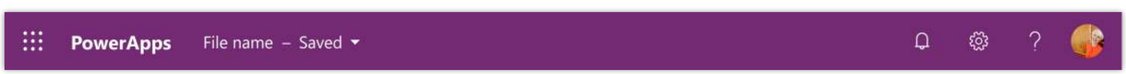
Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

The Office 365 suite header is coming to powerapps.com and PowerApps is coming to the Office 365 suite header.

The Power Platform will align with the new Office header, allowing you to access all of your Microsoft applications, notifications, and messages from a consistent header. Additionally, panels like help, notifications, and feedback will be aligned so that you always get the same experience across all of Microsoft.

We'll also take this opportunity to make improvements to existing controls that are specific to PowerApps, like the environment picker, so that they are easier to use.



Aligned header

PowerApps component framework for model-driven apps

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts		October 2019	No

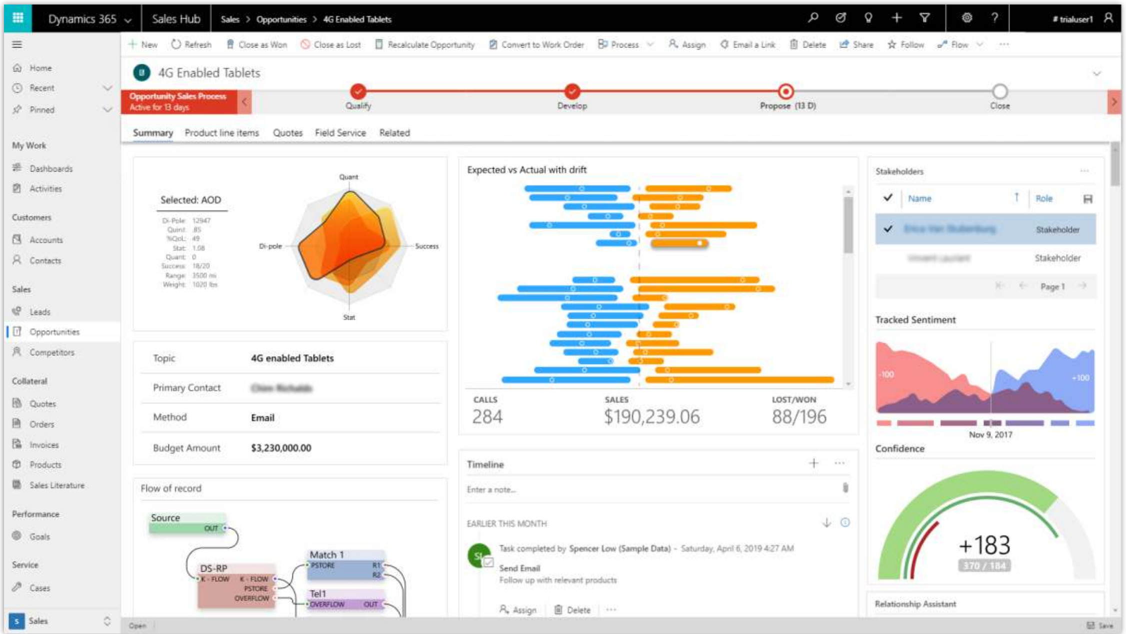
Feature details

The PowerApps component framework is generally available for model-driven apps, allowing professional developers to create custom components for use across the full breadth of

PowerApps capabilities. Third-party developers can now create their own custom components using the libraries and services of their choice and add these reusable components to any model-driven app. The framework not only saves time but also unlocks powerful capabilities for advanced interactions. To facilitate the development of custom components, the Microsoft PowerApps CLI tool enables fast component creation, easy debugging, built-in validation, and testing using the code editor of your choice.

Professional developers can now add to user experiences that are available out of the box. Custom components have access to a rich set of framework APIs that expose capabilities like control lifecycle management, contextual data and metadata access, seamless server access, utility, data formatting methods, device features like camera, location, and microphone along with easy-to-invoke UX elements like dialogs, lookups, and full-page rendering. Component developers can use modern web practices and harness the power of external libraries to create advanced user interactions. The framework automatically handles component lifecycle, retains application business logic, and optimizes for performance (no more async iframes).

Components created using the framework are fully configurable and can be reused on multiple surfaces in the model-driven apps like forms, dashboards, grids, and business process. Component definition, dependencies, and configurations can all be packaged into a solution and moved across environments and shipped via AppSource. The PowerApps component framework is the foundation for the new Unified Interface released with Dynamics 365 for Customer Engagement apps version 9.0 that uses responsive web design principles to provide an optimal viewing and interaction experience for any screen size, device, or orientation.



PowerApps component framework example

Sign in using an email address in the Dynamics 365 mobile app on an Android device

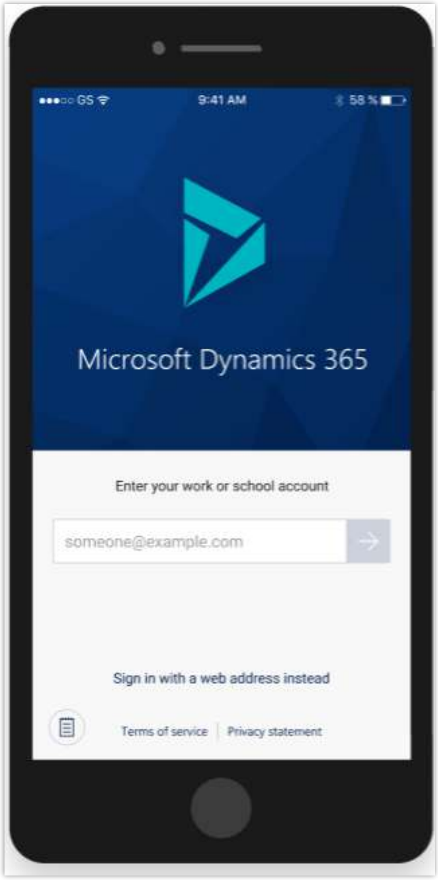
Enabled for	Public preview	General availability	Early Access
End users, automatically	August 2019	October 2019	No

Feature details

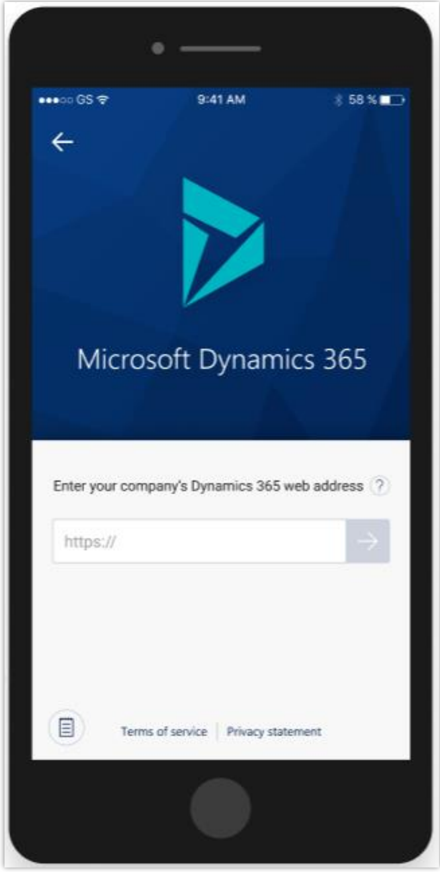
Model-driven app users can now sign in to the Dynamics 365 mobile app on an Android device using their corporate email addresses.

Details about the experience:

- Online users can sign in easily using their email addresses and on-premises users can still sign in using the web address option.

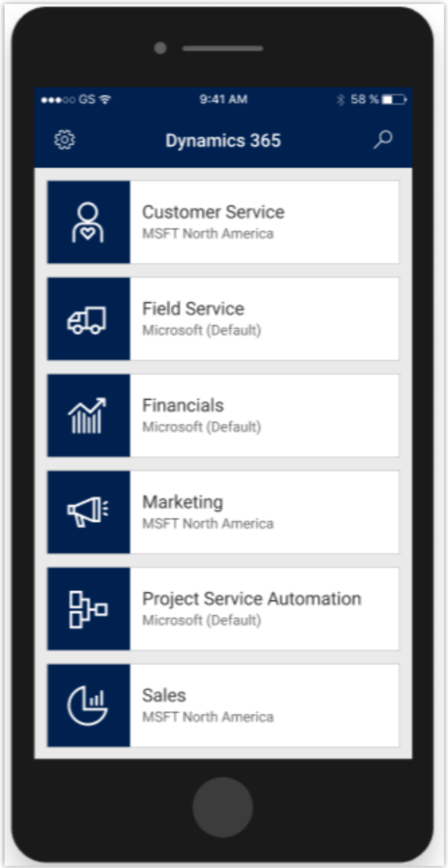


Sign in using email address



Sign in using web address

- Online users now have access to all their apps across multiple instances in a single list. Users no longer need to sign out and sign in multiple times with different instances to use all their apps.
- The sign-in and app selection experience is easy and intuitive with a modern look and feel.



Choose an app

Improvements to entity designer

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically	August 2019	October 2019	No

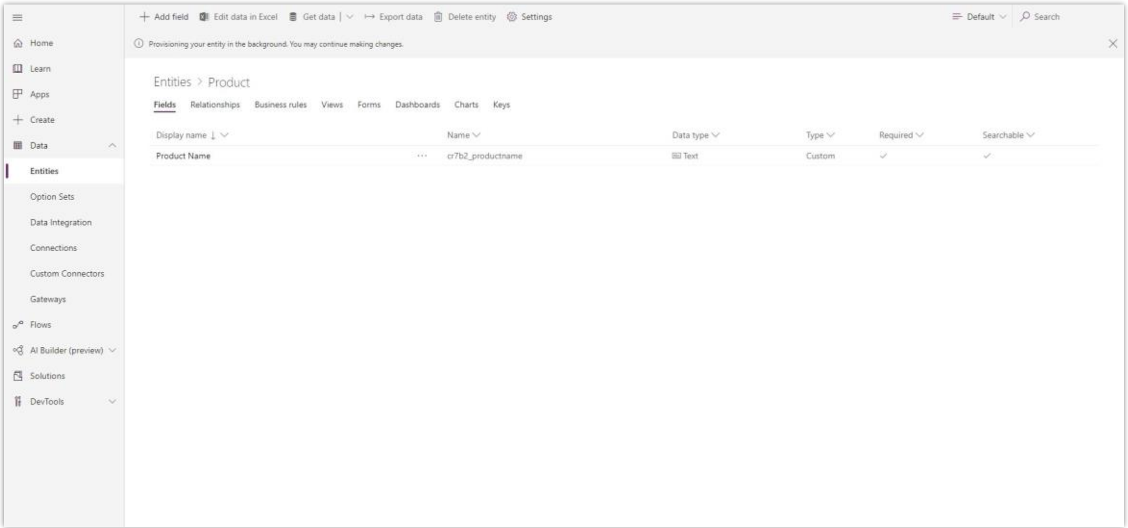
Feature details

The new entity designer for Common Data Service lets makers more quickly create and edit app components, such as entities, fields, and relationships. Some notable feature improvements to the entity designer include the ability to:

- Create the entity in the background so the maker can proceed with adding fields and relationships, and make key changes while the entity, its default forms, and views are created. These additional changes can be saved after the entity is created.
- Modify the primary field properties along with the entity definition.

- Add fields for the new image and file data types.
- Make changes to the managed properties.
- View data in the updated and accessible **Data** tab.
- Add or edit data in Microsoft Excel using the **Edit data in Excel** command.

These enhancements will further improve the usability, convenience, and productivity for makers.



Background entity create

Integrated experience and tooling for administrators

Overview

PowerApps makes maintaining and managing apps across your organization easier than ever. The [Power Platform Admin center] is now the single admin center for PowerApps and Microsoft Flow admins and partners, offering a more reliable, unified experience to manage storage capacity, environments, and deployments. Powerful analytics empowers admins to investigate and diagnose issues with their deployments, and the integrated help and support experience allows them to find the help they need and escalate to Microsoft Support when necessary.

Data loss prevention policy enhancements

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

Data loss prevention (DLP) policies provide organizations with the ability to group connectors into business and non-business data groups. This allows organizations to build flows that contain only business data sources and prevent business data from leaking to non-business data sources. A common example is: I don't want my SharePoint data to end up on Twitter.

However, there are many scenarios where this level of control is not enough. One common example is companies with outside principals in their production tenant (for example, vendors and partnerships). The companies might want to limit access for these users to their business data sources through PowerApps and Microsoft Flow. With our new DLP enhancements, you will be able to define which user principals would be accepted by connectors that use Basic Auth and OAuth authentication.

PowerApps cmdlets for admins

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically	May 21, 2018	October 2019	No

Feature details

With the preview launch of the PowerShell cmdlets for administrators last year, admins are able to automate many of the monitoring and management tasks that were previously only possible through the PowerApps Admin center.

In the 2019 release wave 2, we will be announcing the general availability (GA) of these cmdlets, as well as the addition of new cmdlets around:

- Capacity management
- Permission and user management
- Environment lifecycle management

Admin connectors for Microsoft PowerApps

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically	August 30, 2018	October 2019	No

Feature details

With the preview launch of the Admin connectors for Microsoft PowerApps and Microsoft Flow last year, Power Platform admins found new and powerful ways to improve their own productivity by using the same tools that they manage.

This October, we will be announcing the general availability (GA) of these connectors, as well as the addition of a series of templates and samples outlining common user cases for canvas apps and flows built against these connectors:

- Power Platform for Admins
- PowerApps for Admins

One admin center to rule them all

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically	September 26, 2018	October 2019	No

Feature details

Today, admin experiences for Dynamics 365 for Customer Engagement, PowerApps, Microsoft Flow, and Common Data Service are spread across multiple portals lacking a single unified end-to-end experience. Therefore, we are excited to announce the planned 2019 release wave 2 GA of the new Power Platform Admin center. With this launch, the Power Platform Admin center will be the single entry point to:

- Install, upgrade, and manage apps and flows.
- Create and manage environments.
- Review analytics and telemetry.
- Set the right governance controls and data loss prevention policies for your organization.

Improved capacity governance

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically	May 22, 2019	October 2019	No

Feature details

With the introduction of the new capacity-based provisioning model in April '19, citizen developers are able to more easily provision environments they need for their applications. With this change comes the need for IT admins to be able to better plan and manage database, file, and log capacity consumption within their organization. To support this, the Power Platform Admin center will provide a new real-time view of capacity consumption (Database, File, and Log), historical trends for up to 12 months, and storage breakdowns by entity and application to help facilitate capacity planning and cross-charging to the business units that consume platform capacity.

Portal capabilities for PowerApps

Overview

Use the portal capabilities of PowerApps to create websites that external users can access either with a wide variety of identities (such as personal accounts and LinkedIn) or anonymously.

Power BI Embedded support for portals

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts		October 2019	No

Business value

In the April 2019 release of Dynamics 365 for Customer Engagement Portal, we started a preview for Power BI Embedded service. With Power BI Embedded service, customizers can provide access to Power BI dashboards and reports to users who don't have a Power BI account. As part of this release, this functionality would be generally available for all customers.

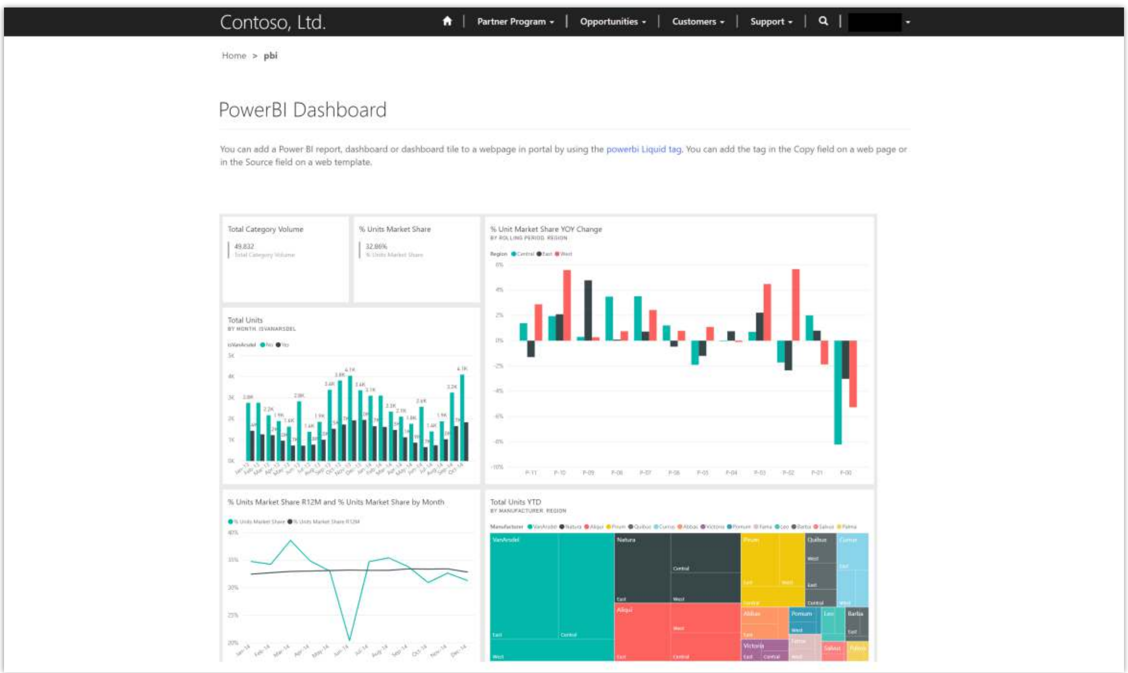
Feature details

This feature provides the ability to surface Power BI Embedded service components (reports, dashboards, and tiles) contextually to portal users who don't have a Power BI license.

With this feature you can embed Power BI components on a portal and contextually serve the data to end users coming to the portal. Some of the core capabilities of this feature include:

- Pass automatic filters to reports using a filter parameter along with the **powerbi** liquid tag. This will help you to filter down the data contextually based on what the end user is viewing on the portal.
- Enable Power BI row-level security (RLS) capabilities by passing the **roles** parameter in the context of the signed-in user. This will help organizations to secure the data that is visible to end users and show them only what they are allowed to see.

More details about this feature can be found at [Enable Power BI Embedded service](#) and [powerbi](#).



Power BI Embedded in portal

PowerApps Portals

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	July 2019	October 2019	No

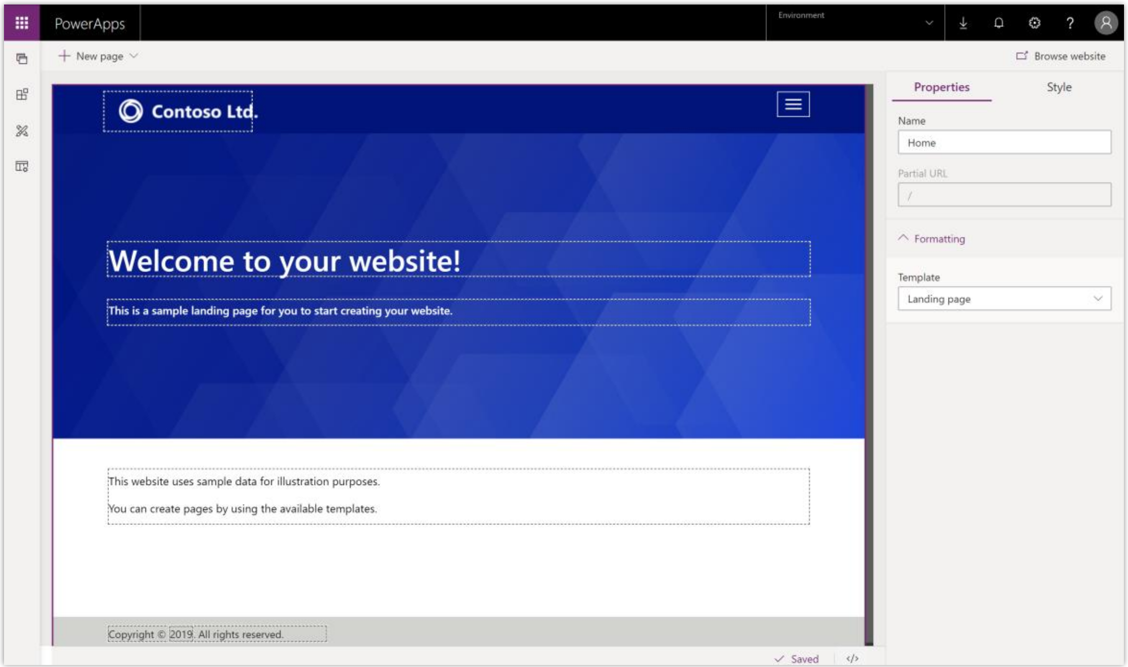
Business value

PowerApps makers can now create a powerful new type of experience: web portals that surface data stored in Common Data Service to employees or users outside their organizations.

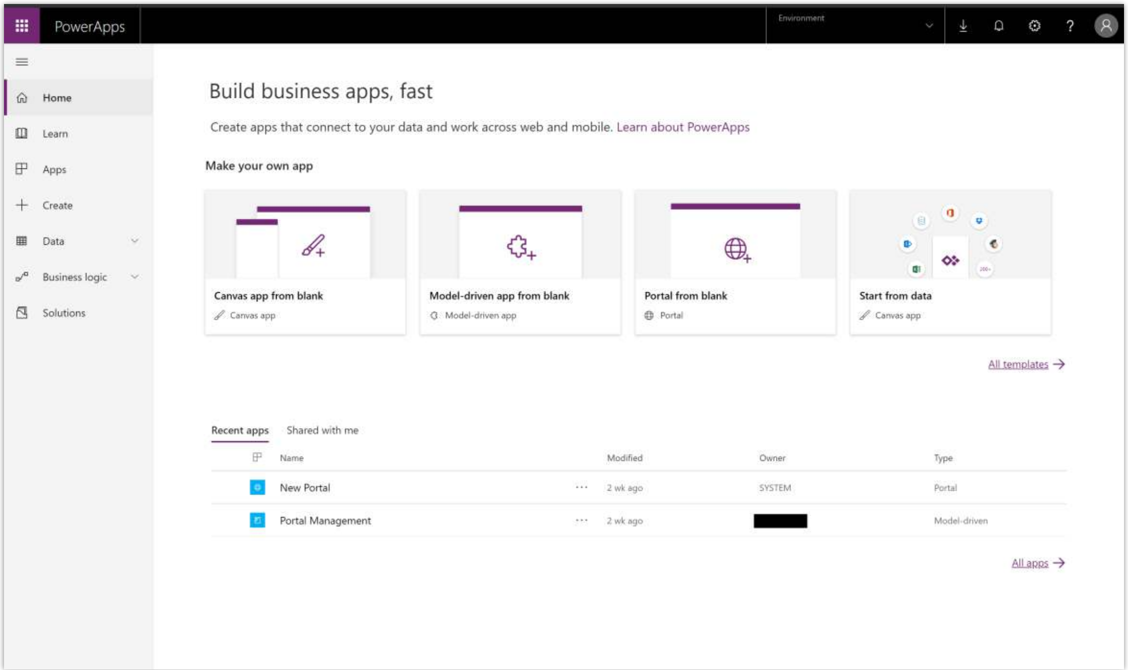
Feature details

As part of this feature, PowerApps and Dynamics 365 makers can create a new type of app called **Portal** to create a website that can be extended to users who are outside your organization and can sign in with a wide variety of identities, or even browse the content anonymously.

This feature will provide full capabilities of Dynamics 365 for Customer Engagement Portal, previously offered only as an add-on to Dynamics 365 for Customer Engagement applications. It also features a revamped end-to-end experience for makers to quickly create a website, customize it with pages, layout, and content, reuse page design through templates, add forms, views, and other key data from Common Data Service, and publish to users. With these new capabilities, makers can deliver rich, web-based experiences to users far beyond their fellow employees, unlocking a host of business scenarios for employees, business to business (B2B) partners, and end customers.



PowerApps Portals



Maker experience for PowerApps Portals

Thank you for your idea

Thank you for submitting this idea. We listened to your idea, along with comments and votes, to help us decide what to add to our product roadmap.

Portal Checker enhancements

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		November 2019	No

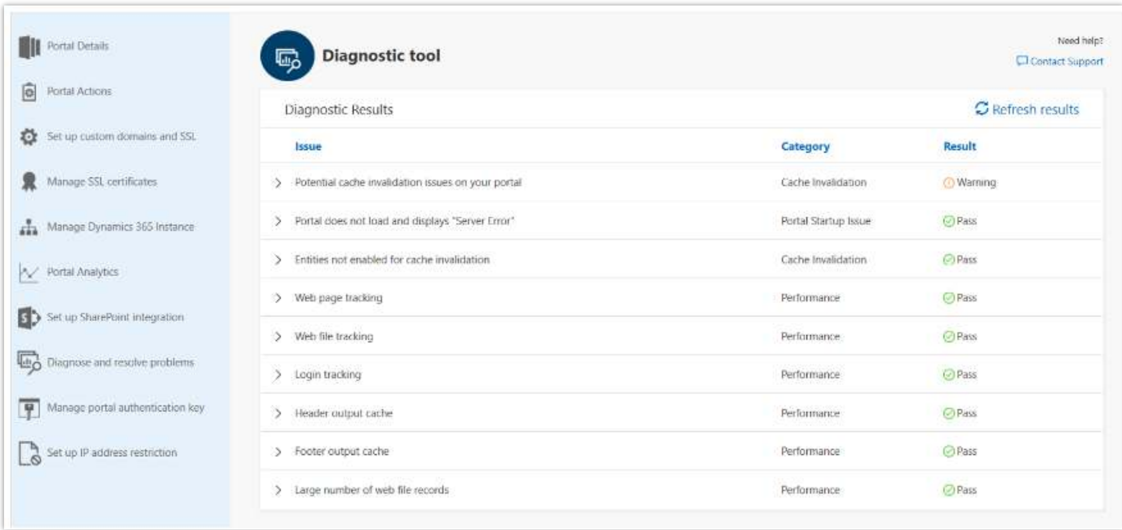
Business value

The Portal Checker tool released in the October '18 wave looks at portal configuration and identifies potential configuration problems as well as provides solutions on how to resolve the issues. Portal customizers and administrators can use this tool to quickly resolve common issues and reduce the amount of time spent on diagnosing issues. As part of this feature enhancement, we will be adding enhancements to identify more scenarios that will help customers to resolve common issues with their portal.

Feature details

The feature enhancements allow users to:

- Identify complex entity permissions that can cause slowness.
- Identify performance-impacting slow queries and views.
- Identify configuration issues with authentication-related site settings.



Portal Checker

Scalable enterprise solutions

Overview

Enterprise makers have quality embedded throughout their experiences. Diagnostic data is available for canvas apps to make troubleshooting easier, and a test framework is available in canvas apps for makers to create test coverage for their mission-critical apps. Enterprises can share apps with vendors, contractors, and other partners outside of their companies.

PowerApps test framework

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically	October 2019		No

Feature details

App makers and testers can leverage the PowerApps test framework to create UI automation and end-to-end tests for their canvas apps. App makers can catch and react to issues early as they move across environments, test out the latest service versions, or push updates to their existing production applications.

By using this framework, you can perform these tasks:

- Create and organize test suites and test cases for your app in a new test designer.
- Capture your actions and create test steps automatically by using an intuitive recorder.
- Manually create test steps and validate expected results by using new PowerApps testing expressions.
- Play back your tests to quickly identify issues early and understand any failures.

Runtime telemetry

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically	October 2019		No

Business value

Access to runtime telemetry will allow admins to build their own customized report and configure their own monitoring and alerting for their apps.

Feature details

Admins and app makers can now get access to PowerApps runtime telemetry from their own datastore, which will allow customized reporting, monitoring, and alerting of their apps. With detailed telemetry available, admins and app makers can identify and diagnose performance and reliability issues faster.

Modern Solution Explorer is the default customization experience

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Business value

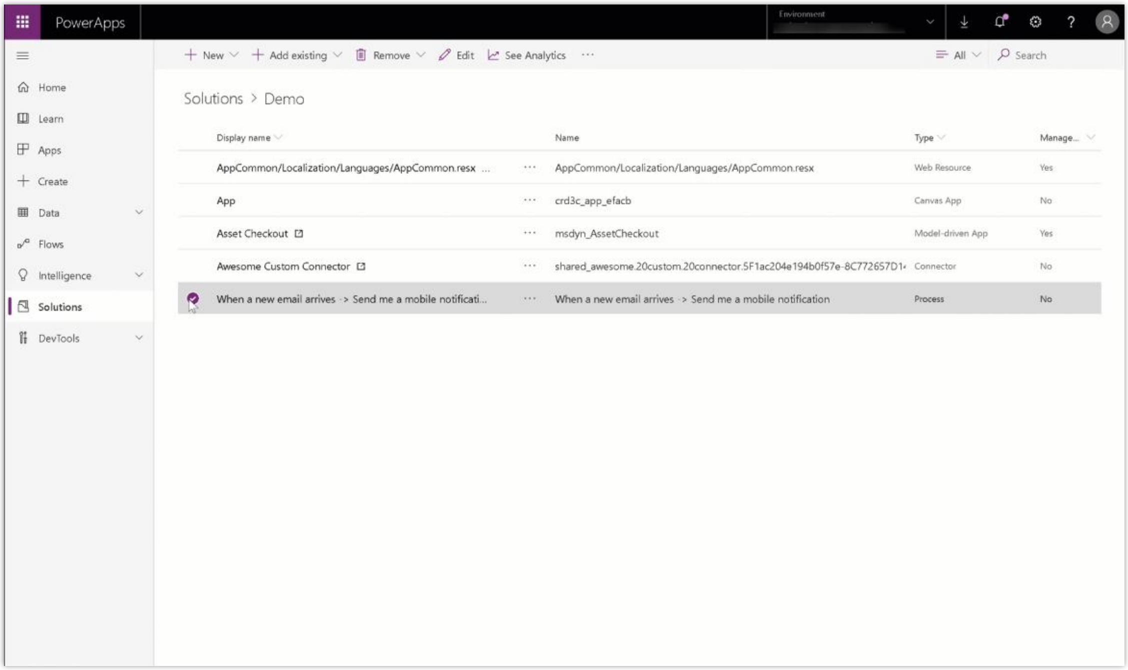
Modern Solution Explorer offers several key benefits over the classic experience including multiple new features, building and managing customizations under one umbrella, inline help when you need it, and a more performant and usable interface.

Feature details

Makers are more productive and no longer need to switch between solution interfaces. Along with many new solution capabilities such as canvas apps, flows, custom connectors, and environment variables, all the familiar capabilities from classic Solution Explorer are now available within the new experience. If you still need to access classic Solution Explorer, simply select **Switch to classic**.

Other improvements include:

- Tailored interface for advanced users.
- Updated import/export experiences with the ability to configure environment variables.
- Solution actions panel to support healthy application lifecycle management (ALM).
- Better views for managing plug-ins.



Modern Solution Explorer in action

Required licenses and plans

This feature requires the following licenses or plans: PowerApps for Office 365

New solution components get full support

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Business value

The Power Platform is continuing to adopt a single packaging mechanism. We're continuing to close gaps so that any solution component has consistent behavior and pre-existing user workflows are not negatively impacted. Combined with enhancements to our developer tooling, all customizations can be managed in source control enabling CI/CD (continuous integration/continuous delivery) with fully automated build and release pipelines.

Feature details

With 2019 release wave 2, you will be able to take full advantage of the new types of components that are added to a solution. The latest features like canvas apps, flows, connections, custom connectors, and environment variables will now follow the full end-to-end lifecycle, including:

- Canvas apps with flows are supported within solutions.
- Custom connectors are added that were not originally created from a solution.
- Connections get created automatically when importing solutions.
- Dependencies are tracked and enforced.
- Flows natively consume environment variables.

In addition, flows in solutions are easier to discover and edit. They are located under **Team Flows** and don't need to be turned off before editing.

Required licenses and plans

This feature requires the following licenses or plans: PowerApps for Office 365

The PowerApps Checker includes rules for canvas apps and flows

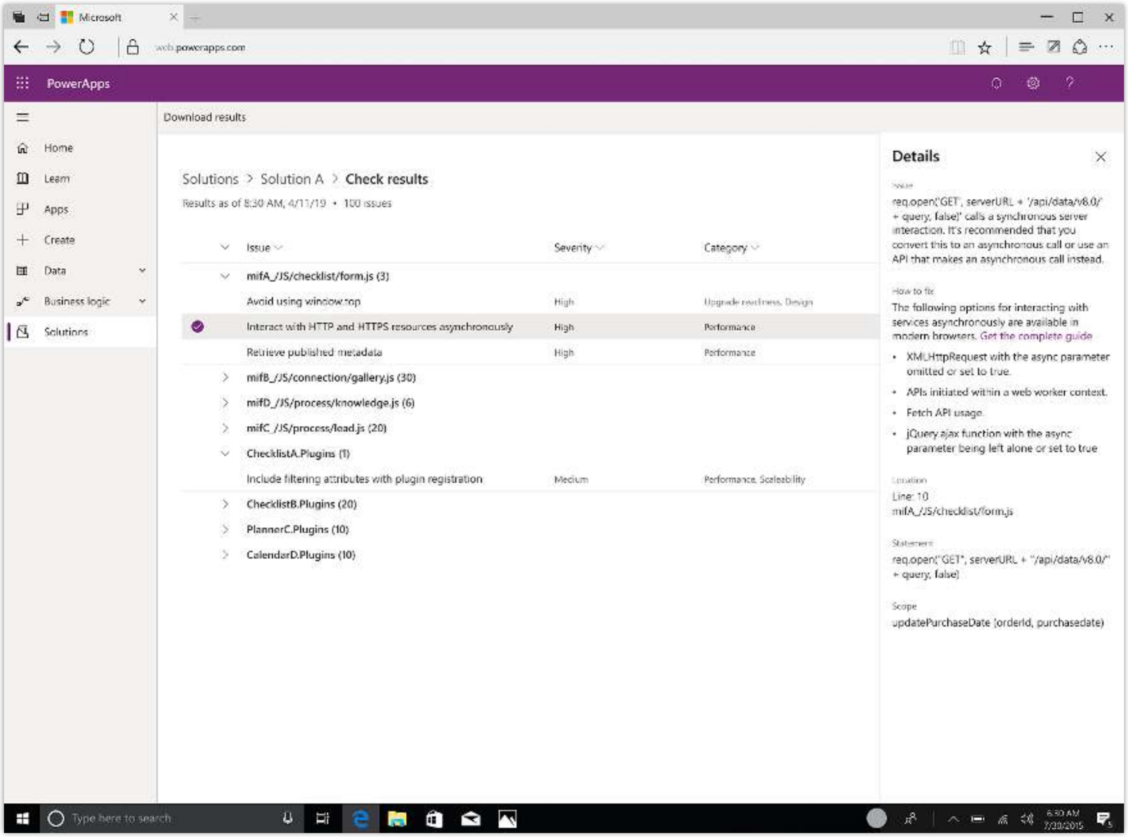
Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Business value

PowerApps has added components to the rule set that encourages best practices in the PowerApps Checker. You can check your canvas apps and flows that are included in solutions and then review all issues in a single, consolidated report.

Feature details

The PowerApps Checker has helped hundreds of admins and makers pinpoint potential issues in their solutions and quickly resolve them with rich documentation. That experience has been enhanced in several ways. The PowerApps Checker pulls data not only from the App Checker in PowerApps Studio but also the Flow Checker in the flow designer.



Details pane of the PowerApps Checker

Enhanced offline capabilities for apps on the Dynamics 365 mobile app

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	August 2019	October 2019	No

Feature details

Ability to work with data in offline mode is a key business requirement for field scenarios. We released the first phase of robust offline functionality early this year. With our commitment to provide a great offline solution, we are continuously investing in building more capabilities on top of it.

New capabilities and enhancements:

- Offline metadata is now synced automatically in the background to provide a better user experience. Previously, anytime there was a change in offline metadata, a user got a prompt to update the metadata to be able to work in offline mode. Metadata sync happened in the foreground, blocking the user. Now, a user no longer has to worry about syncing offline metadata or data and can continue working seamlessly in both online and offline mode.

- Notes are available in offline mode. Users are now able to access their notes, create notes, and add attachments in offline mode.
- User experience is better in offline mode, such as improved messaging in offline.

Share apps with users outside your tenant, B2B or B2C

Enabled for	Public preview	General availability	Early Access
End users by admins, makers, or analysts	August 2019	October 2019	No

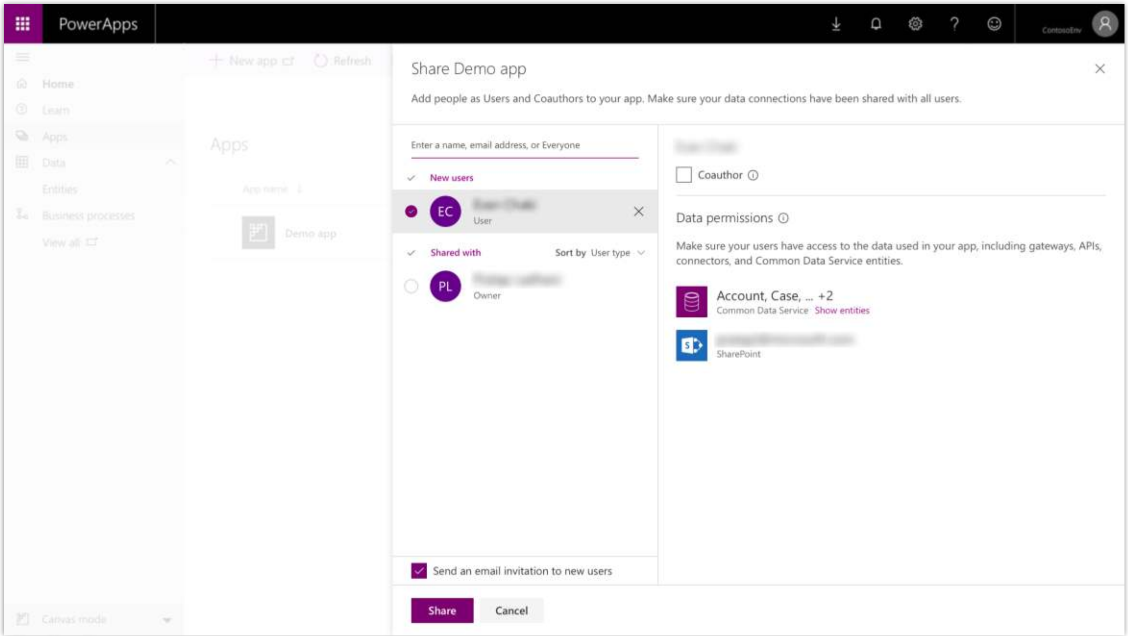
Feature details

You can invite external business partners, contractors, and third parties to run your company's canvas apps. You can share your apps with any guest of your Azure Active Directory tenant.

You can share a canvas app with a guest as easily as you do with a co-worker. Type your guest's email address to quickly share both the app and its data.

If a SharePoint list has been shared with a guest user, that user can also run any canvas apps that are embedded in that list.

To run standalone apps, guest users need the same license as users in your tenant. All apps require a paid license, and some apps require a PowerApps Plan 1 or higher license.



Sharing pane for canvas apps

Unified Interface for everybody

Overview

The Unified Interface is the model-driven app layer that generates great user experiences over Common Data Service. The Unified Interface uses responsive web-design principles to provide an optimal viewing and interaction experience for any screen size, device, or orientation. The new Unified Interface brings all the rich experiences to any client that you're using. Whether you're on a browser, a tablet, or a phone, you can consume similar experiences, as in these examples:

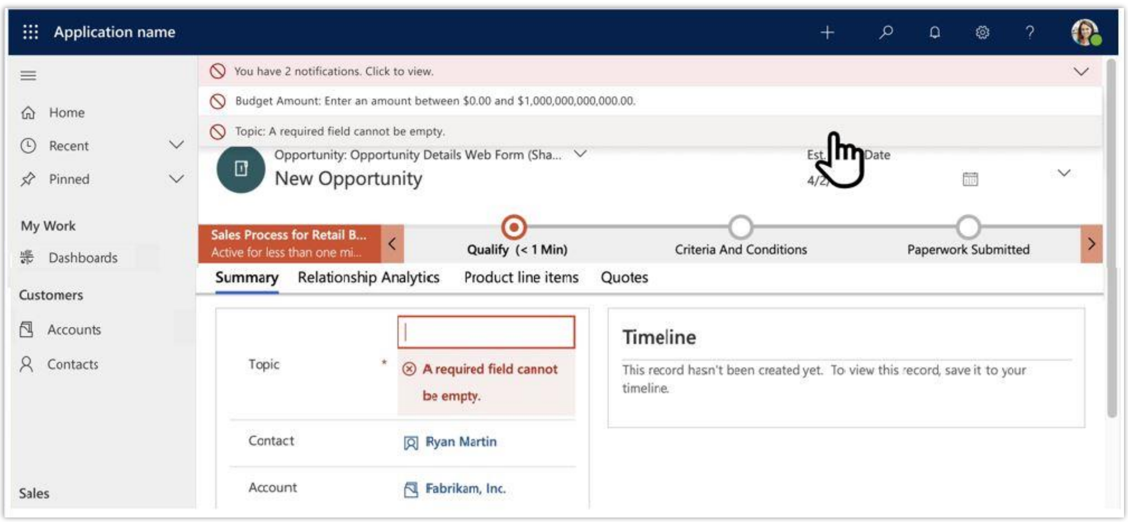
- Similar form experiences to update and view your records.
- Interactive dashboards across all devices to view your information and drill into it.
- Improved performance.
- Support for right-to-left (RTL) languages.
- Accessibility improvements across all experiences on the Unified Interface.

Anchoring error notifications in Unified Interface

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

Users will be able to quickly navigate to a field on a form that has an error from a notification by simply clicking on the error message. The focus will be set on the error field, reducing clicks and improving productivity when there is an error on a form.



Error notification

Connection role enabled in the Unified Interface

Enabled for	Public preview	General availability	Early Access
End users, automatically	August 2019	October 2019	Yes

Business value

Closes feature gaps between the legacy web client and the Unified Interface, reducing issues or friction for customers updating from v9.x web client to the Unified Interface. Also allows for new users to easily add a connection role to a connection in the Unified Interface.

Feature details

Users will be able to add or delete connection roles with the August 2019 preview and October 2019 general availability release of the Unified Interface. This entity was previously available only when relating a connection role to a connection, with no ability to manage a connection role. This will close a feature gap between the legacy web client and the Unified Interface.

Form header usability improvements

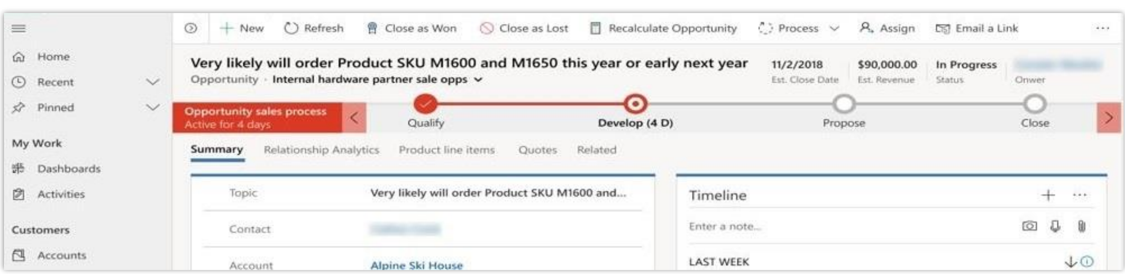
Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

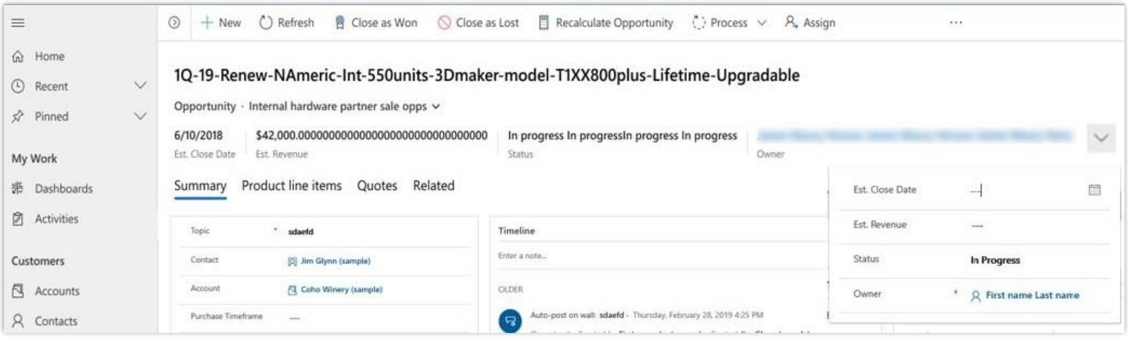
Customers will have an improved experience when they open and read information for a record in the Unified Interface with increased data density and usability with the form header.

Enhancements to the header include:

- Information will always be available in the header with four read-only fields, reducing clicks and improving productivity.
- The title of the record will never truncate.
- Current forms will support editable fields with a simple click of a chevron to enter data.
- A read-only form will have an enhanced notification with details on why a form is read-only.



Header density



Legacy form header

Improved usability, density, and filtering capabilities for the Unified Interface grid

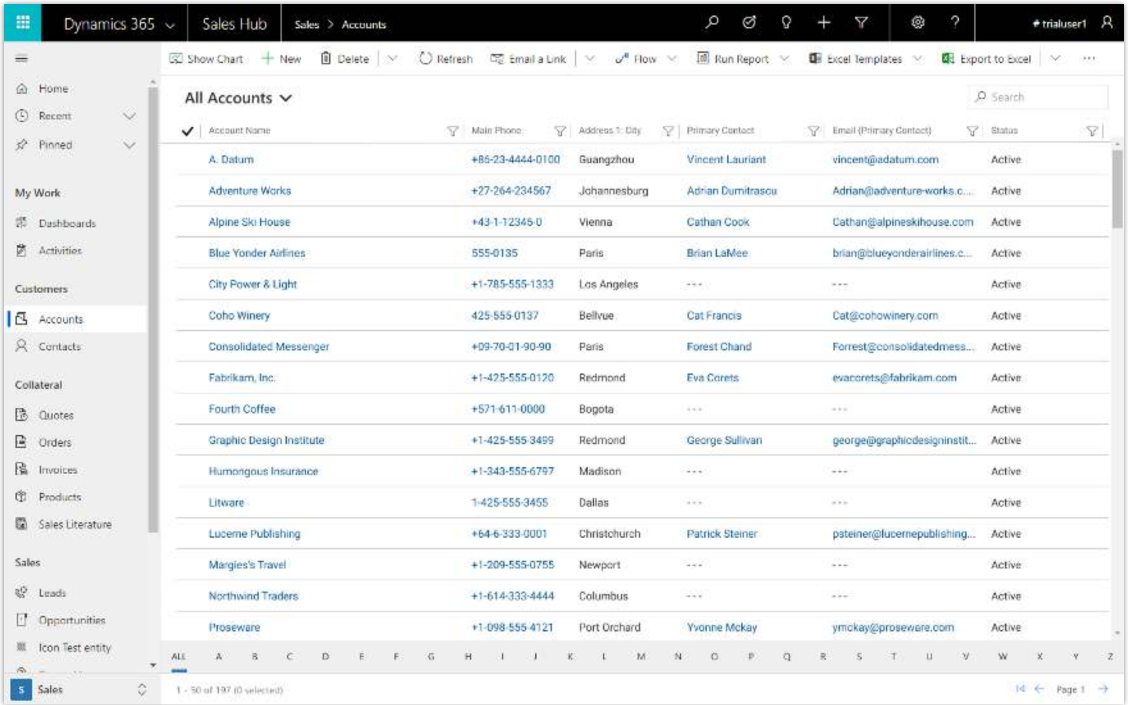
Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

The Unified Interface grid now includes several updates focused on usability and navigation for end users. The grid layout and styling has been optimized to improve density, allowing users to see more records on a single screen without feeling cluttered. This update removes unused and redundant space in the grid that has been highlighted in user feedback as impacting efficiency and making the grid harder to navigate.

In addition to the density changes, updates have been made to improve the filtering and navigation behavior. Now as users filter records in the view page, navigate to a record, and return to the grid, the filters on the grid are remembered. This allows end users to navigate back and forth between the grid and filtered records without reapplying the filter, search, or view selection each time.

Improvements have also been made to the advanced grid column filtering options to find their records quickly. This includes filtering on the activity type field and alignment of date field filtering for existing operators.



Improved grid density

Required licenses and plans

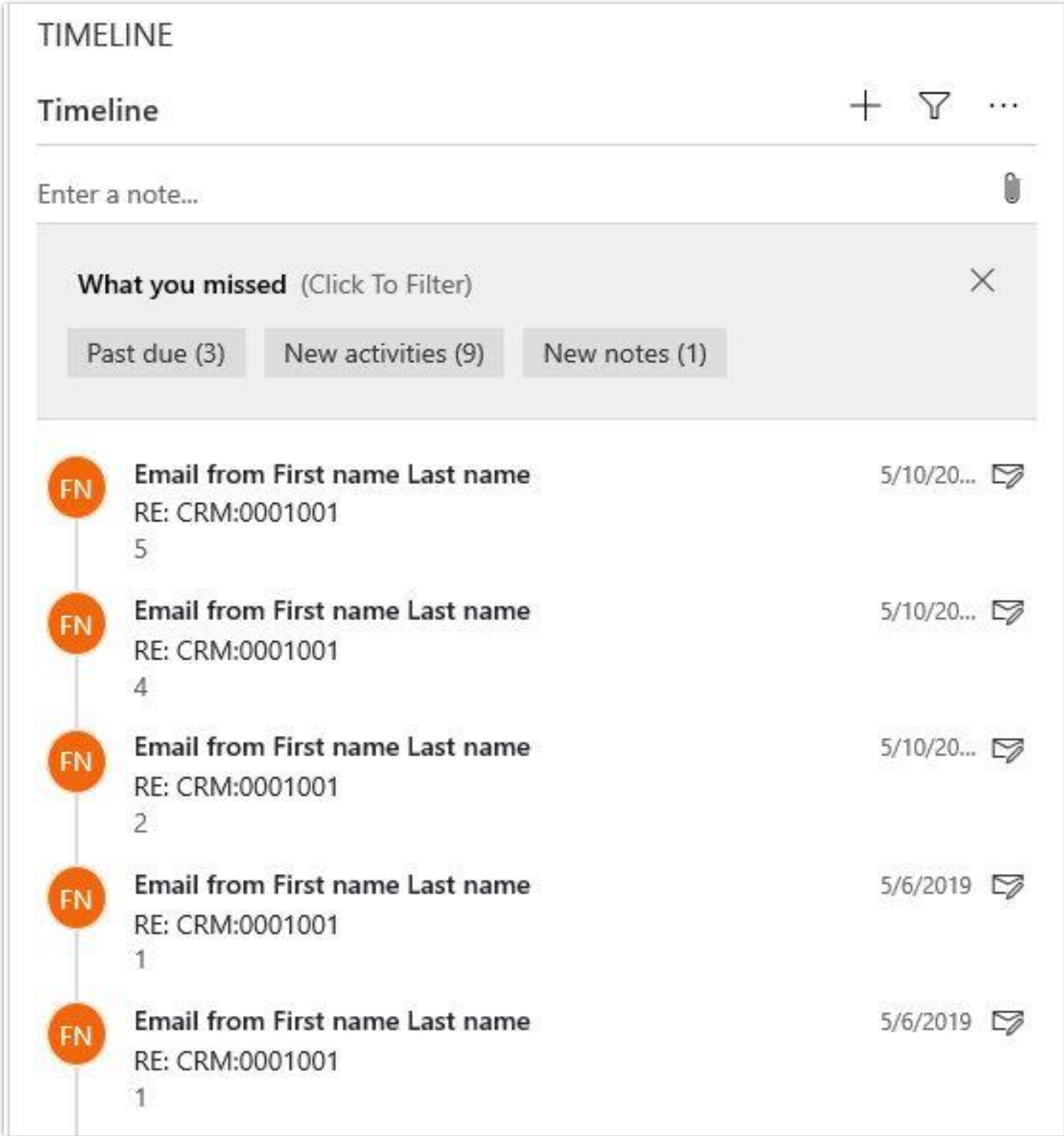
This feature requires the following licenses or plans: PowerApps Plan 2

Manage email on the timeline wall in Unified Interface

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

Users can easily set email messages to show as conversation threads on their timeline wall, significantly reducing scrolling and clicks when they are managing email activities in the Unified Interface.



Conversation thread window

Timeline wall filter improvements

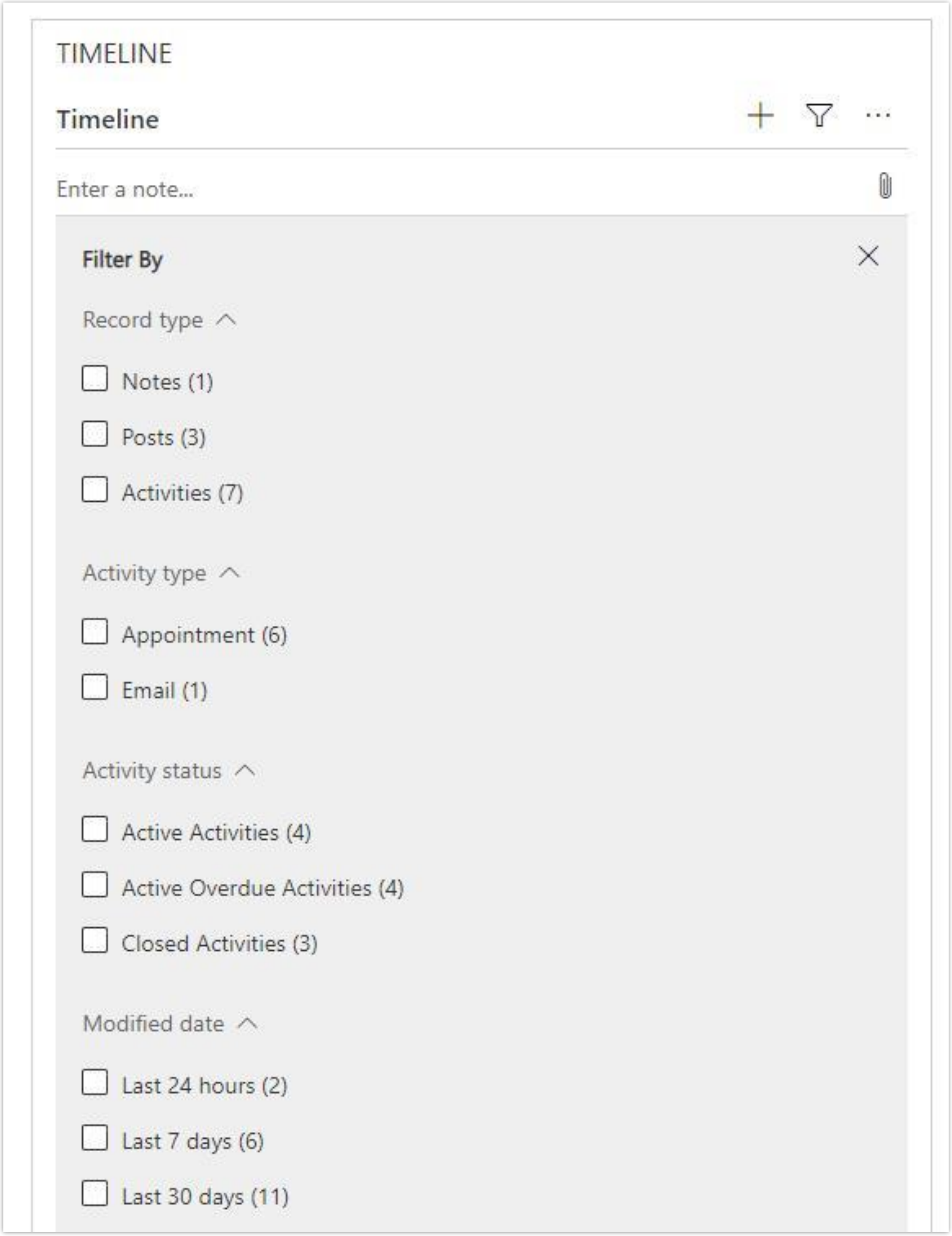
Enabled for	Public preview	General availability	Early Access
End users, automatically	August 2019	October 2019	Yes

Business value

Filtering activities will be faster and easier to use, improving productivity and aligning the experience to similar industry standards that customers are used to like Outlook, Power BI, and SharePoint.

Feature details

Filtering activities will now be simple and easy to use. It will include multiple filter options, and data and times will be clearer and easy to understand. We are also reducing confusion by removing pie charts to simplify and align to a more modern filtering experience. The experience will be more aligned to what users expect with similar filtering in Outlook, Power BI, and SharePoint.



Timeline wall filtering

Timeline wall improvements in Unified Interface

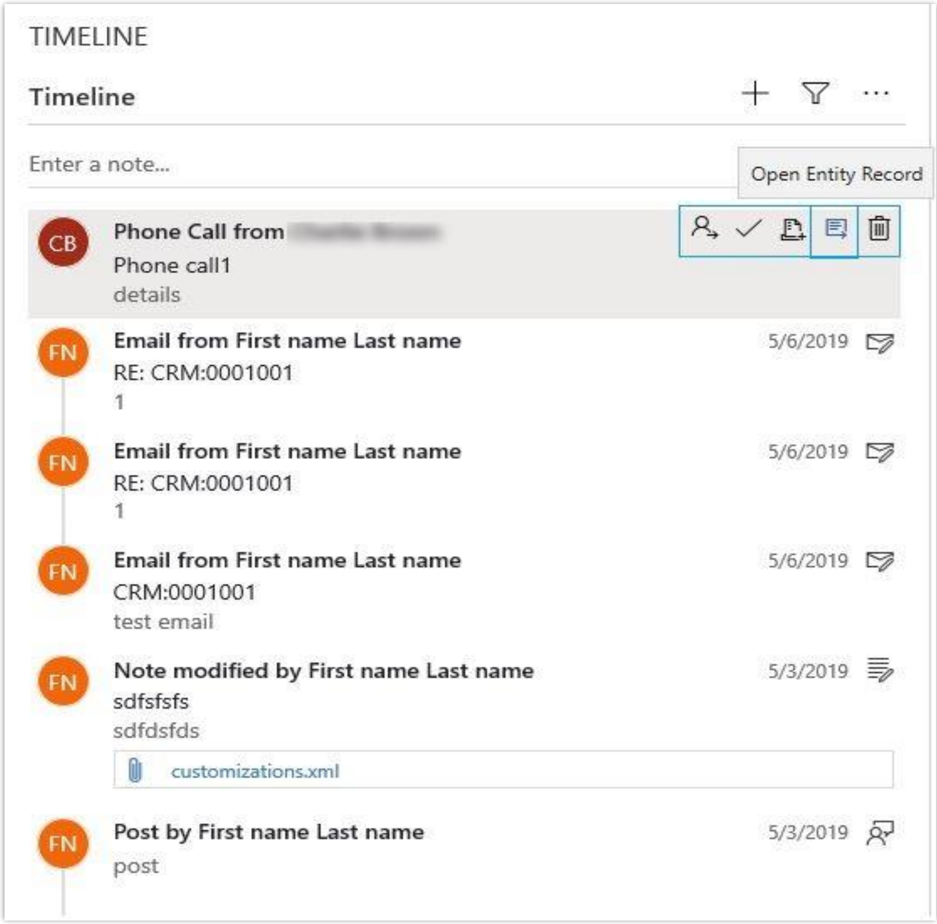
Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

Managing activities in the timeline wall will be faster and more responsive with improvements to data density and usability.

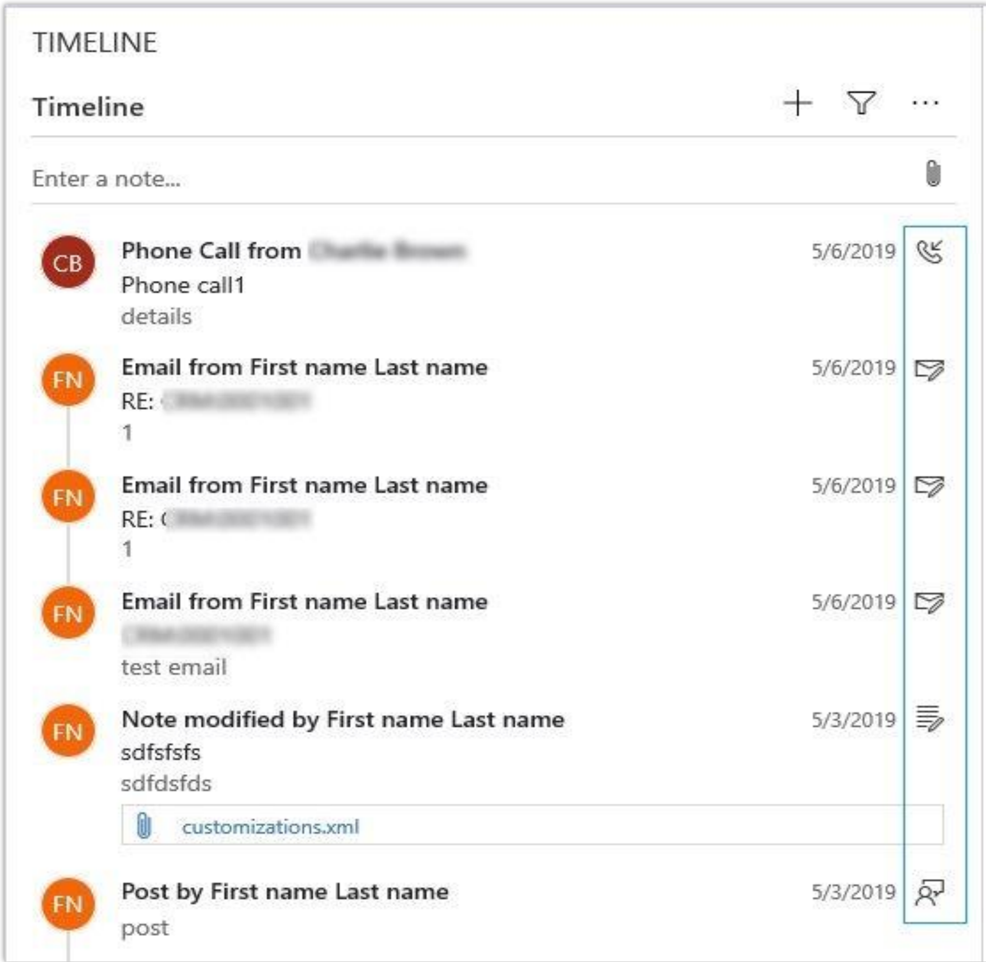
Enhancements include:

- Easily expand and collapse activities in the timeline wall.



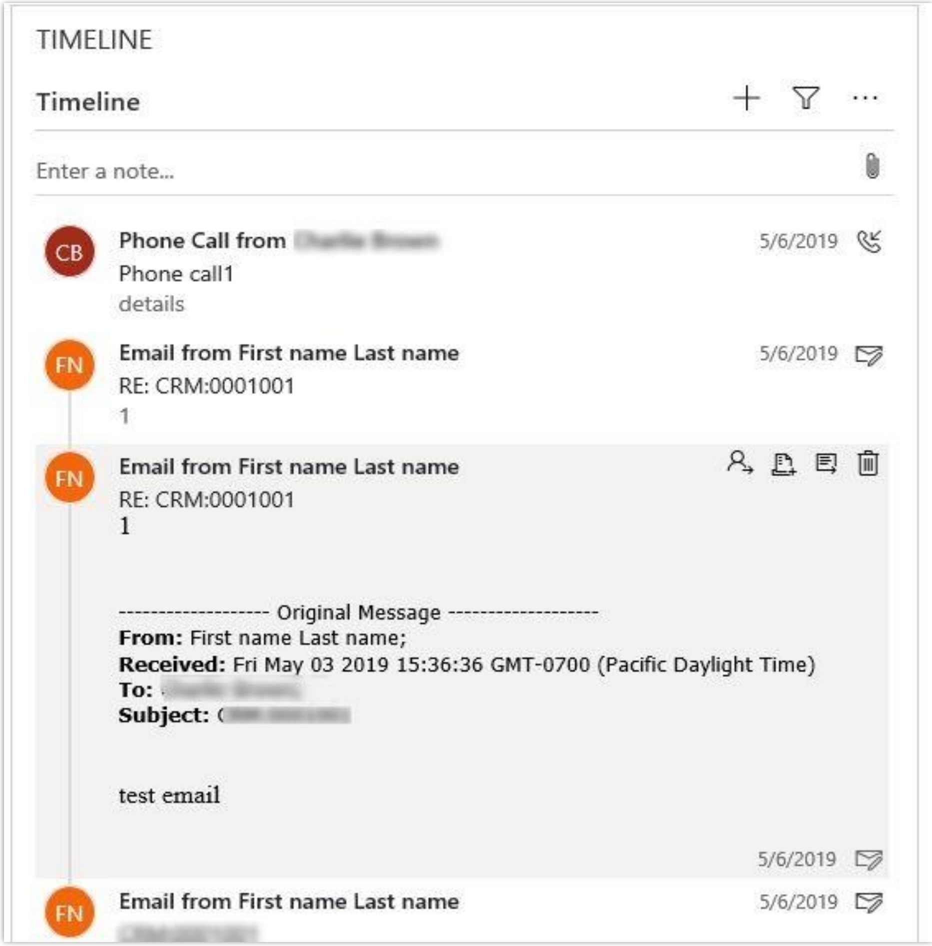
Command bar

- Simple icons that help users quickly identify key activities.

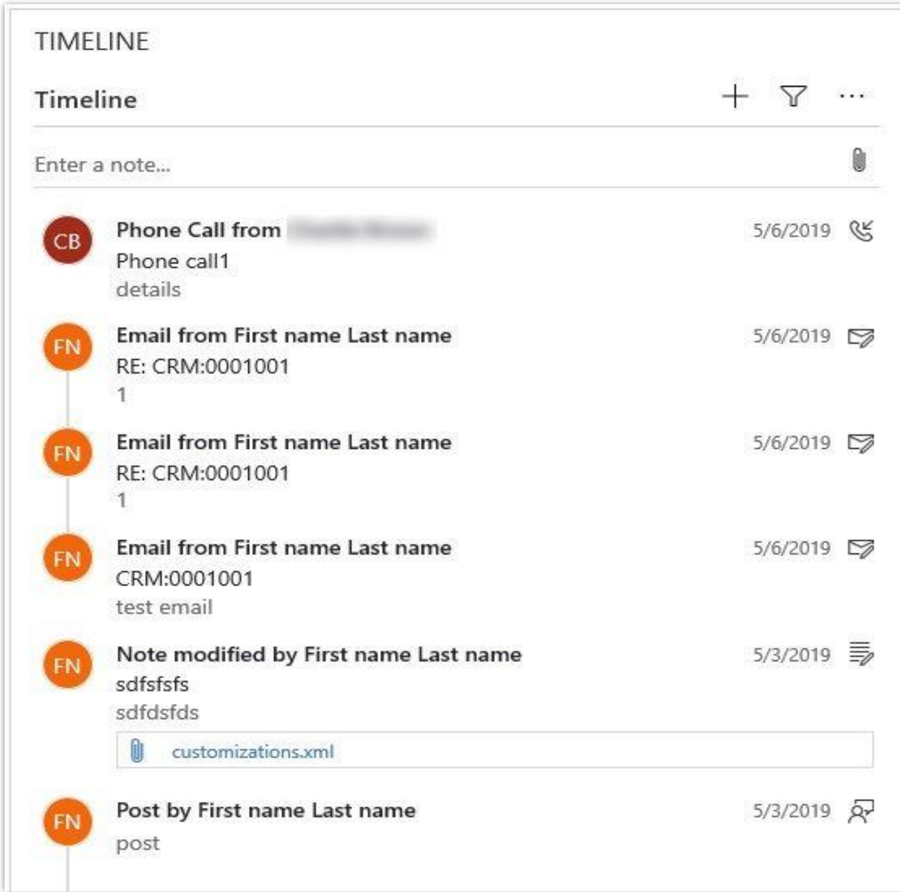


Icons

- Quick and easy access to the command bar to perform common actions on an activity.



Expanded view



Improve density

Usability enhancements to lookups in Unified Interface

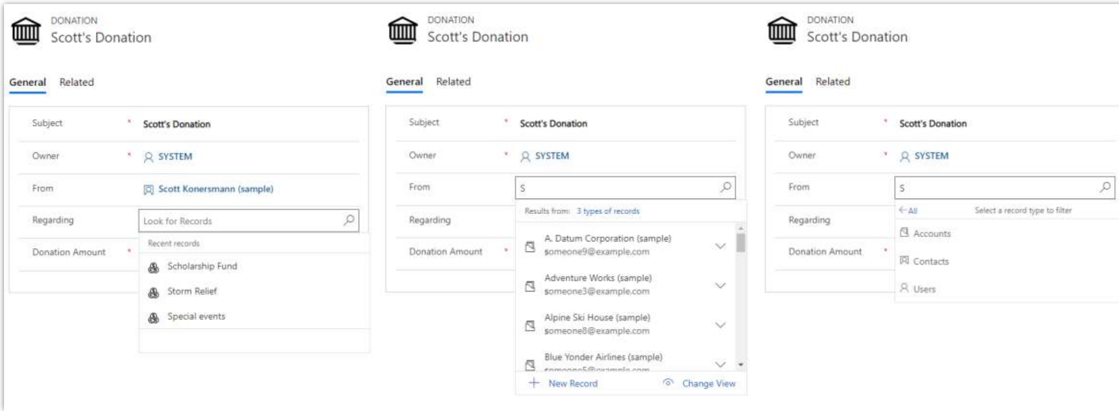
Enabled for	Public preview	General availability	Early Access
End users, automatically	August 2019	October 2019	No

Business value

Enhanced lookup functionality will give users improved interactivity and consistency with the drop-down menu.

Feature details

Enhanced functionality within lookup includes improved entities filter layout, improved interactivity with the search box, and consistency displaying recent and pinned records.



Lookup enhancements

View inline images for emails that are read-only

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

With the 2019 release wave 2, customers can easily view images inline when they open and read an email. This eliminates the need to open each individual image that is attached in an email. Providing inline image support for read-only emails streamlines the experience and improves usability and user productivity when they manage their email in the Unified Interface.

Microsoft Flow

Overview of Microsoft Flow 2019 release wave 2

Microsoft Flow is the popular process automation and workflow product from Microsoft. Every month, over a million people automate everything from simple notifications to highly tailored multi-step approval processes spanning organizational boundaries. Microsoft Flow exemplifies the future of automation by infusing intelligence and empowering completely non-technical users to automate complex workflows—all without tortuous IT deployments. This October, Microsoft Flow is introducing several new features in three key areas.

For **flow makers**, we are providing smarter and more powerful experiences. For example, with the new **AI Builder** capabilities, makers can create flows that parse content from a PDF form or classify the objects in an image. For the **end users** of flows, we are delivering world-class business process capabilities, including working with business processes offline. Finally, there is now much richer tooling for **admins**, such as our PowerShell cmdlets and new Power Platform Admin center.

What's new and planned for Microsoft Flow

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

More intelligent and powerful capabilities for Microsoft Flow makers

The citizen developers of the Microsoft Power Platform now have richer capabilities when they are building out business processes inside of Microsoft Flow.

Feature	Enabled for	Public preview	General availability	Early access?*
Flows that use other solution components are generally available	Admins, makers, or analysts, automatically		October 2019	No

Feature	Enabled for	Public preview	General availability	Early access?*
Running flows from a geofence is generally available	Admins, makers, or analysts, automatically		October 2019	No
Share flows as templates	Admins, makers, or analysts, automatically		October 2019	No
Support gateways in all environments	Admins, makers, or analysts, automatically		October 2019	No
Add intelligence to Microsoft Flow with AI Builder	Admins, makers, or analysts, automatically	June 2019	October 2019	No

Rich tooling for administrators

Admin experiences are key to the adoption of any trusted platform.

Feature	Enabled for	Public preview	General availability	Early access?*
Admin connectors for Microsoft Flow are generally available	Admins, makers, or analysts, automatically		October 2019	No
Improved capacity governance for resource usage	Admins, makers, or analysts, automatically		October 2019	No
Manage Microsoft Flow in the Power Platform Admin center	Admins, makers, or analysts, automatically		October 2019	No
Microsoft Flow PowerShell cmdlets for admins are now generally available	Admins, makers, or analysts, automatically		October 2019	No

World-class business process capabilities

Microsoft Flow provides world-class business process capabilities for its users that span endpoints and experiences.

Feature	Enabled for	Public preview	General availability	Early access?*
Build business process flow stages with custom controls	Admins, makers, or analysts, automatically		October 2019	No
Business process flow immersive experiences	End users, automatically		October 2019	Yes
Fluent experience for flows in Dynamics 365 and SharePoint available	End users, automatically		October 2019	Yes
Work with business process flows offline	End users, automatically		October 2019	Yes

* Some features are available for you to opt in as part of early access on August 2, 2019, including all mandatory changes that impact end users. Learn more about early access.

Description of **Enabled for** column values:

- **End users, automatically** – These features include change(s) to the user experience for end users and are enabled automatically.
- **Admins, makers, or analysts, automatically** – These features are meant to be used by administrators, makers, or business analysts and are enabled automatically.
- **End users by admins, makers, or analysts** – These features must be enabled or configured by the administrators, makers, or business analysts to be available for their end users.

More intelligent and powerful capabilities for Microsoft Flow makers

Overview

The citizen developers of the Microsoft Power Platform now have richer capabilities when they are building out business processes inside of Microsoft Flow. Flow makers can now leverage the **smarter** experiences of AI Builder.

Flows that use other solution components are generally available

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

The Microsoft Power Platform is continuing to adopt a single packaging mechanism. We're continuing to close gaps, so that any solution component has consistent behavior and pre-existing user workflows aren't negatively affected. Combined with enhancements to our developer tooling, you can manage all customizations in source control, enabling continuous integration and continuous delivery with fully automated build and release pipelines.

You will be able to take full advantage of the new types of components that are added to a solution. The latest features, like canvas apps, flows, connections, custom connectors, and environment variables, will now follow the full end-to-end lifecycle, including:

- Canvas apps with flows are supported within solutions.
- Add custom connectors that were not originally created from a solution.
- Connections for flows are created automatically when importing solutions.
- Dependencies are tracked and enforced for new solution components.
- Flows natively consume environment variables.

In addition, flows in solutions are easier to discover and edit. They are located under **Team Flows** and no longer need to be turned off before editing.

Running flows from a geofence is generally available

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

In May, we previewed the ability to trigger a flow from the Microsoft Flow app for iOS and Android. The feature allows users to create a location range that triggers a flow when a mobile device enters or leaves the location range. This enables certain flows to automatically run, without manual activation from the user, further adding to the mobile application's efficiency.

With general availability, we are adding more configuration options, including the ability to trigger a flow on either an entry or an exit, but not both.

Share flows as templates

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

Earlier this year, we previewed the ability for users to share copies of their flows with their co-workers. When you send a copy of a flow, recipients can create their own copies of the original flow. These recipients own their copies, and their copies use the recipient's connections (not the original owner's connections). Recipients can make any changes they want after they create their own copy.

We're now making this feature generally available for everyone to use. You can use this feature to create an organization-specific gallery of templates for your users, for example.

Support gateways in all environments

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

You can now create and manage gateways in any environment, not just the *default* environment. This release allows users to use all gateways that they have access to within their environment's region. Admins can use the rich gateway management experience in the Power Platform Admin center to manage and control access to gateways. Admins can also define who can access gateways, and their permissions.

Add intelligence to Microsoft Flow with AI Builder

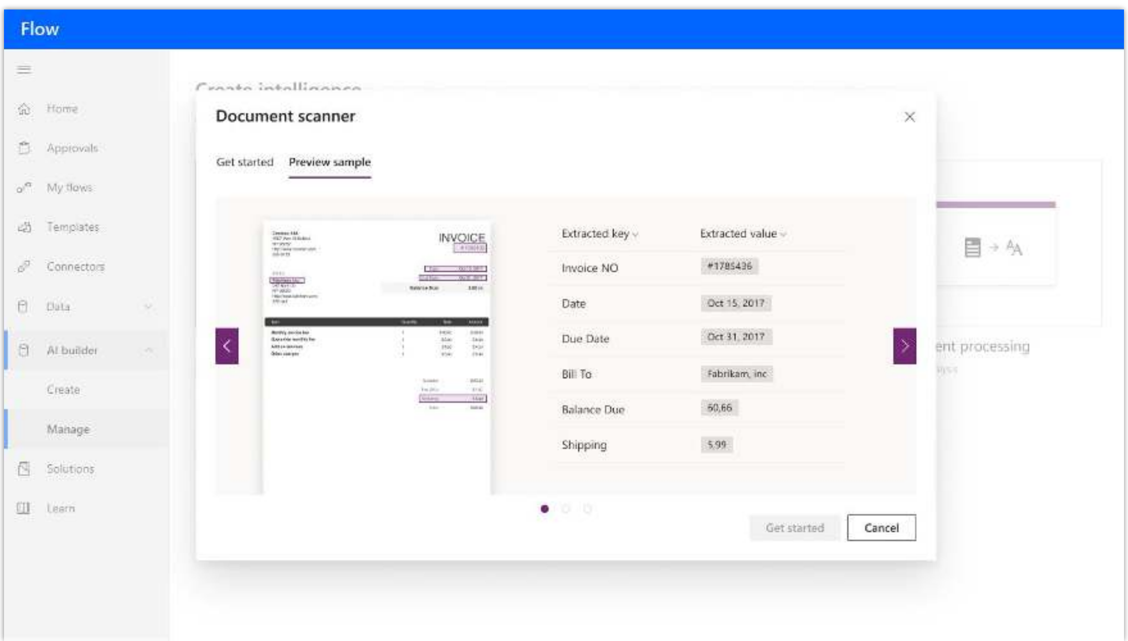
Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically	June 2019	October 2019	No

Feature details

AI Builder (preview) is a new Microsoft Power Platform capability for teams with the business expertise to easily automate processes and predict outcomes to improve business performance. AI Builder is a turnkey solution that brings the power of Microsoft AI through a point-and-click experience. You can now build AI without knowing programming or data science. Using AI is made even easier with integration directly into PowerApps and Microsoft Flow.

To start using AI Builder from Microsoft Flow:

1. Sign in to [Microsoft Flow](#).
2. Select **Build** under **AI Builder (preview)** on the left menu.
3. Select one of the templates.
4. Get started creating AI models for your organization.



AI Builder

More information: [Overview of AI Builder](#)

Rich tooling for administrators

Overview

Microsoft Flow makes maintaining and managing business processes across your organization easier than ever. The Power Platform Admin center is now the single admin center for Microsoft Flow admins and partners, offering a more reliable, unified experience for managing storage capacity, environments, and deployments. Powerful analytics empower admins to investigate and diagnose issues with their deployments, and the integrated Help and Support experience allows them to find the help they need and escalate to Microsoft Support when necessary.

Admin connectors for Microsoft Flow are generally available

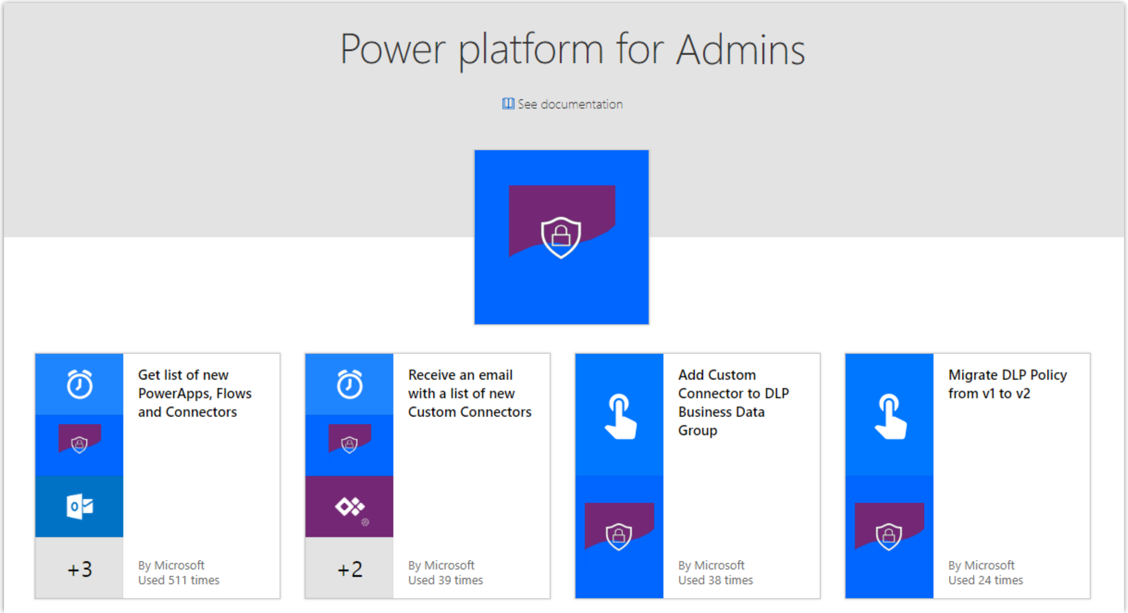
Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

With the preview launch of the Admin connectors for PowerApps and Microsoft Flow last year, Power Platform admins found new and powerful ways to improve their productivity by using the same tools that they manage.

We are now announcing the general availability of these connectors, and the addition of some templates and samples that outline common use cases for canvas apps and flows that are built against these connectors:

- Power Platform for Admins
- Microsoft Flow for Admins



Power Platform Admin connectors are available

Improved capacity governance for resource usage

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

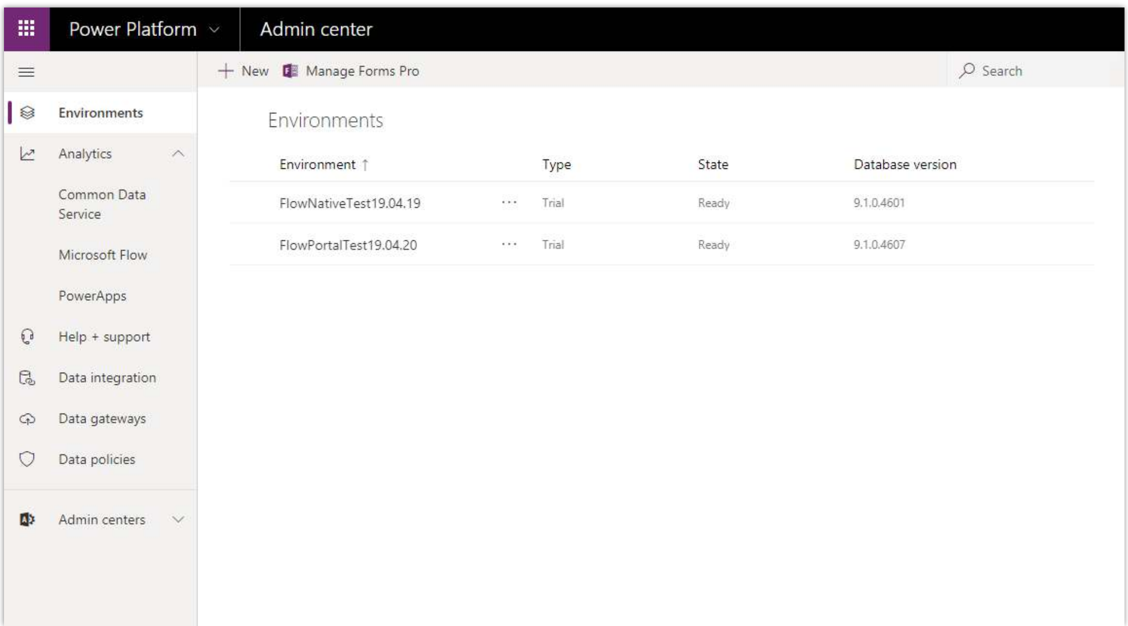
With the introduction of the new capacity-based provisioning model earlier this year, citizen developers are able to more easily provision the environments they need for their applications. But with this change comes the need for IT admins to better plan and manage database, file, and log capacity consumption within their organizations. To support this, the Power Platform Admin center will launch a new real-time view of capacity consumption (database, file, and log), historical trends for up to 12 months, and storage breakdowns by entity and application to help facilitate capacity planning and cross-charging to the business units that consume platform resources.

Manage Microsoft Flow in the Power Platform Admin center

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

Historically, admin experiences for Dynamics 365, PowerApps, Microsoft Flow, and Common Data Service have been spread across multiple portals, lacking a single, unified, end-to-end experience. Now, we're very excited to announce the general availability of the new Power Platform Admin center.



Admin center

With this launch, the Power Platform Admin center is now the single place to:

- Install, upgrade, and manage flows.
- Create and manage environments.
- Review analytics and telemetry.
- Set governance controls and data loss prevention policies.

Microsoft Flow PowerShell cmdlets for admins are now generally available

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

With the preview launch of the PowerShell cmdlets for administrators last year, admins are able to automate many of the monitoring and management tasks that were only possible through the Microsoft Flow Admin center.

We are now announcing the general availability of these cmdlets, as well as the addition of new cmdlets around:

- Capacity management.
- Permission and user management.
- Environment lifecycle management.

World-class business process capabilities

Overview

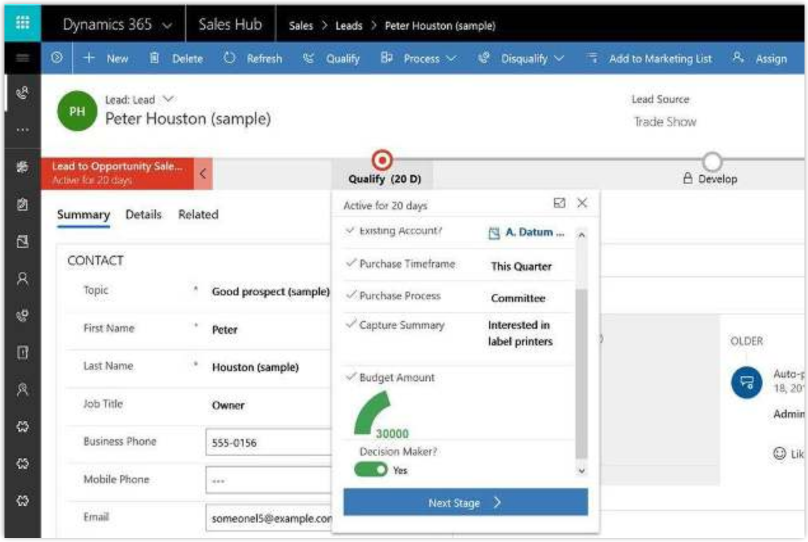
Microsoft Flow provides world-class business process capabilities for its users that span endpoints and experiences. These include significant experience improvements for users, so that they can now accomplish basic scenarios with business processes offline.

Build business process flow stages with custom controls

Enabled for	Public preview	General availability	Early Access
Admins, makers, or analysts, automatically		October 2019	No

Feature details

Business process flows provide a guided way to get work done in the form of stages and steps. Stages tell you where you are in the process, whereas steps are action items that lead to a desired outcome. Steps in a business process are bound to fields in Common Data Service and, until now, only allowed for default visualizations of the field type (text boxes, drop-down lists, and so on).



Custom controls in a business process flow

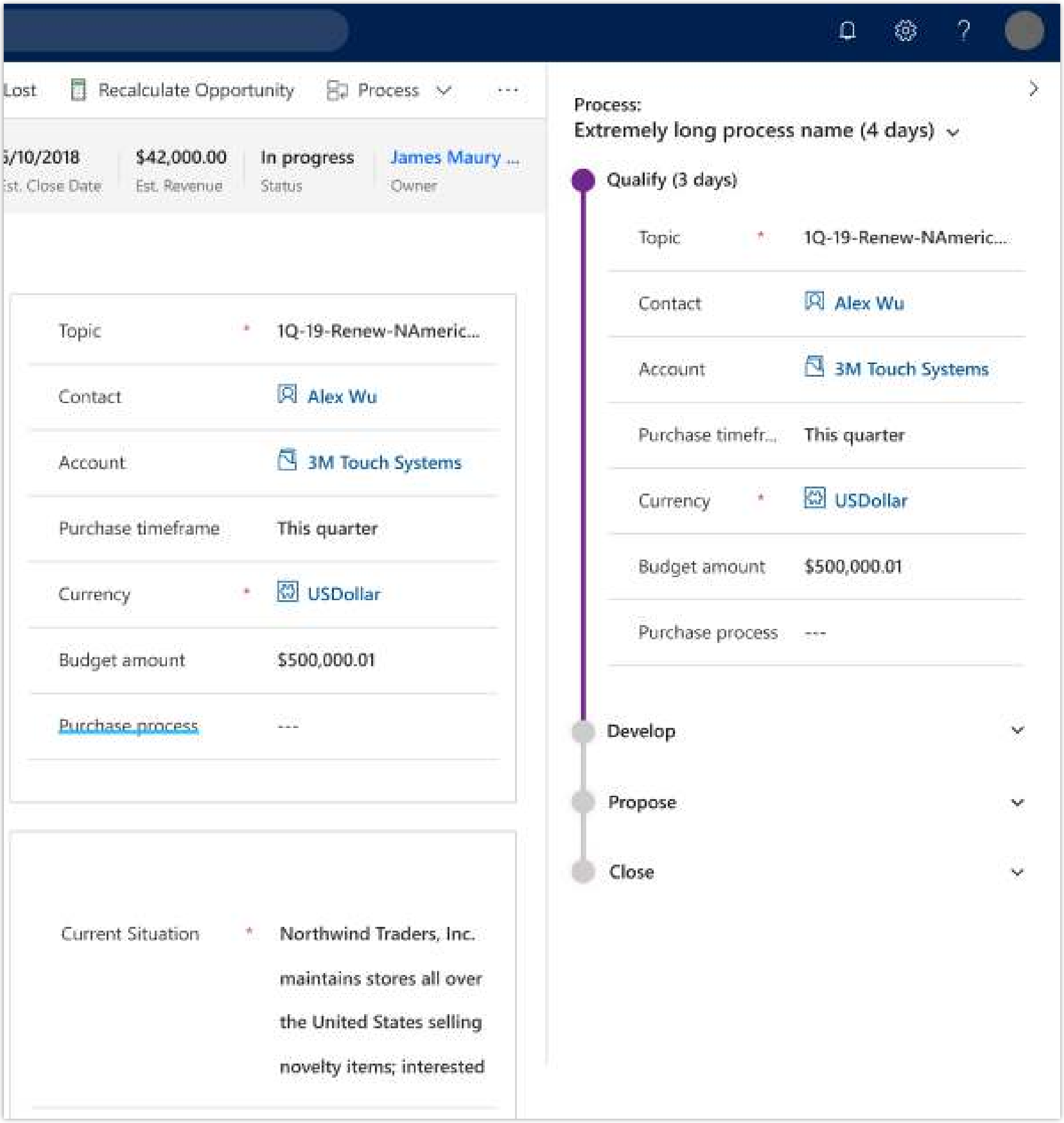
With this release, we're making a new feature generally available, so that you can use custom controls to add rich visualizations (such as sliders, radial knobs, the LinkedIn control, and more) to business process flow steps and then deliver engaging experiences to those who use your business process flows.

Business process flow immersive experiences

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

Organizations are increasingly using business process flows to model their key processes. Here are the new experiences that we are delivering for business process flows.



Immersive business process flows

There is a new vertical layout that you can dock on the side of existing content. This allows full interaction with the flow without affecting the main content. This new vertical approach is possible for any business process flow.

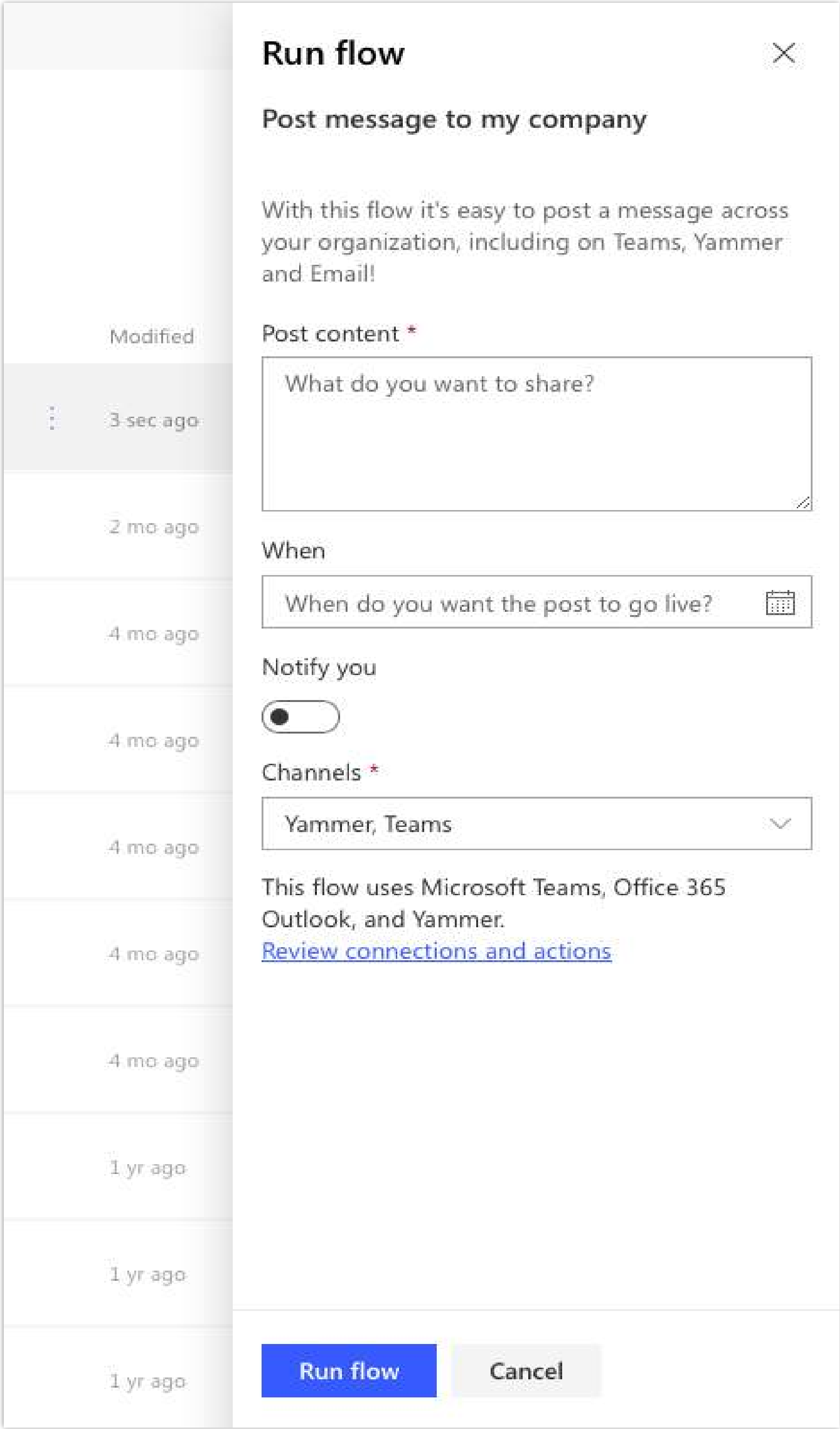
Additionally, we're deprecating task flows (which offered a similar vertical experience).

Fluent experience for flows in Dynamics 365 and SharePoint available

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

The experience for triggering button flows in SharePoint, OneDrive, and Dynamics 365 now matches the latest Fluent Design System—the same design system that's used across all Microsoft 365 and Dynamics 365 applications.



Fluent experience

In this new experience, **Run flow** docks on the right side, like what's done in SharePoint today.

Additionally, by default, the embedded flow experiences use the same language that the Dynamics 365 app uses.

Finally, with this release, it is no longer possible to disable the **Flow** button in Dynamics 365 applications.

Work with business process flows offline

Enabled for	Public preview	General availability	Early Access
End users, automatically		October 2019	Yes

Feature details

You can now use business process flows offline if the following conditions are met:

- The business process flow is used from a PowerApps app.
- The PowerApps app is enabled for offline use.
- The business process flow has a single entity.

Specifically, the three commands that are available for a business process flow when the PowerApps app is offline are:

- Next stage
- Previous stage
- Set Active stage

Common Data Model and data integration

Overview of Common Data Model and data integration 2019 release wave 2

Our vision is to democratize data (integration) for business users, so that it is seamless to extract, transform, and load data into Common Data Service and Azure Data Lake Storage from any data source, and to provide structure and meaning to that data through the Common Data Model. To achieve this vision, we are investing in three key pillars:

- **Common Data Model**: Establishes industry-wide structure and semantics of underlying data so that customers can then reason about that data through various business application solutions, analytics, and machine learning (ML) algorithms. In this milestone, we will extend the reach of the Common Data Model through SDKs and object models to support developers and partners, better in-product experiences, and more.
- **Power Platform dataflows**: Power Query is the industry-leading smart data preparation tool and evolves by infusing AI and machine learning into data transformations, and by extending dataflows to all of the Microsoft Power Platform.
- **Enable analytics on Common Data Service data**: Enhanced data integration through Office data integration, new and enhanced connectors, improvements to the connectivity platform, extending Dual Write, improving the data export service, and enhancing on-premises gateways for enterprises.

Here are the themes and guiding principles for our investments in this milestone:

- Improved fundamentals and engineering excellence.
  - Security, reliability, performance, compliance, supportability, and efficiency.
- Remove enterprise blockers.
  - Services are deployed to every geography with a Hero or Hub region.
  - Enterprise connectivity asks: For example, guest access, Excel data, and SAP.
- Improved and intelligent data integration.
  - Power Platform dataflows.

  – Enable analytics on Common Data Service data.

  – Smart data preparation.

  – Common Data Model and the Open Data Initiative.

- Make our partners successful.

What's new and planned for Common Data Model and data integration

This topic lists features that are planned to release from October 2019 through March 2020. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released** (see Microsoft policy).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the day of release.

Common Data Model

Feature	Enabled for	Public preview	General availability
Additional capabilities in Common Data Model folders	Admins, makers, or analysts, automatically	October 2019	
Common Data Model object model available in public package managers	Admins, makers, or analysts, automatically	October 2019	
Improved experiences in Common Data Model and Power Query Online	Admins, makers, or analysts, automatically	October 2019	
New Common Data Model standard entity definitions	Admins, makers, or analysts, automatically	October 2019	
New Dynamics 365 Industry Accelerator solutions	Admins, makers, or analysts, automatically	October 2019	
Public documentation for Common Data Model object model libraries	Admins, makers, or analysts, automatically	October 2019	

Data Integrator and Dual Write

Feature	Enabled for	Public preview	General availability
Back up and restore Data Integrator and Dual Write artifacts	Admins, makers, or analysts, automatically		October 2019
Copy Dynamics 365 for Finance and Operations data into Common Data Service	Admins, makers, or analysts, automatically		October 2019
SDK for Data Integrator	Admins, makers, or analysts, automatically		October 2019
Making Dual Write resilient to planned or unplanned maintenance	Admins, makers, or analysts, automatically	July 2019	October 2019
Write existing data before turning on Dual Write	Admins, makers, or analysts, automatically	July 2019	October 2019

Enable analytics on Common Data Service data

Feature	Enabled for	Public preview	General availability
Enable analytics on Common Data Service data in Azure Data Lake	Admins, makers, or analysts, automatically	August 2019	October 2019
Hydrate Azure Data Lake with Common Data Service data and create rich reports	End users by admins, makers, or analysts	August 2019	October 2019
Support for data and metadata changes in Azure Data Lake	End users by admins, makers, or analysts	August 2019	October 2019
Support incremental writes to Azure Data Lake	End users by admins, makers, or analysts	August 2019	October 2019

Gateway

Feature	Enabled for	Public preview	General availability
[Add intelligence to gateway load balancing]()	Admins, makers, or analysts, automatically	October 2019	
[Automate gateway installation]()	Admins, makers, or analysts, automatically	October 2019	
[Gateway management enhancements]()	Admins, makers, or analysts, automatically	October 2019	
[Performance monitoring and diagnostics for gateways]()	Admins, makers, or analysts, automatically	October 2019	
[Support testing on certified connectors]()	End users by admins, makers, or analysts	October 2019	

Power Platform dataflows

Feature	Enabled for	Public preview	General availability
[Author dataflows in the PowerApps Maker Portal]()	Admins, makers, or analysts, automatically		October 2019
[Consume data from entities stored in Common Data Model folders]()	Admins, makers, or analysts, automatically		October 2019

Power Query Desktop

Feature	Enabled for	Public preview	General availability
[New and enhanced connectors]()	Admins, makers, or analysts, automatically	October 2019	

Feature	Enabled for	Public preview	General availability
Query Diagnostics enhancements	Admins, makers, or analysts, automatically	October 2019	
Support for new AI Insights including Cognitive Services and custom Azure Machine Learning models	Admins, makers, or analysts, automatically	October 2019	
Custom connector and extensibility support	Admins, makers, or analysts, automatically		October 2019
Data Profiling enhancements including better visualizations and more enhanced capabilities	Admins, makers, or analysts, automatically		October 2019
Enhancements to Data Profiling	Admins, makers, or analysts, automatically		October 2019
New and enhanced connectors in Power BI	Admins, makers, or analysts, automatically		October 2019

Power Query Online

Feature	Enabled for	Public preview	General availability
New and enhanced connectors in Power Query Online	Admins, makers, or analysts, automatically		October 2019
Parity with Power Query Desktop	Admins, makers, or analysts, automatically		October 2019
Smart data preparation	Admins, makers, or analysts, automatically		October 2019

PowerApps and Microsoft Flow Connector Platform

Feature	Enabled for	Public preview	General availability
Better enterprise connectivity to Oracle Database	Admins, makers, or analysts, automatically	October 2019	
Improved command-line interface for connector developers	Admins, makers, or analysts, automatically	October 2019	
New and enhanced connectors in Power BI (Preview)	Admins, makers, or analysts, automatically	October 2019	
Use the Microsoft Excel Online connector in PowerApps	Admins, makers, or analysts, automatically	October 2019	
More open-source connectors are available on GitHub	Admins, makers, or analysts, automatically		October 2019
Better enterprise connectivity to SQL Server	Admins, makers, or analysts, automatically	June 2019	October 2019
Certification portal	Admins, makers, or analysts, automatically	June 2019	October 2019
Support for Azure API Management policies in custom connectors	Admins, makers, or analysts, automatically	June 2019	October 2019

Description of **Enabled for** column values:

- **End users, automatically** – These features include change(s) to the user experience for end users and are enabled automatically.
- **Admins, makers, or analysts, automatically** – These features are meant to be used by administrators, makers, or business analysts and are enabled automatically.
- **End users by admins, makers, or analysts** – These features must be enabled or configured by the administrators, makers, or business analysts to be available for their end users.

Common Data Model

Overview

The Common Data Model is the shared data language used by applications to enable consistency of the meaning of data across applications. It provides modular and extensible business entities (account, lead, opportunity, and so on) and also observational data concepts (such as Link clicks and Email opens). It unifies data in a well-known schema across data silos, applications, and deployments. Although the Common Data Model started in Common Data Service and Dynamics 365, it is bringing the same semantic consistency to Azure Data Lake Storage with Common Data Model folders, allowing an organization to take advantage of AI and machine learning on a scale that wasn't previously possible. The Common Data Model enables business and analytics applications to interoperate over a variety of areas, including sales, service, healthcare, higher education, and more. The span of products, platforms, and services that implement, produce, and consume data in Common Data Model form continues to grow, both inside and outside of Microsoft.

Additional capabilities in Common Data Model folders

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Common Data Model folders and the metadata file (model.json) support describing data that's stored within Azure Data Lake. After the initial release of Common Data Model object model and libraries, several partners provided feedback, feature requests, and more, through forums like GitHub Issues. Based on feedback regarding the data types, file formats, and partition structures specification, we're extending the capabilities in the Common Data Model folder specification to include data types such as *date*.

Although the libraries provide capabilities for reading and writing metadata files, one clear area of feedback from partners is to add and expand the validation capabilities to ensure that the metadata files are compliant with the specification.

Common Data Model object model available in public package managers

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

The Common Data Model object model will be available in at least three languages—C#, TypeScript, and Python—to support partners who are building and contributing to the ecosystem. These object models will be publicly available in the GitHub repository, and also in the public NuGet, npm, and PyPI package managers, for easier use in your development processes.

Improved experiences in Common Data Model and Power Query Online

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Power Query Online offers several capabilities to connect, transform, and load data into Azure Data Lake. To improve the experience when a query is mapped to a standard Common Data Model entity, this feature uses the *Map to Standard* transform, which is more intuitive. One key feature is the incorporation of the schema hierarchies included in the standard entities, such as crmCommon, solutions, or marketing. This feature allows customers to better understand the available set of Common Data Model standard entities, so that they can ensure that their data is mapped correctly.

New Common Data Model standard entity definitions

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

The set of Common Data Model standard entities that is published and open sourced on GitHub continues to grow as more applications and data producers contribute to the standard. New concepts submitted by subject matter experts are diligently reviewed before being publicly released. Similarly, extensions to existing concepts (like Account and Contact) are done with a careful review of the current semantics, ensuring alignment. With an increased focus on analytics, Common Data Model standard definitions are being extended to include observation and perception models and traits that can be used in analytical applications.

New Dynamics 365 Industry Accelerator solutions

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Industry accelerators are basic components within the Microsoft Power Platform and Dynamics 365 that enable ISVs and other solution providers to quickly build industry vertical solutions. The accelerators extend the Common Data Model so that it includes new entities to support a data schema for concepts within specific industries.

Public documentation for Common Data Model object model libraries

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Partners who want to take advantage of Common Data Model libraries will now have additional content and guidance to given them a better understanding of the purpose and capabilities of the libraries. This content will include best practices and scenario-based examples to make it even easier for partners to produce and consume data in Common Data Model form.

Data Integrator and Dual Write

Overview

The Common Data Service Data Integrator (for Admins) is a point-to-point integration service used to integrate data into Common Data Service. It supports process-based integrations, like Prospect to Cash, that provide direct writes between Dynamics 365 for Finance and Operations and Dynamics 365 for Sales. It also supports integrating data from multiple sources into Common Data Service.

Whereas Data Integrator is a highly customizable batch-based integration service, Dual Write is a near-real-time integration service that allows Dynamics 365 for Finance and Operations customers to natively get their data in Common Data Service. Customers should be able to adopt business applications from Microsoft and expect that they will speak the same language and seamlessly work together. Dual Write allows our customers not to think about these apps as different systems that must be written to independently. Instead, the underlying infrastructure makes it seamless for these apps to write simultaneously.

With this release, we continue to make Data Integrator the data integration tool of choice for enterprises and ISVs by making investments in lightweight ALM along with the ability to ship templates as part of solutions. Additionally, we are making big investments in making Dual Write setup a frictionless experience where, in a few clicks, Finance and Operations customers can natively get their data in Common Data Service. The primary goal of Dual Write is to enable seamless writes between Finance and Operations and Common Data Service. When you make a change in one app, it is seamlessly reflected in the other in near-real time.

In the GA release of this feature, Finance and Operations customers will be able to natively get their data into Common Data Service. For customers who want to customize their setup, we will provide an advanced and intuitive UI with step-by-step instructions that will guide them through the setup process. As Finance and Operations expands globally and includes the China sovereign cloud, we are making Data Integrator compliant with Azure China cloud, so that our customers in China who want to keep their data within the China region can comply with government regulations.

Back up and restore Data Integrator and Dual Write artifacts

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Protecting your data and ensuring continuous availability of services are important. As more ISVs and enterprises adopt our services, it is increasingly important to support their requirements – not only from a functionality and scalability standpoint, but also from a lifecycle management and software redistribution standpoint.

With this feature, admins can use on-demand backup and restore for Data Integrator and Dual Write artifacts, including projects and templates, and package them in solutions.

Copy Dynamics 365 for Finance and Operations data into Common Data Service

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Dual Write enables seamless writes between Dynamics 365 for Finance and Operations and Common Data Service. Changes that you make in one app seamlessly replicate to the other app in near-real time.

This feature provides a frictionless experience by automatically connecting to or creating a Dual Write–enabled Common Data Service environment. Finance and Operations customers can now natively put their data in Common Data Service.

Every business is different. Customers who want to customize their setup can use the advanced and intuitive user interface (UI) with step-by-step instructions.

SDK for Data Integrator

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

We are providing a Common Data Service Data Integrator SDK to help ISVs and partners create, update, and schedule data integration projects programmatically, without user interaction. This will help you automate project and template management (create, read, update, and delete templates and projects) and automate testing (automatically execute projects and retrieve execution history for projects).

Making Dual Write resilient to planned or unplanned maintenance

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	July 2019	October 2019

Feature details

In the unfortunate event that data writes to an app fail because of planned or unplanned maintenance, admins want to be notified and to be empowered to take immediate action. This new feature provides additional ability for admins to define experiences that are suitable for their business needs. Admins can now define rules that provide email notifications or take actions on their behalf for specific error types and thresholds.

Write existing data before turning on Dual Write

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	July 2019	October 2019

Feature details

With this feature, we will write existing data before turning on Dual Write. This feature also keeps that data updated.

Enable analytics on Common Data Service data

Overview

Our vision is to empower our customers to gain comprehensive insights and drive business actions based on their data in Common Data Service. To run analytics and extract intelligence from your data, there is a need to push the data to Azure Data Lake, which enables best-in-class analytics performance along with the fundamental availability, security, and durability capabilities of Azure storage. Through this effort, we will empower our customers and first-party apps such as Dynamics 365 Customer Insights, Dynamics 365 Sales Insights, and Dynamics 365 Customer Service Insights to push data from Common Data Service to Azure Data Lake.

Enable analytics on Common Data Service data in Azure Data Lake

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	August 2019	October 2019

Feature details

If you are a sales person interested in the complete interaction history for a customer, a sales manager looking to gain insights into your team, or a customer service manager looking to anticipate needs and improve performance through insights into case trends, analytics apps like Dynamics 365 Customer Insights, Sales Insights, and Customer Service Insights let you do just that. This feature lets you hydrate Azure Data Lake with your Common Data Service data so that you can use rich insights driven by empowering first-party analytics apps.

Hydrate Azure Data Lake with Common Data Service data and create rich reports

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

In a few steps, you can hydrate your Azure data lake with data from Common Data Service. Alternatively, we can create an Azure data lake for you. After your Azure data lake is created, you can create rich reports by using Power BI, other powerful analytics, and Machine Learning (ML) services.

Support for data and metadata changes in Azure Data Lake

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

Business data changes constantly. With this release, we provide complete support for data and metadata changes to your Azure Data Lake data. This includes support for CRUD (create, read, update, and delete) operations.

Support incremental writes to Azure Data Lake

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	August 2019	October 2019

Feature details

This feature enables writing existing and incremental Common Data Service data to the data lake, instead of rewriting a full copy of the data at every refresh.

Gateway

Overview

The on-premises data gateway is a well-established product that is widely used by enterprises to access on-premises data sources and transfer petabytes of data weekly. Today, gateways are used with either one or a combination of services and applications, like Power BI, PowerApps, Microsoft Flow, Logic Apps, and others. Based on enterprise requests, the focus for this milestone is to improve the management of gateways, improve scale and performance (as enterprises access more and more on-premises data through gateways and depend on them), improve monitoring and diagnostic capabilities for issues (refresh errors, slow-running queries, and so on), and offer a lot of new functionality (like gateway installation automation) to improve the overall enterprise experience.

Add intelligence to gateway load balancing

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Currently, gateway clusters distribute traffic between gateway members by using a round-robin approach. We plan to add intelligence into the process that determines which gateway cluster member processes a request, based on its current CPU, memory, and network usage. Gateway admins will define the criteria by which gateway members are selected to process requests, based on the available resources mentioned earlier, for the best cluster performance.

Automate gateway installation

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Today, gateway admins must manually install and register gateways on every machine where the gateway is needed. This manual process takes significant effort in large organizations with many gateways. To address this, we're adding a new feature that allows for the installation and registration of gateways via the command prompt.

Gateway management enhancements

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Centralized gateway management will help gateway admins have a standard experience for managing gateways across all products on the Microsoft Power Platform, including Power BI, PowerApps, and Microsoft Flow. Gateway admins managing multiple gateways can have a lot of data sources to manage. But they do not currently have search and sort capabilities, making the management experience less than ideal. We plan to enhance this management experience by including sort and search functionality. We also plan to offer management of high-availability clusters from the gateway management portal, including visibility into gateway members and their versions.

Currently, the administration of gateways at a tenant level is available only for Office 365 or global tenant admins. We plan to make this available for the application and service admins too, so that they can get visibility into all gateways within a tenant, view gateway members, and manage administrators.

We also plan to enhance the public REST APIs and Windows PowerShell cmdlets with additional functionality and documentation for it.

Performance monitoring and diagnostics for gateways

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Today, gateway admins use the Windows Performance Monitor tool to troubleshoot gateways. This new feature enables gateway admins to analyze system performance counters and query execution details for the gateway machine, so that they can identify bottlenecks and optimize gateway performance. Additionally, they can choose to store this information in Application Insights for historical trend analysis.

Support testing on certified connectors

Enabled for	Public preview	General availability
End users by admins, makers, or analysts	October 2019	

Feature details

Currently, developers need to alter connector and function names to do end-to-end testing on the gateway for any changes that they make to certified connectors. Developers must then reverse those alterations before they ship the new version of the connector. This new feature enables you to test certified connectors, reducing the probability of human errors.

Power Platform dataflows

Overview

Data preparation is considered the most difficult, expensive, and time-consuming task of enterprise analytics and app projects. Moreover, data is often fragmented and dispersed across data sources, lacks structural or semantic consistency, and requires complex system integrations to bring it together.

The new dataflows capability in the Microsoft Power Platform aims to reduce the time, cost, and expertise required to prepare and aggregate data for analytics. Power Platform dataflows allow any Power Platform customer to easily define ETL pipelines (dataflows) to ingest data into their company's Business data lake (Azure Data Lake Storage). Dataflows can be configured to use an existing Azure Data Lake Storage account, or they can also use an Azure Data Lake Storage data lake that is auto-provisioned and auto-managed by the Microsoft Power Platform, enabling a friction-free setup experience for customers who do not yet have a Data Lake implementation.

Power Platform dataflows increase the momentum of Power BI dataflows, which were launched into Public Preview in November 2018 and hit General Availability within Power BI in March 2019. Power BI dataflows received extremely positive feedback from customers and market analysts because of their innovative approach to democratizing data ingestion into a company's data lake for data analysts and other non-technical users.

Power Platform dataflows are one of the building blocks that allow Microsoft to provide out-of-box analytics and AI insights to its users, such as the analytic and insights provided by AI Builder or Dynamics 365 Customer Insights, making them a huge differentiator for the company's Dynamics 365 offerings.

In addition to Power Platform dataflows, Microsoft is also investing in making Dynamics 365 data automatically available in Azure Data Lake Storage, to make it even easier for Dynamics 365 customers to derive analytics and insights from their existing Dynamics 365 data.

Author dataflows in the PowerApps Maker Portal

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Power Platform dataflows are familiar and simple to author. The authoring experience is based on Power Query, which millions of customers use in several Microsoft products, including Power BI, Microsoft Excel, Analysis Services, Microsoft Flow, and Common Data Service.

Power Platform dataflows are a no-code experience for connecting, reshaping, and combining data from hundreds of data sources. They support both cloud and on-premises data sources via the on-premises data gateway. The breadth of data connectivity options is one of the strongest differentiators that Microsoft has in this space.

Power Platform dataflows are easily composable, meaning that users can define dataflows that load one or more entities into their data lake and keep them refreshed on a schedule.

Users can also reference other Azure Data Lake entities (their own or those that other users create) in multiple dataflows to compose new entities.

When you refresh the root entities, Power Platform dataflows refresh all dependent entities without any additional configuration. This allows users to easily build multiple ETL pipelines that are automatically synchronized, without having to deal with advanced configurations. Traditionally, this task needed professional ETL developers. This feature gives millions of data analysts a frictionless experience without requiring additional skills.

Consume data from entities stored in Common Data Model folders

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Power Platform dataflows use the Common Data Model to provide semantic meaning alongside the data, making it easier for other systems and applications to understand and use data stored in a data lake.

Power Platform dataflows create Common Data Model folders within the data lake and can also consume Common Data Model folders created by other applications and data producers.

Additionally, the dataflow experience allows users to create data and easily map data of any shape and size to Common Data Model standard entities. These entities, starting with key concepts used within Microsoft Dynamics 365, have been extended with the help of subject matter experts across many verticals, including healthcare, non-profit, education, retail, and marketing.

Power Query Desktop

Overview

Power Query provides a no-code experience for non-technical users to seamlessly connect, transform, and combine data from hundreds of data sources. Power Query is natively integrated into several Microsoft offerings, both in the desktop experience and through a web-based experience built on Microsoft Azure.

New and enhanced connectors

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

We plan to improve the Power Query connector library by enhancing some existing connectors and adding new connectors.

Enhancements to existing connectors

The enhancements to existing connectors include:

- Support for the Snowflake connector in Power BI without using an on-premises data gateway. The Snowflake connector will also be enhanced to support Azure Active Directory–based single sign-on delegation for DirectQuery datasets.
- Support for Oracle Kerberos–based single sign-on via the on-premises data gateway.

New connectors

The new connectors include:

- Apache Hive LLAP (including Import and DirectQuery) with Kerberos-based single sign-on via the on-premises gateway.
- Amazon Athena (including Import and DirectQuery) via the on-premises gateway.

Query Diagnostics enhancements

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Another major area of investment going forward is in Query Diagnostics.

Often, customers connect to slow data sources and then create queries with many or complex transformation steps, resulting in slow queries. To debug issues with queries, customers need to look into Power Query traces to understand whether their queries are pushed to the data source (if the data source supports the transformations being used), or whether Power Query compensated and ran those queries locally within the Mashup Engine.

In a few months, a new user experience surface will be added to the Power Query editor, making it easier for customers to gain insights, including:

- Knowledge of what data source queries are being generated to run their M queries.
- Knowledge of what data source queries are being generated to retrieve schema and metadata information.
- The amount of time queries take to run within the data source versus locally in the Mashup Engine.

Query Diagnostics will allow customers to more easily troubleshoot issues with their queries and identify potential optimizations. In addition to all these smart data preparation capabilities that will result in customer-facing features, Power Query will also become smarter about understanding data transformation usage patterns based on telemetry (non-PII), so that these and future capabilities can be further refined.

Support for new AI Insights including Cognitive Services and custom Azure Machine Learning models

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Power Query is adding support for new Artificial Intelligence (AI) Insights, including Cognitive Services and Azure Machine Learning models:

- **Cognitive Services**: Power BI provides access to a variety of pretrained models that you can use to transform data in the Power Query editor. The initial set of models consists of language detection, sentiment scoring, key phrase extraction, entity recognition, and image tagging.
- **Azure Machine Learning**: In the AI Insights browser in the Power Query editor, analysts can automatically see all the Azure Machine Learning models that have been shared with them. When they select a model, Power BI automatically maps columns from their data to the parameters of the model, when the name and data type match. By applying the model to their query, they add the score from the machine learning model as a new column in their dataset.

Custom connector and extensibility support

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Multiline support for custom connectors in Power BI Desktop will enable a more user-friendly user interface for connectors that passes native queries through to back-end systems. Users will be able to view the contents of queries that they paste, allowing them to more easily confirm that the correct query is used.

Data Profiling enhancements including better visualizations and more enhanced capabilities

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Power Query continues to lead innovation in the area of smart data preparation by taking advantage of and creating products based on the strong Microsoft-wide investments in artificial intelligence and other research efforts around data preparation. Over the last 18 months, we've added several Power Query features to enable customers to transform their data in smarter ways, including:

- **Example Data Extraction**: Enables customers to extract data from HTML pages or from any table within the Power Query Editor, simply by entering sample output values that they want to extract, even selecting from a set of suggested values that Power Query automatically detected based on common transformation patterns. Power Query's AI algorithms can then infer the user intent and the optimal combination of data transformations that's needed to go from input data to the desired output specified by the user.
- **Fuzzy Merge**: Merges tables by using fuzzy matching algorithms (the Jaccard index) to determine matching rows across tables. These fuzzy matching algorithms are the result of several years of research at Microsoft, and they have been released in multiple products, including Microsoft Excel and Microsoft SQL Server, in addition to Power Query.
- **Data Profiling**: Supports over 300 different data transformations, allowing users to filter outlier values, remove duplicates, remove or replace errors, and so on. However, recent investments in Data Profiling within the Power Query Editor have made it even easier for customers to realize that their data has such issues, so that they know that they need to apply the necessary data transformations to fix them.
- **Mapping to the Common Data Model entities schema**: Allows Power Query Online customers to map arbitrary tables from any data source to a target entity schema that's defined as part of the Common Data Model specification. After an entity mapping is defined, downstream processing of that data becomes more powerful, because it can operate over this data at the semantic level instead of only the data level.

Going forward, Power Query's investments will further expand these capabilities.

Here is an overview of the next wave of smart data preparation capabilities that will be delivered to Power Query customers:

- Enhancements to Data Profiling.
- Support for new AI Insights, including Cognitive Services and Azure Machine Learning models.
- Query Diagnostics.

Enhancements to Data Profiling

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Data Profiling is one of the most acclaimed features by Power Query customers. Based on customer feedback, we're continuing to expand Data Profiling capabilities to include the following:

- **Taking action from within Data Profiling UI controls**: Includes the ability to apply value-based filters (equals, does not equal, starts with, ends with, contains, and more).
- **Enabling richer exploration of data profiles**: Includes the ability to group data by using different criteria based on column data types, such as value length (for text columns), year, quarter, month, day, and so on (for date columns), even, odd, positive, and negative (for number columns), and more.
- **Allowing customers to export data profiling information**: Supports the ability to export to a clipboard or a CSV file, so that the data is easily shared with others within an organization (such as other data analysts or the owners of a problematic data source).

New and enhanced connectors in Power BI

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

We plan to improve the Power Query connector library by enhancing some existing connectors and adding new connectors.

Enhancements to existing connectors

The enhancements to existing connectors include:

- SAP BW single sign-on using Common Crypto Library via the gateway.
- Support for SAP HANA HDI 2.0 Containers.
- Redshift connector support via the gateway.
- Support for the IBM DB2 Connect Gateway feature in the existing IBM DB2 connector.
- The AtScale Connector will become generally available.

New connectors

- Azure Data Lake Gen2 connector with support for physical storage and Common Data Model folders.

Power Query Online

Overview

Power Query Online will approach parity with many of the features in Power Query Desktop integrations, allowing end users to have a more seamless authoring experience against more data sources and providing a seamless authoring experience in the browser.

New and enhanced connectors in Power Query Online

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Existing connectors will be improved, bringing support for native database queries and other connector advanced options, including time-outs and hierarchical navigation.

The available folder and database connectors on the platform will be increased. Here's a list of the new databases and connectors:

Database connectors

- Impala
- HDInsight Spark
- Apache Spark
- HDInsight Interactive Query
- Google BigQuery
- Vertica
- Teradata
- Sybase
- MySQL
- PostgreSQL
- IBM Informix

Folder connectors

- Local Folder
- SharePoint Folder
- SharePoint Online Folder
- Hadoops HDFS
- Azure HDInsight (HDFS)
- Azure Data Lake Storage Gen2

Our investments in the following categories of connectivity will also increase.

Connector	Description
Generic ODBC	This connector, which is widely used in Power BI Desktop, will become available in Power Query Online to enable connectivity to any data source that provides an ODBC interface.

Connector	Description
PDF Files	This connector, which was released a few months ago for Power BI Desktop, will also be available in Power Query Online.

New data preparation capabilities in Power Query Online will bring it closer to parity with Power Query Desktop in these areas:

Transformation	Description
Table	Includes fill up, fill down, pivot, extract text, before, after, or between delimiters, keep or remove characters, split by character transition, append queries advanced mode, combine files, and more.
List	Includes keep or remove, top, bottom or duplicates, alternate, reverse, sort, and statistics, including sum, avg, min, max, std, count, and countD.
Scalar	Includes text transforms (ToList, table, split, and format. Upper, lower/capitalize, trim, clean, prefix, and suffix), extract (length, first, last, range), and parse (JSON/XML).

Parity with Power Query Desktop

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

Many features that are present in Power Query Desktop are being brought to Power Query Online to significantly improve the query development and management experiences and the interface. These improvements include a significant number of tweaks. The areas of focus include:

- Automatic column type detection.
- Security and authentication features, including support for privacy levels and encryption warnings.
- Support for query parameters in the user interface (UI).

- Parameters experience and the ability to bind to query parameters from input controls in specific operations, such as connector dialog boxes (for URLs and paths) and the most commonly used transformations (split columns, replace values, filter rows, and so on).
- Function creation and invocation user experience (UX), enabling users to easily convert queries with parameters into functions that are easily invoked from other queries.
- Steps pane improvements to allow advanced authoring capabilities such as reordering steps, support for descriptions for any step, or refactoring base query steps into new queries for easy reusability.
- Query groups improvements, including the ability to move queries between groups and reorder groups.
- Queries pane improvements, including the ability to easily reorder queries and manage other query properties from the queries pane.
- IntelliSense support in the formula bar and advanced editor dialog box.

Smart data preparation

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

A continuing goal for Power Query and Power Query Online is to make data preparation *smarter*. This enables analysts to have artificial intelligence (AI) capabilities at the touch of a button, enriching and enhancing data. In addition to the AI insight capabilities that are already in Power Query Online for Power BI Dataflows, two new smart data preparation capabilities will be added:

- **Fuzzy Merge**: Allows users to easily combine data from multiple tables by using fuzzy matching algorithms instead of strict matching.
- **Data Profiling**: Helps users easily identify error, empty, and outlier values within their Power Query Editor data previews.

PowerApps and Microsoft Flow Connector Platform

Overview

A critical part of data integration and the suite of products it supports — PowerApps, Microsoft Flow, Power BI, and Power Query — is connectivity to external data sources. Although we built the initial set of connectors ourselves, most of the connectors over the past few semesters have been built directly by our ISV partners.

During this semester, we plan to further bolster our connector platform ecosystem to make it easier for our ISV partners to create their own connectors and enable them on our applications. A few examples of our investment include providing CLI tools to ISV partners so that they can update, manage, and deploy their own connectors, and providing sample connector source code by open-sourcing a limited set of existing connectors. We also plan to invest in providing policy templates, providing more comprehensive documentation, and creating a dedicated discussion forum. Finally, we will launch a fully automated certification portal that will enable our ISV partners to submit their connectors for certification and deployment.

Along with strengthening the ISV community's ability to create their own connectors, we plan to continue to invest in enterprise-grade data connectors like SQL Server, Oracle Database, Outlook, and more. More specifically, our investments in enterprise connectivity will include support for Azure Active Directory authentication in SQL Server, support for Excel Online in PowerApps, and enhanced connectivity to Oracle databases.

Better enterprise connectivity to Oracle Database

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

The Oracle database connector now returns output parameters from stored procedures. Therefore, users can now invoke any stored procedure and process the result in their flows and apps.

The Oracle database connector now supports native queries that can run on the Oracle server. Users can enter a SQL query and have the query run on the Oracle server. The connector then returns the result to the app or flow. This unlocks a powerful feature in the connector.

The Oracle database connector can now be used directly, without the need for an on-premises data gateway. For enterprises with their Oracle database server on the cloud, this eliminates the need to install a gateway and Oracle libraries. It also means that Logic Apps customers can now use the Oracle database connector in their Integration Service Environments.

Improved command-line interface for connector developers

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

The command-line interface (CLI) provides a useful tool for developers who want to take advantage of source control systems for their connectors. The tool allows connectors to be updated, deployed, and managed from their source control systems. This release includes improvements to the CLI for Microsoft Flow and PowerApps custom connectors. These improvements focus on expanding the scope of the CLI (such as supporting Logic Apps), and also on improving the user experience and capabilities of the CLI.

New and enhanced connectors in Power BI (Preview)

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

We continuously add new connectors for PowerApps and Microsoft Flow as we engage partners and ISVs to build them. As the ecosystem grows, we expect more partners and ISVs to build and certify connectors. We will also continue to add new features to existing connectors.

Use the Microsoft Excel Online connector in PowerApps

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	October 2019	

Feature details

Although Excel Online documents can be accessed from Microsoft Flow, until recently it has not been possible to use the Excel Online connector in PowerApps. This release includes support for the Excel Online connector in PowerApps. Therefore, we now provide a capable, reliable, quick-start approach to building apps over data in Excel spreadsheets. This will unlock the vast set of unstructured data that we have in Excel today and benefit users who are familiar with Excel, allowing them to take advantage the low-code, no-code app building experience that we provide through PowerApps.

More open-source connectors are available on GitHub

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically		October 2019

Feature details

With the launch of the open-source connector repository on GitHub, Microsoft encourages the community to contribute to the maintenance of connectors. With this release, we see more connectors that are open source. Microsoft also encourages partners to adopt an open-source connector development model and to take advantage of the developer ecosystem to maintain their connectors.

Better enterprise connectivity to SQL Server

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	June 2019	October 2019

Feature details

As more enterprises move their workloads to the cloud, Azure AD–based authentication for their SQL Server database on the cloud has become more prevalent. Azure AD provides better security because access control is enforced at the data source. You no longer have to manage separate user accounts and authentication for SQL Server databases.

In this release, we've added support for Azure AD authentication for SQL Server from PowerApps and Microsoft Flow. There's no impact on existing users. Enterprises benefit from using an enhanced security model for their data sources and apps. Makers can now seamlessly connect their apps and flows to a SQL Server database and rely on Azure AD to secure the underlying database.

When you share apps, each user authenticates directly with the database by using their own identity.

Other improvements in the SQL Server connector include enhanced support for date types (date, datetime, datetime2, and smalldatetime) and support for connection strings. When you use these data types from PowerApps, they participate and will delegate the processing to SQL Server. With the support for connection strings, customers can now use a popular format to specify the connection details.

Certification portal

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	June 2019	October 2019

Feature details

As we work with various developers and partners, the certification process needs to be improved so that there is a predictable SLA, visibility into status, a decrease in human errors, and an overall improvement in the time and process for certification. This release includes a new certification portal where ISV partners can submit their custom connectors for certification, see the status of the certification, and see a rich set of information about their certified connectors.

Support for Azure API Management policies in custom connectors

Enabled for	Public preview	General availability
Admins, makers, or analysts, automatically	June 2019	October 2019

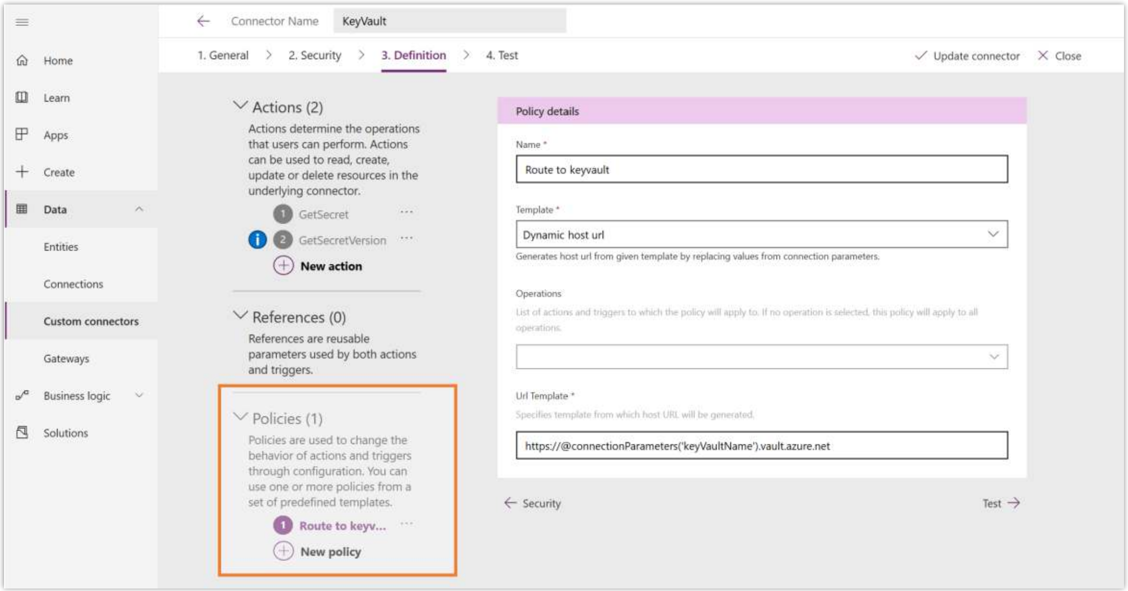
Feature details

While building connectors for PowerApps and Microsoft Flow, developers might need to modify behaviors for the underlying API. For example, in cases where a service provides custom domain or sub-domain endpoints, connectors might need to dynamically route the requests to endpoints based on the connection parameters.

In other cases, connectors might add extra headers or query parameters, or enforce throttling limits for their operations. Today, you can manage these behavioral modifications with Azure API Management (APIM) policies for any of the standard built-in connectors.

Until now, APIM policies weren't available for custom connectors. This has meant that any modification to custom connectors must be done in-house. Partners who build these custom connectors rely on Microsoft for any modification to their connectors, even to try out and test them. This leads to a high-touch development model, which isn't ideal.

With this release, you can enable APIM policies on your custom connectors for your apps (PowerApps) and flows, and then use APIM policies to modify the behaviors of your connectors. For example, APIM policies allow you to limit the number of calls from a connection on one or more operations in your connector. You can use other APIM policies to fix headers or query parameters, or even modify a field or a parameter. You can also use policies to improve the overall user experience of your connectors.



Policy in custom connector

Got feedback?

Share your feedback on a community forum for Dynamics 365 or Power Platform. We'll use your feedback to make improvements. To find out about updates to these release notes, follow us on Twitter @MSFTDynamics365.

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