Growing organizational intelligence with knowledge and content in Microsoft 365

White paper
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01. Executive summary

At the heart of every organization are the people it employs and the knowledge the employees contribute. How that collective knowledge within an organization is accessed, shared, and matured is drastically evolving, as automation surges and the need for efficiency becomes ever-present.

With Microsoft 365, we have focused on helping organizations overcome these challenges. Using Microsoft 365, organizations can create content intelligently – that is managed, from any device; their employees can quickly connect to the organizational knowledge they need, when they need it; and IT can have peace of mind knowing that their information is protected and secure. Using AI to connect content, knowledge, and experts, Microsoft 365 empowers people with workplace intelligence to learn faster, up-skill, and innovate in the flow of their work.

With new advancements in Microsoft 365 including a massive content repository, Microsoft Graph signals, and new artificial intelligence (AI) developments, organizations can realize the promise of knowledge – empowering their people, fueling innovation, and accelerating learning.

And our innovations have drawn notice. In 2019¹ Microsoft was recognized as a Leader in the Gartner Magic Quadrant for Content Services Platforms, a Leader in Enterprise Information Archiving², and a Leader in the Forrester Business Content Services Wave for 2017.³

This whitepaper showcases the new knowledge and content capabilities within Microsoft 365 in addition to other investments Microsoft is making – including Microsoft Search, Microsoft Stream, Yammer, and Workplace Analytics.

02. Empower people with knowledge and expertise

In a world of rapid change, empowering people to harness knowledge, upskill, and learn faster is the new workplace competitive advantage.

With AI and automation compelling users to seek more – better and faster, organizations are pressed to quickly harness and grow their knowledge so they can learn, upskill, and innovate faster. But without the proper tools, organizations can fall behind.

Adapting and gaining new skills are critical – but today, it takes too long to get up to speed on new roles, new teams, and new topics. Employees are left to their own devices – sifting through email, endless document folders, innumerable meetings, and impromptu discussions – simply to find the content, answers, or experts they need.

This lack of connection between employees and the information they need to access to upskill and perform their job functions prevents the discovery of valuable insights and comes at a huge cost to today’s businesses. Based on data from the U.S. Bureau of Labor, $55.96 billion could be saved in the U.S. annually by reducing onboarding time-to-effectiveness by one week and reducing time for new-hire effectiveness by a week could save companies earning $1 billion or higher $8.57 million.4

Today many organizations grapple with discoverability – or lack thereof. Because search experiences and the results they provide are disconnected or even incomplete, employees find it difficult to find relevant content – whether they’re onboarding to a new project, switching roles, or looking for information on topics of interest. And if terminology or taxonomy vary across content repositories – or employees are unaware of the proper terminology or taxonomy – their search queries can be even less fruitful.

To ensure employees can efficiently search, find, and utilize the knowledge available to them across the organization, businesses need a unified and efficient knowledge solution – from capturing knowledge to effectively discovering or sharing it throughout the organization. Organizations need unity among their content services – unity that Microsoft 365, including Project Cortex, can provide.

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Learn in the flow with Project Cortex

With Project Cortex, the newest addition to Microsoft 365, organizations can help their people learn in the flow of their work, through the apps and tools they use every day. From finding project experts or related topics, to discovering insights around a specific item, employees can easily search and access the information they need – without manually mining through disparate applications or repositories. Below are Project Cortex features that better enable organizations to empower their people with knowledge and expertise.

Discover new topics and experts

Topic cards are a new feature in Microsoft 365, powered by Project Cortex, that can be leveraged in other Office 365 applications such as Microsoft Teams, Outlook, or Word. They can be used to get a quick snapshot of the expertise and content related to a specific project or topic.

Topic cards appear automatically when a topic is detected, giving you a description, experts, resources, and additional information. They appear automatically in Outlook, Word, SharePoint, and Microsoft Teams, and will appear in Microsoft Search results.

Figure 1 - Topic card on a SharePoint page
When Project Cortex identifies a topic in one of these applications, the user can hover over the topic and view the topic card, which is written by AI and supports additional curation by your organization’s experts.

Topics make it easier to find people based on their skills, projects, and expertise. When you search for a topic through Microsoft Search or Microsoft Search in Bing, you’ll see a list of people who added the topic to their profile.

In addition, topics will be shown prominently in people cards across Microsoft 365, helping you identify who’s working on what inside your organization – tailored by your existing access and permissions. Project Cortex will automatically prompt you to add topics, based on work you’re doing, to help you keep your profile current.

![Figure 2 – People cards across Microsoft 365](image)

**Connect to your knowledge network**

You can explore all this information in depth in a topic page. Project Cortex automatically builds topic pages based on your content, using AI. In a topic page, a user can find a list of all the topic-relevant content and experts, as well as their relationship to the specified topic. Pages become better with experts, who can edit or create new topics with wiki-like simplicity,
incorporating their knowledge and additional resources, while also transparently training your knowledge network at the same time. AI also keeps your topic pages up-to-date alongside ongoing people-driven curation.

![Knowledge Center](image)

**Figure 3 - Topic page example**

Topic pages roll up into your **knowledge center**, which delivers a personalized view of relevant knowledge across your organization, including trending relevant topics and open questions. In addition, you can create topic-specific knowledge centers – centers of excellence that support distinct knowledge sharing scenarios in your organization, such as projects, products, policies and procedures, or customers. With a personalized view of relevant knowledge, users are able to more easily discover content, expertise, and topics that are related to their work or interests.

The knowledge center also supplies additional web parts to integrate knowledge and training from around your organization. These custom knowledge centers are built with and integrate seamlessly into your intelligent SharePoint intranet.
Construction Operations Reliability

Overview

Acronym: CORE

Project CORE focuses on making site survey and ongoing progress reports faster and simpler, and detenioration and safety inspections part of routine maintenance without exposure to high risk situations.

Construction Operations Reliability (CORE) reflects a new era of solutions. With the latest technology and sensors onboard the Mark II, and a network of licensed operators, and software developed from previous projects for terrain and drainage is part of the offering and can be used with or without hardware purchases.

People

- Nexor Wilke
  - Director
  - Leads construction industry product development

- Lynne Robbins
  - Senior Engineer
  - Working on Mark II interfaces

- Grady Archie
  - Design manager reseaching geothermal and heatmaps

- Henrietta Mueller
  - Development of new imaging techniques

- Johann Lorenz
  - Senior Engineer
  - Contributed to 14 resources

- Pradeep Gupta
  - Accountant
  - Contributed to 12 resources

- Emily Braun
  - Budget Analyst
  - Contributed to 10 resources

- Jordan Miller
  - Technical Writer
  - Contributed to 10 resources

Resources

- Vision for Core.pptx
  - Added by Lynne Robbins
  - Last modified: 7:15 am

- New Technology.docx
  - Added by Grady Archie
  - Last modified: 8:30 am

- Future of Core.pptx
  - Added by Grady Archie
  - Last modified: 9:42 am

- Project To-do List.xlsx
  - Added by Lynne Robbins
  - Last modified: 10:31 am

- S322 Report

Discovred Resources

<table>
<thead>
<tr>
<th>Name</th>
<th>Last modified</th>
<th>Modified by</th>
<th>Source</th>
<th>Found helpful</th>
<th>Views</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction to the Core Framing</td>
<td>Fri 2:36 pm</td>
<td>Grady Archie</td>
<td>Topic mentioned 9 times</td>
<td>24 people</td>
<td>86 views</td>
</tr>
<tr>
<td>Introduction to Site Survey tech...</td>
<td>Fri 8:00 am</td>
<td>Johann Lorenz</td>
<td>Topic mentioned 7 times</td>
<td>22 people</td>
<td>88 views</td>
</tr>
<tr>
<td>Legal analysis of S322</td>
<td>Thurs 1:34 pm</td>
<td>Emily Braun</td>
<td>Topic mentioned 7 times</td>
<td>13 people</td>
<td>76 views</td>
</tr>
</tbody>
</table>

Figure 4 – Knowledge center example
Discover insights in SharePoint

In addition to Project Cortex, there are features within SharePoint that enable employees to discover relevant content across the organization.

Amplify content visibility

**Microsoft Graph-powered recommendations.** SharePoint includes a modernized team site experience with an engaging home page personalized by the intelligence of Graph—surfacing documents and insights designed to make your business more productive. The activity on this SharePoint home page provides insight into what’s happening—and who’s doing what—throughout your team site.

**Microsoft Delve.** Delve discovers new, relevant information based on the people and content you interact with. It helps users discover information that’s likely to be useful to them when they need it. Users don’t need to remember the title of a document or where it’s stored. Using machine learning, Delve suggests documents based on learnings about your work patterns and the patterns of your team sites.

![Figure 5 - Delve](image-url)
**SharePoint and OneDrive activity reports.** SharePoint and OneDrive activity reports provide a holistic view of how your users collaborate. Use the report to see which users are active on SharePoint and engaged with team files. You can also see which users synchronize documents back to their local machines, and whether they share documents internally or externally.

**Search.** With cloud hybrid search, content is crawled in place (on-premises and cloud) and combined in the Office 365 search index. When users enter a query, they get security-trimmed search results from the Office 365 search index. This allow them to see results from both on-premises and Office 365 content.

**Cognitive analysis with Power Automate.** With the cognitive services engine, users can find insights and trends from any text input, enabling easy analysis of sentiment, key phrases, translation, and moderation—all powered through AI that’s directly connected in Power Automate.

Imagine being able to see sentiment scores directly from a social media feed without expensive third-party tools.

![Marketing](https://example.com/marketing.png)

*Figure 6 - Cognitive analysis*

**Power Automate triggers for image analysis.** When a user uploads any image file into Office 365, it scans for object recognition automatically—whether it’s a document, people, whiteboard, note, or business card. Image analysis lets you define Power Automate triggers for any type of image analysis results.
Figure 7 - Image analysis
03. Automatically connect and organize knowledge

Today’s organizations often utilize a multitude of content repositories. And in many of those situations, information in a repository set up by one team might be inaccessible or difficult to acquire by those in other teams – rendering vast quantities of institutional knowledge ineffectual or even untapped.

For organizations that want to be on the leading edge, disconnected silos of information are simply unacceptable. With Project Cortex, organizations can connect and manage all forms of knowledge – stored across Microsoft 365 or other repositories – ensuring employees are connected to the information they need, when they need it.

Using AI, Project Cortex automatically understands and then organizes content into knowledge topics like projects, skills, and customers. With the power of Microsoft Graph, the topics are automatically suggested to employees related to them. Administrators and experts can manage those topics, including controls by project, customer, or document type – improving compliance and protecting intellectual capital.

Topics are just one layer of content organization that Project Cortex adds to Microsoft 365.

Create and capture content that’s inherently managed

Automatically tag content

Project Cortex applies AI to reason over your organization’s structured and unstructured content, recognizing content types, extracting important information, and automatically organizing it into topics.

Advanced cognitive services capture content, extract information, and automatically tag content.

- **Image and text recognition** identify objects in scanned or uploaded images, based on an understanding of more than 10,000 attributes, and extracts text from images and PDFs.

- **Forms processing** enables you to pinpoint important information in forms and extract that information as metadata. In the example shown below, you can establish a rule to automatically tag contract effective dates by analyzing the text of sample documents.
• **Machine teaching**, powered by LUIS, lets experts train the AI to recognize information in unstructured documents, such as contracts, proposals, or training materials, which might have varied content and formatting. Just as you might teach a colleague to dig through documents and tag them, now you can teach AI, creating a reusable model based on a small subset of sample documents.

Figure 8 – Auto-tagging contract components
Capture content in real-time

Project Cortex securely collects content that is created and shared every day in Microsoft 365—including files, conversations, recorded meetings, and video—and it categorizes the content based on its type and tags it with extracted metadata.

AI then applies advanced topic mining logic—whether it’s content contained in Microsoft 365 or connected from external systems—to identify topics and related content. Topics can reflect any knowledge that’s important, including customers, products, projects, policies, and procedures. Technically, AI is creating knowledge entities, a new object class, in the Microsoft Graph. The relationships between those topics—those knowledge entities—and the experiences that connect this knowledge with people create your knowledge network.
Organize your company’s knowledge

In addition to the capabilities that Project Cortex offers, SharePoint has several tools and functions that better enable the organization of knowledge.

**Content types.** A SharePoint content type defines a related set of documents; the item might be a contract, presentation, policy, list, or folder. A content type associates this item with key metadata or other information, like a template or retention policy. You can specify the following attributes for each content type:

- Workflows
- Information management policies
- Document templates
- Document conversions
- Templates

**File types.** SharePoint and OneDrive support almost all file types and preview support for more than 300 file types, including videos and photos.

**Attention view.** Attention view provides visual cues for when content is missing required metadata. Focus on specific groups and documents and update multiple items with bulk editing in one tap.

*Figure 10 - Attention views with bulk updates to missing metadata*
Column totals. Personalize your view by adding calculated fields like totals or averages at the footer of a group or the entire list. Users can apply the column totals feature in the modern web parts for lists and libraries without going back to the classic interface.

Launch Events

<table>
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<tr>
<th>Title</th>
<th>Cost</th>
<th>Launch</th>
<th>Audience</th>
<th>Assigned To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dinner</td>
<td>$800.00</td>
<td>9/26/2018</td>
<td>Team</td>
<td>Chris McNulty</td>
</tr>
<tr>
<td>Interviews</td>
<td>$550.00</td>
<td>3/3/2019</td>
<td>Press</td>
<td></td>
</tr>
<tr>
<td>Print product sheets</td>
<td>$150.00</td>
<td>1/10/2019</td>
<td>Public</td>
<td>Mark Kashman</td>
</tr>
<tr>
<td>Video Experience Reviews</td>
<td>$75.00</td>
<td>2/1/2019</td>
<td>Public</td>
<td></td>
</tr>
<tr>
<td>Issue Resolution Council</td>
<td>$500.00</td>
<td>1/17/2019</td>
<td>Internal</td>
<td></td>
</tr>
</tbody>
</table>

Sum
$2,075.00

Figure 11 - Modern column totals

Sticky headers. SharePoint keeps column headers within the users’ view at the top of each list or library. Sticky headers help you identify list values as you move vertically and horizontally through each view. Column headers also remain in place inside the list/library web parts.

File card. File cards give you better insights about a document without having to open the file. When you hover over a file name, SharePoint provides content intelligence like who created the document, who made the last modifications, number of views, average reading time, and key points found in the document. Key points can also be edited in SharePoint directly.
Easy list creation. SharePoint provides a simplified way to create new SharePoint lists. In addition to configuring new list values and properties manually, users can select from predefined list types with the properties of an existing SharePoint list by importing from Microsoft Excel or reusing published templates for common data used in your organization.
Growing organizational intelligence with knowledge and content in Microsoft 365

**Capture new content from anywhere**

**Office Lens.** Office Lens digitizes notes from whiteboards, captures documents and business cards, and trims and enhances images to make them readable. Use Office Lens to save images to OneDrive and OneNote, or convert images to PDF, Word, and PowerPoint.

![Office Lens mobile capture](image1.png)

**Figure 14 - Office Lens**

**Mobile capture.** The OneDrive mobile app delivers built-in functionality to scan documents and images and store them directly in SharePoint or OneDrive. It not only gives you the flexibility to capture images of important notes and records, but also allows you to add annotations. While storing images captured from OneDrive, you can also add default metadata. Images captured with mobile capture are saved as PDFs automatically, even for multi-page scanning, which allows you to combine multiple scans into one PDF.
Organize content

Manage and mine metadata

An updated Managed Metadata Service (MMS) manages the metadata that’s applied to content—by AI or by experts. Microsoft extended the service to support tagging content across Microsoft 365. Managed metadata allows you to define common terms in a taxonomy, including synonyms and multilingual support, to allow for precise tag definitions. Organizations that use MMS taxonomy can mine those tags to recognize topics in their content. Synonyms also let you retrieve content by any of those tag synonyms. We’re also including new reports to let you analyze content and tagging activity.

MMS will also support enterprise content types, making it easy to govern document templates and metadata columns across your information architecture. And we’re making it simpler to import, export, and integrate custom taxonomy with third party systems.
Process content with the power of AI

With Project Cortex enabled, AI-powered capabilities that automate content capture and categorization will come to all SharePoint libraries, as well as to new content centers. Content centers are libraries with superpowers—where you can run reporting and analyses for how content is used. Content centers also enable you to create AI models for content processing and to automate content-centric processes using AI Builder and Power Automate which integrate with Project Cortex.

Work with content anywhere, on any device

Office mobile app. The new Office mobile app combines Word, Excel, and PowerPoint into a single app and introduces new mobile-centric features to make it your go-to productivity app. You can view, edit, and share files without the need to switch between multiple apps. It offers uniquely mobile ways to make document creation easier; for example, you can transform pictures into editable Word and Excel files with the press of a button. You can also quickly perform common mobile tasks with built-in Actions, including creating and signing PDFs, using Sticky Notes, and transferring files between devices.

Office integration. Inside Office clients, the Backstage view (a feature you can access via the File tab) lets users see document properties such as size, pages, word count, and more. If it’s from a SharePoint document library, users can also view and edit the SharePoint metadata associated with the file. If versioning is enabled, they can check-in the document or discard the checkout. And in Word 2016 (and later) for Windows, you can edit SharePoint metadata from the Ribbon menu directly.

SharePoint mobile app. This app enables you to access your team site activity and lists, view profiles, and search. You can also view and create Team News. The app connects to SharePoint, SharePoint Server 2013, SharePoint Server 2016, and SharePoint Server 2019.

OneDrive mobile app. OneDrive provides a place in the cloud where you can synchronize and access Office 365 file content. The OneDrive mobile app enables you to upload and share files like documents, Microsoft OneNote notebooks, photos, videos, and music.
Copying or moving content from OneDrive to your team site, and vice versa. When you select a file in OneDrive, you can copy to SharePoint directly, and vice versa. You can copy from OneDrive to SharePoint, from SharePoint to OneDrive, from one location on a SharePoint site to another, or from one SharePoint site to another.

OneDrive client. The OneDrive client has been enhanced to synchronize SharePoint team sites to Windows and Mac—including files in Teams, Office 365 groups, and OneDrive. It also provides Windows On-Demand Sync, which allows you to see all files, synchronized or not, locally on Mac and Windows.

Infuse content with intelligence

Cognitive services for custom image model. The custom image model using cognitive services allows you to build, deploy, and improve your own image classifiers. Use a labeled image to train Custom Vision Service to evaluate and classify images based on your custom requirements.
**Document sets.** Document sets group related documents together with shared metadata, routing, and visual experiences—allowing you to manage documents as a single entity. Each document set has a content type that makes it easier to create and manage multiple related documents. This feature can be found in both classic and modern mode.

**Microsoft Power BI integration.** Visualize large amounts of data from SharePoint lists by integrating with Power BI and get insights into data patterns through charts, dashboards, and reports. SharePoint also allows you to pin those insights to your list home page for easy access across the team.

![Power BI insights in a SharePoint list](image)

**Figure 17 - Power BI insights in a SharePoint list**

**Transcription.** Transcribe audio and video assets and use Power Automate to pull text for analytics automatically.
Migrate files to Microsoft 365 quickly

Get started on your move to the cloud fast with the SharePoint Migration Tool and the SharePoint Migration Assessment Tool. Quickly and easily migrate files from file shares or on-premises and SharePoint sites to OneDrive or SharePoint.

Figure 19 - SharePoint Migration Tool
In addition, Microsoft has added Mover to support migration from over a dozen cloud service providers – including Box, Dropbox, Egnyte, and Google Drive – to Microsoft 365 and SharePoint, enabling seamless file collaboration across Microsoft 365 apps and services, including the Office apps and Microsoft Teams. The Mover team also brings deep expertise and migration technology, which advances Microsoft’s commitment to providing organizations of all sizes with the right tools, people and partners to successfully migrate to the Microsoft Cloud.

Share content with colleagues

Document libraries. The document library is a secure location to create, share, and organize team files. It’s designed to bring consistency for working on files throughout Office 365 while maintaining the full power of SharePoint document libraries.

![Modern document library](image)

**Figure 20 - Modern document library**

Properties. Metadata in lists and libraries make it easier for users to find content through intelligent filtering on all field types.
Views. You can create different views by adding columns to your list or library and then sorting, grouping, and filtering on those columns. For example, people might want to see only documents that apply to their department or sort a list by project number.

Column customization. SharePoint allows you to tailor your view for document libraries and lists by dragging the column header to a new location.

File viewing. Thumbnails show documents, images, and video previews.

Pin to top. Highlight important files, folders, or links in a SharePoint document library by pinning them to the top of the library.

Predictive indexing and queries. SharePoint libraries apply indexes automatically to optimize working within lists of 20,000 items without worrying about performance bottlenecks or administrative headaches.

Bulk metadata updates. Edit metadata on multiple files or list items in one click.

File template management. In addition to default document types in any SharePoint document library, you can add document templates. Customize your new menu to choose which templates should be displayed in the library and which content type the template supports.

Send cloud attachments with Outlook. Cloud attachments are references to files stored in SharePoint and OneDrive. Outlook attaches the file as a live link rather than as a traditional attachment, reducing the message size while helping prevent document fragmentation or divergence. With SharePoint, you get a similar ability to share files as Outlook attachments.

Share files internally and externally. The files you store on SharePoint are available to everyone who has permissions to the site. In addition, you can share links to specific files and folders with people who need access to the content but aren’t team members.

Audience targeting. Page tagging and metadata help deliver pages and news to specific audiences.

PowerApps for document libraries. You can access SharePoint document libraries via PowerApps, which allows users to browse through document library folders and view and launch files in native apps.

Organization assets. Organization assets provide easy access to an organization’s approved images. It allows you to register multiple document libraries with images to be available anywhere in SharePoint. It works as a single point to access an approved image or one that was purchased for licensed use throughout the intranet.
Create content together in real-time

Co-authoring. Multiple people can work together simultaneously on a Word document, Excel spreadsheet, or PowerPoint presentation. Office includes tools like comments and track changes, as well as the ability to see where everyone is and what they’re typing as though they’re typing on your device.

Automate approvals and content processes

Automate your processes with Power Automate. Experience the benefits of connecting your data in SharePoint to other data sources. Power Automate is now integrated directly into SharePoint lists and libraries. Select Automate, and then select a Power Automate template from a panel. Use integrated review flows or create custom flows to build your own review and publishing processes for document lists and libraries.

And you can also use Power Automate for out-of-the-box approval processes like lightweight document signoffs or page publishing approvals. Inside the page library, use the Automate pulldown menu option to create an approval process.
Figure 22 - Adding a new flow in SharePoint

**Bulk check-in and checkout.** Users can check in and check out multiple files with a single click. When you check out a file, you have exclusive edit control until you check it back in.

![Bulk check-in and checkout](image)

Figure 23 - Bulk check-in and checkout

**Versioning.** When you enable versioning in libraries, which you can track and manage information as it evolves. View earlier versions and recover them as necessary or retain multiple versions for legal reasons or audit purposes. For sensitive information, it can be important to
have only the official version available to users. To accomplish this, you can require approval for an item or file before it becomes visible to most site users.

**Collaborate beyond the document**

**Team and Group calendars.** These calendars keep your team synchronized by sharing everyone’s meetings, project milestones, and vacation time using Office 365 Groups and Exchange integration. Use Outlook to view a calendar from an Office 365 Group side-by-side or overlaid with an Outlook calendar allowing for a tabular or combined view.

**Team news.** Team news helps you keep up with and broadcast key events and accomplishments. Use team news to share trip reports, best practices, or project updates, highlight new documents and content, welcome a new team member, share team goals, and celebrate milestones. You can easily and quickly create beautiful posts that are showcased on your team’s home page.

**Planner.** Planner makes it easy for your team to create new plans, organize and assign tasks, share files, chat about what you’re working on, and get updates on progress. It offers a simple, highly visual way to organize teamwork.

**Yammer.** Connect with people and information across your organization, breaking down silos, sharing best practices, and creating engaged communities. Yammer enables collaboration, knowledge sharing, and engagement across and beyond your company.

**Conversations in Microsoft Teams.** Teams provides a single place for an open and seamless persistent chat. It brings together your team’s conversations, meetings, files, and notes. Create different chat channels for the team based on work streams or topics. Teams provides built-in access to SharePoint, OneNote, and Teams Meetings.

Microsoft Teams uses content services to surface content for collaboration while maintaining organizational control. As an example, within a Teams chat, someone can attach a document within the session while that document still resides in the library for that SharePoint team site.
Future/coming soon

**Fluid Framework.** Fluid Framework is a new technology and set of experiences that will make collaboration seamless by breaking down the barriers between apps. It offers three key capabilities. First, experiences powered by the Fluid Framework will support multi-person coauthoring on web and document content at industry-leading speed and scale. Second, it provides a componentized document model that allows authors to deconstruct content into collaborative building blocks, use them across applications, and combine them in a new, more flexible kind of document. Third, the Fluid Framework makes room for intelligent agents to work alongside humans to translate text, fetch content, suggest edits, perform compliance checks, and more.
04. Manage and protect content

A concern for any organization with implementing new innovative tools is the ability to manage and protect information. Because Project Cortex is built in Microsoft 365, it maintains the privacy, security, and compliance organizations have grown to expect with other Microsoft 365 tools, with the addition of new knowledge capabilities.

From managing what topics can be created, or creating access permissions around a topic, to the automatic tagging of metadata, there are a host of new capabilities within Microsoft 365 and Project Cortex that organizations can take advantage of to better manage and protect institutional knowledge and content.

Integrate information across Microsoft 365 and beyond with Microsoft Search

Microsoft Search is a new enterprise search experience that increases productivity and saves time by delivering more relevant search results. It applies the AI technology from Bing and deep personalized insights surfaced by the Microsoft Graph, to make search more effective – so whether you’re looking to complete a task, pick up where you left off, or discover answers or insights, it’s just a click away, across all of your applications, your desktop, and your browser.

Figure 24 – Microsoft Search architecture
Microsoft Search meets you wherever you are. It’s a single, unified and consistent search experience across Microsoft 365 that brings you natural language understanding, instant query predictions, contextual results, and more. Using the intelligence of the Microsoft Graph, relevant content will surface to keep you up to date allowing you to unlock creativity with personalized search and discover people and content in the context of their work.

Microsoft Search connects you with what matters most – people, files, and conversations, connecting you to a world of information in the context of your work. With Microsoft Search you can discover your files, recent and relevant conversations across Microsoft Teams, Yammer and more, whether you’re working in SharePoint, OneDrive, Office, Windows, or Bing.

Microsoft Search inherits the industry leading privacy and security controls in Microsoft 365 and reflects the security of your information as it changes over time. With near-instant updates to permissions — so you only see search results for content you have access to.

For IT administrators, Microsoft Search puts advanced controls and analytics at your fingertips, providing the insights and settings that allow you to make the most of your search experience and empower the people across your organization to do more, by finding more. As an example, you can provide the information and answers people need to complete tasks, like policies, benefits, resources, tools, and more in work results. You can also target specific groups, like new hires or remote workers.

**Connect to third-party repositories**

Project Cortex can also connect to content in more than 100 disparate systems using the new Microsoft Search connectors. These connectors from Microsoft and our partners already support:

- Windows File Share
- ServiceNow
- SQL Database
- Intranet Websites
- MediaWiki
- Azure Data Lake Gen2
- Salesforce
- and 3rd party connectors through the ingestion API

Visit [https://aka.ms/MicrosoftSearch/Connectors](https://aka.ms/MicrosoftSearch/Connectors) to learn more and see the latest list of available connectors.
Apply security and compliance across your organization

The boundary of your knowledge network is your organization. As Project Cortex is built into Microsoft 365, it maintains the privacy, security, and compliance you expect from Microsoft 365.

For example, topics will be visible only to people with access to content and information related to the topic. And the information you see about a topic will reflect your access and permissions. In addition, administrators can control which scopes of content are included in Project Cortex, by excluding sites or documents with certain classification labels (like HBI). Administrators will also be able to control whether topics are published for broader visibility or are added to a block list that excludes specific topic names.

Importantly, Project Cortex enhances your security profile by automatically categorizing and tagging content with metadata, which can then be used by Microsoft Information Protection (MIP) and Information Governance and Records Management solutions to apply security and compliance policies. And you can use that same automatic categorization and tagging to streamline business processes with Power Automate.

Manage and retain records with Microsoft 365

Adding to the new capabilities that Project Cortex brings, Microsoft 365 has records management and retention capabilities that can help organizations in their management of data.

This new capability offered across Exchange, Microsoft Teams, OneDrive, and SharePoint allows an administrator to centrally define a retention label in the Microsoft 365 Compliance Center. This label enforces document retention and deletion policies, including those based on external events like project closure, payment receipt, or manual review. Labels can be set through code, default settings, or user actions, and can be auto-applied based on sensitive information types, content types, keywords, or trainable classifiers based on machine learning. With advanced records versioning, users may declare multiple versions of a single file without needing to make copies – all while the records are preserved on the backend.

Here are key attributes of record declaration with Microsoft 365 labeling:

- Unique: A permanent, non-alterable document URL brands every file in SharePoint.
- Variable: Microsoft 365 can define multiple record categories as separate labels and applied by appropriate user roles, or through automation or default values.
• Immutable: Moving beyond retention, a record label brands the content as unalterable throughout the lifespan of the policy.

• Transferable: To allow end-user productivity, any user can now move or transfer records while retaining the original.

**Figure 25 – Microsoft 365 Compliance Center**

**Controlled destruction.** Users cannot delete content labeled as a record, and they are advised that the deletion is blocked by policy. Microsoft 365 enforces automated document destruction by retention policies and generates a fully auditable activity log in the Microsoft 365 Compliance Center. Alternatively, you can choose to trigger a disposition review at the end of the retention period—calling upon the responsible user to retain or dispose of the document.

**Signals.** SharePoint has icons next to filenames, these are signals—visual cues about the status of a file. Signals can alert you with various statuses like when malicious software or packages have been detected in the file, if the file has been checked out either to you or by someone else, if it’s missing metadata or blocked by a data loss protection (DLP) policy, or if a file has been tagged as a record, recently created or uploaded, and more.
Malware  Missing metadata  DLP blocked  Trending  New

Figure 26 – Sample signals in SharePoint

**Scripted data governance label application.** SharePoint allows you to programmatically apply Microsoft 365 labels to the document library. You can also set a default label onto a document library for each site.

**File plans.** File plans offer advanced yet simplified capabilities to manage retention labels and policies for your entire content life cycle. With file plan actions, you can define and publish new labels and define triggers to apply labels automatically. File plans can also be exported from Office 365 for easy editing in Excel and then reimported to update label rules.

![Office 365 Security & Compliance](image)

Figure 27 - Office 365 file plan
**Advanced record versioning.** Advanced record versioning supports collaboration and productivity in your organization. Users with correct permissions can lock and unlock files to limit or enable collaboration on records within SharePoint. Microsoft 365 takes and preserves a snapshot with each lock or unlock—ensuring that records retention policies are met.

**Data classification and content explorer.** After you apply your retention labels and sensitivity labels, you'll want to see how the labels are being used across your tenant and what is being done with those items. The data classification page provides visibility into that body of content, specifically:

- The number of items that have been classified as a sensitive information type and what those classifications are
- The top applied sensitivity labels in both Microsoft 365 and Azure Information Protection
- The top applied retention labels
- A summary of activities that users are taking on your sensitive content
- The locations of your sensitive and retained data

The data classification content explorer allows you to natively view the items that were summarized on the overview page. Content explorer shows a current snapshot of the items that have a sensitivity or retention label, or have been classified as a sensitive information type in your organization.

**Label analytics.** Label analytics provides deep visibility into how your content is being labeled such as most used sensitivity and retention labels, classified content count by their store location, and more. It helps you investigate unusual trends and to continuously adjust and improve governance.

*Figure 28 - Label analytics*
**Information rights management.** You can encrypt files with Microsoft Information Protection and Azure Rights Management, and users can still open them at supported endpoints, including browsers, rich clients, and mobile Office clients. You can even synchronize encrypted files from SharePoint and OneDrive to your local computer for offline access. By requiring decryption on each access, users can freely copy files while you continue to limit actions inside each file. Finally, revoking a key instantly renders all copies unreadable, even if they have been distributed outside Microsoft 365.

**DLP.** The Security & Compliance Center provides a central location for defining policies for 82 predefined information types or creating other custom information types. When these types are detected, Microsoft 365 can advise users about the policy or even automatically block them from sharing or distributing based on the dynamic policy definition.

**OneDrive File Restore.** This complete self-service recovery solution allows you to go back to any time in the last 30 days and even view activity data to help you choose the exact moment to revert to.

**Auditing.** When combined with unified auditing in hybrid deployments of SharePoint 2016, Microsoft 365 can provide integrated logging of user and administrative actions on content for both on-premises and cloud-based SharePoint and OneDrive locations.

**Conditional access policies.** These policies can control or prevent access to content based on data sensitivity, user location, or device. For example, access can be blocked from certain countries or limited to read-only views on personally owned devices.

**Activity explorer.** Activity explorer in the Microsoft 365 Compliance Center allows you to monitor what's being done with your labeled content. It provides a historical view on 12 types of activities across SharePoint, OneDrive and endpoints (user devices running Windows 10). It provides information like how many times each label was applied on each day, which files had labels changed or removed, while files were renamed, modified, or moved to the cloud, and more.
Insider risk management. This solution helps minimize internal risks by enabling you to detect, investigate, and take action on risky activities in your organization. Custom policies allow you to detect and act on malicious and inadvertent risk activities in your organization, including escalating cases to Microsoft Advanced eDiscovery if needed. Risk analysts in your organization can quickly take appropriate actions to make sure users are compliant with your organization’s compliance standards. Insider risk management can help you protect your information from leaving your organization.

Compliance Score. You can use Compliance Score in the Microsoft 365 compliance center as a tool to track all of your risk assessments. It can help to simplify the way you manage compliance and reduce compliance risks through a user-friendly experience. It calculates a risk-based score measuring your progress in completing actions that help reduce risks around data protection and regulatory standards.

Support privacy and compliance

Microsoft manages data in accordance with the law of the land and has the most comprehensive compliance coverage in the industry. Some examples of global compliance standards that Microsoft meets include ISO 27001, WCAG 2.0, and SOC 1 Type 2. To see a complete list of our compliance offerings, visit the Microsoft Trust Center.

Microsoft 365 compliance center. The Security & Compliance Center is designed to help you meet your organization’s legal, regulatory, and technical standards for content security and data use. Manage eDiscovery searches and holds, access for mobile devices, and more.
**Customer Lockbox.** Customer Lockbox gives you control over your content. In the rare instances when a Microsoft engineer needs access to your content to resolve an issue, you retain control and visibility.

**Customer key.** By default, Microsoft manages your tenant encryption key. You might want to manage your own tenant key to comply with regulations specific to your organization.

05. Architecture

Project Cortex puts people at the center – making it easier to discover and share knowledge in the tools they use every day such as Office 365, Microsoft Teams, SharePoint, and Microsoft Search. Project Cortex helps end users discover connections relevant to them through topic cards, topic pages, knowledge centers, and content centers, while ensuring best-in-class security and compliance built into Microsoft 365. Using Microsoft Graph and AI, it organizes content into a knowledge network of shared topics to power individual productivity and improve workplace intelligence.

Project Cortex architecture

Through the power of Microsoft Search connectors, Project Cortex can help extend your organization’s knowledge network outside of Microsoft 365. Using connectors, information from third-party data sources can be added to the Microsoft Graph, appear in Microsoft Search results, and surface through Project Cortex – whether the data’s hosted on premises or in the public or private clouds.
Furthermore, Project Cortex can help end users process new content with capture engines, which leverage AI models from across Microsoft, including Azure Cognitive Services, to automatically tag and classify content. Your experts can also use machine teaching, powered by LUIS, to train the AI to recognize information in unstructured documents, such as contracts, proposals, or training materials, which might have varied content and formatting.
06. Summary

Accessing and retaining organizational knowledge is a real challenge that organizations around the world deal with to varying degrees. Whether it’s finding the right information an employee needs when onboarding to a new role, or capturing another long-time employee’s knowledge for future use – making sure that knowledge is accessible is difficult.

With Microsoft 365 and the new features such as topic cards, knowledge centers, and content centers provided by Project Cortex, information shared in any platform can be ingested, organized, and made accessible so that employees throughout the organization can get the information and context they need – all from within the tools they use every day.

07. Calls to action

Check out the following resources to learn more about Project Cortex and other knowledge and content tools in Microsoft 365:

Visit [http://aka.ms/ProjectCortex](http://aka.ms/ProjectCortex) on the Microsoft Tech Community for the latest information and updates on Project Cortex. Customers can apply to join the related mailing list to receive the latest knowledge and content services news from Microsoft.

Visit [https://aka.ms/MicrosoftSearch/Connectors](https://aka.ms/MicrosoftSearch/Connectors) to learn more about and get the latest updates on Microsoft Search connectors that index third-party data to appear in your organization’s Microsoft Search results.