2024 Planning Guide for the Digital Workplace

Published 4 October 2023 - ID G00796444 - 62 min read

By Analyst(s): Chris Jackson, Larry Cannell, Darin Stewart, Taylor Satterfield, Ventse Derzhitski, Max Goss, Timon Watson, Sebastian Kempf, Mike Burkett, Eddie Riddle

Initiatives: Digital Workplace and CRM for Technical Professionals

> As we settle into current work patterns, enhancements to digital workplace services will be even more vital. In 2024, technical professionals must plan for emerging technologies such as generative AI, and optimize digital workplace investments like Microsoft 365 to boost end-user productivity.

Overview

Key Findings

- The recent emergence of large language models (LLMs) and generative AI (GenAI) will have a disruptive impact on digital workplace governance and knowledge management in 2024.
- Organizations maturing their implementation of Microsoft 365 will redouble their efforts to deliver greater compliance, higher return on investment and an improved user experience.
- License model changes and uncertain roadmaps from traditional virtual desktop infrastructure (VDI) vendors are incentivizing organizations to assess cloud-based alternatives.
- Organizations will require a multifaceted approach to device management, combining modern and traditional device management tools.
- Deploying the now-mature unified communications and contact center services will accelerate the migration of on-premises communication services to the cloud.

Recommendations

When planning for 2024, technical professionals responsible for the digital workplace should:

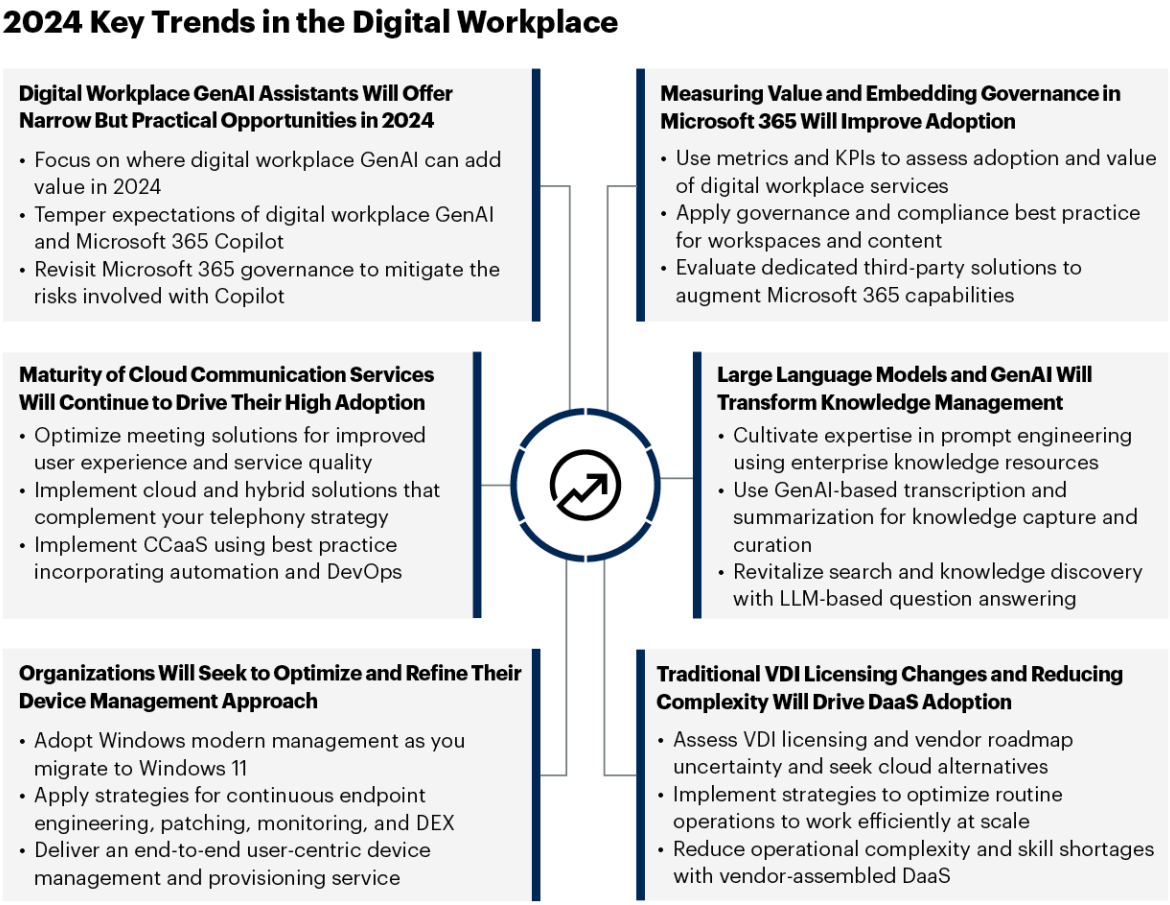
- Focus on use cases where LLMs and GenAI can immediately add value while developing internal expertise and managing the expectations of business stakeholders about their capabilities.
- Mature your Microsoft 365 deployment by aiming to reduce risk, improve capabilities and drive value from the platform.
- Assess VDI licensing changes and uncertain vendor roadmaps while reducing operational complexity and addressing skills shortages with vendor-assembled DaaS.
- Embrace a modern device management strategy that delivers a user-centric experience including capabilities that support continuous endpoint engineering (CEE) and digital employee experience (DEX).
- Select, implement and optimize meeting and communication solutions for improved user experience and service quality.

Digital Workplace Trends

As many organizations settle into their established post-pandemic ways of working, organizations will take this period of relative stability to optimize and rationalize their digital workplace portfolio. This will involve renewed implementation and delivery plans to improve adoption and maturity of their digital workplace.

While global challenges remain with supply chain issues, inflation and recession, many organizations will be asking their IT teams to do more with less (see Figure 1).

Figure 1: 2024 Key Trends in the Digital Workplace



Source: Gartner
796444_C

In this 2024 Planning Guide, we focus on technology trends that will help organizations to realize better return on investment, improve employee productivity, and prepare for new and emerging technologies such as GenAI through their digital workplace solutions.

The following trends will provide opportunities for productivity enhancement in 2024:

- Digital workplace GenAI assistants will offer narrow but practical opportunities in 2024
- Measuring value and embedding governance in Microsoft 365 will improve adoption
- Maturity of cloud communication services will continue to drive their high adoption
- Large language models and GenAI will transform knowledge management
- Organizations will seek to optimize and refine their device management approaches

- Traditional VDI licensing changes and reducing complexity will drive DaaS adoption

Digital Workplace GenAI Assistants Will Offer Narrow But Practical Opportunities in 2024

ChatGPT's public launch in November 2022, followed by Microsoft's announcement in March 2023 of their plans for Microsoft 365 Copilot, left many technical professionals spellbound about the possibilities of GenAI assistants. Initial demonstration videos from Microsoft and Google sparked speculation about the potential for significant end-user productivity improvements. Technical professionals are now scrambling to make sense of these assistants, validate Microsoft's claims of improved productivity and to advise business users asking for access to them.

To prepare for the use of digital workplace GenAI assistants, organizations should:

- Focus on where digital workplace GenAI can add value in 2024.
- Temper expectations of digital workplace GenAI and Microsoft 365 Copilot.
- Revisit Microsoft 365 governance to mitigate the risks involved with Copilot.

Planning Considerations

Focus on Where Digital Workplace GenAI Can Add Value in 2024

Enthusiasm among Gartner clients for GenAI assistants — such as ChatGPT Plus, Google Duet AI and Microsoft 365 Copilot — was dampened in July 2023 when Microsoft revealed that Copilot would be charged at $30 per user per month when it becomes generally available (a date that has yet to be revealed). In addition, the Copilot add-on license will only be available for Microsoft 365 E3 or E5 subscriptions and not Office 365 E3 or E5 subscriptions. Early versions of Copilot are available for testing purposes as part of a private preview, but customers must pay a fee to participate. For comparison, the list price for ChatGPT Plus is $20 per user per month. Google Duet pricing has not been announced and interested customers have been asked to add themselves to a waiting list.

As part of the July 2023 Copilot announcement, Microsoft also launched Bing Chat Enterprise (BCE). This is a no-cost add-on for subscribers of Microsoft 365 E3 or E5 (BCE is also not available for Office 365 E3 or E5) and is now broadly available in preview. BCE provides similar capabilities to ChatGPT, and only differs from Bing Chat by not including Bing Image Creator and Visual Search in Chat.

Given the popularity of Microsoft 365 E3 and E5, Bing Chat Enterprise is likely to become the most widely adopted corporate GenAI solution in 2024.

The main difference between BCE and Copilot is that Copilot crafts responses based on internal documents and messages stored in your Microsoft 365 tenant's search index. BCE leverages publicly available information that is stored in Bing's web search index. Even so, BCE adheres to Microsoft 365 tenant boundaries, limiting access to only internal users. BCE also does not log user queries, or the responses returned, meaning this data will not be used to train its LLM. In addition, BCE's LLM is hosted by Microsoft, not OpenAI. These tenant-focused measures to secure BCE mediate many of the risks that compelled some IT organizations to prevent their organization's devices from accessing ChatGPT.

Gartner recommends that technical professionals in organizations that subscribe to Microsoft 365 E3 or E5 should assess the feasibility of opening Bing Chat Enterprise for organizationwide use, even while it is still considered in preview. BCE may be the only GenAI solution that many of your users will need for the foreseeable future. Nevertheless, you should ensure that BCE complies with your cloud security policies before releasing it. Even though it does not use internal information (even if an employee uses internal information in the prompt), you can assess the technical feasibility of BCE like you would any other cloud-based solution.

Notably, BCE is listed on Microsoft 365's roadmap as becoming generally available in July 2024 (Gartner considers dates listed in this roadmap as estimates, so this date will likely change). Nevertheless, Microsoft enabled access to the preview version of BCE to be on by default for all Microsoft 365 E3 and E5 tenants in August 2023.

Temper Your Expectations of Digital Workplace GenAI and Microsoft 365 Copilot

Given the announced price of Microsoft 365 Copilot, technical professionals interested in pursuing GenAI assistants that leverage their internal information will need to rethink their expectations for any potential widespread rollout within their organizations. In short, Copilot experiments should now be aimed at high-value use cases that can justify the product's cost. Interestingly, this necessary approach contrasts with Microsoft's early marketing of Copilot, which highlighted general productivity opportunities (such as Copilot in OneNote). These benefits only accrue if all users in an organization use the product. The dissonance between Microsoft's initial marketing (high value) versus Copilot's real-world use cases (general productivity for all) has frustrated Gartner clients.

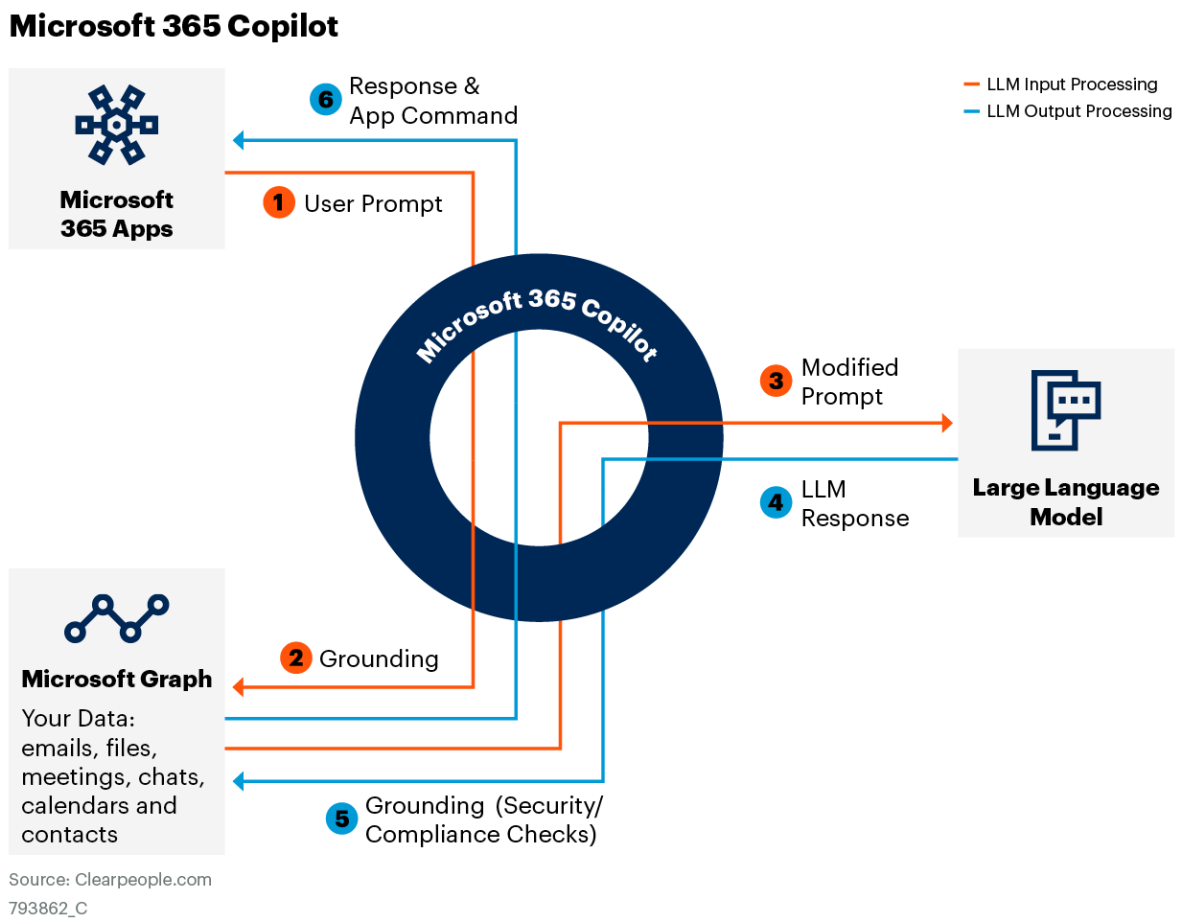
Nevertheless, Microsoft's Copilot private preview could demonstrate that its benefits justify the high cost. Alternatively, Microsoft may offer significant discounts to persuade reluctant customers to adopt Copilot. Therefore, Microsoft 365 E3 and E5 customers should use 2024 as an opportunity to learn more about how Copilot operates, educate potential stakeholders about Copilot's risks and opportunities, and to prepare their corporate data to be accessed and used by Copilot.

Gartner recommends using BCE to build awareness of digital workplace GenAI. Assist business users in understanding the differences between BCE and Copilot. Also, help those business users interested in building business cases for Copilot, but prioritize high-value opportunities if your organization chooses to participate in Microsoft's paid preview.

Revisit Microsoft 365 Governance to Mitigate the Risks Involved With Copilot

Preparing for Microsoft 365 Copilot requires more effort than BCE because Copilot uses an organization's internal data. Figure 2 depicts Copilot's high-level architecture and data flow.

Figure 2: Microsoft 365 Copilot Data Flow



Source: Clearpeople.com
793862_C

To make responses relevant to your organization, Copilot modifies the prompt sent to the LLM and enriches it with information from your tenant's Microsoft 365 search index, also called the Microsoft graph (steps 2 and 3 in Figure 2 call this "grounding" and creating a "modified prompt"). BCE uses a similar approach but instead uses Bing's web search index to enrich the prompt. By augmenting the prompt, Copilot contextualizes the responses without ingesting your Microsoft 365 data into the LLM's training data. This also allows Microsoft to share LLM resources across multiple tenants. More information on prompt engineering and LLMs are discussed later in this planning guide with details on how to use GenAI to transform knowledge management.

Like BCE, Microsoft does not use any data in the modified prompts to train Copilot's LLM. This includes both textual input from the user, and information from the Microsoft Graph. Furthermore, Copilot only enriches prompts based on information returned by querying the Microsoft Graph on behalf of the user. If the user does not have access to a document or message, then it is not included in the augmented prompt. This should stop a Copilot user from seeing information to which they are not entitled.

Copilot may still surface sensitive information if a user inadvertently has access to the underlying data.

However, Copilot may still surface a sensitive piece of content if it is not secured properly. This could be a confidential document (employee salaries or corporate product plans, for example) the Copilot user did not know existed, but was inadvertently left accessible by the document's owner. For example, an owner may assume that their unsecured document is inaccessible to all except those in possession of a direct link. It is wrong to assume that an unsecured document cannot be found by either Microsoft search or Copilot.

Gartner recommends implementing Microsoft 365 governance (see Solution Path for Implementing Effective Microsoft 365 Governance) and working with your IT security professionals to assess options for reducing inadvertent data leakage. Furthermore, ungoverned content is not search friendly as there will likely be a significant number of documents and messages that will be redundant, obsolete, or trivial (ROT). This could lead to Copilot responding with irrelevant or incoherent results. Details on how to manage governance in your tenant are discussed in the following section on embedding governance and improving adoption of Microsoft 365. Lastly, LLMs require a massive amount of compute power in the form of graphical processing units (GPUs), so there will necessarily be a limited number of Microsoft data centers throughout the world that host LLMs. Involve your data compliance officers in any investigation of Copilot to ensure that your organization's data residency and sovereignty requirements are not violated.

Measuring Value and Embedding Governance in Microsoft 365 Will Improve Adoption

In 2023, organizations continued to address the governance, security, and compliance challenges with Microsoft 365. This resulted in a consistent focus on developing governance programs to gain visibility and control over the platform.

In 2024, IT teams must continue to address these concerns by maturing their Microsoft 365 deployments, aiming to reduce risks, improving capabilities, and driving value from the platform.

IT must align closely with the business, ensuring that Microsoft 365 supports the longer-term needs and working model of the organization, and that it can meet governance and compliance requirements.

To do this, IT teams responsible for Microsoft 365 must:

- Use metrics and KPIs to assess adoption and value of digital workplace services.
- Apply governance and compliance best practice for workspaces and content.
- Evaluate dedicated third-party solutions to augment Microsoft 365 capabilities.

Planning Considerations

Use Metrics and KPIs to Assess Adoption and Value of Digital Workplace Services

When assessing the adoption of digital workplace services, and the associated value these bring to end-user productivity, organizations must develop defined goals and KPIs that can be used to measure value.

In the 2023 Gartner Microsoft 365 Survey only 8% of respondents noted that their organizations had defined KPIs or goals to measure Microsoft 365 usage and adoption.

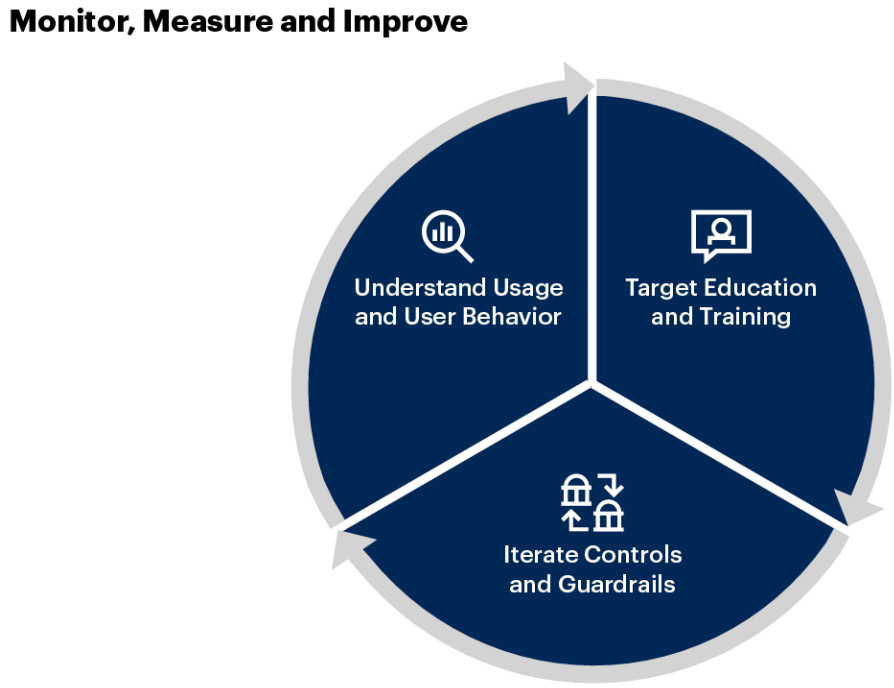
Many organizations have basic usage monitoring in place, but this does not usually go beyond counting how many groups, teams or sites they have, or how many people are using Microsoft Teams chat and channels. These metrics provide general usage statistics, but they cannot tell you whether or where users are getting value from the platform, or if Microsoft 365 has changed the way they work. To truly measure adoption, organizations need to combine granular quantitative data with qualitative insight gained from focus groups and communities of practice. In other words, get users to quantify value in *their* terms.

Quantitative data should go beyond simple usage and look at whether behavior has changed. For example, an increase in Teams usage may correlate with a reduction in more traditional and less effective ways of collaboration — such as sending emails with file attachments. Breaking this down by department can be useful as you can start to see if different parts of the organization need additional help or training. Monitoring help desk queues and training requests are also effective ways to gain insight into how Microsoft 365 is landing across different parts of the organization.

Qualitative data is much harder to capture and relies on you having set up the right structures to facilitate conversation and gather feedback. Gartner recommends setting up a community of practice for Microsoft 365 where IT can learn directly from the business how Microsoft 365 services are being consumed, and whether any policies or governance controls need to be revisited. It is also recommended to use surveys, observation sessions and other interactive mechanisms to both build the relationship between IT and the business and to understand how Microsoft 365 is being consumed.

Figure 3 shows the iterative nature of Microsoft 365 governance and how user feedback and usage data can be used to target education and improve the user experience.

Figure 3: Use Feedback and Monitoring data to Improve Governance in Microsoft 365



Source: Gartner
796809_C

Gartner recommends following the following six steps to assess adoption and the value derived from Microsoft 365:

- **Monitor usage analytics:** Make use of included capabilities in the tenant to gain a view into which services are being adopted as core, and which services are seeing lower adoption. Leverage Microsoft Entra ID groups and attributes to understand how different parts of the organization are consuming these services and whether targeted training is required.
- **Establish a Microsoft 365 community of practice:** A Microsoft 365 community of practice (CoP) should include service champions or superusers for Microsoft 365. The CoP represents the views of business departments across the organization about how Microsoft 365 applications are being consumed. Gartner strongly recommends that you set up this group to facilitate two-way communication between IT and the business, and to create a vehicle to gather qualitative feedback. The CoP is a key part of the Microsoft 365 product team, which is covered later in this research.
- **Create key performance indicators:** Monitoring is only effective if you know what you're measuring and why. Gartner recommends setting up KPIs that define what successful collaboration and adoption looks like for your organization. This could involve more people sharing with named individuals, rather than using organizationwide anonymous sharing links, or a reduction in emails with file attachments.
- **Implement ongoing monitoring:** You should continually gather both qualitative and quantitative data to validate the success of your digital workplace implementation. Use this ongoing monitoring data to evaluate trends over time, and to identify key areas of improvement or focus for new adoption initiatives.
- **Deploy a DEX tool:** Focus on more than just network or application issues. Do not rely solely on help desk calls and service requests to discover productivity issues. Modern DEX tools and user experience monitoring solutions offer valuable insights into usage trends, application performance issues, and how digital workplace tools are improving productivity and creating a positive user experience.
- **Review training and governance controls:** Based on usage and behavior, target end-user training and review governance controls. Governing Microsoft 365 is an iterative process, and you will likely be engaged in a repeating cycle of monitoring, targeting training and refining controls.

Apply Governance and Compliance Best Practice for Workspaces and Content

Gartner clients regularly report that governance, administration, and compliance concerns are the key areas of focus when managing Microsoft 365. The principal areas of concern include:

- Data life cycle management and retention
- Reducing the risk of oversharing and data loss
- Collaboration service usage and best practices
- Operation governance and establishing product teams
- Managing self-service and citizen developers

Details regarding each of these areas and possible mitigations are discussed in the following section.

In the 2023 Gartner Microsoft 365 Survey, 64% of respondents stated that inadequate Microsoft 365 support/governance functions presents a key risk to their organizations' deployment of the platform.[3]

Consider Third-party Solutions to Help with Workspace and Data Life Cycle Management

Life cycle management of workspaces and content in Microsoft 365 is complicated, and the out-of-the-box capabilities often do not meet organization requirements for end-to-end workspace management. Larger organizations that are managing Microsoft 365 at scale should explore how third-party vendors can augment native capabilities and provide a more comprehensive tenant management and governance experience (see Assessing Workspace Governance and Life Cycle Controls in Microsoft 365).

Manage External Sharing and Data Loss Risks

Microsoft 365 has many options and methods to share content externally, either using direct sharing links with external recipients, or by inviting guest users into the tenant. Although the default open-sharing configuration promotes collaboration, it also creates the potential for oversharing and an increased risk of data loss. Organizations must therefore implement sharing settings and policies that control external sharing and guest access. Organizations requiring more comprehensive data protection capabilities should also implement additional security measures such as information protection and data leak prevention (DLP) policies (see Guidance Framework for Managing External Sharing in Microsoft 365).

Train Users in Collaboration Service Use Cases and Best Practice

Utilizing each Microsoft 365 collaboration service based on its virtues and intended use cases will be important for organizations to gain the full benefits of the platform. While OneDrive, Teams and SharePoint all store content and documents, it will be important for organizations to direct and inform users about when to use each service (see Solution Path for Document Management in Microsoft 365).

Organizations must consider the types and volumes of data they are storing in Microsoft 365, and should pay careful attention to ensuring that only content and documents that support collaborative scenarios are added. Organizations must also note that Microsoft 365 — and specifically OneDrive, Teams and SharePoint — are not used as mass volume storage areas or as a replacement for traditional file servers (see When to Migrate Your On-Premises File Shares to Microsoft 365).

Establish Operational Governance With a Microsoft 365 Product Team

To be successful with Microsoft 365, organizations must recognize that the platform requires a more diverse and cross-functional team of stakeholders than traditional on-premises infrastructure. Microsoft 365 services don't work well in silos, and must be managed holistically by working with multiple departments, subject matter experts, and business colleagues to formulate a connected and transparent roadmap and service-delivery approach.

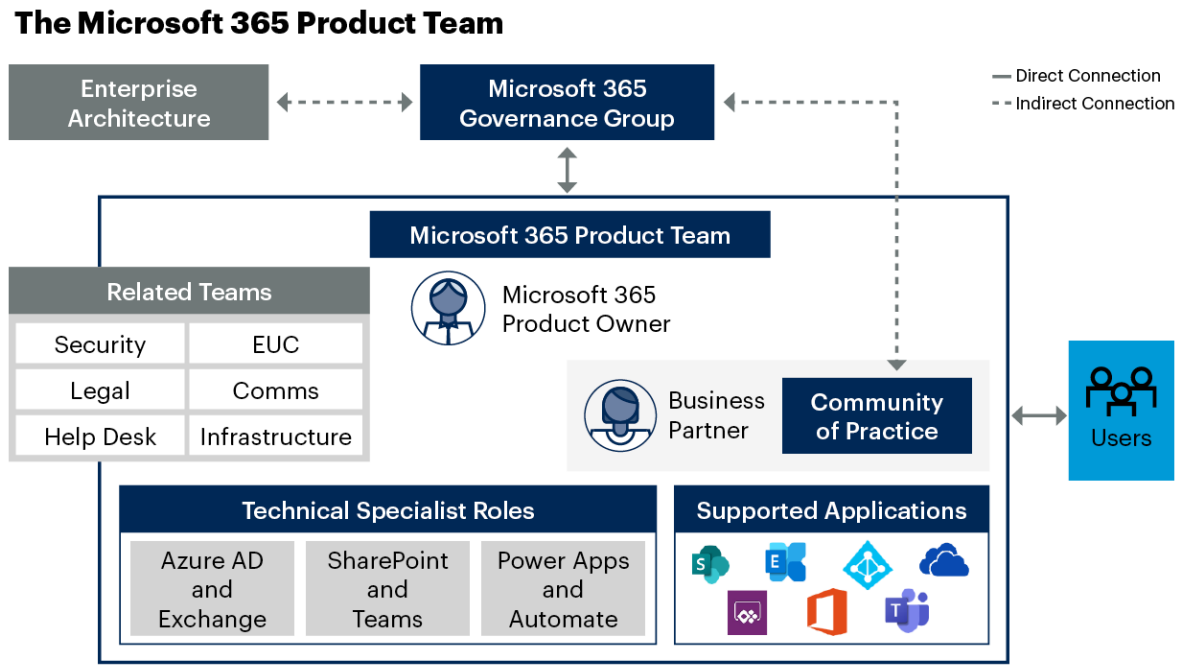
Organizations must therefore build a dedicated Microsoft 365 product team to provide clear ownership and strategic direction for the platform in line with business requirements. The Microsoft 365 product owner is central to the success of the product team. This role provides platform-level ownership, develops business partnerships, and coordinates Microsoft 365 projects and initiatives.

Building a Microsoft 365 product team allows the organization to unlock the value of Microsoft 365 and provides several distinct benefits including:

- Defined ownership and accountability.
- Centralized governance and risk management.
- Improved business engagement.
- Stronger vendor relationships and reduced costs.
- Increased user productivity and organizational competency.

Figure 4 shows the key components of the Microsoft 365 product team:

Figure 4: The Microsoft 365 Product Team



Source: Gartner
775252_C

More information on how to establish a Microsoft 365 Product team is available in Establish a Product Team to Maximize Value From Microsoft 365.

Implement Data Protection Policies

Microsoft Purview is the compliance service that enables organizations to catalog, discover and manage data in their Microsoft 365 tenant. The information protection components in Microsoft Purview focus on securing sensitive data and ensuring compliance with data privacy regulations. Microsoft Purview allows organizations to classify their data based on sensitivity and importance. It supports automated and manual classification methods, enabling users to tag data with labels such as personal identifiable information (PII), financial data, or intellectual property.

Many organizations have focused their Microsoft 365 security and data protection efforts around initiatives such as conditional access policies, device management, security roles and permissions, Microsoft 365 groups and managing external and guest access. While these capabilities and implementations are crucial to securing your Microsoft 365 tenant, today's organizations should plan to implement information protection and DLP policies to further augment these controls and protect content at the data level. Organizations should start this process by understanding where they have critical and sensitive data in their Microsoft 365 tenant, and building classification policies and labels based on these data types.

As an extension to these capabilities, Microsoft has recently released additional data protection and DLP controls for SharePoint and OneDrive in the form of the Microsoft Syntex — SharePoint Advanced Management product. This is licensed on a per-user per-month basis, and must be purchased as an add-on. Alternatively, there are many third-party governance tools available that have the potential to offer a more mature set of capabilities. If your organization needs additional controls to protect sensitive data, it is recommended that you consider both first-party and third-party add-ons.

Manage Self-Service and Citizen Development

Microsoft 365 as a user-centric content and collaboration platform has many end-user self-service and citizen development capabilities built in and enabled by default. From the ability for users to create their own content workspaces (such as with Teams and SharePoint) to being able to build business applications with the Microsoft Power Platform, the potential for users to create workspaces and applications is vast.

Unrestricted self-service with no checks or balances can expose an organization to significant risk in the form of oversharing and data loss. However, organizations that unnecessarily restrict the creation of new workspaces often find that collaboration and agility is stifled. This potentially leads to frustration for end users, and in the worst-case scenario, results in shadow IT solutions being used to work around these restrictions and delays.

Organizations must plan for and implement processes that enable an element of self-service alongside the appropriate checks and balances to ensure that new workspaces and applications are provisioned for the right reasons. This helps to ensure that the associated risks of unrestricted self-service are managed, while still allowing business collaboration to flow easily.

Evaluate Dedicated Third-Party Solutions to Augment Microsoft 365

While Microsoft 365 offers broad support for security, compliance, data management and general tenant governance, there are still gaps in several key areas. Organizations often find that third-party tools are more mature in these areas, and are necessary to fill these gaps. These tools do, however, come at additional — and sometimes significant — cost. Organizations must evaluate their requirements for third-party solutions and assess these against the additional cost and complexity incurred by the tools.

The key focus areas for 2024 and where Gartner is experiencing high client inquiry demand and interest are:

- Mass mail
- Backup and restore
- Workspace governance
- Records management
- External sharing

Mass Mail

Organizations that are adopting a cloud-first strategy often move user mailboxes to the cloud. However, SMTP relay and bulk email requirements continue to prevent the decommission of on-premises infrastructure. Microsoft 365 native mail relay options might be a viable solution for internal communication, but can fail to meet the demands of organizations sending large volumes of email externally.

To mitigate this, organizations have two different options, which are sometimes used together:

- Maintain Microsoft 365 Exchange servers to support legacy authentication methods.
- Adopt a third-party cloud SMTP solution.

If your application is compatible with modern authentication methods, Amazon Simple Email Service (SES), Azure Communication Services, DuoCircle and Twilio SendGrid provide SMTP delivery services with varying functionality that can meet these requirements (see What to Do With Your On-Premises Exchange Server After Migrating to Microsoft 365).

Backup and Restore

Microsoft has historically provided features for data protection and retention, but not a formal suite of backup controls for Microsoft 365 data. As such, organizations that required granular backup and restore of their content needed to adopt a third-party solution. There are many vendors that provide extensive restore capabilities and can backup Teams workspaces as well as traditional workloads such as Exchange, SharePoint and OneDrive. They can also protect data stored in locations outside of Microsoft 365. When asked in the 2023 Gartner Microsoft 365 Survey, [3] almost 40% of respondents noted that their organizations used a third-party solution to backup Microsoft 365 (see Quick Answer: Should I Back Up Microsoft 365?).

Microsoft recently announced that Microsoft Syntex will feature backup options for Microsoft 365 Exchange, SharePoint and OneDrive and is making its Backup APIs available for partners to use and further augment their capabilities. Further details of the offering are not yet known as Microsoft 365 Backup is yet to reach public preview (see Welcome to Microsoft Inspire 2023: Introducing Microsoft 365 Backup and Microsoft 365 Archive).

Governance

There are some notable gaps in the governance controls available in Microsoft 365. This is particularly evident around workspace management, with many organizations struggling to handle workspace and content sprawl. A mature market has developed around third-party governance solutions that improve upon the features offered natively in Microsoft 365. AvePoint, Syskit, Powell Software and Rencore are some of the vendors that operate in this space. These solutions help manage the end-to-end life cycle of workspaces (from provisioning to deletion) and provide improved visibility and reporting. They also help with the management of oversharing and guest (see Assessing Workspace Governance and Life Cycle Controls in Microsoft 365).

Records Management

Records management in Microsoft 365 depends heavily on your licensing level. Organizations that are licensed with Microsoft 365 E3 have a minimal set of records management capabilities that are unlikely to be suitable for anything more than basic retention requirements. Microsoft 365 E5 (or the Microsoft 365 E5 Compliance add on) provides access to a much broader set of dedicated records management features. However, there are still gaps, notably around physical records management, integration into LOB systems such as SAP and Workday, and the ability to manage records outside of Microsoft 365. For highly regulated organizations that have advanced records management requirements, Gartner recommends considering add-on products. AvePoint, Collabware, Gimmal, Infotechtion and RecordPoint all provide records management solutions that can fill the gaps in Microsoft 365 (see Assessing Records Management Capabilities in Microsoft 365).

External Sharing

While Microsoft 365 offers a breadth of external sharing options that support many different use cases, there are some notable challenges. Not all organizations want or can have external identities in their tenant, and heavily regulated industries and certain regions often block sharing links that originate from SharePoint. In the 2023 Gartner Microsoft 365 Survey, 60% of respondents noted that their organizations had either disabled or restricted external sharing in Microsoft 365. [3]

Organizations should assess the feasibility of external sharing options available in Microsoft 365 and consider alternatives. Other content service platforms — such as Box or Dropbox for Business — could be used to completely separate internal data in Microsoft 365, with a specific solution only for external sharing. Alternatively, organizations could use dedicated external sharing products that integrate with Microsoft 365. Vendors operating in this space include AvePoint, e-share and Exostar (see Assessing External-Sharing Options in Microsoft 365).

Large Language Models and GenAI Will Transform Knowledge Management

Large language models (LLMs) and the GenAI they make possible are disrupting and transforming all aspects of the digital workplace. Few areas will experience this impact more than knowledge management (KM). GenAI has the potential to eliminate most of the time-consuming drudge work that makes KM impractical for so many organizations.

By largely automating knowledge capture, subject-matter experts can be freed from writing and maintaining knowledge articles. AI-assisted curation will enable knowledge managers to focus their energies on cultivation and facilitation rather than editing and formatting. LLMs can revitalize enterprise search by replacing traditional queries and lists of links with natural language questions and direct answers. When incorporated throughout the full knowledge life cycle, GenAI can create a virtuous cycle of sustainable knowledge management. This will not happen without concerted effort.

Digital workplace vendors are rushing to incorporate GenAI capabilities into their products and services. The most prominent of these emerging tools are assistants that allow the user to take full advantage of a platform's capabilities. These product-specific tools can increase productivity, but in and of themselves will not enable or enhance KM. Similarly, cloud and API-based GenAI services can be easily accessed but require users to have LLM-specific skills to yield useful behavior and reliable information.

Gartner recommends that organizations focus their KM efforts in 2024 on incorporating LLM capabilities across the knowledge life cycle and developing expertise with GenAI in KM activities. To accomplish this, organizations should invest in three specific areas:

1. Cultivate expertise in prompt engineering using enterprise knowledge resources.

2. Use GenAI-based transcription and summarization for knowledge management.

3. Revitalize search and knowledge discovery with LLM-based question answering.

Planning Considerations

Cultivate Expertise in Prompt Engineering Using Enterprise Knowledge Resources

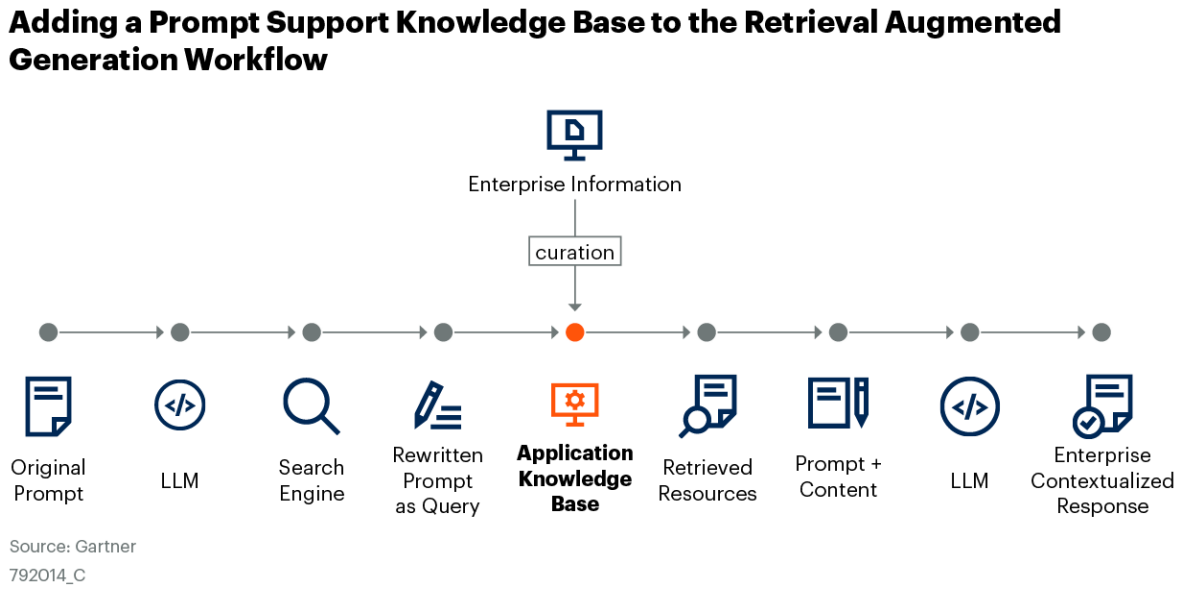
General purpose LLMs — like ChatGPT, Lambda, or Llama — have limited information about your business as they can only use publicly available data to train their models. This severely limits their usefulness as a source of enterprise knowledge. Of course, an LLM can be trained on proprietary enterprise information and knowledge assets, but this process is complex, time-consuming and expensive. Training a custom LLM is beyond the capabilities of most organizations. Tuning an existing model is simpler, but only makes an LLM better at a particular task with the information it has. Tuning adds no additional information to the model whatsoever.

For most knowledge management scenarios, prompt engineering is the most practical way to include enterprise knowledge resources when interacting with an LLM. In GenAI, “prompts” are the plain language instructions provided to an LLM or other AI when instigating an interaction or making a request. The simplest way to incorporate knowledge assets into an LLM interaction is to simply copy the content into the prompt, either as plain text or more commonly as JSON. A GenAI can be instructed to only consider the content provided in the prompt when formulating its answer. For example, a collection of closed help desk tickets with successful resolutions could be passed to the LLM along with instructions to summarize the solution from those tickets. That summarization can then become a persistent knowledge base article.

Privacy and data ownership issues, along with access controls, must be considered, but another significant issue is how to construct an appropriate prompt to generate the desired results. There are several approaches, including zero-shot, few-shot, and chain-of-thought prompting, each of which is appropriate to a particular set of use cases (see Prompt Engineering With Enterprise Information for LLMs and GenAI). A knowledge manager must be adept at choosing the appropriate prompt type, selecting the necessary knowledge assets, and creating a prompt incorporating those assets. This is more art than science at this stage of GenAI’s maturity.

Experiment with each type of prompt to understand how each works along with the capabilities and limitations of the LLM being used. Develop a set of patterns for each type of prompt appropriate to KM activities to be supported. Implement the patterns as a library of prompt templates that is available to users and developers. Many prompt libraries are emerging online, including repositories from Google, GoDaddy and numerous other GenAI vendors and developer communities. Explore these as examples and starting points, but these prompts should be adopted with caution. Ensure that they conform to your requirements, respect your established guardrails, and abide by your enterprise data handling standards (see Figure 5).

Figure 5: Adding a Prompt Support Knowledge Base to the Retrieval Augmented Generation Workflow



This approach of "in context learning" for knowledge management can be enhanced by creating a curated collection of knowledge assets for a specific domain or application. Raw enterprise content is not created or managed to be fodder for LLMs and KM. It is created to support primary business processes. Sales reports, process documents and help desk tickets are all potentially invaluable sources of information for prompts, but they are not stored in formats that are conducive to this use. Creating a dedicated knowledge base for KM prompt engineering will allow content to be selected, cleaned, and structured in a manner most appropriate to the GenAI application at hand (see Figure 5). The initial user prompt can be used to search this content and retrieve relevant knowledge assets to be passed to the LLM. This will enable the model to respond to the question with the most current enterprise information available.

Use GenAI-Based Transcription and Summarization for Knowledge Management

Getting knowledge out of a subject matter expert's head and into a knowledge base is the perennial challenge of knowledge management. Subject-matter experts are busy people. In addition to their regular duties, they tend to be inundated with questions from less knowledgeable colleagues. They are rarely incentivized to capture their knowledge — and have little reason to do so. Creating knowledge articles is an arduous, time-consuming task for technical professionals, many of whom are uncomfortable with (or unskilled at) writing. GenAI can alleviate much of this burden while also enhancing the quality and consistency of knowledge assets.

Multiple vendors — including Amazon, Google and Microsoft — have announced automatic summarization tools that use LLM technology to extract key points from longer-form content. In many cases, this is being built into existing workstream and collaboration platforms. Tools like Microsoft Teams, Slack, Zoom, and even YouTube, can generate accurate transcriptions from meetings and other interactions. These can be passed to an LLM, either natively or through an API, to generate a summary of the recording and extract key points and action items assigned to specific individuals.

These capabilities can be used to facilitate knowledge capture and transfer. Rather than requiring an expert to write a formal document (which is unlikely to ever actually be written) interview them in a video meeting. A more junior colleague, ideally the individual intended to replace or support them, should conduct a structured interview soliciting specifics on the topic at hand. This will allow for clarifying questions when details are omitted, or when explanations are unclear. It has the additional benefit of transferring knowledge directly to the person most likely to need it. The raw transcript of the interview will form the basis for a persistent knowledge asset. The transcript of the interview can be passed to an LLM with instructions to summarize the key points. Examples should be provided as part of the prompt to demonstrate the level of detail desired, and the type of information required. In addition, a knowledge article template can be provided as guidance to the GenAI for formatting the final article.

Automated transcription, summarization, and formatting will dramatically reduce the burden of knowledge capture but will not completely eliminate the effort required of both the subject matter expert and the knowledge manager. The output of the GenAI should always be considered a “first draft.” LLMs are not fully reliable in terms of producing accurate information. The expert should always review the generated knowledge asset for completeness and accuracy, and regularly review the asset as an ongoing objective. The knowledge manager should check for adherence to the content standard and compliance with the template. Even with these added steps, GenAI will radically reduce the effort necessary to externalize knowledge.

Revitalize Search and Knowledge Discovery with LLM-Based Question Answering

Knowledge assets only have value if they can reliably be found and accessed. This makes the role of effective enterprise search paramount in the digital workplace. Unfortunately, most search implementations have fallen far behind the state of the art, and are incapable of meeting user expectations. Google, Bing and Baidu have conditioned search users to expect to be able to ask questions rather than formulate queries. They want to receive answers rather than a list of links to resources that *might* contain the answer — somewhere.

LLMs and GenAI are making it possible for organizations to meet user search expectations and make knowledge assets readily available and accessible. They accomplish this by enabling a new approach to search. Traditional search engines treat content lexically. They match terms in a query with terms in a document, and count how often those terms appear. Search incorporating LLMs treat content *semantically* by using vector embeddings of both the query and the content to be searched. This helps ascertain user intent, and accounts for both the meanings of terms in the question and the relationships between concepts.

A vector embedding is a fixed-length, high-dimensional, numeric representation of a knowledge asset that captures its features. In other words, a vector embedding is a list of numbers that captures something's meaning and context. They are simple to generate from a pretrained LLM, requiring only a few lines of code. When both a query and the content to be searched are vectorized, finding the right answer boils down to finding the query vector's nearest neighbor among vectorized knowledge assets. Semantic vector search of this sort enables better queries, more precise search, and much richer and more accurate answers.

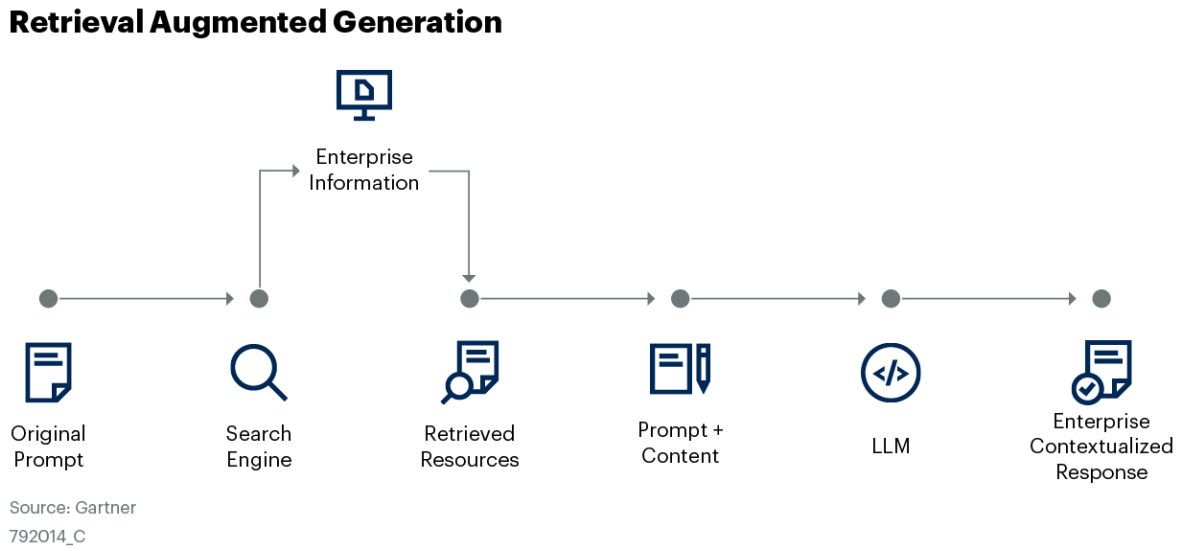
Incorporating LLM-generated vector embeddings in enterprise search should be a top priority in 2024. Numerous search and insight engine vendors have already released vector-based versions of their platforms. Elastic, Glean, Lucidworks, Pinecone, Sinequa, and others are all promoting this approach. LLM-driven semantic vector search, if implemented properly, will do more to improve knowledge discovery and sharing than perhaps any other recent innovation. It can also improve overall LLM applications and interactions by enabling Retrieval-Augmented Generation (RAG).

Retrieval-Augmented Generation (RAG) is a much more practical approach for incorporating enterprise information into GenAI than attempting to train or retrain a model.

RAG uses a search engine to locate and retrieve any information that is necessary to construct a prompt, including proprietary knowledge assets (see Figure 8). The initial user or application request, itself a basic prompt, is used as a query for the search engine, which finds the appropriate content to add to the final prompt to be passed to the LLM. This allows contextual information to be drawn from across the enterprise and provided to the LLM for use in the current interaction. This is a much more practical approach for incorporating enterprise information into GenAI than attempting to train or retrain a model.

A search-based approach has the added advantage of respecting permissions and enforcing access controls on content. Microsoft Copilot uses RAG by incorporating search results from the semantic search index (provided by the Microsoft Graph) to enrich prompts sent to its LLM (see Figure 6).

Figure 6: Retrieval Augmented Generation



Perhaps the greatest advantage of this approach is that it enables users to ask questions in natural language rather than forcing them to write contrived queries. The query “Portland Oregon 2023 Population” becomes the question “What is the current population of Portland Oregon?” To which the system replies “Portland Oregon currently has a population of 641,142 people.” This is much more useful than a list of links to resources that the user will have to hunt through in the hope of finding the same information. LLM-driven semantic searches can also provide additional related information that the user may not have thought to ask for. In addition to the population of Portland, the search engine may offer “the population of the Greater Portland Metro Area is approximately 2.5 million people.”

Finally, RAG enables core KM services such as personalized knowledge portals, natural language training and true enterprise copilots. Whereas vendor copilots are restricted to the copilot's native platform, a chat interface built with RAG has the potential to access and utilize any knowledge asset in the enterprise that can be indexed, and which the user is entitled to access. Rather than assisting a user in formatting a better spreadsheet, an enterprise copilot could help them upskill on all aspects of their job.

Maturity of Cloud Communication Services Will Continue to Drive Their High Adoption

Cloud-based communication services — such as unified communications as a service (UCaaS) and contact center as a service (CCaaS) — will continue to see high adoption in 2024. The perceived lack of maturity, which caused some organizations to tread cautiously when planning and evaluating the migration of their telephony or contact center services to the cloud, is no longer the case. Improved technical architectures and maturity of both UCaaS and CCaaS will drive more organizations to undertake the migration to the cloud in 2024. While there is no question about the maturity of cloud-based online meetings, complex use cases, and demand for improved user experience, will drive organizations to seek ways to optimize and improve the quality of their meetings.

To prepare for this planning trend, technical professionals should:

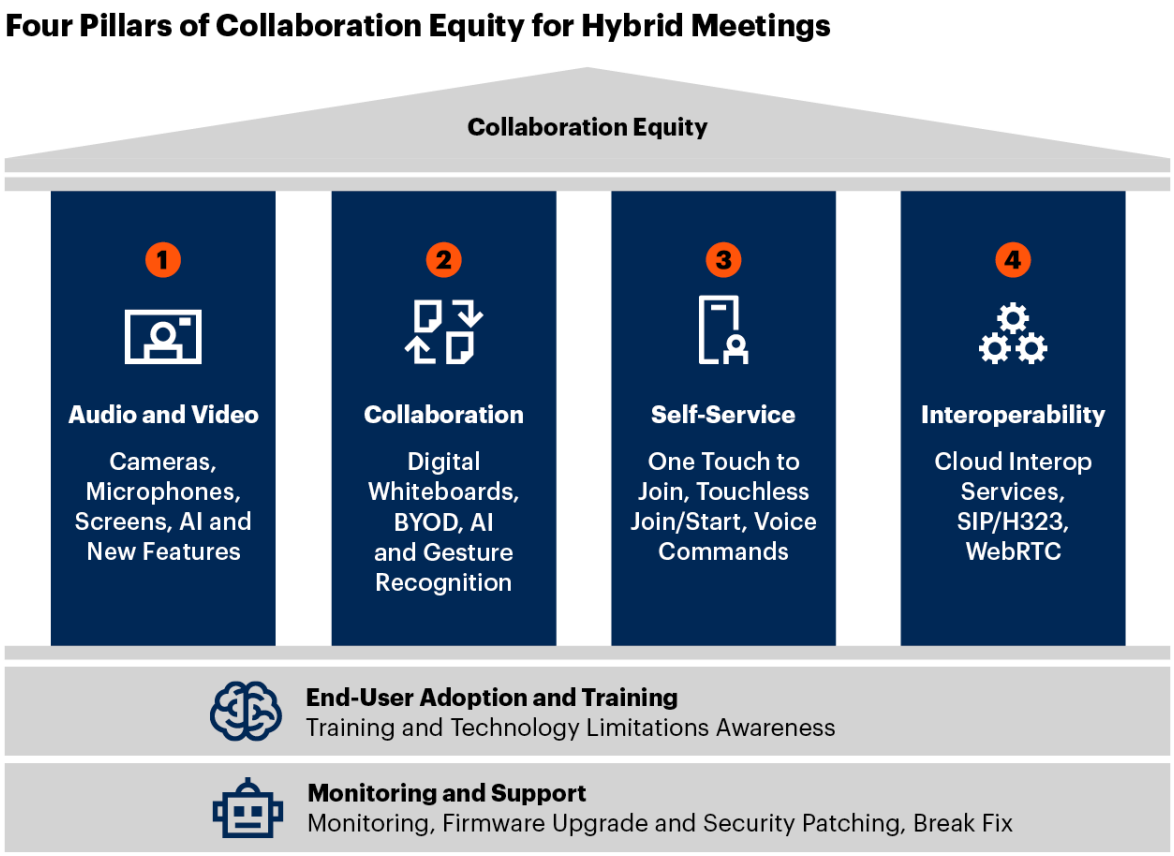
- Optimize meeting solutions for improved user experience and service quality.
- Deploy cloud and hybrid solutions that complement your telephony strategy.
- Implement CCaaS using best practices that incorporate automation and DevOps.

Planning Considerations

Optimize Meeting Solutions for Improved User Experience and Service Quality

Over the past two years, organizations have invested heavily in upgrading their on-site video conferencing (VC) endpoints to accommodate the move to cloud-based services and hybrid working. In some cases, the number of VC room devices has doubled or even tripled in the last year alone. To meet this demand, organizations should adopt the advice in How to Implement Hybrid Meetings. Additionally, GenAI features like meeting summarization and action item allocation should be explored to reduce the need for synchronous communication and help with meeting fatigue (see Figure 7).

Figure 7: The Four Pillars of Collaboration Equity in Hybrid Meetings



Source: Gartner
776182_C

In Gartner's 2022 Digital Worker Survey, respondents said they preferred to spend 47% of their meeting time in virtual meetings (including audio and video or audio-only) and 35% in in-person meetings. [1] Providing consistent, easy-to-use VC technology along with proper training will be key to bridging the gap between in-person and remote participants.

Training on best practices for meetings — and setting the right expectations — are vital to improving the user experience. This is especially true since getting the complete meeting experience (including chat, emotive responses, and shared content) can require the simultaneous use of conference room technology and personal devices such as laptops, tablets or smartphones.

GenAI is the new catchword for everything in IT, and meeting solutions are not excluded from this frenzy. As with other GenAI claims, technical professionals must separate the hype from the actual benefit. In many cases, the GenAI term is incorrectly being applied retroactively to existing technologies like noise suppression and intelligent camera framing of participants in the room. The actual new capabilities that are closer to GenAI are related to the automated processing of meeting transcripts. These promise to provide summary reports of topics and trends, analyze the tone of the meeting, extract action items, and provide individual feedback on meeting participation with suggestions for improvement. These new GenAI capabilities deserve attention but are (like many other GenAI-related promises) still in development and provide only limited benefits.

Managing and monitoring the conference room devices is still a challenge (especially in the Microsoft Teams Rooms environment) because of the use of multivendor solutions with various proprietary extensions. Organizations will have to navigate multiple management portals until Microsoft or third-party vendors provide the means to incorporate APIs from all hardware vendors. Gartner recommends limiting the use of Teams Rooms accessories to as few vendors as possible. Failing to properly monitor and support conference room technology amplifies the potentially negative user experience as the demand for conference rooms increases. Broken conference room technology can discourage users from returning to the office.

Deploy Cloud and Hybrid Solutions That Complement Your Telephony Strategy

As organizations continue to develop and implement their telephony strategies, Gartner inquiries regarding the reliability of cloud-based telephony solutions have been replaced with ones focused on best practices for evaluation. Reducing application fatigue, consolidating voice services with existing collaboration and communication services, and establishing a hybrid telephony architecture have emerged as the drivers for ensuring successful telephony initiatives.

End users are often challenged by the wide variety of digital workplace applications and services that have been made available to get their work done. Often, these applications and services overlap creating duplication and confusion. This issue has forced technical professionals to look for ways to consolidate their application portfolios, including their collaboration, content and voice services. However, consolidating raises concerns over vendor lock-in, cost savings versus end-user experience, and more. These considerations, coupled with more traditional solution evaluation criteria (see The Top 5 Criteria for Selecting Cloud Phone Solutions) are influencing vendor trends within the telephony market, leading to holistic, fully integrated UCaaS offerings. Organizations need to factor in all these variables when developing an RFI/RFP and reviewing statements of work for prospective providers.

Establishing a hybrid telephony architecture has also emerged as a trend for many large organizations. The following factors are driving this decision:

- Complex global footprints
- Wide-ranging and complex end-user requirements
- Region-specific regulations
- Existing telephony solution provider contracts not yet at end of life
- Native feature limitations of cloud telephony solutions

There are a variety of approaches to creating a hybrid telephony architecture. Select an approach that both addresses existing organizational requirements while guaranteeing flexibility for future telephony strategy and maturity.

For organizations that have already decided on cloud telephony, the next step is maturing their strategy. While a fully mature telephony state has yet to be delivered, all vendors define the future of telephony maturity as “all cloud” and the more “mature” customers are ones using more of a vendor’s products. Major vendors within this space (for example, Microsoft Teams Phone, Zoom Phone, Cisco Webex Calling, 8x8 and RingCentral), have confirmed that all of their R&D efforts will focus on cloud-based deliverables. That said, valid use cases still exist for on-premises telephony solutions today, and some organizations are still hesitant to release control of critical telephony infrastructure to cloud or hosted environments.

Implement CCaaS Using Best Practices That Incorporate Automation and DevOps

There was 24.1% growth in cloud-based contact center seats in 2022 alone. By 2027, Gartner estimates that CCaaS seats will represent 60% of the global contact center agents (see Forecast Analysis: Contact Center, Worldwide). The lack of innovation in contact center infrastructure and the maturity of CCaaS are the key drivers for migrating on-premises contact centers to the cloud.

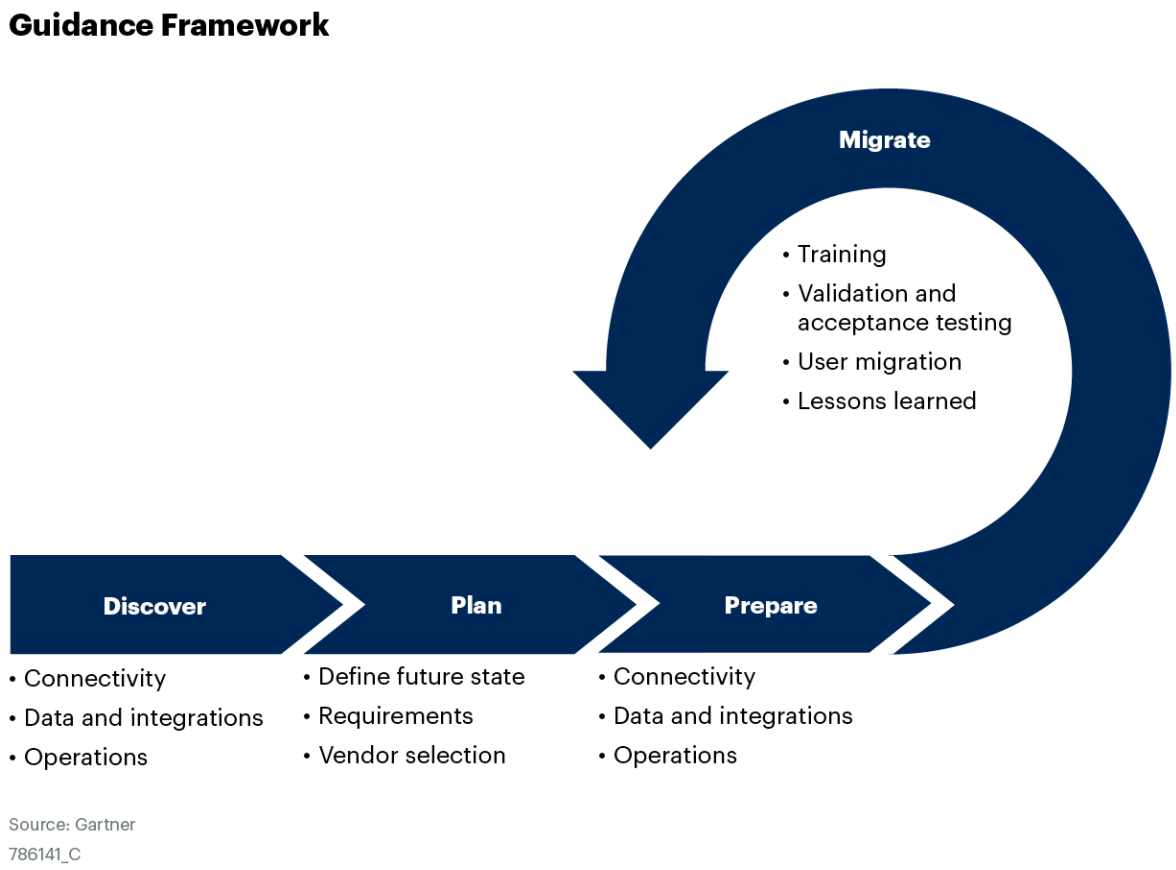
Both on-premises and cloud contact centers are considered high-touch solutions that often have complex configuration and integration requirements. Their implementation and support require an advanced level of technical expertise and often involves custom software development and integrations. This is why a successful migration to the cloud demands the use of industry best practices, processes and tools.

Gartner recommends adopting a data-driven approach when planning and implementing the migration. This includes analysis of existing configurations and operational practices when defining a future state and migration strategy. Once the future state and migration strategy are defined, organizations should prioritize iterative migration cycles to help them minimize operational risk to the service.

To minimize risk to the organization, deliver value faster, and improve the quality of a cloud migration, Gartner recommends iterative migration cycles.

This will also help improve the quality of the overall migration by learning from potential issues of previous cycles. The 4 Steps for a Successful Migration to CCaaS will help technical professionals to navigate the challenges and complexity of the migration. Figure 8 depicts a high-level diagram of this approach.

Figure 8: Guidance Framework for Migration to CCaaS



Organizations competing to provide better customer experience (CX) often have high levels of technical complexity in their contact center platforms. This results in long lead times for changes and improvements, high rates of human error, and lack of agility and scalability. Automation and DevOps practices are two approaches to tackling these issues. While DevOps is widely adopted in software and infrastructure delivery, it is still in a relatively immature state when it comes to operating and migrating CCaaS solutions. Gartner recommends that organizations with mature contact centers prioritize the use of automation tools and evaluate DevOps methods when planning a migration from contact center infrastructure (CCI) to CCaaS. These practices and tools should be used to deliver agility and scalability, remove bottlenecks, and improve the speed of change during day-to-day operations.

Your approach on introducing these improvements should focus on the following key elements:

- Configuration templating and standardization

- Automated testing and deployment
- Feedback channel on success or error

Organizations Will Seek to Optimize and Refine Their Device Management Approach

Microsoft's modern management approach to Windows 11 and the adoption of unified endpoint management (UEM) tools continue to be a key priority for technical professionals responsible for the digital workplace. Data from Gartner's digital workplace maturity assessment tool shows that organizations that adopt UEM have a 70% higher maturity score than those still using legacy tools. [1]

Despite its benefits, modern management has limitations and has yet to reach a level of maturity where it is the optimal solution for all workloads. Organizations will likely require a multifaceted approach to device management, combining modern device management through a UEM tool, with co-management, and traditional device management for some time (see The Top 10 Gotchas of Microsoft Intune).

Supporting multiple approaches introduces the risk of duplication of effort as well as operational inefficiencies. To counter this, technical professionals must adopt management strategies such as automation, continuous endpoint engineering (CEE), and third-party application patching services to optimize service delivery.

Although the gaps are narrowing, some leading UEM tools lack feature parity or require additional licensing before entirely replacing specialized mobile device management (MDM) solutions. Migrating corporate-owned mobile devices between management tools is both technically and logistically challenging. Devices must be reset, significantly disrupting the user experience (see Steps for Successful Device Management Tool Migration). Combined, these factors impede efforts to consolidate disparate point solutions into a single UEM tool.

Organizations seeking to capitalize on modern device management in 2024 should:

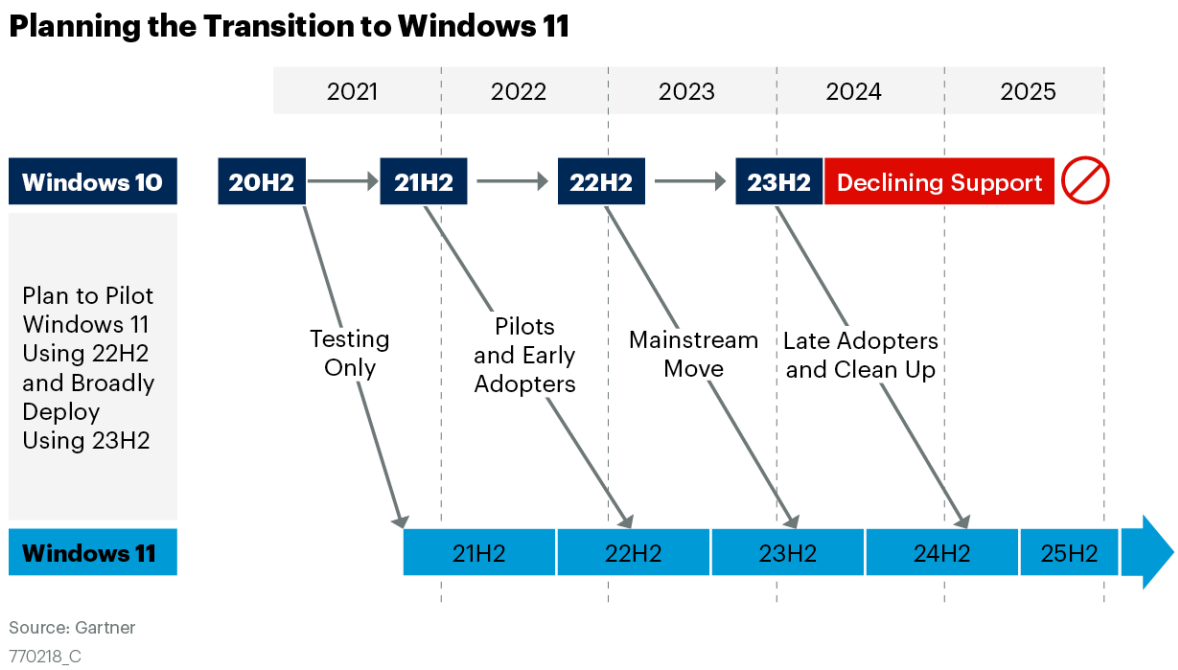
- Use the migration to Windows 11 as the catalyst for adopting Windows modern management.
- Implement strategies for continuous endpoint engineering, patch management, monitoring and DEX.
- Deliver an end-to-end, user-centric device management and provisioning experience.

Planning Considerations

Adopt Windows Modern Management as You Migrate to Windows 11

Microsoft has announced that Windows 10 22H2 will be the operating system's final release. With support for Windows 10 ending in October 2025, the preceding 12 months will see a significant increase in Windows 11 adoption. Technical professionals will be relieved to know that upgrading to Windows 11 requires less IT effort than previous Windows upgrades (see Figure 9).

Figure 9: Windows 11 Upgrade Timeline



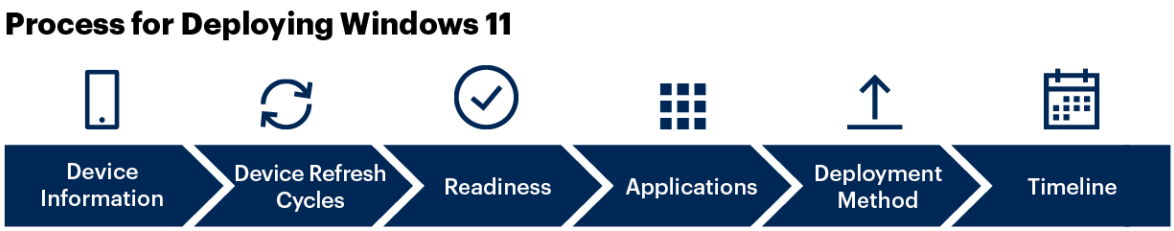
Source: Gartner
770218_C

According to Microsoft's figures, 99% of Windows 10 applications are compatible with Windows 11.

While Windows 11's additional hardware requirements and updated user interface (UI) are of some concern, the similarities between Windows 10 and 11 are more significant for the upgrade process. According to Microsoft's figures, 99% of Windows 10 applications are compatible with Windows 11. Application deployments, policies, and update settings used to configure and manage Windows 10 will work with Windows 11, reducing the effort required to introduce the new OS. A mixed environment will be fully supported during the transition.

Gartner recommends an in-place upgrade from Windows 10 to Windows 11 (see Figure 10). With the close alignment between the two operating systems, and the high level of application compatibility, this approach minimizes the disruption to the end user and the effort required from IT. UEM tools add further automation to the process through intelligent, ring-based deployments. With compatible devices, a Windows 11 upgrade through a UEM tool follows the same process as a Windows 10 feature update (see Key Insights for Planning and Deploying a Windows 11 Upgrade).

Figure 10: Process for Deploying Windows 11



Source: Gartner
770218_C

Gartner sees an increasing number of organizations using the move to Windows 11 as an opportunity to adopt a modern management approach with devices joined natively to Microsoft Entra ID (formally Azure AD), and management moved to a UEM tool during the upgrade process. Although this approach is more complex to orchestrate, it provides a clear separation from the current environment and an opportunity to remove technical debt.

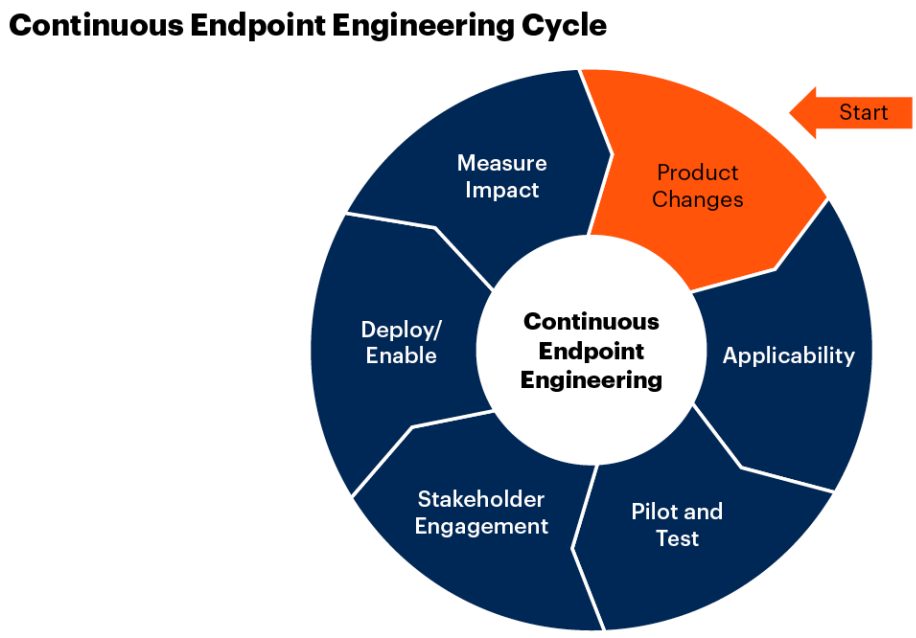
Windows Autopilot is a key enabler for this transition. Devices can be added to Autopilot, reset, and enrolled into the UEM tool for a subsequent upgrade to Windows 11. Although this two-step process is primarily automated, it increases the impact on the end user as they must go through the Autopilot process and a later upgrade to Windows 11. Devices managed by Microsoft Configuration Manager can use Windows Autopilot for Existing Devices to upgrade the OS and enroll the device through Windows Autopilot in one operation (see How to Assess Windows Autopilot for Device Provisioning).

Apply Strategies for Continuous Endpoint Engineering, Patching, Monitoring and DEX

As technical professionals work to raise the digital workplace maturity of their organization and realign to focus on digital employee experience (DEX), they are increasingly asked to do more with existing or fewer resources. Managing the increasing cadence of OS and application updates and environmental changes while minimizing disruption to DEX demands a new approach.

Continuous endpoint engineering (CEE) is a Gartner-developed agile approach to managing changes to devices, operating systems and applications as digital workplace technology products. In CEE, a technology product is a collection of applications and services used to deliver business outcomes that undergo frequent changes beyond the organization's control, such as Microsoft 365 (see Figure 11).

Figure 11: Continuous Endpoint Engineering Cycle



Source: Gartner
748470_C

The CEE cycle contains six phases.

- **Product changes:** The vendor signals an upcoming change via a published roadmap, release notes, security updates, or other announcements.
- **Applicability:** The change is assessed to see if it is applicable to the environment, who will be impacted, and the effort required to implement it.
- **Pilot and test:** The change is deployed to pilot users and tested to assess its impact. The level of testing required will be dependent on the risk to service.
    - Low-risk changes, such as monthly OS updates, should be deployed through an automated, ring-based deployment model.
    - Medium-risk changes should follow a similar approach but should include structured testing with testing tools, designated application testers, or business champions.
    - High-risk changes or those to critical or legacy systems should follow standard development, test and QA processes.
- **Stakeholder engagement:** The change is communicated to the relevant stakeholders.
- **Deploy/enable:** The change is deployed to the environment by IT staff or the vendor if it is a SaaS application.
- **Measure impact:** The impact of the change is measured to assess how it has affected the stability, operation and usage of the technology product. Communities of practice, user feedback, IT service desk call volumes, and data from DEX tools are examples of ways to measure impact.

There will be a variety of roles involved and responsible for each stage in the CEE cycle. Technical professionals responsible for device management will primarily be involved in the applicability, pilot and test, and deploy/enable phases. However, they are commonly also a product manager for the OS, endpoint devices and device management tools, where they will be responsible for monitoring product changes.

CEE defines the people and processes needed to manage product changes, but technical professionals need appropriate technologies to implement CEE. UEM tools are an essential enabler for CEE. Although it is possible to adopt CEE principals with CMT tools, UEM provides access to modern management approaches — such as zero-touch provisioning of devices and ring-based update deployments — that are better aligned with CEE.

Examples of readily available technologies to enable CEE and improve operational efficiency are:

- **Windows Autopilot:** Automates the device life cycle with zero-touch provisioning, device reset for break/fix scenarios, and device wipe and retirement when the device reaches its end of life.
- **Windows Update for Business:** Provides intelligent ring-based deployments for Windows quality, security, and feature updates, along with device driver and firmware updates. It also supports in-place upgrades to Windows 11.
- **Windows Autopatch:** A service managed by Microsoft. Built on Windows Update for Business, it outsources patching of the Edge browser, Microsoft 365 clients, and Windows to Microsoft.
- **Automated Patching:** For commonly used applications, this is now included in many UEM tools or available from third-party providers. These provide notifications of application changes, automated deployments, and updates to supported applications.

The insights into the digital employee experience across the organization that DEX tools provide further support the CEE approach, but DEX tools are not a requirement. Realizing the full benefits of a DEX tool requires reskilling engineers and adapting the organization's approach to IT operations.

Before considering a DEX tool, Gartner recommends that organizations have an overall digital workplace maturity score of 3 (out of 5) or higher in the Gartner Digital Workplace Maturity Model. This maturity model covers the entire digital workplace with most organizations surveyed scoring below 3.

Lower-maturity organizations should focus on raising device management maturity through modern approaches like CEE to improve core endpoint management competencies such as application, device, and OS life cycle management (see Figure 12).

Figure 12: Digital Workplace Maturity Levels

Deliver an End-to-End User-Centric Device Management and Provisioning Service

Improving digital workplace maturity and increasing DEX requires adopting a user-centric view of device management. Traditional management approaches focus on control over the device and the device's user experience. Modern management approaches promote employee experience and enablement by reducing digital friction, giving the employee agency over all of their devices, and allowing them to tailor the IT experience to their own needs.

> **Modern device management promotes employee experience and enablement. It reduces digital friction by giving them the power to control the way in which all of their devices work.**

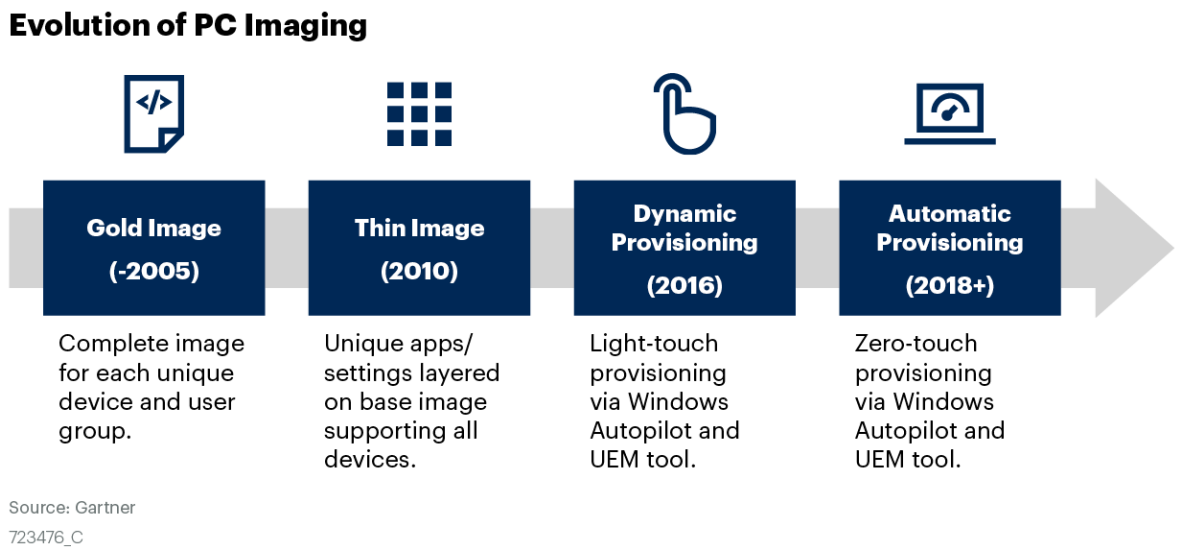
Make DEX a Device Management Priority

The user's device is their entry point to the digital workplace and central to the overall digital employee experience. A poor device experience impacts user satisfaction, productivity, and any other effort to improve DEX. User satisfaction must be considered a key metric for measuring the success of device management initiatives, with improving DEX a priority for device management teams. The user-centric modern device management approaches described above provide IT teams with readily achievable and pragmatic ways to improve user experience without the need for advanced DEX tools.

Increase Device Choice and Increase DEX With Zero-Touch Provisioning

Automated device provisioning and enrollment into a UEM tool for Android, Apple, and Windows devices has evolved significantly over the years (see Figure 13), giving employees an out-of-the-box experience and a sense of device ownership. Windows Autopilot removes the need to maintain corporate OS images, an often complex and time-consuming overhead that limits device choice. Windows Autopilot and modern management are device-agnostic, which enables IT teams to provide a range of devices that is appropriate to the employee's needs (instead of the devices that are easiest for IT to manage). Windows Autopilot automates device setup minimizing the need for employee interaction, and ensures that a device is in a business-ready state when the employee starts to use it.

Figure 13: Evolution of PC Imaging



Mobile application management (MAM) controls provide secure and convenient access to organization resources from an employee's personal mobile device. Although not appropriate for all employees or organizations, MAM can improve DEX by further expanding employee choice to include their personal devices.

Reduce Digital Friction With Automated Configuration

Minimizing digital friction and disruption is central to providing a great DEX. Adopting technologies like passwordless authentication, single sign-on and conditional access can minimize the number of authentication prompts an employee receives. Device configuration policies automatically configure devices to corporate settings — such as deploying Wi-Fi profiles and configuring synchronization with cloud storage — eliminating the need for the employee or IT to do this manually.

Minimize Disruption With Modern Patching Methods

Modern patching methodologies provide benefits to both the employees and IT by accelerating patching compliance while minimizing disruption. This empowers the employee to schedule most upgrades at a convenient time. Automated patching of third-party applications provides employees with the latest versions eliminating frustration from using out-of-date software while reducing the administrative burden on IT.

Self-Service Application Installation

Adopting modern software distribution and management practices provides further control of device configuration. Self-service application distribution through an organization's app store enables users to select the software they need to be productive. Removing the need to request software from IT — and for IT to install it on their behalf — improves the employee experience, streamlines operations, and provides IT oversight on application usage. Reducing the number of applications installed on a device avoids unnecessary use of system resources, license consumption and exposure to software vulnerabilities.

Traditional VDI Licensing Changes and Reducing Complexity Will Drive DaaS Adoption

As hybrid and remote working becomes the standard productivity model, application and desktop virtualization continues to be an essential component of the digital workplace. The management, security, and operational benefits of virtualization are well-established, but licensing model changes from the traditional virtual desktop infrastructure (VDI) vendors are incentivizing organizations to assess cloud-based alternatives.

Providing virtual desktops and hosted applications from the cloud through a desktop as a service (DaaS) solution addresses many of the challenges of traditional VDI solutions. They help to eliminate the need to manage complex on-premises infrastructure, and move responsibility for some management operations to the DaaS provider. DaaS offerings are available in an array of solutions, from highly customizable options similar to on-premises VDI to complete turnkey solutions.

To reflect this variability, Gartner segments DaaS solutions into three categories.

1. **Self-assembled DaaS:** The client assembles a DaaS solution from components made available by the vendor. The client selects and configures the cloud infrastructure, profile management technology and associated storage. Internal IT teams are responsible for configuration and management of the virtual machines. The vendor operates the client-selected components and provides management and updates of the infrastructure throughout the life of the service.

2. **Vendor-assembled DaaS:** The vendor defines most of the solution. The client has less configuration work to perform, and focuses on managing the virtual machines.

3. **Vendor-managed DaaS:** The full service is managed and supported by the vendor. Managed DaaS vendors generally manage the virtual machine operating systems (patching and updating the Windows images, for example) and in some cases provide user support.

Organizations with traditional VDI environments are considering cloud desktops to simplify operations or take advantage of bundled license entitlements. Depending on your current environment, and your selected DaaS provider, implementing DaaS can be as simple as creating desktops in the cloud that use existing processes and tools. More complex scenarios may involve adopting a new platform, which will require new supporting processes and roles. Organizations with established VDI environments may encounter applications or use cases that rely on on-premises infrastructure. These may be ill-suited for migration to cloud services. In these scenarios, migrating the VDI control plane to the cloud reduces operational complexity while presenting new service options.

To accomplish this, organizations must:

- Assess VDI licensing changes and uncertain vendor roadmaps and seek cloud alternatives.
- Implement strategies to optimize routine operations to work efficiently at scale.
- Reduce operational complexity and address skill shortages with vendor-assembled DaaS.

Planning Considerations

Assess VDI Licensing and Vendor Roadmap Uncertainty and Seek Cloud Alternatives

Changes in ownership of the leading traditional VDI vendors continues to be a concern for Gartner clients. The acquisition of Citrix and the impending acquisition of VMware by Broadcom have led to changes in licensing models and uncertainty over the future roadmaps of their respective virtual desktop solutions.

The transition to subscription licensing, and the withdrawal of support and maintenance renewals, have caused significant increases in licensing costs for organizations with perpetual Citrix licenses. Increased costs and dissatisfaction with their current provider are driving organizations to consider or reassess cloud-based desktops that they previously rejected due to costs, lack of feature parity, or operational concerns.

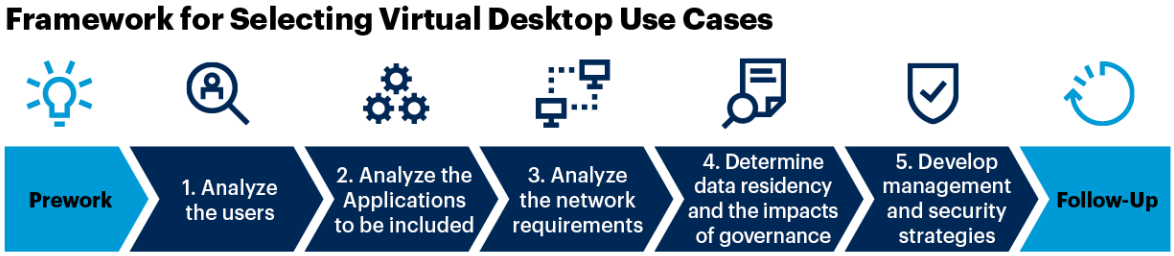
DaaS solutions continue to mature and evolve, enabling easier onboarding and new opportunities to simplify operations with a vendor-assembled DaaS. Assessing current solutions against their future roadmaps (for features as well as licensing) enables organizations to ensure that they are implementing technologies that best meet their requirements.

VDI vendors that have adopted subscription-based license models, and that focus on SaaS, can offer faster update cadences through agile development methodologies.

Cloud-based DaaS solutions commonly use subscription-based licensing either as an all-inclusive license or as a feature license with additional monthly cost for consumed resources. As these licensing models become the norm, it is easier for organizations to compare costs between solutions. Gartner recommends that, as vendors update their licensing models, organizations must periodically conduct an in-depth review of the features included in the different license tiers against features required by the organization.

Acquisitions and shifts in ownership within leading traditional VDI vendors have produced substantial structural changes within organizations and reductions in their staffing. As organizations continue to adjust to these changes and new priorities, significant shifts in operating, go-to-market and product development can be expected. The uncertainty over the future direction and product development is driving concern about the ability to deliver on the current roadmap and future innovations (see Figure 14).

Figure 14: Framework for Selecting Virtual Desktop Use Cases



Source: Gartner
742744_C

For use cases, see Gartner's Guidance Framework for Selecting Virtual Desktop Use Cases.

Organizations must evaluate their individual requirements and use cases for adoption of a virtualized workspace model. Assessment of organizational and business requirements for each use case — including the persona of the end user, productivity objectives and environmental factors such as work location — drives better solution alignment and end-user experience. It is common for organizations to have use cases that are best fit in disparate technologies and a blended solution of DaaS, on-premises, or hybrid may be suitable for different use cases.

Implement Strategies to Optimize Routine Operations to Work Efficiently at Scale

One of the main challenges for organizations that have implemented a VDI or DaaS strategy is adjusting to a new working model that introduces new challenges and priorities. Cost, user productivity and performance are intrinsically linked with each other, with cost management continuing to be a primary concern for many organizations. Achieving a balance between infrastructure costs, accessibility and the performance required to deliver an exceptional user experience is challenging. Proactive monitoring and identification of performance or systemic issues is essential to maintaining high levels of user satisfaction. It can, however, be difficult to maintain visibility of the user experience with so many of the factors that impact user satisfaction seemingly beyond the administrator's control.

DaaS solutions enable the rapid deployment of end-user computing workspaces, creating additional endpoints for administration and management. DaaS and VDI solutions introduce additional opportunities for fragmentation of the end-user computing environment for an organization. These could include asset life cycle, software management and support processes. Organizations must plan accordingly, based upon their targeted enablement model, to account for the additional operational workloads.

Identification and automation of common repeatable tasks is essential to efficient operations at scale for a DaaS environment. Virtual machine life cycle management is a crucial component of a DaaS operations strategy, and many opportunities exist to automate the virtual machine life cycle that must be leveraged to reduce redundant tasks.

Organizations should initially target automation and operationalization of the following core processes with a focus on reduction of duplicated tasks and administrative overhead.

- Asset management process including image management.
- Application management strategy, including application layering or third-party application library.
- User profile, data management and layering.

Cybersecurity threats and the increasing cadence of application updates demand that IT teams develop operationally efficient processes to deploy them across the organization with growing urgency. Image and application life cycle management are central tasks in any virtualized environment. The desktop virtualization team must focus on automating these routine operations (including patch management, application deployment and VM template replication) to ensure the greatest efficiency possible.

Gartner recommends proactively establishing performance metrics baselines to define the intended user experience and implementing methodologies to measure them over time. Minimize the administrative effort of routine operations through automation, proactive monitoring and self-service tools for end users.

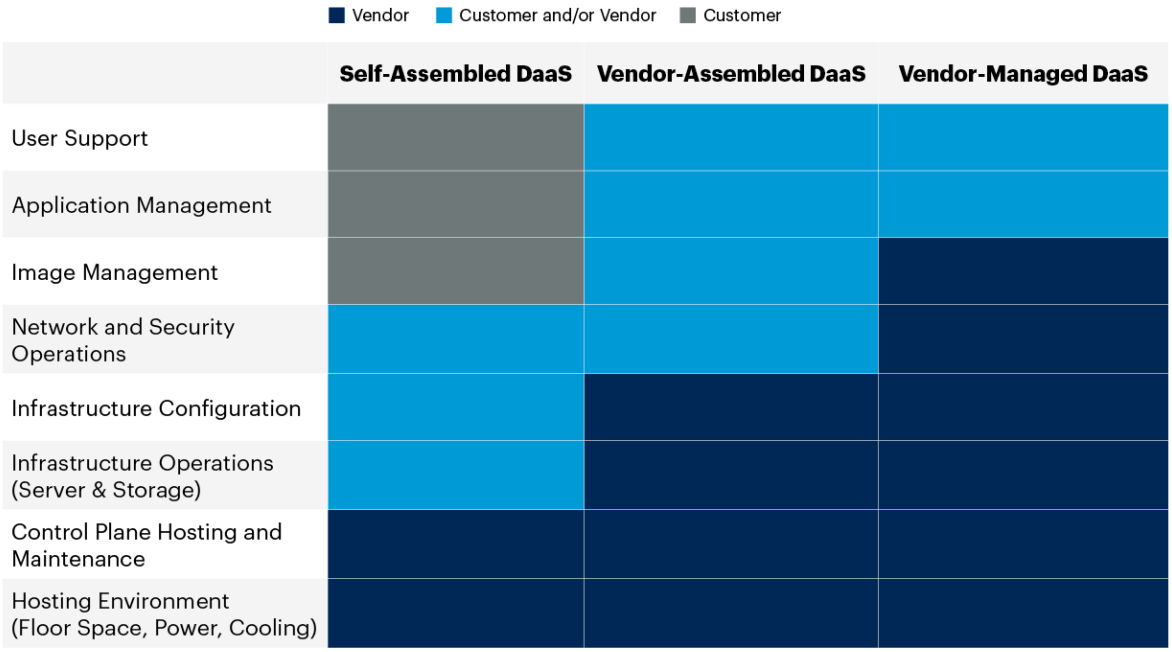
Reduce Operational Complexity and Skills Shortages With Vendor-Assembled DaaS

DaaS solutions are offered in an array of operational models to address various organizational requirements. Organizations that have experience with traditional VDI implementations will find consistent concepts supporting self-assembled DaaS solutions. However, they are likely to experience significant skills gaps with the administration and management operations utilizing the new cloud-based native toolsets.

Fundamental differences exist within the operations of DaaS solutions, including resource allocation models, desktop support and connectivity infrastructure compared to traditional VDI which necessitate the adoption of new processes and tools. Additional perceived complexity of DaaS solutions can be avoided by leveraging management toolsets that improve operational efficiencies. Evaluate and implement a management tool that best aligns to your organization and integrate the solution into existing processes as applicable (see Figure 15).

Figure 15: Typical Responsibilities for Service Components in the 3 DaaS Segments

Typical Responsibilities for Service Components in the 3 DaaS Segments



Source: Gartner
755357_C

Adoption of DaaS within an organization presents an opportunity to align modern digital workplace delivery with modern management practices, reducing operational complexity overall. Solutions like Microsoft 365 are managed through UEM solutions such as Microsoft Intune. Standardizing operations between the endpoint management and virtualization environments eliminates the need for specialist VDI skills. Implementation and utilization of modern management tools including UEM and DEX monitoring contribute to operationalization of DaaS services. Automation of common and highly repeatable tasks is crucial for adoption and operationalization of DaaS at scale.

Organizations facing concerns with an internal skills gap should consider offloading additional operational activities to solution providers that offer vendor-assembled DaaS services. These solutions enable organizations to completely offload the operations of the hosting and connectivity infrastructure to the vendor, if that is required. This enables your operations team to focus on the support of the operating system in the same way as any other Windows device. DaaS solutions offer varying levels of service supporting highly customizable or highly repeatable processes and workflows. You should align the operational requirements of the DaaS solution with your organization's requirements and your workforce's skills required.

Evidence

[1] **2022 Gartner Digital Worker Survey:** This survey sought to understand workers' technological and workplace experience and sentiments. The research was conducted online from September through November 2022 among 4,861 respondents from the U.S. (n = 1,564), China (n = 1,167), the U.K. (n = 1,072) and India (n = 1,058). Participants were screened for full-time employment in organizations with 100 or more employees and were required to use digital technology for work purposes. Ages ranged from 18 through 74 years old, with quotas and weighting applied for age, gender, region and income, so that results are representative of working country populations. We defined "digital technology" as including any combination of technological devices (such as laptops, smartphones and tablets), applications and web services that people use for communication, information or productivity.

[2] **Digital Workplace Maturity Assessment** data was collected through the Digital Workplace Maturity Assessment Tool, which helps IT leaders assess their digital workplace maturity and align with their organization's ambitions for the digital workplace. Survey respondents receive a report identifying areas of greater or lesser maturity to help plan for digital transformation initiatives in the future. As of publishing, the dataset represents over 320 unique assessments collected from July 2022 through August 2023. Assessors worked for companies of all sizes with headquarters in North America, Europe, Asia/Pacific, Middle East, Latin and South America, China, and more.

[3] **2023 Gartner Microsoft 365 Survey.** This survey was conducted online from 11 through 31 July 2023 to understand the levels of maturity for Microsoft 365 and how organizations are governing, using and supporting the platform. A total of 150 IT leaders using Microsoft 365 or influencing or making decisions around Microsoft 365 participated — 101 from Gartner's Research Circle (a Gartner-managed panel) and 49 contacted through the dissemination of the survey link via LinkedIn posts and outreach to clients. Respondents who disclosed their locations were in North America (n = 53), EMEA (n = 49), Asia/Pacific (n = 15) and Latin America (n = 6); 27 respondents did not indicate their locations.

Disclaimer: Results of these surveys do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

Document Revision History

2023 Planning Guide for the Digital Workplace - 10 October 2022

2022 Planning Guide for Collaboration and End-User Technologies - 11 October 2021

2021 Planning Guide for Collaboration and End-User Technologies - 9 October 2020

2020 Planning Guide for Collaboration and End-User Technologies - 7 October 2019

2019 Planning Guide for Collaboration, Content and Mobility - 5 October 2018

2018 Planning Guide for Collaboration, Content and Mobility - 29 September 2017

2017 Planning Guide for Collaboration and Content - 13 October 2016

2016 Planning Guide for Collaboration and Content - 2 October 2015

Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

Solution Path for Document Management in Microsoft 365

When to Migrate Your On-Premises File Shares to Microsoft 365

Quick Answer: How Should Organizations Establish Valid Use Cases for AI in Microsoft 365?

The Top 5 Criteria for Selecting Cloud Phone Solutions

4 Steps for a Successful Migration to CCaaS

Solution Path for Migrating to UCaaS Solutions

The Top 10 Gotchas of Microsoft Intune

Key Insights for Planning and Deploying a Windows 11 Upgrade

Solution Path for Knowledge Management

Prompt Engineering With Enterprise Information for LLMs and GenAI
