

A Forrester Total Economic Impact™
Study Commissioned By Dell
March 2020

A Technical Brief Framework For Dell Technologies' Unified Workspace

Maximize The Impact Of Your Investment
By Following This Step-By-Step Guide To

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Executive Summary

The end user computing industry has reached an important time in its history. For the first time, modern PC management, mobility, Zero Trust security, and virtualization are coalescing to deliver the world's first digital workspace solutions. The world of any app, any device, and any location is finally here. Enterprises understand that this new digital capability will bring enormous benefits, including enhanced productivity, simplified management, reduced costs, and enhanced security. Today, most IT decision makers are now planning to radically transform their end user computing environments with digital workspaces in the upcoming years.

Despite the enthusiasm, however, the question remains: how should companies go about adopting a modern, secure digital workspace to maximize the value from their investments?

This Technical Brief answers that question by bringing your organization through five phases of digital workspace implementation

- › Phase 1: Pre-planning
- › Phase 2: Modern management readiness assessment
- › Phase 3: Infrastructure and business integration assessment
- › Phase 4: Roadmap development
- › Phase 5: Implementation and process automation

Technical Brief Framework And Methodology

This Technical Brief compliments financial analysis and thought leadership studies conducted by Forrester for Dell on Workforce Enablement solutions. In March 2020, Dell commissioned Forrester Consulting to outline an implementation guide for adopting Digital Workspace in order to maximize the financial gains from an investment in Workforce Enablement. Forrester conducted an online survey with 232 VP or Director level respondents in Australia, India, UK and US with good knowledge of the current Digital Workspace potential, environment and technical capabilities at their organization. From the information provided in the survey, Forrester has constructed a Technical Brief framework for those organizations considering implementing Dell Technologies' Unified Workspace. The objective of the framework is to identify the benefit, flexibility, and challenges that affect the investment decision and evaluate ultimately the financial and technical impact that Dell Technologies' Unified Workspace can have on an organization

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Dell and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential implementation path relevant to a specific organization. Forrester strongly advises that readers to evaluate their own readiness to determine the appropriateness of an implementation in Dell's Unified Workspace.

Dell reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.

Phase 1: Pre-Planning

This is the first stage of the journey to digital workspace and its financial impact, and it involves building a broad timeline of implementation as well as identification of key digital workspace goals and how they map to key financial outcomes within your organization. In this stage you will:

- › **Gather key stakeholders.** The move to digital workspace affects multiple groups in your IT organization, including professionals in client, networking, applications, identity, security, and more. You need to map out how the digital workspace integrates across all of these areas. Be sure to include business leaders in this initial discussion, especially those who are in charge of business processes that could benefit from automation, such as HR, CRM, or ERP workflows.
- › **Map stakeholders to impact and outcomes.** In discussions with business leaders, understand what key operational priorities that have for the upcoming fiscal year and how they anticipate executing on those goals. Understanding the role of technology and how they are justifying the investment can help prioritize the timing and scope of the initiative.
- › **Build a project timeline.** Before building a detailed roadmap for implementing modern management and digital workspace, start by building a project timeline that's broader in scope. We have illustrated a sample project timeline below (see Figure 1).
- › **Conduct research on employee needs.** An important element of digital workspace success is aligning it to help improve the employee experience (EX). Central to this is understanding what the key challenges and barriers to success are that they face. At a bare minimum, we recommend fielding a survey to employees to understand their computing needs, frustrations, and desires. More in-depth qualitative analysis, such as employee journey mapping or design thinking will likely yield better results and anchor your transformation to tangible employee needs.
- › **Identify key processes that could impact timelines.** There are key change processes you'll want to outline before beginning your journey, including approvals, necessary sign-offs, and need-to-know individuals and departments (see Figure 2).
- › **Develop a plan for change management and adoption.** Most IT organizations are not currently working with HR leaders to develop a change management strategy for the eventual adoption of the digital workspace. And that's a mistake. You need to actively plan in advance for how you will drive adoption of the digital workspace, particularly in key employee productivity workflows. Organizations that are more advanced will have these processes already in place, while those that don't will have to spend more time researching, designing, and implementing solutions with a people-first focus.

Figure 1: Project Timeline For Digital Workspace Adoption

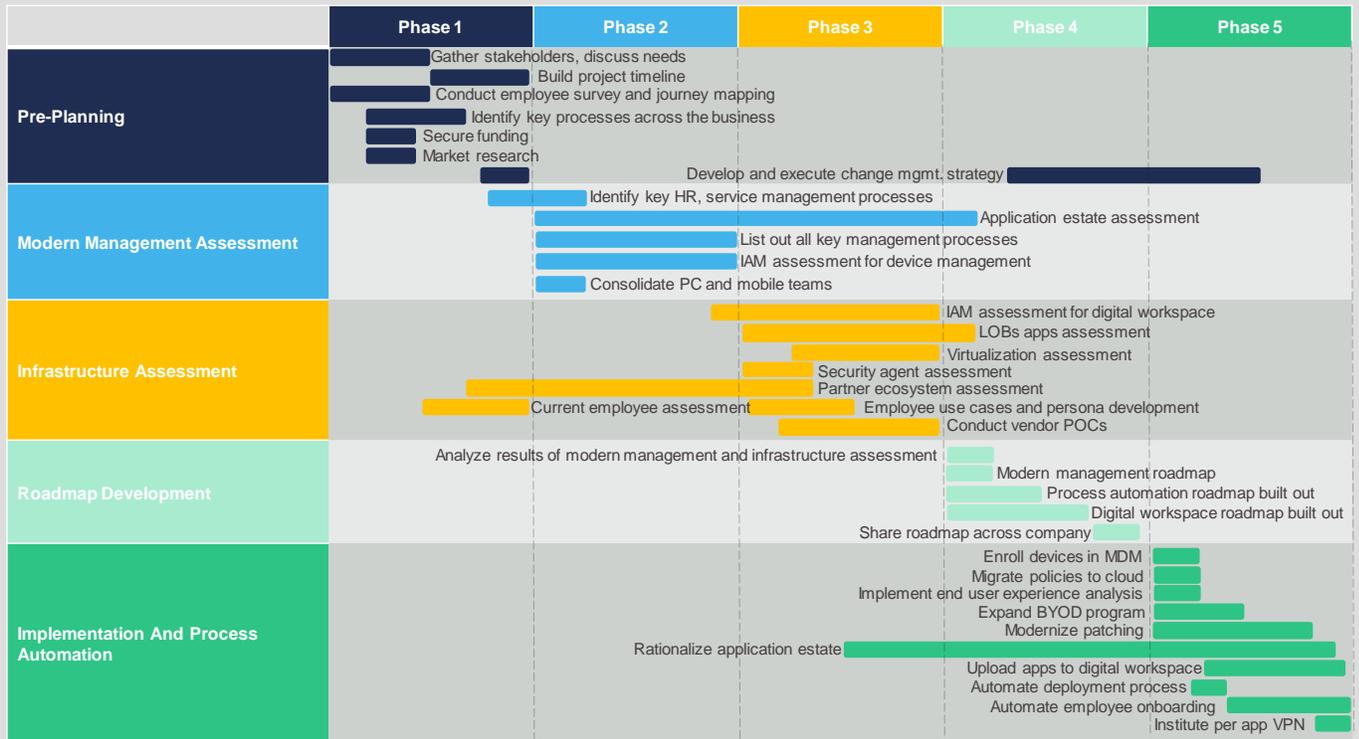


Figure 2: Pre-Planning Checklist For Digital Workspace Adoption

Complete The Pre-Planning Checklist			Answer
		Have you...	
	Stakeholder Engagement	<ul style="list-style-type: none"> - Identified key LOB leaders to bring into initial discussions? - Identified owners of key processes you want to automate? - Appointed a leader of the project? - Identified a key security stakeholder to drive project acceptance? - Appointed an employee representative to serve on the project team? 	
	Employee Needs	<ul style="list-style-type: none"> - Surveyed employees on challenges at work? - Conducted employee journey mapping sessions? - Developed a good understanding of how employees would like to improve their PC experience? 	
	Solution Visioning	<ul style="list-style-type: none"> - Conducted market research on key industry trends? - Contacted in-house vendors to understand their approach to digital workspace? - Developed a short list of potential vendor solution(s)? - Interviewed peers in the industry? 	
	Timeline	<ul style="list-style-type: none"> - Developed a general roadmap for the project? - Appointed a project manager for project? 	
	Financing	<ul style="list-style-type: none"> - Have you secured budget for the project? 	

Phase 2: Modern Management Readiness Assessment

As the foundation of the digital workspace, cloud-based unified endpoint management (UEM) is a critical technology to understand and implement as part of the digital workspace journey. However, most organizations are not using cloud-based management for their employees' PCs and are often just getting started on their cloud migration. Our study showed that businesses are divided into three separate camps:

- › **Those who manage PCs with traditional client management.** Eighteen percent of technology decision makers in our survey said that they use on-premises PC management technology to primarily manage their fleet. These organizations still leverage traditional client management agents, imaging, group policy object (GPO) enforcement, etc.
- › **Those who manage their entire PC environment from the cloud.** Nineteen percent of technology decision makers in our survey said that they use the cloud only to manage their PC environment. This includes tools such as Citrix Endpoint Manager, Google Management Suite, Microsoft Intune, and VMware Workspace ONE.
- › **Those who utilize a mix of on-premises and cloud PC management.** Most organizations (51%) are somewhere in between on-premises and cloud-based management. That means they will use the cloud for some workloads, such as basic updates, passcode settings, and compliance. They'll rely on traditional techniques like scripting and imaging for other use cases.

Assess Your Modern Management Readiness

Moving to cloud-based PC management requires that organizations modernize many technologies and processes (see Figure 3). Getting an idea of which of these areas are mature and immature in your organization will help determine what steps your organization should take to begin the process of adopting a digital workspace. Specifically, ask yourself these questions as you assess your level of cloud-management maturity (see Figure 4):

- › **What percentage of your apps are modern vs. legacy?** The move to cloud management is highly correlated with a modern application environment. Cloud managed environments are 15% more likely to have 11 or more web-based apps, 21% more likely to have 11 or more third-party software-as-a-service (SaaS) apps, and 10% less likely to rely on outdated productivity suites, such as Office 2016.
- › **What are your standard management techniques?** Knowing the ins and outs of device management for both traditional and mobile endpoints is critical. Salient details include relevant configuration policies, imaging requirements, policy restrictions, vendor relationships, and patching processes. Cloud management environments are more likely to automate key processes like PC hardware procurement, deployment, and ongoing management.
- › **Are users identities stored in the cloud or on-premises?** Many of the benefits of modern management and digital workspaces depend on unifying identity and device management. Cloud-only environments are 24% more likely to have Azure Active Directory, 15% more likely to use Google Identity, and 5% less likely to use on-premises identity access management (IAM) tools. While digital workspace integration is possible in an on-premises IAM environment, many of the downstream benefits of process automation are difficult to accrue without cloud-based IAM.
- › **How many tools do you use today to manage employee devices?** Just 19% of organizations manage both traditional and mobile endpoints from a single console. In fact, 29% use two consoles, 22% use three consoles, and 14% use six or more! Delivering a digital workspace will (in most cases) require a convergence of multiple endpoint management platforms to deliver a consistent experience to employees.
- › **How is your end user computing team organized?** Cloud-managed environments are the most likely to have unified desktop and mobile teams to drive modern management adoption. They're also more likely to have digital experience teams to drive EX transformation.

- › **What technology and business processes are most critical to employees?** A significant benefit of modern management is its ability to simplify or automate key technology and business processes to improve digital experience or reduce costs. Technology leaders of modern management environments are also 12% more likely to have worked much closer with HR teams to redesign key employee workflows with modern management.

Figure 3: Characteristics Of A Success Modern Management Deployment

		Traditional Client Management	% More Likely	Modern Management
	All	APPLICATION ENVIRONMENT		
% of respondents with 11 or more of the following app types:				
Web-based apps	77%	74%	15%	89%
Third-party cloud SaaS	63%	55%	21%	76%
CRM tools (SFDC, SAP, etc.)	85%	86%	-10%	76%
% of respondents with the following productivity suite:				
Office 365	53%	60%	-11%	49%
Google G Suite	10%	10%	3%	13%
Office 2016 or earlier	3%	10%	-10%	0%
A combo of Microsoft and Google	32%	19%	19%	38%
	All	CLOUD MIGRATION		
% of respondents who run these workloads in public cloud:				
Productivity apps	35%	36%	6%	42%
Content apps	30%	29%	7%	36%
LOB apps	24%	17%	10%	27%
% of respondents using:				
Microsoft Azure Active Directory	70%	52%	24%	76%
Google Cloud Identity	57%	52%	15%	67%
On-premises identity tools	29%	29%	-5%	24%
OKTA	19%	17%	3%	20%
	All	WORKFORCE DYNAMICS		
% of employees who:				
Are tech savvy	62%	62%	9%	71%
Want access to info wherever they are	57%	45%	17%	62%
Are highly mobile	52%	50%	6%	56%
Outside of the main HQ	64%	47%	29%	76%
Free to choose different device form factors	57%	48%	16%	64%
	All	SERVICE DESK		
% of respondents who agree:				
Employees call our help desk agents via phone	13%	21%	-10%	11%
Employees engage with a chatbot with minimal human intervention	9%	10%	6%	16%

Figure 4: Modern Management Readiness Assessment Questionnaire

	Point Scale	1	2	3	4	5
Categories	Options	Completely disagree	Somewhat disagree	Neither	Somewhat agree	Completely agree
Technology (0-40) 	We have transitioned a majority of employee-facing apps to SaaS.					
	We store user identities into the cloud (e.g., AAD, OKTA, etc.).					
	We have a process for modernizing our key legacy apps.					
	We only have one management console to manage all employee devices.					
	We have a standard operating environment and have a good process around image creation and management.					
	We know exactly what GPOs we use and don't have any extra.					
	We have a good process for managing PC updates and patches.					
Operations (0-25) 	We have a well-documented IT change process.					
	IT leaders collaborate frequently with business leaders in other departments.					
	Service desk requests are highly automated.					
	Desktop, mobile, and procurement teams are unified.					
	We have identified business processes that could significantly improve with modern management.					
People (0-25) 	Our employees are tech savvy.					
	We have a well-documented change management process for employees.					
	Our organization is comfortable taking risks and isn't afraid to fail.					
	Our IT team is skilled at communicating the benefits of new technology to employees.					
Readiness Level	High (60-100)	Organizations with a high level of readiness are ready to begin the journey to modern management now and will be able to complete the journey faster than those that have a low score. These organizations should start working directly with their vendor community, internal stakeholders, and employees to undergo the process.				
	Low (0-59)	Organizations with a low level of readiness must complete a few more steps before embracing the modern management journey, whether that's coming up with a change management process, modernizing key applications, or developing better inventory capabilities. Modern management is still possible but will take longer to achieve.				

Phase 3: Infrastructure And Business Integration Assessment

Integration is key to ensuring the success of a digital workspace deployment. The unique characteristics of your environment will also affect your roadmap for adopting a digital workspace capability. There are six key integration areas to assess as you begin the pre-stage planning of digital workspace migration (see Figure 5):

- › **Identity and access management.** Mapping out where and how user identities are stored today is a critical integration point as it will affect the level of automation that can occur during the digital workspace deployment. For example, chaining on-premises Active Directory to Azure Active Directory limits out-of-the-box automation capabilities and requires IT to manually configure devices or provide documentation for end users. Using a third-party IAM tool, while possible, introduces additional integration complexity.
- › **Line of business (LOB) apps.** Integrating critical employee-facing business applications within the digital workspace is critical. Identify which applications in the CRM, ERP, HR, and enterprise service management (ESM) departments you'll need to provide support for in the digital workspace.
- › **Security.** Ninety percent of organizations have at least two security agents running on employee PCs, most commonly for threat prevention and detection. The goal with modern management is to reduce the number of security agents without sacrificing security. Look for overlaps between your digital workspace offering and the agents you currently deploy. Third-party malware and anti-virus, for example, are often duplicates of OS-provided technologies.
- › **Desktop and application virtualization.** Thirty-nine percent of technology decision makers say 51% to 75% of their employee-facing apps are virtualized today, and 38% say 51% to 75% of their desktops are virtualized today. Organizations that have a virtualization strategy in place can likely adopt the digital workspace quicker than those with no strategy. Why? Because application rationalization and modernization is one of the most time-consuming steps of the entire process. Understanding your comfort level and experience with virtualization will help you determine how to use virtualization to effectively speed up the migration process.
- › **Partners.** Eighteen percent of technology decision makers say the majority of service desk engagement takes place with an outsourced partner. Map out what partners you leverage for service desk, device management, security, etc., to ensure that you can integrate your digital workspace offering with those partners. In some cases, the partner will already have support for your proposed technologies, but in other cases, you might have to bring expertise in-house or change vendors to ensure a successful integration.
- › **Workforce.** The readiness of your employee base to adopt new technologies will have ramifications on your overall roadmap for digital workspace, as will employees' job functions, mobility, and geographic location. Successful cloud-managed deployments are more likely to have tech savvy users who demand anytime, anywhere access to the apps and devices they most commonly work with. If that description doesn't match your user base, you'll have to build more change management time and resources into your roadmap.

Figure 5: Infrastructure And Business Integration Assessment

	Point Scale	1	2	3	4	5
Categories	Options	Completely disagree	Somewhat disagree	Neither	Somewhat agree	Completely agree
Technology Complexity (0-50) 	We leverage a third-party IAM solution for employee-facing workloads.					
	Employees regularly use large and complex third-party CRM or ERP apps.					
	We rely heavily on an enterprise service management (ESM) for employee self-service.					
	We have a high volume of custom-built Windows applications.					
	More than 20% of our users use a virtual apps and/or virtual desktops.					
	We have more than four security agents running on our endpoint devices.					
	We allow usage of third-party cloud storage applications.					
	We offer BYOD for employee devices, including PCs.					
	Employees use mobile devices for work purposes.					
	We require usage of VPN to access work materials outside of the office.					
Business Complexity (0-50) 	Our IT department is decentralized.					
	Our organization is a large, multinational corporation.					
	We must abide by several government regulations which affect the technology we choose.					
	We have a completely outsourced IT operations team.					
	We partner with multiple hardware OEM players.					
	Our employees are often on the road and working in a mobile context.					
	We hire many seasonal workers or contractors to support our full-time employees.					
	We have a well-documented change management process for employees.					
	The business often contributes significant funds for technology purchasing.					
	Our business is slow to adapt to change.					
We have many custom business processes that are well-ingrained in the company.						
Complexity Level	High (50-100)	Organizations with a high level of complexity will have to build in more time to the roadmap to integrate technologies and processes into the fabric of the business.				
	Low (0-49)	Organizations with a low level of complexity typically will have an easier time integrating technology and processes into the fabric of the business.				

Phase 4: Roadmap Development

The roadmap you develop for implementing a digital workspace will depend on the results of the two assessments above. We have created a scoring mechanism for each of these two areas to help you focus on what is most important as you adopt a unified workspace. Specifically:

- › **The readiness score denotes modern management readiness.** Organizations that are at a low level of readiness will need to take additional steps in order to migrate to modern management and lay the groundwork for digital workspace integration.
- › **The complexity score denotes unique environment considerations.** Highly heterogeneous organizations will have different roadmaps than those that work mostly with a single provider. Specific apps, processes, risk tolerances, organizational characteristics, and workforce attitudes will add an additional layer of complexity to the roadmap.

Based on the combination of each of these scores, there are four main types of organizations that will undergo a digital workspace transformation (see Figure 6):

- › **High readiness, low complexity.** These organizations have a high degree of cloud-management readiness and a low degree of heterogeneity in the environment. They leverage mostly SaaS applications and default towards one standard provider across identity, PC management, and mobile management. Examples could be highly cloud-enabled companies that have standardized on Microsoft Azure or Google GCP. The roadmap to digital workspace for this company is shorter, but it focuses on delivering increased value through end user experience analysis.
- › **High readiness, high complexity.** These organizations are in a place where they can realistically manage a heterogeneous computing environment. While they have a complex environment, they have the tools and processes in place to embrace modern management and deliver a digital workspace faster than a company with lower modern management readiness. For example, they may have already migrated users to the cloud or leveraged comanagement for Windows PCs. They also have strong alignment between the business and IT, enabling faster experience improvements and process automation.
- › **Low readiness, high complexity.** These organizations have a low maturity of cloud-based device management but a high degree of heterogeneity in the environment. They default towards heterogeneity in all aspects: device management, application ecosystem, and usage of third-party tools. Employees are globally distributed with a mix of different infrastructures, i.e. Google, Microsoft, Okta, etc. The roadmap for this customer is the longest due to the amount of integration necessary to successfully deploy the digital workspace.
- › **Low readiness, low complexity.** The one-size-fits-all mentality characterizes organizations that have a low maturity for cloud-based PC management but a fairly homogeneous computing environment. Perhaps for regulatory reasons, they may prefer to keep it that way. For example, this company cannot bring user identities into the cloud and prefers to limit device choice to a few select devices and applications. This is a standard operating model for IT, and the majority of the difficult work associated with implementation will involve change management. Working within the confines of regulations will also involve further help from legal teams.

The roadmaps for each of these digital workplace personas will differ slightly (see Figures 7-10). These will show the differences in the roadmaps based on persona types.

Figure 6: The Four Types Of Organizations Undergoing Digital Workspace Transformation

High Readiness, Low Complexity

***Readiness score: higher than 60**

***Complexity score: less than 50**

***Typical characteristics:** mostly SaaS, standardized on a single provider (e.g., Microsoft, Google), strong knowledge of employee need and strong alignment with the business.

Most difficult implementation phase: policy unification, deployment automation, end user experience analysis.

Immediate first steps: deploy MDM agents, open up BYOD to personally owned devices, ship base image to OEM provider.

Roadmap length: six to eight months.

High Readiness, High Complexity

***Readiness score: higher than 60**

***Complexity score: less than 50**

***Typical characteristics:** Strong appetite for change and strong alignment between business and IT, but many competing third-party solutions for IAM, security, MDM, etc. High amount of legacy applications.

Most difficult implementation phase: application rationalization, vendor consolidation.

Immediate first steps: Conduct vendor portfolio review, assign owners for application rationalization processes, contact owners of application owners that will require integration.

Roadmap length: 10 to 12 months.

Low Readiness, Low Complexity

***Readiness score: lower than 60**

***Complexity score: lower than 50**

***Typical characteristics:** one-to-one operating model, regulatory pressure, homogenous computing model, culture adverse to change.

Most difficult implementation phase: regulatory compliance, people change management.

Immediate first step: liaison with legal teams, unify desktop and mobile teams, conduct employee journey mapping sessions with a focus on business outcome.

Roadmap length: 12 months.

Low Readiness, High Complexity

***Readiness Score: lower than 60**

***Complexity Score: higher than 50**

***Typical characteristics:** highly heterogenous computing environment, global, many third-party management platforms and services, little alignment between IT and business.

Most difficult implementation phase: app rationalization, vendor consolidation, IT culture improvements, and stakeholder agreement.

Immediate first steps: conduct business impact analysis of current PC management practices, develop future digital experience state, inventory apps, systems, tools, etc.

Roadmap length: 18 months.

Figure 7: Roadmap For High Readiness, High Complexity (12 Months)

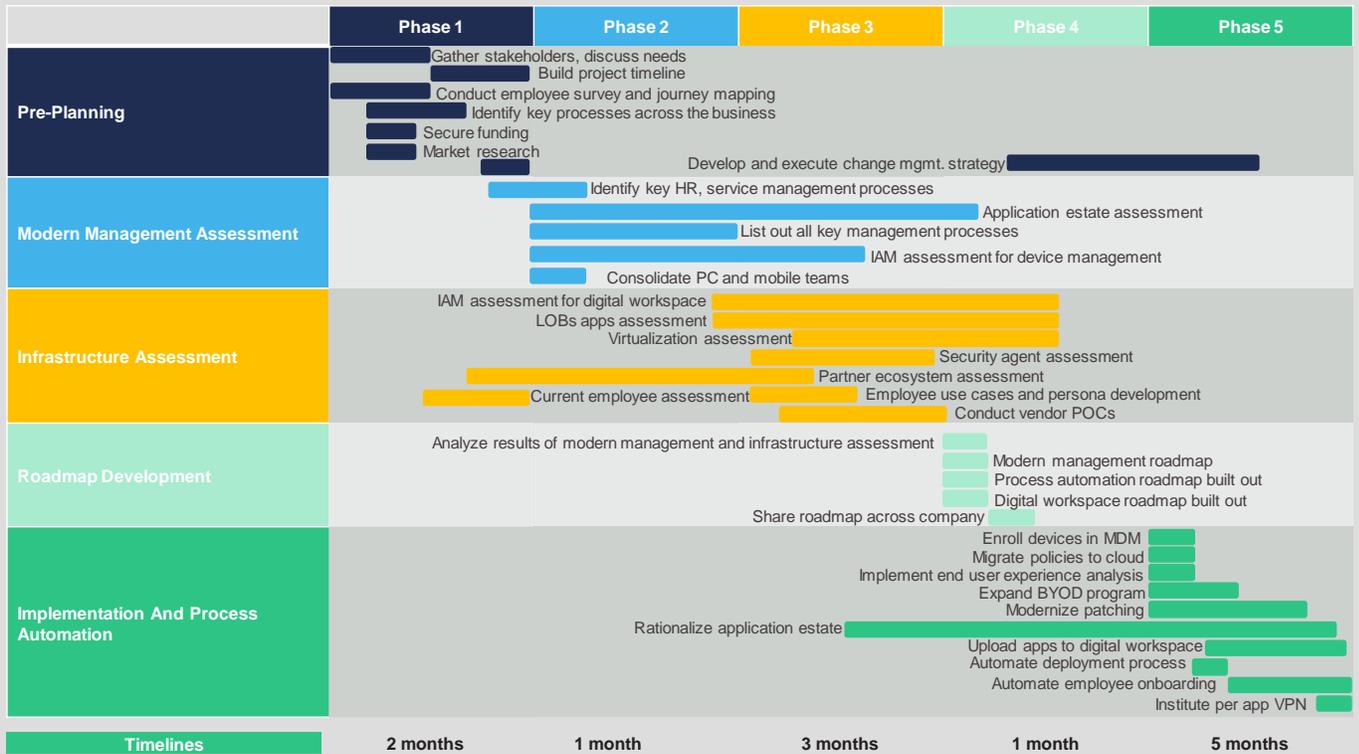


Figure 8: Roadmap For High Readiness, Low Complexity (Six Months)

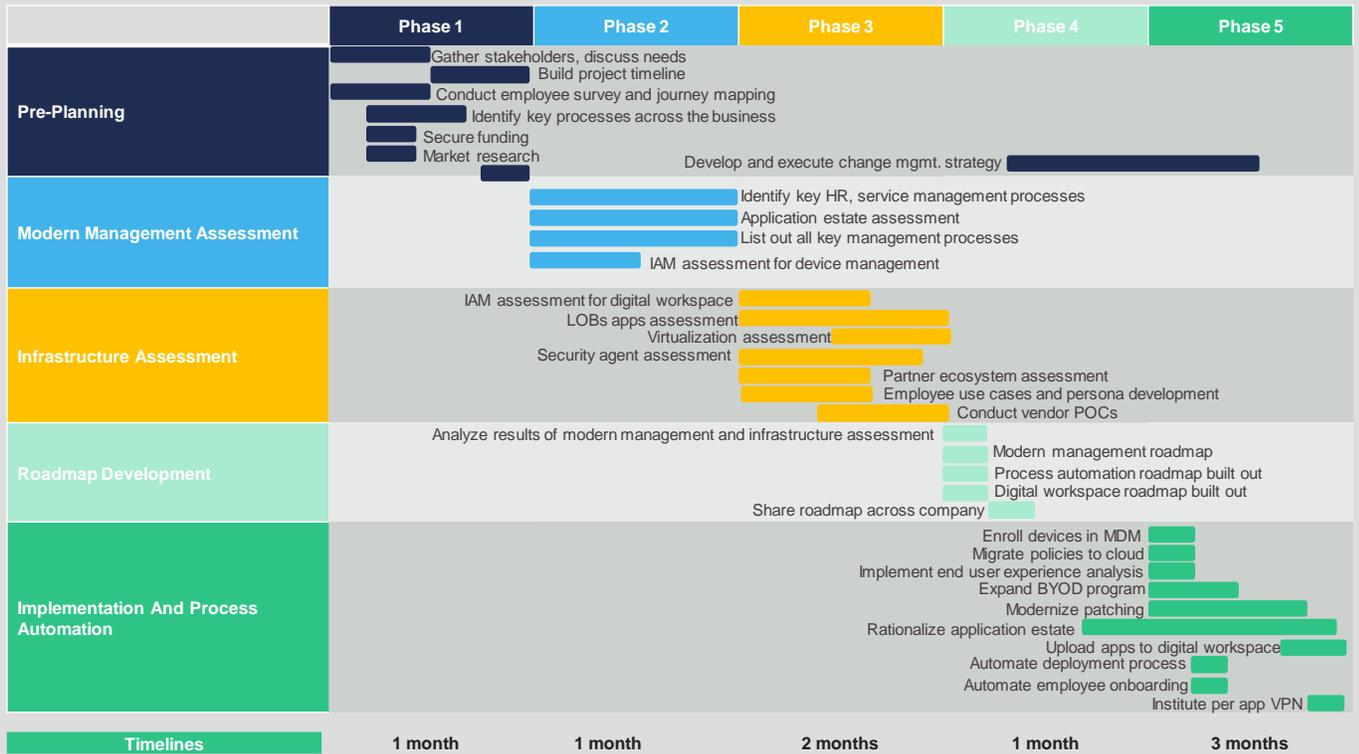


Figure 9: Roadmap for Low Modern Management Readiness, High Complexity Environment (18 Months)

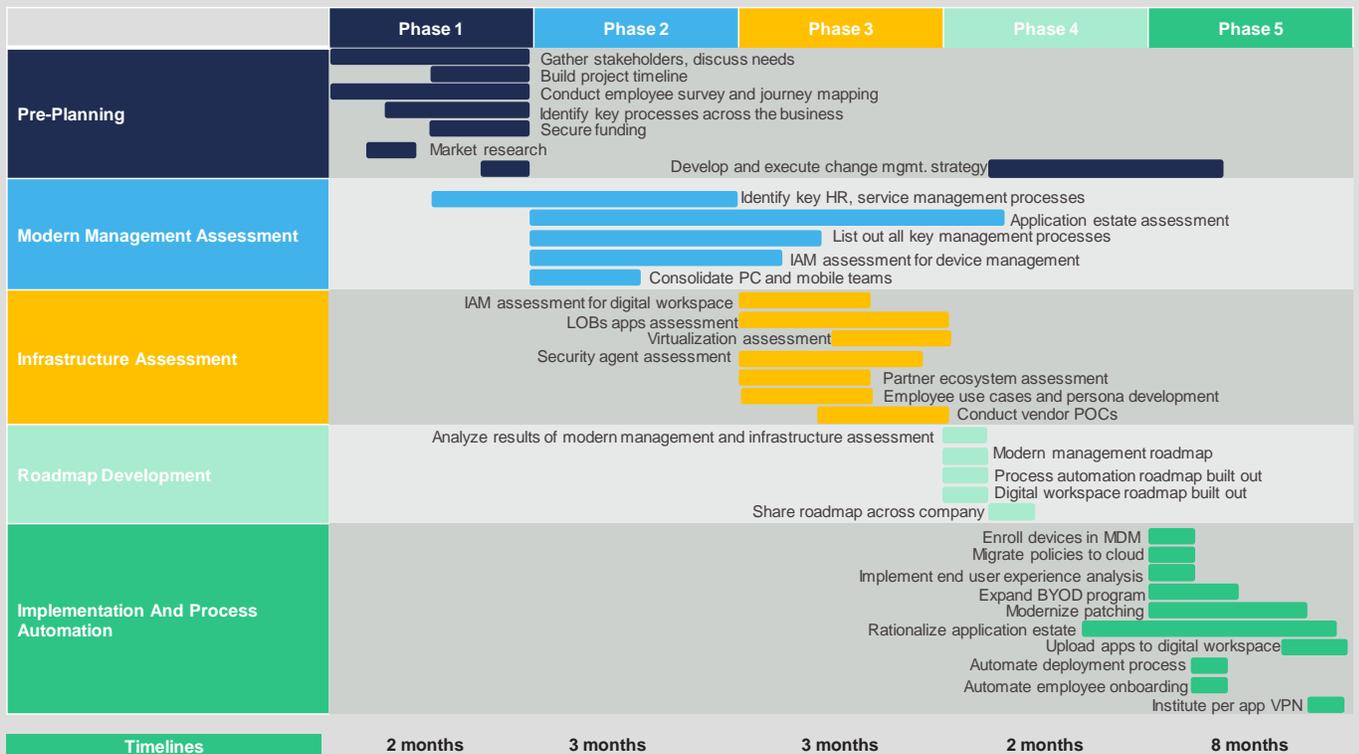
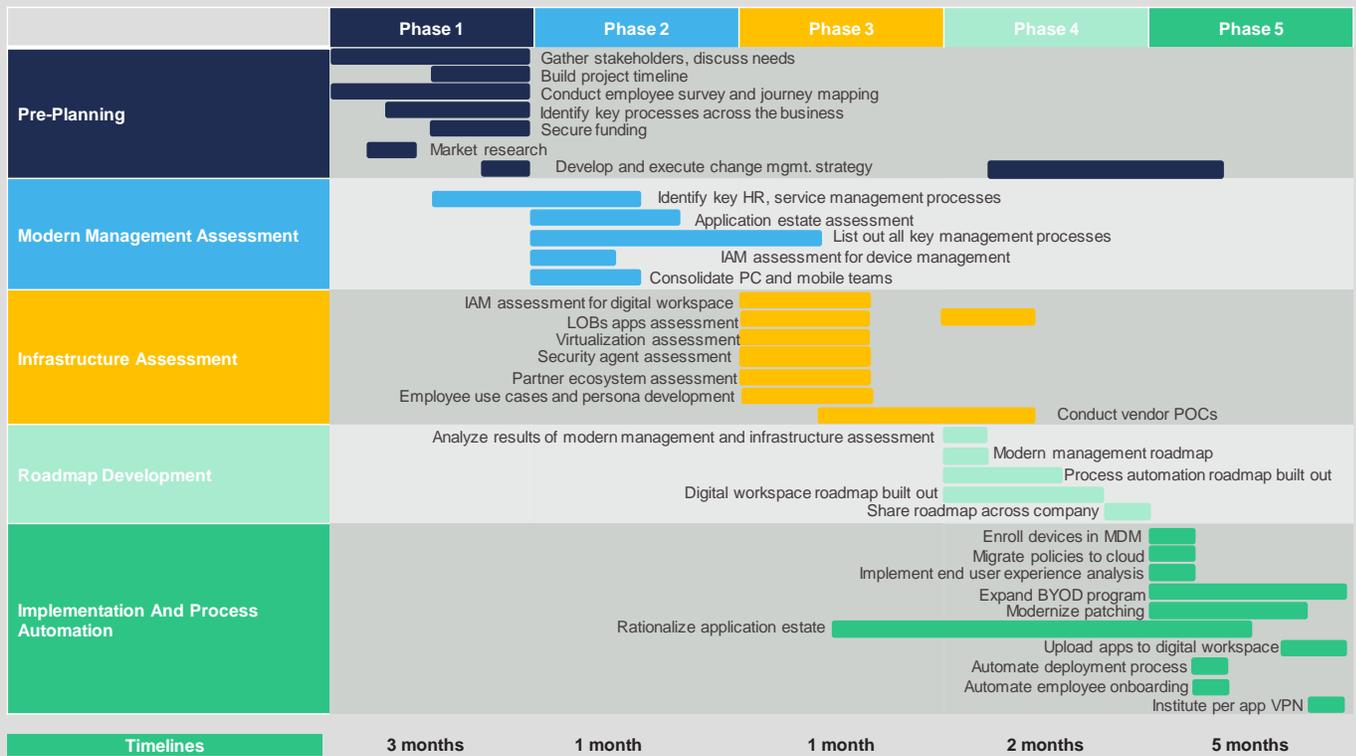


Figure 10: Roadmap for Low Modern Management Readiness, Low Complexity Environment (12 Months)



Phase 5: Implementation And Process Automation

After developing the roadmap, it's time to execute the implementation of the digital workspace. Fundamentally, this phase has three main parts:

- › **Modern management migration.** This includes all the infrastructure pieces involved with modernizing the PC management infrastructure, including device enrollments, policy configuration, patch management modernization, and application rationalization.
- › **Process automation.** Once you've taken the preliminary steps to embrace modern management, you can start to automate processes. Some of these processes will be technical PC management processes, such as deployment and ongoing management. Others will be business processes, such as employee onboarding. It is important to note that you do not need to finish modern management migration to automate processes.
- › **Digital workspace delivery and optimization.** Save the pieces that impact employees the most for last. Once you've modernized management and automated some processes, you can begin to optimize the digital workspace with end user experience management and per-app VPNs.

Steps For Modern Management Implementation

There are four key steps to embracing modern management (see Figure 11):

- › **Gain visibility.** This involves key steps like connecting on-premises domains to cloud-based identity systems, enrolling devices with mobile device management (MDM) profiles, and setting up conditional access for device compliance.
- › **Unify policy.** This involves transitioning legacy GPOs to modern Windows configuration service providers (CSPs) as well as utilizing cloud-based UEM policies to manage common policies such as BitLocker, passcode, etc.
- › **Modernize patching.** At this stage, IT teams take advantage of new Windows patching and start to leverage peer-to-peer update distribution.
- › **Rationalize applications.** This time-consuming phase involves dumping duplicate apps, virtualizing legacy apps, and refactoring some apps to run within an HTML5 browser.

Process Automation Occurs Throughout Implementation

Through the first four phases of modern management migration, you'll increasingly be able to start automating technology and business processes. For example:

- › **Once you enroll devices with MDM, you can automate deployment.** Don't wait until you've rationalized all employee apps to begin deployment automation. Simply send your image, device configuration, profile settings, and identity details to the hardware manufacturer to automate device deployment.
- › **Once you sign contracts with an original equipment manufacturer (OEM), you can automate procurement cycles.** New procurement models such as PC-as-a-service (PCaaS) can automate tedious stages of the procurement process, such as renewals, order expansions and subtractions, and device swap-outs.
- › **Once you ship an image to the OEM, you can begin leveraging predictive incident resolution.** As soon as your images and device profile information are in the hands of the OEM provider, end user experience management agents can be installed to help proactively detect and remediate end user experience issues, such as device and app performance, network latency, and failed authentications.
- › **Once you rationalize applications, you can implement self-service app downloads.** Once you've rationalized the majority of applications, you can start to automate the packaging and distribution of applications because: 1) you're relying on more modern applications and 2) you can simply link employee personas to specific sets of apps and deliver them in a self-service way that is based on user identities in the cloud.

Figure 11: Roadmap for Low Modern Management Readiness, Low Complexity Environment (12 Months)

The Four Steps Of Implementing Modern Management		
Milestone	Key Steps	Process automation unlocked at this step:
 Gain Visibility	<ol style="list-style-type: none"> 1. Connect on-premises directory to cloud 2. Set up conditional access in cloud 3. Deploy modern MDM agent to PCs 4. Ship image to OEM 	<ul style="list-style-type: none"> *Self-service BYOD *OS deployment automation - standard image *Proactive remediation with end user experience monitoring tools *Procurement automation *PC staging, logistics, retirement
 Unify Policy	<ol style="list-style-type: none"> 1. Transition basic policies to MDM 2. Rationalize GPOs 3. Transition GPOs to configuration service providers (CSPs) 4. Reconfigure scripts in modern management 5. Configure user profiles, policies and settings 	<ul style="list-style-type: none"> *OS deployment automation - legacy Win 32 apps *Self-service digital workspace with SaaS, IT service management chatbot
 Modernize Patching	<ol style="list-style-type: none"> 1. Inventory of key distribution points 2. Transition to Windows Update for Business 3. Embrace cloud distribution centers 4. Develop distribution settings using risk-based approach 5. Develop distribution rings 6. Invest in P2P for bandwidth optimization 	<ul style="list-style-type: none"> *Automatic OS and patch with limited disruptions
 Rationalize Application	<ol style="list-style-type: none"> 1. Gather inventory of all employee apps 2. Contact app owners 3. Dump duplication applications 4. Determine if application is heavily used 5. Determine if application is easy to modernize 6. Modernize easy applications with HTML5 7. Virtualize applications that aren't easy to modernize 8. Buy off the shelf if virtualization and/or modernize is not easy 9. Upload applications into digital workspace portfolio 	<ul style="list-style-type: none"> *Self-service digital workspace with legacy apps *Automate employee onboarding *Application packaging automation
 Digital Workspace Delivery	<ol style="list-style-type: none"> 1. Integrate virtual apps into digital workspace 2. Run campaign to drive awareness amongst employees 3. Implement per app VPN in digital workspace policies 4. Conduct final employee satisfaction surveys using monitoring solution 	<ul style="list-style-type: none"> *Automated connection to sensitive resources *Employee feedback collection

- › **Once you modernize patching, you can automate hardware and software updates.** Once your organization can transition from Windows Server Update Services to Windows Update for Businesses and set up distribution rings with conditional access, devices will automatically query for the latest patches.

Digital Workspace Delivery Comes Last

After successfully moving to modern PC management, the final stage is expanding the modern model to encompass the entirety of the digital workspace. It also involves modernizing key employee-facing technologies. We do this step last because it's most likely to impact current employee productivity. Specifically, organizations in this stage will:

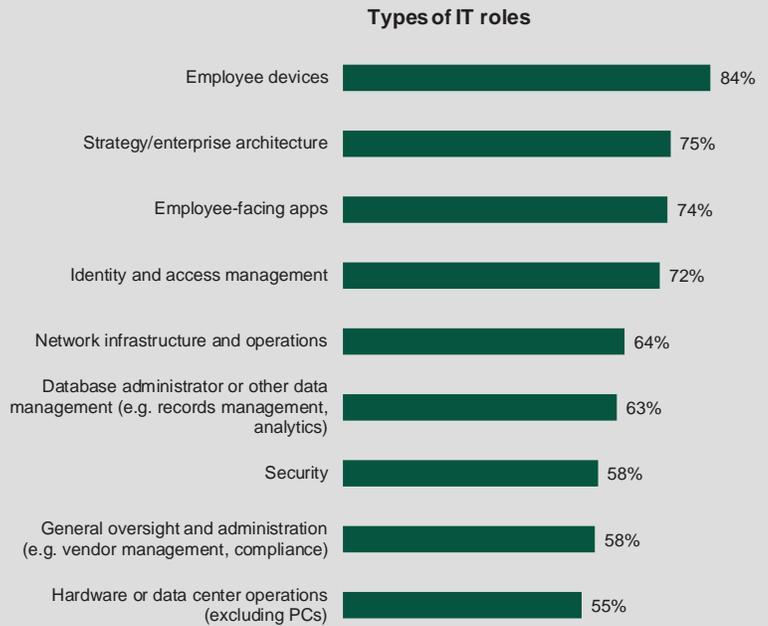
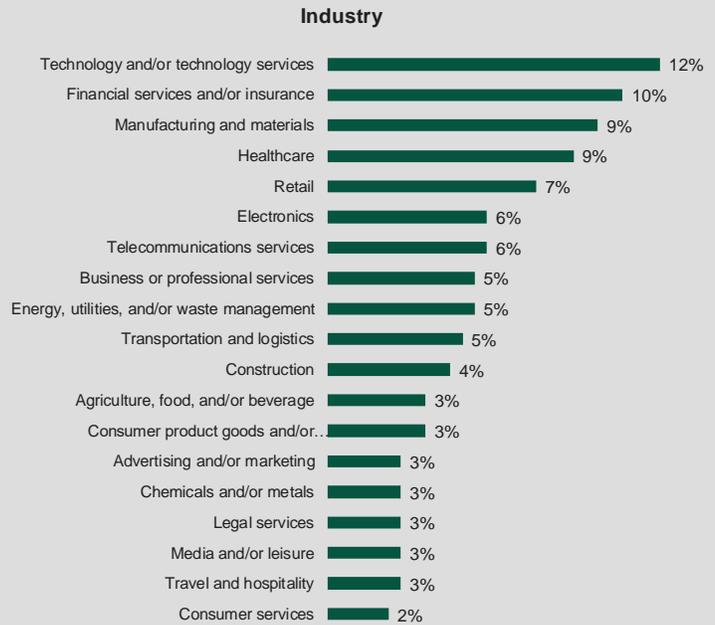
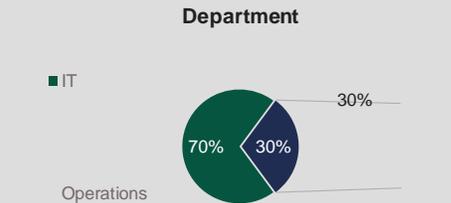
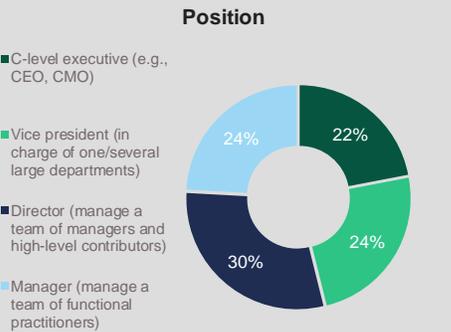
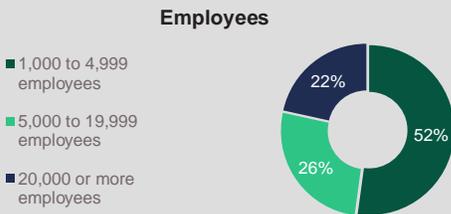
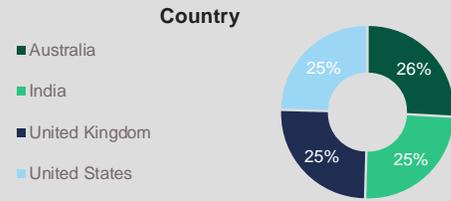
- › **Upload applications to the digital workspace.** This is an easy step, but it involves taking all of the rationalized applications in your portfolio and uploading them to your UEM console and OEM provider. It also involves linking any virtualized applications to the digital workspace.
- › **Create employee profiles and personas.** Here, organizations should delineate what employees, groups, and job functions should receive what entitlements in their digital workspace. That will include types of apps, workflows, device flexibility, etc.
- › **Expand digital workspace beyond corporate PCs.** Make the digital workspace available across all device types, including mobile devices and perhaps even wearables. You'll also want to consider whether you want to make it available to personally-owned devices (BYOD) as well.
- › **Substitute device-wide VPNs for per-app VPNs.** Instead of leveraging an insecure device-wide VPN for access to enterprise resources, modern management tools often rely on an always-on app to server encrypted VPNs (a.k.a. per-app VPN) for access. This smooths authentication friction but is very disruptive to daily end user productivity, so we leave it for last.
- › **Set up dashboarding to understand employee adoption.** Analytics is the last key step to the digital workspace journey. It helps you understand app adoption, productivity, degradations in end user experience, and more. Your reporting should cover all the devices, apps, and networks employees are utilizing.

Appendix A: Methodology

In this study, Forrester conducted an online survey of 232 VP+ decision makers with good knowledge of the current Digital Workspace potential, environment, and technical capabilities, at their organization. Dell commissioned Forrester Consulting to explore why customers are delaying the adoption of Unified Workspace because they see the change as too difficult and time-consuming. With the right technical support to understand the complexity of Digital Workspace combined with a solid understanding of the starting point and step, customers can achieve their Digital Workspace transformation faster than they think. We explore how. Questions provided to the participants asked the current application state, the state of cloud and cloud migration, state of workforce/employee environment, management tools, state of service management, state of security, and the level of process optimization. The study began in January 2020 and was completed in March 2020.

Appendix B: Demographics

Demographics



Base: 232 VP or director level+ with good knowledge of the current digital workspace potential, environment, and technical capabilities at their organization
 Source: A commissioned study conducted by Forrester Consulting on behalf of January 2020