Predicts 2021: Digital Workplace Infrastructure and Operations

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Published 7 December 2020 - ID G00731128 - 16 min read
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Initiatives: Digital Workplace Infrastructure and Operations

End-user services are being transformed by dynamic digital workplace I&O that automate tasks and improve user experience. To drive business growth, I&O leaders must operationalize technology deployed reactively during the initial pandemic response into permanent, strategic solutions.

Additional Perspectives
- Summary Translation: Predicts 2021: Digital Workplace Infrastructure and Operations
  (24 December 2020)

More on This Topic
This is part of an in-depth collection of research. See the collection:
- Over 100 Data and Analytics Predictions Through 2025

Overview

Key Findings
- Organizations are updating strategic roadmaps to operationalize remote work solutions deployed during the pandemic.
- Consistent and practical endpoint management and security remains challenging for organizations that have not adjusted technology, processes and procedures to support a highly distributed workforce.
- Remote work has accelerated the adoption of cloud-hosted workplace infrastructures for device management, desktop virtualization and collaboration during 2020, and cloud workplace infrastructure adoption will continue growing through 2023.

Recommendations
Infrastructure and operations (I&O) leaders responsible for digital workplace infrastructure and operations must:
By 2024, more than half of organizations will consolidate to a unified console for endpoint management and security tasks, up from less than 5% in 2020.

Through 2023, more than 80% of desktop virtualization projects deployed primarily to save cost, rather than to improve security or business continuity, will fail to meet their objectives.

By 2024, endpoint analytics and automation will help digital workplace service staff shift 30% of time spent on endpoint support and repair to continuous engineering.

By 2024, 50% of digital workplace services leaders will be promoted from I&O to a CIO/chief digital officer (CDO) direct report, an increase from 5% in 2020.

By 2025, organizations that transform Windows application delivery through MSIX and application virtualization will eliminate over 50% of the time spent managing those applications.

Analysis

What You Need to Know

IT organizations enabled business continuity during 2020, and remote work remains critical to maintaining business operations through 2023 and beyond. Temporary remote working solutions deployed in 2020 must be operationalized for long-term use due to the risk of future business-continuity events. Cost cutting remains the No. 1 priority for I&O leaders, but cuts must be balanced with business requirements to enable a more distributed workforce and improve the user experience. Modernized operations, endpoint analytics and automation are key to sustaining operations, while also delivering cost reductions. Key predictions for I&O leaders in 2021 are shown in Figure 1.
### I&O Leaders Must Refocus Their Attention to Enable Meaningful Operational Changes Through 2025

**Key:** Low ☐ ☐ ☐ ☐ High ☐ ☐ ☐ ☐ ☐

<table>
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<th>UEM</th>
<th>Desktop Virtualization</th>
<th>Automation</th>
<th>Organization</th>
<th>Apps</th>
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<td>80%</td>
<td>30%</td>
<td>&gt;50%</td>
<td>-50%</td>
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</table>

**Prediction:**
- Single Console for Endpoint Security and Management
- ... of business cases that focus on IT cost will fail.
- Shift in Effort From IT Operations to Continuous Engineering
- End-User Service Organizations Reporting Directly to the CIO
- Reduction in Time Managing Windows Applications

**Timescale:**
- 2024
- 2023
- 2024
- 2024
- 2025

**Impact**
- Workplace Infrastructure
- Operations
- Strategy

Source: Gartner 731128_G

### Strategic Planning Assumptions

**Strategic Planning Assumption:** By 2024, more than half of organizations will consolidate to a unified console for endpoint management and security tasks, up from less than 5% in 2020.

**Analysis by:** Chris Silva, Dan Wilson, Rob Smith, Dionisio Zumerle

**Key Findings:**

- Organizations are seeking ways to streamline collaboration between I&O and IT security to accelerate the identification and remediation of vulnerabilities.
- The pandemic has magnified the impact on agility and scalability of disparate endpoint management and security tools, architected with a dependence on LAN/VPN connectivity.
Market Implications:

Gartner is witnessing tighter integration between UEM and UES tools, which may drive a convergence of these two markets over time. This does not suggest that every endpoint security tool will become a UEM or vice versa, but rather a greater emphasis on direct integration to deliver a coordinated response to detect and address vulnerabilities and security incidents. In addition to the improved coordination made possible by this linkage, user experience will also be improved — uniting to address two goals that are often viewed as mutually exclusive.

Recommendations:

- Evaluate UEM and UES tools based on top security and management requirements, and prioritize integration capabilities or a unified platform to reduce costs and the overhead of managing multiple tools, contracts and vendors.
- Improve collaboration between I&O and IT security teams by creating shared goals to accelerate threat detection and remediation and improve user experience.
- Endpoint management should contribute to the security playbook as a complement to traditional procedure documents, and should invest in automating repeatable processes to avoid duplication of costs.
- Ensure that candidate tools are contextual for security and I&O roles to avoid both teams using generic dashboards. This helps apply appropriate segregation of duties and allows both teams to fulfill their responsibilities.

Related Research:

- The zero trust access that is ideal for remote work and use of cloud services and SaaS applications requires a cohesive, integrated strategy for identity, endpoint management and endpoint security.
- Reduction of security risk and improving user experience with technology are driving new capabilities available only when unified endpoint management (UEM) tools are directly integrated with analytics, identity and endpoint security tools.
- Integrating endpoint security tools with endpoint management tools provides I&O and security teams the necessary information to coordinate actions to detect, investigate and remediate security issues.
- UEM vendors have demonstrated interest in bridging unified endpoint security (UES) and UEM tools together, as evidenced by acquisitions, product announcements and partnerships throughout 2020 aimed at integrating capabilities. Gartner anticipates that this activity will continue.
- Moving to a single or integrated platform is not suited for all companies and can introduce the risk of vendor lock-in, lack of diversity of opinions and addressing the balance of good enough versus best of breed.
Strategic Planning Assumption: Through 2023, more than 80% of desktop virtualization projects deployed primarily to save cost, rather than to improve security or business continuity, will fail to meet their objectives.

Analysis by: Stuart Downes, Nathan Hill

Key Findings:

- Business cases for virtual desktop infrastructure (VDI) and desktop as a service (DaaS) have failed when solely focusing on IT costs. Desktop virtualization solutions have a higher total cost of ownership (TCO) when compared to most physical desktop PC deployment scenarios.

- The business case for desktop virtualization solutions usually succeeds when it focuses on security and business continuity.

- The DaaS TCO remains more expensive than on-premises desktop virtualization solutions for most deployments, but the gap is narrowing due to decreasing hyperscale cloud costs. Today, there are several use cases when DaaS can be more cost-effective than on-premises solutions, such as expansion to new regions, when there are fewer than 500 user deployments and with temporary workers.

- In 2020, most successful business cases for desktop virtualization were for business continuity.

Market Implications:

The pandemic created a surge in VDI and DaaS adoption to enable remote workers. Several DaaS vendors reported significant growth during 2020, including one vendor that reported three-times growth in the first three months of 2020. Historically, desktop virtualization business cases focused on IT cost savings failed, which restricted adoption. In 1H20, the primary business case focus shifted to business continuity, which resulted in significant adoption of desktop virtualization. Use of VDI/DaaS is now considered an integral component to the strategic roadmap for digital workplace infrastructure, anchored to business continuity and security as primary business case objectives. The market is expected to grow as organizations strategically adopt desktop virtualization for long-term support of distributed workers. Gartner forecast data estimates the number of users for DaaS will grow by over 150% between 2020 and 2023.
Recommendations:

- Segment the user base by using work settings (job function and location) to help identify candidate use cases for desktop virtualization and application virtualization.
- Win buy-in for desktop virtualization by building a business case that includes business continuity and security.
- Minimize and reduce attack surfaces and optimize the management of highly distributed endpoints by prioritizing thin-client architectures for desk-based workers.
- Improve the onboarding process by using desktop virtualization to increase the speed and lower the cost of onboarding workers. The highest benefit will be observed for workers with short-term contracts.

Related Research:

Optimize End-User Services Through Segmentation of Work Settings

How to Build a Successful Business Case for Desktop Virtualization

2020 Strategic Roadmap for Digital Workplace Infrastructure and Operations

Market Guide for Desktop as a Service

Physical, Virtual and Cloud Desktops: Is a Hybrid Approach Inevitable?

Strategic Planning Assumption: By 2024, endpoint analytics and automation will help digital workplace service staff shift 30% of time spent on endpoint support and repair to continuous engineering.

Analysis by: Dan Wilson, Stuart Downes

Key Findings:

- Traditional, stand-alone endpoint self-healing tools failed to deliver on that promise, but SaaS-based UEM or automation-enabled digital experience monitoring (DEM) tools are leveraging artificial intelligence (AI)/machine learning (ML) to make this a reality.
- Endpoint analytics capabilities collect, aggregate and analyze logs and telemetry from endpoints to identify errors, crashes, network latency and other performance issues that disrupt work and lead to a poor user experience.
- AI/ML are applied to the insights to match identified issues with self-, vendor- or community-created scripts to resolve the problem.
Market Implications:

Gartner is seeing a resurgence in the desire to automatically identify and remedy endpoint problems. UEM tools will continue to expand or enable tighter integration with endpoint analytics and automatic remediation capabilities. Several UEM vendors have announced base capabilities with their products, and others have established formal partnerships with DEM vendors.

Recommendations:

- Define clear goals for improving endpoint management, including device life cycle optimization, performance and experience measures, historical reporting and trend analysis, success criteria, and technical requirements of the tool.
- Leverage a proof of concept so that vendors can deliver on promised capabilities in your environment and for your requirements.
- Evaluate both UEM and DEM tool capabilities against requirements, prioritizing ease of integration and use over a best-of-breed feature set.
- Investigate analytics and automatic remediation capabilities that your UEM tool may provide. If the capabilities are minimal now, consider their roadmap timing against the time to buy, deploy and integrate third-party tools.
- Start with reviewing analytics reports to understand trends, then implement workflow-based remediations and slowly progress into automatic remediations.
- Do not reinvent the wheel. Leverage existing self-, vendor- or community-created repositories of remediations (scripts).

Related Research:

- Magic Quadrant for Unified Endpoint Management
- Hype Cycle for Digital Workplace Infrastructure and Operations, 2020
- Adopt Continuous Endpoint Engineering and Modern Management to Ensure Digital Workplace Success
- 2020 Strategic Roadmap for Digital Workplace Infrastructure and Operations

Strategic Planning Assumption: By 2024, 50% of digital workplace service leaders will be promoted from I&O to a CIO/CDO direct report, an increase from 5% in 2020.
Key Findings:

- Growing emphasis on attracting and retaining top talent is increasing the importance of employee experience improvement initiatives.
- The pandemic magnified the impact of technology user experience on overall employee experience as technology has become the primary connection to the workplace for a highly distributed workforce.
- I&O leaders are being asked to deliver technology updates faster than processes allow in order to support corporate employee experience initiatives.
- Traditional I&O organizational structures are overly focused on operational outcomes, often ignoring employee enablement completely.
- CIOs are partnering more with chief human resources officers (CHROs) to accelerate digital transformation and need an organization with the right mindset, skills and processes to lead this work. End-user computing teams are well-positioned for this role.

Market Implications:

We believe that end-user or digital workplace service (DWS) organizations will elevate from within I&O to become a direct report to the CIO or CDO. This emerging trend is already happening in progressive organizations that highly value employee experience improvements and have strong DWS leadership in place to execute on the expanded charter.

Recommendations:

To prepare, DWS leaders must:

- Sharpen focus on user experience by reorganizing those providing DWSs into a unified team.
- Increase engagement with strategic technology partners and stakeholders to solve business challenges by embracing a continuous engineering approach that reduces complexity and time spent on technical tasks.
- Boost workforce digital dexterity by promoting an enablement mindset throughout IT.
- Drive improvements in user experience by assuming the role of chief end-user advocate.
- Improve workforce satisfaction by partnering with HR to ensure that the workforce technology experience supports a positive overall employee experience.

Related Research:

Growing emphasis on attracting and retaining top talent is increasing the importance of employee experience improvement initiatives.
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Enablement Mindset Is the Missing IT Ingredient to Improve Workforce Digital Dexterity and the Employee Experience

Adopt Continuous Endpoint Engineering and Modern Management to Ensure Digital Workplace Success

2020 Strategic Roadmap for Digital Workplace Infrastructure and Operations

Strategic Planning Assumption: By 2025, organizations that transform Windows application delivery through MSIX and application virtualization will eliminate over 50% of the time spent managing those applications.

Analysis by: Stuart Downes, Michael Silver

Key Findings:

- The number of apps in the average enterprise will increase by 25% through 2025 due to application modernization and the adoption of business-developed low-code application development platforms.

- Microsoft Windows will remain the dominant enterprise platform through 2025, even for OS-neutral applications such as web applications.

- Application delivery transformation through MSIX offers the opportunity to modernize application readiness processes by enabling new levels of compatibility while deploying new analytics and automation tooling to support application assessment, packaging, testing and delivery.

- The percentage of applications developed specifically for Windows will decline to below 20% by 2025, but many of these applications will be business-critical.

- For Windows applications that are not compatible with the MSIX format, use application virtualization to deliver applications to PCs and virtual desktops.

Market Implications:

As organizations modernize the format for Windows Applications to MSIX, new processes will be implemented to life cycle manage applications. Analytics to assess application compatibility with future OSs and other applications will be commonly deployed to minimize the work required for each Windows 10 feature upgrade. Tools to automate application conversion, some packaging activities and robotic testing will further reduce the effort required to life cycle manage the application estate. Even with automation, IT teams will need to focus effort only on business-critical applications and leverage the recommendations of analytics tools for low-criticality business applications. Where MSIX is not appropriate for specific Windows applications, virtualization technologies will be adopted or maintained and, over time, the number of applications requiring virtualization will decline as older applications are retired.
Recommendations:

- Collaborate with application leaders to develop clear forecasts of the future volume and blend of applications, the likely delivery infrastructure, and the processes to deal with an increased update cadence.

- Improve the universality of applications by establishing and communicating policies for future app formats that ensure new applications are OS-neutral, where possible, and capable of being distributed using a UEM toolset.

- Use modern Windows application formats like MSIX alongside analytics and automation tools to minimize the effort required to life cycle manage applications and improve the speed at which applications are ready when updates are required.

- Enable provisioning strategies for legacy applications, such as repackaging to MSIX or remote hosting like DaaS or VDI, to ensure that improvements to digital workplace infrastructures are not held back by legacy dependencies.

Related Research:

Plan to Deliver Windows Applications Even as Their Number Continues to Decrease

Magic Quadrant for Enterprise Low-Code Application Platforms

3 Key Practices to Enable Your Multiexperience Development Strategy

A Look Back

In response to your requests, we are taking a look back at some key predictions from previous years. We have intentionally selected predictions from opposite ends of the scale — one where we were wholly or largely on target, as well as one we missed.

On Target: 2022 Prediction — By 2022, 30% of company-owned Windows 10 PCs will be managed using mobile device management (MDM) or UEM tools.

Over the last 12 months, new UEM products and capabilities, significantly reduced use of Windows 7, and a requirement to support an increased volume of remote endpoints have reduced the demand for classic endpoint management tools (client management tools [CMT]). CMT tools are not optimized for internet-connected endpoints, and organizations using CMT experienced disrupted deployment of new software, security updates and patches, and complicated deployment of new hardware to remote workers. Modern endpoint management helps I&O leaders overcome these challenges.

Throughout 2020, the adoption of co-management (via an agent and MDM enrollment) and modern management (via agentless MDM enrollment) has grown exponentially to 19% as of September 2020...
Gartner predicts continued growth as we expect the original prediction of 30% of Windows 10 PCs managed using modern management to be surpassed in the first half of 2021, growing to over 50% in 2022.

**Missed: 2020 Prediction** — By 2019, 50% of new VDI users will be deployed on DaaS platforms.

Gartner’s forecast market model suggests that we hit/met this prediction, by the slimmest of margins. The margin of error means this could have been just on-target or a slight miss, as the real market change associated with this prediction came in 2020.

Refreshed market data from Gartner shows that more than 75% of new desktop virtualization users in 2020 were DaaS, but why? Prior to 2020, many I&O leaders focused solely on IT cost and hence their DaaS business cases failed. Due to COVID-19, however, the business case shifted to include business continuity, which provided a positive business case and adoption increased through 2020. DaaS also allowed organizations to rapidly deploy desktop virtualization.

Looking to 2021 and onward, the business case will shift again to focus on secure distributed operations. Both VDI and DaaS will continue to grow, with VDI peaking through 2022 and DaaS peaking through 2024. Gartner forecasts show that DaaS will overtake VDI in terms of number of users before 2024.

**Evidence**

From September 2019 through September 2020, Gartner had nearly 6,000 client inquiry interactions on digital workplace I&O. The insight from those calls is incorporated into these predictions. The most frequently discussed topic areas were DaaS/VDI, UEM, strategy, procurement and support.

1 Gartner’s results from the annual I&O Executive Leader’s Survey conducted in June 2020 highlights lowering costs as the No. 1 priority. This survey is conducted annually and tracks burning issues for I&O leaders and the areas where they are prioritizing investments. Of the survey respondents, 52% selected lowering costs as one of their top three responses (see Leadership Vision for 2021: Infrastructure and Operations).

2 DaaS growth was reported as three times in the first 12 weeks of 2020 by Microsoft in its Q3 earnings statement, in which Satya Nadella said, “Usage of Windows Virtual Desktop tripled this quarter as organizations deploy virtual desktops and apps on Azure to enable secure remote work.” (See the Microsoft earnings call transcript for 3Q20.)


**Note 1: Microsoft Endpoint Management Session DB145 From Ignite 2020**
Reference a recording of Brad's Anderson's 2020 Ignite event session entitled *Playing Chess on a Trampoline: How to Innovate in an Era of Uncertainty.*

**Recommended by the Authors**

2020 Strategic Roadmap for Digital Workplace Infrastructure and Operations

Plan to Deliver Windows Applications Even as Their Number Continues to Decrease

Embrace Windows 10 Modern Management to Enable a Highly Distributed Digital Workplace

Market Guide for Desktop as a Service

Leadership Vision for 2021: Infrastructure and Operations
Changing business and technical requirements, including the shift toward
digital business and automation, require I&O leaders to evolve and advance
their skills to stay relevant. I&O leaders must implement innovative
strategies that embrace technology innovations to stay ahead and impact
business outcomes.

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