

Virtualizing Today's Desktop – Baselining On Virtual

Market Research Report

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Small World Big Data

In partnership with:



Virtualizing Today's Desktop – Baseline On Virtual

Executive Summary

The big driver towards Virtual Desktops today is obvious – the digital diaspora among knowledge workers due to the worldwide shift to remote working. VDI has been on an upswing for the last decade as virtualization technologies have improved to enable a remote user experience on par or even exceeding what users might receive locally. Yet in the average organization the percentage of user-days hosted on local desktops or laptop O/S remained greater than on virtual desktops.

This year we believe a reversal is in progress – virtual desktops are becoming the new corporate baseline. Organizations are dramatically expanding their VDI footprint and online app catalog depth to respond to the deafening remote user demand for access to all their favorite applications and required data with high performance on any device anywhere.

Baseline Virtual Desktop adoption is now made eminently possible through the use of cloud, the ease of deploying new virtual infrastructure leveraging converged and hyperconverged physical infrastructures, fluid deployment capabilities across hybrid clouds for apps/VMs/data, umbrella management capabilities to secure system access, users and critical data, and the IT efficiencies from sharing a pool of high-value resources (whether through cloud utility pricing or scalable datacenter architecture).

“Working remotely is here to stay for most digital workers...all our people might need to work from somewhere else tomorrow.”

Virtual Is The New Baseline

The digital workforce has left the building! While some may return to physical offices after the current crisis has passed, we predict that most will have established new “remote” work rhythms, productivity enhancing operations and an appreciation for better work-life balance. Once freed from dreary office shackles, our digital workforce will expect to be able to work from anywhere, on any device.

In response, IT began deploying and adopting remote worker supporting technologies like cloud storage, collaboration tools, VDI, VPNs, mobile computing, endpoint security and SaaS-style applications. Still, not every key app was made available remotely, nor was every remote user granted remote access to critical data. One or two days a week those remote workers could generally work on local document copies, email or a few key on-line SaaS apps without requiring remote access to everything inside the datacenter.

User Shifts and IT Challenges

We know this year's shift to mainly remote computing was large, sudden, and in many cases complex for IT to accommodate overnight. Most remote users no doubt started out simply taking their laptops home and getting on remote meeting video conferencing calls. But quickly many found they needed significantly more remote IT access in terms of critical data and important applications than what they might need when working just once in a while at home.

From workgroup collaboration and file sharing to core HR/CRM or financial databases, 3D CAD/design workstation applications, end-users needed their day-to-day digital environments to become as mobile as they were, accessible wherever they happened to be located.

Furthermore, digital users expectations have evolved. No longer do remote employees accept poor performance just because they are remote or distributed.

IT can be severely challenged to stand up and maintain large deployments of VDI and other EUC technologies in-house. The successful scaling of pocket deployments of VDI overnight to encompass entire workforces depended greatly on previously prepared scalable architectures, best practices, data protection, networking, and automation. A lot of lessons have been learned. With a widely distributed workforce, top-notch access controls and 100% data governance within the data center will present major new security gaps.

Virtual Desktops Run Business

When it comes to Virtual Desktops, businesses are often faced with making tradeoffs between the increased agility and potential cost savings with security and end-user productivity. But there are now solutions and approaches leveraging cloud delivery that can enable IT to deploy VDI in such a way to increase business agility, gain scale and optimize cost, please remote-users (increasing their productivity too) AND ensure corporate/data security.

At the same time, business goals for Virtual Desktops encompass broader initiatives than just better supporting remote or distributed users. VDI has been a great solution for in-house workers even if sometimes focused to certain scenarios involving task workers, secure or sensitive environments, or to help workers mobilize within corporate environs.

Once freed from dreary office shackles, our digital workforce will expect to be able to work from anywhere, on any device.

Today we are seeing a much broader consideration of Virtual Desktop and Application technologies extending across global enterprise workforces as the baseline employee environment.

Key Survey Findings:

Recently we conducted a survey of over 130 IT professionals pre-qualified with a direct interest in EUC/VDI solutions.

There are definitely big changes occurring this year with so many users going remote. With this survey, we want to know how the adoption of Virtual Desktops was being perceived and implemented under these pressures:

- What are the top current end user expectations?
- What are the biggest IT concerns with wide deployment of VD infrastructure and technology?
- What are the main business goals for broader Virtual Desktop investment?

Virtual Desktop Adoption Profile

We first asked a few questions in our survey to establish user demographics and the relative percentage of knowledge and power users across the organization to provide context. There is little surprise that over a third of our survey takers reported they were supporting over 500 knowledge workers and near 100 or more power users. But interestingly, the larger profiles of digitally demanding users are spread across different sizes of companies. While larger enterprises have more employees (by definition), it's not just large enterprises that face large virtual desktop challenges!

We asked for the percentages of current remote workers this year (under crisis) and predicted for next year (ostensibly post crisis) (see Figure 1). As expected, over half of all respondents reported that within their organizations, more than 75% of their workers are remote this year. In contrast, a significant number of employees are expected to return to the office next year. However, despite an obvious "bounce-back", the predictions shows that more than half of all respondents believe more than half of their employees will still work remotely.

When so many workers overnight went remote, many employees simply took their laptops home. This approach works ok when an employee only needs desktop apps (e.g. email, word processing) with temporary file copies, SaaS (e.g.

Salesforce) or "network shared" documents (e.g. Box/Dropbox) usually when "working from home" one or two days a week. But it does not suffice when an employee is out of the office for weeks and/or months – there are too many critical enterprise applications,

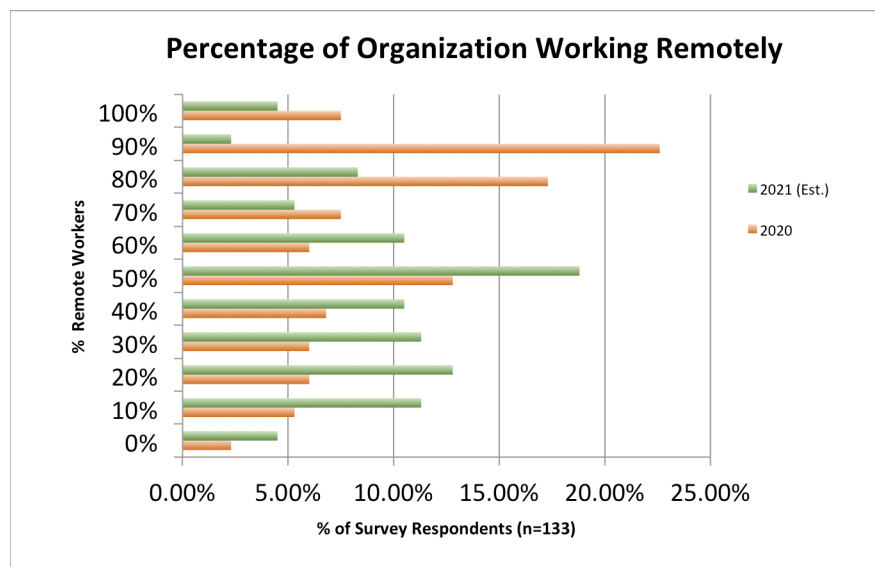


Figure 1 – Percentage of Organization Working Remotely

business process automations and corporate databases that most digitally dependent employees eventually need to access.

We asked about the percentage of remote users that were already provisioned with VDI or Virtual Applications and found that for most organizations it was either a small percentage or a large percentage (leaning towards hardly any or mostly all). In other words, a given organization either provisioned virtual desktops broadly or provided little support for it (likely only pockets or certain departments of users). We believe that for many reasons explored in this survey that this pre-crisis distribution will significantly shift by mid 2021 and eventually coalesce at the “mostly all” end of the chart within five years.

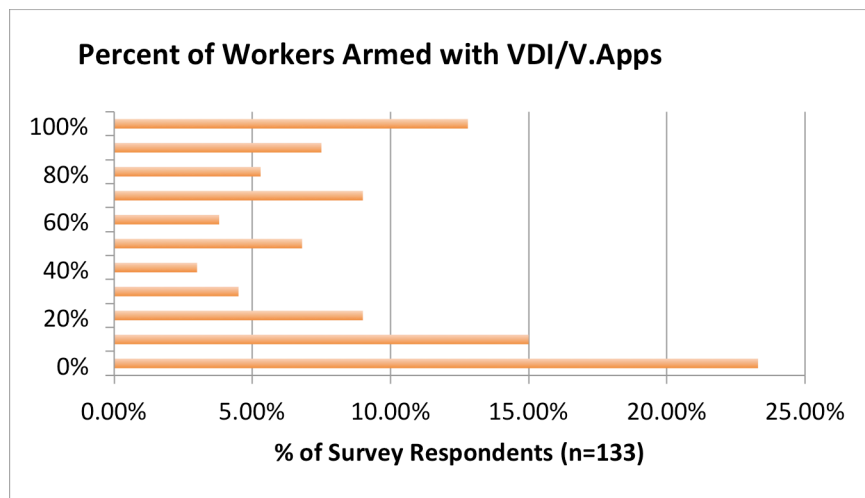


Figure 2 - Percentage of Organization Armed with VDI/V.Apps (at crisis start)

Over time, organizations will want and need to standardize desktop environment delivery across their employee base (for cost, functionality, agility and many other reasons). As local-like performance, “anywhere” accessibility, and endpoint security features are fully available now in select virtual desktop solutions, we expect the baseline corporate desktop architecture in many organizations to heavily shift towards virtual “first” regardless of where an employee chooses or is designated to work at any particular time.

Top End User Expectations

In the past from an end-user perspective, working remotely could present either an organizational opportunity or a hindrance depending on solution, implementation and circumstance. We wanted to know what IT was perceiving as the most significant end-user expectations for remote “digital workspace” work this year.

Clearly the number one concern is about remote performance. We assess that while spotty performance on an occasional remote work day might be tolerated, when working remote full-time most end-users demand a productivity-enhancing performance experience. With the prevalence of cloud, phone apps, SaaS, and other user experiences offering acceptable “remote location” performance, digital workers will expect the same out of virtual desktops (or any kind of remote application delivery).

Second, we see that half or our survey respondents report that their users expect to be able to work remotely from anywhere.

Any remote solutions must provide for access to critical business apps (not just email), and include the security required for remote direct access to critical data.

One in four end-users wish to work on any device (BYOD or otherwise), but our perspective is that most digital employees are not as concerned with using their personal smartphone for serious work as they are with using their corporate secured laptop to get highly performant

remote access to all their needed business applications and data.

Biggest IT Concerns

We wanted to know about IT's own biggest concerns with deploying or expanding their footprint of virtual desktops and applications. There was good concern by over a third about delivering a good user experience (to meet end-user expectations), but the largest response indicates that IT's primary concern is ensuring secure remote user access. And

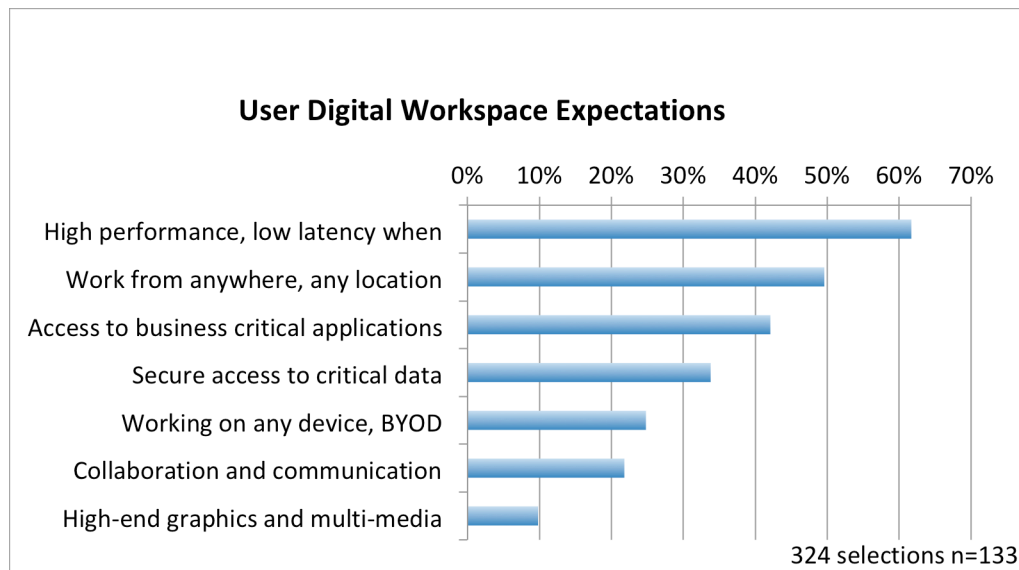


Figure 3 - User Digital Workspace Expectations

IT's primary concern is ensuring secure remote user access

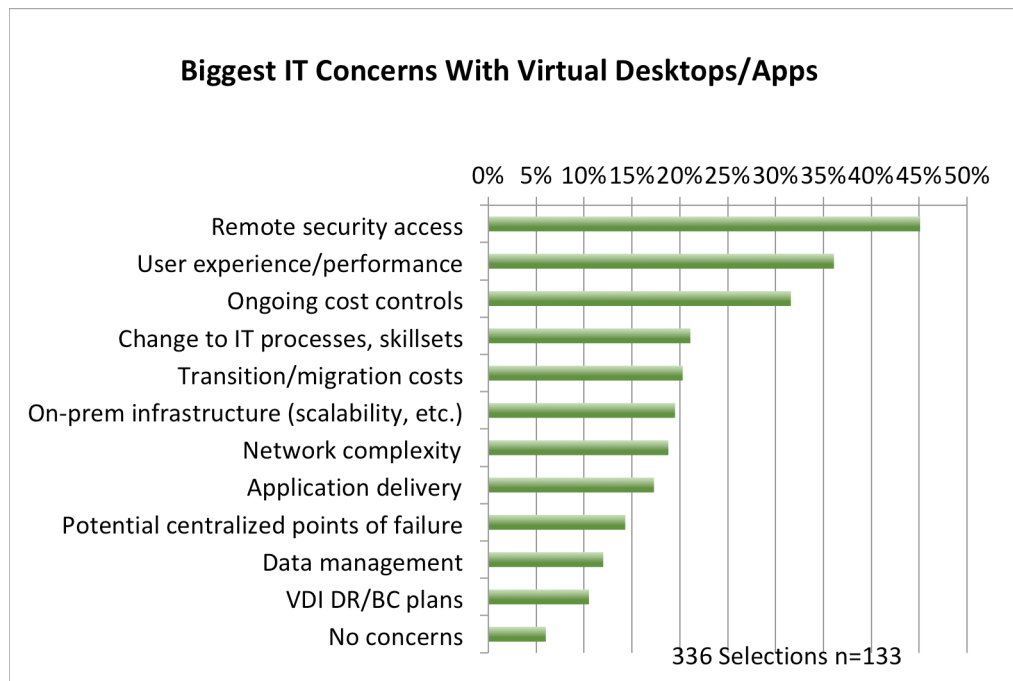


Figure 4 - Biggest IT Concerns

given other research we have recently conducted around work from home trends, we believe this is a well-founded concern as ransomware, phishing and other hacking activity only increased as more people began working remotely.

Interestingly, about a third of IT folks reported they they were also concerned about adequate cost controls. Anecdotally we’ve heard more than one story of cloud consumption bills eating up yearly budgets in less than six months.

Main Business Goals

We also wanted to gain some insight into what IT folks thought the main business goals behind expanding or deploying VDI were more broadly across their organizations. Our IT respondents thought their businesses mainly interested in providing secure remote access and better data security, better supporting remote distributed users (as opposed to virtualizing desktops for in-office employees), and reducing operational cost.

The top answers here are (naturally) reflected in the previous section on IT’s biggest challenges. We might have received a different perspective on this question if had directly surveyed business leader but the spread of answers from IT folks across a variety of different types of initiatives shows that IT folks are cognizant of the various business goals driving projects.

The main business goal is to Provide Secure Remote Access

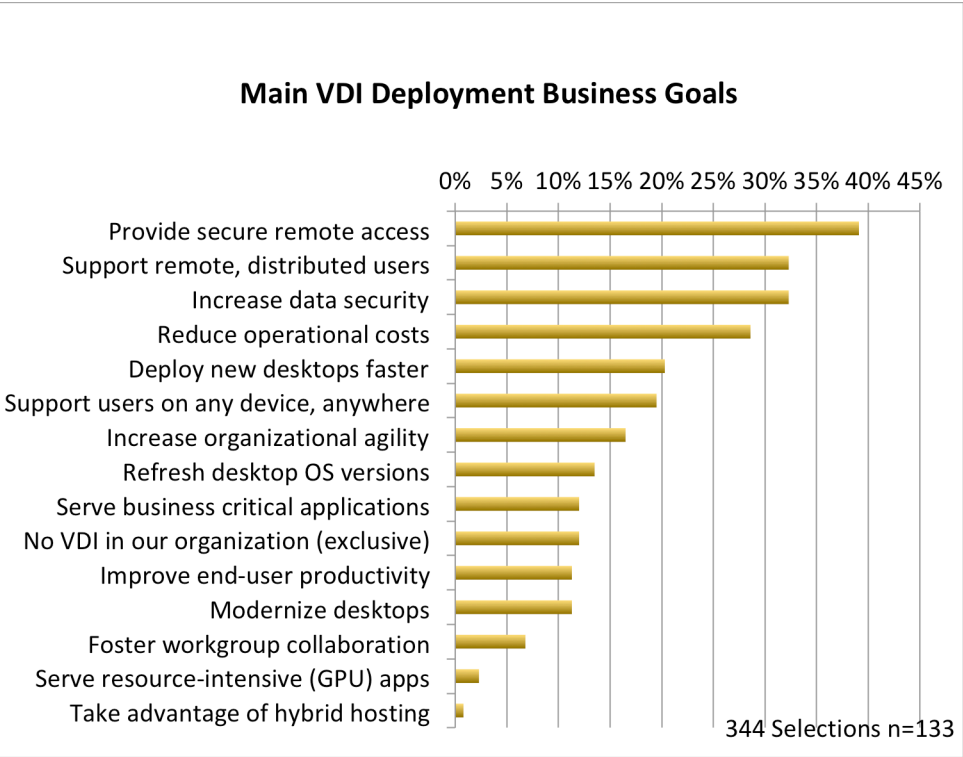


Figure 5 - Main VDI Business Goals

Cisco & VMware - VDI Architecture For Everyone

In our market research into the state of Virtual Desktops and Applications, we discovered that Cisco and VMware have developed a joint partnership to deliver VMware's virtualizing desktop and application solutions on Cisco's UCS and HCI stacks in a validated architecture.

Cisco brings best-in-class datacenter and cloud-building products, solutions and services that span networking, storage, compute, and security domains, while VMware virtualization and VDI solutions are already familiar to most.

While particular solution evaluation is beyond the scope of this paper, organizations of all sizes with VDI initiatives (this survey shows that's 88% of everyone going into 2021) should pencil in Cisco-VMware on their shortlist for evaluation.

The Small World Big Data Opinion

Overall these survey results are indicative of a fundamental shift towards a "virtual first" baseline. While many employees might initially be happy with a corporate issued laptop and local software, provisioning virtual desktop environments to everyone (even over those same laptops) solves most if not all IT and business concerns around accessibility and security. And today's remote virtual environment protocols are highly performant, even including remote access to GPU's for remote high performance application computing (beating laptop local capabilities).

The survey results highlight some interesting IT perceptions about the recent abrupt workforce shift to remote working and the adoption of virtual desktop and virtual application solutions. We'd like to put these in a broader context based on our other research. We think it important for IT to strategically consider:

1. **Scalable infrastructure** – A functional solution for a few doesn't always translate to a working solution for the whole organization. The best approaches should be scalable while remaining secure and performant.
2. **Security first everywhere** – IT should implement zero-trust policies top to bottom. Think about security as defense-in-depth and no longer assume a secure, defensible perimeter. Identity and authentication solutions that include multi-factor authentication are absolutely essential.
3. **User productivity** – Don't limit user productivity with default approaches to remote employee computing. Look for high performance VDI protocols, complete application catalogs and built-in collaboration and workgroup features that increase productivity, not inhibit it.
4. **Data protection** – Remote users need more, not less, data protection. Remote devices get lost, damaged and stolen. Provide complete "return to complete productivity fast" solutions for remote employees.
5. **Low adoption curve** – Ensure that all users can switch from remote to local and vice-versa with a minimal learning curve. Preferably provide the same environment to all users regardless of access location or device.

We believe working remotely is here to stay for most digital workers. In the next two to three years we might see any given organization change policies and directives several times for their employees on where they need report to work, but if this year has a lesson for us all it is that all our people might need to work from somewhere else tomorrow.

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