

Three Core Concepts in Planning for Desktop Virtualization

Use Cases, User Analysis and User Personas

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Success Begins with End-Users

Success in deploying a virtual desktop environment is measured by the productivity of the end-users using the virtual desktops. The expected operational and financial benefits of making the move to virtual desktops can only be realized when the solution is fully utilized. There are many areas to consider when planning for your virtual desktop solution, including network and storage needs. What is often overlooked, beyond identifying and sizing appropriate technologies, is the need of the end-users, those who will be interacting with the virtual desktops themselves.

The practical, real-world needs of the users who will interact daily with virtual desktops inform and drive many of the technology decisions. Capturing those needs accurately and thoroughly makes the difference between a widely adopted and successful migration to desktop virtualization and a slow, painful migration that never quite catches on.

In other words, users, and the way they will use the technology, are foundational.

The best way to understand how to make your end users productive in a VDI environment is to make sure you understand what they need before you begin deployment. Some users will require different software that may require a more extensive infrastructure, and some users will just need the bare essentials. Understanding the difference between these users will make all the difference in whether your virtual desktop deployment is lauded as a success or not.

This paper is a useful first step in helping professionals involved in planning for desktop virtualization. We illustrate the basic steps in capturing the important details about users that will contribute to success. We define, explain the use and the need for, provide high-level examples of, and set basic criteria for, use cases, user analysis and user personas, in the context of desktop virtualization.

Definitions

Use Cases

Organizations move to desktop virtualization in order to address specific needs. While your organization may intuitively understand the reasons behind your move to virtual desktops, documenting the reasons for the move and the specific benefits you expect as result will keep everyone on the same page. As you can see, for example, [in this article from TechTarget](#), use case captures the specific reason for choosing desktop virtualization and the benefit you expect.

SAMPLE USE CASES

BASED ON INDUSTRY OR VERTICAL

- **Healthcare:** Requires single sign-on to systems and access to applications from any floor or patient room
- **Higher Education:** Need to create virtual labs for students to access anytime, anywhere
- **K12:** Provide students with greater access to technology in a shared resources model
- **Government:** Requires enhanced security and support for Linux and Windows together

BASED ON WORKLOAD AND ENVIRONMENT

- **Call Centers:** Need to add new teleworkers on demand
- **Remote Workers:** Must be able to multi-task with email, phone, and calendar; view demos, take sales orders
- **Application Developers:** Requires off-shoring support with security and IP protection
- **Office Workers:** Need to enhance performance through optimized and consistent images, use standard office app and SaaS-based apps

BASED ON SPECIFIC IT ISSUES

- **Remote/Field Workers:** Requires rapid response while ensuring cloud resources are closer to where users work so that performance is not impacted by latency issues
- **BYOD:** Need to support employees who want to use personal, or non-standard, devices for work purposes; enable management of the connections, and maintain standard management processes
- **Cost Reduction/Desktop Manageability:** Need to enhance technical and business capabilities without significant CAPEX investment for infrastructure costs

User Analysis

User analysis refers to the process of identifying particular characteristics of the types of users within your organization that will be adopting desktop virtualization. For example, your organization may be moving sales professionals and engineers to virtual desktops. Each of those two types of users will have common computer-usage characteristics, such as number of virtual machines per individual, required software applications, anticipated storage needs, anticipated processing power requirements, etc. This basic information can be captured in a variety of ways, but we've provided the below form to get you started. You'll see on the left column the types of data required to accurately plan out your implementation.

USER ANALYSIS EVALUATION	USER TYPE 1	USER TYPE 2	USER TYPE 3
HARDWARE REQUIREMENTS			
(Provides some specifications about the hardware a user type generally requires to perform their duties)			
■ Number of processors	1, 2, 3, 6, 8, ...	1, 2, 3, 6, 8, ...	1, 2, 3, 6, 8, ...
■ GB of Memory	1, 2, 3, 6, 8, ...	1, 2, 3, 6, 8, ...	1, 2, 3, 6, 8, ...
SOFTWARE REQUIREMENTS			
(Describing the software a user type generally requires to perform their duties)			
■ Operating system	Windows XP, Windows Vista, Windows 7, Windows 8, Linux	Windows XP, Windows Vista, Windows 7, Windows 8, Linux	Windows XP, Windows Vista, Windows 7, Windows 8, Linux
■ General office suite	MS Office, OpenOffice	MS Office, OpenOffice	MS Office, OpenOffice
■ Specialty software	Desktop publishing, engineering design, crm, other	Desktop publishing, engineering design, crm, other	Desktop publishing, engineering design, crm, other
REQUIRED VMS	X	X	X
(Reflects the number of virtual machines a user type will generally require)			
NUMBER OF USERS BY TYPE	X	X	X

User Personas

You may be familiar with the term personas since it appears in numerous contexts such as software development, product development and marketing. In the context of desktop virtualization, user personas refers to the collection of files and settings for an individual user that are unique to that user, such as desktop settings, favorites, documents and pictures, and user-installed applications. User Profiles may be part of the User Persona definition process, for example in this blog post definition.

User persona development includes capturing information such as the following:

USER PERSONA CHECKLIST	USER TYPE 1	USER TYPE 2	USER TYPE 3
	(Sales, engineering, marketing, etc.)	(Sales, engineering, marketing, etc.)	(Sales, engineering, marketing, etc.)
DATA REQUIREMENTS			
(Describes kinds of user-unique data each User Type will need access to)			
■ User-customized desktop settings	1, 2, 3, 6, 8, ...	1, 2, 3, 6, 8, ...	1, 2, 3, 6, 8, ...
■ User favorites	Yes/No	Yes/No	Yes/No
■ User documents	Yes/No	Yes/No	Yes/No
■ User-installed applications	Yes/No	Yes/No	Yes/No

Concepts in Action

Now we will see the concepts in action. CompanyCo is a high-tech widget manufacturing company that is moving to desktop virtualization. They are making the move for two primary reasons, one being the need to support BYOD and the other being the need to enhance data security. Early in the process, Dave, the IT lead for the desktop virtualization project, and Leslie, the operations lead, work together to lay the groundwork for the migration.

Dave prepares Use Cases

Dave prepares two high-level use cases that define the specific issues that CompanyCo is trying to address, which are enabling BYOD and improving data security, and how CompanyCo anticipates that desktop virtualization will solve the problems. They look like this:

Use Case 1: Enabling BYOD

- **Issue:** CompanyCo employees, especially those in the sales and marketing groups, have been using personal tablets and laptops to access the CompanyCo network and perform work on CompanyCo's behalf outside of the office. In some cases the employees are working from home, and in some cases, especially in the case of sales, they are working as they travel. Although CompanyCo provides sales professionals with business laptops, many of the sales professionals prefer to use their personal devices. This is creating problems because the employees are requesting technical support for their devices, but IT has limited familiarity with some of the devices and no control over the device configurations and security settings.
- **Solution:** CompanyCo will move the sales and marketing organizations to virtual desktops.
- **Expected benefit:** Employees will have full access to the company network and applications via their virtual desktops from anywhere that they can connect to the Internet. Employees will be able to access their virtual desktops from a range of devices including tablets, laptops and smart phones, and the IT organization will not need to try to support the devices, since the virtual desktops will operate entirely within lightweight and easy-to-use apps on the various devices.

Use Case 2: Improving Data Security

- **Issue:** The engineers that design and enhance CompanyCo widgets reside around the world, some based at CompanyCo offices in Europe and Asia and some working entirely from their private residences. The intellectual property that the engineers create as they work is a key part of CompanyCo's competitive advantage. Having that data residing on devices in multiple offices and residences globally represents a data risk, not only in terms of potential data theft but also in terms of data loss in the event of failure of a particular piece of hardware.
- **Solution:** CompanyCo will move the engineering organization to virtual desktops.
- **Expected benefit:** As engineers access their virtual desktops for their daily work, they will see the same desktop environment they are used to seeing, but, behind the scenes, data will remain protected. All company data will stay safely inside the CompanyCo datacenter, and the only thing transmitted to and from the engineers as they work will be pixels that represent data, rather than the data itself.

Leslie performs user analysis and gathers user persona requirements

While Dave finalizes the use case documents, Leslie gathers information about users who will be part of the virtualization process. She performs a user analysis and defines three different types of users that will use the virtualized desktops, noting key factors about the user personas that are important in planning for virtual desktops.

User Type 1: Sales Users

Leslie determines that the typical sales user desktop is a dual-processor Windows 8 system with 4GB of RAM. Sales professionals frequently use Salesforce.com for customer relationship management and are heavy users of Microsoft PowerPoint, for sales presentations, and video conferencing, which they use both for internal sales meetings and for customer sales meetings, webinars and similar activities. Sales professionals store some documents locally and store some documents in Salesforce.com, have both favorites and customized desktop settings, but do not typically install additional applications on their desktops.

User Type 2: Marketing Users

Leslie identifies the typical marketing user desktop as consisting of a dual-processor Windows 7 system with 4GB of RAM with the full Microsoft Office suite installed and, in some cases, components of the Adobe Creative Suite installed. Marketing users, like sales users, engage in video conferencing, but also are heavy users of an internally-developed, web-based marketing automation system, and all marketing systems have the client for that system installed on their desktops. Marketing professionals do not store documents locally, with their "Documents" folder rerouted to a shared network drive, but do have favorites and customized desktop settings. As a matter of departmental policy, Marketing cannot install unapproved applications on their desktops.

User Type 3: Engineering Users

Leslie finds that engineering users run Linux-based systems with eight processing cores and 16 GB of RAM. Engineers run the OpenOffice productivity suite but do not use it frequently, and are heavy users of JIRA Connect and Visual Studio, which are installed on all engineering desktops. Engineers store some content locally on their desktops, and have favorites and customized desktop settings. Engineers often install a wide range of utilities on their desktops.

Finalizing Documents and work with VDI Solution Provider

Dave and Leslie circulate their documents and the data they have gathered for review by the extended project group and use that feedback to tighten their definitions, descriptions and requirements. Both then provide their data to CompanyCo's solution provider, who will use it in planning technical aspects of the CompanyCo desktop virtualization migration.

Summary

Successful desktop virtualization begins well before the first desktop is virtualized and well before the first user logs into their virtual desktop. By taking into account the way in which users interact with their desktops daily, and by understanding the specific problems that desktop virtualization can solve, you can increase the probability that your organization's move to virtual desktops will be smooth and trouble-free.

Based on our many years of experience working with customers globally, we have seen that the likelihood of having a successful VDI implementation is directly related to effective planning and evaluation. We would like to offer you a [free, 30-minute consultation](#) to discuss your particular needs. If desktop virtualization is the next logical step for your organization, we will help you determine if *NComputing* is the right choice.

Additional Resources

Articles

- [Understanding Successful VDI Implementation](#)
- [How Government Entities Can Deploy Linux and Windows Virtual Desktops](#)
- [Managing User Profiles within Traditional or Virtual Desktop Settings](#)

Case Studies

- [U.S. Department of Defense: The solution for the mixed world of Windows and Linux](#)
- [Chuo University: A Desktop Cloud Environment for Anywhere, Anytime Learning](#)
- [Gruppo api: Reducing Operating Costs by 30% with VDI](#)
- [LMU Munich: Streamlines IT operations and improves service to students](#)

Documentation

- [VERDE VDI Datasheet](#)

Whitepapers

- [How VDI Secures Your Data](#)
- [Cut your Storage Costs in Half](#)

