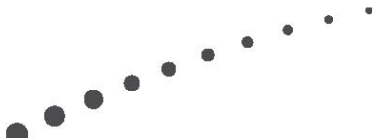




# Desktop Transformation Model First Steps

Citrix Worldwide Consulting Solutions



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## Introduction

Desktop Virtualization is becoming a mainstream way of delivering desktops and applications to users. While IT leaders have a choice in vendors and technologies, they must carefully map out the business priorities and then align specific technologies to each user group, all the while keeping costs, technical complexity, and risk in mind.

As the question on how to eat an elephant is best answered by “one bite at a time,” the recently introduced Desktop Transformation Model provides actionable steps IT leaders and architects can take to ensure that they are well prepared to address IT and business priorities by transforming traditional desktops into optimally managed, transformed desktop computing resources.

Before any organization delves into the technical details associated with a desktop virtualization implementation, it must perform the following critical exercises:

1. **Establish Business Priorities.** To the best way to leverage desktop virtualization, organizations must identify and prioritize their immediate and future business requirements, including areas such as business agility, virtual work styles and cost reduction. They must also account for end-user and IT attitudes towards change, new technologies and new approaches to computing.
2. **Assess the Time to Value.** Once an organization establishes its priorities, it must map out how quickly the business priorities can be addressed. Establishing the time to value of desktop virtualization begins at user segmentation and then assesses the complexities of implementing the right technology for each user group. To gain a quick, highly visible win, organizations should start with high impact user groups that promise a relatively short time to value. Once an initial project has been implemented, adding additional users with similar requirements becomes faster, simpler and more reliable.
3. **Establish a Technology Roadmap.** With the previous exercises complete, IT leaders can start prioritizing and planning the individual projects. Organizations must spend time on project planning to set realistic goals, adhere to milestones and avoid missing important project dependencies.

This whitepaper focuses on the details of these three steps and is based on Citrix Consulting Services’ real world implementation experience with virtual desktop solutions.

## Business Prioritization

IT leaders must get clarity on the business’s overall strategic imperatives in order to prioritize a multitude of possible virtualization initiatives. Organizations can leverage the Desktop Transformation Business Survey on [www.citrix.com/desktoptransformation](http://www.citrix.com/desktoptransformation) to map out business priorities driving the desktop transformation: reducing costs, increasing security, enabling virtual work styles, increasing business agility and achieving greater device independence. It is important that this exercise is done jointly with IT decision makers and the representatives of the various business units in the organizations. The results can be depicted in a spider chart.

Consider the example of Worldwide Co., a global provider of business services, including outsourcing services for back office transactions and customer care. Worldwide Co is headquartered in the greater Atlanta, GA area and has employees in various locations in the continental United States. Susan, a seasoned IT professional at Worldwide Co, completed the Desktop Transformation Business Survey together with her CIO and several decision makers. The results of her survey are depicted here:



Figure 1 - Worldwide Co's IT Business Priorities

Reviewing the chart, she confirms the following assumptions:

- Leadership will probably require her to deliver more IT services without incremental funding (note the high scores along the “Reducing Cost” axis).
- A pending off-shoring and work-from-home initiative will require her to respond to the growing demand of enabling virtual work styles (high scores in that category).
- The Worldwide Co. leadership continues to express concerns for data security.

These are the three strongest dimensions on the chart. Susan will refer back to it to help her identify which groups to target first, which specific technologies she will need to get the job done, and how she will expand Worldwide Co.’s desktop transformation initiative. For the time being, she shifts her



focus to estimate the time her team would require to bring the value of desktop virtualization into the organization.

## Establish Time to Value

When selecting potential projects to meet the business priorities, leaders must consider the time to value of each project. Many factors are affecting how quickly a potential benefit can be realized. They include the following two steps:

- **User Segmentation.** Clearly identify the needs of users and establish common requirements that can drive common technical solutions.
- **Identifying Desktop Transformation Model Architectures.** IT architects can design a variety of different virtual desktop models. Each model is characterized by varying degrees of complexity in its implementation, varying changes in IT business practices and is associated with varying levels of capital and operational expenses. Picking the right desktop delivery model that meets the user’s business needs is critical to the long term success of the project and user satisfaction.

## User Segmentation

In high level discussions, users are often classified as “task workers”, “branch office workers”, “mobile workers” and the like. For IT decision makers, this classification is too broad to offer meaningful segmentation. Many real users can simultaneously be described as task workers, mobile workers, and branch office workers, so a better definition is required:

*User Segmentation* is the activity that classifies IT users along **common requirements** that lead to **common technical solutions**.

That way, the proper infrastructure can be built out in manageable IT projects that minimize risk and maximize the chance for project success.

## User Segmentation Dimensions

To capture the right user attributes that allow technical IT staff to execute a well-defined virtualization project, decision makers must take technical requirements into account. The significant dimensions in many proven virtualization projects are:

1. Required Application Set
2. User Locations
3. Mobility Requirements
4. Physical Endpoint Requirements

## Applications



Capturing all applications is critical since applications are what users need to perform their jobs. While the analysis of most of these dimensions is a straight forward exercise, enumerating the required applications is a tougher step to perform. In many organizations, the corporate IT department does not actively manage all of the departmental applications. Many users are allowed to install their own applications onto their end-point, often as a result of IT not having the resources or too high lead times to support requested applications.

The simplest way to enumerate a department's applications is to administer a survey where department managers name the apps that their users require to perform their jobs. In large organizations, even that exercise can become very cumbersome. Several Citrix Technology partners such as Liquidware Labs, Lanamark, Novell, Matrix 42, RES, and others offer tools and processes that gather data directly on user end-points or over the network, and report any running application back to a central database. Should the project involve a change in operating system (rolling out Windows 7 or leveraging Windows Server 200x), application compatibility assessments can become an important step. App-DNA and other partners offer software solutions to accelerate this process.

IT may find itself in the situation of having to manage previously unmanaged applications. In the simplest case, existing application management tools, such as Active Directory or Microsoft System Center can be used to deploy application packages into virtual desktops; Citrix XenApp and Microsoft App-V may be used to virtualize applications. Note that the specific application delivery mechanism is not important at this point in time. It is only important to capture all applications that are required for the users to perform their job.

## **Locations**

A user's primary location is used as a distinguishing attribute as well. While the infrastructure required in a datacenter may be entirely independent of the end-user's location (a feat that is a major benefit of desktop virtualization in the first place), IT leaders may find that network connections, the need for remote access and WAN optimization solutions, and location-specific infrastructure can be significantly different from location to location. Therefore, IT leaders who seek to minimize project complexity may wish to treat otherwise identical users groups differently based on their primary location.

## **Mobility Requirements**

While two different sets of users may have similar job titles and both work from their home offices, their mobility requirements may be different, which can increase the complexity of any desktop virtualization project. Offline use cases and a distinction of mobile access scenarios, such as access from a corporate branch office versus. a hotel or airport lobby, can drive different technical requirements.

## **User Endpoints**

A wide variety of endpoints can be leveraged in desktop virtualization. In most cases, delivering virtual desktops with XenDesktop is as easy as providing the proper Citrix Receiver for the end



point platform. However, if the IT executive plans on replacing traditional PCs with thin clients to reduce cost and complexity on the users' desks, the specification of the end point may need to meet minimum requirements, for example to be used with HDX video re-direction modalities.

To illustrate this user segmentation process, we'll revisit Worldwide Co.:

Susan is now going through the user segmentation exercise and completes the following matrix:

Segmentation Dimension	Alpharetta Ticketing Call Center	Offshore Developers	Executives
Applications	Microsoft Office Internet Explorer 7 Reflections Terminal Emulator CTI application for call routing	Microsoft Visual Studio .NET Framework 3.5 SP1 Internet Explorer 7 Internet Explorer 8 Mozilla Firefox Google Chrome "EMC2" – an in-house developed source code control application	Standard office apps, including a variety of user installed applications. Further analysis required.
User Location	Alpharetta, GA	Hyderabad, India	New York, NY
Mobility Requirements	None. Users all work out of the Alpharetta office	None. All users will work out of the Hyderabad office.	High. Executives travel extensively and will require access from other corporate offices and public networks.
End points	Mostly traditional PCs. Possibly phasing the PCs out in favor of thin clients in the future	Thin Clients	Variety of PC's, laptops, iPads and smartphones.

Segmentation Dimension	Alpharetta Ticketing Call Center	Offshore Developers	Executives
Potential Desktop Virtualization Model	Optimally Managed	Centrally Delivered – VDI based	Transformed

Although a detailed technical design has not been completed yet, Worldwide Co. has determined that a relatively simple VDI model with assigned desktops for each individual user will be implemented for the offshore developers.

For the call center users, Susan plans on implementing an optimally delivered desktop. It will likely consist of desktops leveraging single image management and a separate application virtualization layer. These attributes will help to contain capital and operational expenses required for this user group.

Readers may notice that Susan did not have the opportunity to enumerate all applications for the executives. This is due to the fact that Worldwide Co has traditionally allowed employees at the Senior Director level and above to install their own applications on their PCs and laptops.

As Susan thinks about a longer term plan to transform desktop delivery for more and more users, she realizes that once a particular technology has been implemented for one user group, the environment can simply be expanded with more capacity for any other user groups that have similar requirements. Therefore, it is important to design the technical solutions with growth and a clear strategy in mind, and to adhere to established best practices

## Desktop Transformation Model Architectures

The Desktop Transformation Model describes the transition from a traditionally managed desktop to a user-centric, transformed IT service as depicted in the following illustration:



This whitepaper describes the entire model in more detail: “ESG – The Citrix Desktop Transformation Model” – available at [www.citrix.com/desktoptransformation](http://www.citrix.com/desktoptransformation)

## Establish a Technology Roadmap

In order to establish a technology and project roadmap IT leaders must consider the two previously discussed dimensions:

### Business Impact

First, the **business impact** of the desktop virtualization for each user group must be considered. The virtualization of the desktops of high business impact users maps best to the business dimensions identified in the Business Prioritization exercise introduced earlier. It is not necessarily the users who provide the most value to the company’s core business, but those with a specific need or use case that is difficult to address with today’s desktop computing environments

### Time to Value

Second, the **time to value** of each project must be evaluated. IT leaders are encouraged to think about the time needed for the technical implementation of the infrastructure, the amount of testing required (which can increase significantly for business critical user groups), and the conceptual changes on the organizational chart that such a project brings with it.

To minimize initial apprehension about desktop virtualization, Citrix Consulting recommends that IT organizations do not introduce too many changes into the existing IT processes at once. If an organization has only limited experience with desktop virtualization, it is recommended to tackle the central delivery of desktops first, and then build out the capability for optimal management at a later point.

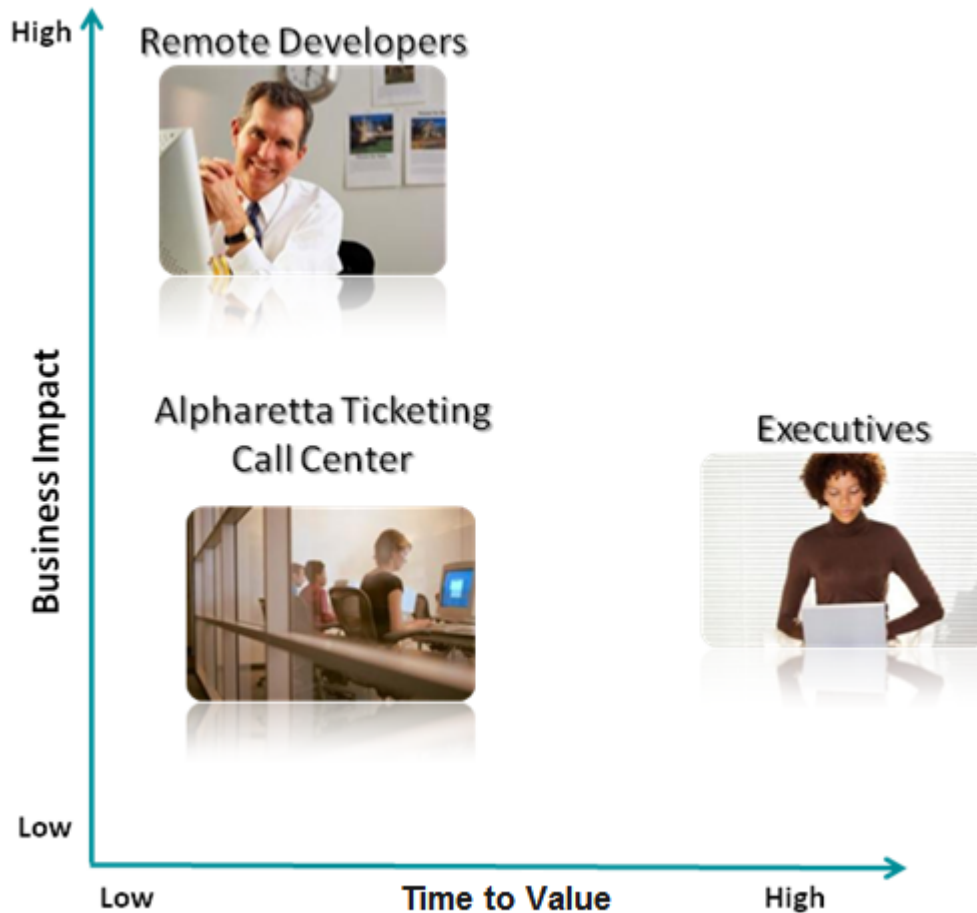


After an initial user group is successfully reached, IT organizations can expand their desktop virtualization capabilities and offerings based on business priorities – again, referring to the graph obtained in the prioritization exercise described earlier. Once a particular technology has been implemented, additional user groups can be added to the environments by simply adding capacity and performing the actual user transition activities. Implementation and support get easier as organizations build out their competencies in the different desktop virtualization modalities, and costs per user are often reduced as more users are added to the existing infrastructure.

To illustrate this final planning step we will visit Susan at Worldwide Co. again:

Enabling the remote software developers maps perfectly to three of the previously identified business priorities. It increases security by placing the computing resources and data into the datacenter at home, sets the stage for enabling virtual work styles and impacts the company's labor costs. Therefore, Susan categorizes a virtualization initiative for that user group as "high impact". The time to value is considered relatively low. Going from traditionally managed desktops to a central VDI model limits the changes to existing business practices. The system testing, go-live and initial support of this environment can be accomplished with a reasonable amount of resources as a possible outage of the systems does not affect Worldwide Co.'s core business.

Susan repeats the assessment of business impact and time to value for the other user groups and completes the following 2x2 matrix:



Based on this matrix, it is easy to understand that organizations are best advised to work from the **top left to the bottom right** of this chart. Accordingly, Susan decides with her stakeholders to tackle the remote developers first, the Alpharetta Ticketing Call Center users second and a select group of executives third.

## Planning the Project Implementation

Just like a perfect landing of an aircraft is preceded by a cleanly executed and stabilized approach, IT leaders are well advised to spend some time on project planning. Project managers can develop and execute Gantt charts that establish the individual milestones and project dependencies.

It is important that IT leaders enlist help from desktop virtualization professionals in order to stick to timelines and avoid potential implementation pitfalls. Citrix Consulting Services, various System Integrators such as Capgemini, Dell, Fujitsu, HP, IBM and members of the [Global Network of Citrix Partners](#) have the technical expertise and project execution experience to lead the transformation. Project implementation typically follows a planning methodology. An example is the Citrix Consulting methodology, which revolves around the following four core phases:



- **Analysis:** Assess and describe business priorities and segment users. During each implementation project, analyze business and technical requirements in detail, assess existing infrastructure and processes, and, if necessary, conduct scalability testing.
- **Design:** Design the technical solution in detail.
- **Build / Test:** Build out the infrastructure and conduct tests to ensure that the design meets all of the requirements and is free of unexpected behavior.
- **Rollout:** Go-live planning, change in support procedures and IT operations, user go-live and initial support.

## Next Steps & Additional Resources

To realize the benefits of desktop virtualization, IT leaders should work with representatives from the major business units in their organizations to better understand the organization's business priorities.

IT leaders should also become familiar with the Desktop Transformation model concept, and the steps they need to take to turn a desktop virtualization strategy into reality. Citrix and the leading Desktop Transformation players have and will continue to create tools and resources to help organizations with various aspects of desktop transformation:

- Desktop Transformation Web Site: [www.citrix.com/desktoptransformation](http://www.citrix.com/desktoptransformation)
- Citrix Architects discuss best practices: <http://www.citrix.com/askthearchitect>
- The Virtual Desktop Design Kit:  
<http://deliver.citrix.com/go/citrix/xendesktopdesignhandbook>



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