

Implementing Citrix XenApp 6 Tips For A Successful Deployment

WHITE PAPER

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Table of Contents

- Six Tips for a Successful Citrix XenApp Deployment 3
- Tip #1: Understand Requirements..... 3
- Tip #2: Prove the Concepts..... 3
- Tip #3: Design Well..... 4
- Tip #4: Ensure Rebuild-ability 4
- Tip #5: Control Changes 5
- Tip #6: Manage User Issues..... 6
- Success..... 6
- About Idea 11 6





Six Tips for a Successful Citrix XenApp Deployment

Citrix XenApp, formerly known as Citrix Presentation Server and often referred to colloquially as simply “Citrix”, provides an easy, cost-effective platform with which to provide a large number of users with access to a business application environment.

XenApp is often implemented to provide centralised application access and IT control to a distributed workforce. It can also be used for virtual workforce and outsourcing initiatives by allowing businesses to scale personnel numbers up or down quickly as business demands require.

Many companies have successful implementations of XenApp that have performed well for a number of years, while other businesses struggle with issues that directly impact the user experience. Often these issues are related to implementation or design of the XenApp environment rather than the technology itself. Much of the time these issues are caused by misbehaving applications.

With our experience in designing and implementing Citrix XenApp environments – and also our experiences with debugging poorly-performing ones – we have packaged up six quick tips to help you ensure a successful Citrix XenApp implementation.

Tip #1: Understand Requirements

The first major step before starting to implement Citrix XenApp is to understand the user and business requirements. Identifying the

end goal will allow the design of the environment to take all user roles into account. When determining the business requirements, ask the following questions:

- What is the business reason for implementing a centralised application delivery environment?
- What users will be accessing the system?
- Are users within a single physical site, or spread over multiple locations with restricted bandwidth back to the data centre?
- What applications are required?
- How often are applications changed?
- Are external peripherals (scanners, cameras, USB drives) required?
- Is remote access necessary?

The answers to the above questions can significantly change the environment design, management strategy and security policies. A XenApp environment to be used by outsourced data-entry workers will have a significantly different security policy to one that will allow executives to work from home.

Tip #2: Prove the Concepts

Before deploying Citrix XenApp in a production capacity, you should run a proof of concept. Immediately, questions spring to mind. Why do you need to run a proof of concept? Citrix XenApp is a proven technology, isn't it?

Yes, Citrix XenApp is an established, proven technology. Running a proof of concept isn't about testing Citrix XenApp – it's about testing Citrix XenApp with your applications and within your unique network environment. A proof of concept is a quick, easy and inexpensive way to



test whether Citrix XenApp will fulfil your business requirements.

Some of the benefits of a proof of concept include:

- Determining if your applications behave well in a multi-user terminal services environment, on a server-class operating system;
- Gaining familiarity with Citrix XenApp technology;
- Modelling the different user access scenarios; and,
- Understanding the user experience and determining a base-line level of performance.

The goal of a proof of concept is to, firstly, determine if Citrix XenApp is suitable for your organisation's unique requirements and, if so, how Citrix XenApp will be integrated into your environment.

Tip #3: Design Well

The requirements are understood, and the proof of concept was a success. Before deploying Citrix XenApp into production, you should design your Citrix XenApp farm.

Putting the necessary thought and consideration into the XenApp farm helps to make sure that the farm performs, scales and is secure when put into production. If you were building a house, you would make sure that you have the right number of bedroom, put the windows in the right place and ensure the garage was big enough for both the car and the kids' bikes – and you'd do it before you started laying the foundation. The same principles apply when designing a Citrix XenApp farm.

Don't move your users to your XenApp servers and then start thinking about designing it properly once they start to have problems. Don't laugh – one problematic XenApp environment we were asked to investigate had over 100 users already using it as their main desktop platform. The problem? Fundamental flaws with user profiles and applications that were due to the lack of a design – they had to start from scratch.

Designing the farm **before** installing the servers and rolling it out to users is critical.

Among other things, a design should usually cover:

- Capacity;
- User profiles;
- Printing;
- Citrix and Active Directory policies;
- Application installations, including steaming and silos;
- User access methods; and,
- Security.

Spending time on the design of the environment helps to ensure a successful XenApp deployment.

Tip #4: Ensure Rebuild-ability

When it comes to a successful long-term XenApp implementation there is one tip that stands out above all others: ***Ensure you can rebuild your servers from bare metal to user login at the drop of a hat.*** To do this, you need an automated XenApp build.

There are a number of good reasons why an automated build should be considered a must:

- So XenApp servers can be easily added to the farm, to scale the environment as the number of users increases;
- So that you have a trusted, tested server configuration that you can revert to if a major change to a server fails;
- To facilitate easy testing, by allowing a test environment - identical to the production environment - to be built and rebuilt quickly and reliably;
- To easily integrate major application upgrades – such as a new version of Microsoft Office; and,
- To ensure all application knowledge is contained in the environment, rather than in key people’s memories. A good build is self documenting.

But above all others, the main reason for an automated build is so ***all your servers are identical***. The user experience should be exactly the same regardless of which server a user logs in to – and the only way to make sure that is the case is to ensure all servers have identical applications and configuration.

Why an automated build and not an image? An image is a static point in time, whereas an automated build is a flexible, repeatable process. A good automated build allows changes to any part of the server configuration – even replacing the operating system. If you need fast deployment, use an automated build to generate an image, and push the image out. If an automated build isn’t an option, the bare minimum is a step-by-step manual build document detailing all steps required to install each XenApp server - including operating system and applications. We find that an automated build requires less effort and has a

higher success rate – and a higher likelihood of being maintained as the environment changes. If your environment can be rebuilt, it can be maintained.

Tip #5: Control Changes

Controlling the changes that occur to a XenApp environment helps with the long term reliability of the platform.

When making a change to a XenApp environment, a large number of users can be affected. There can be dozens of users per server, and hundreds or thousands of users across the XenApp farm, so changes should be tested, measured and planned before being applied to the production platform.

The first step in controlling changes within your XenApp environment is by implementing a change control process¹, where changes are reviewed and approved before being made to the platform. Non-urgent changes should also be tested, if possible.

As part of controlling changes:

- Make sure that you always have a back-out plan, which involves reversing the change.
- Have a test environment so that you can test changes before they are made to the production environment. With an automated build and server virtualisation, a test environment is easy to set up.
- Roll out new applications by integrating them into the automated build and

¹ A change control process is also a good idea for your other IT systems.

rolling out the new build, rather than installing them directly on the servers.

- If you do make a change directly to a server, make sure that you also apply the same change to all servers and add it to the automated build retrospectively to keep the environment rebuild-able.
- Use the Citrix Universal Print Driver wherever possible, and make sure that print drivers are not auto-installed. Badly-behaved printer drivers can cause a number of problems in a Citrix platform. Make sure you also shut the back door - disable printer auto-install for administrative logins via RDP.

By controlling changes to your XenApp environment, you reduce the chance of a bad change impacting users. If the worst happens, and a change goes bad – you’ve got that automated build to rebuild the server back to a known good state.

Tip #6: Manage User Issues

Managing and resolving user issues in the XenApp environment helps keep users happy and productive. Users occasionally have issues with their desktop platform and XenApp is no exception.

Unfortunately, user perception can often be that there is an issue with “Citrix” when an issue is caused by third party applications. Because of this, management of user issues can be viewed partly as a technical resolution process, and partly as a public relations exercise.

We recommend the following process for managing user issues:

- Receive and document the issue, preferably in a helpdesk system.
- Observe the user’s behaviour and the symptoms of the fault. Identify what applications and behaviours cause it.
- Investigate the cause of the issue.
- Resolve the root cause of the issue to prevent it from reoccurring.
- Communicate the cause of the issue back to the user.

The last step is important and is often skipped. Many people are curious about what was causing their issue and how it was fixed. It also helps with preventing users from thinking they “always” have problems with Citrix – when in reality they had three separate issues with three separate applications.

Success

By following these tips, we hope you’ll be well on your way to implementing a successful Citrix XenApp environment. Our most successful customers have followed these tips and continue to experience a solid, reliable Citrix XenApp platform years after implementation through a good implementation and controlled environment management.

About Idea 11

Idea 11 (Idea 11 Pty Ltd) is an IT consulting company based in Brisbane, Australia. We create IT systems to protect your business and enhance user productivity.

Idea 11 specialise in the following areas:

- Business Availability - Disaster Recovery, Business Continuity and Server Virtualisation.



- End User Experience - Citrix, Desktop Virtualization and Desktop Management.
- IT Strategy - Aligning IT with business requirements and ensuring a solid IT framework for reliability and flexibility.

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