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Best practices for optimizing your Citrix environment

Save time, reduce back end management, and deliver a better application experience for your users

Optimizing your Citrix environment can make a big difference in the experience you provide to users and the value you see from your investment. Citrix offers many enhancements, whether your environment is hosted on-premises, in public cloud offerings like Microsoft Windows Virtual Desktop (WVD), or in a hybrid deployment of both.

For example, faster logon times will improve both user experience and productivity. Increased user density can reduce infrastructure needs, while lower RAM, CPU, and IOPS consumption will lower hardware costs or cloud spending. Better performing apps and desktops will help your users deliver better results for your business.

Before you begin an optimization project, it's a good idea to understand the challenges you're addressing and the goals you've set. Use before/after measurement to understand your impact, and incorporate user acceptance testing as well.

Here are five best practices you can use to optimize and ensure the best user experience for your Citrix environment.

1. Configure resources for optimal performance

There are many OS settings that can make a difference for performance, such as CPU, memory management, I/O management, and so on. To determine the

ideal settings for your own user environment, use Citrix Optimizer to scan the environment and get recommendations based on our experience with varying workloads. You can also use Citrix Optimizer to create or edit your own customized templates with your chosen optimizations and add them to Workspace Environment Management. Once configured, you can enable optimizations to run on a weekly basis.

Optimizing your antivirus configurations can also help improve user experience. One of the most common and effective strategies is to offload antivirus scanning capabilities so that scanning is centralized and

performed only once. Another approach is to performing pre-scanning for read-only portions of the disks on the master images before provisioning, in combination real-time scanning of write-only events, as well as scheduled full-system scans. To avoid introducing security risks, make sure to consult with your antivirus vendor and security team before applying performance optimizations to your antivirus solution.

More information:
- Support article: Citrix Optimizer
- Product documentation: Citrix Optimizer
- Endpoint Security and Antivirus Best Practices

2. Improve response times

Citrix Workspace Environment Management (WEM) uses intelligent resource management and technologies to deliver the best possible performance, desktop logon, and application response times for Citrix DaaS or VDI solutions.

- **Resource management** – WEM monitors and analyzes user and application behavior in real time, then intelligently optimizes RAM, CPU, and I/O in the user workspace environment. In a shared desktop environment, spike protection and memory management prevent one session or process from creating a bottleneck for other users.
- **Workspace management** – To deliver the best possible logon performance, WEM replaces commonly used Group Policy objects, logon scripts, and preferences with an agent deployed on each virtual machine or server. By offloading environment and personalization settings such as printer mappings and profile settings, this allows logons as fast as 10 – 15 seconds.

More information:
- Product documentation: Workspace Environment Management
- Get started with Workspace Environment Management

3. Enable a fast, consistent user experience across sessions

As users move across sessions, virtual resources, and OS's, or experience network disruption, they often lose their application settings. Citrix Profile Management can help you avoid this. Each user's registry changes, files, and folders are saved to the user store during their session and at logoff. At logon, these are copied back from the user store, synced with any locally cached profile, and applied. There's no need to maintain a separate user profile for each silo, simplifying administration and reducing overhead while ensuring a consistent experience no matter which silo users access.

For an even better experience, optimize profile management to keep user profiles small so they load more quickly. Examples include setting up folder redirection, excluding AppData/Local, and enabling default exclusion lists. You can also stream user profiles so that only the parts in active use are loaded, which helps speed up the logon process and reduces the profile size.

You can also implement Workspace Environment Management to improve logon times and provide a more consistent user experience. WEM helps with the configuration of user environment settings that are typically configured in Group Policies and logon scripts. With WEM, the smart engine processes these settings to deliver a responsive workspace as quickly as possible.

More information:

- How Profile Management works
- Profile Management quick start guide

4. Deliver an optimized experience

If you need to package, update, and deliver Windows apps and OS images on any platform, Citrix App Layering can help you do this more simply while ensuring the best results for users. System software and apps can be deployed on their own separate layers so they can be managed once, configured in any number of ways to support diverse user needs, and delivered from anywhere, to any device. This can help you solve key issues posed by non-persistent virtual environments, including:

- Allowing user-based customization
- Handling usability issues for user-installed apps
- Providing a place to put the user's Outlook Cache, OneDrive for Business Storage, and the Outlook Search index

As part of Citrix App Layering, user personalization layers let you save desktop settings, user customizations, locally installed apps, and other changes across sessions. Changes are saved on a virtual hard drive that is attached to the image when the user logs in, then acts as their own user layer VHD.

More information:

- Get started with Citrix App Layering
- Citrix Tech Zone article: Citrix App Layering —User Layers
- Product documentation: User Personalization Layers

5. Configure policies to control user access and sessions

Citrix policies are the most efficient way to define user access and session environments to control connection, security, and bandwidth settings. You can also select from built-in policy templates such as Very High Definition User Experience, High Server Scalability, and High Server Scalability-Legacy OS to quickly apply the best configuration for your specific use case.

If your network environment uses Active Directory and you have permission to manage group policy, you can use Group Policy to create policies for your site. If you don't have permissions for Active Directory, you can use Citrix Studio to create policies for specific groups of users, devices, or connection types. Policies created using Studio are stored in the site database, and updates are pushed to the virtual desktop either when that virtual desktop registers with the broker, or when a user connects to that virtual desktop.

More information:

- Work with policies
- Policy templates
- Citrix Tech Zone article: Baseline Policy Design

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