

EMC XTREMIO ALL-FLASH ARRAY FOR CITRIX XENDESKTOP

Deliver Snappy Performance with a Small Storage Footprint Using Inline, All-the-Time Data Services

BENEFITS

Performance. Enjoy better performance than physical desktops, tablets, or workstation-class laptops—at a lower cost per desktop.

Low cost. Reduce capacity requirements with inline, all-the-time data services.

Fast time to value. Deploy virtual desktops in seconds, a benefit of in-memory cloning and XtremIO's unique XenDesktop plug-in. Create a pool of thousands of desktops that's ready for use in less than an hour.

Choice of desktop delivery method. Select Citrix Provisioning Services (PVS) with any option; Machine Creation Services (MCS); or static virtual-machine builds for dedicated desktops.

Linear scalability. Scale easily from pilot to large-scale production without interrupting users.

The user experience and costs of Citrix XenDesktop deployments vary widely depending on the virtual desktop infrastructure (VDI). Users in one organization might access their desktops during the morning "login storm" in seconds while users in another organization wait minutes. One company might store 4.5 TB of data with just 1 TB of capacity while another needs 4.5 TB of capacity. Your IT team might be able to create a pool of thousands of desktops in seconds while another team needs several hours. The VDI also determines whether you can create persistent desktops with the same features as physical desktops or have to settle for stripped-down, non-persistent desktops.

For the best XenDesktop experience and low total cost of ownership, you need a VDI that delivers:

- Consistently high performance with low latency, even during login storms and peak usage
- Support for fully featured persistent desktops as well as non-persistent desktops
- Fast provisioning and simple deployment
- Linear scalability

Meet all of these requirements for less than the cost of physical desktops with EMC XtremIO all-flash arrays.

DELIVER AN UNPARALLELED USER EXPERIENCE

Applications run faster in virtual desktop environments with XtremIO all-flash arrays than they do on physical desktops, tablets, or workstation-class laptops with solid-state drives (SSDs). A single XtremIO X-Brick can host up to 3,500 desktops while delivering hundreds of thousands of input-output operations per second (IOPS). Users enjoy lively desktop performance even during peak usage periods, boot storms, antivirus scans, and suspend/resume operations. XtremIO delivers consistently high performance with sub-millisecond latency at any scale, for all users, at every stage of the desktop lifecycle.

What makes XtremIO the fastest VDI for XenDesktop? Only XtremIO keeps all metadata in memory, all the time. This ensures no metadata lookup from SSDs—ever—as applications try to access data. Keeping all metadata in memory also frees up SSD IOPS for host operations during storage management tasks like provisioning and virtual-machine cloning. In an XtremIO array with 150,000 mixed-workload IOPS, every one of those IOPS is always available for host applications.

REDUCE CAPACITY REQUIREMENTS

Deploy thousands of virtual desktops with only a few terabytes of flash. XtremIO reduces capacity requirements for Citrix XenDesktop by deduplicating and compressing data inline, *before* storing it on SSDs.

CASE STUDY: GEORGIA INSTITUTE OF TECHNOLOGY

With 13,000 students, the College of Engineering at Georgia Institute of Technology (Georgia Tech) is the largest U.S. engineering college. Students gain hands-on experience with more than 100 applications, including visually intensive applications like AutoCAD, CATIA, and MATLAB.

Georgia Tech needed a VDI that delivered excellent Citrix XenDesktop performance even when 150 students logged in at the start of class to launch visually intensive applications. The original storage platform faltered under the load, leading to complaints from faculty and students.

When the college switched to XtremIO all-flash array for VDI, launch time for visually intensive applications accelerated from several minutes to just 20-30 seconds. In addition, the 4.5:1 deduplication ratio decreased capacity requirements, lowering capital and operational expenses. Read the full case study [here](#).

"[With XtremIO], no matter what the demand, we know that we have enough performance to absorb it."—
Didier Contis, Director of IT Services,
Georgia Tech College of Engineering

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RAPIDLY PROVISION VIRTUAL DESKTOPS

Deploy fully persistent desktops in XenDesktop environments in seconds. Create a pool of thousands of desktops that's ready for users in less than an hour. Here's one reason for the unprecedented speed: Unlike other all-flash arrays, XtremIO provisions and clones virtual machines exclusively in memory, using a content-based metadata engine. In-memory cloning is significantly faster than copying data in SSDs. More speed comes from a unique XenDesktop plug-in that takes advantage of XtremIO virtual copy (XVC) technology.

Provision non-persistent desktops, persistent desktops, or both. Every desktop can be fully functional and customized. There's no need to disable certain features of persistent desktops in exchange for performance. Deploying dedicated full-clone desktops enables you to continue using existing desktop management tools and applications.

Select any one of three desktop delivery methods:

- Citrix Provisioning Services (PVS). Options include Cache on Device RAM with Overflow on Hard Disk and Cache on Device Hard Disk.
- Machine Creation Services (MCS).
- Static virtual machine builds for dedicated desktops.

Regardless of the method, XtremIO delivers an excellent experience at any scale and with a smaller capacity footprint.

EASILY SCALE FROM PILOT TO PRODUCTION

Start small and grow without limit—without disrupting users. The XtremIO Starter X-Brick with 13 solid-state drives (SSDs) can expand to a full X-Brick with 25 SSDs, with no downtime. Performance scales linearly: two XtremIO X-Bricks deliver twice the IOPS as one X-Brick, and eight X-Bricks deliver eight times the IOPS. Latency remains below one millisecond as the system scales out.

RUN MIXED WORKLOADS

Run Citrix XenDesktop and your other virtualized and tier-1 workloads on the same XtremIO all-flash array. The technologies that make it possible are an active-active, scale-out architecture; always-on, inline data reduction; integrated copy data management; and self-service workflows for application administrators.

INTEGRATE WITH YOUR EXISTING EMC SOLUTIONS

Integrate XtremIO with your existing EMC backup and recovery solutions, EMC Unity storage for user data, and management models.

Learn more about EMC XtremIO all-flash array for VDI [here](#).

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