



Executive summary

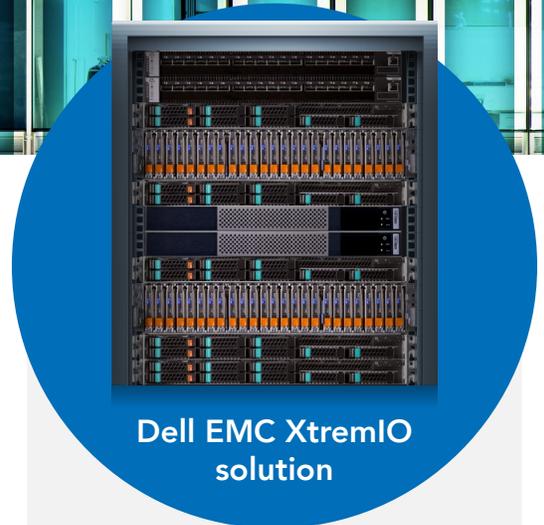
## Make room for more virtual desktops with fast storage

Dell EMC XtremIO storage with PowerEdge servers can support a large number of desktops in a small footprint while saving storage space

For virtual desktop infrastructure (VDI) to be worth your while, it should give a large number of users a responsive experience, be easy for IT staff to administer, and minimize ongoing costs.

The Dell EMC™ XtremIO® solution (Dell EMC PowerEdge™ FX2s modular enclosures with FC630 server modules, Dell Networking 4048-ON switch modules, Brocade® Connectrix® DS-6620B switches, Emulex® LPe31000-series HBAs by Broadcom®, and Dell EMC XtremIO storage) is a robust VDI platform that can support a large number of virtual desktops while taking up little datacenter space, which can help keep ongoing datacenter expenses low. It offers the flexibility to host either full or linked clones thanks to inline compression and deduplication technologies that help maximize available storage space. Our hands-on tests showed that the Dell EMC XtremIO solution sped deploying and recomposing operations—which refresh desktops to reflect changes from a master VM—saving admins time and getting desktops to users more quickly.

The Dell EMC XtremIO solution offers a powerful VDI platform that can meet the needs of virtual desktop users and admins alike.

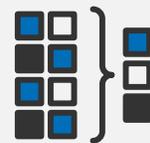


Dell EMC XtremIO solution



6,000 users

for either linked or full clones



Up to 16:1 deduplication ratio

to maximize storage space



Fits in just 35U of rack space

## The Dell EMC XtremIO solution supported 6,000 users with ease

### Get your linked clone or full clone desktops up and running quickly

The Dell EMC XtremIO solution handled initial deployment of 6,000 virtual desktops smoothly and quickly—with high bandwidth, high input/output operations per second (IOPS), and low latency—for linked and full clones, which means it can help get your desktop users up and running fast. Bandwidth reached 123.4 Gbps during full-clone deployment, which shows that XtremIO offers advantages for VM cloning in VDI environments. To deploy 6,000 desktops, it took only 2 hours 49 minutes for linked clones and 4 hours 50 minutes for full clones. IOPS numbers measure storage performance and show how many reads and writes the disks can perform per second. During deployment, latency (wait times) averaged only 1.16ms for linked clones and 2.63ms for full clones.

### Responsive storage with high IOPS even under stress plus quick recomposition

A large number of users booting their desktops around the same time (likely at the start of a typical working day) can cause delays for users. Handling 6,000 users logging on at once was no problem for the Dell EMC XtremIO solution, which processed a large number of IOPS at low latencies to get users to their desktops—linked or full—quickly. During this boot storm, latencies averaged 0.70ms for linked clones and 0.80ms for full clones.

When using linked clones, administrators can make changes to a parent VM (e.g., updating software versions) and replicate that change to all desktops. We found that the Dell EMC XtremIO solution recomposed 6,000 desktops quickly and easily—in 5 hours 20 minutes—with latency averaging just 0.80ms.

### Cut down your use of expensive datacenter space

The Dell EMC XtremIO solution's small footprint can help keep datacenter space costs low, which can be a feat for large VDI deployments. Built with Dell EMC



PowerEdge FC630 compute modules in PowerEdge FX2s modular enclosures, the Dell EMC XtremIO virtual desktop solution fits into just 35U of datacenter space—less than a full rack.

### Save storage space through deduplication

Whether you want to use linked or full clones, the Dell EMC XtremIO array can help reduce storage space for your large VDI deployment by using inline deduplication and compression. The Dell EMC XtremIO arrays delivered deduplication ratios of 10:1 for linked clones and 16:1 for full clones. Inline compression, which reduces the size of data blocks before they are written to storage by applying mathematical algorithms to encode information more efficiently, also works to maximize storage efficiency. In our tests, the compression ratio we observed was 1.5:1 for full clones and 1.6:1 for linked clones.

To learn about our Dell EMC XtremIO solution VDI study in more detail, see the full report at [www.pricedtechnologies.com/Dell/Dell EMC XtremIO\\_FX2s\\_VDI\\_0517.pdf](http://www.pricedtechnologies.com/Dell/Dell EMC XtremIO_FX2s_VDI_0517.pdf).

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