

Citrix Performance Solutions

Citrix server-based architecture is characterized by its security, centralized management, lower costs, and greater reliability. However, as the number of users and applications grows, performance bottlenecks begin to appear. User-response times increase and application performance can slow to unacceptable levels. Print server jobs may take excessively long or be serviced erratically. These behaviors are commonly caused by bottlenecks in the storage subsystem.

User Load Performance

Problem: restricted user load capacity

Citrix MetaFrame servers running on Windows 2000 and Windows Server 2003 platforms rely heavily on the user profile and system paging files. When the number of users rises above about 20, the ability of the Windows file system cache to efficiently handle transfers to and from the user profile and application files diminishes. At the same time, system paging file activity tends to increase dramatically, throttling overall system performance.

Solution: cache the user profile and system paging files

To increase Citrix' user load capacity, move the user profile and system paging files to a separate storage volume (partition) and cache that volume with SuperCache II. A volume of 10 to 20 GB is typically more than sufficient to contain these files. The recommended cache size is about one third to one half the amount of main memory. On systems with uninterruptible power supplies (UPS), performance will be enhanced further by enabling write-caching.

For example, on a server with 4 GB of RAM and a UPS, set SuperCache II to a 1600 MB cache size, a 1 page read-ahead, and a 15 second lazywrite latency.

Citrix' responsiveness can be improved even further by moving application data to the volume cached with SuperCache II. Placing frequently used application data on the cached volume improves its access times, reduces disk contention, and accelerates Citrix performance.

Double Citrix' user load capacity

User load capacities are typically doubled with this solution. With SuperCache II installed and configured as described above, a server can provide the same level of performance to 30 to 40 Citrix users that it does to 15 to 20 users without it.

Print Server Performance

Problem: poor print server performance

Print servers running under Citrix also tend to suffer from poor performance, even under relatively light loads. Bottlenecks in the print spooler's data paths are frequently the cause.

Solution: place the spool file in a RAM disk

To alleviate this problem, move the print spool file to a RAM disk of an appropriate size. Placing the spool file in RAM eliminates all contention with disk resources, resulting in highly efficient printing and near-zero impact of print jobs on the rest of the system.