Qualification Technology & Setup Requirements & Recommendations

Overview

Citrix Systems, Inc. went through the following TestNav qualification process for the Citrix Systems, Inc. products described below based on the following technology and setup requirements and recommendations. This document will describe the process to achieve qualification, testing criteria, and will provide guidance to districts and schools for technical setup if they choose to use qualified Citrix Systems, Inc. products with TestNav.

Qualified Products & Solutions – TestNav 8

Pearson and Citrix Systems Inc. jointly tested the following Citrix Systems, Inc. solutions for use with TestNav 8.0:

- Citrix XenDesktop 7

Detailed requirements for running Citrix XenDesktop 7 can be found here: http://support.citrix.com/proddocs/topic/xendesktop/cds-xd-7landing-page.html.

Sizing information associated with this solution can be found here: http://support.citrix.com/article/CTX139331

Overall Goal

A qualified client machine in the virtualized environment should provide the same security and comparable performance as a client machine in a non-virtualized environment. Performance testing has been completed by running all performance tests on a single VM. The VM was built using the Citrix standard VM profile. The numbers below were then extrapolated based off of the defined Citrix XenDesktop 7 Architecture. As defined, 64 maximum users will have the same experience as a single user.

All TestNav 8 technical requirements need to be followed when using qualified products: www.pearsononlinetesting.com/TN8requirements. The standard Pearson process running SystemCheck should be followed to confirm final concurrent user counts for implementation.

Additional Requirements

In addition the following requirements apply:

- Citrix XenDesktop 7 can run up to 64 clients (virtual desktops) per server for peak load; with Windows 7 64-bit as guest OS with a minimum processor of 2vCPU and 2GB RAM. The qualified configuration is:
    - 2 x 6 core sockets, Intel model x5650 or later
    - 128GB RAM
    - 1 physical NIC, 1GB per second

- Citrix XenDesktop 7 Hardware Requirements:
  - http://support.citrix.com/proddocs/topic/xendesktop-7/cds-sys-requirements.html
- Citrix XenDesktop 7 Software Requirements:
  - The following link lists the supported systems for the Delivery Controller, Citrix Studio, Citrix Director, and Virtual Delivery Agents (VDAs), at the time XenDesktop 7 released:

    http://support.citrix.com/proddocs/topic/xendesktop-7/cds-sys-requirements.html
- Citrix XenDesktop 7 Client Requirements:
  - A list of supported "Citrix Ready" clients can be found at the following location:

    http://www.citrix.com/ready
  - A Citrix Ready Zero client is required to be used in concert with the qualified product in order to execute all the tests.
  - Citrix Receiver is a universal software client that provides secure, high-performance delivery of virtual desktops and is required to be used in concert with the qualified product in order to execute all the tests. Citrix Receiver is available for free at the following location:

    http://www.citrix.com/downloads/citrix-receiver.html
- Citrix XenDesktop 7 Configuration Recommendation:
  - Add Pearson's TestNav URL an Internet Explorer Trusted Site in your XenDesktop base image.

The technology and setup requirements must be followed and all clients or workstations used to access TestNav must comply in order for the solution to remain in qualified status.

Qualification Environment	Product Name/Version
TestNav Version	8.0.x
Software Version	XenDesktop 7
Minimum Processor	2vCPU
Minimum Memory	2GB RAM
Operating System	Windows 7 64-bit
Minimum Network Speed	100Mbps NIC
Maximum # of Clients per Server	64
Minimum Encryption	128bit AES encryption

Additional Recommendations

In addition, the following specifications are recommended:

- Use Intel Nehalem or later chipsets (Intel model number X5500 or higher) for all server components.
- Run all sockets with Hyperthreading On
- 1GB NICs or better
- Use External Storage that supports a minimum of 1000 I/Os per second with latency average of less than 20 milliseconds per I/O
- Configure Saved Response File (SRF) for bandwidth and testing continuity purposes

  Applicable SRF configuration methods include the following:

  - Redirect default SRF save location using Microsoft Group Policy to network file share
    - Default SRF save location: <home>/Pearson/<student name>/SRF/
  - Configure roaming user profiles to redirect Home directory to network file share
  - Configure XenDesktop with Personal vDisk to store SRF