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**1Y0-A08 Advanced Administration for  
Citrix XenApp 5.0 for Windows Server  
2008**

**Study Guide**

**Version 1.0**

**(March 10, 2011)**

## **1Y0-A08 Advanced Administration for Citrix XenApp 5.0 for Windows Server 2008 Study Guide**

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## **1Y0-A08 Advanced Administration for Citrix XenApp 5.0 for Windows Server 2008**

### **Study Guide (work in progress)**

#### **#Monitoring, Managing and Maintaining the Environment**

Health Monitoring and Recovery can be configured to monitor the health of many XenApp components, report failures and take actions to correct the issues.

Using Health Monitoring and Recovery, an administrator can monitor the Citrix IMA Service, be alerted to IMA Service failures and configure an automatic restart of the service when it fails.

Citrix Print Manager Service Test determines the health of the Citrix Print Manager service by enumerating session printers. In cases where the test cannot enumerate session printers, such as service hangs or crashes, the test fails.

In the 'Client display settings' of the `icaclient.adm` template, an administrator can configure window width and height, seamless windows, window percentage and full screen for users in a XenApp environment.

Setup the Health Monitoring and Recovery test, `checklhc.exe`, to automatically check for and send alerts in cases where the local host cache is corrupt.

To enforce single sign-on, setup local username and password using `icaclient.adm`.

To set up configuration logging properties to log administrative changes and to only allow changes to the farm while the configuration database is available: 1. Ensure an SQL Server or Oracle database is setup and configured. 2. Use the Access Management Console to modify configuration log properties. 3. Select 'Log administrative tasks to logging database'. 4. Disable 'Allow changes to the farm when database is disconnected'.

Event Viewer is a Windows MMC snap-in tool that allows administrators to view application, security, setup, system and forwarded event logs on local and remote computers.

To configure Microsoft SQL Server 2000 data store replication, first, create a new database on the SQL server that will be used for the replica. Then move on to configuring everything in Enterprise Manager on the server that is to be used for the master database.

The SQL Replication Test Tool is designed to troubleshoot issues with SQL Immediate Updating Transactional Replication.

If the data store is experience high CPU usage when there should not be significant reads or writes to the data store, it is possible that the data store is not powerful enough to manage a query interval of 30 minutes.

To determine whether or not the data store query interval is causing the high CPU usage on the data store, you can set the query interval to a very large number and test CPU usage. If the CPU

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usage returns to normal after you set a large query interval, the data store query interval is probably the cause of the high CPU usage. You can adjust the query interval by trial and error.

The Access Management Console is a standalone MMC snap-in used to monitor sessions and create a variety of reports. In addition, an administrator can use the Access Management Console to view hotfix information and configure Health Monitoring and Recovery.

Citrix Print Manager Service Test (`cpsvctest.exe`) determines the health of the Citrix Print Manager Service by enumerating session printers. In cases where the test cannot enumerate session printers, such as service hangs or crashes, the test fails.

Check Local Host Cache (`checklhc.exe`) performs an integrity and consistency test on the local XenApp Server's Local Host Cache (LHC). The integrity check ensures that the data stored in the LHC is not corrupted while the consistency check ensures no duplicate LHC entries.

ICA Listener (`icalistener.exe`) detects if the XenApp Server is able to accept ICA connections. The test detects the default ICA port, connects to the port, and sends it some data. If the test gets the appropriate data back, the test succeeds. Health Monitoring and Recovery can be configured to send alerts if the test fails.

Single sign-on can be enforced using the `icaclient.adm` template by enabling pass-through authentication in the 'Local username and password' setting.

In the 'Client display settings' of the `icaclient.adm` template, an administrator can configure window width and height, seamless windows, window percentage and full screen for users in a XenApp environment.

To enable seamless windows using the `icaclient.adm` template, go to Administrative Templates > Citrix Components > Presentation Server Client > User Experience and select 'Client display settings' in the right pane. Choose Enable and set 'Seamless windows' to True.

Configuration Logging is a feature that tracks administrative changes made to the server farm and logs them to a database from which reports can be generated in the Access Management Console.

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Source: CXA-300-1I Advanced Administration for Citrix XenApp 5.0 for Windows Server 2008, Page 729

All changes to the XenApp farm should be tracked using Configuration Logging and credentials must be entered by an administrator before the log can be cleared. Also, if the Configuration Logging database is disconnected, no changes to the farm should be allowed. The following tasks should be done by the administrator: Enable Configuration Logging in the Access Management Console, Select 'Require administrators to enter database credentials before clearing the log', Deselect 'Allow changes to the farm when database is disconnected'.

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## #Scaling the Environment to Meet Business Requirements

So that users aren't directed to folders on the server that is hosting the session, XenApp allows the redirection of the Documents and Desktop folders in a virtualized session to their client system.

Without Special Folder Redirection enabled, the Documents and Desktop icons that appear in a session point to the user's Documents and Desktop folders on the server. Special Folder Redirection redirects actions, such as opening or saving a file, so that when users save or open files from special folders, they are accessing the special folder on their local computers.

By configuring a Zone Preference and Failover policy in each zone (geographically separated) and filtering the policy by IP address you guarantee that the users will connect to the servers in the zone of whatever geographic area they are in.

Applications that are excluded from being rebased by virtual memory optimization include: Applications that have digitally signed components. Applications whose DLLs are protected by Windows Rights Management. For example, applications such as Office 2003 do not benefit from this feature. Applications whose executable programmatically checks the DLL after it is loaded. Applications that fail after you enable memory optimization.

To minimize bandwidth consumption in a farm with two zones and allow for business continuity if there is an outage, create a policy in each zone that applies to connections in the appropriate zone and specify the zone where the policy is created as the primary zone and the other zone as the backup zone in the zone preference and failover rule.

Source: Citrix Knowledge Center,

<http://support.citrix.com/proddocs/index.jsp?topic=/xenapp5fp-w2k8/ps-console-zones.html>

If there are bandwidth performance concerns, streaming profiles can be hosted on file shares in each office to alleviate the performance issues.

When setting up Special Folder Redirection for users connecting through Web Interface, use the XenApp Web site. Click 'Manage session preferences'. 'Provide Folder Redirection to all users' is enabled by default. So that users cannot make changes to this feature, make sure 'Allow users to customize Special Folder Redirection' is deselected. XenApp 5 added this feature so that it no longer has to be configured using a GPO in Active Directory.

To use special folder redirection, users must access the farm with the Citrix XenApp plugin version 11.x or Web Interface.

The CPU Utilization Management/Rebalancer service is installed automatically on multiprocessor systems only. This service should usually be started manually. It should be set to automatic if you decide to use it long-term. Do not start it automatically simply because your

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server has multiple processors. If throughput is more important than fair sharing, the Rebalancer service can impact server performance negatively.

When setting up Special Folder Redirection for users connecting through the Citrix XenApp plugin, use the XenApp Services site. Click 'CONFIG.XML' and click 'Change session options'. 'Provide Folder Redirection to all users' is enabled by default. So that users can enable and disable this feature at will, make sure 'Allow users to customize Special Folder Redirection' is selected. XenApp 5 added this feature so that it no longer has to be configured using a GPO in Active Directory.

Most applications can be rebased through virtual memory optimization. There are some that can't use this feature. Applications that would not benefit from virtual memory optimization are apps that have digitally signed components, apps whose DLLs are protected by Windows Rights Management (WRM) and apps whose executable programmatically checks the DLL after it has been loaded.

When an application that requires virtual memory optimization has application files located on a remote server, the administrator must supply a domain administrator's username and password that has rights to the remote server in the 'Memory optimization user' area during configuration.

To resolve poor application performance on a single-CPU XenApp Server which is hosting CPU-intensive applications, using the Access Management Console, configure 'Fair sharing of CPU between sessions' for a server in CPU Utilization Management. The CPU Utilization Management/CPU Rebalancer Service only starts on servers with multiple processors. ICA session limits would be configured to manage the number of ICA sessions allowed per user.

The Citrix CPU Utilization Management/CPU Rebalancer Service is only available on servers with multiple processors.

The CPU Utilization Management/CPU Rebalancer Service is responsible for enhancing resource management on servers with multiple CPUs and should only be run when all CPU intensive applications appear to be running on the same CPU.

To resolve slow logon times when a CPU-intensive application is the cause, using the Access Management Console, configure 'Fair sharing of CPU between sessions' for the farm in CPU Utilization Management. The CPU Utilization Management/CPU Rebalancer Service is responsible for enhancing resource management on servers with multiple CPUs and should only be run when all CPU intensive applications appear to be running on the same CPU and disabling it would not solve anything. ICA session limits would be configured to manage the number of ICA sessions allowed per user. Load evaluators would be a factor if it was a load issue, but it's a CPU/application issue.

When multiple sessions are running on a server, the performance of some sessions can be impacted when one or more sessions dominate the CPU time on the server. An administrator can configure CPU Utilization Management to monitor resources and normalize CPU peaks when the performance of the server farm becomes limited by CPU-intensive operations.

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During the profiling process, set up inter-isolation communication for applications profiled independently that should interact as though they are integrated with other profiled applications.

After testing a profile, if you determine that certain operations are required before or after running the application, you can write scripts and add them to the profile. To specify these operations, from the Edit menu, select Profile Properties and use the Pre-launch & Post-exit Scripts page to select scripts.

To add a pre-launch script to a streaming profile, from the Edit menu, select Profile Properties.

To specify a script to run before a streamed application is launched, from the Edit menu, select Profile Properties and use the Pre-launch & Post-exit Scripts page to select scripts.

For streamed applications only, use Alternate Profiles to allow one published application for users on either side of a WAN with file servers on their side. When you create an alternate profile, you create a duplicate of the primary profile that is located on a different file share, which is more accessible to the user device.

For streamed applications only, use Alternate Profiles to allow one published application for users on either side of a WAN with file servers on their side. When you create an alternate profile, you create a duplicate of the primary profile that is located on a different file share, which is more accessible to the user device.

A profile can support multiple targets where the target is a separate installation of the profile-level software targeted for execution on a specific version of the operating system or language. For example, create one target for Windows Vista and another target for Windows XP Professional SP1.

A target denotes a combination of operating system, service pack level, system drive letter and language. Applications can be profiled for each combination of these values to support separate targets; for example: Microsoft Vista for all service packs, drive letter C, and English.

### **#Maintaining Data and Server Integrity**

An administrator should search for the hotfix name to make sure all of the servers have the most up-to-date hotfix installed.

When configure Microsoft SQL Server for replication across multiple databases, use the `??_?` model.

XenApp supports distributed (replicated) databases. XenApp requires data coherency across multiple databases. Therefore, a two-phase commit algorithm is required for storing data in the database. When configuring Microsoft SQL Server for a two-phase commit, use the Immediate Updating Subscriber model. Please note: To avoid corruption, do not use merged replication.

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Citrix recommends replicating the data store across all high-latency or low-bandwidth WAN links. A replicated data store ensures all data store reads occur on the network local to the XenApp server.

To download and install critical Citrix updates after you install components, visit the Citrix Hotfixes and Service Packs Web site.

In general, if users experience slow connection times due to high CPU utilization on the data collector, consider dedicating a server to act solely as the zone data collector.

## #Troubleshooting

The WMI Service directly depends on the IMA Service.

When the IMA Service is restarted, users who are already connected will continue working uninterrupted, however, new connections will not be allowed until the IMA service is running.

QFARM /offline displays information about servers offline within the farm and all zones or a specific zone. QFARM /tcp displays TCP/IP information for the server farm. QFARM /load displays load information. QFARM /zone displays all data collectors in all zones or only the data collector within a specified zone.

QFARM and QFARM /online return a list of available servers. QFARM /process displays process information. QFARM /disc displays disconnected session information.

To force a new zone data collector election in a zone, an administrator can use QUERYDC -e.

QUERYHR -z displays all of the zones in the farm. QUERYHR displays the host record for the server. QUERYHR -h zonename displays all member servers in the zone specified by zonename. QUERYHR -n displays the farm name.

QUERYHR is an alternate way to display information about member servers in the farm. QUERYDS is an alternate way to obtain information from the data collector for the zone. QUERYDC is an alternate way to administer the data collector for the zone. QFARM provides the administrator with information about the server farm.

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### **#Optimizing the Environment**

Workspace Control allows users to connect to applications being delivered to the user on a different client device using the same session.

Keep-Alive tracks the amount of time since the last time a server had contact with a plugin, sends a packet to the plugin and disconnects the session if the plugin doesn't respond within a certain time limit or number of tries.

Session Reliability keeps the session displayed on the user's screen during connection interruption and displays a spinning hour glass until connectivity is resumed.

Auto Client Reconnect detects a broken connection and attempts to reconnect the user to the disconnected session until there is a successful reconnection or the user cancels the reconnection attempts.

