



Ardence, a Citrix[®] Company

Streaming Citrix[®] Presentation Server[™] with Ardence Data Center Edition

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About this Guide

Purpose

This document is a reference guide for the installation of Citrix® Presentation Server™ (CPS) inside an Ardenne virtual disk (VDisk). It details the steps necessary to install and configure CPS with an Ardenne implementation.

Prerequisites

This document assumes the following:

- An installed instance of Ardenne Data Center Edition 4.1 SP1
- Advanced knowledge and understanding of Ardenne Data Center Edition 4.1 SP1
- Advanced knowledge of Citrix Presentation Server (CPS) 4.x and Citrix Metaframe Presentation Server 3.x

Audience

This document is written for Network and System Administrators who will be responsible for installing and configuring Citrix Presentation Server inside an Ardenne VDisk. It assumes knowledge in the following areas:

- Network administration
- Network terminology
- Systems administration
- Windows server systems administration
- Microsoft Active Directory
- Microsoft SQL Server
- Microsoft IIS

Organization

This guide is divided into the following sections:

- [Chapter 1: Imaging a CPS 4.x Reference Client into an Ardenne VDisk](#)
- [Chapter 2: Installing CPS 4.x inside an Ardenne Private Image](#)
- [Chapter 3: Imaging a CPS 3.x Reference Client into an Ardenne VDisk](#)
- [Chapter 4: Installing CPS 3.x inside an Ardenne Private Image](#)
- [Appendix A: Assigning Static IP with DHCP Reservations](#)

Other References

It is recommended that you have the following Ardenne product guides and resources available for reference:

- Ardenne product documentation includes:
- Ardenne Data Center Edition 4.1 SP1 Release Notes
- Ardenne Data Center Edition 4.1 SP1 Product Guide
- Ardenne Administrator Online Help

If You Need Support

If you experience problems with your Ardenne Ardenne Data Center Edition 4.1 SP1 install, refer to Module 6: Troubleshooting and Technical Notes in the Ardenne Product Guide. If additional help is necessary, contact Ardenne Technical Support or your Ardenne distributor. Based on your support agreement, Technical Support may be accessed through the following:

Web Site Support

To use the Ardenne Support Web site, go to <https://support.ardenne.com>. With a valid login ID, access the online problem report database to submit new issues, or to obtain the status of previously reported issues. From this site, you can also access Technical Notes and product downloads.

Telephone Support

Within the United States:

Call technical support at 1 (800) 334-8649 between 8:30 a.m. and 5:30 p.m. Eastern Time (excluding weekends and holidays).

Outside the United States:

Call technical support at 1 (781) 647-3000 between 8:30 a.m. and 5:30 p.m. Eastern Time (excluding weekends and holidays).

Imaging a CPS 4.x Reference Client into an Ardence VDisk

Introduction

This chapter provides the information necessary to install and configure CPS 4.x server and then image it into an Ardence VDisk. It assumes a server running the Ardence Streaming Services is installed and configured on the network.

Note: For information on how to install Ardence, please refer to the “Ardence Product Guide.”

Prerequisites

- Install and configure Ardence Data Center Edition 4.1 SP1 on a separate server, referred to as the Ardence Streaming Server.
- Create and format an Ardence VDisk on the separate server for the image-build process.
- Assure PXE is supported on the local network.
- Assure DHCP is installed and configured on the local network.

Note: DHCP can be configured to assign static IP addresses through DHCP reservations. See Appendix A: Assigning Static IP with DHCP Reservations.

- Create a reference client with Windows Server 2003 (SP1 or R2) installed or Windows Server 2000 SP4 installed, fully patched and configured.
- Install and configure the reference client with Microsoft Terminal Services in application mode. This is required for the CPS installation.
- Have the proper install CDs and/or install files for Citrix Presentation Server 4.x
- Have the proper install CD or install files for the Ardence Data Center Edition 4.1 SP1 client install.

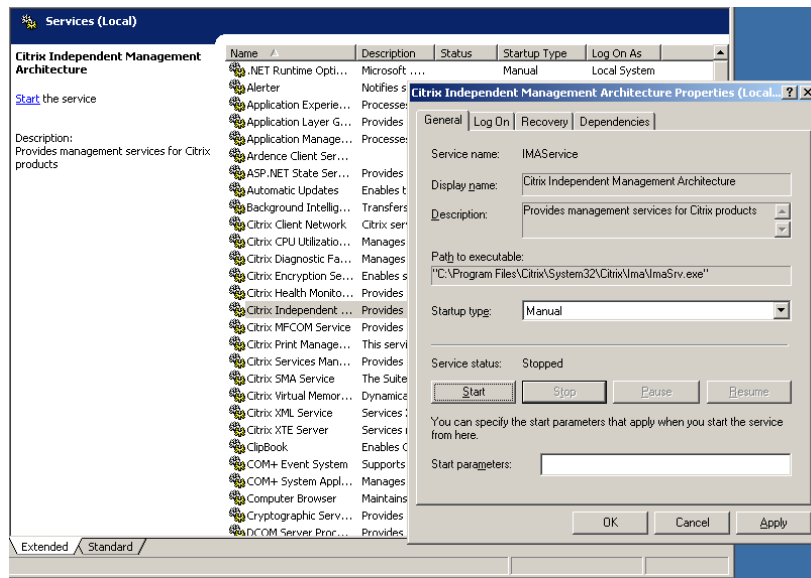
Note: It is assumed SQL data store and web interface are hosted on separate machines.

Configuration Steps – VDisk Creation

1. Boot the reference client and log on to the system as a local or domain administrator or a domain user.

Note: This logon account can be a domain user with local install rights and delegated rights to Microsoft Active Directory.

2. Install and configure Citrix Presentation Server. At the end of the installation, you will be prompted to reboot
3. Reboot the reference client.
4. When the reference client is successfully restarted, log on to the system as a local or domain administrator or a domain user.
5. Install the Ardenne Data Center Edition client software and then shutdown the reference client.
6. Boot the reference client, enter the BIOS configuration utility and configure the boot order to PXE boot first. Save configuration settings and continue the boot process. When PXE booting a reference client for the first time, the Ardenne Streaming Service will prompt for the following:
 - a. Client Name – Give the reference client a meaningful name
 - b. Description – Give the reference client a meaningful description
 - c. Select VDisk – Select the VDisk that was created and formatted for this installation
 - d. Boot From – Select boot from hard drive
7. When the reference client is successfully restarted, log on to the system as a local or domain administrator or a domain user.
8. Check for the existence of C:\Wfcname.ini file; if it exists, delete it.
9. **Stop** the Citrix IMA (Independent Management Architecture) Service and set the startup type to “Manual.”



Note: The Citrix IMA service must be set to manual when running CPS in an Ardence VDisk. The Citrix IMA service will start automatically at boot time due to a dependency on the Citrix SMA Service.

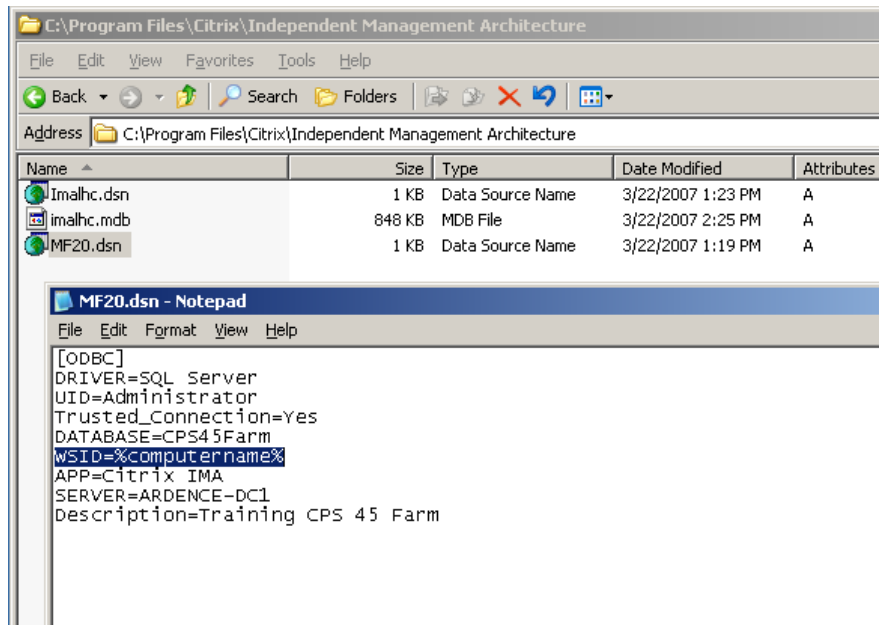
10. Edit the Mf20.dsn file with Notepad or another text editor. By default, the DSN file is located in the %ProgramFiles%\Citrix\Independent Management Architecture folder. The DSN file should look similar to this, paying particular attention to the three lines in bold below:

```
[ODBC]
DRIVER= SQL Server
UID= SQL_USERNAME
DATABASE= NAME_OF_DATABASE
WSID= NAME_OF_CPS_SERVER
APP= Citrix® IMA
SERVER= NAME_OF_SQL_SERVER
```

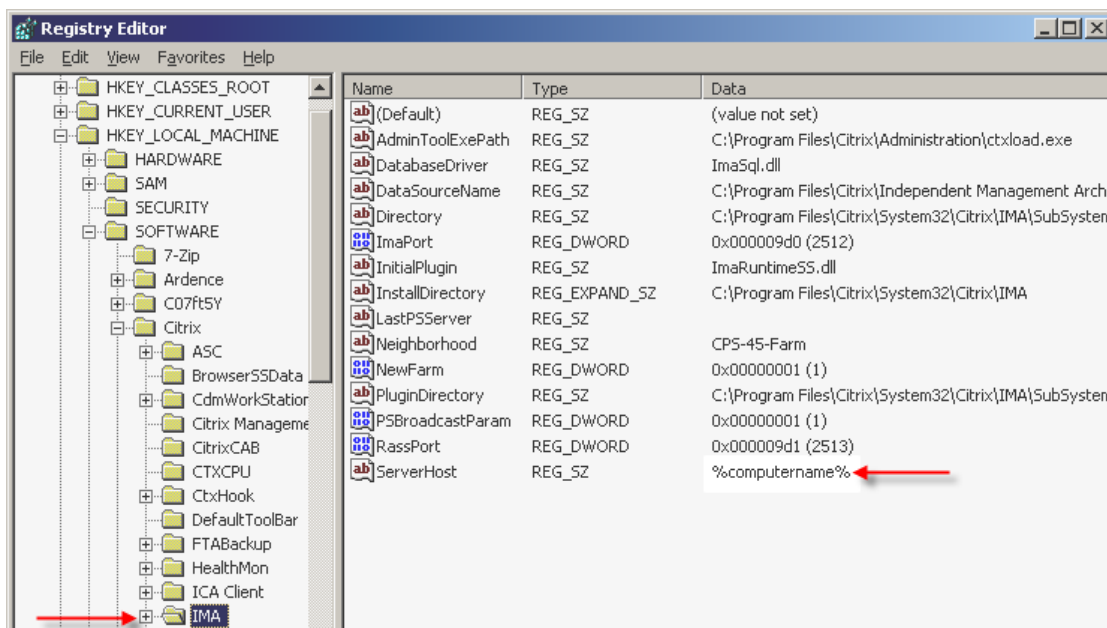
Edit the following line:
WSID= %ComputerName%

The DSN file now looks like this:

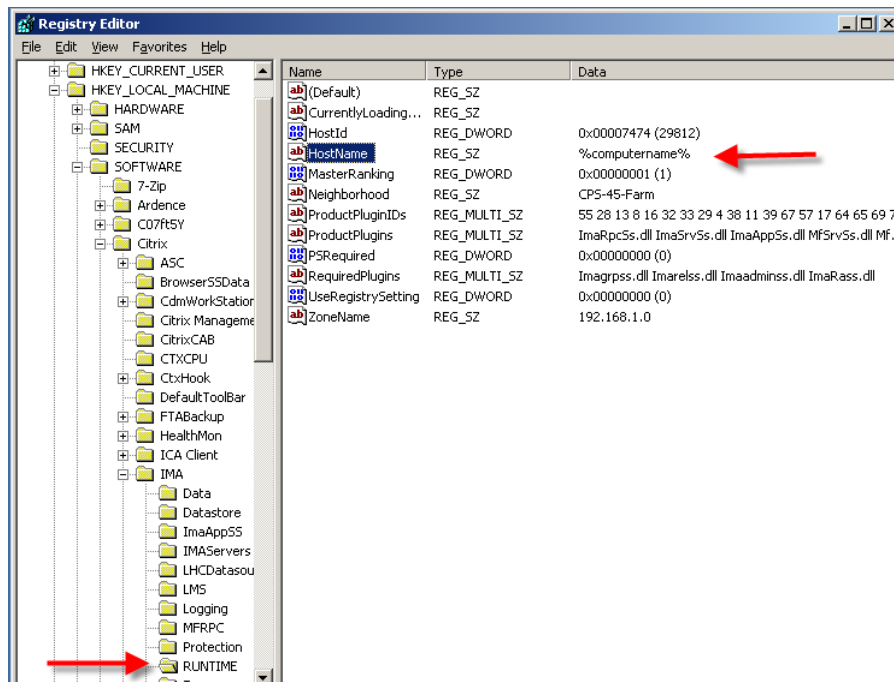
```
[ODBC]
DRIVER= SQL Server
UID= SQL_USERNAME
DATABASE= NAME_OF_DATABASE
WSID= %ComputerName%
APP= Citrix® IMA
SERVER= NAME_OF_SQL_SERVER
```



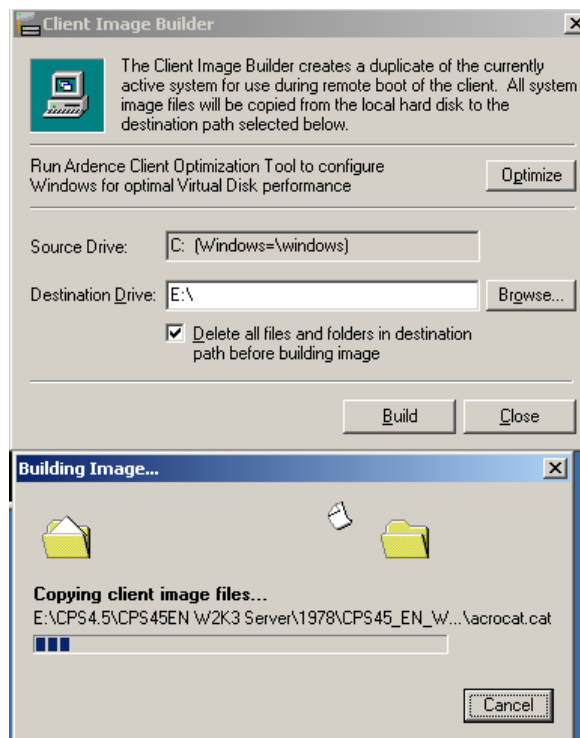
11. Modify the following registry DWord value:
 HKEY_LOCAL_MACHINE\SOFTWARE\Citrix®\IMA. Change the DWord value
 “ServerHost” to “%computername%”



12. Modify the following registry DWord value:
 HKEY_LOCAL_MACHINE\SOFTWARE\Citrix®\IMA\RUNTIME. Change the DWord
 value "HostName" to "%computername%".



13. Open the Ardence Image Builder and build the Ardence image to the VDisk mapped during the boot process.



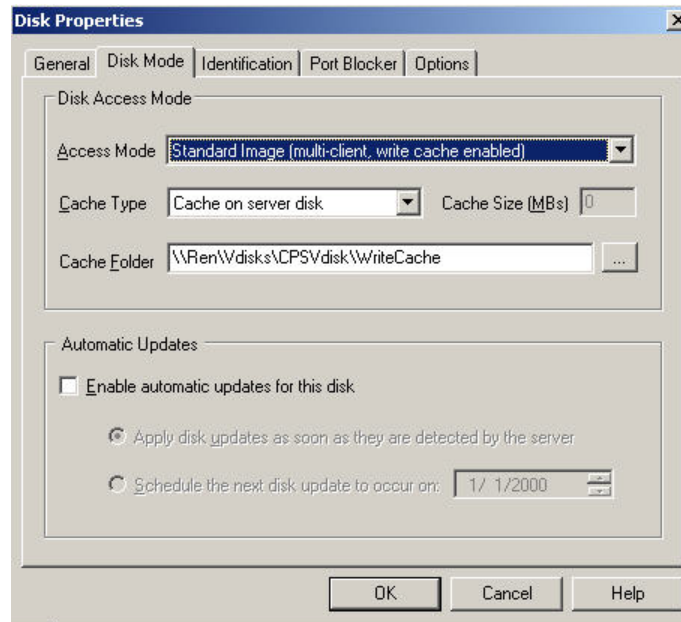
14. Upon completion of the Ardence image build, shut down the reference client.

Note: At the point you are able to use the CPS VDisk image.

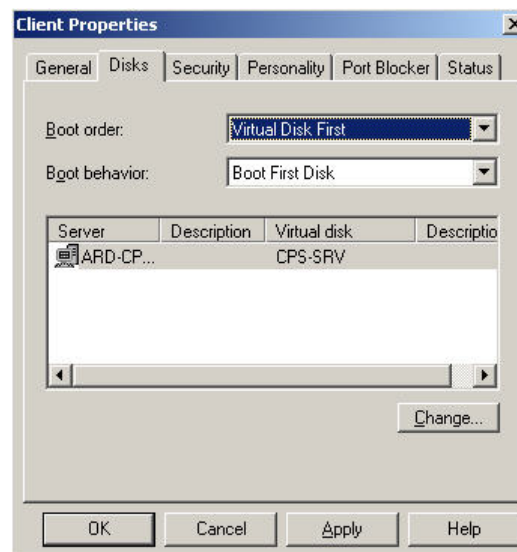
Configuration Steps – VDisk Administration

The following steps outline the details for setting the VDisk to Standard Image mode, which will allow you to share the VDisk among multiple CPS servers.

1. In the Ardence Administrator highlight the CPS VDisk icon in the object tree pane. Right click and select the “Properties;” the “Disk Properties” dialogue box will open. Click on the “Disk Mode” tab to access the “Disk Access Mode” properties. Using the drop down menu select “Standard Image” as the access mode. Once selected click “OK.”



2. The reference client is currently set to boot from hard drive. In the Ardence Administrator highlight the reference client icon in the object tree pane. Right click and select the “Properties;” the “Client Properties” dialogue box will open. In the Ardence Administrator highlight the reference client icon in the object tree pane. Click on the “Disk” tab to access the client boot options. Using the drop down menu select “Virtual Disk First” next to “Boot Order.” Once selected click “OK.”



Note: To add the reference client to Active Directory use Ardence setcomputeraccount utility.

! Note: Whenever changing the VDisk from Private Image mode to Standard Image mode you must re-run the step 9 and step 12 to boot the VDisk in Standard Image mode.

Installing CPS 4.x inside an Existing Ardence VDisk

Introduction

This chapter provides the information necessary to install and configure CPS 4.x server into an existing Ardence VDisk

Note: For information on how to install Ardence, please refer to the “Ardence Product Guide.”

Prerequisites

- Install and configure Ardence Data Center Edition 4.1 PS1 on a separate server, referred to as the Ardence Streaming Server.
- Assure PXE is supported on the local network.
- Assure DHCP is installed and configured on the local network.

Note: DHCP can be configured to assign static IP addresses through DHCP reservations. See Appendix A: Assigning Static IP with DHCP Reservations.

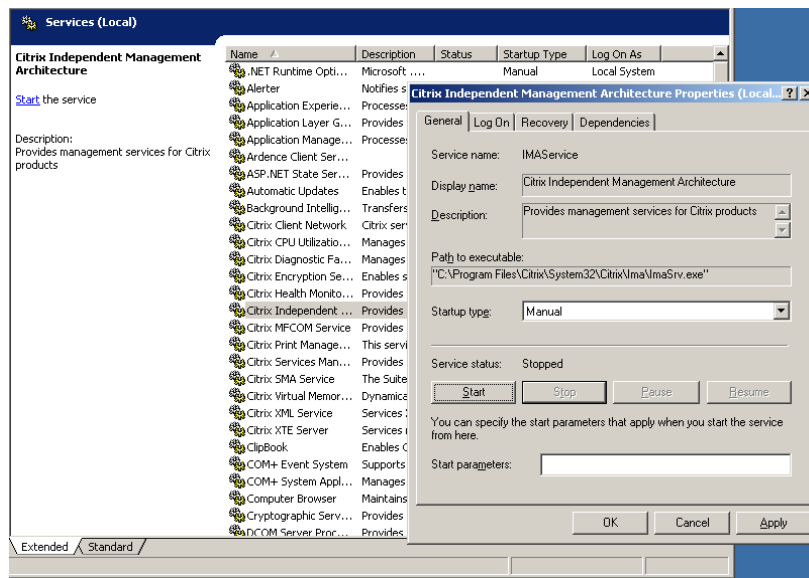
- An Ardence VDisk with Windows Server 2003 (SP1 or R2) installed or Windows Server 2000 SP4 installed, fully patched and configured.
- Inside the Ardence VDisk, install and configure with Microsoft Terminal Services in application mode. This is required for the CPS installation.
- If using Active Directory, add the Ardence client using the Ardence setcomputeraccount utility.
- Have the proper install CDs and/or install files for Citrix Presentation Server 4.x.

Configuration Steps – Existing VDisk

1. Boot a client from the Ardence VDisk (in Private Image Mode) and log on to the system as a local or domain administrator or a domain user.

Note: This logon account can be a domain user with local install rights and delegated rights to Microsoft Active Directory.

2. Install and configure Citrix Presentation Server. At the end of the installation, you will be prompted to reboot
3. Reboot the reference client.
4. When the client (booting from the Ardence VDisk) is successfully restarted, log on to the console as a local or domain administrator or a domain user.
5. Check for the existence of C:\Wfcname.ini file; if it exists, delete it.
6. **Stop** the Citrix® IMA (Independent Management Architecture) Service and set the startup type to “Manual.”



Note: The Citrix IMA service must be set to manual when running CPS in an Ardence VDisk. The Citrix IMA service will start automatically at boot time due to a dependency on the Citrix SMA Service.

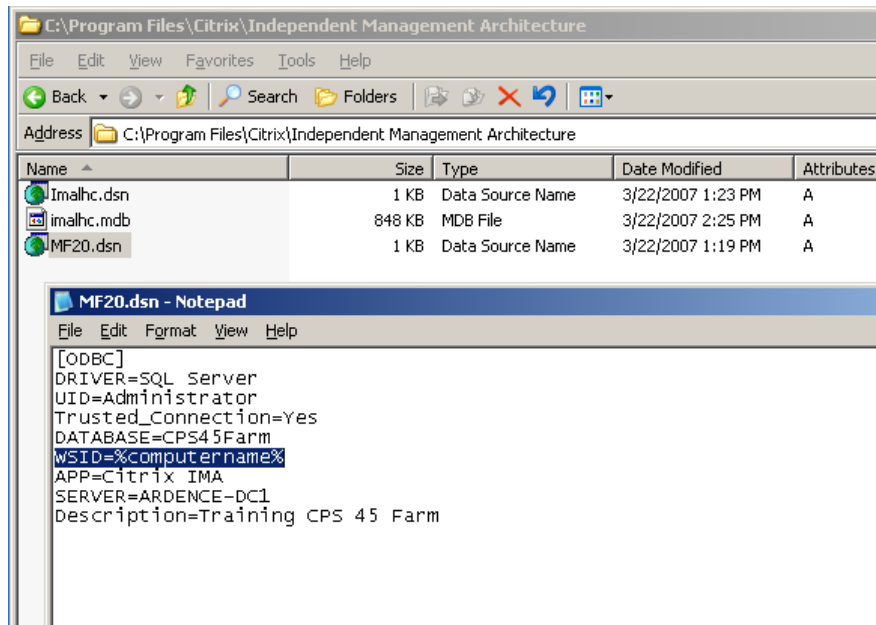
7. Edit the Mf20.dsn file with Notepad or another text editor. By default, the DSN file is located in the %ProgramFiles%\Citrix®\Independent Management Architecture folder. The DSN file should look similar to this, paying particular attention to the three lines in bold below:

```
[ODBC]
DRIVER= SQL Server
UID= SQL_USERNAME
DATABASE= NAME_OF_DATABASE
WSID= NAME_OF_MF_SERVER
```

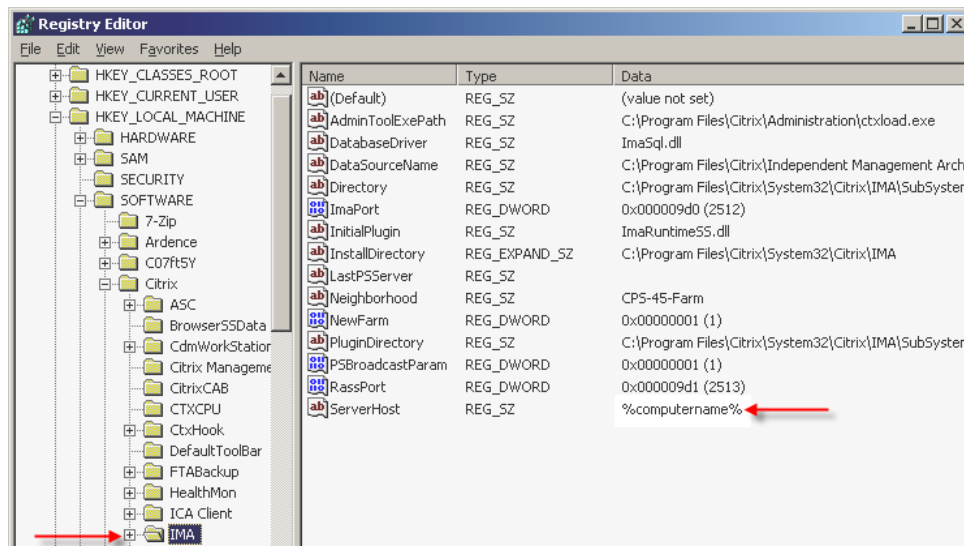
APP= Citrix® IMA
SERVER= NAME_OF_SQL_SERVER

Edit the following line:
WSID= %ComputerName%

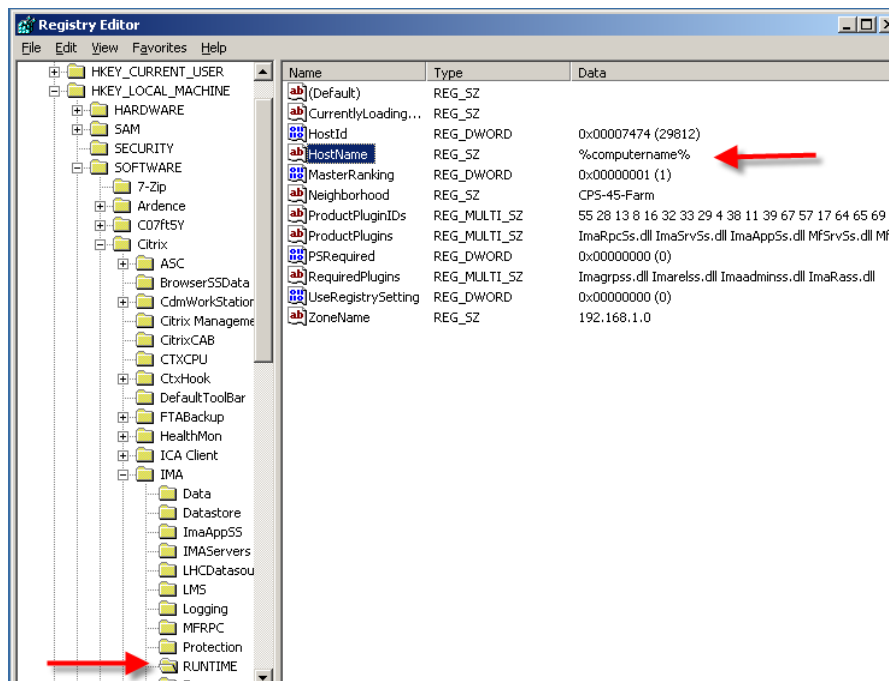
The DSN file now looks like this:
[ODBC]
DRIVER= SQL Server
UID= SQL_USERNAME
DATABASE= NAME_OF_DATABASE
WSID= %ComputerName%
APP= Citrix® IMA
SERVER= NAME_OF_SQL_SERVER



8. Modify the following registry DWord value:
HKEY_LOCAL_MACHINE\SOFTWARE\Citrix®\IMA. Change the DWord value
“ServerHost” to “%computername%”



- Modify the following registry DWord value:
 HKEY_LOCAL_MACHINE\SOFTWARE\Citrix®\IMA\RUNTIME. Change the DWord
 value "HostName" to "%computername%".



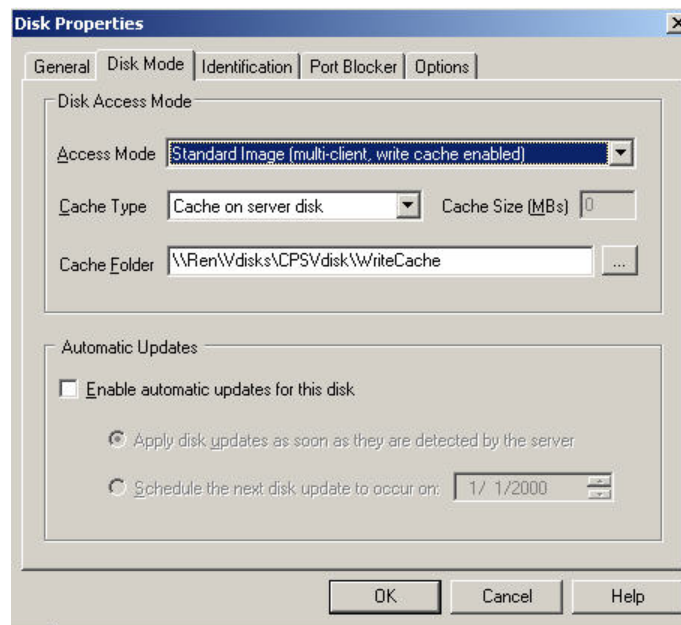
- Shut the client down.

Note: At the point you are able to use the CPS VDisk image.

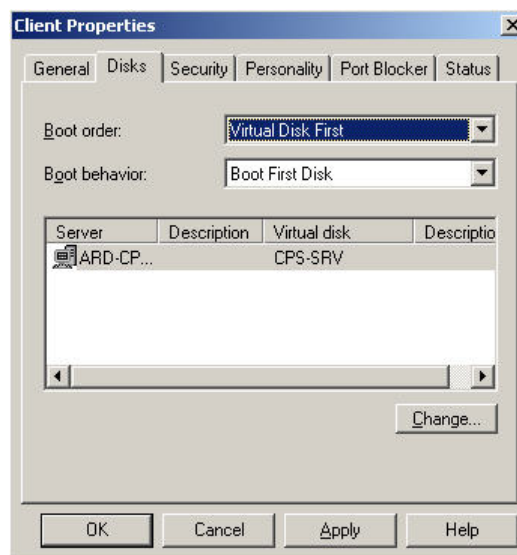
Configuration Steps – VDisk Administration

The following steps outline the details for setting the VDisk to Standard Image mode, which will allow you to share VDisk among multiple CPS servers.

1. In the Ardence Administrator highlight the CPS VDisk icon in the object tree pane. Right click and select the “Properties;” the “Disk Properties” dialogue box will open. Click on the “Disk Mode” tab to access the “Disk Access Mode” properties. Using the drop down menu select “Standard Image” as the access mode. Once selected click “OK.”



2. The reference client is currently set to boot from hard drive. In the Ardence Administrator highlight the reference client icon in the object tree pane. Right click and select the “Properties;” the “Client Properties” dialogue box will open. In the Ardence Administrator highlight the reference client icon in the object tree pane. Click on the “Disk” tab to access the client boot options. Using the drop down menu select “Virtual Disk First” next to “Boot Order.” Once selected click “OK.”



! Note: Whenever changing the VDisk from Private Image mode to Standard Image mode you must re-run the step 6 and step 9 to boot the VDisk in Standard Image mode.

Imaging a CPS 3.x Reference Client into an Ardence VDisk

Introduction

This chapter provides the information necessary to install and configure CPS 3.x server and then image it into an Ardence VDisk. It assumes a server running the Ardence Streaming Services is installed and configured on the network.

Note: For information on how to install Ardence, please refer to the “Ardence Product Guide.”

Prerequisites

- Install and configure Ardence Data Center Edition 4.1 SP1 on a separate server, referred to as the Ardence Streaming Server.
- Create and format an Ardence VDisk on the separate server for the image-build process.
- Assure PXE is supported on the local network.
- Assure DHCP is installed and configured on the local network.

Note: DHCP can be configured to assign static IP addresses through DHCP reservations. See Appendix A: Assigning Static IP with DHCP Reservations.

- Create a reference client with Windows Server 2003 (SP1 or R2) installed or Windows Server 2000 SP4 installed, fully patched and configured.
- Install and configure the reference client with Microsoft Terminal Services in application mode. This is required for the CPS installation.
- Have the proper install CDs and/or install files for Citrix Presentation Server 4.x
- Have the proper install CD or install files for the Ardence Data Center Edition 4.1 SP1 client install.

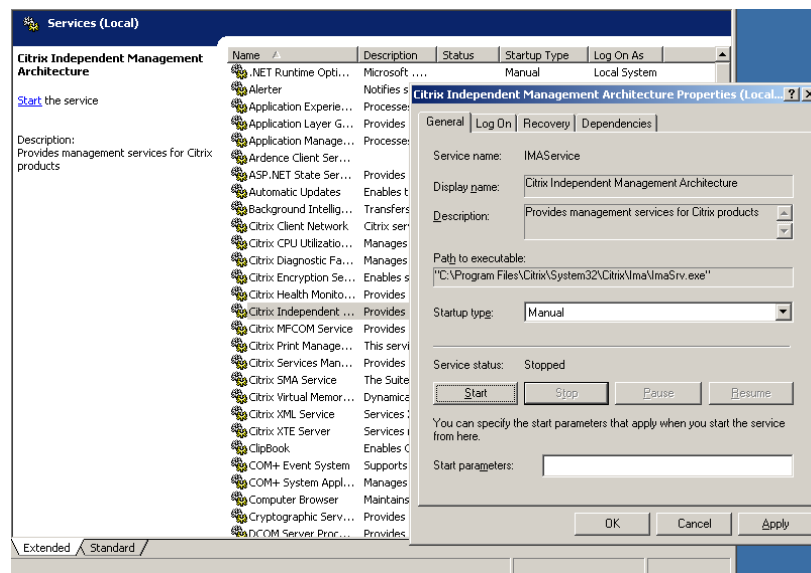
Note: It is assumed SQL data store and web interface are hosted on separate machines:.

Configuration Steps – VDisk Creation

1. Boot the reference client and log on to the system as a local or domain administrator or a domain user.

Note: This logon account can be a domain user with local install rights and delegated rights to Microsoft Active Directory.

2. Install and configure Citrix Presentation Server. At the end of the installation, you will be prompted to reboot
3. Reboot the reference client.
4. When the reference client is successfully restarted, log on to the system as a local or domain administrator or a domain user.
5. Install the Ardenne Data Center Edition client software and then shutdown the reference client.
6. Boot the reference client, enter the BIOS configuration utility and configure the boot order to PXE boot first. Save configuration settings and continue the boot process. When PXE booting a reference client for the first time, the Ardenne Streaming Service will prompt for the following:
 - a. Client Name – Give the reference client a meaningful name
 - b. Description – Give the reference client a meaningful description
 - c. Select VDisk – Select the VDisk that was created and formatted for this installation
 - d. Boot From – Select boot from hard drive
7. When the reference client is successfully restarted, log on to the system as a local or domain administrator or a domain user.
8. Check for the existence of C:\Wfcname.ini file; if it exists, delete it.
9. **Stop** the Citrix® IMA (Independent Management Architecture) Service and set the startup type to “Manual.”



Note: The Citrix IMA service must be set to manual when running CPS in an Ardenne VDisk. The Citrix IMA service will start automatically at boot time due to a dependency on the Citrix SMA Service.

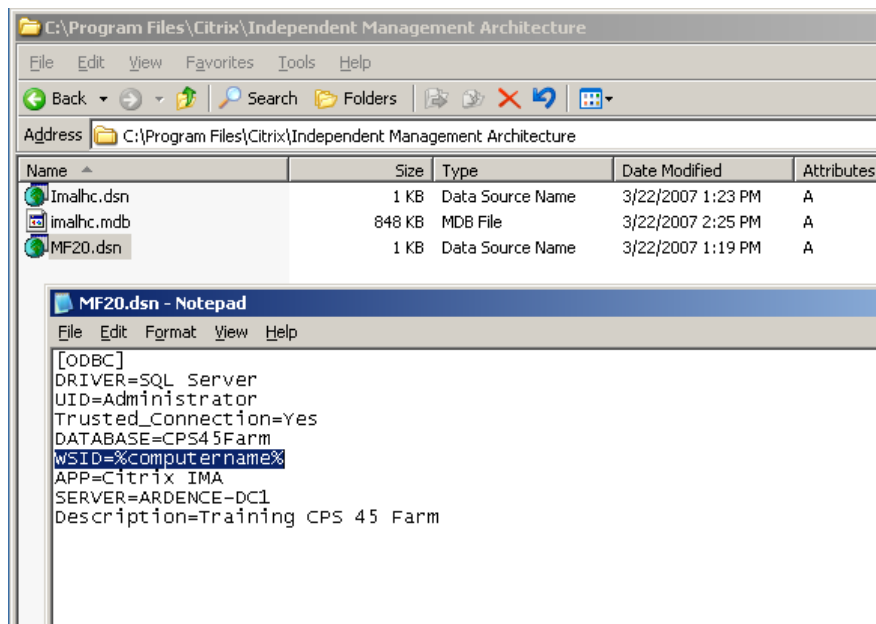
10. Edit the Mf20.dsn file with Notepad or another text editor. By default, the DSN file is located in the %ProgramFiles%\Citrix\Independent Management Architecture folder. The DSN file should look similar to this, paying particular attention to the three lines in bold below:

```
[ODBC]
DRIVER= SQL Server
UID= SQL_USERNAME
DATABASE= NAME_OF_DATABASE
WSID= NAME_OF_CPS_SERVER
APP= Citrix® IMA
SERVER= NAME_OF_SQL_SERVER
```

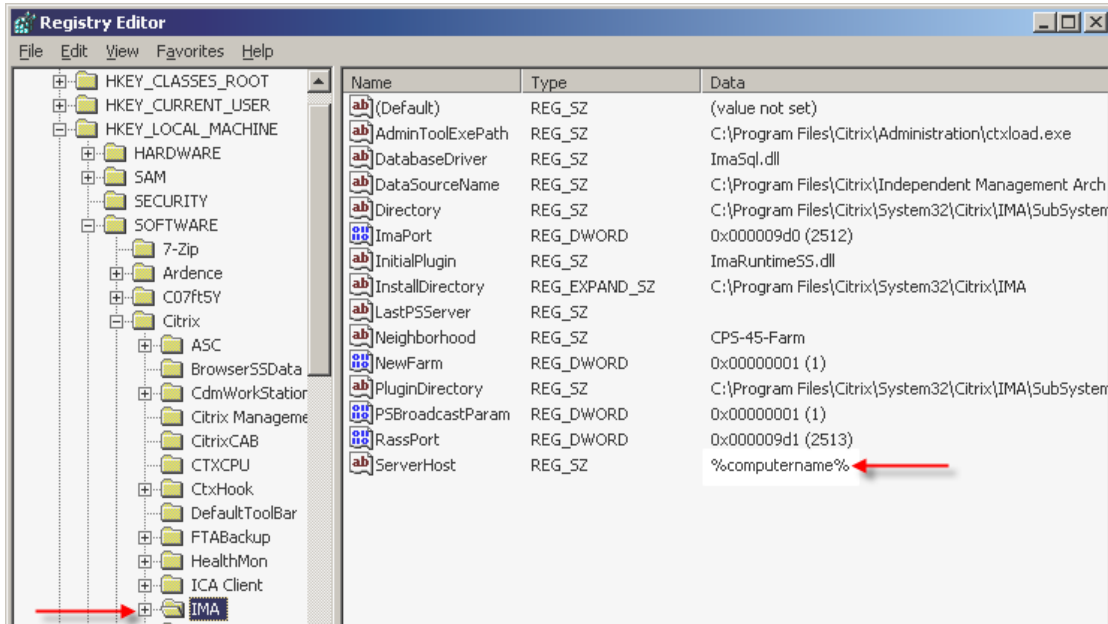
Edit the following line:
WSID= %ComputerName%

The DSN file now looks like this:

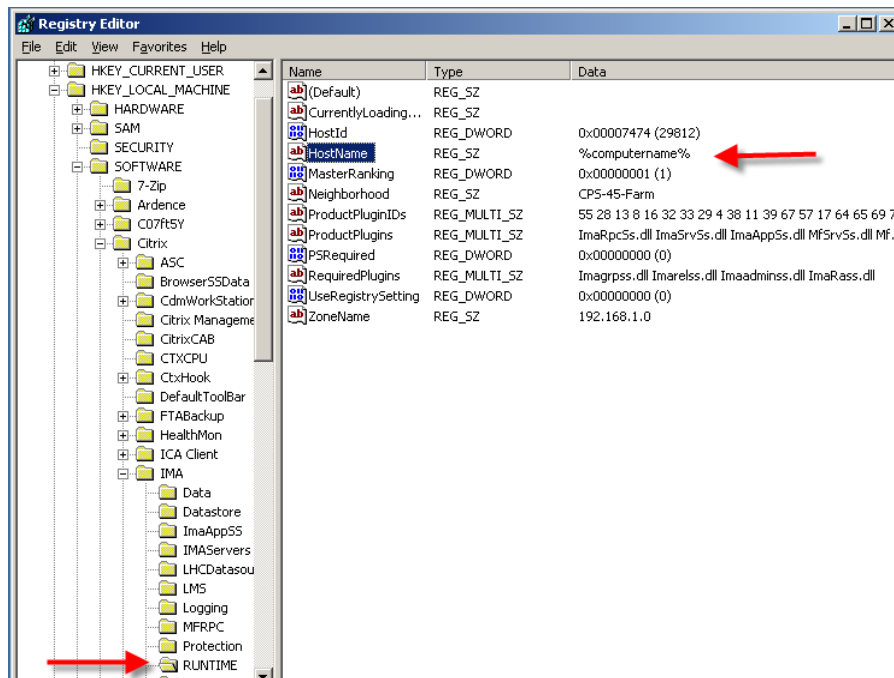
```
[ODBC]
DRIVER= SQL Server
UID= SQL_USERNAME
DATABASE= NAME_OF_DATABASE
WSID= %ComputerName%
APP= Citrix® IMA
SERVER= NAME_OF_SQL_SERVER
```



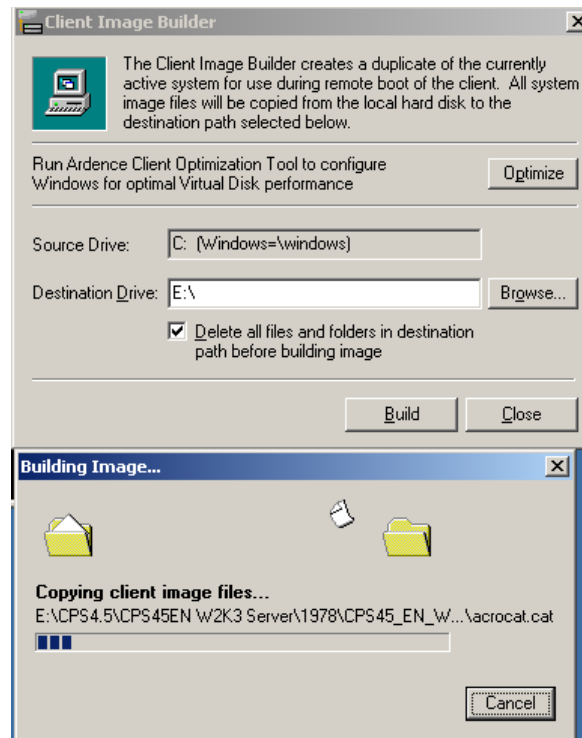
11. Modify the following registry DWord value:
 HKEY_LOCAL_MACHINE\SOFTWARE\Citrix®\IMA. Change the DWord value
 “ServerHost” to “%computername%”



12. Modify the following registry DWord value:
 HKEY_LOCAL_MACHINE\SOFTWARE\Citrix®\IMA\RUNTIME. Change the DWord
 value "HostName" to "%computername%".



13. Open the Ardence Image Builder and build the Ardence image to the VDisk mapped during the boot process.



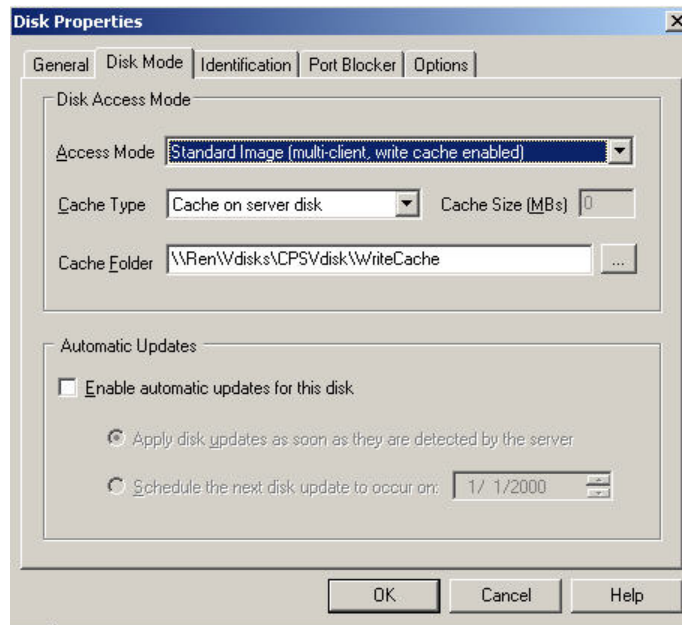
14. Upon completion of the Ardence image build, shut down the reference client.

Note: At the point you are able to use the CPS VDisk image.

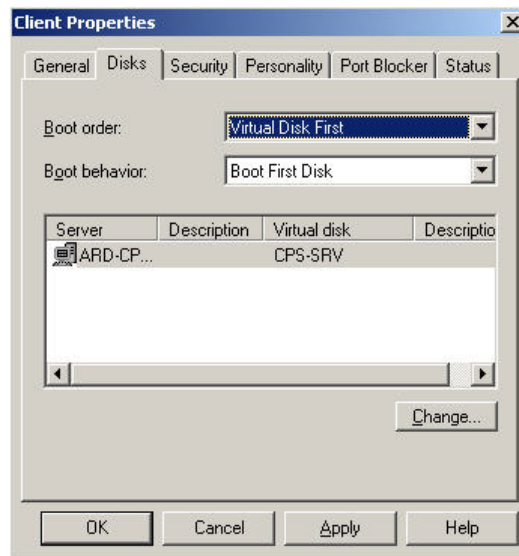
Configuration Steps – VDisk Administration

The following steps outline the details for setting the VDisk to Standard Image mode, which will allow you to share the VDisk among multiple CPS servers.

1. In the Ardence Administrator highlight the CPS VDisk icon in the object tree pane. Right click and select the "Properties;" the "Disk Properties" dialogue box will open. Click on the "Disk Mode" tab to access the "Disk Access Mode" properties. Using the drop down menu select "Standard Image" as the access mode. Once selected click "OK."



2. The reference client is currently set to boot from hard drive. In the Ardence Administrator highlight the reference client icon in the object tree pane. Right click and select the “Properties;” the “Client Properties” dialogue box will open. In the Ardence Administrator highlight the reference client icon in the object tree pane. Click on the “Disk” tab to access the client boot options. Using the drop down menu select “Virtual Disk First” next to “Boot Order.” Once selected click “OK.”



Note: To add the reference client to Active Directory use Ardence setcomputeraccount utility.

! Note: Whenever changing the VDisk from Private Image mode to Standard Image mode you must re-run the step 9 and step 12 to boot the VDisk in Standard Image mode.

Installing CPS 3.x Inside an Existing Ardence VDisk

Introduction

This chapter provides the information necessary to install and configure CPS 3.x server into an existing Ardence VDisk

Note: For information on how to install Ardence, please refer to the “Ardence Product Guide.”

Prerequisites

- Install and configure Ardence Data Center Edition 4.1 SP1 on a separate server, referred to as the Ardence Streaming Server.
- Assure PXE is supported on the local network.
- Assure DHCP is installed and configured on the local network.

Note: DHCP can be configured to assign static IP addresses through DHCP reservations. See Appendix A: Assigning Static IP with DHCP Reservations.

- An Ardence VDisk with Windows Server 2003 (SP1 or R2) installed or Windows Server 2000 SP4 installed, fully patched and configured.
- Inside the Ardence VDisk, install and configure with Microsoft Terminal Services in application mode. This is required for the CPS installation.
- If using Active Directory, add the Ardence client using the Ardence setcomputeraccount utility.
- Have the proper install CDs and/or install files for Citrix Presentation Server 4.x.

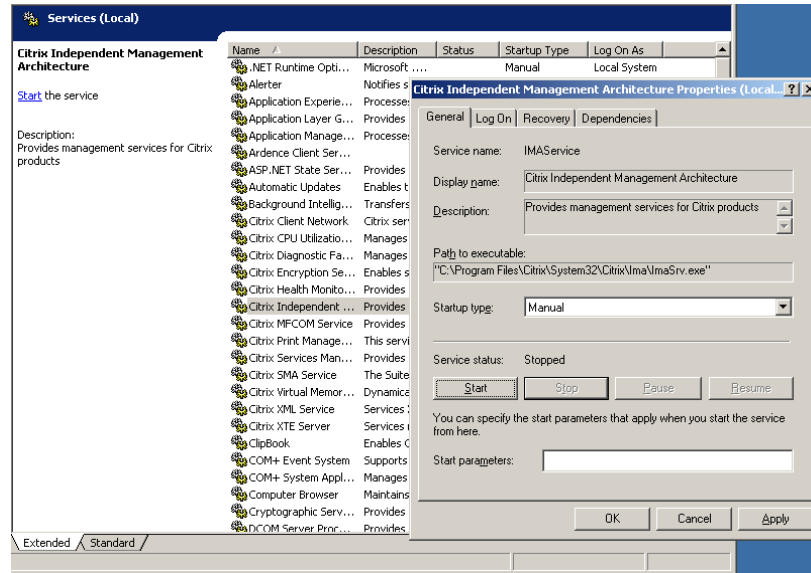
Configuration Steps – Existing VDisk

1. Boot a client from the Ardence VDisk (in Private Image Mode) and log on to the system as a local or domain administrator or a domain user.

Note: This logon account can be a domain user with local install rights and delegated rights to Microsoft Active Directory.

2. Install and configure Citrix Presentation Server. At the end of the installation, you will be prompted to reboot
3. Reboot the reference client.

- When the client (booting from the Ardenze VDisk) is successfully restarted, log on to the console as a local or domain administrator or a domain user.
- Check for the existence of C:\Wfcname.ini file; if it exists, delete it.
- Stop** the Citrix IMA (Independent Management Architecture) Service and set the startup type to “Manual.”



Note: The Citrix IMA service must be set to manual when running CPS in an Ardenze VDisk. The Citrix IMA service will start automatically at boot time due to a dependency on the Citrix SMA Service.

- Edit the Mf20.dsn file with Notepad or another text editor. By default, the DSN file is located in the %ProgramFiles%\Citrix\Independent Management Architecture folder. The DSN file should look similar to this, paying particular attention to the three lines in bold below:

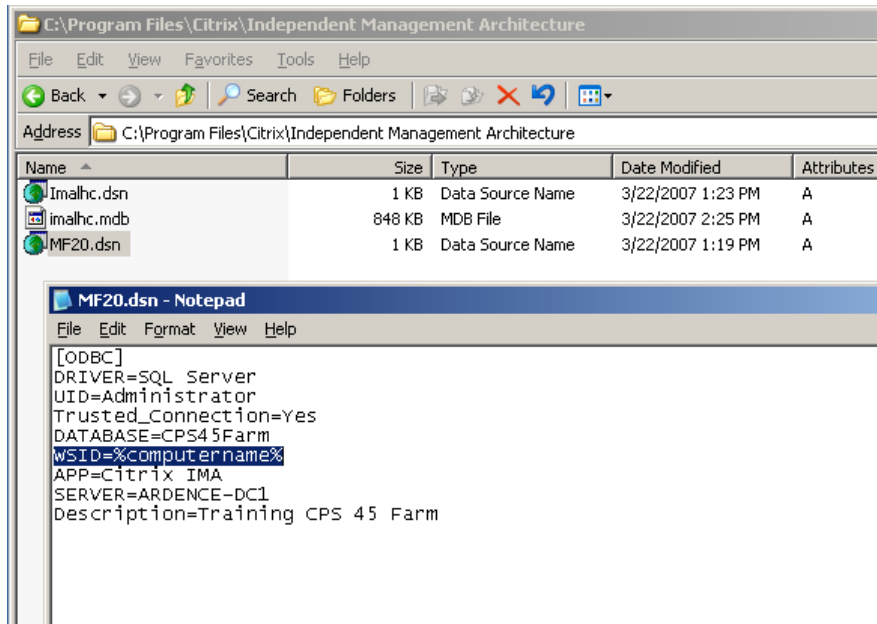
```
[ODBC]
DRIVER= SQL Server
UID= SQL_USERNAME
DATABASE= NAME_OF_DATABASE
WSID= NAME_OF_MF_SERVER
APP= Citrix® IMA
SERVER= NAME_OF_SQL_SERVER
```

Edit the following line:
WSID= %ComputerName%

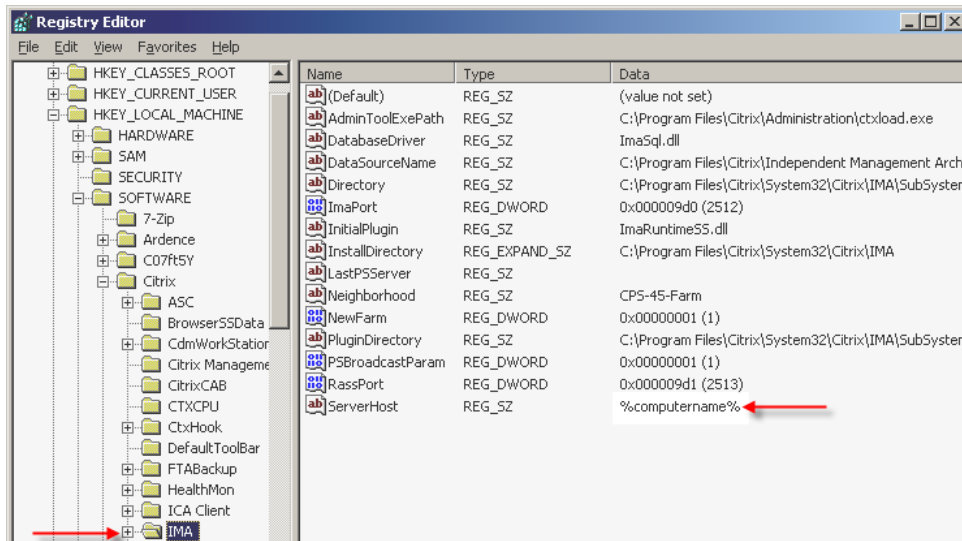
The DSN file now looks like this:

```
[ODBC]
DRIVER= SQL Server
UID= SQL_USERNAME
DATABASE= NAME_OF_DATABASE
WSID= %ComputerName%
APP= Citrix® IMA
```

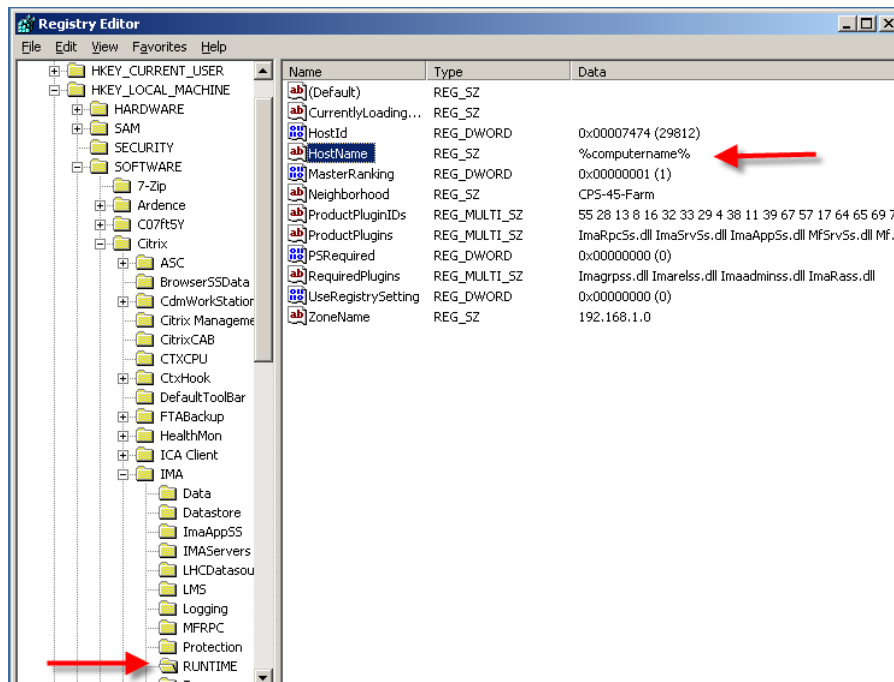
SERVER= NAME_OF_SQL_SERVER



8. Modify the following registry DWord value:
HKEY_LOCAL_MACHINE\SOFTWARE\Citrix®\IMA. Change the DWord value
“ServerHost” to “%computername%”



9. Modify the following registry DWord value:
HKEY_LOCAL_MACHINE\SOFTWARE\Citrix®\IMA\RUNTIME. Change the DWord value "HostName" to "%computername%".



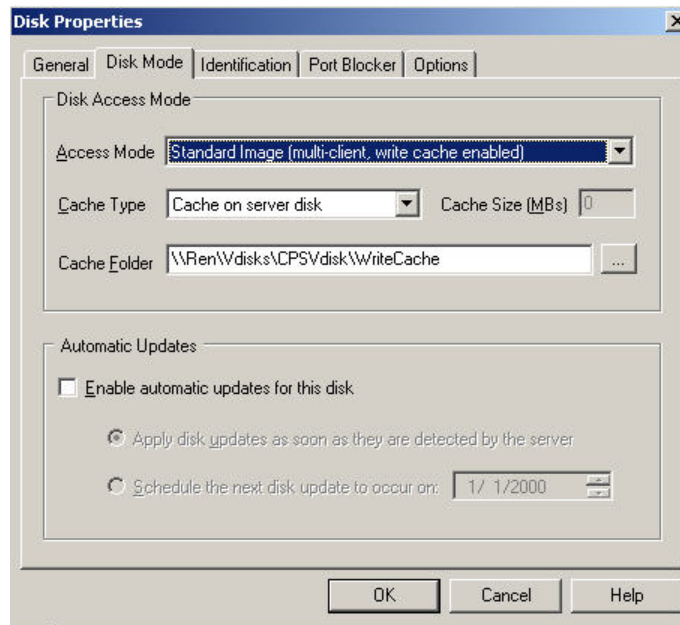
10. Shut the client down.

Note: At the point you are able to use the CPS VDisk image.

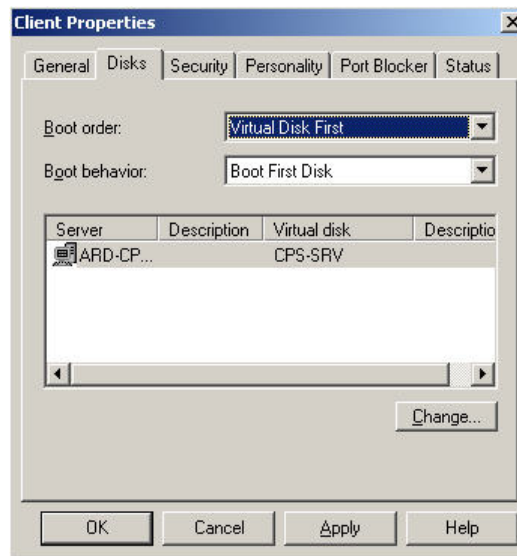
Configuration Steps – VDisk Administration

The following steps outline the details for setting the VDisk to Standard Image mode, which will allow you to share VDisk among multiple CPS servers.

3. In the Ardence Administrator highlight the CPS VDisk icon in the object tree pane. Right click and select the “Properties;” the “Disk Properties” dialogue box will open. Click on the “Disk Mode” tab to access the “Disk Access Mode” properties. Using the drop down menu select “Standard Image” as the access mode. Once selected click “OK.”



- The reference client is currently set to boot from hard drive. In the Arden Administrator highlight the reference client icon in the object tree pane. Right click and select the “Properties;” the “Client Properties” dialogue box will open. In the Arden Administrator highlight the reference client icon in the object tree pane. Click on the “Disk” tab to access the client boot options. Using the drop down menu select “Virtual Disk First” next to “Boot Order.” Once selected click “OK.”



! Note: Whenever changing the VDisk from Private Image mode to Standard Image mode you must re-run the step 6 and step 9 to boot the VDisk in Standard Image mode.

Assigning Static IP with DHCP Reservations

Introduction

This appendix discusses how to set a Static IP using DHCP reservations when using Microsoft DHCP server.

Overview

Dynamic Host Configuration Protocol (DHCP) automates the assignment of IP addresses, subnet masks, default gateways and other IP parameters. When booting, Ardence uses PXE which relies on DHCP. In scenarios in which static IP addressing is preferred, DHCP can be configured to assign static IP addresses.

DHCP offers the following IP address allocation options:

- **Manual Allocation** – DHCP addresses are allocated based on a MAC (media access control) address table.
- **Automatic Allocation** – DHCP permanently assigns addresses automatically based on a machine request
- **Dynamic Allocation** – DHCP assigns addresses automatically based on a machine request, but provides dynamic re-use of the IP address based on a time period.

When using DHCP to assign static IP addresses, manual allocation must be used. Microsoft calls this concept “DHCP reservation,” described below. This concept can be applied to most DHCP implementations.

Microsoft DHCP Reservation Prerequisites

- An advanced understanding of DHCP

Note: This same concept can be apply to other DHCP scenarios and is not limited to just Microsoft DHCP.

Configuration Steps - Microsoft's DHCP Reservations

1. To open DHCP, click Start, point to Programs, point to Administrative Tools, and then click DHCP.
2. In the console tree, expand applicable DHCP server, expand applicable scope, and click Reservations.
3. In the Action Menu (or right click on Reservations), click New Reservation.
4. In New Reservation, type the information required to complete the client reservation. (To view a description of a dialog box item, right-click the item, and then click What's This?)
5. To add the client reservation to the scope, click Add.
6. Repeat the two previous steps for any other client reservations you want to add, and then click Close.

