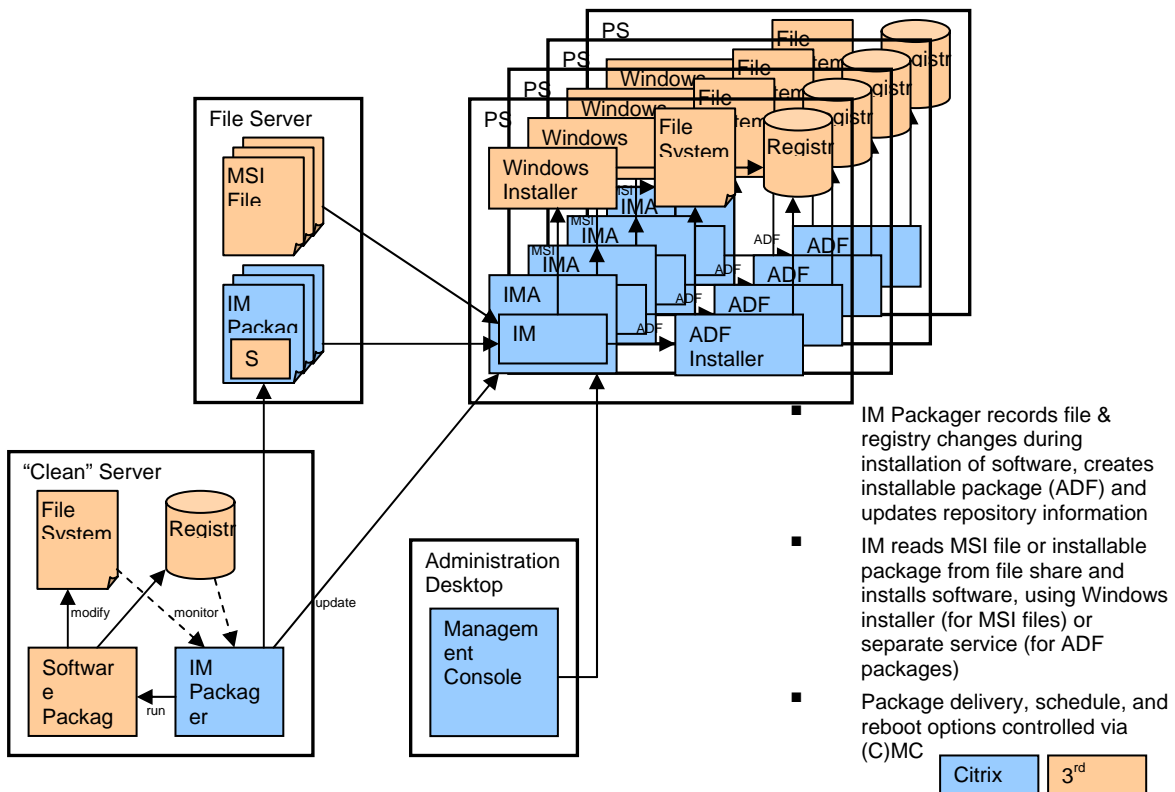## Summary

Installation Manager is a component of the Enterprise Edition of Presentation Server and requires Enterprise Edition licensing. This document is designed to help with troubleshooting the various components of Installation Manager. The Knowledge Center contains several documents on environment specific Installation Manager errors and issues. If this document does not resolve your issue, search the Knowledge Center using more specific keywords or call Citrix Technical Support.

Architectural Understanding

- Installation Manager subsystem of IMA
- ADF Installer Service and Citrix Packager
- Windows Installer Service and msi files
- Data store objects for Installation Manager
- Network Account and File share
- Enterprise Licensing required

File Server
- MSI File
- IM Package
- S

"Clean" Server
- File System
- Registry
- Software Package
- IM Packager
  - modify
  - monitor
  - run
  - update

Administration Desktop
- Management Console

PS
- Windows Installer
- IMA
- IM
- ADF Installer
- File System
- Registry
- ADF

- IM Packager records file & registry changes during installation of software, creates installable package (ADF) and updates repository information
- IM reads MSI file or installable package from file share and installs software, using Windows installer (for MSI files) or separate service (for ADF packages)
- Package delivery, schedule, and reboot options controlled via (C)MC

| Citrix | 3rd |

Installation Manager Files and their roles are below:

\Program Files\Citrix\IM\Packager- files for the Packager component are located in this directory and it is also the default location for projects created using the packager.

\Program Files\Citrix\Installer\aginst.log - ADF package install log. This log contains events during the installation of an ADF package.

\Program Files\Citrix\Installer\Logs – MSI log files created by Installation Manager appear here - Jobxxxx.log. This log contains events during the installation of an MSI package.

\Program Files\Citrix\Installer\AgentSVC.exe – the ADF installer service which also may be seen as "Gemini" in the Event Viewer.

\Program Files\Citrix\System32\Citrix\IMA\Subsystems\IMsSs.dll – the subsystem of IMA for Installation Manager functionality.

\Program Files\Citrix\Administration\Plugins\IMSMgr.jar – the Management Console plugin for the Installation Manager node.


Mixed Farm Environments

 ➢ Version of Windows Operating System

Applications are written for and installed on the operating system and not for Presentation Server. Presentation Server simply "presents" the application once it is installed on the operating system. The application must run on and be packaged for either Windows 2000 or Windows 2003. In a mixed operating system farm, separate packages will be required for each operating system. An application should always be installed and tested manually before using Installation Manager to ensure that the application installs and runs properly on the operating system.

Large Farm Environments

 ➢ Network File Share
 ➢ Data store considerations
 ➢ IMA communication

Below is a screen shot of the Installation Manager data store objects using DSVIEW.
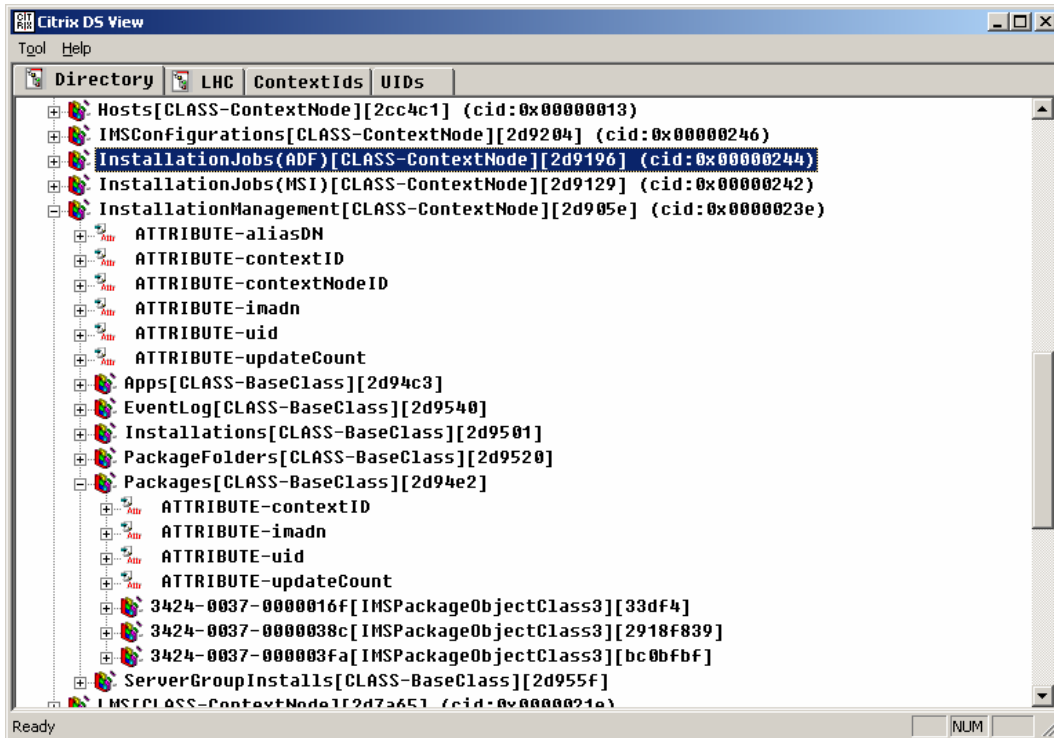
Note: Any time the Management Console is involved, the IMA data store is involved which means that standard IMA troubleshooting steps should be taken, such as restarting IMA, rebuilding the local host cache, and running the Management Console directly on the affected server as a full farm administrator.

See CTX759510 – Function of the Local Host Cache on MetaFrame XP.

CTX107800 - DSCHECK should also be used to verify the data store.

Special considerations should be made when the Citrix Farm consists of a large number of servers spread out across zones. The actual package (MSI or ADF) should sit on a network file share located on the same subnet as the target Presentation Servers. This means that each subnet or zone across a WAN link should have its own copy of the application package and each copy must be imported into the data store separately because one of the properties of a package in the data store is the location on the network share.
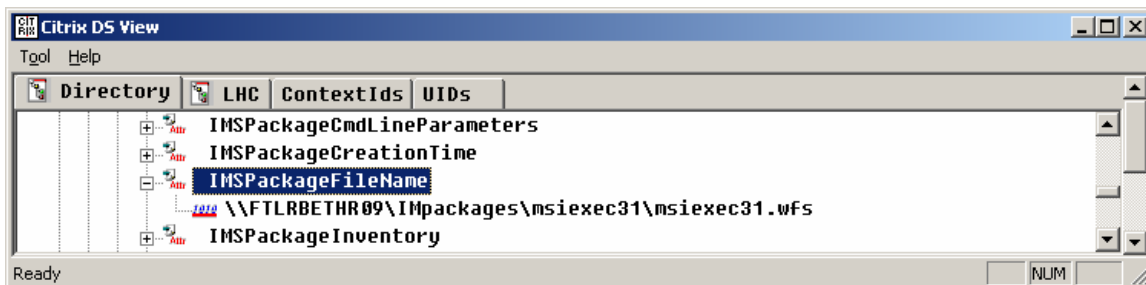
When a package is scheduled for deployment, its actual network location is read from the data store and updates of the installation are written to the data store via IMA communication.

Special considerations should be made for farms with large numbers of installation packages. Each Installation Manager package contains many properties that are written to the data store such as network location, installation, and uninstallation records and references to transforms and command line parameters. As a result, the data store can become quite large and indexing of the package objects can slow down the updates to the Management Console.

For each imported package, there is one job entry, one install entry per server, and four install log entries to the data store.

Therefore, pushing out 180 packages to 120 servers will result in about:

21,600 job entries
21,600 install entries
86,400 install log entries

IMindexfixer.exe

This utility is specifically created to recreate the Installation Manager relationships when the data store was originally from an XP Feature Release/Service Pack 2 or earlier and had been upgraded to our latest products. The utility runs over IMA so it should work independent of data store type (SQL and Oracle).

1. Backup the data store.

2. Isolate a server in the farm (with no users logged on) from where you will run the utility.

3. Do not use Installation Manager while running the utility.

4. WAIT until it finishes which may take some time. For example: a 120 server farm where Installation Manager was used extensively could take 8 hours or more.
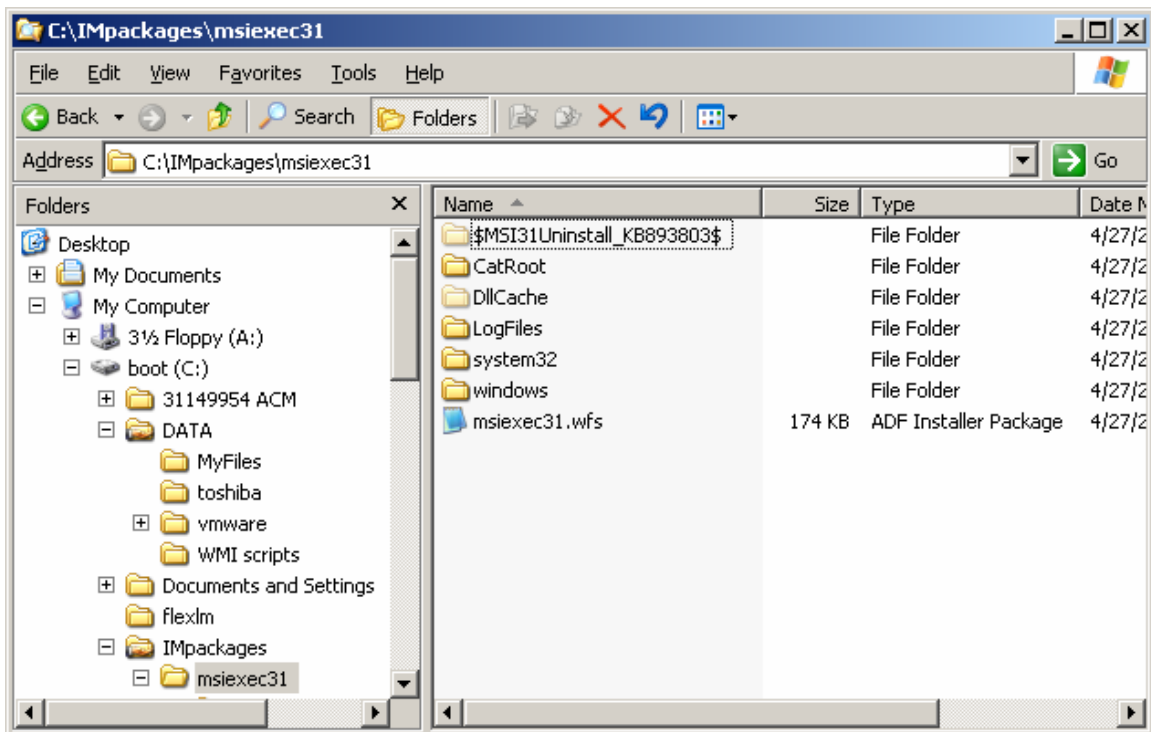
Troubleshooting the Packager

➢ Use the same operating system as the target server
➢ Verify the application installs on the console
➢ Remapped drive issues
➢ Server Reboots

> ➢ DLL conflicts and mismatch
> ➢ Recording process

The Citrix Packager is used when a MSI package is not available for an application. The packager is designed to create an application package for older applications that do not use Windows Installer. The packager can also be used to package files or service packs. Use a machine with the same operating system as the target servers to create the package and use a clean machine that does not contain conflicting DLL versions used by the application.

The recording process writes the steps of the installation to an ADF script file (xxxxxx.wfs). This script contains all of the steps to install the application on the target server. Typically these steps are file copies and registry changes. However, if an application install involves creating an ODBC connection to a back end server, or requires a reboot, or needs to access the Internet, or a specific mapped network drive, these steps will be recorded into the script and need to be taken into consideration when deploying the package.

The **root build location** is important. This is where the package is built and the script file must be in the root folder so that it can access the files and folders of the package when the script is read during deployment.

Additional Troubleshooting Steps:

- Does the application's .exe function as a "wrapper" and subsequently spawn msiexec to install the "wrapped" msi components? MSI components are not "recorded". See CTX822151 – Attempting to Package an MSI File Results in an Incomplete Recording of the Applications Installation Routine.

- Packaging can not complete if a restart takes place during the recording. Choose to restart later if an installation prompts you to restart. CTX155395 – Do not Record Server Reboot During Application Packaging.

- The Citrix packager does not acknowledge component file names that contain special characters.

- If a folder with the hidden attribute is included in the package, the hidden attribute is not retained when the package is deployed to servers. The hidden attribute must be manually set on the folder after the package is deployed.

- Does an application like WinZip package and deploy? Compare another application to see if it is an application specific problem.

- Does a standard MSI package deploy? If WinZip failed but a MSI was successful, the problem can be isolated to the packager.

- Installation Manager 2.x Packager does not Record Every Installation File. See CTX670564 – Installation Manager 2.x Packager Does not Record Every Installation File.

- From MetaFrame XP Service Pack 4 - 16. When using packages built with InstallShield Versions 6.2.*xx* and 6.3.*xx*, the packager did not record all the actions of the package installation. This problem occurred because the process filter recorded only the actions of the install and child processes. In InstallShield Versions 6.2.*xx* and 6.3.*xx*, the installation created a service IKernel.exe and used that service to install the actual files related to the package. To resolve the problem, you need to add the value UseIKernel to the following registry key.

  HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\IMS\2.0\Packager
  Type: DWORD
  Value: UseIKernel = 1

  With the above value set at 1, all the actions of the package installation are recorded.

Troubleshooting ADDING packages in the Management Console

- ➢ Network Share for packages
- ➢ Network Account permissions
- ➢ Adding command line parameters and transforms

- The network account used for Installation Manager installations is specified in the properties of the Installation Manager node of the Management Console.

- This account needs to have permissions on the file share where the package is stored and adequate permission to install software on all Presentation Servers; typically a domain administrator's account is used.

- For Novell environments see CTX103634 – Novell Network Share Point and Installation Manager Inquiry.

- When adding a package to the Management Console, the Citrix administrator has the option to add a command line switch and/or specify a transform file. See CTX104051 – Error: Invalid command line arguments ...when Installing MSI packages.

- Test the switches and the transform with the Windows Installer (Msiexec.exe) Information on MSI switches available from the following Microsoft website http://support.microsoft.com/default.aspx?scid=kb;en-us;314881

- Error applying transforms. Verify that the specified transform paths are valid. CTX104225 – Error: Error applying transforms. Verify that the specified transform paths are valid.
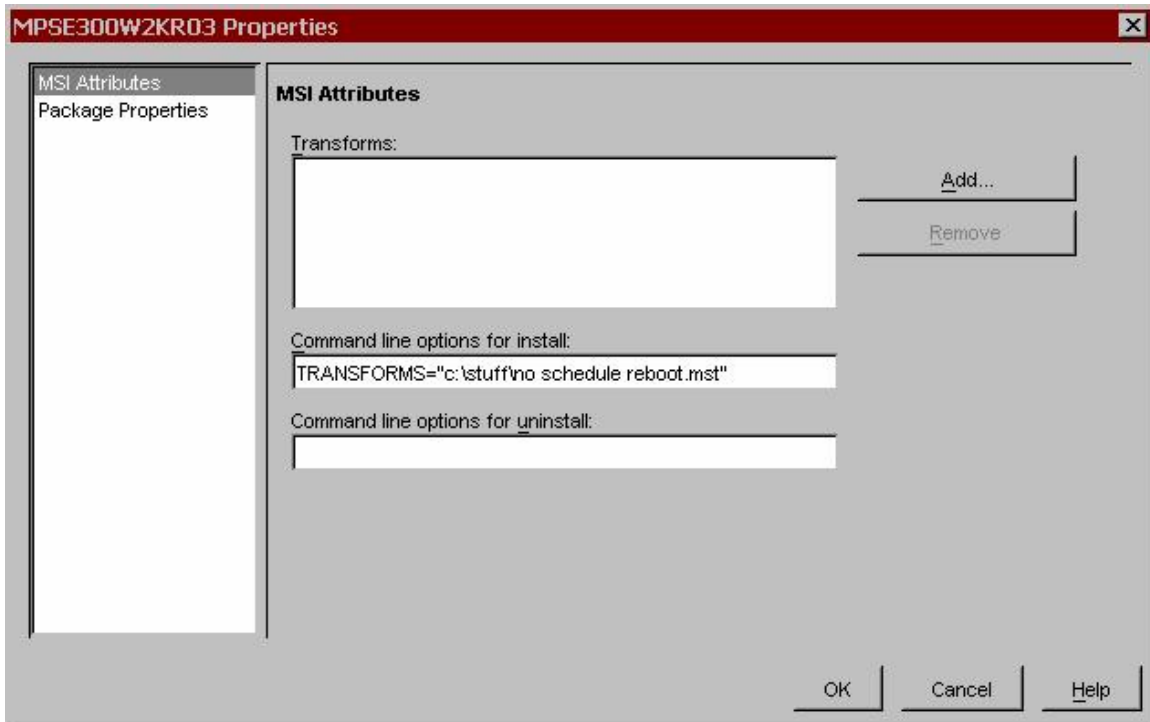
Troubleshooting Failed Installations

- ➢ Isolate to MSI or ADF deployment problem
- ➢ Network Topology
- ➢ Data store and IMA
- ➢ Network share permissions

Once the package is imported into the data store, you can push it out to target servers with right-click > Install. When a problem occurs here, first determine if other packages install. Do all MSI and ADF packages fail?

- From the Management Console, go to the **Job tab**, to see the status. Click the **Job Details** button to check the log file generated.

- Check the Windows Event Log:

    o WFS package errors under the source Gemini Installer

    o MSI package errors under the source MsiInstaller

- Installation Manager creates install log files that appear in the following folder, depending on the type of package. Installation Manager creates install log files that appear in the following folders, depending on the type of package:

    o **MSI packages.** MSI log files appear in:

      \Program Files\Citrix\Installer\Logs\Jobxxxx.log

o **ADF packages.** ADF package install logs appear in:

\Program Files\Citrix\Installer\aginst.log

ADF Specific Package Deployment Issues

When an ADF package does not install, it may be necessary to edit the ADF script file (xxxxx.wfs). For more information see CTX9293 – Installation Script Reference.

The script defines the target directory and other information that may not be interpreted on the target servers correctly. If you edit the script, you may need to increment the version=2 number under the [Main] section.

```
msiexec31.wfs - Notepad
File  Edit  Format  View  Help
[$version 3, codepage 1200$]
[Main]
Version=2
Description=msiexec31
Creator=Citrix Customer
ProductID=7E86875A6FB9D64AB41EDAEE970F08BD
EnablerVersion=Version 3.0.0.27289
SetupRequiresAdmin=T
ConfigOnly=F
Require='%!Split(OSVER,v)% ("%OS%"="WinNT" & %v1%=5 & %v2%=2)',This
product does not support the operating system of this computer.

[GlobalSymbols]
_NT351=%!Split(OSVER,v)%%!eval('"%OS%"="WinNT" & %v1%=3 & %v2%=51')%
_NT4=%!Split(OSVER,v)%%!eval('"%OS%"="WinNT" & %v1%=4')%
ARPHELPLINK=http://go.microsoft.com/fwlink/?LinkId=42467
Manufacturer=Microsoft Corporation
TARGETDIR=%WINDIR%\$MSI31Uninstall_KB893803$
TARGETDIR1=%WINSYSDIR%\CatRoot
TARGETDIR2=%WINSYSDIR%\DllCache
TARGETDIR3=%WINSYSDIR%\LogFiles

[Setup]
DestFileInUseAction=reboot
FileErrorAction=fail
DefineSymbols=T, GlobalSymbols
```

Installation Manager Does Not Automatically Recognize Changes To the Version Field in WFS Files CTX105157 – Installation Manager Does Not Automatically Recognize Changes To the Version Field in WFS Files

Error: Failed to convert to a short path ...when installing an ADF package CTX105751 – Error: Failed to convert to a short path ...when installing an ADF package

ADF installation through Installation Manager hangs with Job Status of Pending
CTX104013 – ADF installation through Installation Manager hangs with Job
Status of Pending

Installation Manager and Application Isolation Environments with Presentation Server 4.0

- ➢ Isolate to Installation Manager or AIE deployment problem
- ➢ Test 1: Deploy package directly to server
- ➢ Test 2: Install application directly to AIE

With Presentation Server 4.0, an Installation Manager package can be installed
into an Application Isolation Environment (AIE). If problems occur, test the
application deployment first directly to the server without using the AIE. Also
install the application directly into the AIE to see if the problem is with the
Installation Manager deployment or the AIE itself.

For more information about Application Isolation Environments see CTX106868 -
Application Isolation Environments Explained.

In an AIE, uninstalling isolated applications using Installation Manager may not
remove all files. A component or file is open during uninstall. The files, usually
zero-byte, are deleted file markers created by the isolation environments to track
deleted files. See CTX106598 - Uninstalling Isolated Applications Using
Installation Manager May Leave Files Behind in an Isolation Environment After
Completion.

More Information

The Advanced Concepts Guide for Presentation Servers contain important and
detailed information about Installation Manager.

MetaFrame Presentation Server 3.0 - CTX104144 – Advanced Concepts Guide
MetaFrame Presentation Server for Windows Version 3.0

Citrix Presentation Server 4.0 - CTX107059 – Advanced Concepts Guide

Installation Manager Hotfixes

- ➢ File version, date and timestamp
- ➢ Hotfix Readme

Installation Manager hotfixes are usually released with the Hotfix Rollup Packs for Presentation Server. The readme for each rollup will specify the issues that were fixed. See the Hotfix Rollup Schedule for more information. CTX107180 – Hotfix Rollup Pack Schedule.