Best Practices for Install/Update of WebSphere Application Server V8.x Full Profile - Using Installation Manager

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WebSphere® Support Technical Exchange

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Agenda

- Overview of IBM® Installation Manager

- Repositories Concepts

- Important Directories

- Install Options (Graphical, Silent and Command mode)

- Best Practices and Common Problems

- Mustgather Data

- Questions and Answers

Introduction - Installation Manager (IM)

- IBM® Installation Manager (IM) is an application that simplifies downloading, installing, updating, and uninstalling many IBM software products from a single user interface

- A single instance of IBM Installation Manager can manage the product life cycle for any IBM Installation Manager based product from WebSphere®, Rational®, Lotus® and any other brand within IBM

- Provides a full graphical user interface for distributed platforms (excluding z/OS® and IBM i systems)

- Provides a utility for all platforms to perform install operations silently, using either command-line options or a response file

- Operates on the local system where IBM products are installed, and can pull repositories from a remote system

Repositories Concepts

Repositories

- Repositories are collections of files in a directory structure that contain product installation metadata and files

- IBM Installation Manager repository contains the full content required to install on various platforms, operating systems and so on

- Repository topologies can be generalized in three categories:
    - **Public repository** (Web repository) – publicly accessible using a URL, typically on ibm.com
    - **Local repository** – that is used by a single system and not shared with others
    - **Enterprise repository** – created in-house, typically exists behind the firewall and is accessed only by systems within the enterprise intranet

- IBM Packaging Utility is available to copy offerings from one repository to another and retrieve offerings from remote repositories

Add repository to Installation Manager
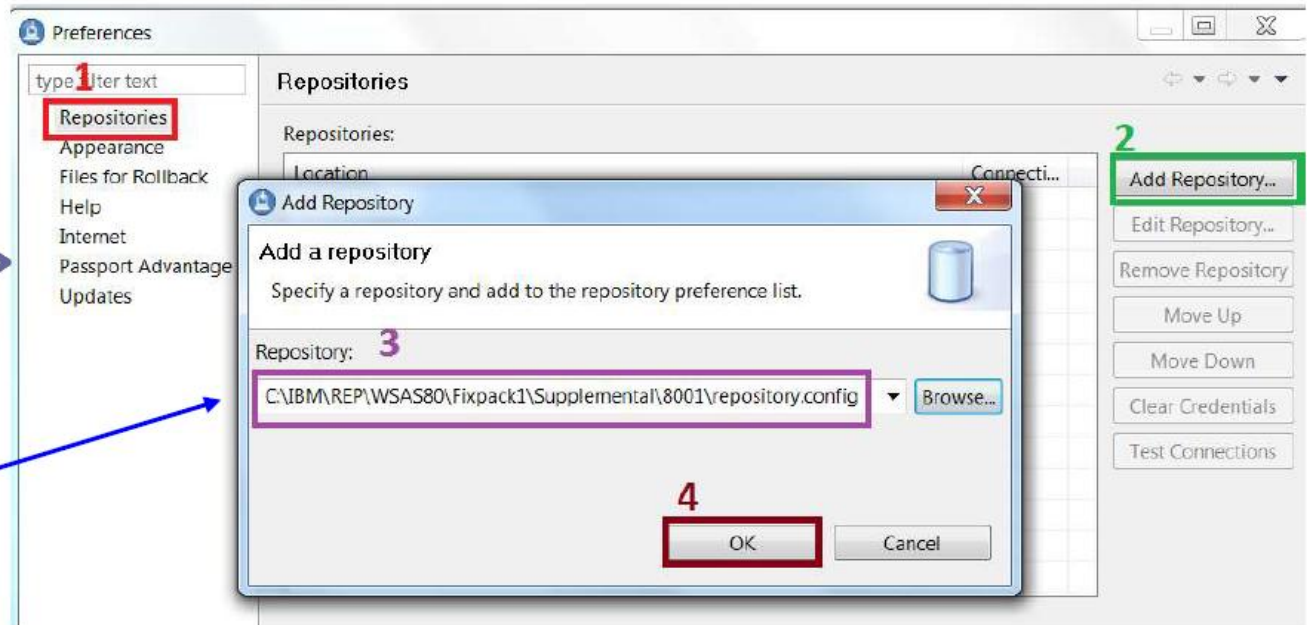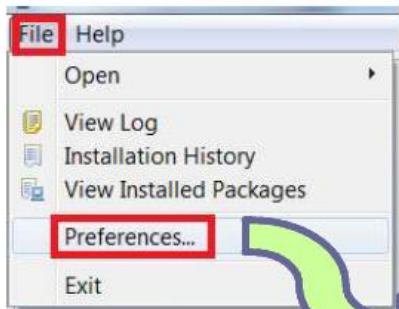
- **For local repositories, provide the repository path up to and including the repository.config file.**
- **For Web repositories, provide the URL.**

- **Alternatively, repositories can be added to response file for silent install mode**

  ```
  <server>
  <repository location='/opt/IBM/wasdepot/WAS/WAS8_ND/repository'/>
  <repository location='/opt/IBM/wasdepot/WAS/WAS8_ND/supplements_V8'/>
  </server>
  ```

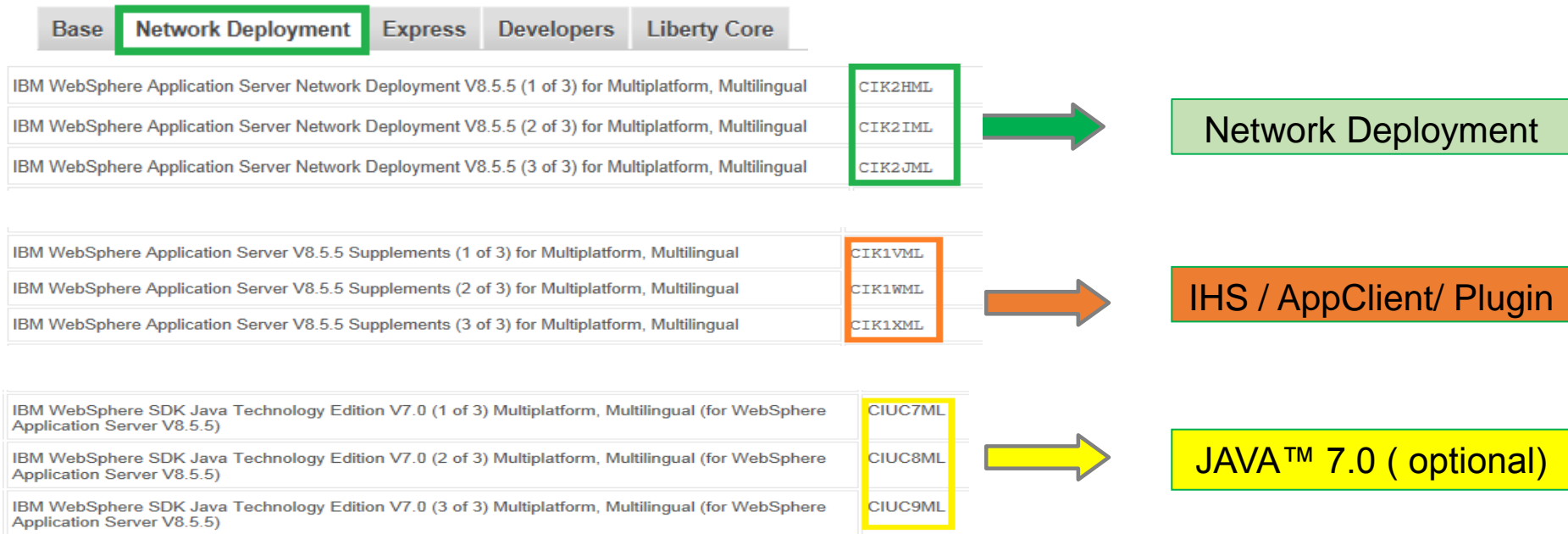- **For Command line – repositories <PATH TO REPOSITORIES> can be used with imcl command**

Repositories for V8.5.5

- Public (Web) repository – Connecting to the public repository allows a product to be downloaded directly from ibm.com using Installation Manager. It's available for clients entitled with Passport Advantage

    - **Example URLs for different editions of V8.5:**
      NOTE : These 3 URLs should be added to IM and cannot be accessed via Browser.
      http://www.ibm.com/software/repositorymanager/com.ibm.websphere.ND.v85
      http://www.ibm.com/software/repositorymanager/com.ibm.websphere.BASE.v85
      http://www.ibm.com/software/repositorymanager/com.ibm.websphere.EXPRESS.v85

    - **Complete List: https://ibm.biz/BdX943**
      NOTE: You can add Passport Advantage credentials to IM and should be able to list WAS offerings. IM should have access to Internet

- Local repository – The repository is downloaded locally to the system prior to running Installation Manager

Local repositories – WAS v8.5.5

- For guidance on the repositories ("part numbers") to download, visit:
  http://www.ibm.com/support/docview.wss?uid=swg27038624
- Download the part numbers grouped together for an offering
- 32-bit and 64-bit editions are bundled in the same download (no longer separate)
- AIX®, HP-UX®, Linux®, Solaris™, and Windows® editions are included in same download

Example of Network Deployment and Supplemental offerings:

Base	**Network Deployment**	Express	Developers	Liberty Core

IBM WebSphere Application Server Network Deployment V8.5.5 (1 of 3) for Multiplatform, Multilingual	CIK2HML	
IBM WebSphere Application Server Network Deployment V8.5.5 (2 of 3) for Multiplatform, Multilingual	CIK2IML	→ Network Deployment
IBM WebSphere Application Server Network Deployment V8.5.5 (3 of 3) for Multiplatform, Multilingual	CIK2JML	

IBM WebSphere Application Server V8.5.5 Supplements (1 of 3) for Multiplatform, Multilingual	CIK1VML	
IBM WebSphere Application Server V8.5.5 Supplements (2 of 3) for Multiplatform, Multilingual	CIK1WML	→ IHS / AppClient/ Plugin
IBM WebSphere Application Server V8.5.5 Supplements (3 of 3) for Multiplatform, Multilingual	CIK1XML	

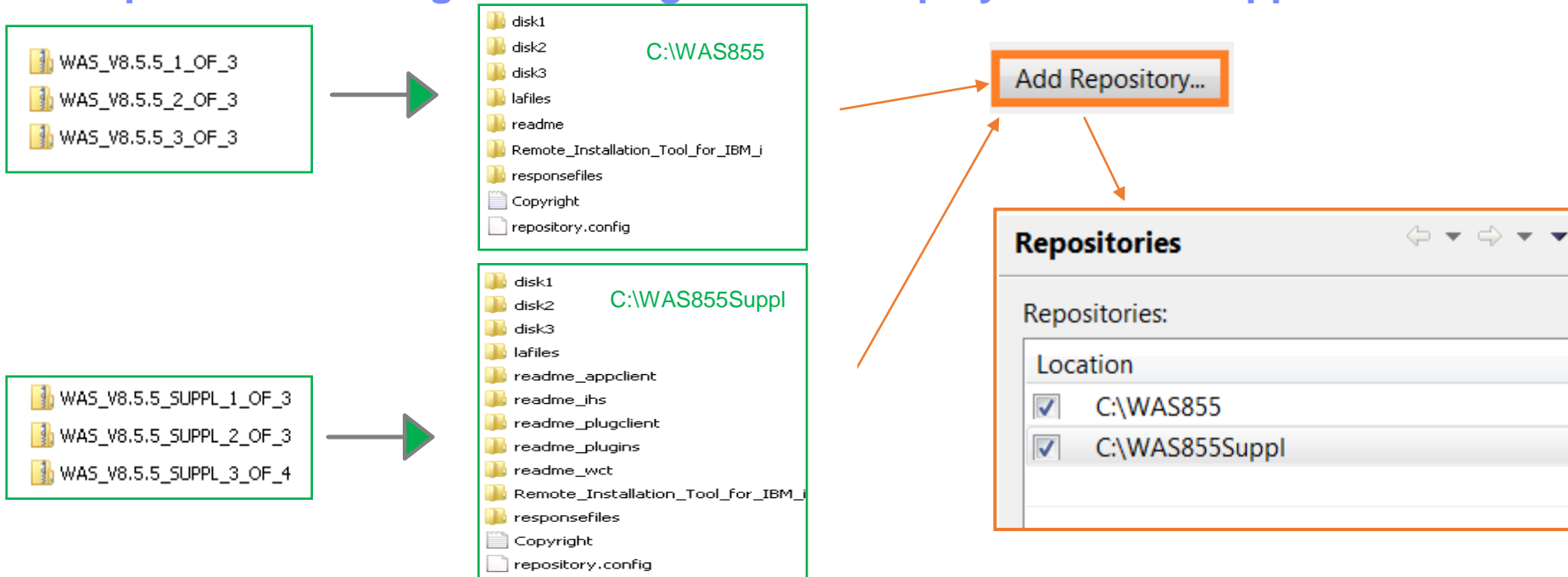|		
IBM WebSphere SDK Java Technology Edition V7.0 (1 of 3) Multiplatform, Multilingual (for WebSphere Application Server V8.5.5)	CIUC7ML	
IBM WebSphere SDK Java Technology Edition V7.0 (2 of 3) Multiplatform, Multilingual (for WebSphere Application Server V8.5.5)	CIUC8ML	→ JAVA™ 7.0 (optional)
IBM WebSphere SDK Java Technology Edition V7.0 (3 of 3) Multiplatform, Multilingual (for WebSphere Application Server V8.5.5)	CIUC9ML	

Extracting installation repositories

- Extract all zip files for the offering to the same directory
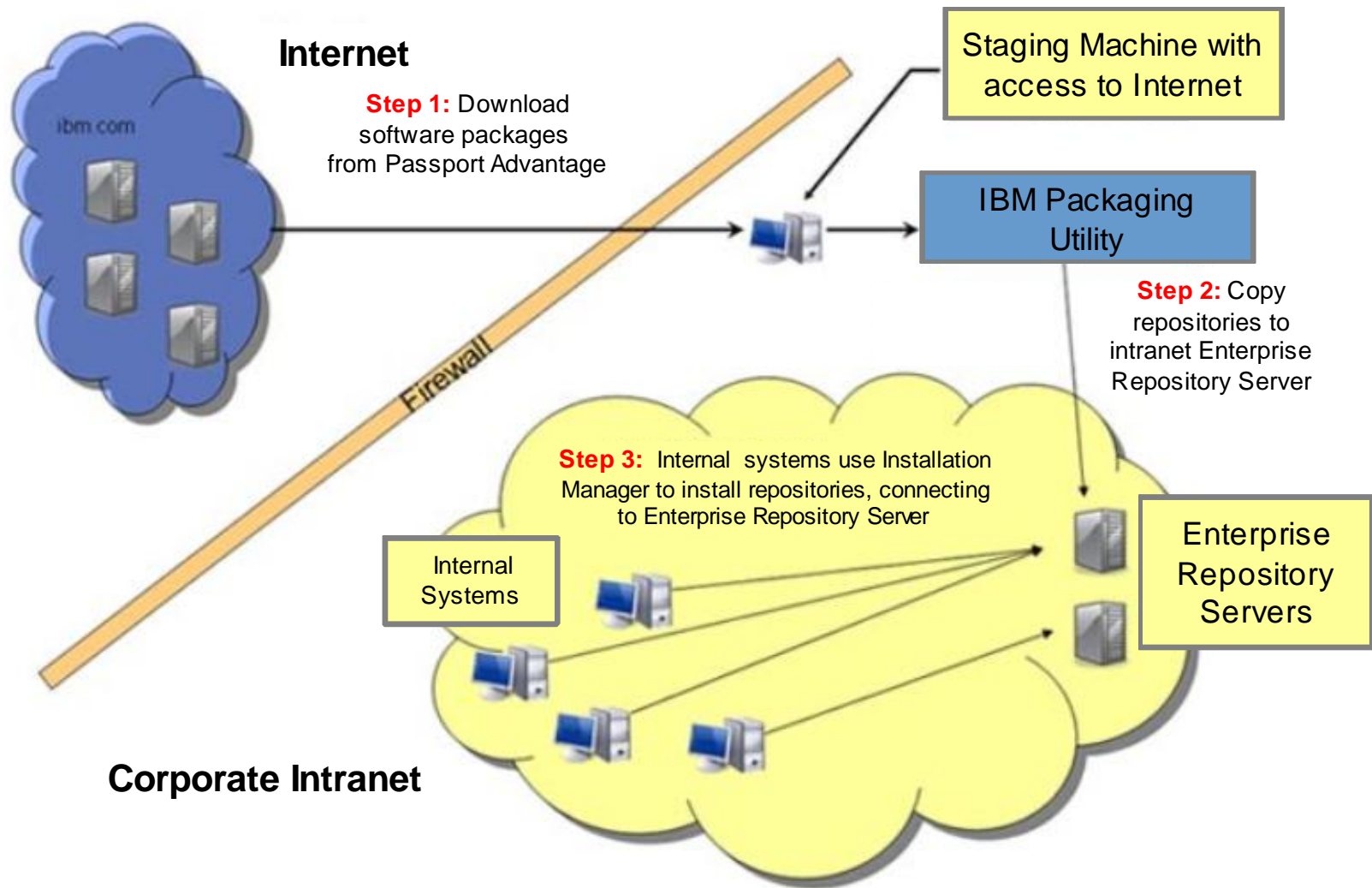- Don't extract files for different offerings to same directory

Example for extracting and adding Network Deployment and Supp. to IM:

```
WAS_V8.5.5_1_OF_3
WAS_V8.5.5_2_OF_3
WAS_V8.5.5_3_OF_3
```

→

```
disk1
disk2              C:\WAS855
disk3
lafiles
readme
Remote_Installation_Tool_for_IBM_i
responsefiles
Copyright
repository.config
```

```
disk1
disk2              C:\WAS855Suppl
disk3
lafiles
readme_appclient
readme_ihs
readme_plugclient
readme_plugins
readme_wct
Remote_Installation_Tool_for_IBM_i
responsefiles
Copyright
repository.config
```

```
WAS_V8.5.5_SUPPL_1_OF_3
WAS_V8.5.5_SUPPL_2_OF_3
WAS_V8.5.5_SUPPL_3_OF_4
```

→

Add Repository...

Repositories

Repositories:

Location
☑ C:\WAS855
☑ C:\WAS855Suppl

- It is okay to unzip repository files on one system (such as Windows) and move them to a different system (such as Linux) later

NOTE: Installation Manager's installer files should be extracted directly on the targeted system

Repositories in Enterprise

Internet

Step 1: Download software packages from Passport Advantage

Staging Machine with access to Internet

IBM Packaging Utility

Step 2: Copy repositories to intranet Enterprise Repository Server

Step 3: Internal systems use Installation Manager to install repositories, connecting to Enterprise Repository Server

Internal Systems

Enterprise Repository Servers

Firewall

Corporate Intranet

The IBM Packaging Utility

- The IBM Packaging Utility (PU) is a free companion tool to Installation Manager

- IBM Packaging Utility and IBM Installation Manager can be used independently of each other

- IBM Packaging Utility capabilities:

  ▸ Generate a new repository containing one or more product repositories

  ▸ Delete packages from an existing repository, such as unneeded fix pack levels

  ▸ Combine a split repository into a single repository (important for servers)

  ▸ Can extract offerings for a single operating system from a large repository, producing a smaller "platform-scoped" repository

  ▸ Repositories can be made available to your own organization using a Web Server or FTP Server

  ▸ Hosting a single repository containing multiple packages means fewer repositories need to be added to Installation Manager's preferences

  ▸ For more details on how to create Enterprise Repositories you can review WSTE : Managing Repositories for Installation of WebSphere Application Server V8 http://www.ibm.com/support/docview.wss?uid=swg27023967

Platform-scoped Repositories

- IBM Packaging Utility V1.5.1 offers a to create "platform-scoped repositories"

    ▸ The packages for an offering on a specific operating system and architecture can be extracted from one repository and copied into a different repository

    ▸ The resulting repository is a "platform-scoped repository"; that is, it contains an offering meant for a specific platform

    ▸ Please see the WebSphere Install Architect's article for complete details:

    http://www.ibm.com/developerworks/websphere/library/techarticles/1201_seelemann/1201_seelemann.html

- WebSphere Application Server V8.x platform-scoped repositories are significantly smaller than the full standard V8.x installation repositories

PUCL command with -platform parameter

```
pucl copy packageID_version -acceptLicense -repositories SOURCE_PATHS
-target TARGET_PATH -platform os=OS_CHOICE,arch=ARCH_CHOICE
```

- **packageID_version –** Represents the packageID and version, separated by an underscore character (_). The underscore and version is optional; if not specified, the latest available version will be used from the package. Refer to a repository's repository.xml file to find the offeringID and version values

- **SOURCE_PATHS –** List the paths to the source repositories, separated by comma characters

- **TARGET_PATH –** Specify the destination path for the generated repository

NOTE: Specify **-prompt** parameter if the repository requires authentication, such as on ibm.com

PUCL command with -platform parameter

```
pucl copy packageID_version -acceptLicense -repositories SOURCE_PATHS
-target TARGET_PATH -platform os=OS_CHOICE,arch=ARCH_CHOICE
```

- **OS_CHOICE –** Specify which operating system you want to extract from the specified source repositories

- **ARCH_CHOICE –** Specify which architecture (associated with the OS_CHOICE) you want to extract

Allowed values for OS_CHOICE and ARCH_CHOICE

Platform	Options	Resulting Repository
Windows	os=win32,arch=x86 os=win32	Windows 32 bit and 64 bit
Linux Intel	os=linux,arch=x86	Linux Intel 32 bit and 64 bit
Linux Power®	os=linux,arch=ppc	Linux Power 32 bit and 64 bit
zLinux	os=linux,arch=s390	zLinux 32 bit and 64 bit
AIX®	os=aix	AIX 32 bit and 64 bit
Solaris Sparc	os=solaris,arch=sparc	Solaris Sparc 32 bit and 64 bit
Solaris Intel	os=solaris,arch=x86	Solaris Intel 64 bit
HP-UX Itanium	os=hpux	HP-UX Itanium 64 bit
z/OS®	os=zos	z/OS

NOTE: Both 64-bit and 32-bit repositories are included in the generated platform-scoped repository. As of now the 32-bit and 64-bit packages cannot be separated

Important Directories

Installation Manager Modes

- **The Installation Manager can be used in one of three administrative modes:**

  - ▶ *Administrator mode* (Root user): Only one administrator Installation Manager can be installed per system

  - ▶ *User mode* (Non root user): One user mode Installation Manager can be installed per user

  - ▶ *Group mode:* All users in a predefined group can run the same instance of Installation Manager to manage packages that are enabled for group mode (**NOTE**: Group mode is not available for Windows)

Installation Manager Shared Data

- The **Shared Resources Directory** is used by Installation Manager:
  - To store artifacts that can be used by more than one product
  - As a "staging area" during install. All new artifacts are first transferred to the Shared Resources Directory. This process involves validating bytes using MD5 checksum to ensure all files are available and not corrupt
  - As a cache for rollback, without the need to connect to a repository
- Location is selected the first time a package is installed by Install Manager and cannot be changed or moved once selected
- Multiple products share this directory
- Choose location with reasonable free disk space
- Contents of this directory should not be deleted in an effort to conserve file system space (**NOTE**: Tips on reducing disk space are covered in Common issues section)
- This directory should not be deleted as long as any offering is installed

Sample Shared Resource directory from Windows

Name	Size	Type	Date Modified
atoc		File Folder	10/3/2011 2:01 PM
extra		File Folder	10/9/2011 3:47 PM
files		File Folder	10/9/2011 3:46 PM
native		File Folder	10/9/2011 3:46 PM
repository.config	1 KB	CONFIG File	10/3/2011 2:01 PM

C:\IBM\IMShared80

IMShared80
  atoc
    nq
  extra
    preserve
    trackex
  files
  native
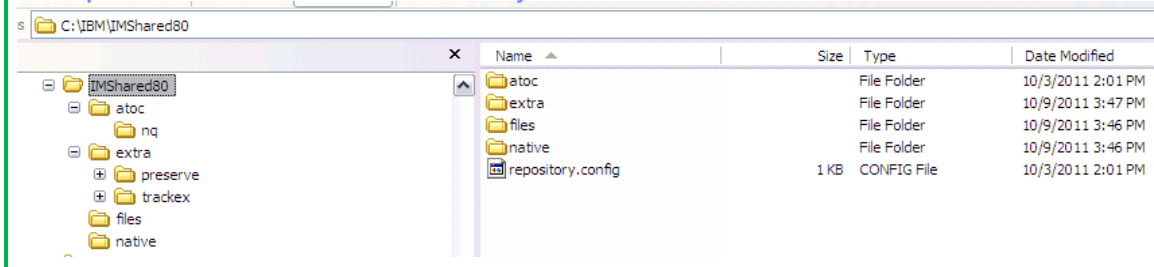
Installation Manager Shared Data

- ## Graphical
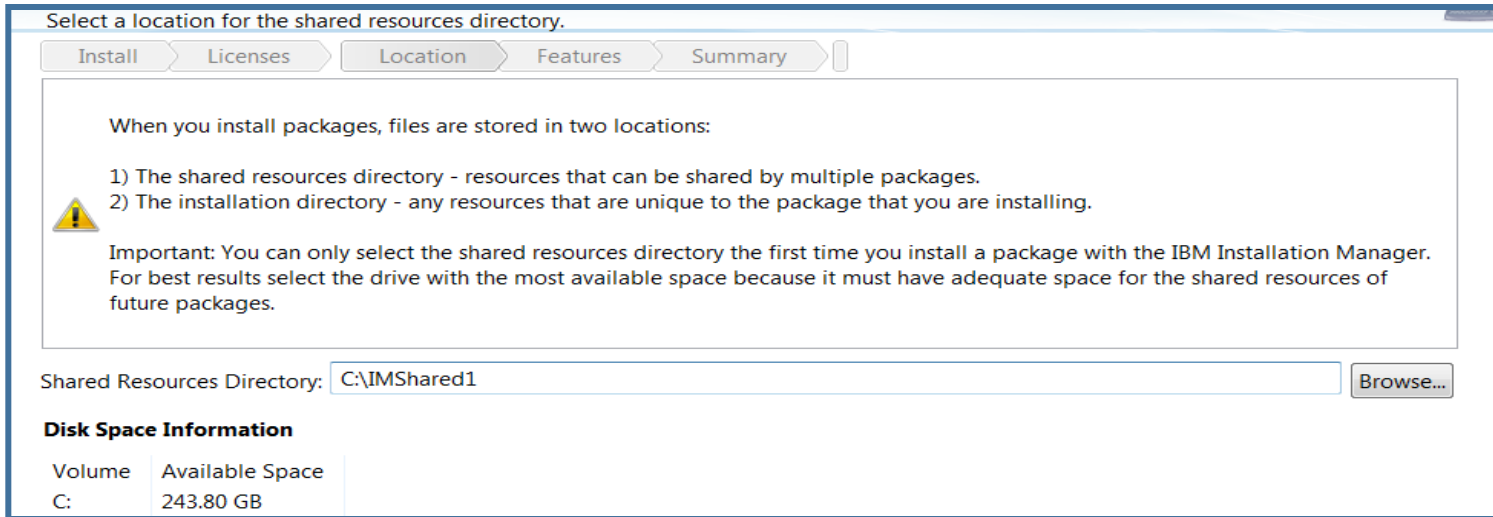
- ## Response file

```
<preference name='com.ibm.cic.common.core.preferences.eclipseCache'
value='C:\IBM\IMShared'/>
```

- ## Command line

```
-sharedResourcesDirectory C:\IM\im-shared_ws11
```

Installation Manager Agent Data

- **appDataLocation**, also called Installation Manager Agent Data Directory or IM_DATA directory
- Installation Manager uses the **Agent Data Location** (or **appDataLocation**) to store state and history about the installations it manages
- Default **Agent Data Location**

Operating system	Administrator installation	Nonadministrator installation	Group installation
Windows XP Professional	C:\Documents and Settings\All Users\Application Data\IBM \Installation Manager	C:\Documents and Settings\user\Application Data\IBM\Installation Manager	Not available.
Windows Vista, Windows 2008, Windows 7, Windows 8, and Windows 2012	C:\ProgramData \IBM\Installation Manager	C:\Users\user\AppData \Roaming\IBM\Installation Manager	Not available.
Linux and UNIX	/var/ibm /InstallationManager	/user_home_directory /var/ibm /InstallationManager	/user_home_directory /var/ibm /InstallationManager_Group

- Contents of **Agent Data**

Folder or file	Information
adapters	Directory location where adapters save information for rollbacks
bundles	Contains package bundles
.settings	Preferences
histories	Contains information about previous installations and uninstall procedures
installRegistry.xml	Contains information about known profiles and installed packages
installRegistry	Metadata for installed offerings
installed.xml	Contains information about the set of installation locations and installed packages
license	The license folder is empty for IBM products that do not use Installation Manager licensing.
logs	Agent log files
p2	Contains Eclipse p2 profile metadata
pluginState	Contains Eclipse plug-in state information and the Eclipse error log file
temp	Contains temporary file during installation
uninstall	Contains an executable file and other files needed for uninstalling packages

Installation Manager Agent Data

- **appDataLocation**, also called Installation Manager Agent Data Directory or IM_DATA directory
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- Default **Agent Data Location**

Operating system	Administrator installation	Nonadministrator installation	Group installation
Windows XP Professional	C:\Documents and Settings\All Users\Application Data\IBM \Installation Manager	C:\Documents and Settings\user\Application Data\IBM\Installation Manager	Not available.
Windows Vista, Windows 2008, Windows 7, Windows 8, and Windows 2012	C:\ProgramData \IBM\Installation Manager	C:\Users\user\AppData \Roaming\IBM\Installation Manager	Not available.
Linux and UNIX	/var/ibm /InstallationManager	/user_home_directory /var/ibm /InstallationManager	/user_home_directory /var/ibm /InstallationManager_Group

- Contents of **Agent Data**

Folder or file	Information
adapters	Directory location where adapters save information for rollbacks
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installed.xml	Contains information about the set of installation locations and installed packages
license	The license folder is empty for IBM products that do not use Installation Manager licensing.
logs	Agent log files
p2	Contains Eclipse p2 profile metadata
pluginState	Contains Eclipse plug-in state information and the Eclipse error log file
temp	Contains temporary file during installation
uninstall	Contains an executable file and other files needed for uninstalling packages

Installation Manager Agent Data

- Once Installation Manager is installed, the appDataLocation cannot be changed

- If directory is lost or corrupt, future updates to the product can be affected
  - ▸ Products will run fine but cannot be updated or uninstalled

- Recommended to backup this directory when WAS backup is taken

- The default can be changed by installing IM with **-dL** or **-dataLocation** option
  - ▸ Example for Graphical Install
    - – **./userinst -dL /usr/IBM/AppData (non root)**
    - – **./install -dL /opt/IBM/AppData   (root)**

- The user can use different appDataLocation for each product by specifying the **dataLocation (or –dL)** option when starting Installation Manager, and then should use the same option on subsequent invocations
  - ▸ User needs to maintain record of data agent used for each install

Install Options (Graphical, Silent and Command mode)

Installation Manager graphical options

IM can be started using IBMIM.exe (windows) from IM_HOME/eclipse

The **Install** wizard walks you through installing new products

The **Update** wizard discovers and installs updates and fixes

The **Modify** wizard can add or remove product features

IBM Installation Manager

IBM. Installation Manager

Install — Install software packages.

Update — Discover and install updates and fixes to installed software packages.

Modify — Change installed software packages by adding or removing features and functions.

Manage Licenses

Import

Roll Back
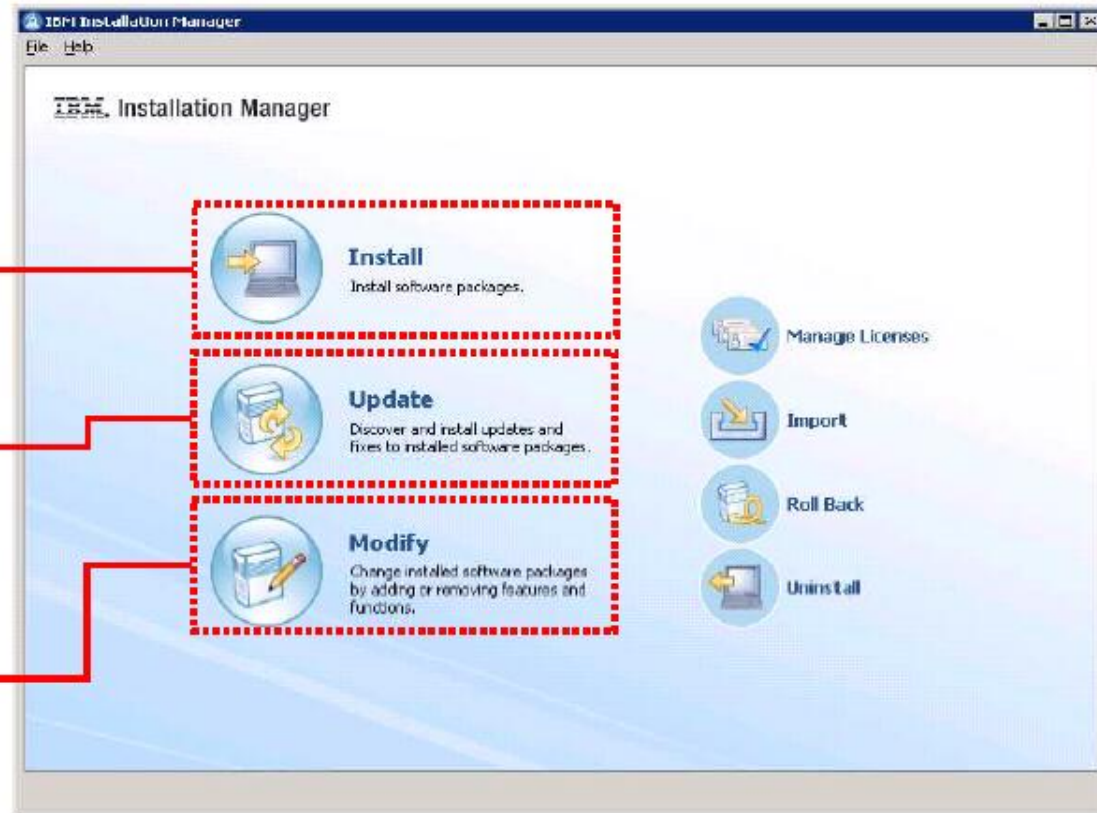
Uninstall

Installation Manager graphical options
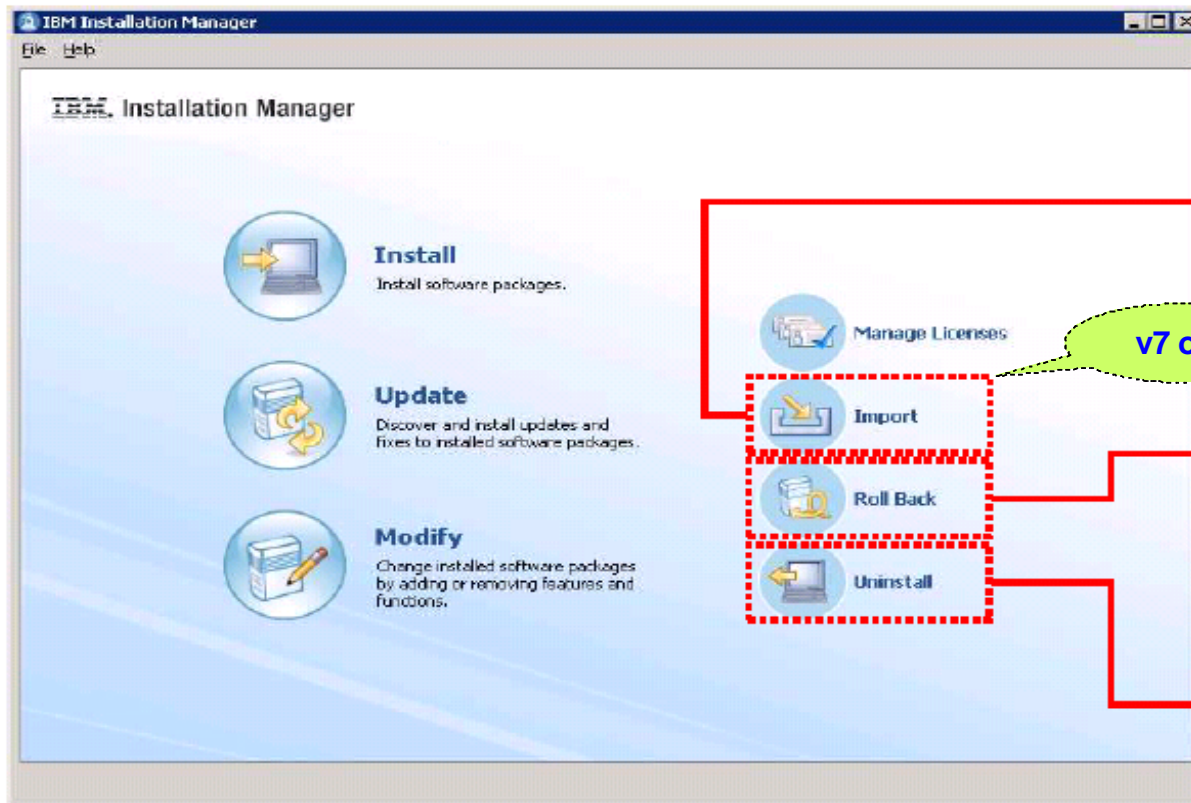
The **Import** wizard associates the installation manager with external software packages

The **Roll Back** wizard removes service

The **Uninstall** wizard removes software packages from your computer

v7 only

Silent Install

- Silent install is performed using a response file

  ▶ <u>Sample response file</u> from Information Center is available

  ▶ Response file can also be recorded

- Response file is in xml format

- Same command (such as "imcl") is used for installing, uninstalling, updating, or rolling back

  ▶ Only need to change options in the response file in order to perform different operations

- A single response file can perform multiple offerings install

- IM_HOME/eclipse/tools
  imcl -acceptLicense input /usrt/installv8.xml -log /tmp/log.xml -sP

Recording a response file

- IM graphical interface will indicate that it is recording response file
    - CMD: *IBMIM -skipInstall C:\RecordV8 -record installv8_n.xml*

Installation Manager In Record Mode
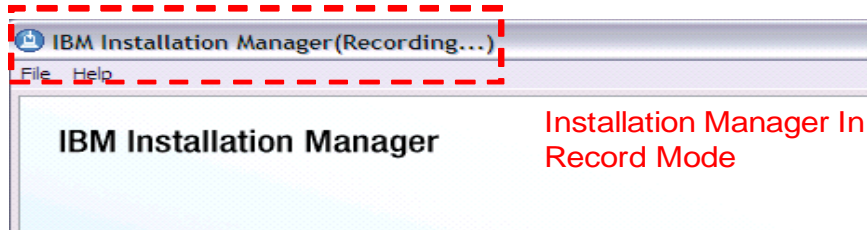
- Don't specify IM's true *agent data directory* with **skipInstall** – recommend using a dummy repository instead

- Once response file is recorded, you can use it on another system (edit PATHS as needed for the new system)

- Keep the same dummy agent data directory to allow you to record response files for future updates, installs, or uninstalls for the same environment when using -skipInstall

- Useful when response file needed to record multiple offerings in one install attempt

```
<?xml version="1.0" encoding="UTF-8"?>
<!--The "acceptLicense" attribute has been deprecated. Use "-acceptLicense" command line option to accept license agreements.-->
<agent-input acceptLicense='true'clean="true" temporary="true">

<server>
<repository location='C:\IBM\REP\WSAS8ENT\repository.config'/>
</server>
```

Repository Details

```
<profile id='IBM WebSphere Application Server Network Deployment V8.0' installLocation='C:\IBM\WebSphere\AppServer8005'>
<data key='eclipseLocation' value='C:\IBM\WebSphere\AppServer8005'/>
<data key='user.import.profile' value='false'/>
<data key='cic.selector.nl' value='en'/>
</profile>
```

eclipse location is always offering home

Offering Details

```
<install modify='false'>
<offering id='com.ibm.websphere.ND.v80' version='8.0.5.20121022_1902' profile='IBM WebSphere Application Server Network Deployment
V8.0' features='core.feature,ejbdeploy,thinclient,embeddablecontainer,com.ibm.sdk.6_64bit' installFixes='none'/>
</install>
```

Install Options

```
<preference name='com.ibm.cic.common.core.preferences.eclipseCache' value='C:\IBM\IMSharednw'/>
```

Shared Directory Resource

```
<preference name='com.ibm.cic.common.core.preferences.connectTimeout' value='30'/>
<preference name='com.ibm.cic.common.core.preferences.readTimeout' value='45'/>
<preference name='com.ibm.cic.common.core.preferences.downloadAutoRetryCount' value='0'/>
<preference name='offering.service.repositories.areUsed' value='false'/>
<preference name='com.ibm.cic.common.core.preferences.ssl.nonsecureMode' value='false'/>
<preference name='com.ibm.cic.common.core.preferences.http.disablePreemptiveAuthentication' value='false'/>
<preference name='http.ntlm.auth.kind' value='NTLM'/>
<preference name='http.ntlm.auth.enableIntegrated.win32' value='true'/>
<preference name='com.ibm.cic.common.core.preferences.preserveDownloadedArtifacts' value='true'/>
<preference name='com.ibm.cic.common.core.preferences.keepFetchedFiles' value='false'/>
<preference name='PassportAdvantageIsEnabled' value='false'/>
<preference name='com.ibm.cic.common.core.preferences.searchForUpdates' value='false'/>
<preference name='com.ibm.cic.agent.ui.displayInternalVersion' value='false'/>
<preference name='com.ibm.cic.common.sharedUI.showErrorLog' value='true'/>
<preference name='com.ibm.cic.common.sharedUI.showWarningLog' value='true'/>
<preference name='com.ibm.cic.common.sharedUI.showNoteLog' value='true'/>
</agent-input>
```

Sample Response file to install WAS, IHS, WCT – v8.5.5.6

```xml
<agent-input>
  <variables>
    <variable name='sharedLocation' value='C:\M\IMShared'/>
  </variables>
  <server>
    <repository location='C:\IBM\Rep85'/>
  </server>
  <profile id='IBM HTTP Server V8.5' installLocation='C:\IBM\HTTPServer'>
    <data key='cic.selector.arch' value='x86'/>
    <data key='user.ihs.http.server.service.name' value='none'/>
    <data key='user.ihs.httpPort' value='80'/>
    <data key='user.ihs.installHttpService' value='false'/>
    <data key='user.ihs.http.server.service.name.key' value='IBMHTTPServerV8.5'/>
    <data key='user.ihs.win.serverServiceLogOnAsLocalSystem' value='true'/>
    <data key='user.ihs.win.serverServiceStartType' value='auto'/>
  </profile>
  <install>
    <!-- IBM HTTP Server for WebSphere Application Server 8.5.5.6 -->
    <offering profile='IBM HTTP Server V8.5' id='com.ibm.websphere.IHS.v85' version='8.5.5006.20150529_0536' features='core.feature,arch.32bit'/>
  </install>
  <profile id='IBM WebSphere Application Server V8.5' installLocation='C:\IBM\WebSphere\AppServer'>
    <data key='cic.selector.arch' value='x86'/>
  </profile>
  <install>
    <!-- IBM WebSphere Application Server 8.5.5.6 -->
    <offering profile='IBM WebSphere Application Server V8.5' id='com.ibm.websphere.BASE.v85' version='8.5.5006.20150529_0536'
    features='core.feature,ejbdeploy,thinclient,embeddablecontainer,com.ibm.sdk.6_64bit'/>
  </install>
  <profile id='WebSphere Customization Toolbox V8.5' installLocation='C:\IBM\WebSphere\Toolbox'>
    <data key='cic.selector.arch' value='x86'/>
  </profile>
  <install>
    <!-- WebSphere Customization Toolbox  8.5.5.6 -->
    <offering profile='WebSphere Customization Toolbox V8.5' id='com.ibm.websphere.WCT.v85' version='8.5.5006.20150529_0536' features='core.feature,pct'/>
  </install>
  <preference name='com.ibm.cic.common.core.preferences.eclipseCache' value='${sharedLocation}'/>
  <preference name='offering.service.repositories.areUsed' value='false'/>
</agent-input>
```

GenerateResponseFile option (starting IM 1.7.0)

- Used to generate response files from packages in a repository or from installed packages

- The following options are common to both methods of generating a response file:
  - To filter the packages included in the generated response file, you must specify one or more package IDs on the command line after the **generateResponseFile** option. Only packages or fixes with one of those IDs are included in the output

  - By default, the generated response file is displayed on the console. To include the output in a file, use the **-output** output_file command

- When you do not specify the **-repositories** or the **-connectPassportAdvantage** option, the generateResponseFile command generates a response file that is based on the packages that are currently installed

Generating a response file from packages in a repository

Run either the -repositories or -connectPassportAdvantage command with these options:

```
imcl generateResponseFile -repositories source_repository
imcl generateResponseFile -connectPassportAdvantage
imcl generateResponseFile [packageId[_Version]]... -repositories source_repository
imcl generateResponseFile [packageId[_Version]]... -connectPassportAdvantage
```

Generating a response file from installed packages

```
imcl generateResponseFile -installation_directory installation_directory
imcl generateResponseFile [packageId[_Version]]...
[-installationDirectory]
```

imcl command options

- The imcl command is used to run most Installation Manager commands:

  - imcl install

  - imcl uninstall

  - imcl listAvailablePackages

  - imcl listAvailableFixes

  - imcl listInstalledPackages

  - imcl version

  - imutilsc command is used to create credentials files for accessing secured repositories

  - imcl rollback

  - On details on usage of the imcl command please check Blog
    How to use imcl command to view the list of the packages, updates, and features in a source repository https://ibm.biz/BdX9sV

- imcl and imutilsc reside in **<IM_install_directory>/eclipse/tools**

Examples of imcl commands

./imcl listInstalledPackages -long
/opt/IBM/WebSphere/AppServer : com.ibm.websphere.IBMJAVA.v70_7.0.6001.20140324_2202 : IBM WebSphere SDK Java Technology Edition (Optional) : 7.0.6.1
/opt/IBM/WebSphere/AppServer : com.ibm.websphere.ND.v85_8.5.5002.20140408_1947 : IBM WebSphere Application Server Network Deployment : 8.5.5.2
/opt/IBM/WebSphere/AppServer : 8.5.5.0-WS-WASProd-IFPI15756_8.5.5000.20140411_1012 : 8.5.5.0-WS-WASProd-IFPI15756 : 8.5.5000.20140411_1012
/opt/IBM/WebSphere/AppServer : 8.5.5.2-WS-WAS-IFPI15581_8.5.5002.20140411_1052 : 8.5.5.2-WS-WAS-IFPI15581 : 8.5.5002.20140411_1052

imcl listAvailablePackages -repositories C:\IBM\REP\WSAS8.5\855Fixpack
com.ibm.websphere.BASE.v85_8.5.5000.20130514_1044
com.ibm.websphere.BASETRIAL.v85_8.5.5000.20130514_1044
com.ibm.websphere.DEVELOPERS.v85_8.5.5000.20130514_1044
com.ibm.websphere.DEVELOPERSILAN.v85_8.5.5000.20130514_1044
com.ibm.websphere.EXPRESS.v85_8.5.5000.20130514_1044
com.ibm.websphere.EXPRESSTRIAL.v85_8.5.5000.20130514_1044
com.ibm.websphere.ND.v85_8.5.5000.20130514_1044
com.ibm.websphere.NDDMZ.v85_8.5.5000.20130514_1044
com.ibm.websphere.NDDMZTRIAL.v85_8.5.5000.20130514_1044
com.ibm.websphere.NDTRIAL.v85_8.5.5000.20130514_1044

imcl -install

- Install one or more packages:

  imcl   install \<package>

      -installationDirectory   \<where to install>

      -repositories \<list of repository URL's, separated by commas>

      -sharedResourcesDirectory   \<cache location>

      -acceptLicense

- If no package version is specified, then the highest version (usually the most

  recent) is installed: com.ibm.websphere.ND.v85

- To specify a particular version:

com.ibm.websphere.ND.v85_8.5.5006.20150529_0536

- See the service website or **listAvailablePackages** output for exact versions

Example of imcl install option

./imcl install
com.ibm.websphere.ND.v85,core.feature,ejbdeploy,thinclient,embeddablecontainer,com.ibm
.sdk.6_64bit **-repositories** C:\WAS855,C:\WAS8556 **-installationDirectory**
/opt/IBM/WAS8556 **-sharedResourcesDirectory** /opt/IBM/IMShared **-sP –acceptLicense**
–log installv8.xml -*preferences*
*offering.service.repositories.areUsed=**true**,com.ibm.cic.common.core.preferences.ke*
epFetchedFiles=false,com.ibm.cic.common.core.preferences.preserveDownloadedArt
ifacts=false

```
25%        50%        75%        100%
-----------------|----------------|----------------|----------------|
.......................................................................
```
Installed com.ibm.websphere.ND.v85_8.5.5006.20150529_0536 to the /opt/IBM/WAS8556
directory.

Check installv8.xml for any error.
The following log entry will show success:
```
<?xml version="1.0" encoding="UTF-8"?>
<result>
</result>
```

Rollback vs Uninstall

- **<u>Rollback</u>:** Used to uninstall the current fixpack and go to previously installed fixpack

- **<u>Uninstall</u>:** Option is used to uninstall the offering and also any ifixes installed. If uninstall option is used to uninstall fixpack it will remove the complete offering

Using the imcl command to rollback WebSphere Application Server fix packs
https://ibm.biz/BdXB5R

ROLLBACK ⟶ Roll Back

Install 8.0.2 then Update to 8.0.3 + ifixes

Roll back option will allow to rollback to 8.0.2

Update

⌐ IBM WebSphere Application Server Network Deployment V8.0
  ⌐ IBM WebSphere Application Server Network Deployment 8.0.0.3
    8.0.0.3-WS-WAS-IFPM59222 8.0.3.20120411_1347
    8.0.0.3-WS-WAS-IFPM60670 8.0.3.20120418_0856
    8.0.0.3-WS-WAS-IFPM61934 8.0.3.20120417_1256
    8.0.0.3-WS-WASND-IFPM57966 8.0.3.20120330_1504

Roll Back Packages

Select the packages to roll back to.

Rollback Packages	Dependency	Vendor
⌐ ✓ IBM WebSphere Application Server Network Deplc		
⌐ ✓ IBM WebSphere Application Server Network De		
✓ Version 8.0.0.2		IBM

UNINSTALL ⟶ Uninstall

Uninstall Packages

Select packages to uninstall.

Installation Packages	Version	Vendor
⌐ ☐ IBM WebSphere Application Server Networ		
⌐ ☐ IBM WebSphere Application Server Net 8.0.0.2		IBM
☐ 8.0.0.0-WS-WAS-IFPM53088	8.0.0.20120119_1607	
✓ 8.0.0.2-WS-WAS-TFPM62659	8.0.2.20120417_2033	
☐ WebSphere Virtual Enterprise	7.0.0.1	IBM
⌐ ✓ IBM WebSphere Application Server Networ		
✓ IBM WebSphere Application Server Net 8.0.0.1		IBM

Select to Uninstall IFIX

Select to Uninstall Product

Uninstall fixpack – Rollback 8.0.5 - 8.0.3

Installed 8.0.3. Updated to 8.0.5. Now need to move back to 8.0.3

- **Graphical Mode**

  Roll Back

  Roll Back Packages
  Select a package group to find rollback packages for.

Package Group Name	Directory
IBM WebSphere Application Server Network Deployment V8.0	C:\IBM\WebSphere\AppServer8003
IBM WebSphere Application Server V8.0	C:\IBM\WebSphere\AppServer8000

  Roll Back Packages
  Select the packages to roll back to.

Rollback Packages	Dependency	Vendor
☑ IBM WebSphere Application Server Network Deplo		
☑ IBM WebSphere Application Server Network De		
☑ Version 8.0.0.3		IBM

- **Response File** *(only showing rollback section)*

  <rollback>
      <offering id='com.ibm.websphere.ND.v80' version='8.0.3.20120320_0536' profile='IBM WebSphere Application Server Network Deployment V8.0' features=''/>
  </rollback>

- **imcl command**

  ./imcl rollback *com.ibm.websphere.ND.v80_8.0.3.20120320_0536* -repositories C:\IBM\fixpack803 -installationDirectory *C:\IBM\WebSphere\AppServer*

NOTE: If file saved for rollback option is selected then repository is not needed

Installation Manager commands - uninstall

- Uninstall one or more packages or ifixes

  imcl   uninstall   <package> -installationDirectory   <where product is installed>

  Example

  To uninstall WAS v8.5

  imcl   uninstall   com.ibm.websphere.ND.v85   -installationDirectory /usr/IBM/WebSphere/V85

  - Only the selected product package is uninstalled
  - You may have to delete any remaining files at the installation location before re-using that location for a new install

  To uninstall an ifix

  /imcl uninstall 8.5.5.5-WS-WAS-IFPI39793 -installationDirectory /usr/IBM /WebSphere/V85

NOTE: When uninstalling ifix we should specify ifix ID only

IM console mode - imcl -c

- **WAS offerings don't use console mode for install/update/modify/uninstall options**

- This option can be used to manage preferences and repositories in IM in silent mode

```
C:\IBM\Installation Manager\eclipse\tools>imcl -c

=====> IBM Installation Manager

Select:                          These options not supported by WAS offerings 8.x
    1. Install - Install software packages
    2. Update - Find and install updates and fixes to installed software packages
    3. Modify - Change installed software packages
    4. Roll Back - Revert to an earlier version of installed software packages
    5. Uninstall - Remove installed software packages

Other Options:                   These options can be used
    L. View Logs
    S. View Installation History
    U. View Installed Packages
    -----------------------
    P. Preferences
    -----------------------
    A. About IBM Installation Manager
    -----------------------
    X. Exit Installation Manager

-----> X
```

Best Practices
and
Common Issues

IM Shared Directory - Files for Rollback

- The Shared Resources Directory can consume a lot of disk space. To save on space you can select not to save files for rollback
  - ▸ **Graphical**:
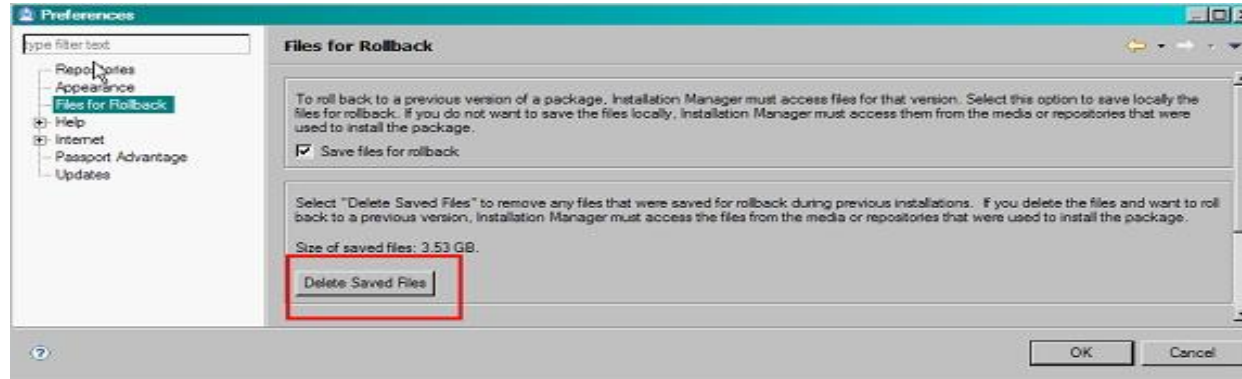
  - ▸ **Response File**: **–preferences com.ibm.cic.common.core.preferences.preserveDownloadedArtifacts = false**
  - ▸ **Command Line**: **imcl -c > select P > then 3**

```
=====> IBM Installation Manager> Preferences> Files for Rollback

To roll back to a previous version of a package, Installation Manager must access files for that
version. Select this option to save locally the files for rollback. If you do not want to save th
e files locally, Installation Manager must access them from the media or repositories that were u
sed to install the package.

    1. [X] Save files for rollback

Select "Delete Saved Files" to remove any files that were saved for rollback during previous inst
allations. If you delete the files and want to roll back to a previous version, Installation Mana
ger must access the files from the media or repositories that were used to install the package.

Size of saved files: 962.82 MB.

    D. Delete Saved Files

    R. Restore Defaults
    A. Apply Changes and Return to Preferences Menu
    P. Temporarily Keep Changes and Return to Preferences Menu
```

Continued.

- **Never delete or alter contents of this directory manually**
  - ▶ In case option for saving files for rollback is not selected, there are still files in IMShared which should not be deleted or modified

- **Though this will save a lot of space, but in the event of a rollback you will need access to the repository**
  - ▶ Note that artifacts will be staged here during install, so the space is still needed at install/update time

- **To list the Shared Resources Directory and directories for all installed packages**

  imcl listInstallationDirectories -verbose

  Example
  > *Shared resources directory: C:\Program Files\IBM\IBMIMShared*
  > *[Package group]*
  > *Name: IBM WebSphere Application Server Network Deployment V8.0*
  > *Installation directory: C:\Program Files\IBM\WebSphere\DemoAppServer*
  > *Translations: English (en)*

Commands to install IM

Installation Manager installation goal	Windows commands	Linux and UNIX commands
An administrator for the operating system installs Installation Manager for all users.	**install.exe** or **installc.exe** to install silently	**#install** or **#installc** to install silently
A nonadministrator for the operating system installs Installation Manager for all users.	Windows 2000 and Windows XP Professional: You cannot install Installation Manager for all users as a nonadministrator. Windows Vista, Windows 2008, and Windows 7: **install.exe** or **installc.exe** to install silently You are prompted to enter an administrator user ID and password.	**$sudo install** or **$sudo installc** to install silently
Installs Installation Manager for all users in group mode.	Not available.	**#groupinst** or **#groupinstc –dataLocation** *application_data_location* to install silently You can customize the install.xml file with additional configuration, such as the directory to install Installation Manager.
An administrator for the operating system installs Installation Manager only for the current user.	**userinst.exe** or **userinstc.exe** to install silently	**#userinst** or **#userinstc** to install silently
A nonadministrator for the operating system installs Installation Manager only for the current user.	**userinst.exe** or **userinstc.exe** to install silently	**$userinst** or **#userinstc** to install silently

Default IM install location

	Administrator	**Nonadministrator**	**Group**
Default installation directory	Windows XP Professional: `C:\Program Files\IBM\Installation Manager` Windows Vista, Windows 2008, Windows 7, Windows 8, and Windows 2012: `C:\Program Files [(x86)]\IBM \Installation Manager` Linux and UNIX: `/opt/IBM /InstallationManager` IBM i: `/QIBM/ProdData /InstallationManager` z/OS: `/InstallationManager/bin` OS X operating system: `/Applications /IBM/Installation Manager`	Windows XP Professional: `C:\Documents and Settings\user\IBM\Installation Manager` Windows Vista, Windows 2008, Windows 7, Windows 8, and Windows 2012: `C:\Users\user\IBM \Installation Manager` Linux and UNIX: `/user_home_directory /IBM/InstallationManager` IBM i: `/user_home_directory /IBM/InstallationManager` z/OS: `/user_home_directory /InstallationManager/bin` OS X operating system: `/Users /user_home_directory /IBM/Installation Manager`	Linux and UNIX: `/user_home_directory /IBM/InstallationManager_Group` z/OS: `/InstallationManager/bin` OS X operating system: `/Users /user_home_directory /InstallationManager_Group`

Silent install of IM to non Default location

- Open the directory where you extracted the installation files
- Locate and open the response install.xml file
- Update the file with the location for installing Installation Manager. You must use the profile command to specify the installation location
- **Restriction**: The installation location must be a directory named eclipse

Example

- This example shows the install.xml file before the changes

```xml
<?xml version="1.0" encoding="UTF-8"?>
<agent-input clean='true' temporary='true'>

    <server>
        <repository location='.'/>
    </server>

    <install>
        <offering features='agent_core,agent_jre' id='com.ibm.cic.agent' version='1.6.0000.20120905_1714'/>
    </install>
</agent-input>
```

- This example shows the install.xml file after adding the profile command

```xml
<?xml version="1.0" encoding="UTF-8"?>
<agent-input clean='true' temporary='true'>

    <profile kind='self' installLocation='C:\IBM\InstallationManager\eclipse' id='IBM Installation Manager'>
    </profile>

    <server>
        <repository location='.'/>
    </server>

    <install>
        <offering features='agent_core,agent_jre' id='com.ibm.cic.agent' version='1.6.0000.20120905_1714' />
    </install>

</agent-input>
```

IM reinstallIM Option (starting IM 1.6.0)

- Installation Manager might become unresponsive because an update of Installation Manager failed or the program files became corrupted

- Installation files from the same version or a later version of the installed version of Installation Manager
    - ▸ Installing an earlier version can cause issues that cannot be recovered

- **Graphical**

Operating system	Administrator	Nonadministrator	Group
Windows	install.exe –reinstallIM	userinst.exe –reinstallIM	Not available
Linux, UNIX, and the Mac OS X operating system	./install –reinstallIM	./userinst –reinstallIM	./groupinst –dataLocation /*user_home_directory*/var/ibm/InstallationManager_Group –reinstallIM

- **Silent**

Operating system	Administrator	Nonadministrator	Group	input command
Windows	installc.exe –reinstallIM –acceptLicense	userinstc.exe –reinstallIM –acceptLicense	Not available.	imcl.exe input *response_file* –reinstallIM –repositories *installation_files_dir* –acceptLicense
Linux, UNIX, IBM i, IBM z/OS®, and the Mac OS X operating system	./installc –reinstallIM –acceptLicense	./userinstc –reinstallIM –acceptLicense	./groupinstc –dataLocation /*user_home_directory*/var/ibm/InstallationManager_Group –reinstallIM –acceptLicense Group mode is not supported on IBM i.	./imcl input *response_file* –reinstallIM –repositories *installation_files_dir* –acceptLicense

- **Command line**

Operating system	install command
Windows	imcl.exe install com.ibm.cic.agent –reinstallIM –repositories *installation_files_dir* –acceptLicense
Linux, UNIX, IBM i, IBM z/OS®, and the Mac OS X operating system	./imcl install com.ibm.cic.agent –reinstallIM –repositories *installation_files_dir* –acceptLicense

NOTE: If -dL option was used to install IM initially, please add it

Convert 32 IM to 64 bit IM

- This can be done. You can use the -reinstallIM option to replace the 32-bit version of Installation Manager with the 64-bit version without affecting the existing install

"Changing the bit mode of Installation Manager"
https://ibm.biz/BdXxaG

- Installation files from the same version or a later version of the installed version of Installation Manager

IM 1.6.2 Graphical issue with AIX

- Eclipse changed the window system requirement from motif to gtk on UNIX operating systems

- Starting IM 1.6.2 for AIX, this Eclipse window system change requires the gtk libraries to be installed to support the GUI

- These GTK libraries is requirement for PMT /WCT to run for WAS 8.x and is documented in WAS 8.x infocenter

Required gtk libraries for Installation Manager on AIX
http://www.ibm.com/support/docview.wss?uid=swg21631478

Install of optional JAVA 7.x

- Java 6 is the product's default Java SDK that is installed
- Java 7.0 was shipped as an optional feature that can be installed with WAS v8.5.0.0
- Java 7.1 is shipped with WAS v8.5.5.2 (in a full installation) which can be installed as an optional feature on WAS v8.5.5.2 or higher (not available for WAS running on Solaris/HP)

Note: WAS v8.5.5.2 with Java 7.0 installed cannot update from Java 7.0 to Java 7.1., Java 7.1 is a different version of Java and has to be installed on an existing installation to take advantage of the Java 7.1 features. Once this is complete, 3 JDKs will exist:

java ——— JAVA 6	4/29/2014 2:15 PM	File folder
java_1.7.1_64 ——— JAVA 7.1	5/28/2014 4:28 PM	File folder
java_1.7_64 ——— JAVA 7.0	4/29/2014 2:20 PM	File folder

- Installing the optional Java 7.0 or Java 7.1 does not imply that profiles can take advantage of this new version of Java. The *managesdk* command has to be used to switch Java (Admin Console or wsadmin can be used). Please review the blog for more details:
  Installing optional Java 7.x on WebSphere Application Server 8.5
  https://ibm.biz/BdXbXb

Best Practices for Backup of IM installs

- When doing backup of an offering we recommend to **take backup of IMShared and DataAgent at the same date** and time specially before and after applying fixpack, ifxes or any install being done using the IM

- When doing restore it is recommended that **all 3 directories** that is **offering, IMShared** and **data agent** should be **restored from same time frame**

- For IM backup:
    - http://pic.dhe.ibm.com/infocenter/install/v1r6/index.jsp?topic=%2Fcom.ibm.cic.agent. ui.doc%2Ftopics%2Ft_im_backup.html

- If home directory of an offering is only restored after failure during update or install of any other offering then the IM Data gets out of sync., with installed offerings like WAS, IHS, plugin etc. There is no way to recover this except to install all the products managed by IM again

- **NOTE:** The above recommendation for backup is applicable if you are updating WebSphere Application Server offerings. If updating any additional offering using IM at the same time, please follow documentation for the backup of the offering in addition to the above steps

Problem: Why the second install of WAS on the same machine is not working with following response file ?

Install 1 :

```
<profile id='IBM WebSphere Application Server V8.0_1'
installLocation='C:\IBM\WebSphere\AppServer8000'>
<data key='eclipseLocation' value='C:\IBM\WebSphere\AppServer8000'/>
<data key='user.import.profile' value='false'/>
<data key='cic.selector.os' value='win32'/>
<data key='cic.selector.arch' value='x86'/>
<data key='cic.selector.ws' value='win32'/>
<data key='cic.selector.nl' value='en'/>
</profile>
<install modify='false'>
<offering id='com.ibm.websphere.ND.v80' profile='IBM WebSphere
Application Server V8.0_1'
features='core.feature,ejbdeploy,thinclient,embeddablecontainer,com.ibm.sdk.6_6
4bit'/>
</install>
```
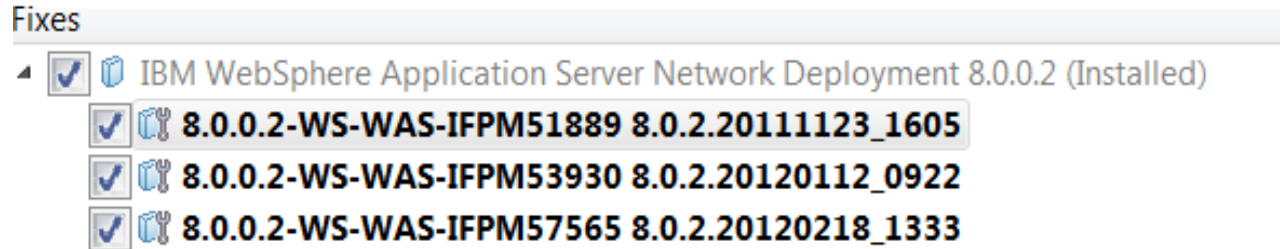
Install 2:

```
<profile id='IBM WebSphere Application Server V8.0_1'
installLocation='C:\IBM\NewInstall'>
<data key='eclipseLocation' value='C:\IBM\NewInstall'/>
<data key='user.import.profile' value='false'/>
<data key='cic.selector.os' value='win32'/>
<data key='cic.selector.arch' value='x86'/>
<data key='cic.selector.ws' value='win32'/>
<data key='cic.selector.nl' value='en'/>
</profile>
<install modify='false'>
<offering id='com.ibm.websphere.ND.v80'
profile='IBM WebSphere Application Server V8.0_1'
features='core.feature,ejbdeploy,thinclient,embeddablecontainer,com.ibm.sdk.6_6
4bit'/>
</install>
```

▸ **Profile id or Package Group Name should be unique for each install.** This is chosen automatically by Installation Manager during GUI or command line mode. **Can be customized with response file**

▸ To find for Profile ID for installed products: **imcl listInstalledPackages -verbose**

```
[Package group]
Name: IBM WebSphere Application Server V8.0
Installation directory: C:\IBM\WebSphere\AppServer8000
Translations: English (en)

[Package]
Name: IBM WebSphere Application Server Network Deployment (com.ibm.websphere.ND.v80)
Version: 8.0.0.5 (8.0.5.20121022_1902)
Repository: http://9.37.128.96
Features:
    IBM 64-bit SDK for Java, Version 6 (com.ibm.sdk.6_64bit)
    EJBDeploy tool for pre-EJB 3.0 modules (ejbdeploy)
    Embeddable EJB container (embeddablecontainer)
    Stand-alone thin clients and resource adapters (thinclient)
Fixes:
    None
```

Problem: When install location same but profileID is different

Current Install

Location: C:\IBM\WebSphere\AppServerBPMTest

ProfileID: IBM WebSphere Application Server Network Deployment : 8.0.0.2

```
<profile id='test1'  installLocation='C:\IBM\WebSphere\AppServerBPMTest'>
<data key='eclipseLocation' value='C:\IBM\WebSphere\AppServerBPMTest'/>
<data key='user.import.profile' value='false'/>
<data key='cic.selector.nl' value='en'/>
</profile>
<install modify='false'>
<offering id='com.ibm.websphere.ND.v80' profile='test1'
features='core.feature,ejbdeploy,thinclient,embeddablecontainer,com.ibm.sdk.6_64bit' installFixes='all'/>
</install>
```

Options used for second install in Response file

```
C:\IBM\Installation Manager\eclipse\tools>imcl input was.xml -sP -acceptLicense
                25%               50%               75%               100%
----------------|-----------------|-----------------|-----------------|
......................................................................
CRIMA1174E ERROR: The following errors were generated while installing.

  CRIMA1174E ERROR:   There is already a package installed at "C:\IBM\WebSphere\AppServerBPMTest"
 in the "IBM WebSphere Application Server Network Deployment V8.0_2" package group. The installat
ion directory for the new "test1" package group must not be the same as a previously used install
ation directory.
```

Problem: Support provided testfix 8.0.0.2-WS-WAS-TFPM62659 but when trying to install, the ifix is not showing in list

Fixes

▲ ☑ ⓪ IBM WebSphere Application Server Network Deployment 8.0.0.2 (Installed)
    ☑ 🔧 **8.0.0.2-WS-WAS-IFPM51889 8.0.2.20111123_1605**
    ☑ 🔧 **8.0.0.2-WS-WAS-IFPM53930 8.0.2.20120112_0922**
    ☑ 🔧 **8.0.0.2-WS-WAS-IFPM57565 8.0.2.20120218_1333**

▸ "Show recommended only" option checked

Fixes

▲ ☑ ⓪ IBM WebSphere Application Server Network Deployment 8.0.0.2 (Installed)
    ☐ 🔧 8.0.0.0-WS-WAS-IFPM53088 8.0.0.20120119_1607
    ☑ 🔧 **8.0.0.2-WS-WAS-IFPM51889 8.0.2.20111123_1605**
    ☑ 🔧 **8.0.0.2-WS-WAS-IFPM53930 8.0.2.20120112_0922**
    ☐ 🔧 8.0.0.2-WS-WAS-IFPM55170 8.0.2.20120119_1958
    ☑ 🔧 **8.0.0.2-WS-WAS-IFPM57565 8.0.2.20120218_1333**
    ☐ 🔧 8.0.0.2-WS-WAS-TFPM62659 8.0.2.20120417_2033
    ☐ 🔧 8.0.0.2-WS-WASProd-IFPM56139 8.0.2.20120220_1341

◀   III   ▶

☐ Show recommended only

Details

Problem: How to verify install of ifix (Example: TFPM62659) ?

- From WAS Side versionInfo.sh/.bat –long

```
Installed IFix
-----------------------------------------------------------------

Ifix ID                         8.0.0.2-WS-WAS-TFPM62659
Product ID                      ND
Applicable Level                8.0.0.2
Install Manager Offering ID     com.ibm.websphere.ND.v80
Package                         8.0.0.2-WS-WAS-TFPM62659_8.0.2.20120417_2033
Build Date                      2012-04-17 20:33:00-0400

  Included Apars
  ---------------------------------------------------------

  PM62659

-----------------------------------------------------------------
```

- From IM_HOME/eclipse/tools> imcl listInstalledPackages -long

```
C:\IBM\IM\eclipse\tools>imcl listInstalledPackages -long
C:\IBM\IM\eclipse : com.ibm.cic.agent_1.5.2000.20120223_0907 : IBM? Installation
 Manager : 1.5.2
C:\IBM\HTTPServer : com.ibm.websphere.IHS.v80_8.0.2.20111202_1708 : IBM HTTP Ser
ver for WebSphere Application Server : 8.0.0.2
C:\IBM\WebSphere\AppServer801 : com.ibm.websphere.ND.v80_8.0.2.20111202_1708 : I
BM WebSphere Application Server Network Deployment : 8.0.0.2
C:\IBM\WebSphere\AppServer801 : com.ibm.websphere.WVE.v70_7.0.1.20110927_1903 :
WebSphere Virtual Enterprise : 7.0.0.1
C:\IBM\WebSphere\AppServer70 : com.ibm.websphere.ND.v70_7.0.21.20111215_0559 : I
BM WebSphere Application Server - ND : 7.0.0.21
C:\IBM\WebSphere\AppServertrial : com.ibm.websphere.NDTRIAL.v80_8.0.1.20110829_1
838 : IBM WebSphere Application Server Network Deployment Trial : 8.0.0.1
C:\IBM\WebSphere\AppServer7test : com.ibm.websphere.ND.v70_7.0.17.20110417_2329
: IBM WebSphere Application Server - ND : 7.0.17
C:\IBM\WebSphere\AppServer8test1 : com.ibm.websphere.ND.v80_8.0.2.20111202_1708
: IBM WebSphere Application Server Network Deployment : 8.0.0.2
C:\IBM\WebSphere\AppServer8test1 : 8.0.0.2-WS-WAS-TFPM62659_8.0.2.20120417_2033
: 8.0.0.2-WS-WAS-TFPM62659 : 8.0.2.20120417_2033
C:\IBM\WebSphere\AppServer80test32bit : com.ibm.websphere.ND.v80_8.0.0.20110503_
0200 : IBM WebSphere Application Server Network Deployment : 8.0.0.0
```

Problem: Not sure of the location of IM or which IM was used for install

- In this case first thing to check is the output of versionInfo command (WAS_HOME/bin) and Log Directory under Installation section

```
........
........
Installation
----------------------------------------------------------------
Product Directory      C:\IBM\WebSphere\AppServer855_ejbissue
Version Directory      C:\IBM\WebSphere\AppServer855_ejbissue\properties\version
DTD Directory          C:\IBM\WebSphere\AppServer855_ejbissue\properties\version\dtd
Log Directory          C:\IMLogs\logs  <------- DATA AGENT LOCATION

Product List
.......
```

- Log Directory is the **Agent Data** location

- From **Agent Data** Directory, open installRegistry.xml

```
<property name='agent.install.location' value='C:\IBM\Installation Manager\eclipse'/>  IM HOME
<property name='cic.appDataLocation' value='C:\IMLogs'/>  AGENT DATA
<property name='accessRights' value='admin'/>  USER
<property name='cacheLocation' value='C:\IBM\IMShared'/>  IMSHARED
```

Problem: Using GUI and WAS is getting installed 64 bit, how can we get 32 bit WAS ?

- By default IM will pick bit level of WAS based on OS bit level

- You can select 32 bit or 64 bit on Install Packages Panel
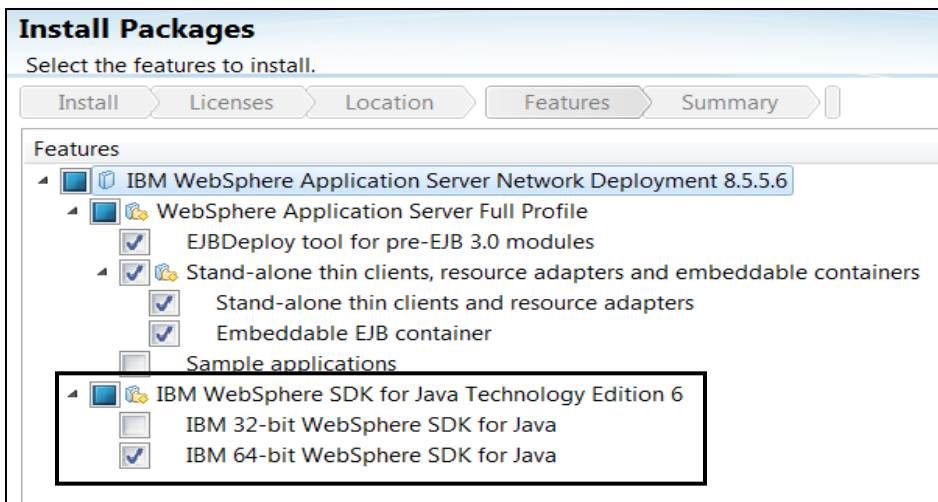
- When Installing optional JAVA 7.x the bit level used for initial install of WAS will be used

Mustgather

Data needed by Support Teams

- **Agent Data directory**
  - ▸ Graphical

Help	
?	Help Contents
🔍	Search
📋	**Export Data for Problem Analysis**
	About IBM Installation Manager

Export ⬛ — □ ✕

Export Installation Data

Select a location and specify the name of the .zip file to create.

By exporting installation data to a .zip file, you can provide this important information to IBM support to help troubleshoot your situation.

Export to a .zip file: [   ] [Browse...]

[OK] [Cancel]

Command line: imcl exportInstallData IMData.zip

- **Log created using -log option during IM operation**

- **Logs directory from WAS_HOME**

- **Response file or command used to install**

Install Manager GUI can be used to view Installed packages, Installation history and logs

Summary

- Installation Manager should be used to install WAS v8.x

- Regular Backup should be taken of Agent Data, IMShared with offerings at same time

- Same user should be used for updates/modify which was used for initial install

- -dL and -dataLocation can be used to use non-default Agent Data location

- Agent Data and IMShared directories should not be deleted or modified manually

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