This presentation will cover installation of WebSphere Enterprise Service Bus V6.0.2

Goals

- Discuss Installation of WebSphere Enterprise Service Bus V6.0.2
  - Cover an overview and initial installation information
  - Step through installation flow discussing information on each installation screen, including uninstall
  - Discuss troubleshooting topics like known limitations, best practices, debugging and logging information

The goal is to provide an overview of initial installation information, then step through the installation flow discussing each installation screen, including uninstalling. Troubleshooting topics such as known limitations, best practices, and debugging and logging information will also be discussed.

Section

Installation overview

The next section will provide an overview of the installation process.

Installation overview

- WebSphere Enterprise Service Bus V6.0.2 installer
  - Based on InstallShield MultiPlatform
  - Supports interactive and 'silent' installation
- New installation of WebSphere Enterprise Service Bus V6.0.2
  - Complete installation
  - Custom installation
    - Profile creation discussed in a separate presentation
- Upgrade V6.0 to V6.0.2
  - Update previous versions of WebSphere Enterprise Service Bus V6.0 to V6.0.2

The WebSphere Enterprise Service Bus V6.0.2 installer is an InstallShield MultiPlatform-based installer that supports interactive and silent installation. There are two different types of installations available for WebSphere Enterprise Service Bus V6.0.2; complete installation, which is covered in detail by this presentation, and custom installation. Custom installation is also discussed in this presentation, but profile creation is discussed in a separate presentation. The second installation type describes the process for updating the existing versions of WebSphere Enterprise Service Bus V6.0 to V6.0.2 using the refresh pack.

Silent installation

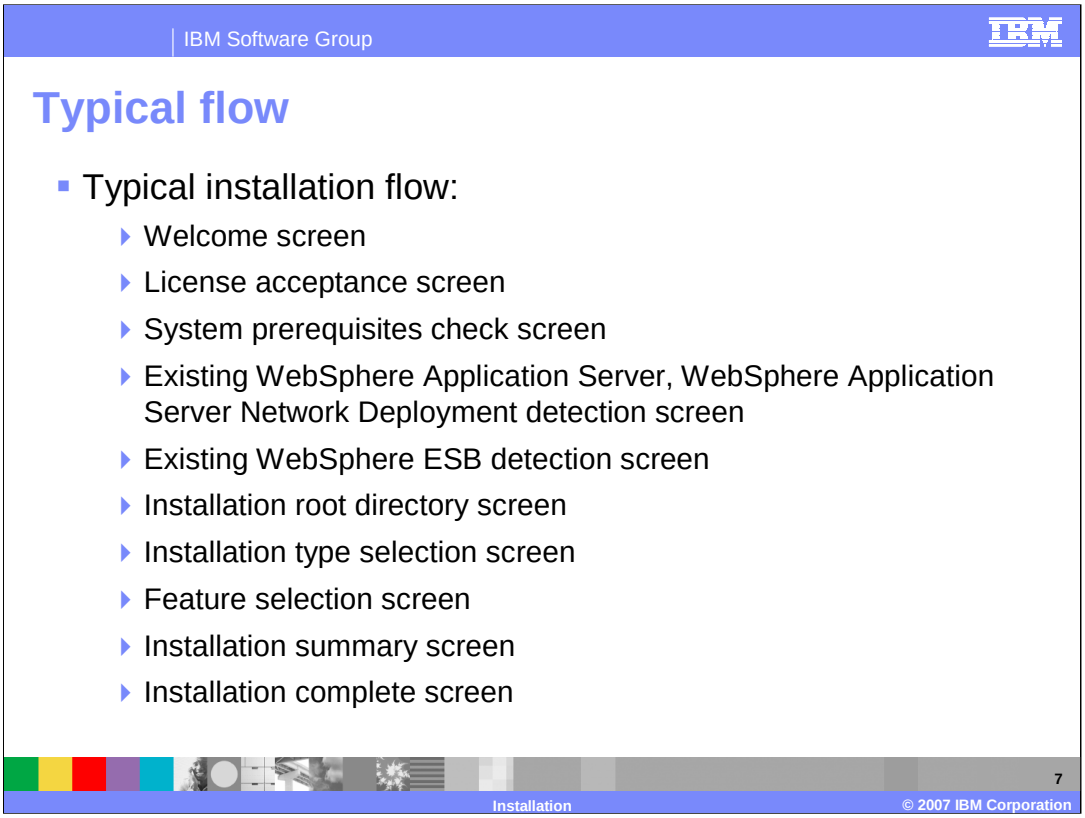
- Installation wizard and profile wizard can be invoked silently
- Silent installation can be linked to silent profile wizard invocation
- Sample response file is shipped on the CD and electronic service delivery (ESD) image
  - Supports custom installation only
  - Can be easily modified

WebSphere Enterprise Service Bus V6.0.2 does provides support for silent installation. A sample response file is shipped on the CD and Electronic Service Delivery (or ESD) image, allowing you to create custom silent installation scripts. It supports custom installation only and can be easily modified to suit your needs.

Section

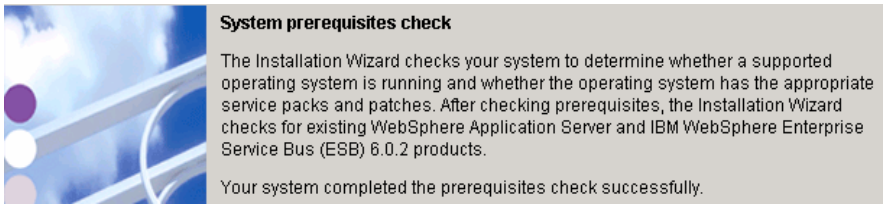
Installation flow

This section will describe the typical flow of installation screens.



A typical sequence of WebSphere Enterprise Service Bus V6.0.2 installation screens is shown here. The first panel is the welcome screen, followed by the license acceptance screen. Next, the installer will do a system prerequisites check similar to a WebSphere Application Server installation. Then the installer will check for existing WebSphere Application Server, WebSphere Application Server Network Deployment and WebSphere ESB installations. After that, you will be prompted for the WebSphere Enterprise Service Bus V6.0.2 installation root directory and asked to choose between two installation types, Complete and Custom, in the installation type selection screen. The custom installation provides a feature selection screen. Both installation types will show a summary screen before installing the server. The last screen displayed is the Installation Complete screen, where you will be prompted to open the first steps or profile creation wizard.

System prerequisite check



- Prerequisite check similar to WebSphere Application Server installation
  - Checks for supported Operating System (OS) levels
  - Checks for required fix packs, service packs or patches
  - Does not check for
    - Minimum memory or processor requirements
    - Minimum disk space requirements
    - Any other required software
  - Will allow installation to continue after warning - even if check fails

The welcome and license acceptance screens are self explanatory. On the System Prerequisite check screen, the installer does a prerequisite check, looking for supported OS levels, required fix packs, service packs or patches. It does not check for minimum memory or processor requirements, minimum disk space requirements, or any other required software. Even if the prerequisite check fails, installation is allowed to continue.

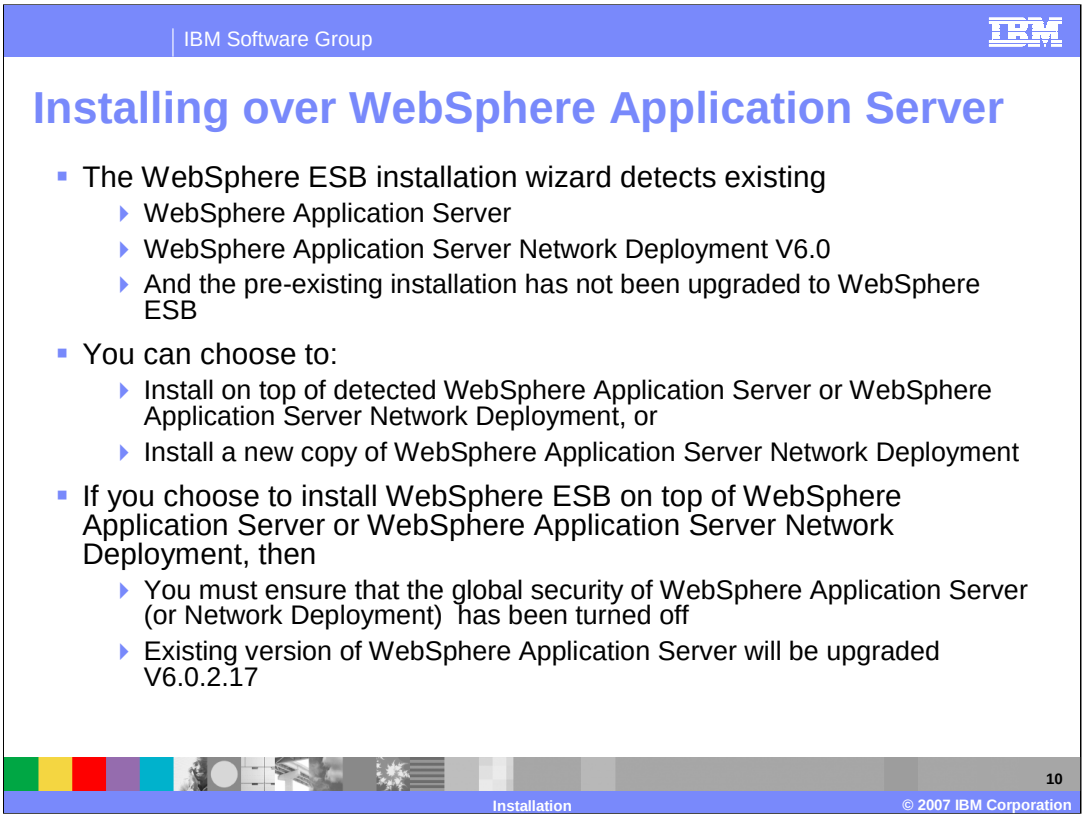
Installation detections

- Installation wizard will detect existing installations of WebSphere Application Server, WebSphere Application Server Network Deployment, and any other WebSphere Enterprise Service Bus
- You can choose to:
  - Install a separate WebSphere Enterprise Service Bus that will coexist with WebSphere Application Server
  - Extend WebSphere Application Server to have WebSphere ESB capability.

In the installation detections screen, the installation wizard will detect existing installations of WebSphere Application Server, WebSphere Application Server Network Deployment and WebSphere ESB. You can choose to Install a new copy of WebSphere ESB under *install_root* /logs/wbi/instconfig.log 6.0.2 or add new features to an existing installation

Important: The installer will also detect unregistered instances of WebSphere Application Server Network Deployment, Version 6.0.1, if they have entries in the .WASRegistry file. Using an unregistered installation with your WebSphere ESB installation is not supported.

If you already have WebSphere ESB installed, you can install another WebSphere ESB to coexist with it.



The install detection screen is displayed when an existing WebSphere Application Server Base or Network Deployment V6.0 or later is detected and there is not already a copy of WebSphere ESB installed over it. You can choose to install on top of the detected WebSphere Application Server or install a new copy of WebSphere Application Server Network Deployment. Any existing version of WebSphere Application Server will be upgraded to the proper service level - that is, V6.0.2.17 - as part of the installation.

If WebSphere Enterprise Service Bus is being installed over an existing installation of a secured WebSphere Application Server or WebSphere Application Server Network Deployment, turn off global security before installing WebSphere Enterprise Service Bus.

Installing stand-alone WebSphere ESB

- WebSphere Enterprise Service Bus V6.0.2 ships with a full copy of WebSphere Application Server Network Deployment V6.0.2.17
  - WebSphere ESB installer will silently install this version of WebSphere Application Server Network Deployment
  - Both the products are installed into the same location
  - Installation summary screen displays disk space requirements for both products
- Samples option also installs WebSphere Application Server samples

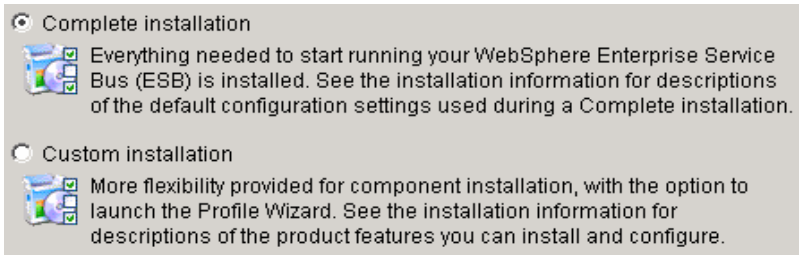
WebSphere Enterprise Service Bus V6.0.2ships with a full copy of WebSphere Application Server Network Deployment V6.0.2.17, which will be silently installed. WebSphere ESB and WebSphere Application Server Network Deployment are both installed into the same location. The install summary screen displays disk space requirements for both WebSphere ESB and WebSphere Application Server Network Deployment. If the WebSphere ESB samples feature is selected, the WebSphere Application Server samples are also installed.

Installation root directory

- Install close to the root directory
  - The shorter the installation path, the less chances to run into the 256 character path limit
- Try not to use spaces or non-letter characters in the path name
- Examples:
  - C:/WESB
  - C:/WESB602

At the Installation Root directory screen, you will be asked where to install the WebSphere Enterprise Service Bus . It is highly recommended to install as close to the system root directory as possible. The shorter the initial path length, the less likely you are to run into the 256 character path limit during installation or at runtime. Avoid using spaces or non-alpha characters in the path name. Examples are shown here.

Complete installation



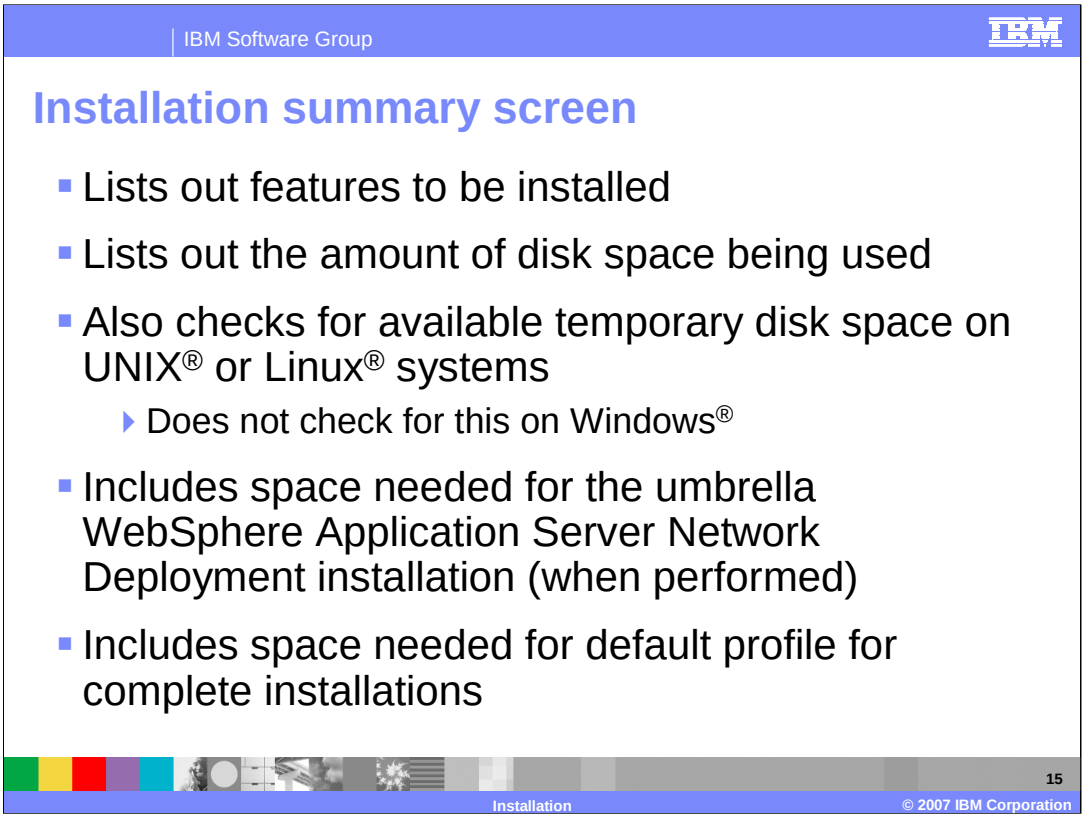
- Complete Installation
  - Installs default features (Samples and Javadoc)
  - Silently creates a default stand-alone WebSphere Enterprise Service Bus profile
  - Selects defaults for all profile wizard screens and does not provide an option to run the profile wizard
  - Final screen lets you launch First Steps page

For the complete installation option, the default features - Samples and Javadoc - are installed. This also silently creates a default stand-alone WebSphere Enterprise Service Bus profile that selects all the defaults for the profile wizard screens and does not provide an option to run the profile wizard. The finish screen (last screen) allows you to launch the First Steps page. A complete installation will take over an hour depending on system specifications.

Custom installation

- Custom installation
  - Two optional features
    - Samples, JavaDoc
  - Selection of samples will also cause WebSphere Application Server Network Deployment samples to be installed
  - Does not create a default profile
  - Final screen lets you launch the profile wizard
  - Profile setup discussed in profile creation wizard presentation

The custom installation allows you to select the samples and JavaDoc features, which are installed by default by the Complete Installation option. Selecting the WebSphere ESB samples will also cause WebSphere Network Deployment samples to be installed. You should select custom installation for most situations. This installation option does not create a default profile, but launches the profile creation wizard on the final screen. The WebSphere Enterprise Service Bus profile requires more details than the WebSphere profile, which is the reason for suggesting a custom installation. Profile setup is discussed in the profile creation wizard education module. Custom installation will take less time since a default profile is not created. However, you must create a profile before you can start the server.



The installation summary screen lists the features to be installed and checks for available temporary disk space on UNIX and Linux systems. This check is not performed on Windows systems. The check includes the space needed for the umbrella WebSphere Application Server Network Deployment installation (when performed) and the default profile for Complete installations.

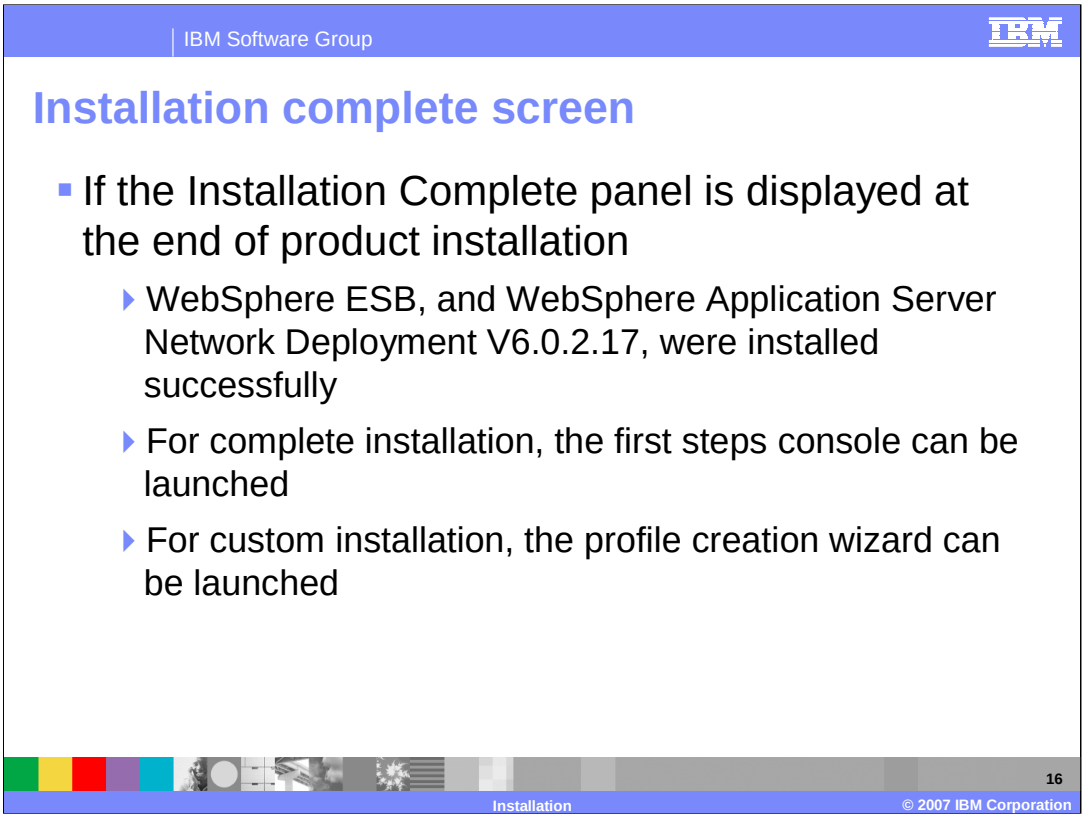
Review the summary information and click Next to install the products, Back to change your options or Cancel to quit the installation wizard. When you click Next the installation wizard shows a progress panel to indicate that components are being installed. The installation takes place in stages, and for each stage the progress bar runs from zero to 100%. At the end of the installation, the Installation Complete panel is displayed.

If errors are detected during installation, other panels might be displayed in place of the Installation Complete panel.

The “Installation is complete with errors” panel indicates that installation completed, but errors were generated.

the “Installation failed” panel indicates that installation failed completely.

Each of these panels points you to the log file, which contains more details to help you to resolve the errors.



If the Installation Complete panel is displayed at the end of product installation, WebSphere ESB and WebSphere Application Server Network Deployment V6.0.2 were installed successfully. Click **Finish** to close the installation wizard.

After a complete installation, you can launch the first steps console by selecting the check box next to “Launch First Steps”. From here you can start the server and run the installation verification test.

After a custom installation, you can launch the profile creation wizard by selecting the check box next to “Launch Profile Wizard”; the first steps console is launched when the profile creation wizard has finished.

Section

Upgrade WebSphere ESB V6.0.1 to V6.0.2

This section will provide an overview of upgrading your existing installation of WebSphere ESB V6.0.1 to V6.0.2

Update existing installation

- Upgrade existing WebSphere ESB V6.0.1 installation
  - Containing just stand-alone profiles to V6.0.2
  - Network Deployment environment with no clusters to V6.0.2
  - Network Deployment environment with clusters to V6.0.2
  - Network Deployment environment with clusters to V6.0.2 with minimum downtime

To upgrade your existing WebSphere ESB V6.0.1 version to V6.0.2, you can make use of the refresh pack to upgrade your setup.

The scenarios for the upgrade are listed on this slide.

Update installer flow

- Back up configuration files
- Stop all Java™ processes related to WebSphere Enterprise Service Bus
- Download and Unzip the package directly into the *<install_root>* directory
- *updateWPS-WESB-6020* script can be used to silently installing all of the included maintenance
  - .bat or .sh depending on Operating System (OS)
  - located under <install_root>/updateinstaller

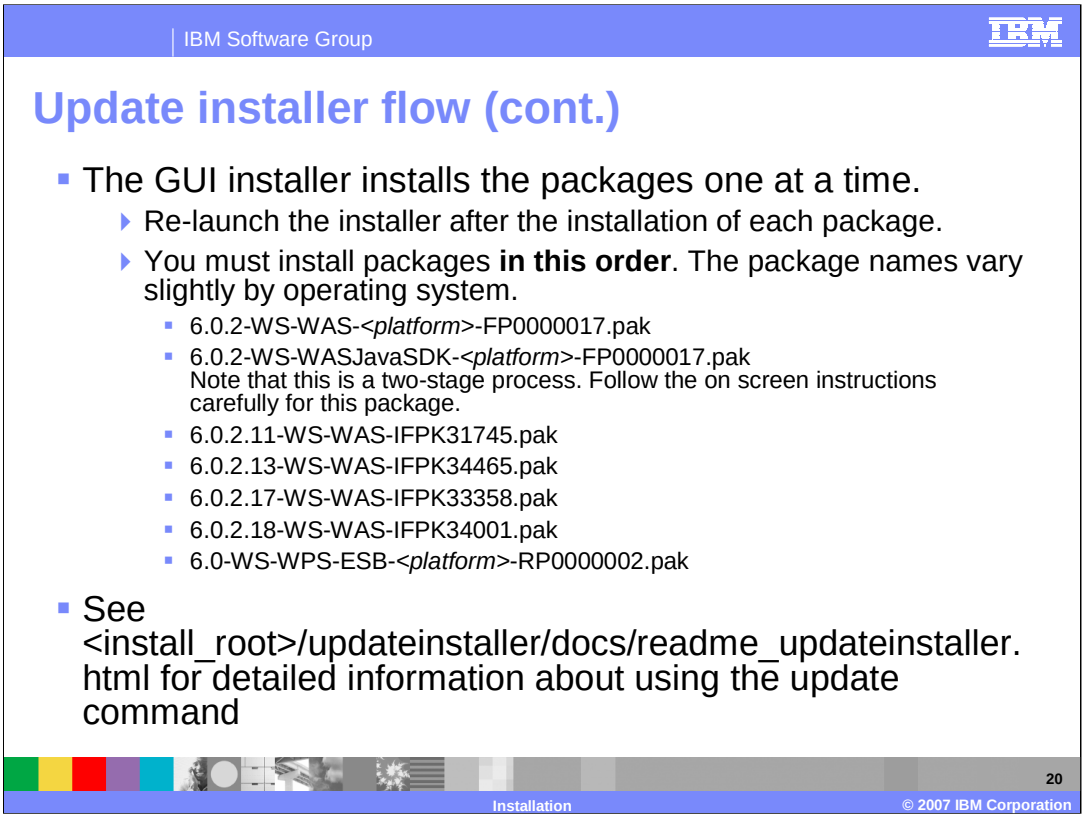
This slide and the next one show the steps involved in using the update installer to update your existing WebSphere Enterprise Service Bus V6.0.1 environment to V6.0.2.

Note that you can upgrade from any version of V6.0.1.0 through V6.0.1.4 to V6.0.2. Upgrading from V6.0.0 requires first upgrading to V6.0.1.

Before you start the upgrade process, use the “backupconfig” command to backup the existing profiles configuration data. Profiles will be modified during the upgrade process, and the backed up profile will need to be restored if the service is later uninstalled.

Stop all the Java processes related to the WebSphere Enterprise Service Bus product.

Run the script to upgrade silently, or use the installer to upgrade interactively.



The installer installs the packages one at a time. When you are asked to enter the file name of the maintenance package, you must browse to find each package name, in the order shown here. The package names vary slightly by operating system. Relaunch the installer after the installation of each package.

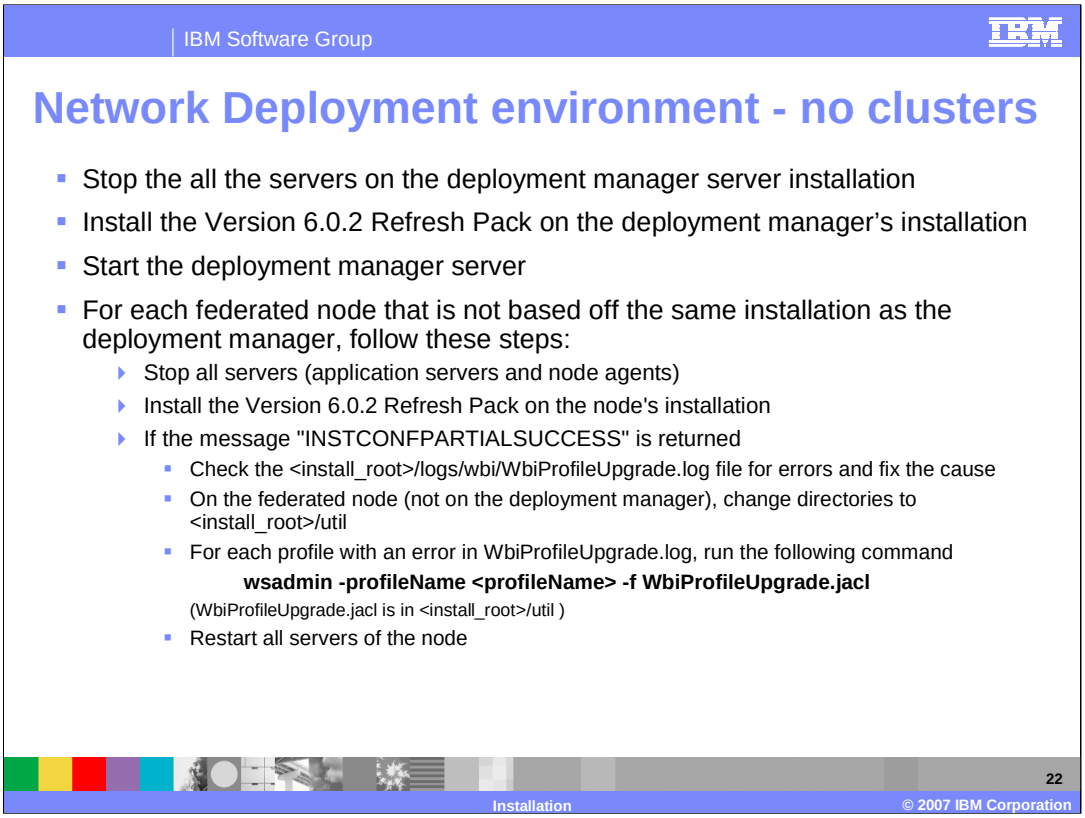
Note that for any maintenance package that includes service to the Software Development Kit (SDK), the Update Installer copies the SDK and stops. Click Relaunch to start the Update Installer again. The Update Installer can then install the maintenance package.

Successful upgrade process will update the underlying Java SDK, WebSphere Application Server to 6.0.2.17, apply any ifixes and update WebSphere ESB V6.0.1 environment to V6.0.2

Upgrade WebSphere ESB V6.0.1 with stand-alone profile

- Stop the application server
- Install the version 6.0.2 refresh pack on the stand-alone installation
  - Follow the steps described in update installer flow
- Restart the application server
- Repeat the above process for each installation that contains only stand-alone profiles

To update stand-alone profiles to version 6.0.2, stop all of the application servers. Install the Version 6.0.2 Refresh Pack on the installation that contains the stand-alone profiles, following the steps described for the update installer flow. Then restart all of the application servers.



For updating your WebSphere ESB Server V6.0.1 Network Deployment environment with no clusters to V6.0.2, you need to update the deployment manager first. This will update all the managed nodes and stand-alone profiles based on the same installation of deployment manager to V6.0.2. Start the deployment manager server.

Update all the installations for the federated nodes not based on the same installation of deployment manager. If you get the INSTCONFPARTIALSUCCESS message while upgrading an installation, check the WbiProfileUpgrade.log file for each profile in the installation, fix the errors, and run the script shown here.

Network Deployment environment with clusters

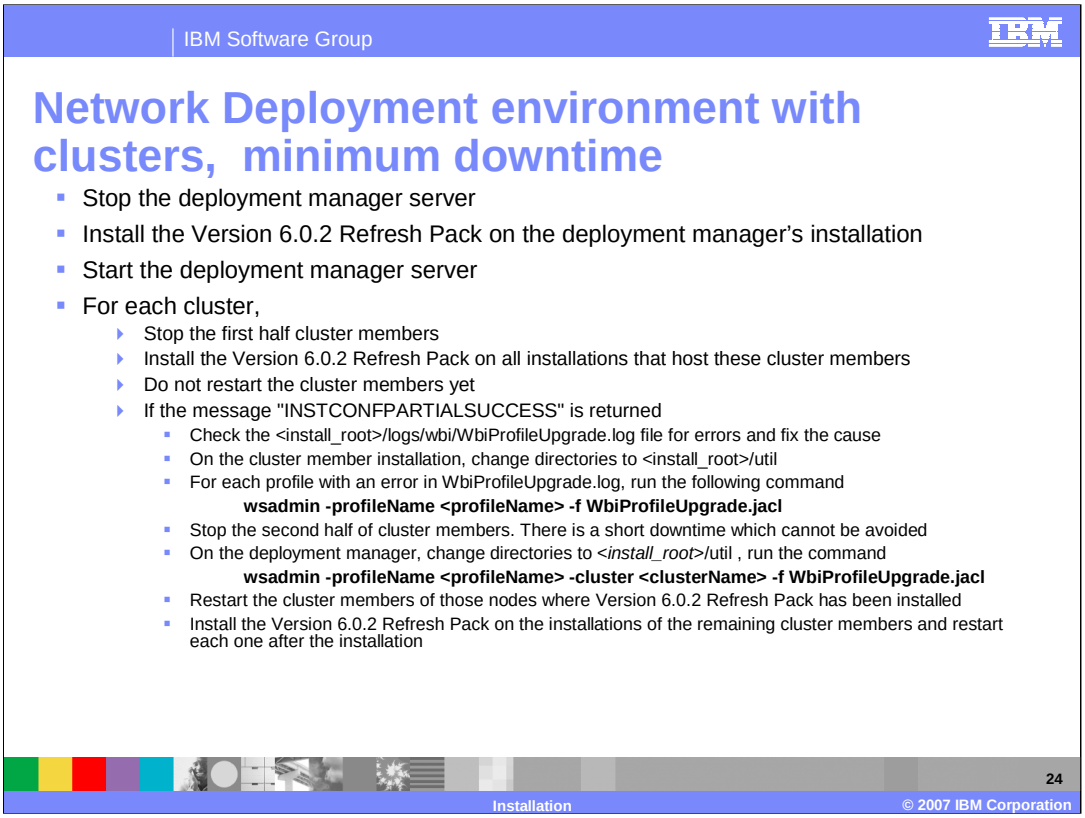
- Stop the deployment manager server
- Install the Version 6.0.2 Refresh Pack on the deployment manager's installation
- Start the deployment manager server
- For each cluster,
  - Stop all cluster members
  - Install the Version 6.0.2 Refresh Pack on all installations that host cluster members
  - If the message "INSTCONFPARTIALSUCCESS" is returned
    - Check the <install_root>/logs/wbi/WbiProfileUpgrade.log file for errors and fix the cause
    - On the cluster member installation, change directories to <install_root>/util
    - For each profile with an error in WbiProfileUpgrade.log, run:
      wsadmin -profileName <profileName> -f WbiProfileUpgrade.jacl
    - On the deployment manager, run:
      wsadmin -profileName <profileName> -cluster <clusterName> -f WbiProfileUpgrade.jacl
    - Restart all cluster members

This slide shows the steps for updating your WebSphere ESB V6.0.1 Network Deployment environment with clusters defined.

Update the deployment manager first, then start the deployment manager server.

For each cluster, stop the cluster members. Update all of the installations that host the federated nodes and have at least one server that is part of the cluster.

If you get the INSTCONFPARTIALSUCCESS message while upgrading an installation, check the WbiProfileUpgrade.log file for each of the profiles in the installation, fix the errors, then follow the instructions listed here.



To update with minimum downtime, update the deployment manager first, then start the deployment manager server.

These instructions assume that the deployment manager is on a system of its own, the cluster includes a minimum of two servers, each on its own system, and automatic node synchronization is enabled.

For each cluster:

Stop the first half of the cluster members and update all the installations that host the federated nodes and have at least one stopped server that is part of the cluster.

If you get partial success messages, follow the steps shown in the slide.

Stop the second half of cluster members. There is a short downtime which cannot be avoided.

Restart the first half of cluster members that you stopped previously.

Install the Version 6.0.2 Refresh Pack on the installations of the second half of the cluster members and restart each one after the installation.

Uninstalling

- For WebSphere ESB stand-alone installations (that was not installed on any existing WebSphere Application Server or WebSphere Application Server Network Deployment):
  - Option to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment
    - By default, it will uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment
  - Option to keep the underlying installation of WebSphere Application Server or WebSphere Application Server Network Deployment if WebSphere ESB is the last augmentor
    - If the option is to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment, all profiles will be first unaugmented and then deleted
- Uninstall can also be run silently

The uninstaller allows you to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment. The underlying WebSphere Application Server Network Deployment will be selected for uninstallation by default if WebSphere ESB was an umbrella installation. If you choose not to uninstall the underlying WebSphere Application Server, any profiles that have been augmented by WebSphere ESB will be unaugmented as long as WebSphere ESB is the last augmenter. If you choose to uninstall the underlying WebSphere Application Server, all profiles will be first unaugmented and then deleted. The uninstall process can also be run silently.

Section

Troubleshooting

This section covers troubleshooting, including known limitations, best practices, debugging and logging information.

Known limitations

- When installing WebSphere ESB on top of an existing installation of WebSphere Application Server, the global security for WebSphere Application Server or WebSphere Application Server Network Deployment needs to be disabled
- Cannot augment an already federated custom WebSphere ESB profile

There are several known limitations identified in the WebSphere Enterprise Service Bus Readme and release notes. Some of those limitations are listed here.

When installing WebSphere ESB on an existing WebSphere Application Server Base or Network Deployment environment where global security is enabled, security must be turned off before installation starts..

A custom WebSphere ESB profile cannot be augmented if the custom node and profile is already federated with a deployment manager.

Best practices

- Limit use of complete installation
  - Does not let you configure the profile
  - Selects all defaults
  - Use custom installation and run the profile wizard
- Use the installation guide from WebSphere Enterprise Service Bus V6.0.2 online information center:

  http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp
- If installation fails
  - Refer to information center when uninstalling any installed portions before reinstalling:

    http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/topic/com.ibm.websphere.wesb602.doc/doc/tins_uninstman.html

Listed here are a few best practices, in addition to the information in the information center, readme, and release notes. The complete installation does not allow you to configure the profile, and it selects all the defaults for the generated profile. Instead, use “Custom” installation and run the profile wizard. Always refer to the installation guide from the WebSphere Enterprise Service Bus V6.0.2 online information center.

If the installation fails, refer to the information center for instructions on uninstalling any partially installed components before reinstalling.

Debug installation errors

- Use collector.bat (very useful to IBM Support)
- The full set of files to immediately gather are:
  - <profilePath>/logs/* (zip recursively)
  - <profilePath>/properties/*
  - <WESB_HOME>/logs/wasprofile/*<profileName>*
  - <WESB_HOME>/logs/wbi/*
  - <WESB_HOME>/properties/profileRegistry.xml
  - <WESB_HOME>/properties/wasprofile.properties

To debug installation errors, gather the full set of files listed here. When working with IBM support, run collector.bat to collect all the necessary files to send.

Installation logs

- log.txt
  - On Linux and UNIX platforms: *install_root*/logs/wbi/log.txt
  - On Windows platforms: *install_root* \logs\wbi\log.txt
  - Logs all installation events relating to WebSphere Enterprise Service Bus
  - **INSTCONFFAILED**
    - Total installation failure
  - **INSTCONFSUCCESS**
    - Successful installation
  - **INSTCONFPARTIALSUCCESS**
    - Installation errors occurred but the installation is still usable
    - Additional information in other log files identifies the errors

There is an install log named log.txt. On Linux, UNIX, and Windows platforms, this file can be found in <INSTALL_DIR>/logs/wbi/log.txt. The log.txt contains all installation events relating to WebSphere Enterprise Service Bus. There are three possible results in the log.

INSTCONFFAILED means the installation failed.

INSTCONFSUCCESS means the installation was successful.

INSTCONFPARTIALSUCCESS means that errors occurred during the installation, but the installation is still usable. Additional information in other log files identifies the errors.

Installation logs

- inst_config.log
  - On Linux and UNIX platforms: *install_root* /logs/wbi/instconfig.log
  - On Windows platforms: *install_root*\logs\wbi \instconfig.log
  - Logs configuration actions that run at the end of the installation process to configure components, install system applications, and create Windows shortcuts and registry entries.
  - Contains a series of <record> elements that document the configuration actions. If a post-installation configuration action fails, text like the following appears in the log:

```
<record>
    <date>2005-05-26T11:41:17</date>
    <millis>1117132877344</millis>
    <sequence>742</sequence>
    <logger>com.ibm.ws.install.configmanager. ConfigManager</logger>
    <level>WARNING</level>
    <class>com.ibm.ws.install.configmanager .ConfigManager</class>
    <method>executeAllActionsFound</method>
    <thread>12</thread>
    <message>Configuration action failed: com.ibm.ws.install.configmanager.actionengine.ANTAction-
    D:\WBI\AS\properties\version\install.wbi\6.0.0.0\config\full\install\90SInstallCEI.ant</message>
</record>
```

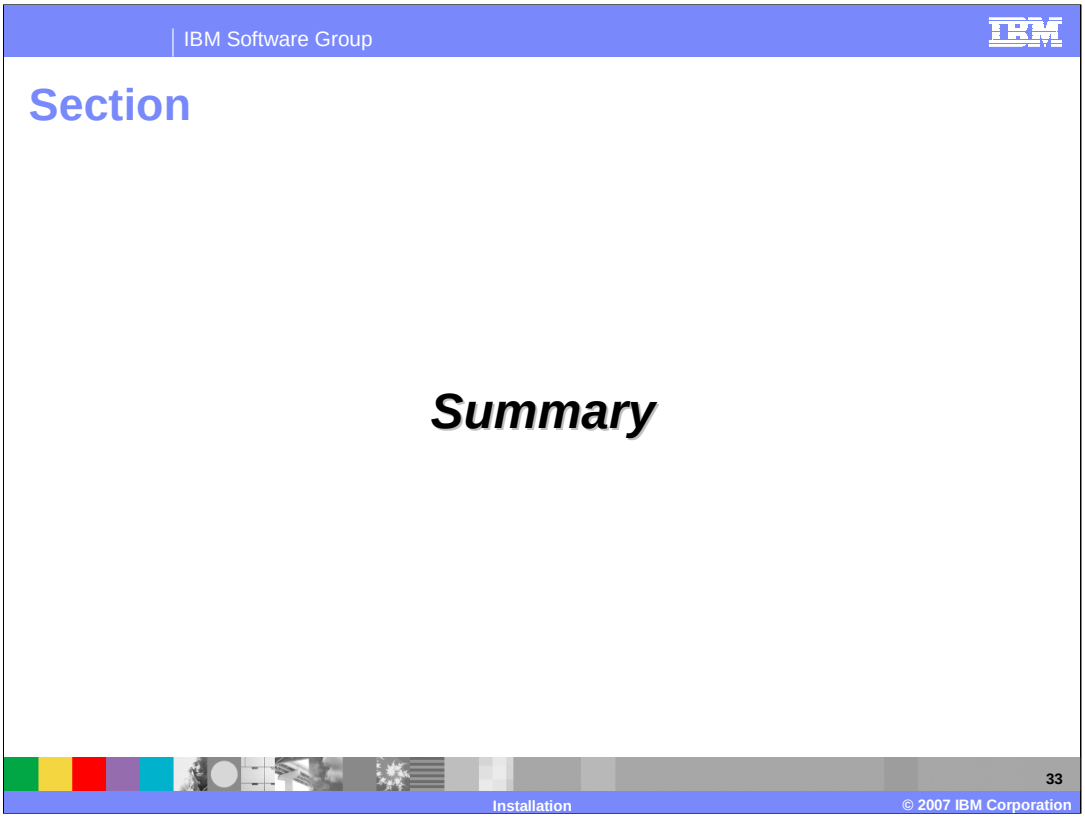

The inst_config.log will log configuration actions that run at the end of the installation process to configure components, install system applications, and create Windows shortcuts and registry entries. This file is found on Linux, UNIX, and Windows platforms as <INSTALL_DIR>/logs/wbi/inst_config.log. It contains a series of <record> elements that document the configuration actions. If a post-installation configuration action fails, text like that shown in this slide appears in the log.

Installation release notes and Technotes

- Profile directory path length limit of 256 characters on Windows operating systems.
  - Profile creation fails if you choose a profile path that is too long
- Installation fails due to insufficient disk space on Windows.
  - The silent installation of the underlying WebSphere Application Server Network Deployment, version 6.0 or more, requires approximately one Gigabyte of additional free disk space beyond what is actually used.
- For a complete list of tech notes, use the following link
  - http://www.ibm.com/software/integration/wsesb/support/
- Need to install some mandatory critical fixes
  - http://www-1.ibm.com/support/docview.wss?rs=2307&uid=swg21251786

Some important points from the WebSphere Enterprise Service Bus release notes and tech notes are shown here. Installation fails if the profile directory path exceeds 256 characters. Installation can fail with a java.util.ZipException with an unmapped network drive.

The silent installation of the underlying WebSphere Application Server Network Deployment version 6.0, requires approximately one gigabyte of additional free temp disk space beyond what is actually used.



This section will provide a summary of topics discussed in this presentation.

Summary

- Discussed installation of WebSphere Enterprise Service Bus V6.0.2
  - Covered an overview and initial installation information
  - Stepped through installation flow discussing information on each installation screen, including uninstalling
  - Discussed troubleshooting topics like known limitations, best practices, and debugging and logging information

This presentation covered the WebSphere Enterprise Service Bus V6.0.2 installation. It also covered initial install information, and stepped through the installation flow. You saw how to update an existing installation and how to uninstall. Troubleshooting topics like known limitations, best practices, and debugging and logging information were also covered.

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Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. The actual throughput or performance that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput or performance improvements equivalent to the ratios stated here.