IBM Software Group

IBM® WebSphere® Extended Deployment V6.1

WebSphere Virtual Enterprise

Formerly Operations Optimization

Deployment manager high availability

This presentation will cover deployment manager high availability in WebSphere Extended Deployment V6.1

This module was originally recorded for WebSphere Extended Deployment Operations Optimization, which is now called WebSphere Virtual Enterprise. Though the module uses the previous names, the technical material covered is still accurate.

Agenda

- Overview
- Configuring multiple deployment managers
- Summary

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This presentation will introduce the high availability feature for the deployment manager in WebSphere Extended Deployment, then will cover the steps necessary to create multiple deployment managers in a single WebSphere Extended Deployment cell for high availability.
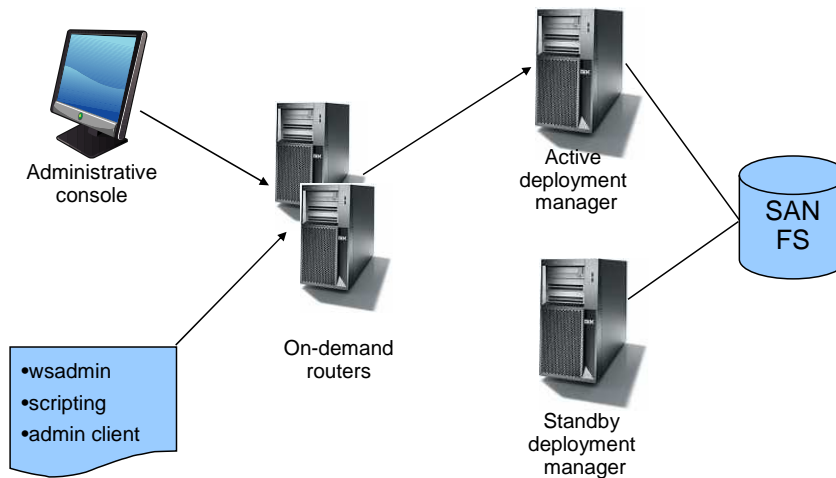
Multiple deployment managers

- WebSphere Extended Deployment supports running multiple deployment managers for highly available administration

- One deployment manager is active, others run in standby mode until a failure is detected
  - ▸ A single master repository is used, stored on a shared file system

- Administrator accesses the deployment manager through the on-demand router
  - ▸ On-demand router routes requests to the current 'active' deployment manager

Although it is not required to have a deployment manager running at all times, you might require highly available administrative capability. WebSphere Extended Deployment supports redundant deployment managers, allowing multiple deployment manager processes to be concurrently active in a cell using an active-standby configuration. All of the deployment managers work from the same master repository, which is stored on a shared file system. On demand routers route administrative requests to the currently active deployment manager, and if the original process fails, to one of the other deployment managers.
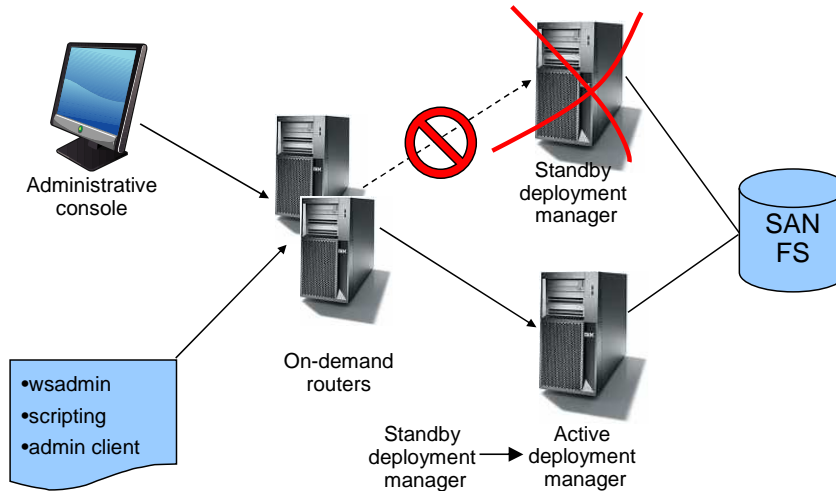
Highly available deployment manager

"Hot-standby model"

- Administrative console
  - •wsadmin
  - •scripting
  - •admin client
- On-demand routers
- Active deployment manager
- Standby deployment manager
- SAN FS

This slide illustrates a cell with two deployment managers. One is elected to be the "active" deployment manager and the other is held in hot standby mode. The master configuration is stored on a shared file system, accessible from both deployment manager instances. All administrative operations are performed through the active deployment manager. The standby deployment manager is fully initialized and ready to do work. However it cannot be used for administration and will reject any login and JMX requests.

Highly available deployment manager

"Hot-standby model"

Administrative console

•wsadmin
•scripting
•admin client

On-demand routers

Standby deployment manager

Standby deployment manager → Active deployment manager

SAN FS

If the active deployment manager is stopped or fails, the highly available deployment manager component recognizes the loss and dynamically switches the standby into active mode so it can take over administrative responsibility. The active and standby deployment managers share work spaces so when a deployment manager takeover occurs, work is not lost. On demand router automatically recognizes the election of the new active deployment manager and reroutes administrative requests to the new active deployment manager, as depicted on this slide.

Configuring multiple deployment managers

- Install WebSphere Extended Deployment on a shared file system
- Create a deployment manager profile
  - ▶ Store the profile on the shared file system
- Ensure that an on-demand router exists
- Create a second deployment manager profile
  - ▶ Store the profile on a shared file system
  - ▶ Use the host name of a second machine
- Run xd_hadmgrAdd from the 'second' profile
- After a restart, the first deployment manager to start is the 'primary', and all others are 'backup'

To configure more than one deployment manager in your cell, install WebSphere Extended Deployment to a shared file system and create a deployment manager profile on the shared file system. Configure this deployment manager to use the host name of the machine where it will run. Make sure that there is an On Demand Router in your cell. Then create a second deployment manager profile on the shared file system, using the host name of the machine from which it will be run. From the *bin* directory of the second profile, run the xd_hadmgrAdd script to add the second deployment manager into your cell as a backup. This command takes as parameters the configuration repository and workspace directory from the first profile, which are accessible from the shared file system. In the future, whichever deployment manager starts up first in your cell will be the active deployment manager, and the others will act as backups.

Administration

- System administration → Deployment manager → All Deployment Managers
- View all configured deployment mangers
- Can view and modify backup deployment manager properties

Additional Properties
- Core group service
- ⊞ Ports
  - Administration Services
  - Custom Services
  - ORB Service
  - Logging and Tracing
  - All Deployment Managers
  - Change Log Detail Levels
  - Web container transport chains

Deployment manager

Deployment manager > Deployment Managers

A WebSphere Extended Deployment cell configuration can include multiple deployment managers for high availability. The high availability model is a hot standby model. Only one deployment manager server can be the active deployment manager. One or more standby deployment managers can be initialized and waiting in the standby mode. If the active deployment manager fails, a standby deployment manager automatically becomes the active deployment manager.

⊞ Preferences

Select	Node ◇	Mode ◇	Status ↻
☐	hostACellManager01	Active	➡
☐	hostACellManager02	Standby	➡
☐	hostACellManager03	Standby	➡
Total 3			

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You can view and modify the configuration for the primary deployment manager from the administration console by selecting "System Administration", then "Deployment manager". From this panel you can select "All Deployment Managers" to see status of all configured deployment managers. Selecting a specific deployment manager from this list will allow you to view and modify the configuration for any of the configured deployment managers.

Summary

- Multiple deployment managers can be configured to provide highly available administration
  - ▶ Administrative console requests are routed through the on-demand router

Although a deployment manager is not required to be running at all times for the WebSphere Extended Deployment runtime to work correctly, configuring multiple deployment managers within a WebSphere Extended Deployment cell will provide highly available administrative access. Administrative requests are routed to the currently active deployment manager through an On Demand Router.

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Deployment manager high availability

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