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IBM WebSphere Partner Gateway V6.1 Advanced and Enterprise Editions

Distributed Mode installation overview

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This presentation provides overview of WebSphere® Partner Gateway V6.1 Simple and Full Distributed Mode installation and basics of Network Deployment terminology.

The details of the simple and full distributed mode installations, and the details of getting the servers started and logging into the console are provided in separate presentations.

The agenda is shown here. It starts with a brief overview of Network Deployment Cell and Clustering basics. This provides the foundation needed to discuss the WebSphere Partner Gateway V6.1 distributed mode installation features.

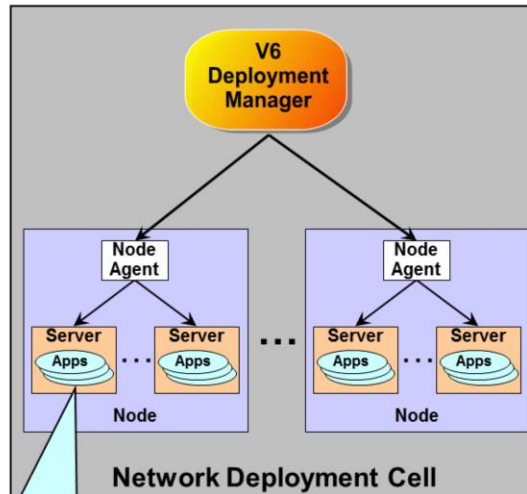This is followed by an overview of the WebSphere Partner Gateway V6.1 distributed mode installation.

This section covers the Clustering Basics in WebSphere Application Server Network Deployment, needed to understand the distributed mode installation mechanism.

Network Deployment Cell

- **Network Deployment cell** is a network of multiple **Nodes** and one **Deployment Manager** (**DMgr**) over one or more machines
- Each Node manages one or more **Application Servers** (WebSphere Partner Gateway servers)
- Application Server runs one or more **components** (J2EE™ applications like Receiver, Console and Document Manager)
- DMgr and the Nodes can be on the same or different Machine/LPAR
- DMgr is the central point of administration for the cell
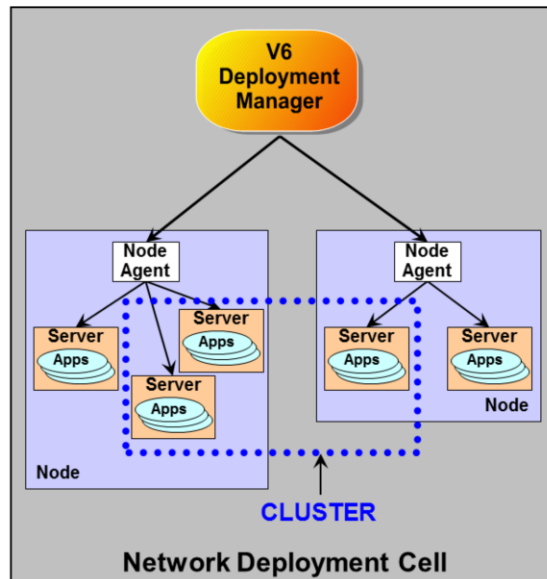 - All servers within the cell can be started, stopped, and modified from the DMgr

V6 Deployment Manager

Node Agent

Server Apps

Server Apps

Node

Node Agent

Server Apps

Server Apps

Node

Network Deployment Cell

These are hub components, like the Console, Receiver and the Doc. Manager

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Network Deployment Cell is a network of multiple nodes containing one or more Application Servers. The different J2EE applications run within the Application servers. For WebSphere Partner Gateway, these applications are the WebSphere Partner Gateway components, namely, the console, receiver and document manager.

The nodes and the application servers can be spread over multiple machines (or LPARs).

The Deployment Manager provides a central point of administration for the entire cell. Any configuration updates made by the administrator at the Deployment Manager is synchronized to all the Nodes within the cell.

Scalability and high availability is provided by creating a Cluster in a cell. Cluster is a group of Application Servers running the same set of J2EE applications. The Application Servers within the cluster are called Cluster members. All the cluster members in a cluster run the same set of J2EE applications or in case of WebSphere Partner Gateway, they run the same set of WebSphere Partner Gateway components.

Cluster members can span machines or LPAR boundaries. If all the cluster members are on the same machine or LPAR, its called vertical clustering. If the cluster members are spread across multiple machine or LPAR, its called horizontal clustering.

In the picture, there is one cluster containing 4 members across 2 nodes.

During the distributed mode installation, a cluster is created for the WebSphere Partner Gateway components. This will be discussed in detail.

Section

Distributed Mode installation - Overview

This section covers the Distributed Mode install and the various flexible topologies that distributed mode install provides.

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Distributed Mode installation - Overview

- Distributed Mode exploits the WebSphere Application Server Network Deployment clustering capability to support scalable and highly available environment
  - WebSphere Partner Gateway components can be installed in same or different machines within a single Network Deployment cell

- Distributed Mode install includes creating a WebSphere Partner Gateway Deployment Manager (DMgr)
  - All the WebSphere Partner Gateway nodes are federated (added) to the DMgr to form a WebSphere Partner Gateway cell

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The distributed mode install exploits the WebSphere Application Server Network Deployment features that include clustering for scalability and high availability.

This installation mode creates a Network Deployment cell with a Deployment Manager and one or more nodes containing WebSphere Partner Gateway Servers. During the install, the WebSphere Partner Gateway node is created and federated to the Deployment manager forming the cell. The WebSphere Partner Gateway servers are created in a clustered environment.

Exploitation of Network Deployment allows WebSphere Partner Gateway to be installed on different machines within a single Network Deployment cell.

Distributed Mode installation – Overview (cont.)

- The two modes of distributed install are:
  - *Simple Distributed* – All WebSphere Partner Gateway components are installed on the same cluster
  - *Full Distributed* – Typically, each WebSphere Partner Gateway component is installed in its own cluster
- A separate clustered server, bcgmas, is created to handle internal messaging between the WebSphere Partner Gateway components
- Additional cluster members (servers) to run WebSphere Partner Gateway components or messaging can be created after the initial installation
  - The additional servers provide the scalability and high availability that may needed in the production environment

There are two modes of distributed installation, Simple and Full distributed mode.

In Simple Distributed mode, there is only one WebSphere Partner Gateway cluster created with one server, and all the hub components are installed on that clustered server.

In Full Distributed mode, typically, a cluster is created for each hub component. The installer has options to group multiple hub components in a single cluster.

In simple mode installation, messaging is handled by the single server that runs the WebSphere Partner Gateway components. In distributed mode, a separate messaging application server is created for handling the messaging between the different WebSphere Partner Gateway components on different machines. Keeping the messaging separate in a dedicated server allows the WebSphere Partner Gateway servers to focus on running the WebSphere Partner Gateway components.

Additional cluster members to run the WebSphere Partner Gateway components can be created later after the initial installation. If one server in a cluster goes down, then other servers in the cluster can continue to server the incoming tasks, thereby providing High Availability and scalability.

The next section covers the summary.

Summary

- Distributed mode installs are for more robust, scalable and highly available production environment

- It exploits the scalability features of the WebSphere Application Server Network Deployment

- Uses WebSphere Application Server V6.1 embedded platform messaging for internal messages, rather then require external WebSphere MQ

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WebSphere Partner Gateway V6.1 distributed mode installation exploits the Network Deployment features, and in particular the Clustering to provide highly scalable and failover distributed environment. The embedded messaging is also exploited which eliminates the need to install WebSphere MQ.

The System requirements, information center and other references are listed on this page.