

# Terminology & Topology Overview

WebSphere software



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## V5 Terminology – Terms to Describe

- **Machine and/or System and/or LPAR**
- **Server**
- **Node**
- **Cell**
- **Base Application Server**
- **Servers in Network Deployment Environment**
  - Deployment Manager
  - Node Agent
  - Application Server
  - JMS Server
- **Cluster and Cluster Member**
- **Managed Server**
- **Control Process and Servant Process**
- **Daemon**

## V5 Terminology

### ■ Machine and/or System and/or LPAR

- Runs an operating system instance
- A physical machine (Windows, Linux/Intel, Solaris, HP/UX)
- A logical partition – LPAR (z/OS, AIX)

### ■ Server

- A process which provides function(s), for example
  - Web container
  - EJB container
  - JMS services
  - Naming services
  - Configuration management
  - Operational management
- Java runtime running in a single machine:
  - A single JVM (Dist)
  - Multiple JVMs (z/OS)
    - Control process
    - Multiple Servant processes
- Defined through a set of XML configuration files

## V5 Terminology

### ■ Node

- Grouping of servers for configuration and operational management
- Cannot span the scope of a machine/LPAR
- OK for multiple nodes in the same machine/LPAR

### ■ Cell

- Network of multiple nodes
- Single point of administration
- Cannot span the scope of a Sysplex (z/OS)

### ■ Base Application Server

- A single, stand alone server for deploying J2EE applications
- Contains a Web container, EJB Container, Naming services
- May contain JMS services
- Contains the Administrative Application

## V5 Terminology

### ■ Servers in Network Deployment Environment

- **Deployment manager**
  - Manages a distributed topology
  - Contains the Administrative Application for a cell
  - Manages files in a central configuration repository
  - Communicates with Node Agents
- **Node Agent**
  - Manages servers which are part of the node
  - Manages configuration files for the node
  - Communicates w/Deployment Manager & Application Servers on node
- **Application Server**
  - Server for deploying J2EE applications
  - Contains a Web container, EJB Container, Naming services
- **JMS Server**
  - Server for Embedded JMS

## V5 Terminology

### ■ Cluster

- Set of application servers with the same applications installed
- Grouped logically for workload management and failover
- Cannot span cell boundaries
- Can span multiple nodes within a cell

### ■ Cluster Member

- An application server which is part of a cluster

### ■ Managed Server

- Server managed by Deployment Manager & Node Agent
- JMS Server
- Application Server
- Cluster Member

## V5 Terminology – z/OS Only

### ■ Control Process

- z/OS Server contains one of these
- An instance of a JVM
- Performs system level work for the z/OS server
- Routes requests to Servant Processes

### ■ Servant Process

- z/OS Server contains 1 to many of these
- They are dynamically allocated as needed
- Each is an instance of a JVM
- Performs application level work for the z/OS server

### ■ Daemon

- IIOp location server
  - Listens to a well known IIOp port assignment exported in indirect IORs
  - Knows current IIOp port assignments for all servers
  - Provides location forwarding for IIOp requests
- Must be running at all times

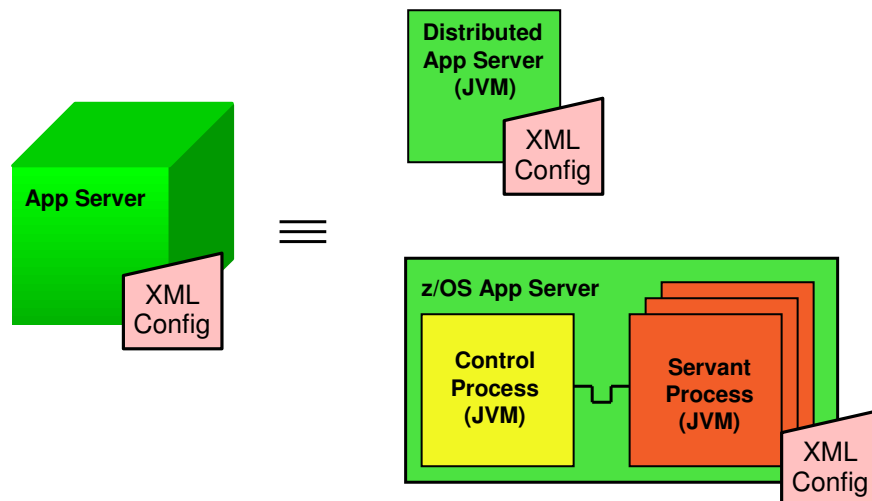
## V5 Terminology - z/OS V4→V5

Version 5	Version 4
Cell	Node (sort of)
Cluster	Server
Cluster Member	Server Instance
Node Agent & Deployment Manager	System Management Server (sort of)
Control Process	Control Region
Servant Process	Server Region

## Section

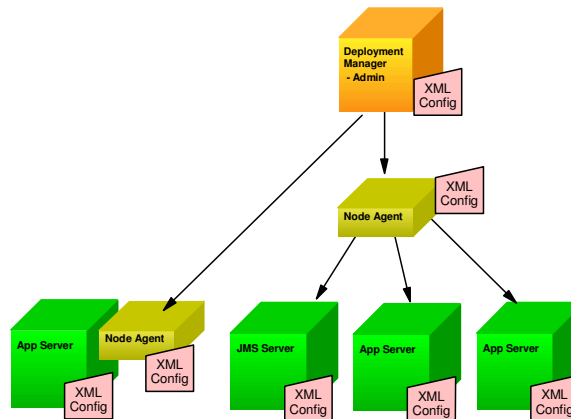
# Topology

## V5 Topology – Base Application Server



## V5 Topology – Network Deployment

- Deployment Manager
- Two Nodes



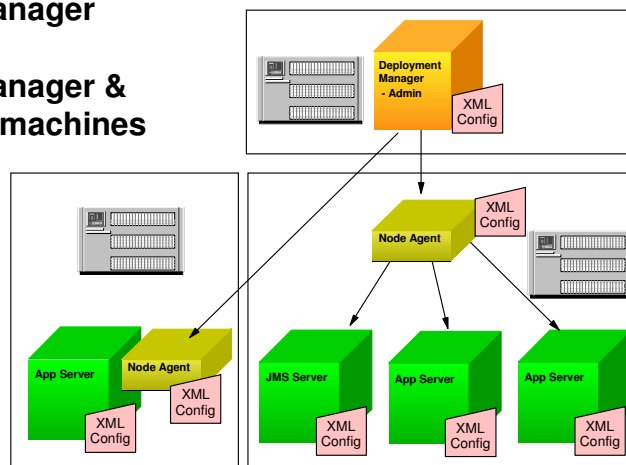
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## V5 Topology – Network Deployment

- Deployment Manager
- Two Nodes
- Deployment Manager & Nodes on own machines



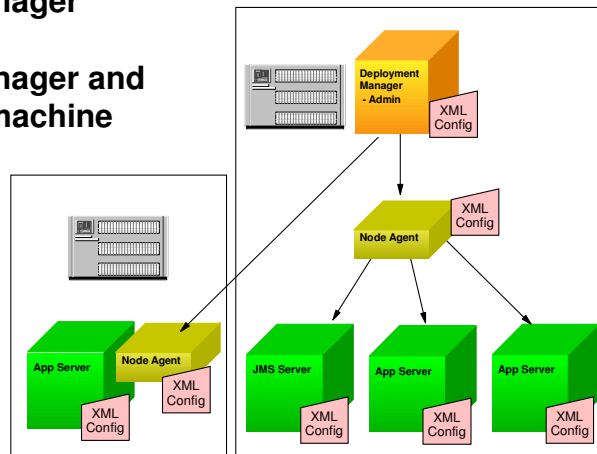
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## V5 Topology – Network Deployment

- Deployment Manager
- Two Nodes
- Deployment Manager and Node on same machine



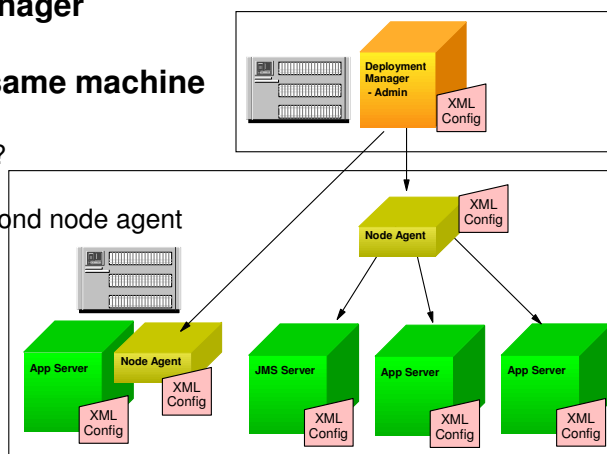
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## V5 Topology – Network Deployment

- Deployment Manager
- Two Nodes
- Two nodes on same machine
- Possible, but
  - to what purpose?
  - not best practice
  - no benefit to second node agent



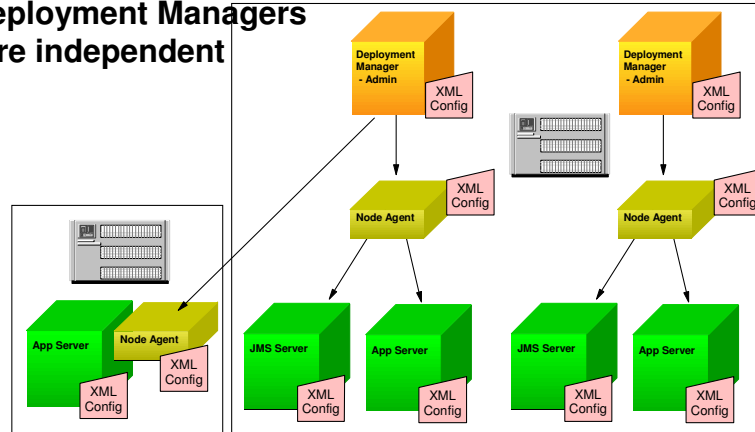
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## V5 Topology – Network Deployment

- Multiple Cells on same machine
- Two Deployment Managers
- Cells are independent



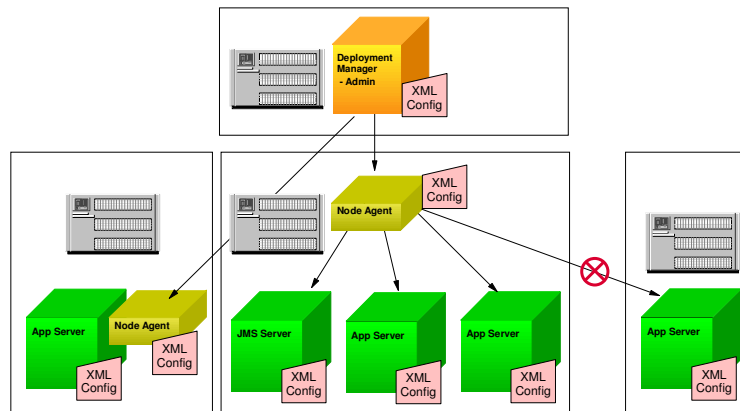
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## V5 Topology – Network Deployment

- INVALID CONFIGURATION**
- Nodes cannot span machine boundaries



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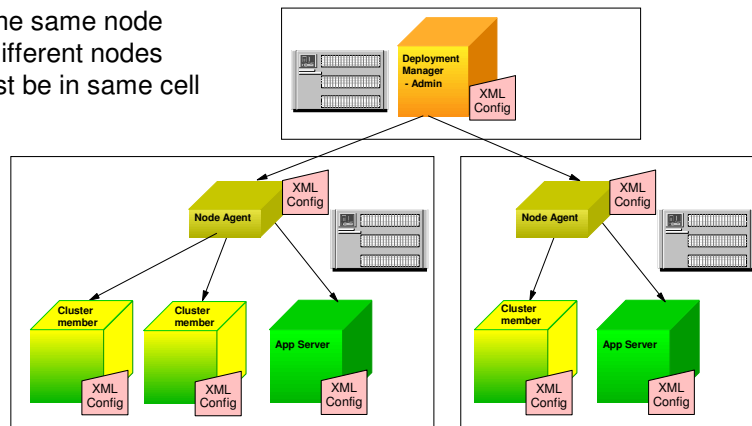
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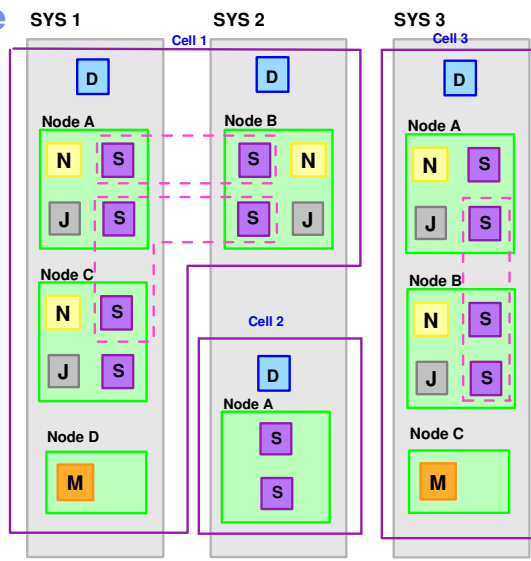
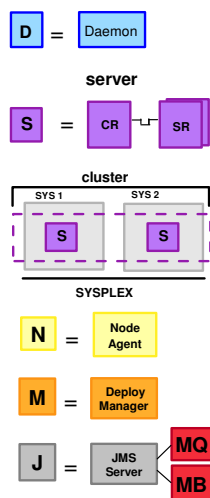
## V5 Topology – Cluster

### Cluster members can be:

- In the same node
- In different nodes
- Must be in same cell



## z/OS Sysplex Example



## Summary

### ▪ Defined Important Terms

- Cell
- Node
- Server
- Cluster
- Cluster Member
- Deployment Manager
- Node Agent

### ▪ Presented Topology Options

### ▪ Common Terminology/Topology for z/OS & Distributed