IBM: Power Systems for AIX Virtualization 1: Implementing Virtualization (AN30G)

Course ID#: 0376-110-00-W
Hours: 35

Course Content

Course Description:
This course provides an overview of the PowerVM edition's features on POWER6 and POWER7 processor-based systems. It explains the new features and benefits of virtualization including processor virtualization, Integrated Virtual Ethernet, Virtual I/O Server, and virtual devices, such as virtual Ethernet, virtual SCSI, and virtual Fibre Channel adapters. Basic and advanced configurations of the Virtual I/O Server and its clients are discussed including various availability options.
Expand your knowledge about PowerVM features that were introduced in Power Systems for AIX I: LPAR Configuration and Planning (AN110) / Power Systems for AIX I: LPAR Configuration and Planning (ILO) (AX110).
This course provides lectures and hands on labs in an instructor lead course environment, either in a face-to-face classroom or in a live virtual classroom environment (ILO - Instructor Led Online).

Audience:
This advanced course is appropriate for System Administrators, Technical Support Personnel, and Business Partners responsible for implementing LPARs on IBM Power Systems with AIX servers.

Prerequisites:
You should have advanced system administration experience with AIX 5.3 **or** later. This prerequisite may be met by attending one of the following courses:

- *Power Systems for AIX II: AIX Implementation and Administration (AN120)* **or** *Power Systems for AIX II: AIX Implementation and Administration (ILO) (AX120)*
- *AIX Jumpstart for UNIX Professionals (AN140)* **or** *AIX Jumpstart for UNIX Professionals (ILO) (AX140)*
- **or** you must have equivalent AIX and LPAR skills.

General TCP/IP knowledge is strongly recommended. This prerequisite may be met by attending *AIX 5L TCP/IP I: Configuration (AU070)* **or** *TCPIP for AIX Administrators (AN210)* / *TCPIP for AIX Administrators (ILO) (AX210)*.
You are also expected to have logical partition administration skills on POWER6 **or** POWER7 processor-based systems, which can be obtained by attending Power Systems

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for *AIX I: LPAR Configuration and Planning (AN110)* **or** *Power Systems for AIX I: LPAR Configuration and Planning (ILO) (AX110).*

Objective

Discuss the advantages or value of PowerVM edition's features
Define micro-partitioning and shared processor LPARs
Discuss the benefits of simultaneous multithreading
Discuss and configure the Integrated Virtual Ethernet (IVE)
Install and configure the Virtual I/O Server
Configure virtual network devices, such as virtual Ethernet and shared Ethernet adapters
Configure virtual SCSI and virtual Fibre Channel storage adapters
Configure virtual SCSI target devices on a virtual SCSI adapter
Define file-backed storage pools and file-backed virtual optical devices
Identify single points of failure in virtualized environments
Configure multiple VIO servers for high availability
Configure advanced virtual networking options
Configure the shared Ethernet adapter failover feature
Configure advanced virtual SCSI options
Configure MPIO in a VIO server's client partition
Manage the service events, configure call home, add, exchange FRUs, and discuss FSP failover
Perform PowerVM (VIOS) Maintenance

Course Outline

Day 1
- Unit 1: Introduction to partitioning
  - Exercise 1: Power System documentation overview
- Unit 2: Processor virtualization
  - Exercise 2: Processor virtualization configuration

Day 2
- Unit 3: Integrated Virtual Ethernet
  - Exercise 3: Integrated Virtual Ethernet configuration
- Unit 4: Virtual Ethernet
  - Exercise 4: Virtual Ethernet Adapter configuration
- Unit 5 - Topic 1: Virtual I/O Server and virtual devices
  - Exercise 5 - Topic 1: Virtual I/O Server and client partition configuration

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Day 3

- Unit 5 - Topic 2: Virtual I/O Server and virtual devices
  - Exercise 5 - Topic 2: Virtual I/O Server and client partition configuration
- Unit 6: Virtual network configurations with dual VIOS
  - Exercise 6: Shared Ethernet adapter failover setup

Day 4

- Unit 7: Virtual SCSI configurations with dual VIOS
  - Exercise 7: Dual VIO servers configuration with MPIO in the client partition
- Unit 8: N_Port ID Virtualization
  - Exercise 8. Virtual Fibre Channel adapter configuration
- Unit 9: Migration from Physical to Virtual Storage

Day 5

- Unit 10: HMC Service Management.
  - Exercise 9: Manage Service Events
- Unit 11: PowerVM advanced systems maintenance
  - Exercise 10: PowerVM system maintenance
  - Exercise 11: (Optional) file-backed virtual disk and virtual media repository configuration