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IBM zEnterprise System: A Technical Introduction  
Information

**Length:** 1.0 Day  
**Ref:** ESA0G-X  
**Delivery method:** Classroom  
**Price:** EUR

Overview

This course is designed to provide a technical introduction to the new IBM zEnterprise System (zEnterprise). The zEnterprise now makes it possible to deploy an integrated hardware platform that brings mainframe and distributed technologies together. This course will discuss the main components that make up this platform: the IBM zEnterprise 196 (z196), IBM zEnterprise BladeCenter Extension (zBX), and the IBM zEnterprise Unified Resource Manager. It will describe and explain new functions, terminology and concepts such as nodes, ensembles, intranode management network, OSX, OSM, zDAC, IBM Smart Analytics Optimizer, and more.

It will describe why the typical enterprise data center consists of multiple hardware platforms with multiple architectures and varying infrastructure. Today multitier application architectures and their deployment on heterogeneous infrastructures are common. What is uncommon is the infrastructure needed to provide the high qualities of service required by mission critical applications. This course will describe how the resources of the zEnterprise provides the necessary infrastructure and can be managed and virtualized as a single pool of resources, integrating system and workload management across the multisystem, multitier, multi architecture environment.

This course will provide detailed technical information on the new z196 server. It will describe the new functions, features and models available. Processor, book, and CSS enhancements will be detailed with comparisons to previous System z servers. HMC enhancements and configuration options will be described along with the new role the HMC will play in the zEnterprise System.

It will include information relating to the zBX such as: configuration and content of the zBX, data and management networks, maintenance firmware strategy, connectivity requirements to the z196, and the zBX components.

Public

This intermediate course is for anyone requiring a technical understanding of the IBM zEnterprise System; z196, zBX and the unified resource manager. This could include IT architects, hardware planners for pre-planning purposes, system programmers to understand software and hardware support, and technical support personnel who are directly involved in support of the zEnterprise system.

## Prerequisites

You should already have:

- A good understanding of the mainframe environment. This experience could be from a current job position **or** attending previous mainframe education classes.

If not currently familiar with the IBM system z servers the following course is recommended:

- *A Technical Overview of the hardware and software Evolution (ES82)*

## Objective

- Describe the purpose of the zEnterprise System
- Identify the major new functions and features of the zEnterprise 196 Central Processing Complex
- Explain the purpose and concept of the IBM zEnterprise BladeCenter Extension (zBX)
- Describe the purpose of the Unified Resource Manager and the various system layers that it can work across
- Describe the typical Enterprise data center in relationship to the following:
  - Why server consolidation and virtualization is becoming increasingly important
  - Why an application fit for purpose solution is used when selecting a platform for new and existing workload deployment
  - How a multi-tiered application workload flows through and across the various server platforms
  - How the zEnterprise System with the zBX can simplify server consolidation and multi-tiered workload in an enterprise
- List major new function and features of the z196
- Identify the z196 models, operating system levels, capacity settings, frame layout, cage and component locations
- Describe processor and memory enhancements and options
- Compare and identify book and memory cache structure between z10 and z196 servers
- Compare I/O connectivity data path from CEC cage to I/O cage to I/O adapter and contrast with previous z10 server
- Describe the differences between I/O cages and I/O drawers and list supported channels.
- Identify channel subsystem and I/O related enhancements
- List HMC 2.11.0 enhancements
- Identify new tasks lists, new tasks, and new removable media
- Describe the different zBX models components and purpose
- Identify what components are provided by IBM when ordering a zBX.
- Describe a zEnterprise ensemble:
  - Minimum and maximum configurations
- Identify the OSA features, CHPID types, cabling and routing required for the INMN and IEDN in a zEnterprise ensemble node

- List networking security characteristics and considerations for the zEnterprise ensemble.
- Describe the purpose of the IBM Smart Analytics Optimizer
- Identify disk requirements for IBM Smart Analytics Optimizer and how it is connected to the BladeCenter
- Describe the difference between coordinator node and a worker node
  - Resource discovery and inventory
  - Hypervisor support
  - Virtual server lifecycle management
  - Naming workload to represent physical and virtual resources
  - Defining a performance policy, monitoring and reporting
  - Explain the difference between the Unified Resource Manager automate firmware suite and the manage firmware suite

## Topics

### Day 1

- (00:30) Welcome
- (01:30) Unit 1: Introducing the zEnterprise System
- (02:00) Unit 2: zEnterprise 196
- (01:30) Unit 3: zEnterprise BladeCenter Extension
- (01:30) Unit 4: HMC and zManager: Purpose and use