The Unified Resource Manager firmware options: There are different Unified Resource Manager options or suites that provide different levels of functionality. This licensed firmware is configured to the Z/Enterprise CPCS serial number of your Z/Enterprise system. All Z/Enterprise CPCS servers come with a default management suite that provides basic functions. Manage suite provides functions that can be used to control and monitor the ZBX.

- **Autotome suite**: supports the same functions as the management suite. It also expands on the capabilities of workloads and performance management. With the autotome suite you can define custom workload names and use names to differentiate between multiple workloads in an ensemble by creating named workload definitions. The performance management capabilities are also improved.

- **Advanced management suite** provides functions for virtual servers on System x blades. It provides the same workload and performance management functions with the exception of dynamic processor resource adjustments.

- **It supports the following functions:**

  - Wizard function to set up resources associated with a workload and the capability to associate those resources with a named business process.
  - Power capping
  - Performance monitoring and reporting

The API - Asynchronous notification facility More sophisticated management applications, including those for discovery, monitoring, and advanced provisioning, are not single-request-and-forget with respect to the Unified Resource Manager. Rather, such applications need to obtain and retain (fast, is cache) information about the inventory, configuration, and status of many Unified Resource Manager resources, and to keep a record of the configuration information up to date. To support these applications, the web services API provides an asynchronous notification facility by which Unified Resource Manager can inform interested clients about updates to resources managed by Unified Resource Manager.

- **Applications about changes to the resources managed by Unified Resource Manager.**

- **Integration, monitoring, and management of multi-tiered infrastructure**

- **End-to-end customized governance and management of multi-tiered infrastructure**

- **Improved security and automated problem resolution**

- **Reduced human error for firmware maintenance**

- **Increased integration, management, and control across multiple platforms and environments**

- **Fully automated virtualization configurations and management**

- **Dynamic policy enforcement and management**

- **Centralized control through the Unified Resource Manager**

- **Improved system performance and resources, in-band monitoring makes this data available.**

- **Virtualization configuration (version and name of hypervisor)**

- **Performance capacity and memory**

- **Storage resources, I/O activity, and bandwidth**

- **Networking**

- **Business resiliency, availability, backup and restore, and redundancy**

- **Integration, monitoring, and management of multiple through sharing large pools of compute resources**

- **Maintenance of continuous business operations 24x7**

**Choosing one or more business solutions to migrate to Ensembles**

- **The affinity with System z. The ensemble is designed for efficient interaction between IBM blades, optimizers, and Enterprise.**

- **The opportunity for added value in running the solution in an ensemble, such as centralized control through the Unified Resource Manager.**

- **The computer architecture of each component of the business solution.**

- **The resources that the solution consumes, such as:**
  - Processing capacity and memory
  - Storage resources, I/O activity, and bandwidth
  - Networking

- **The opportunity for added value in running the solution in an ensemble, such as:**
  - End-to-end customized governance and management of multi-tiered infrastructure
  - Improved security and automated problem resolution
  - Reduced human error for firmware maintenance
  - Increased integration, management, and control across multiple platforms and environments
  - Fully automated virtualization configurations and management
  - Dynamic policy enforcement and management
  - Centralized control through the Unified Resource Manager

**The benefit of setting up a workload resource group (WRG) and its elements, including workload resource groups and policies.**

**Launching the New Workload Resource Group task for an ensemble**

- **The New Workload Resource Group wizard is an HMC guide that steps you through the process of defining a workload resource group, creating new workload resource groups and policies.**

- **The New Workload Resource Group wizard is particularly useful when you are setting up an ensemble for the first time and its elements, including workload resource groups and policies.**

**Using the HMC to manage an ensemble Managing an ensemble requires an extended role for the HMC since the traditional role of the HMC is to manage one or more System z servers.**

- **Up to eight Z/OS CPCS, with or without blades, can be managed as an ensemble.**

- **The Unified Resource Manager suite installed on the HMC is required to manage an ensemble.**

- **If deployed and provisioning The Unified Resource Manager can be used for rapid deployment and provisioning of virtual servers, storage, and networking that are used by workloads across multiple platforms and environments.**

- **The Unified Resource Manager via the HMC interface provides a simplified uniform approach to provisioning resources and services.**

- **Using the HMC ensemble tasks, virtual resources can be defined by completing entries and selections identified for that virtual resource. Only the entries that require a response are presented to the user.**

- **After the appropriate HMC windows are completed the Unified Resource Manager takes care of all the underlying tasks required.**

- **The Unified Resource Manager requires the management suite with enhanced functions to provide these services.**

**Planning for service and lifecycle management**

- **Service and lifecycle management for blades in a ZBX is different than for an IBM z/Enterprise system.**

- **A traditional BladeCenter, unlike the ZBX, generally perform manually are automated.**

- **When a ZBX is serviced by IBM (under warranty or post-warranty maintenance service contract), IBM delivers Z/OS workloads.**

- **The components of the ZBX, unless you request to have such service delivered according to the blade's entitlement.**

- **The maintenance is managed by the Unified Resource Manager, accessible through the HMC, and the supporting processor Support Elements (SE). The following support is provided:**
  - Task IBM service technician performs all actions from the supporting System z processor Support Elements.
  - Firmware upgrades are downloaded and applied from the supporting System z processors Support Elements from the Unified Resource Manager through the Support Elements.
  - ZBX instrumentation is supported to IBM through the host RETAIN® connection (24x7).
  - Operators are able to monitor and control all the ZBX blades from the Unified Resource Manager windows through the HMC.