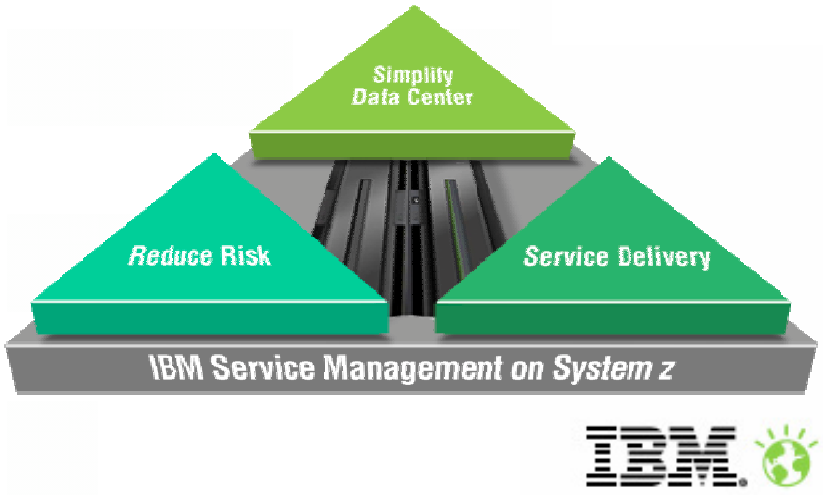
IBM Service Management on System z for zEnterprise

The one system
that will unite the others.



zEnterprise:

A system of systems that unifies IT for optimized service delivery

zEnterprise Unified Resource Manager

- Unifies management of resources, extending IBM System z qualities of service end-to-end across workloads
- zEnterprise firmware that provides platform, hardware and workload-aware resource management

IBM zEnterprise™ 196 (z196)

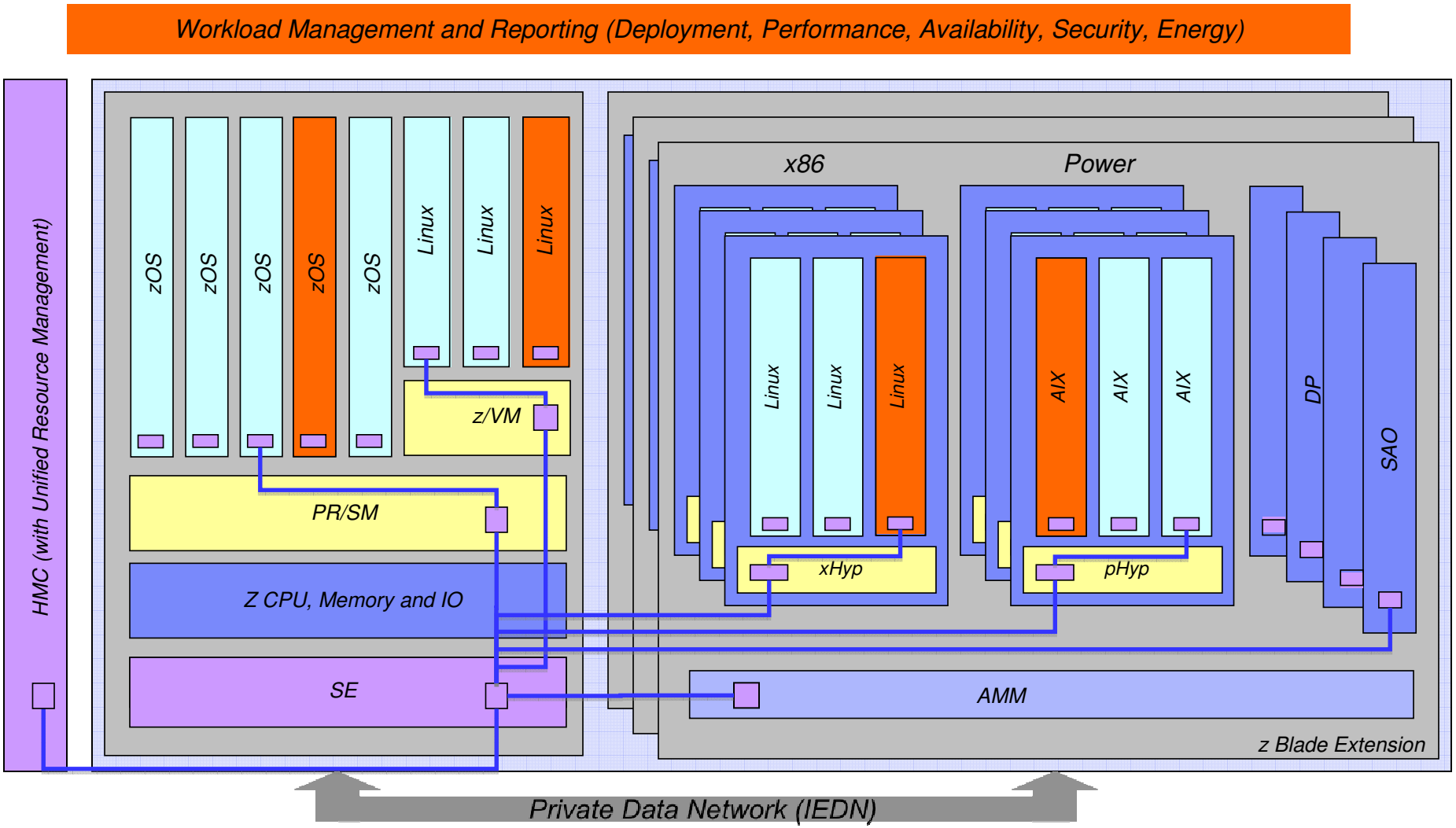
- Optimized to host large scale database, transaction, and mission critical applications
- The Most efficient platform for Large-scale Linux consolidation
- Capable of massive scale up
- New easy to use z/OS® V1.12

zEnterprise BladeCenter Extension (zBX)

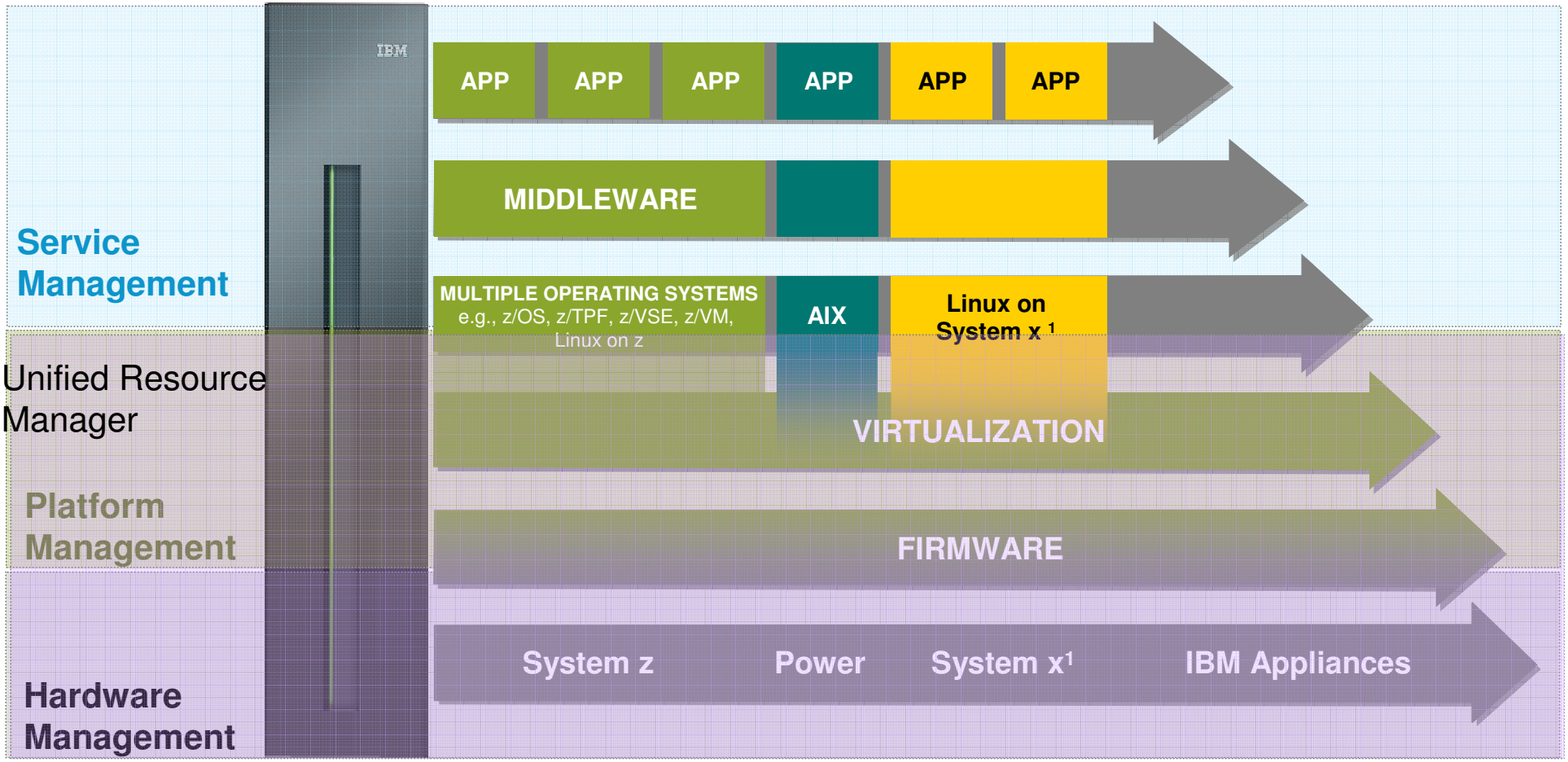
- Selected IBM POWER7™ blades and IBM System x® Blades* for tens of thousands of AIX® and Linux applications
- High performance optimizers and appliances to accelerate time to insight and reduce cost
- Dedicated high performance private network

*All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

zEnterprise System



zEnterprise: Service Management Stack



Focused, collaborative innovation

A "complete systems" approach

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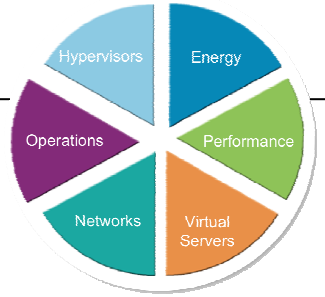
zEnterprise Unified Resource Manager Features



- Integrated Hardware Management across all elements of the Hybrid
  - Operational Controls
  - Firmware Inventory, Update, and Service
  - Hardware and Firmware Problem Detection, Reporting, and Call Home, Field Guided Repair and Verify
  - Physical Hardware Configuration, Backup, and Restore
  - Secure Internal Management Network
  - Integrated Discovery and Resource Inventory

- Integrated Hypervisors
  - Packaged, Deployed, and Serviced as System z Firmware
  - Integrated Hypervisor Management (Configuration, Monitoring, Problem Management and Reporting, Service)
  - Automated Backup and Recovery of Hypervisor Configuration, Isolated from Hardware Failures
  - Secure Internal Management Network
  - Part of the Trusted Compute Base (Intrusion Prevention, Integrity, Secure Virtual Switches)

- Intra-Node Management Network (INMN)
  - Single private, secure and physically isolated network facilitates management of complex without impact from or to business function running on data networks

- zEnterprise Data Network (IEDN)
  - Simple, Pre-Configured Network Configuration
  - Secure, Access Controlled Virtual LANs with Dynamic VLAN Provisioning
  - Reduced Need for Firewalls and Encryption, Reduced Network Hops
  - Fully Redundant for Availability

- Energy Management
  - Energy consumption reporting across all elements of zEnterprise
  - Integrated Graphical Interface and Integration with Active Energy Manager

- Virtualization Management
  - Dynamic Provisioning of Virtual Servers, Virtual LANs, and Virtual Storage
  - Consistent Interface Across Hypervisor Types

- Workload Awareness
  - Ability to represent physical and virtual resources used in the context of a Deployed Business Function (Workload)
  - Basis for Monitoring, Reporting, Resource Optimization, and Recovery (Service Level Objective Alignment)

- Platform Performance Management
  - Workload Scoped, Goal Oriented Policy
  - Virtual Server Monitoring and Reporting
  - Adjustment of Virtual CPU Capacity across all Hypervisors (Multi-Hypervisor IRD)
  - Goal aligned Balancing Recommendations to Network Routers and DataPower

- IBM Smart Analytics Optimizer
  - Complex Query Accelerator extension to DB2 for z/OS
  - Application Transparent
  - Query Acceleration and Consistency
  - Managed from DB2 for z/OS and zEnterprise zManager

- DataPower Integration
  - Integrated Hardware Management
  - Benefits from performance/simplification/security of zEnterprise Data Network
  - Integrated with Platform Performance Management

Extending zEnterprise Unified Resource Manager with Integrated Service Management

zEnterprise
Unified Resource Management

- Workload-based Resource Allocation & provisioning for zEnterprise
- Physical & Virtual Resource Management
- Goal Oriented Management of zEnterprise resources (Availability, Performance, Energy, Security)
- Faster transaction processing with reduced network latency

- Operational Controls for Hardware/Firmware
- Service & Support for Hardware/Firmware
- Hardware configuration management

Tivoli &
Integrated Service Management

★ Visibility, Control and Automation for Applications, Transactions, Databases, all Datacenter Resources

★Integrated Operational Dashboards to monitor and manage service impacting events

★KPIs applied to Business Services for impact analysis

★Heterogeneous data in ONE

★Business Service Modeling for planning

★Contextual Correlation to reduce MTTR

★Establish and automate SLA tracking

zEnterprise value made possible by the Unified Resource Manager

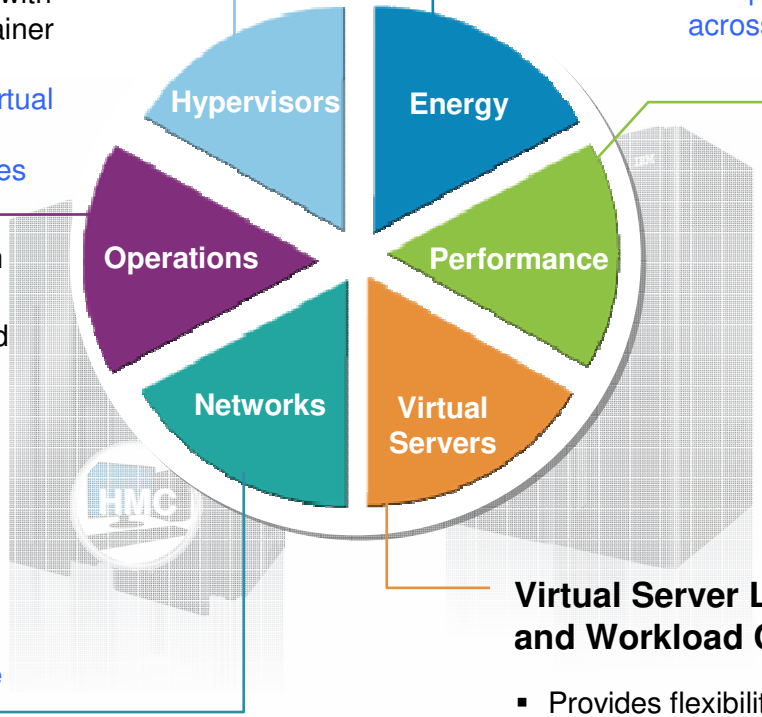
and Integrated Service Management from Tivoli

Hypervisor Management

- Simplified installation of hypervisors.
- Gain significant time to market with improved speed of virtual container deployment.
- ISM adds the provisioning of virtual images and orchestration of config/change/release processes

Energy Management

- Simplified energy management.
- Energy cost savings.
- ISM provides monitoring of energy usage across data center and management to policy.



Operational Controls

- Save time, cost and simplify platform management.
- Decrease problem determination and resolution time for zEnterprise resources.
- Improve and simplify cross-platform availability.
- Enable broader and more granular view of resource consumption.
- ISM adds insights on the application topology to the platform views to accelerate TTV and SLA compliance

Platform Performance Management

- Allow critical workloads to receive resources and priority based on goal-oriented policies established by business requirements.
- Smart business adjustments based on workload insight.
- ISM provides business policies and application topology insights for input to platform policies and actions.

Network Management

- Higher security and lower latency for network.
- Simplified network environment for applications.
- ISM provides management of network resources in the context of the workloads they support – e.g. performance, availability (SLAs) and consistency with security constraints

Virtual Server Lifecycle Management and Workload Context

- Provides flexibility, consistency and uniformity of virtualization management interfaces.
- Provides deep insight into how IT resources are being used and operations across virtual server lifecycle.
- Accelerates the time to deploy new virtual servers
- ISM provides workflows for IT resource deployments and interfaces to platform manager on lifecycle operations for business services

zEnterprise System