S H A R E
Technology · Connections · Results

Managing Your zEnterprise Platform with New Tivoli Monitoring Support

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IBM

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New visibility into consolidated zEnterprise Workloads

- IBM continues to enhance the zEnterprise platform with open APIs for monitoring capabilities

- Tivoli products for zEnterprise Monitoring provide **visibility** to zEnterprise objects for performance monitoring, problem determination, capacity and performance planning
  - Resources
  - Relationships
  - Workload goal fulfillment and utilization

- Tivoli zEnterprise Monitoring offers **improved Time-to-Value:**
  - Data is collected once, maintained in single repository and shared by many
  - Data collected for both, monitoring and discovery technologies
  - Enterprise Common Collector packaged with all products but is installed and configured only once

- Existing customer investments are protected due to **integration** with other Tivoli products

IBM zEnterprise Systems – Best in Class Systems and Software Technologies

A system of systems that unifies IT for predictable service delivery

Unified management for a smarter system:
zEnterprise Unified Resource Manager

- Unifies management of resources, extending IBM System z® qualities of service end-to-end across workloads
- Provides hardware, platform, and workload management

The world's fastest and most scalable system:
IBM zEnterprise™ 196 (z196) or zEnterprise™ 114 (z114)

- Ideal for large scale data and transaction serving and mission critical applications

Scale out to a trillion instructions per second:
IBM 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 costs
- Dedicated high performance private network

z/OS

z/VM

z/VSE

z/TPF

Linux

HMC

AIX

Linux

zEnterprise Unified Resource Manager
Transforming how resources are managed and deployed

What is it?

Unified Resource Manager provides infrastructure awareness to optimize the system resources utilization based on workload policy.

Functions are grouped into suites of tiered functionality that enable different levels of capability – Manage, Advanced Management and Automate.

How is it different?

- **Heterogeneous management:** Total systems management across heterogeneous resources. APIs facilitate enterprise wide management.

- **Integration:** Single point of control, common skills for resources, reduced complexity of day to day operations..

- **Monitoring.** New dashboard for CPU resources and energy management.

- **Simplified installation:** Auto discovery and configuration of resources and workloads with single interface

- **Secure:** Improved network security with lower latency, less hops and less complexity. Improved control of access due to management of hypervisors as firmware.

- **Service and support management:** Virtual machines and blades able to perform hardware problem detection, reporting and call home
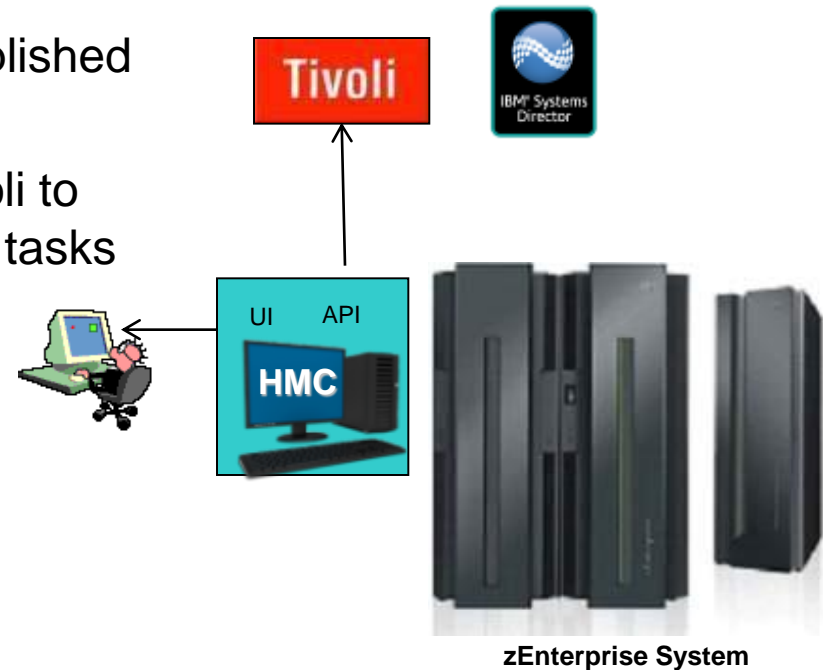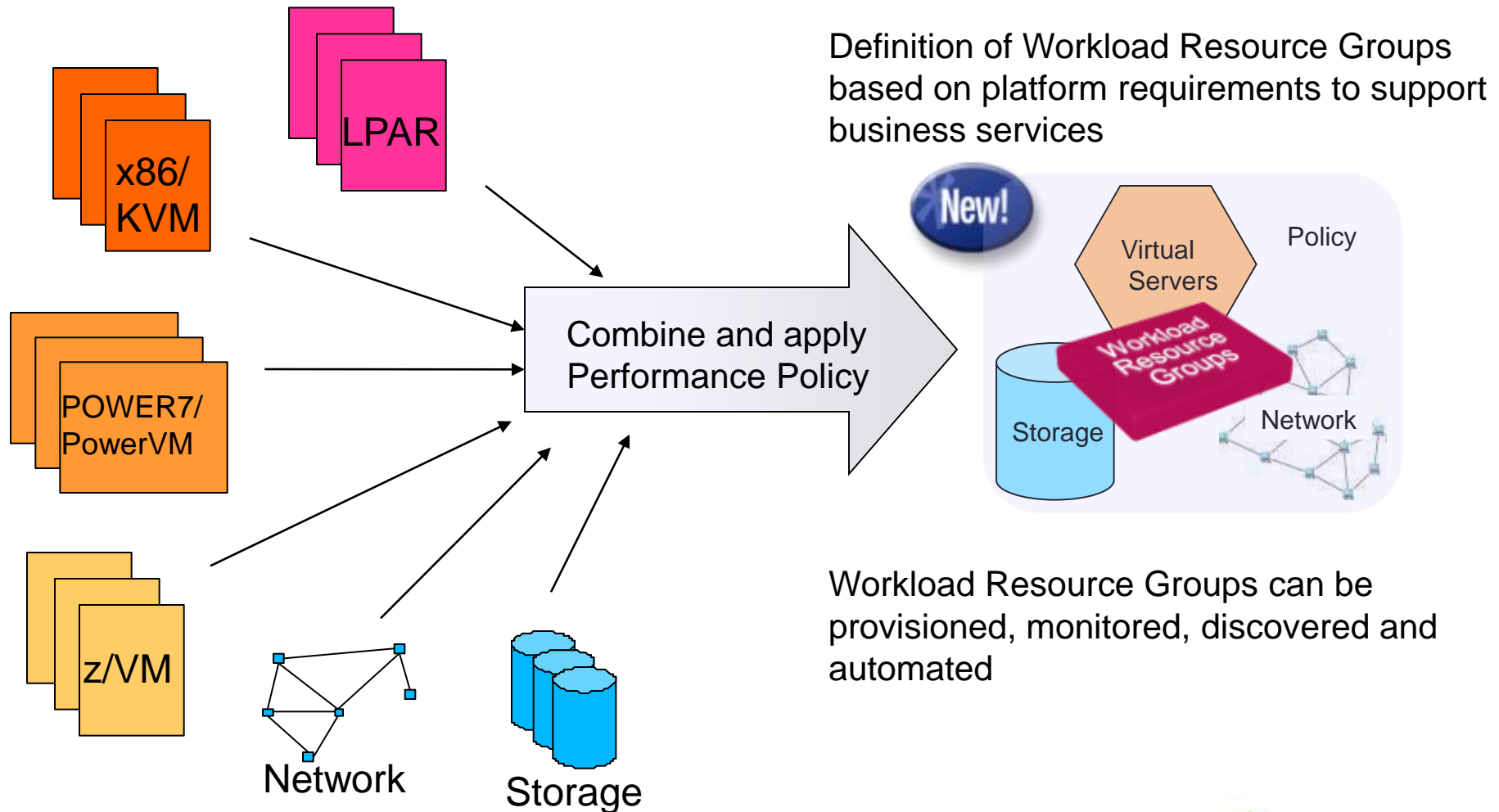
Unified Resource Manager APIs
Enabling Tivoli management tools

- API support allows programmatic access to the same underlying functions exploited by the HMC user interface (UI)

  - Configuration using the zHMC UI is accomplished using panels in a wizard-style interface

  - Unified Resource Manager IPIs enable Tivoli to have programmatic access to configuration tasks (create, delete modify).

    - Discover, monitor, provision, configure zEnterprise heterogeneous resources
      - *Hypervisers*
      - *Virtual servers*
      - *Storage devices*
      - *Network configuration*
      - *Workload Resource Groups*
      - *Performance policy*
   - Notifications enable dynamic awareness of newly added/deleted resources

zEnterprise System

Managing Workload Resource Groups

x86/ KVM

LPAR

POWER7/ PowerVM

z/VM

Network

Storage

Combine and apply Performance Policy

Definition of Workload Resource Groups based on platform requirements to support business services

New!

Virtual Servers

Policy

Workload Resource Groups

Storage

Network

Workload Resource Groups can be provisioned, monitored, discovered and automated

Data Centers today are 'siloed'
multiple heterogeneous technologies and vendors
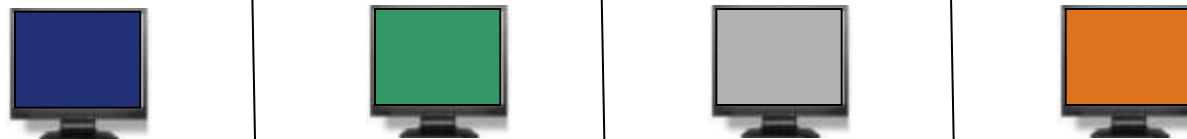
Today's Data Center

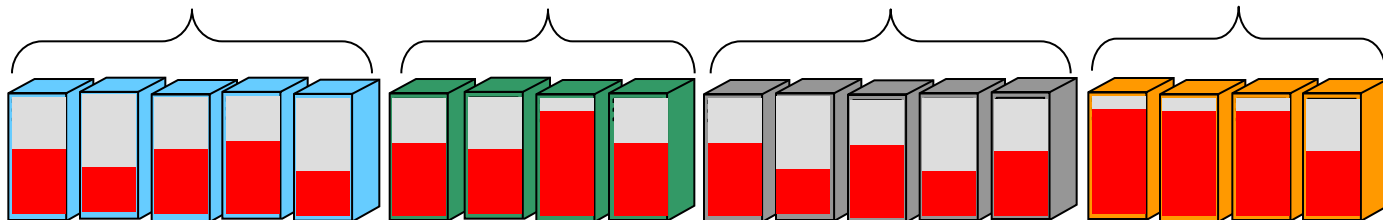*Siloed service delivery processes*

Service Lifecycle Management
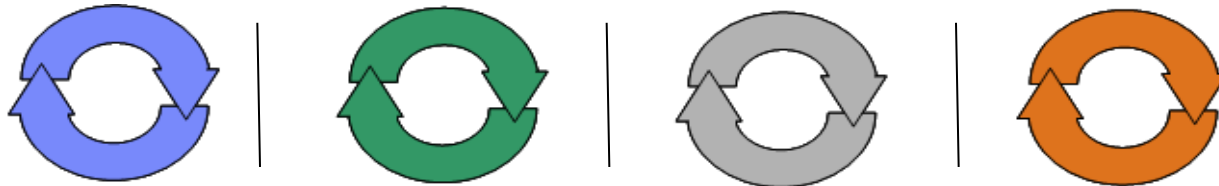
Multiple platform management systems

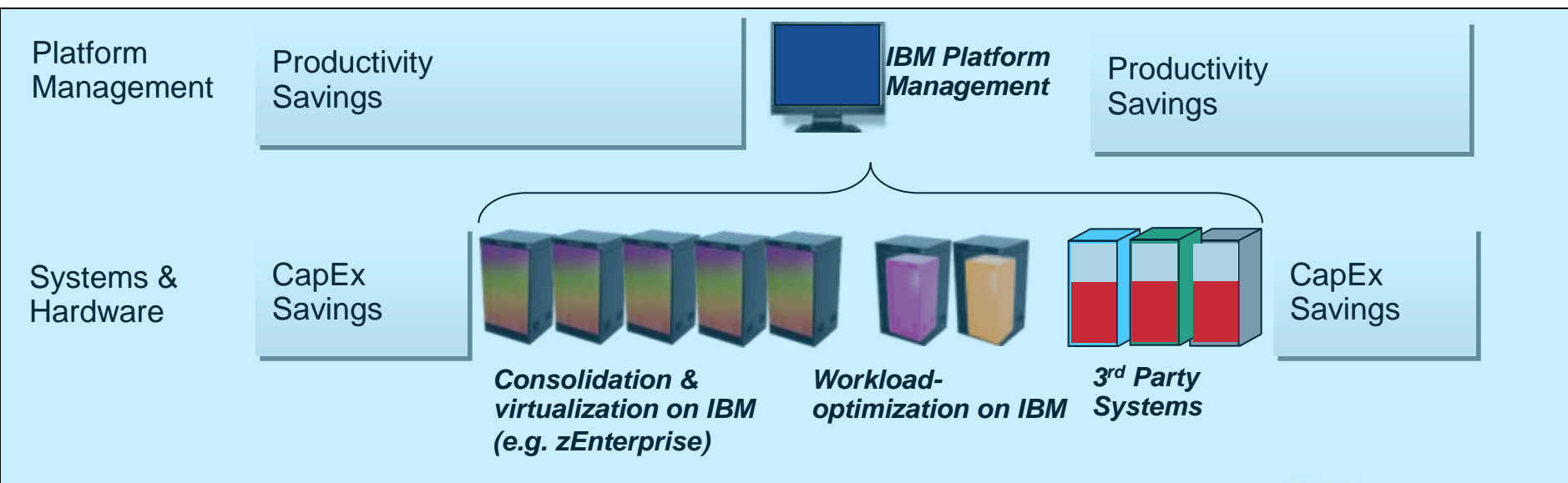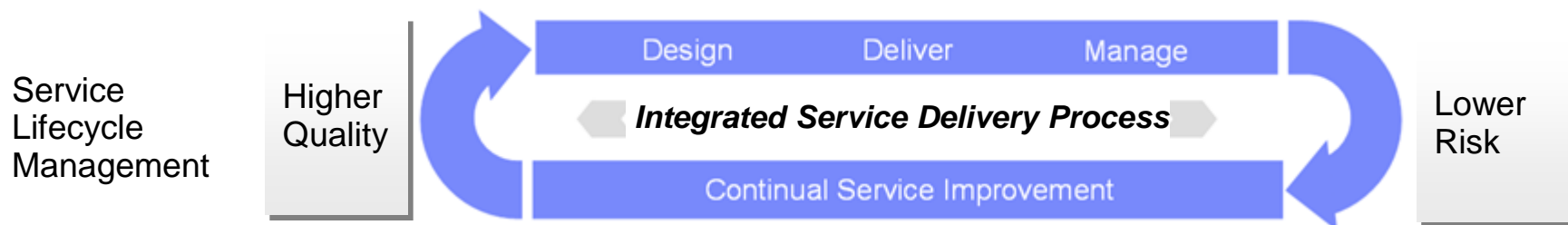**Platform Management**

Systems & Hardware

Sub-optimized, heterogeneous, multi-vendor systems

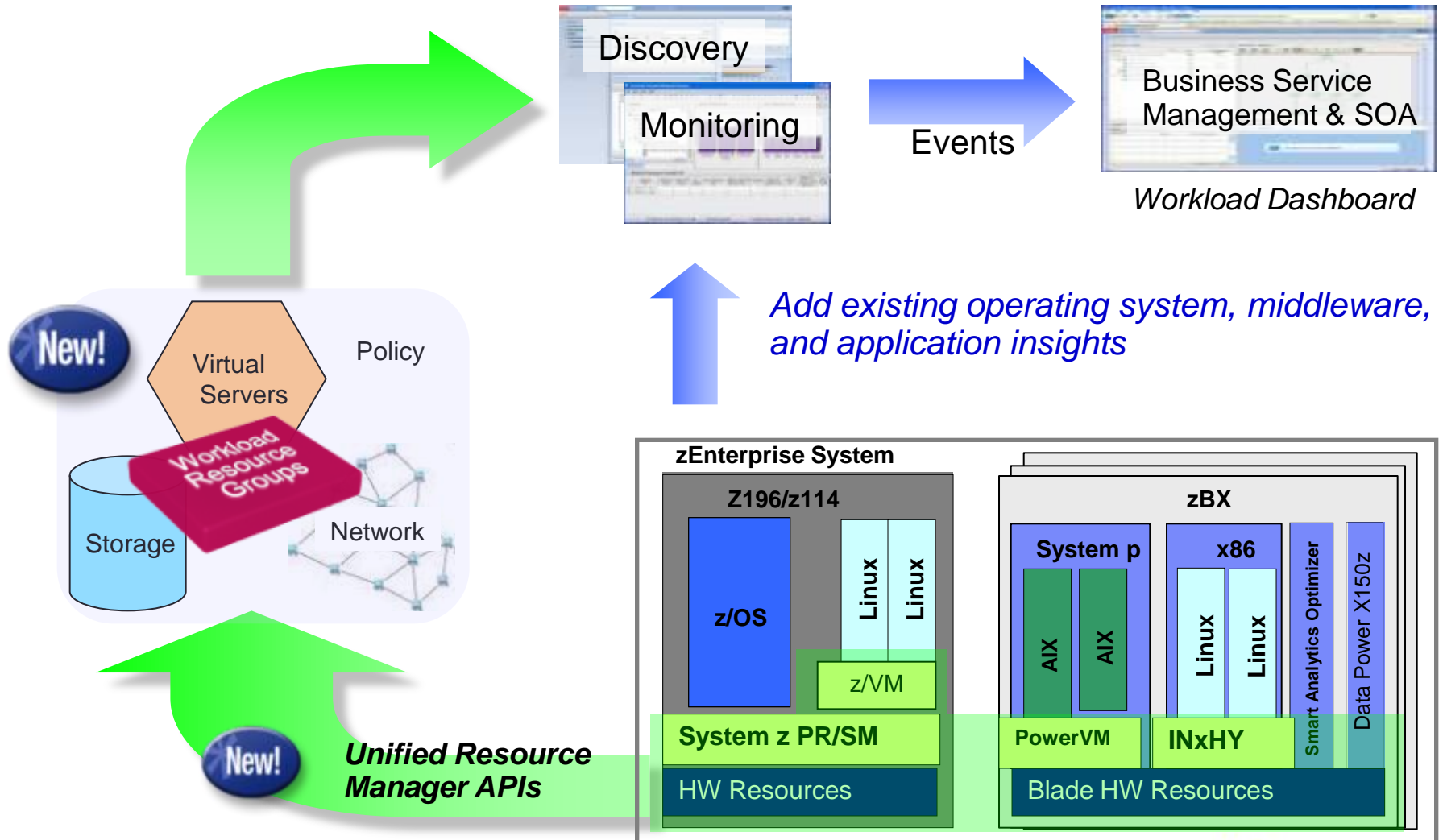# Tivoli Service Management ensures service quality and integrity from the next generation of data centers

Optimized Data Center

Service Management extends across all three layers

		Design	Deliver	Manage	
Service Lifecycle Management	Higher Quality	*Integrated Service Delivery Process*			Lower Risk
		Continual Service Improvement			

			IBM Platform Management	
Platform Management	Productivity Savings			Productivity Savings
Systems & Hardware	CapEx Savings			CapEx Savings

Consolidation & virtualization on IBM (e.g. zEnterprise)   *Workload-optimization on IBM*   *3rd Party Systems*

Tivoli monitoring and discovery can track and manage Workload Resource Groups across zEnterprise

Discovery

Monitoring

Events

Business Service Management & SOA

Workload Dashboard

Add existing operating system, middleware, and application insights

New!

Virtual Servers

Policy

Workload Resource Groups

Storage

Network

New!

Unified Resource Manager APIs

zEnterprise System

Z196/z114

z/OS

Linux

Linux

z/VM

System z PR/SM

HW Resources

zBX

System p

AIX

AIX

x86

Linux

Linux

Smart Analytics Optimizer

Data Power X150z

PowerVM

INxHY

Blade HW Resources

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2012

# End-to-end zEnterprise Discovery

- Initialization starts with Discovery
- Discovers physical, logical, and virtual zEnterprise System objects and their relationships within the enterprise
  - Fulfills query requests from single Tivoli Application Dependency Discovery Manager (TADDM) Sensor
  - Used by Tivoli Business Service Manager (TBSM) to create and visualize business services and for event correlation
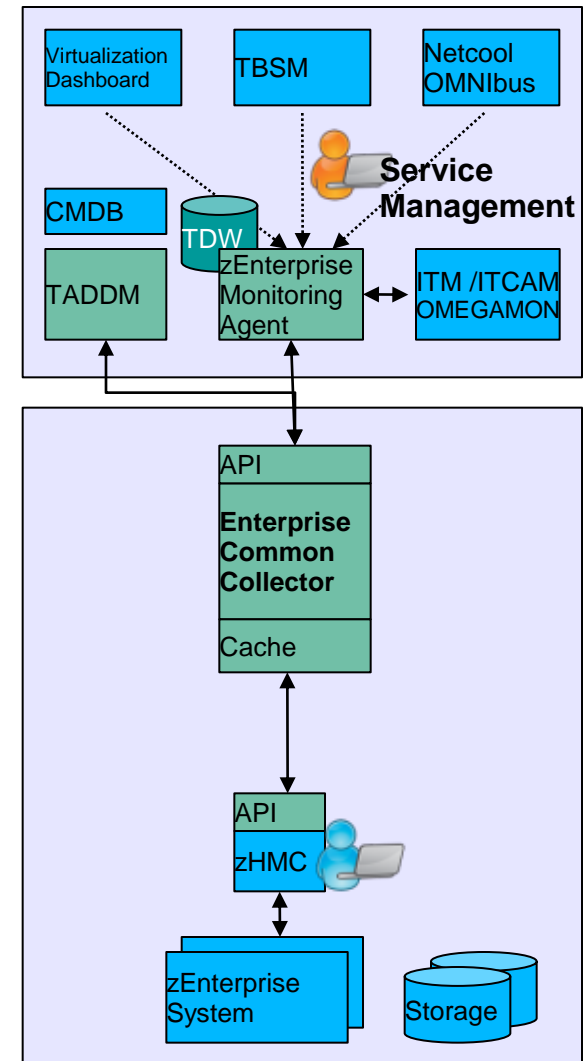
# Provide improved performance with proactive end-to-end zEnterprise Monitoring

- Visualizes the health and performance of your workload resource groups running on IBM zEnterprise System hardware
  - Across Ensembles and different types of resources
  - Highlights workloads that do not meet business objectives or highly utilized resources
  - Provides context of workloads with respect to the underlying physical and virtualized infrastructure including storage and network

- Enables effective performance analysis if goals not met
  - Drill down into more detailed resource views
  - Drill down into workload details, such as service classes
  - Integration with other Tivoli Monitoring products for detailed analysis and problem determination
  - Ability to monitor cloud resources (dynamically provisioned resources) allocated in a zEnterprise Environment.
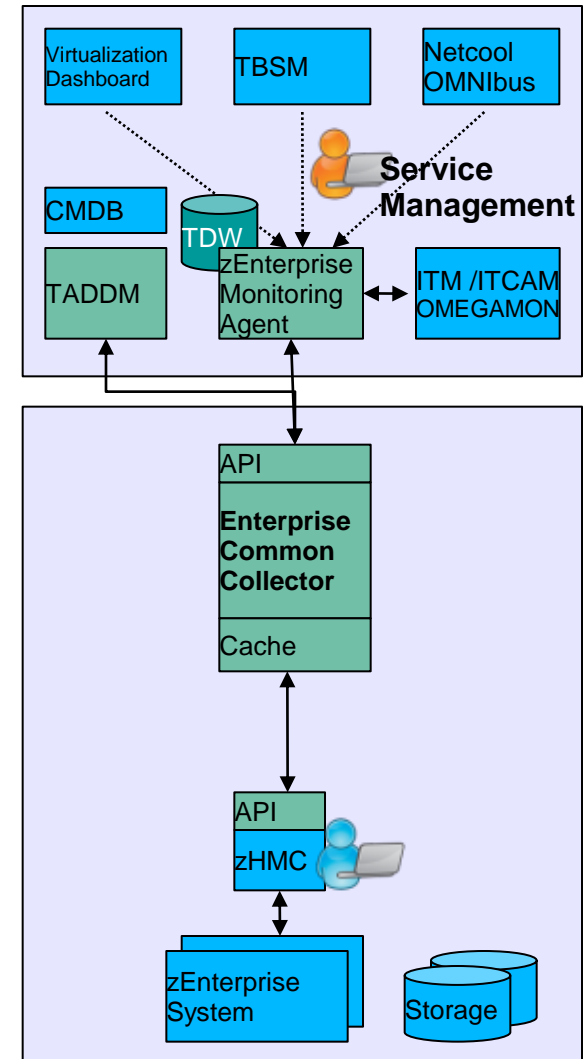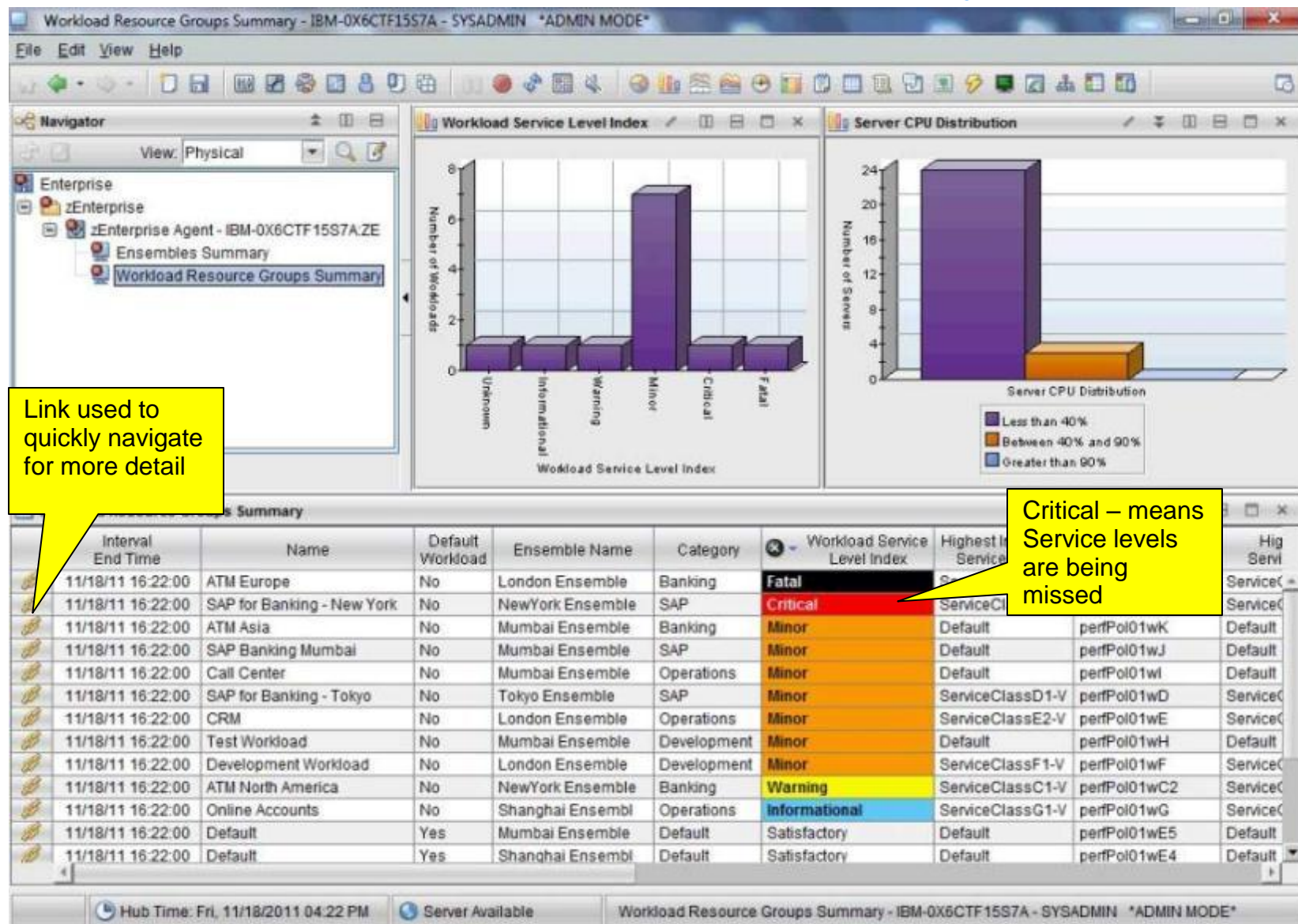
Scalable Solution

The Enterprise Common Collector is able to provide data collection for ALL of the zEnterprise systems in the enterprise.
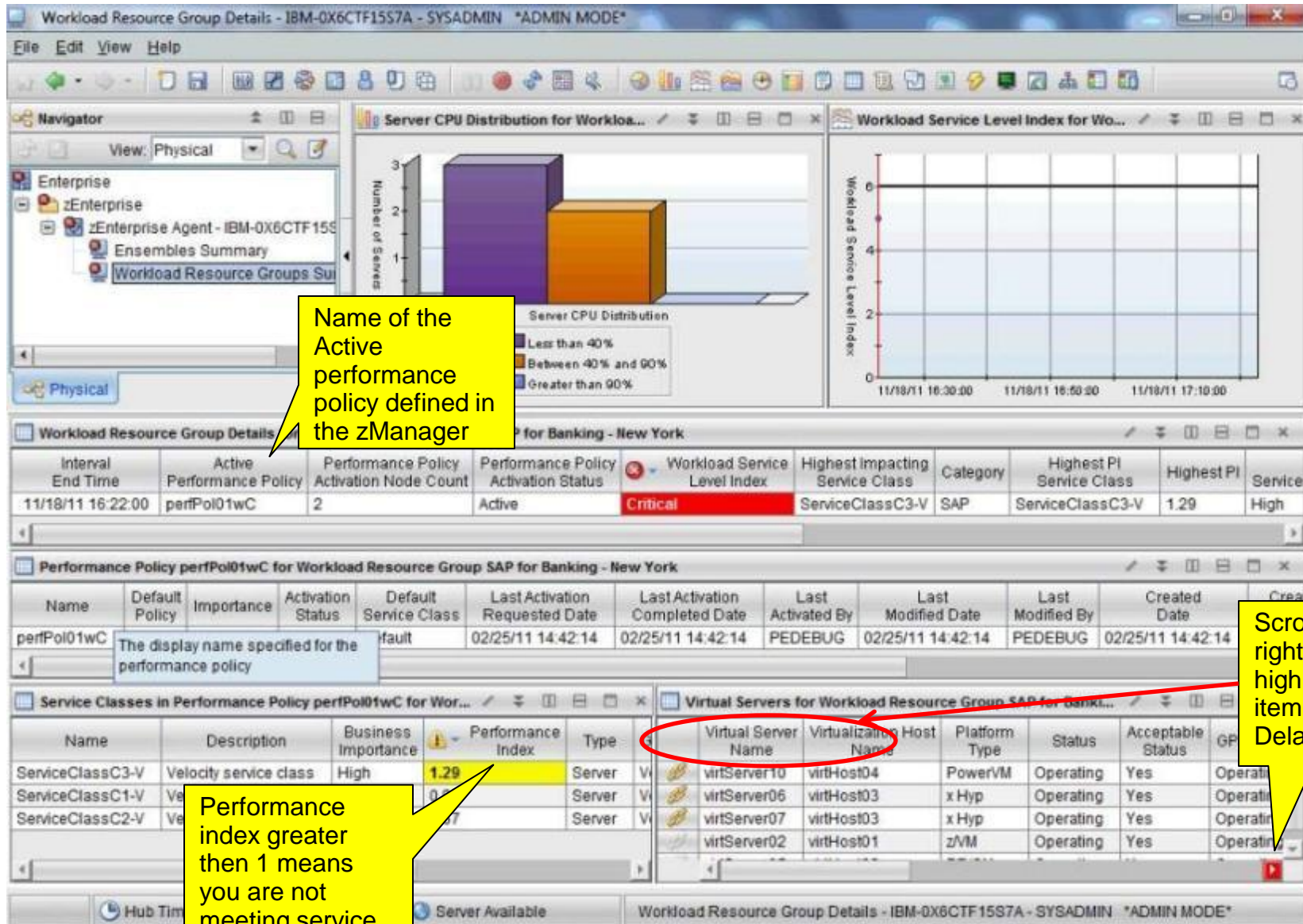
Tivoli Enterprise Portal

Tivoli zEnterprise monitoring agent

Enterprise Common Collector

zHMC

zHMC

zHMC

zHMC
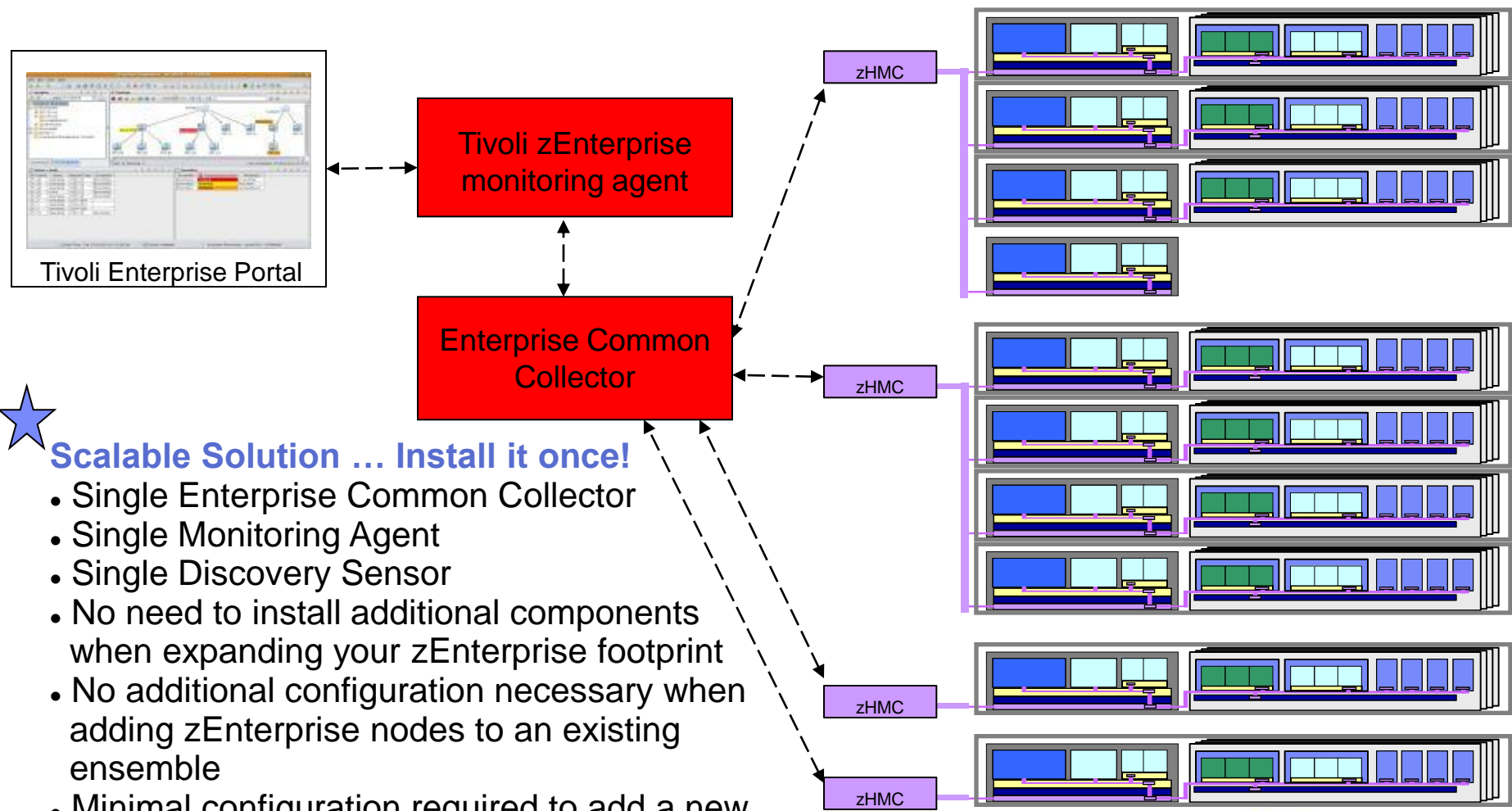
Scalable Solution … Install it once!

- Single Enterprise Common Collector
- Single Monitoring Agent
- Single Discovery Sensor
- No need to install additional components when expanding your zEnterprise footprint
- No additional configuration necessary when adding zEnterprise nodes to an existing ensemble
- Minimal configuration required to add a new zEnterprise zHMC to the enterprise

Link used to quickly navigate for more detail

Critical – means Service levels are being missed

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Workload Resource Group details (2/3)

Virtual Server details (3/3)
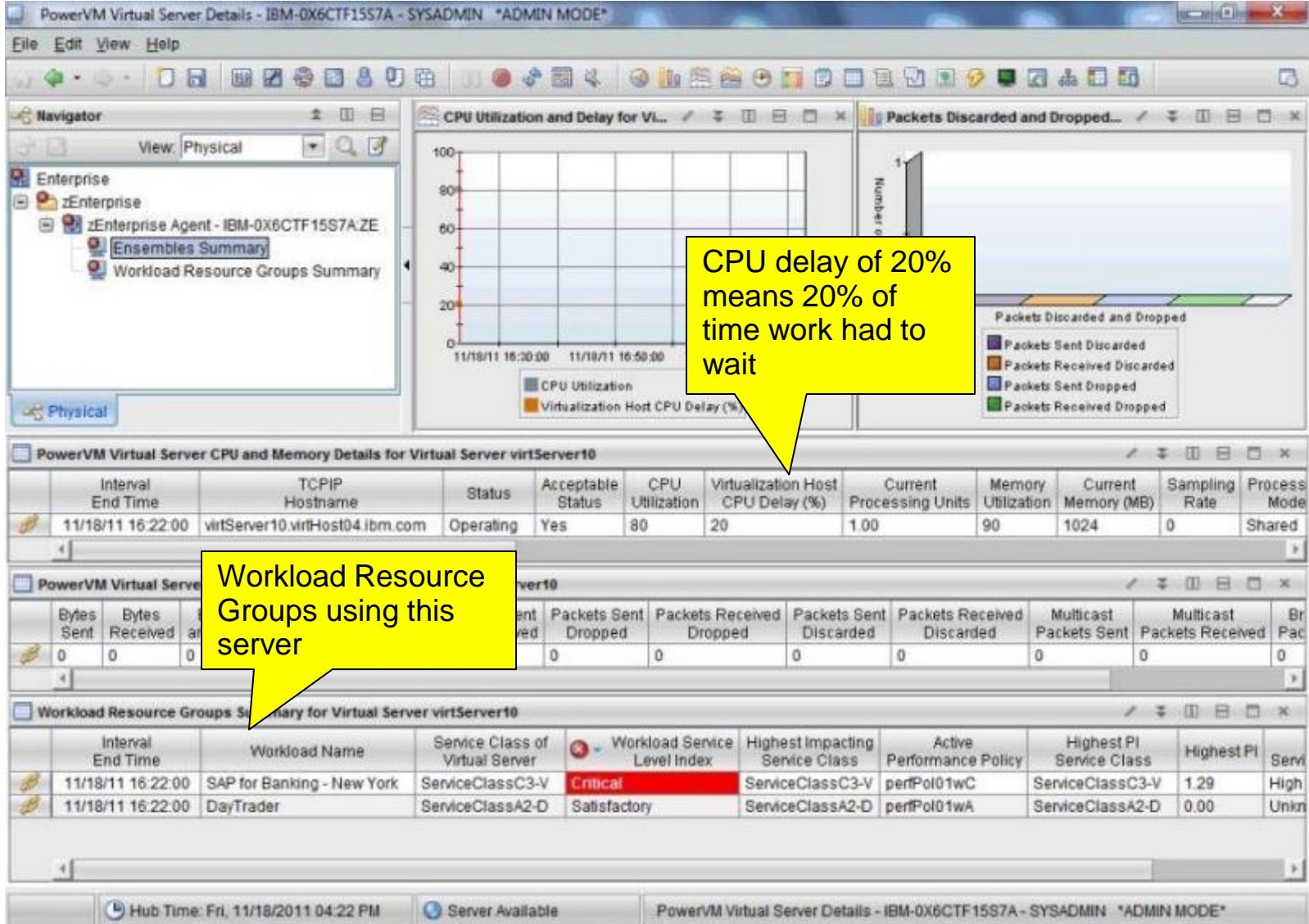
New visibility into consolidated zEnterprise Workloads

Summary:

- Tivoli products for zEnterprise Monitoring and Discovery provide **visibility** to zEnterprise objects for performance monitoring, problem determination/resolution, capacity and performance planning
  - Visibility into **resource** usage
  - Automatically map resource **relationships**
  - **Workload goal fulfillment and utilization** with performance indexes based on business policy (based on service level objectives).
- Tivoli zEnterprise Monitoring and Discovery offers **improved Time-to-Value** and an **Efficient Processing** model
  - Data is collected once, maintained in a single repository and shared by many
  - Data is collected for both, monitoring and discovery technologies
  - Enterprise Common Collector is packaged with all products but is installed and configured only once
- Existing customer investments are protected due to **integration** with other Tivoli products

Tivoli zEnterprise Monitoring and Discovery
Beta Program

- **Beta Process**
  - Education provided via web conferences.
  - Pre-GA product code available for download or use in IBM hosted Cloud environment.
  - Product documentation drafts available for download.
  - Support web site with Discussion Forum.

- **Steps to Register**
  - Nomination form for background information.
  - Online license which covers Confidentiality and Beta code license.

- **Customer Benefits**
  - Early exposure to planned product functions.
  - Development assistance during your initial testing period.
  - Ability to influence the product through your direct interaction with the Development team.

- **Time Commitment**
  - No specific minimum time commitment – we realize customers have other work to perform.
  - Attend web conferences if possible and download and install code when able to.
  - Beta planned schedule: Is currently taking place
  - Status will be collected occasionally informally via e-mail.
  - Two written feedback surveys will be requested – quality survey and final feedback survey.

- **Contact Info**
  - Beta Coordinator: Mathias Manohar (mmathias@in.ibm.com)
  - Development Release Manager: Rohit Badlaney   ribadlan@us.ibm.com

Stay Connected - Service Management Connect
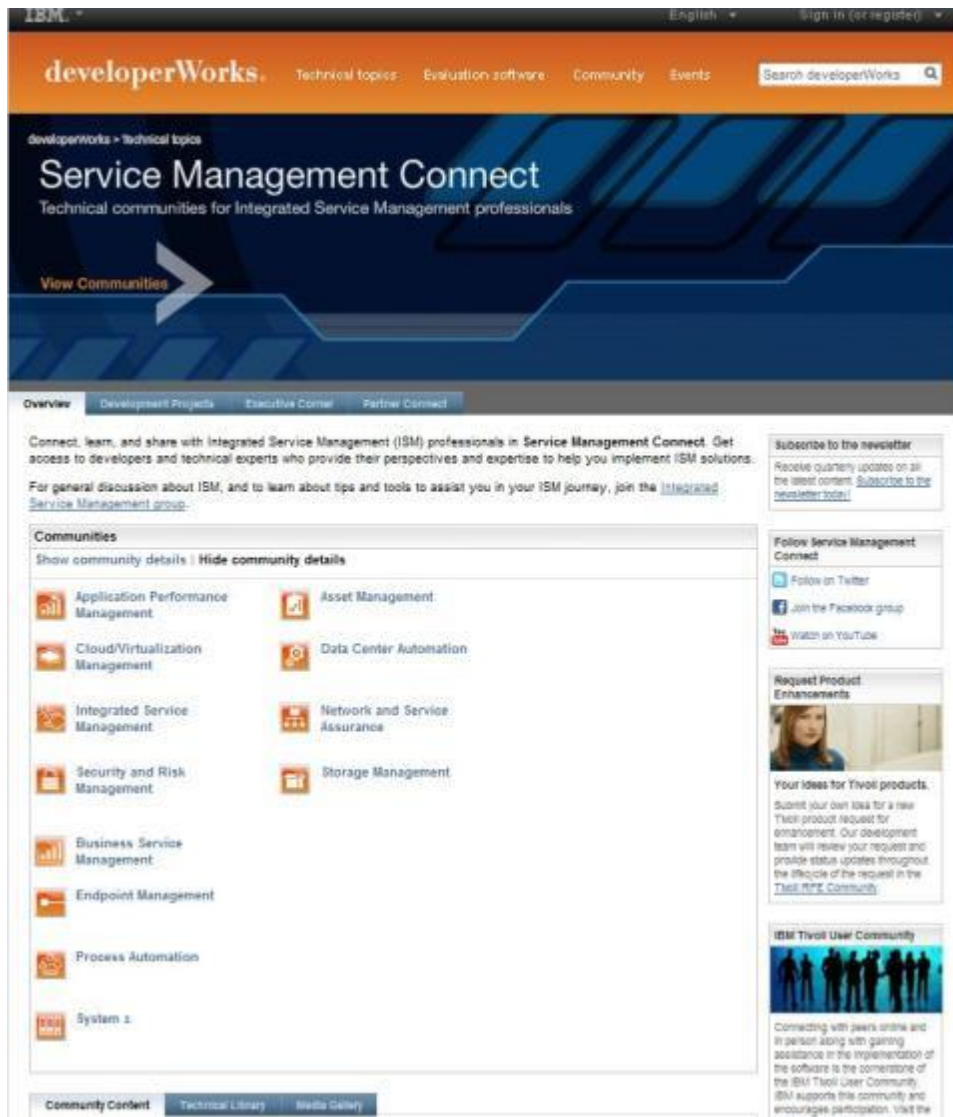
- New online technical community for Integrated Service Management practitioners

- Built on IBM developerWorks

- Using Rational jazz.net as the model

- Bridges the gap between clients, partners and development teams

- Promotes a more transparent development model

http://www.ibm.com/developerworks/servicemanagement

Getting Started – Service Management Connect

- Create a developerWorks profile:
  https://www.ibm.com/developerworks/dwwi/jsp/Register.jsp?lang=en&d=http%3A%2F%2Fwww.ibm.com%2Fdeveloperworks%2F

Create a profile

- Join the Service Management Connect
  groups: http://www.ibm.com/developerworks/servicemanagement

Join a group

- Contribute to the discussion
  - Create blog entries
  - Contribute your best practices on wikis
  - Ask questions in the product forums

Contribute

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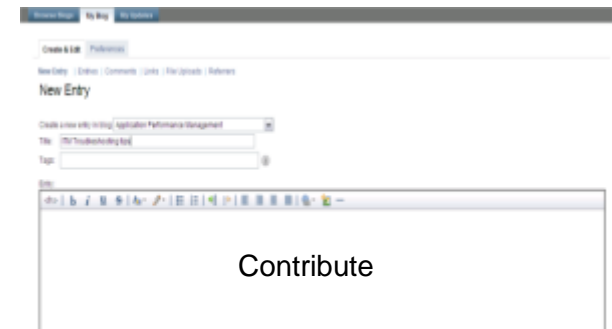
Related sessions - Performance Monitoring on System z

10386: How To Provision and Manage Cloud Workloads with Improved Tivoli Capability (Monday, March 12, 2012 – 11:00am)

10384: Managing Your zEnterprise Platform with New Tivoli Monitoring Support (Monday, March 12, 2012 - 4:30pm)

11093: What's New with System z Monitoring? - Lunch & Learn (Tuesday, March 13, 2012 - 12:15pm)

10383: Introducing e3270UI Problem Solving Capability with OMEGAMON XE on z/OS 5.1.0 (Tuesday, March 13, 2012 - 4:30pm)

11083: Understand the Power of the IBM Mainframe Storage Management Portfolio to Save Time and Money (Wednesday, March 14, 2012 - 1:30pm)

10385: Solving CICSplex Performance Problems Using the New Enhanced 3270 User Interface in OMEGAMON XE for CICS on z/OS 5.1.0 (Wednesday, March 14, 2012 - 4:30pm)

10972: Getting your hands around z/OS Storage management, top 10 common problems and how to address them (Thursday, March 15, 2012 - 4:30pm)

Visit the SHARE Technology Exchange Expo for a Demo (IBM Tivoli Service Management booth)