Pulse2011

Integrated Service Management Strategy

Jamie Thomas, VP Tivoli Strategy and Development
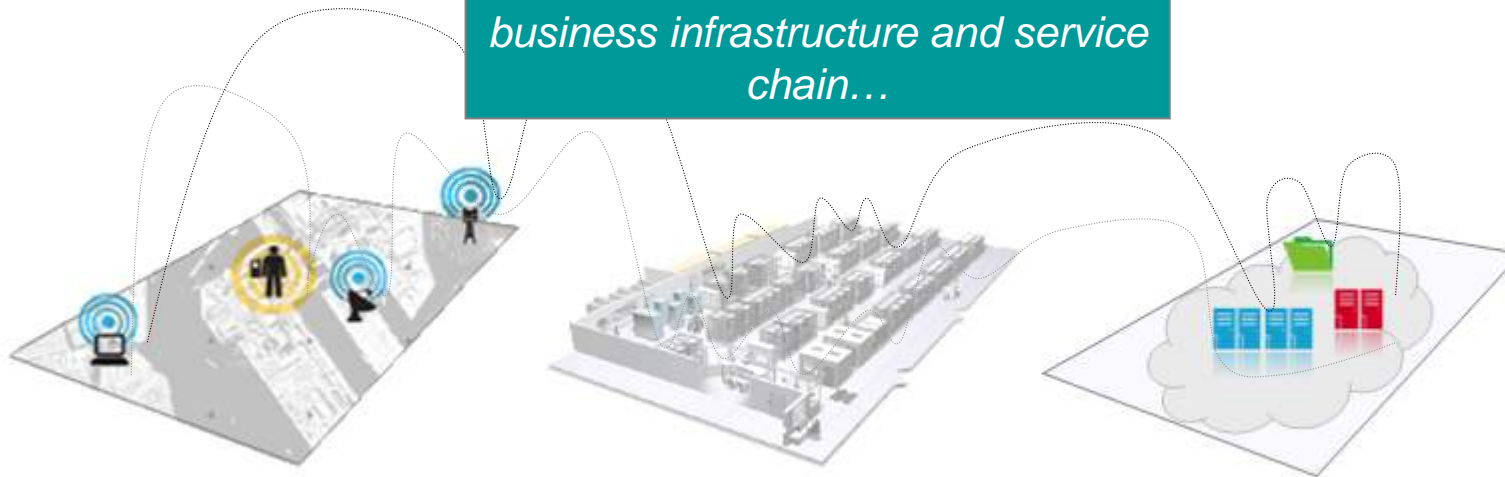
What's Keeping You "Awake at Night"?

- What are my top business services, processes & transactions?
- What are the expectations for service innovation, speed and quality?
- What does it cost to deliver them?
- Are there any regulatory or compliance mandates?

Seize Business Opportunities

Achieve Precision in Desired Business Outcomes

Execute with Reduced Risk and Cost

Integrated Service Management provides a holistic approach to designing, delivery & managing innovative services…

VISIBILITY	CONTROL	AUTOMATION
See the service & infrastructure	*Manage risk & compliance*	*Optimize service delivery*

Across the interconnected business infrastructure and service chain…

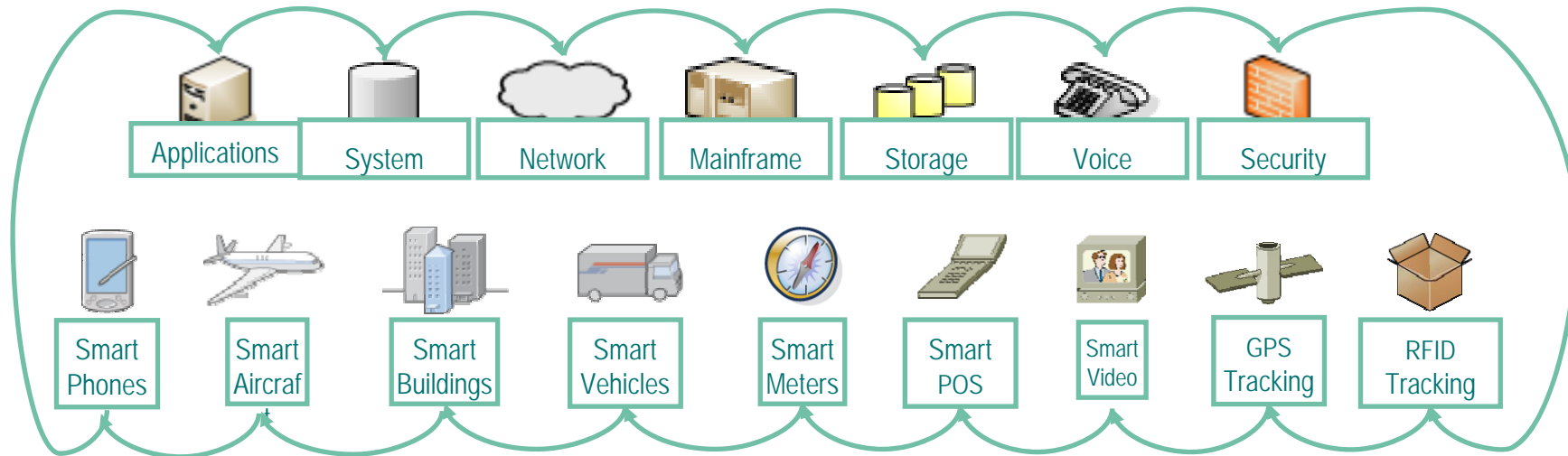| Interconnected users and smart devices | Highly virtualized, service-oriented architectures | Private & public delivery options, like Cloud & SaaS |

To Be Successful We Must Challenge IT To Think Differently

- From *silos and point solutions*:

Applications	System	Network	Mainframe	Storage	Voice	Security

- To *service chain*:

Applications	System	Network	Mainframe	Storage	Voice	Security

Smart Phones	Smart Aircraf	Smart Buildings	Smart Vehicles	Smart Meters	Smart POS	Smart Video	GPS Tracking	RFID Tracking

Tivoli Integrated Service Management

Service Availability & Assurance

- Business Service Management
- Event Management
- Monitoring
- High Availability
- Backup & Recovery

Service Planning, Support & Maintenance

- Incident Management
- Change & Configuration Management
- Asset Management
- Licensing
- Metering

Virtualized & Heterogeneous Infrastructure

- Technology
- Applications
- Information
- System
- Storage
- Network
- voice
- Security

Diverse Assets

- Production
- Distribution
- Transportation
- Facilities
- Environmentals

Service Deployment & Optimization

- Automation
- Provisioning
- Configuration
- Workload Optimization

Service Security

- Identity and Access Management
- Server and Endpoint Security
- Network Security
- Security GRC
- Security Intelligence

Resource Reconciliation & Naming	Security	Service Registration	Central Administration	Audit and Logging	Analytics Hub Reporting

Open Services for Lifecycle Collaboration

Open interfaces. Open possibilities.

✓ Open infrastructure
✓ Federated Data
✓ Dynamic interaction
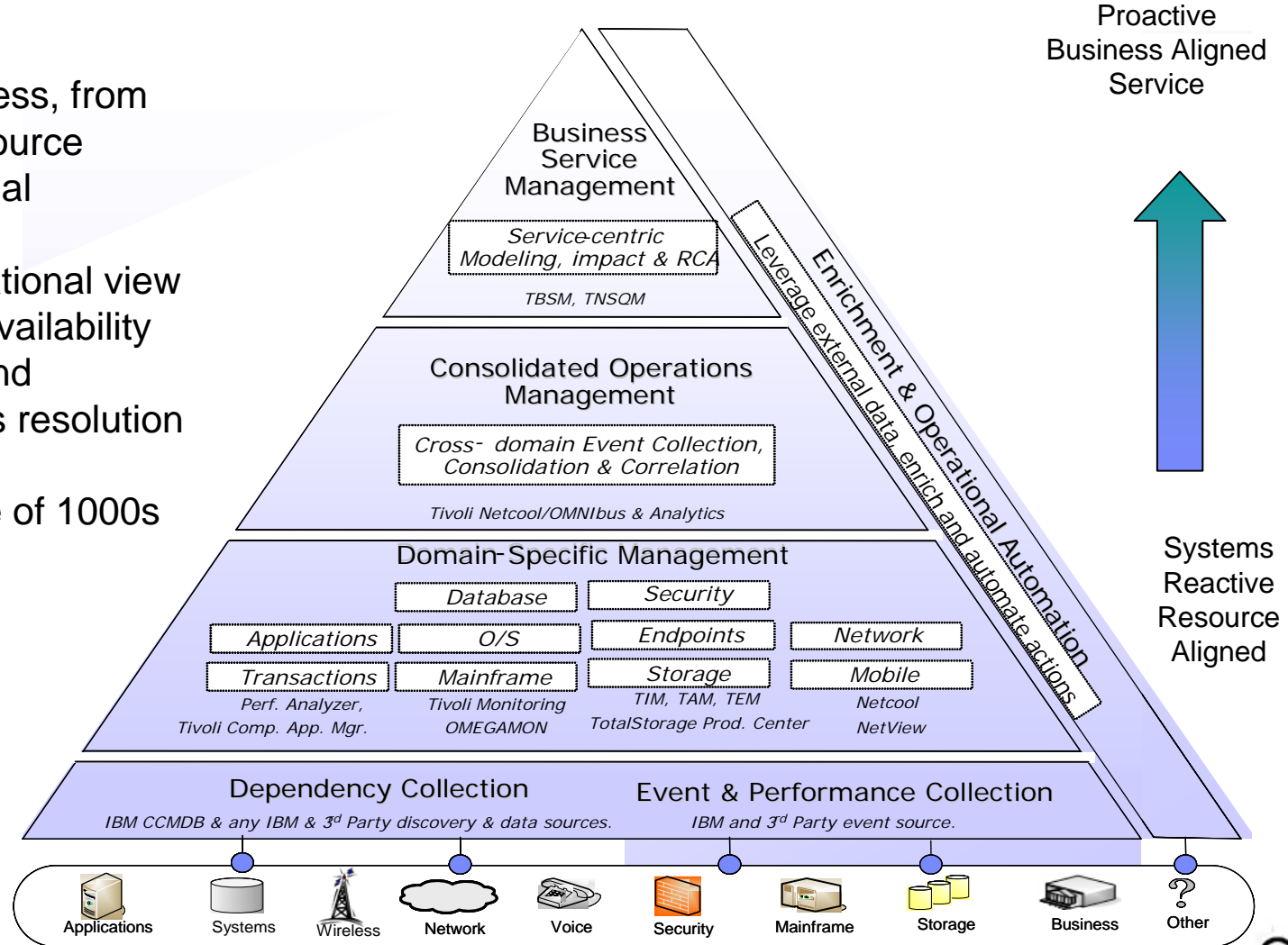✓ Common Services

© 2011 IBM Corporation
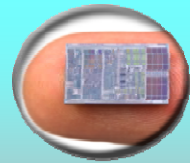
IBM.

Service Availability & Assurance

Enable Service Management through Consolidation and Integration
Meet the needs of the business with Quality, Scale, Flexibility, Compliance & Resiliency

- Real-time data access, from virtually any data source across organizational boundaries
- Consolidated operational view of performance & availability
- Event correlation and automation reduces resolution time
- Complete coverage of 1000s of device types

Proactive
Business Aligned
Service

Business Service Management

Service-centric Modeling, impact & RCA

TBSM, TNSQM

Consolidated Operations Management

Cross- domain Event Collection, Consolidation & Correlation

Tivoli Netcool/OMNIbus & Analytics

Domain-Specific Management

Database	Security

Applications	O/S	Endpoints	Network

Transactions	Mainframe	Storage	Mobile

Perf. Analyzer,   *Tivoli Monitoring*   *TIM, TAM, TEM*   *Netcool*
Tivoli Comp. App. Mgr.   *OMEGAMON*   *TotalStorage Prod. Center*   *NetView*

Dependency Collection   **Event & Performance Collection**

IBM CCMDB & any IBM & 3ʳᵈ Party discovery & data sources.   *IBM and 3ʳᵈ Party event source.*

Leverage external data enrich and automate actions

Enrichment & Operational Automation

Systems
Reactive
Resource
Aligned

Applications   Systems   Wireless   Network   Voice   Security   Mainframe   Storage   Business   Other

IBM.

Tivoli Provides Comprehensive Domain Coverage

Digital-Physical Convergence

Virtualization and cloud

Mobile Everything

Predictive Intelligence

Optimization

Commerce

✓ WebSphere Commerce

Business Process Optimization

✓ WS Process Server

Web Portal

✓ WS Portal

Web Application Infrastructure

✓ WS Application Server
✓ WS Extreme Scale
✓ WS Cloudburst
✓ WS Virtual Enterprise

CRM

Billing

Transaction Processing

✓ CICS
✓ MQ

Imaging

Connectivity
✓ WS Message Broker
✓ WS ESB
✓ WS Datapower
✓ WS Registry & Repository
✓ WebSphere File Transfer Edition

ERP

Application Performance Management
Improved integration and upgrade

Available Now!

WebSphere Appliance Management Center

- Multi-box DataPower appliance management
- Enhanced monitoring with more KPIs
- Seamless integration into the Tivoli Monitoring infrastructure

ITCAM for WebSphere Application Server

- Data Collector available in WebSphere Application Server
- More robust deep dive capabilities available in ITCAM for Application Diagnostics

MQ Performance Monitor

- Available as a downloadable support pack
- Decrease WebSphere MQ downtime & Proactively prevent problems
- Upgrade is simple to ITCAM for Applications

IBM.

Consolidated Operations Management
Cross-Domain Event Collection, Consolidation & Correlation

business value ++

integrated capability ++

OOPS!

Fail

Collected &
Prioritised Events

Pinpoint problems
with topology-based event
correlation (RCA)

Affects ACME

network service

Identify "who, why, where,
what", check compliance,
automated remediation

ITNCM

| compliance | provisioning | auditing | control |

ITNM

| discovery | RCA | monitoring | visualization |

OMNIbus

| collection | correlation | automation | control |

**Fixed / Mobile
Virtual & Physical Networks**
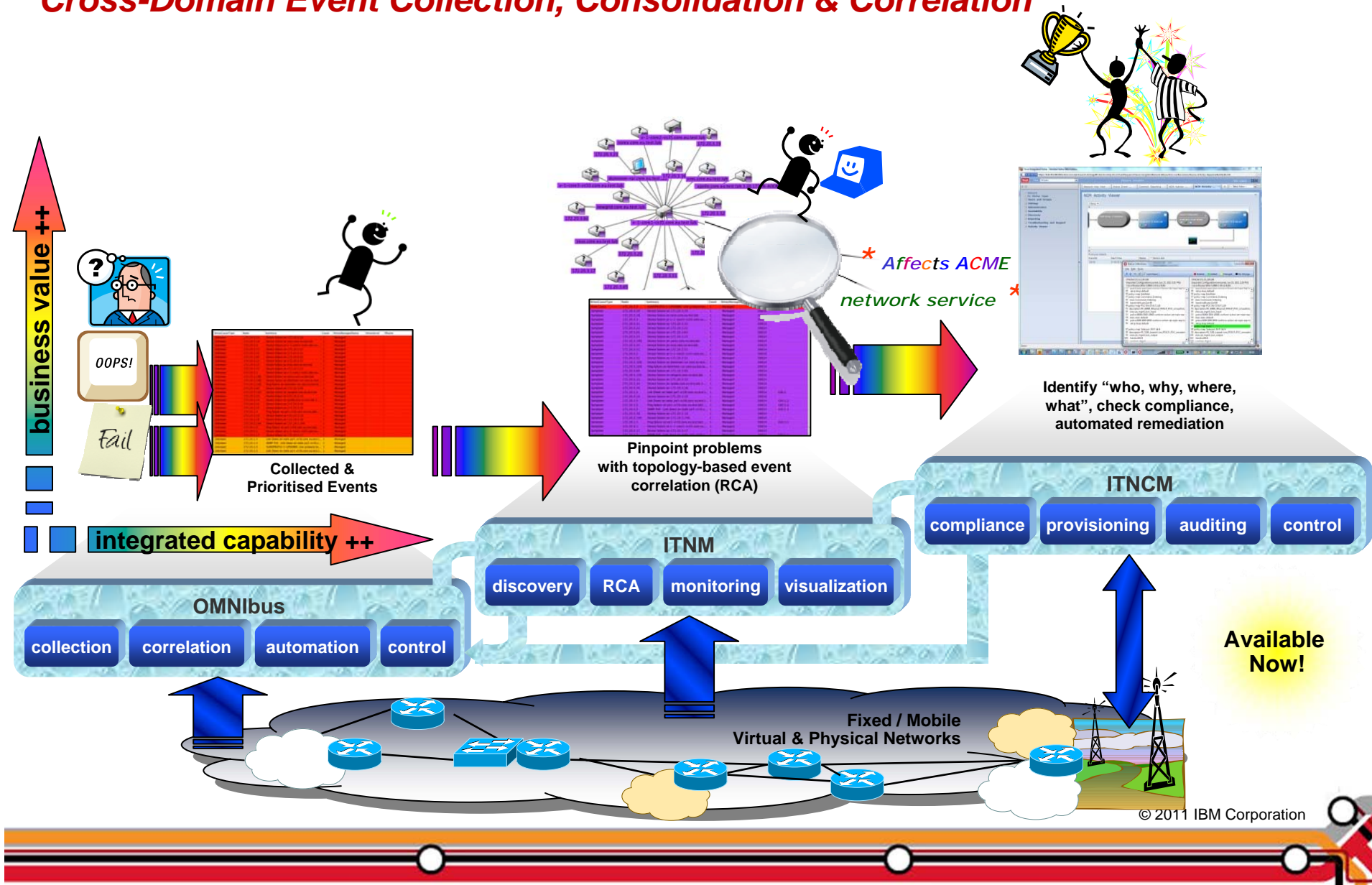
**Available
Now!**

Analytics to Radically Change Management

Improved visibility keeps inbound shipments on their intended paths

Available in Beta

Analytics

Avoid Business Disruption Reduce Cost of Management Optimize Service Delivery
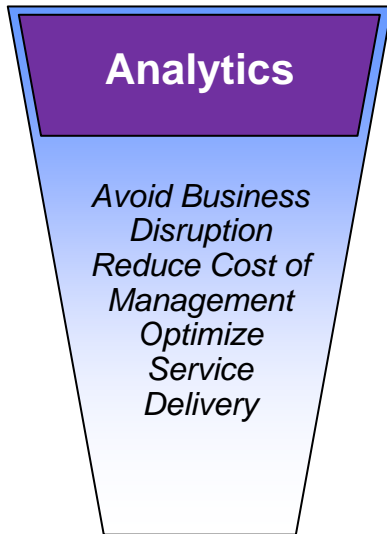
Avoid Service Disruption

- Identify emerging problems in application and infrastructure using streaming analysis and innovative learning technologies for maximum lead time.

- Provides alert on problems the *first time* they occur, not the second.
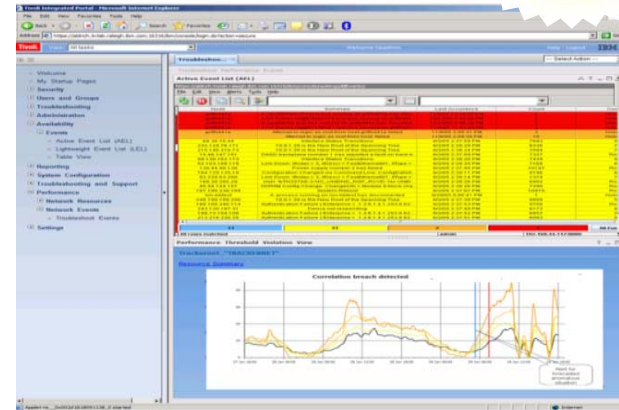
Detect Problem before Thresholds are Breached

Reduce Total Cost of Ownership

Provides trending and dynamic threshold management for all resources

Optimize Service Delivery

Mine real time and historical performance information for insights improving efficiency without sacrificing customer responsiveness

Customer Impact

Normal Range

Memory

Service Performance

Alert!

Threshold Alert

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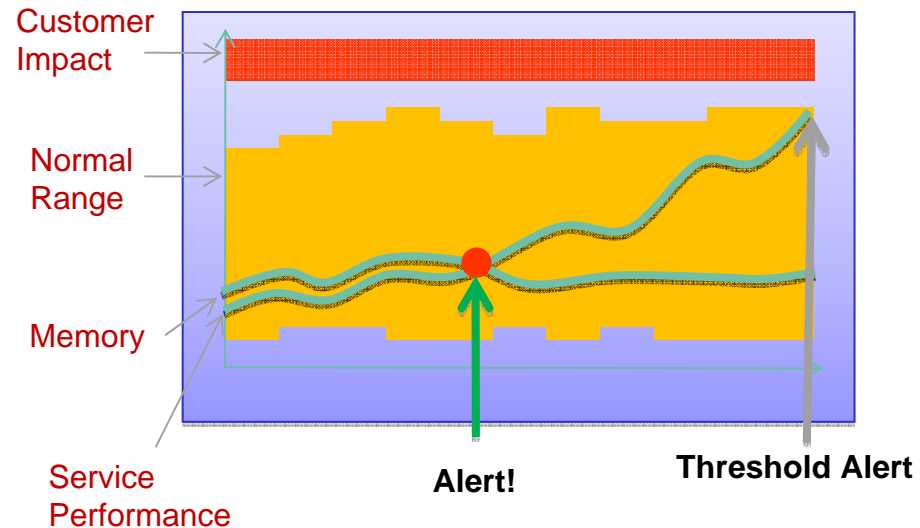
Business Service Dashboard: Integrated Visibility & Context

Role-based dashboards:
- LoB, Operations Mgmt, Operators.
- Customizable/sharing common context
- Launch in context views & automations.
- Realtime & Historical reporting across KPIs, event & performance.
- Web & Mobile Support

Visibility across:
- Services, Processes, Transactions
- Distributed & Mainframe
- Traditional and virtualized environments

Service Tree

Service Maps

Urgent Services

Service Model

Event Summary

Mobile Access

Depository Trust & Clearing Corporation
Keeps up with growth and keeps the markets on firm ground

Improved visibility keeps inbound shipments on their intended paths

Business Challenges

- Dominant provider of investment processing services in U.S. Sought to parlay its record of service innovation and cost leadership by expanding globally.

- Needed scalability, reliability and flexibility in its processing platform to meet the additional processing demands and new service development requirements for these new markets

Solution

- Teamed with IBM to re-architect its core processing infrastructure to
- Leverage a service-oriented architecture.
- Enable it's world-leading transaction capabilities to accommodate global growth vision.
- Provide monitoring solution to increase the performance and availability.

Benefits

- 77% increase in overall transaction processing capacity; handling 3 times the highest volume ever recorded
- 100% rate of reliability, with US$1.5 quadrillion in trades settled annually
- 25% reduction in cost per transaction to the lowest cost per transaction in the world.

Our ability to expand capacity demonstrates our commitment to prepare for unprecedented growth and other risk factors affecting the global marketplace. IBM's technology and vision have been essential to our success in doing this.

William B. Aimetti, President and COO, DTCC

Solution components:
- IBM WebSphere Application Server
- IBM WebSphere MQ
- IBM Tivoli Composite Application Manager
- IBM DB2

Tivoli Integrated Service Management

Service Availability & Assurance

- Business Service Management
- Event Management
- Monitoring
- High Availability
- Backup & Recovery

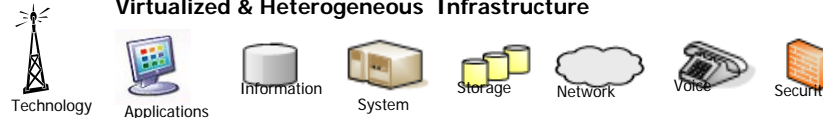**Service Planning, Support & Maintenance**

- Incident Management
- Change & Configuration Management
- Asset Management
- Licensing
- Metering

Virtualized & Heterogeneous Infrastructure

- Technology
- Applications
- Information
- System
- Storage
- Network
- Voice
- Security

Diverse Assets

- Production
- Distribution
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- Facilities
- Environmentals

Service Deployment & Optimization

- Automation
- Provisioning
- Configuration
- Workload Optimization

Service Security

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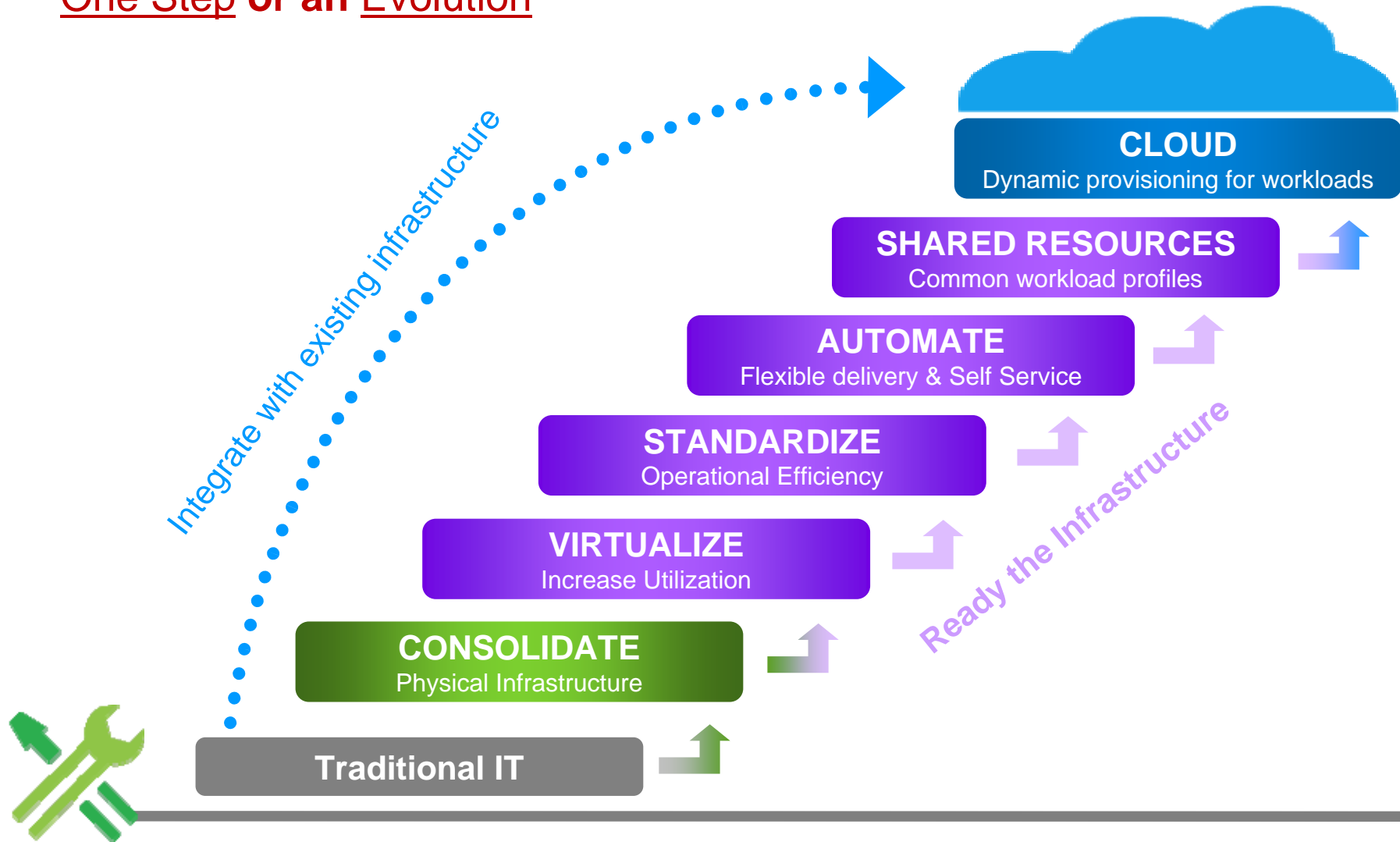| Resource Reconciliation & Naming	Security	Service Registration	Central Administration	Audit and Logging	Analytics Hub Reporting

Open Services for Lifecycle Collaboration

Open interfaces. Open possibilities.

✓ Open infrastructure
✓ Federated Data
✓ Dynamic interaction
✓ Common Services

Flexible and Affordable Service Management Software as a Service
Tivoli Live – Service Manager

- Integrated Service Management capabilities
  - Problem and incident Management
  - Change and Release Management
  - Configuration Management
  - IT Asset Management
  - Service Catalog

- Radically improves Time to Value
  - Get started in hours and days instead of weeks

- Simplifies support and provides flexibility
- Reduces complexity
- Self service, standardization and simplified roles and workflows

- Leverages existing software
- Based on enterprise-class software

Available Now!

Employee end user

SaaS

IT Staff

Workflows and Rules
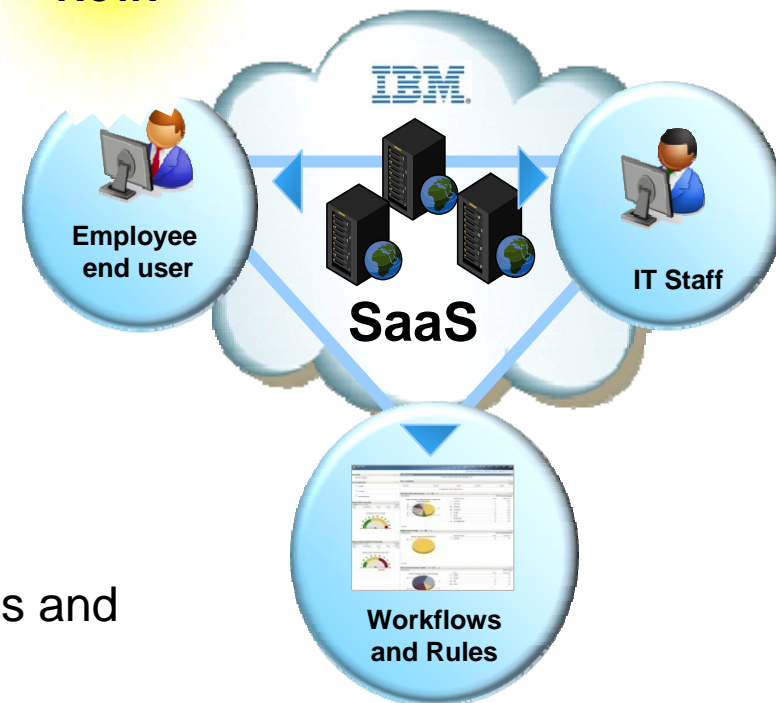
- 80% reduction in help desk calls and a 22% reduction in service tickets for a leading IT Service Provider

14

IBM Global Technical Services Helpdesk Overview

- Software-as-a-Service offering available on-demand, over the Internet

- Hosted by IBM, administered by client

- Web-enabled service request, release manager, service catalog, and asset management capabilities

- Innovative, role-based pricing allows clients to pay only for what they need

---

- Supports 400,000 IBM Employees
- 24/7 Support Worldwide
- 14 million service tickets processed
- 24 million projected in 2011
- 900 IBM GTS clients worldwide

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Movement from traditional environments to Cloud
One Step **or an** Evolution

Integrate with existing infrastructure

Ready the Infrastructure

CLOUD
Dynamic provisioning for workloads

SHARED RESOURCES
Common workload profiles

AUTOMATE
Flexible delivery & Self Service

STANDARDIZE
Operational Efficiency

VIRTUALIZE
Increase Utilization

CONSOLIDATE
Physical Infrastructure

Traditional IT

Cloud Capabilities

Virtualize

Server, storage & Network devices to increase utilization

Provision & Secure

Automate provisioning of resources

Monitor & Manage

Provide visibility of Performance of virtual machines

Orchestrate Workflow

Manage multi-step service tasks

Meter & Rate

Track usage of resources
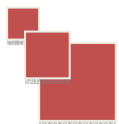
Integrate and Connect

Integrate and connect across cloud environments

Clients are approaching cloud from two key entry points

Cloud Enablement Infrastructure Consolidation

Leveraging their Infrastructure consolidation investments to drive service fulfillment Automation

Infrastructure Virtualization (Server/Storage/Network)

Heterogeneous Environment Management

Infrastructure provisioning (cross infrastructure)

Service provisioning (cross infrastructure)

Image Management and Deployment

Runbook Automation (Cross Infrastructure)

Endpoint Automation

Cloud Enablement IT Process Standardization

Cloud Entry Automation	**Cloud Advanced Orchestration**	**Cloud Platform Optimization**
Self-Service automation	*Advanced infrastructure orchestration (Network/Storage)*	*Elastic services and dynamic scalability*
Service Monitoring/ Metering	*Service workflow scheduling, automation and governance*	*Resource sharing and Multi-tenancy*
Service Configuration	*Cost management, usage metering and accounting*	*Data Virtualization and caching*
Virtual Security Mgmnt	*Hybrid cloud management*	*Application connectivity and integration*
	Business Services Integration	
	High availability & Recovery	
	Security as a Service	

Leveraging their IT Process Standardization investment to deliver automated service delivery models

Provision, Manage and Secure
Image lifecycle

Design and generate semantically rich images

Secure

Build

Virtual Image

Versioned image library enabling backup, monitoring, patching, securing and analyzing

Manage

Deploy

Instantiate images onto virtual servers, enabling high speed topology composition and provisioning
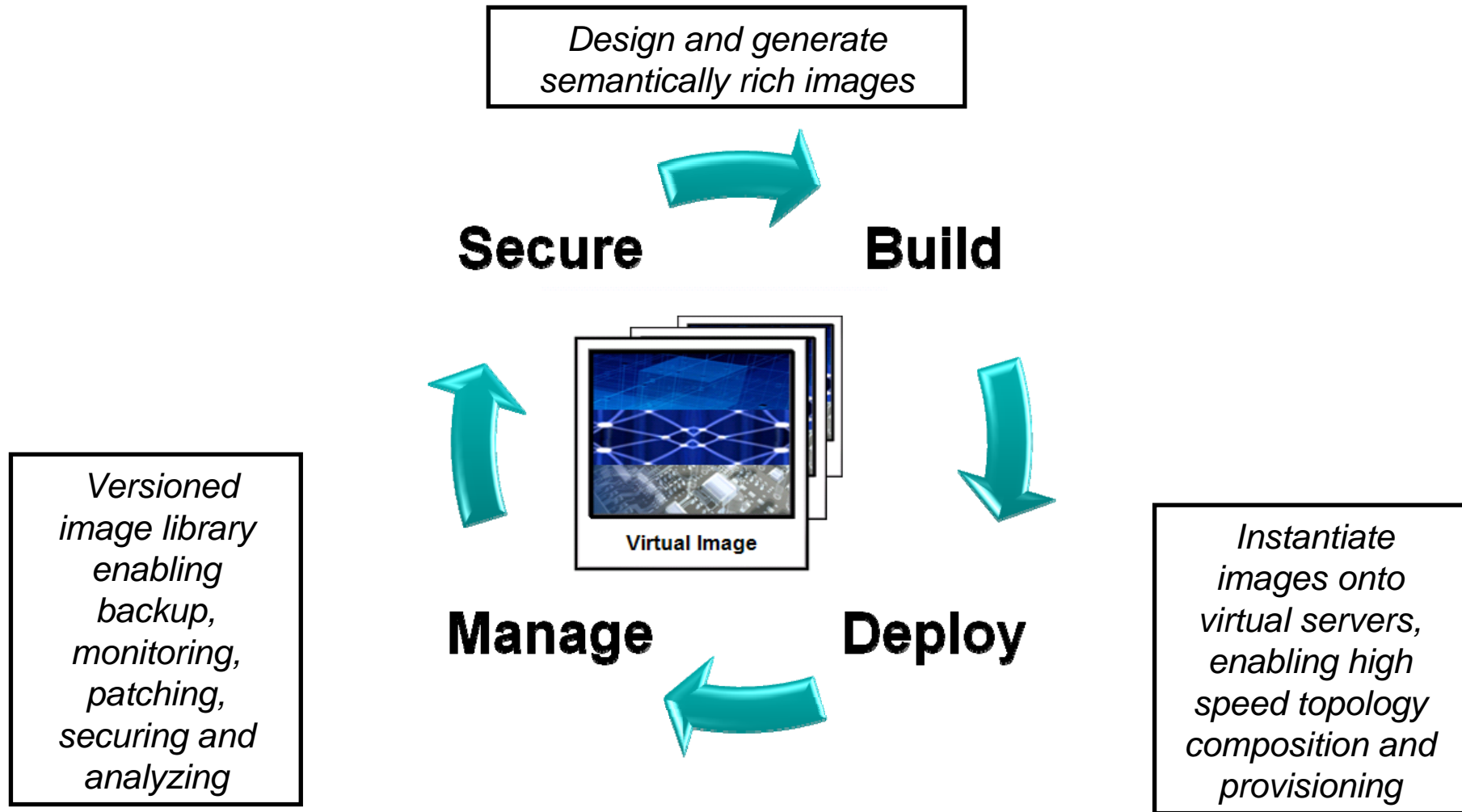
Provision, secure and manage
Image lifecycle automation

How can I automate and expedite deployment of my dev/test topology?

- Plan, automate, and govern deployment of composite applications as part of the application life cycle.
- Capture running composite services and build golden images

Deployment Automation for Staged Deployments

Rational Software Architect

TPM

Rational Automation Framework for WebSphere
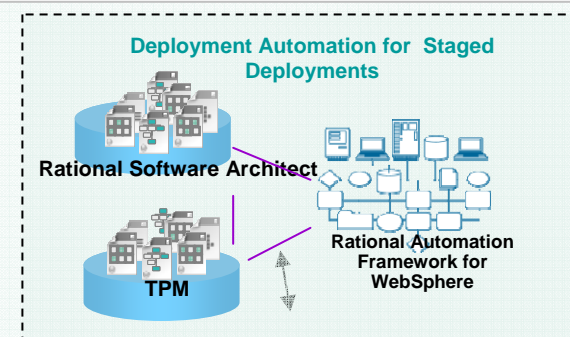
How to govern proliferation and deployment of images?

- Catalog & Index images with content across many repositories.
- Versioning, change management, provenance of images.
- Update and Patch images

Enhanced Federated Image Library Capabilities

Tivoli Federated Image Lib
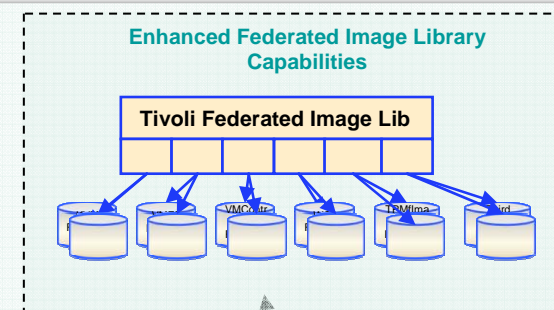
How do I monitor, backup and secure my Virtual Environment? and link it to my mgmnt system

- High availability of applications through proactive monitoring, reduced labor cost for problem isolation
- Flexible, faster and frequent backups - granular, near-instant restore
- Multilayered intrusion prevention and firewall

Extended Service Management Capabilities for Virtual Environments
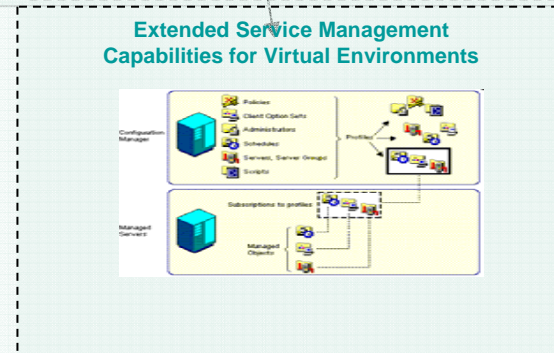
Orchestrate Workflow
Runbooks Automation

Available Now!

- Unified Graphical Orchestration Toolir

- Over 1,100 out-of the-box automation t

  - Virtualization automation libraries

  - Software deployment and management

  - Network management

  - Storage management

- Re-useable automation between data center and cloud

- One-click task automation

- Essential sample process flows out of the box

- Performance and scalability improvements

- Platform and Hypervisor currency

Integrate task automation!
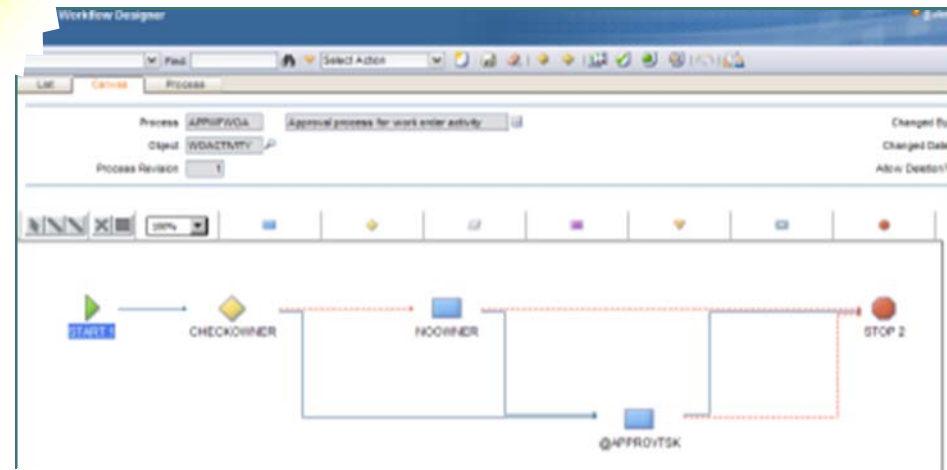
Standing up a cloud rapidly
Tivoli Virtual Deployment Engine

Available in Beta

NC STATE UNIVERSITY

Virtual Computing Lab (VCL)

- Hours/days to install instead of weeks/months
- Deploy a running VM in less than 30 seconds
- Handle high volumes of VM requests -- over 4,000 per hour
- Update/Upgrades with zero downtime

- Currently over 1000 images

- Supports approximately 250,000 students and faculty

- System availability: exceeds 99.9%

- Image reservation reliability > 99%

- Provides up to 120k image reservations per semester

- Reservation times range from 30 min to open-ended

- Extremely fast load times
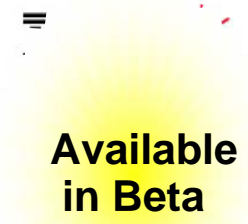
Integrate and Connect -- Hybrid Cloud Integration

Available in Beta

Enterprise Infrastructure & Private Cloud

Public Cloud

Manage

Deploy

Monitor

Secure

IBM   LotusLive   Amazon
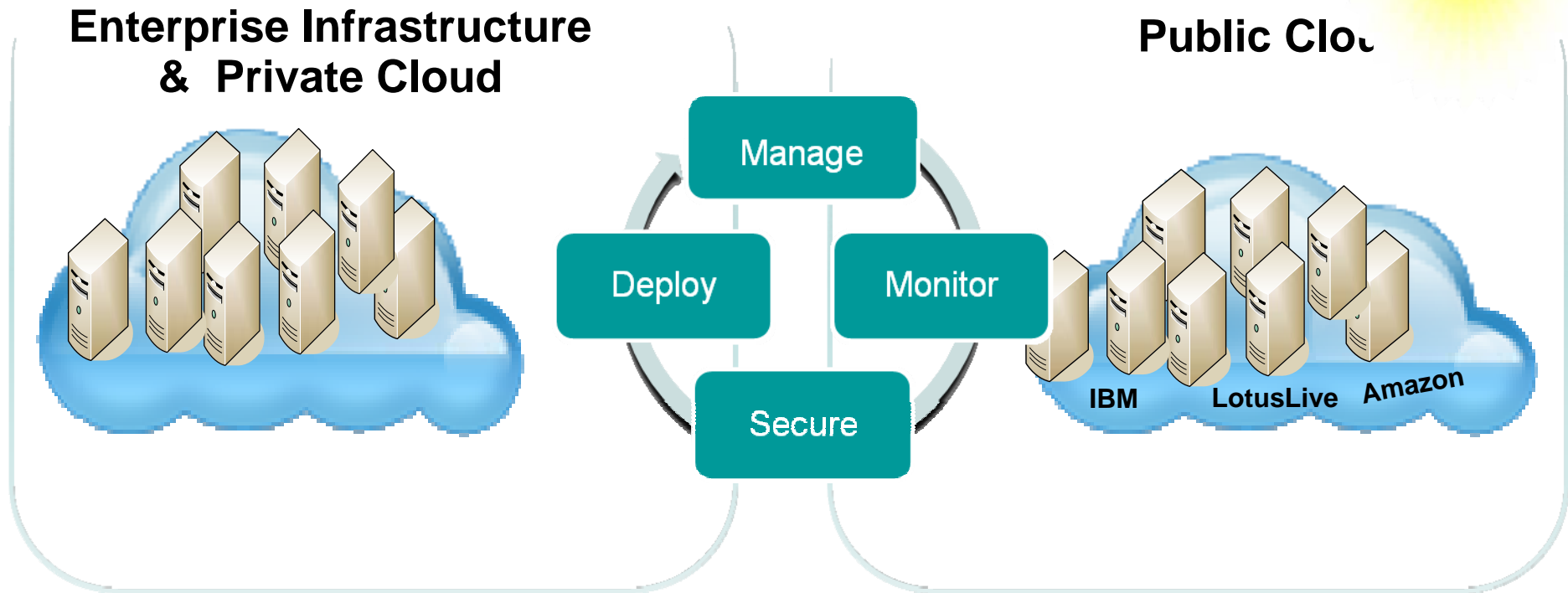
Secure
Protect your virtual environment

Monitoring
Provide visibility performance of virtual machines

Provisioning
Automate provisioning of resources

Tivoli Endpoint Manager
Built on BigFix Technology

Discover 10% - 30% more assets than previously reported

Library of 5,000+ compliance settings

- Patch Management

- Security Configuration Management

- Vulnerability Management

- Asset Management

- Network Self Quarantine

- Multi-Vendor Endpoint Protection Management

- Anti-Malware & Web Reputation

- Service

Enforce **Report**

IBM Tivoli Endpoint Manager

Lifecycle | Security | Patch | Power

Remediate **Assess**
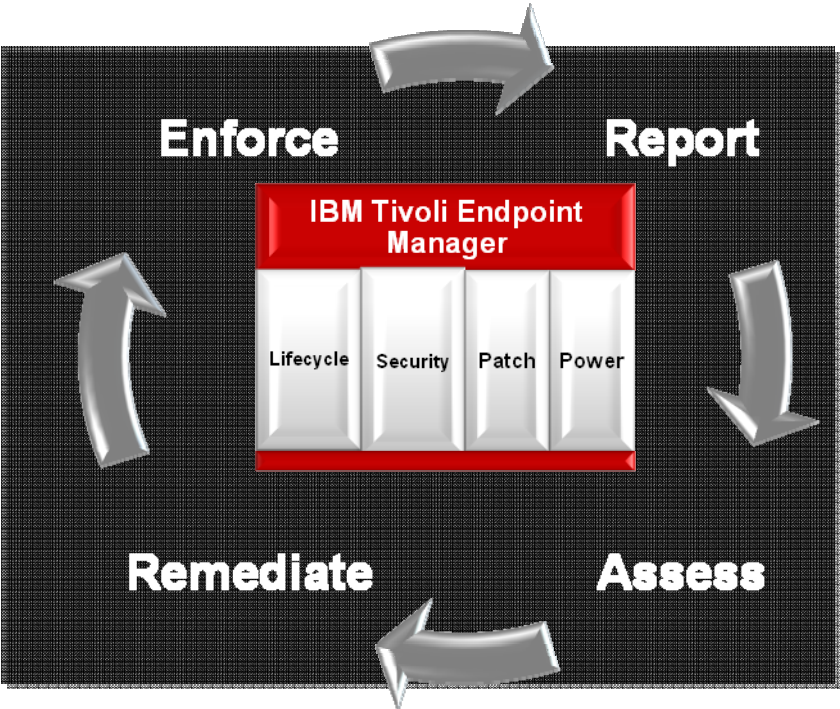
Automatically and continuously enforce endpoint policy

Achieve 95%+ first-pass success rates within hours of policy or patch deployment

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Secure and protect your network
Security Network Intrusion Prevention System GX7800

- Block threats before they impact your network
- Reclaim network capacity lost to threats or noise
- Broader security coverage over 10GbE networks
- Fast security inspection
- Integrated Data Loss Prevention (DLP) capabilities
- Web application protection (utilizing the IBM Injection Logic Engine)
- Eliminate the need for a stand-alone web application firewall
- Plug-and-protect easy deployments

Secure appliance for ultra fast inspection for today's 10GbE networks

IBM Smarter Building Solution

….by 2025, buildings will use more energy than any other category of "consumer."

Smarter Building Solution
Integrated Energy and Facilities Management

Energy Management	Asset Performance Optimization
Dashboards / Mashups Individualized views of relevant data	
Analytics & Optimization (SPSS) Energy: trending, forecasting, HVAC optim'n, load shedding, root cause analysis	
Assets: Condition Monitoring, Work Scheduling, Work order bundling, etc.	
Tivoli Monitoring Threshold alerts, KPI, X-building visibility	**Maximo for Facilities** Asset mgt, space mgt

Integrations

- Open standards
- Building Management Systems
- Data aggregation – single building
- Sensors and Meters
- Bricks and Mortar, Hardware

JCI
Eaton
Honeywell
Siemens
Schneider

- Aggregate, normalize, optimize across portfolio of buildings, across BMS brands
- Industry-leading analytics, proven 8% savings at mature IBM facility
- The only integrated energy mgt and facilities mgt solution

Strategic
Intelligent
Interconnected
Instrumented
Physical

IBM acquires TRIRIGA
Providing unique capabilities that are essential to Tivoli's strategy

- Dashboards for Key Stakeholders
- Real-time visibility to events: weather, utility pricing, consumption

- Converge Energy and Business Data
- Energy data, space utilization, occupancy, financial (leases, bills), building ops

- Industry-specific Analytics
- Predict and correct equipment performance along with root cause analysis

- Control Mechanisms
- Automate building controls
- Optimal equipment scheduling

Production Infrastructure   +   Facilities Infrastructure   +   Transportation Infrastructure   +   Technology Infrastructure   +   Communications Infrastructure
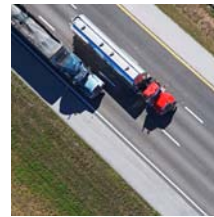
New Communities!
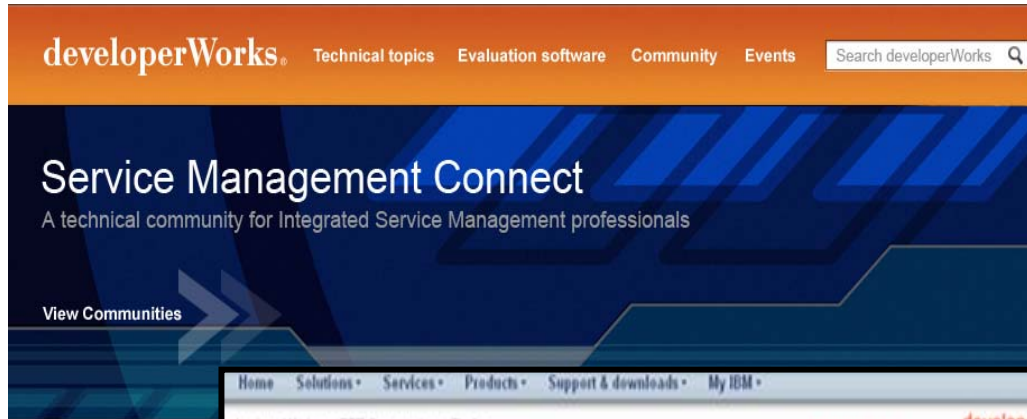
Service Management Connect

- New community for Integrated Service management practitioners
  - Connects you with the technical experts
  - Provides best practices for using service management products
- Now supporting 1,500+ members
- Over 200,000 active pages views
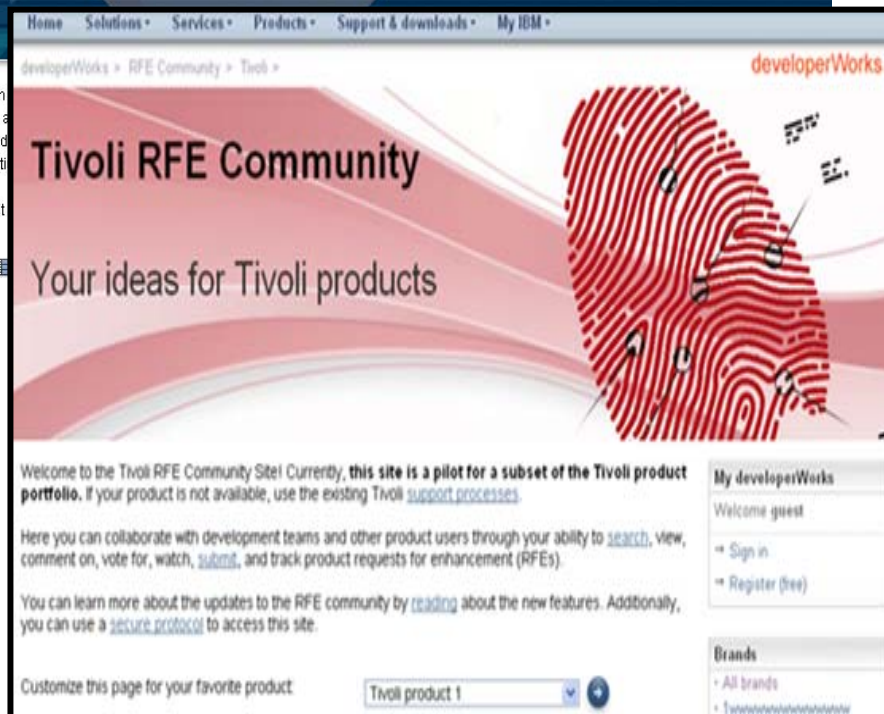
RFE Community

- New tool for requesting product enhancements
- Interact directly with product management
- Improved ability to manage and monitor requirements
- View and vote on other enhancement submissions

Questions

Thank You

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