



Service Availability and Performance Management

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IBM Software

PCTY2010



Pulse Comes to You

Optimizing the World's Infrastructure
[July 9 New Delhi]



Integrated Service Management provides Visibility. Control. Automation.™ across business infrastructure

Integrated Service Management

for Industries

Industry-unique architectures, capabilities and expertise to assist clients with delivering innovative service to customers through integrated management of the technology infrastructure, including IT.

for Design & Delivery

Expertise and capabilities to assist clients with product and service innovation through the integrated processes of design, delivery and management of software engineered into intelligent devices and services.

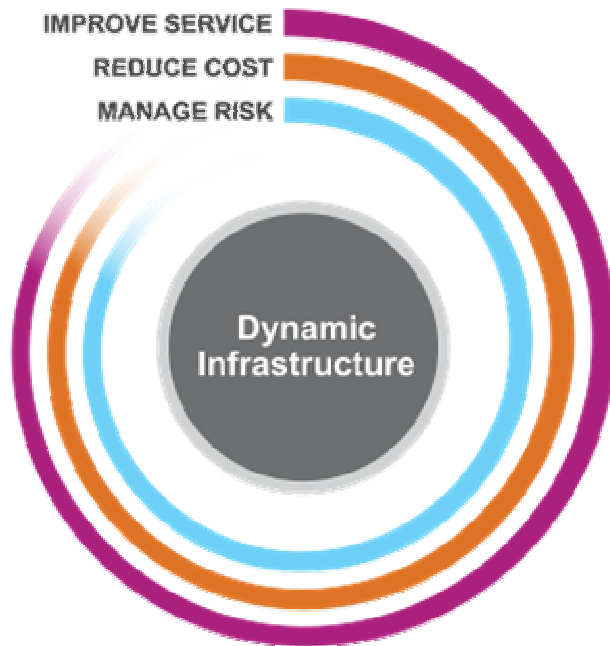
for Data Centers

Expertise and capabilities to assist clients with improving efficiency of IT Operations while improving effectiveness of the business services delivered and managed by IT from the next generation of data centers.

....to deliver innovative products and services to customers.



A dynamic infrastructure is required to address today's needs... and lay the foundation for the future.



Delivering superior business and IT services with agility and speed.

● IMPROVE SERVICE

Manage the Service as it is experienced by the Consumer ...

... *Providing for real-time, dynamic access to innovative new services.*

● REDUCE COST

Contain operational cost and complexity today ...

... *Achieving breakthrough productivity gains tomorrow.*

● MANAGE RISK

Leverage topology insight and Predictive Analytics to avoid problems, not respond to them ...

... *Preparing for the new risks of a more connected and collaborative world.*



Service Availability and Performance Management

Visibility



- Inform
 - Provide Operator & Business Views – different consolidated views of the same data - via configurable Dashboards

Control



- Collect and Consolidate
 - Collect & consolidate events across the business infrastructure
 - Maintain Service Relationships to relate IT to Business in dynamic infrastructure

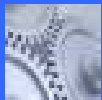
- Analyze

- Enrich events - business intelligence & service affecting
- Predictive Analytics: Baselining and Trending of Event and Performance Data leading to Incident Avoidance
- Identify root-cause & symptoms events

- Integrate

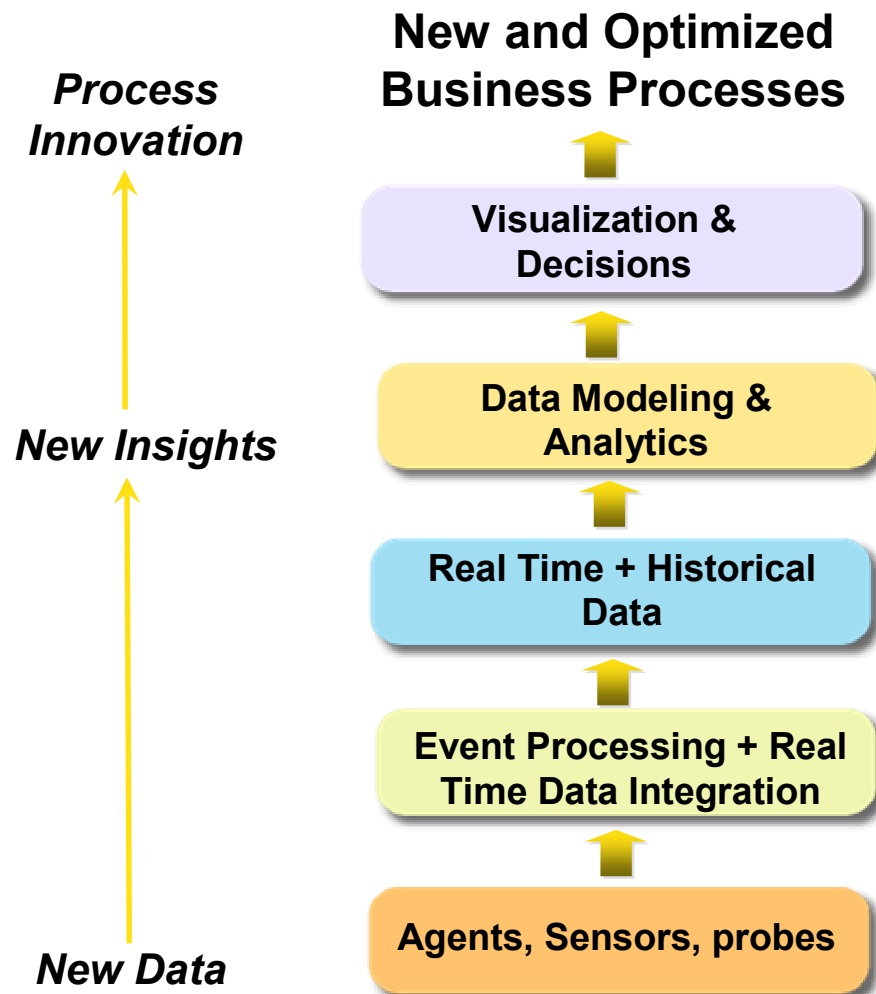
- Integrate with diagnostic, troubleshooting & OAM tools
- Integrate with OSS tools – CCMDB, trouble-ticketing, billing, provisioning ... etc
- Reduce Operator Costs with Automated Response

Automation





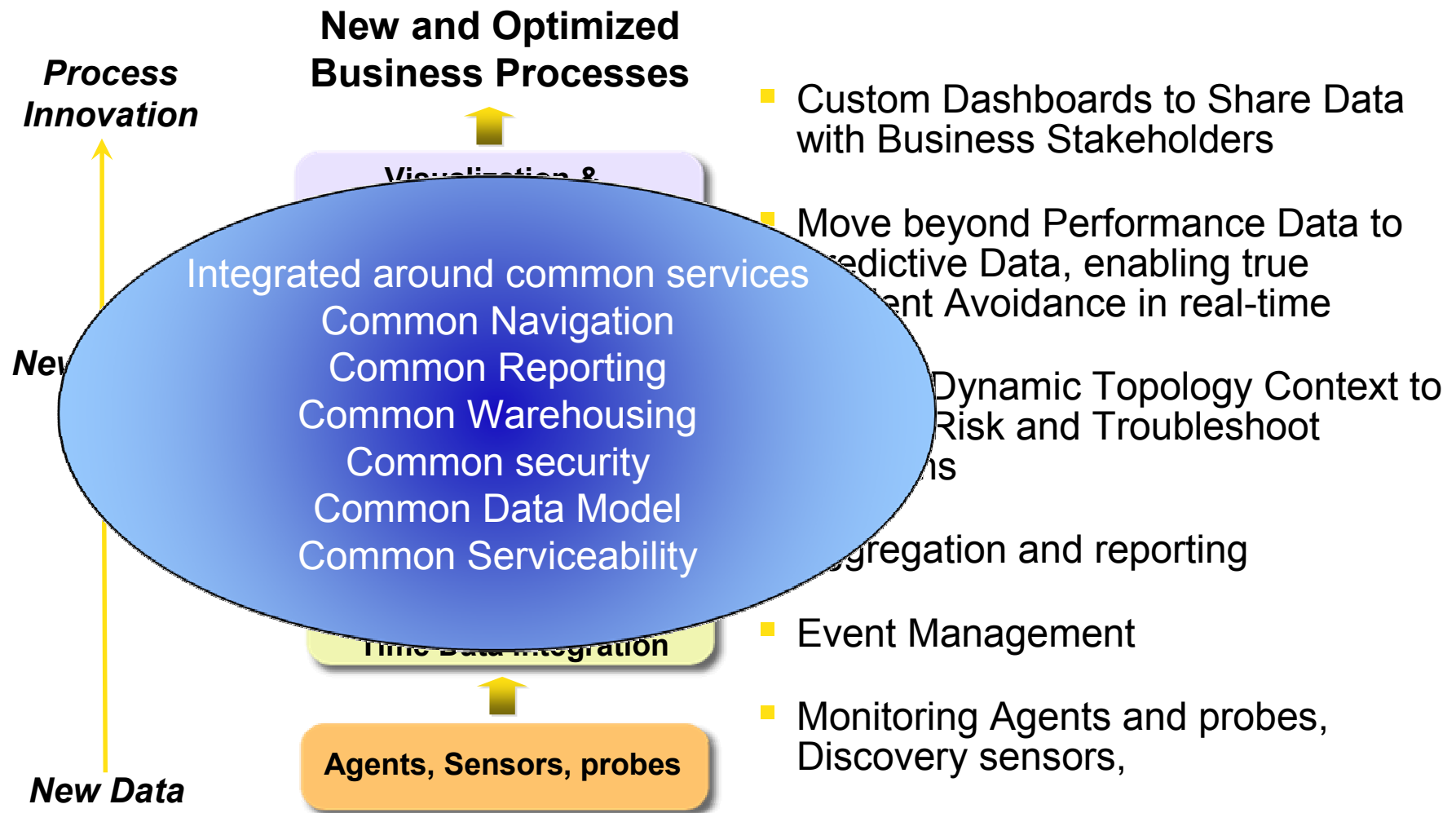
Service Availability and Performance Management - What Does It Mean to Be Smarter?



- Custom Dashboards to Share Data with Business Stakeholders
- Move beyond Performance Data to Predictive Data, enabling true Incident Avoidance in real-time
- Deliver Dynamic Topology Context to assess Risk and Troubleshoot problems
- Aggregation and reporting
- Event Management
- Monitoring Agents and probes, Discovery sensors,



Service Availability and Performance Management - What Does It Mean to Be Smarter?





Business and Technology reshape IT Management



- Production Applications are the face of Enterprises and CSPs
- End User Response & Application Service Quality are key Differentiators: Time is Money
- Dynamic Infrastructure and Cloud Computing reduces resource costs, and adds Management Complexity
- Resource Based, “Bottom-Up” Management limits adoption and value of new paradigms
- Opportunity to maximize savings with just-in-time resource allocations
- Monitor Application Component Relationships to ensure Business Service is resilient
- Use Predictive Operations Analytics to provide real-time view of emerging performance or operational risks



Ensure End User Service Meets Business Goals

With Applications, as in life, it is the *first responders* that make the difference – The IT Operations Organization!



- Information for Effective Response is Critical
- Averting Trouble is possible, and more desirable
 - Know in real-time the Experience of your consumer
 - Avoid Performance and Availability Problems





Application Transactions are the Heart of a Business

If the Consumers of a Service are happy, then IT is being successful

Amazon's revenues jumped 18 percent to \$6.7 billion for the quarter compared with the same period a year earlier. Wall Street had been expecting Amazon to generate sales of \$6.4 billion for the quarter, according to Thomson Reuters.



According to a recent study of Diebold financial customers nationwide, just 1 percent of ATM downtime for an average 61 ATM customer network costs \$29,929 annually.

Diebold Premier Services Flyer

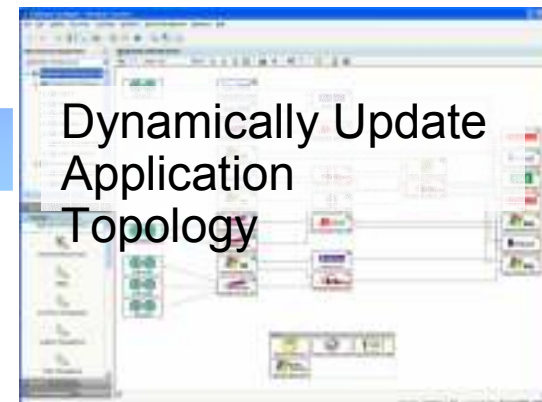
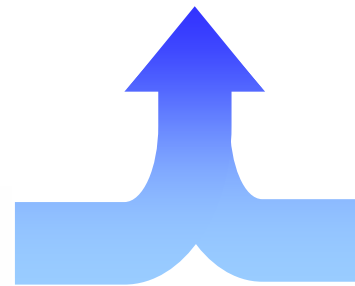
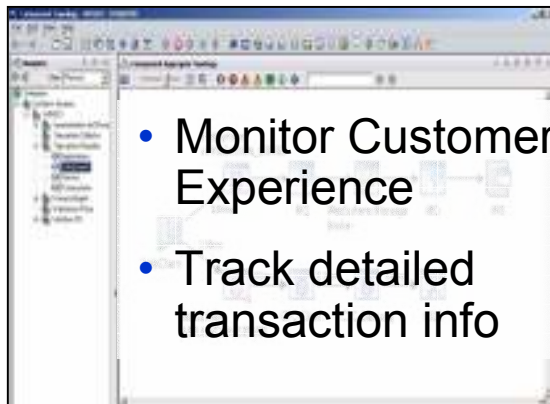
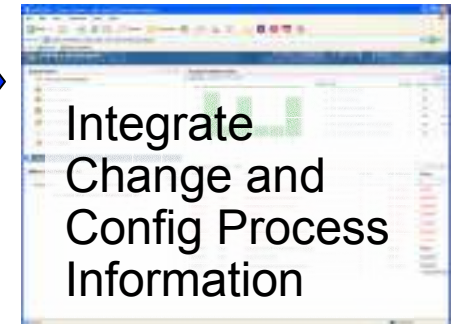
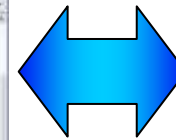
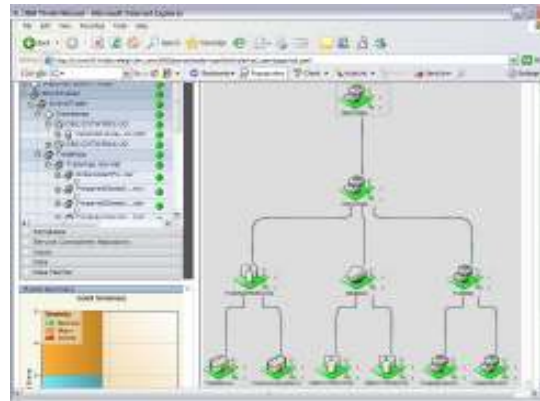
According to the the American Bankers Association, an industry trade group, a teller transaction costs a bank about \$1.07, while the same transaction conducted at an Atm would cost 27 cents. In addition, banks receive revenue from ATM transactions, as most charge customers a fee for using an Atm outside their bank's system.



Outside-In Service View

Integrate Dynamic Information on Customer Experience, Application Topology, Redundancy and Risk into one view

- **Deliver real-time experience data to the business**
- **Manage IT based on Business Goals**
- **Combine Transaction data, Application Topology and process activity into a single view for Operations**

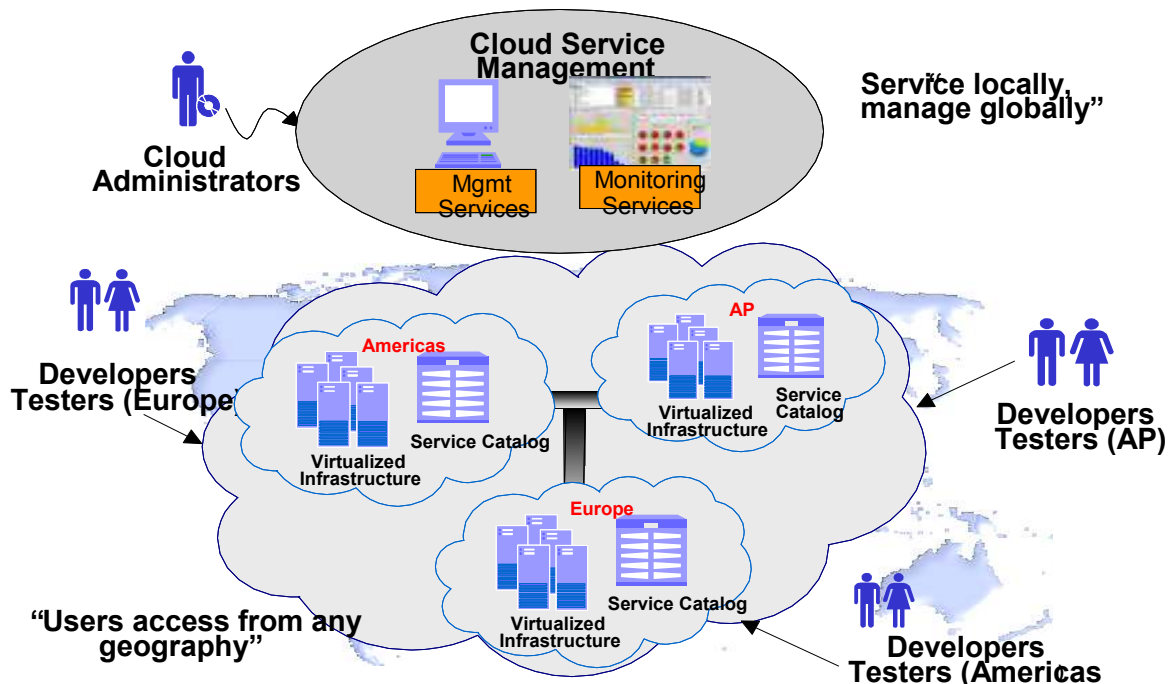


Show your Business what's Important. Dynamically Track Changes



Cloud Computing to Optimize Resource Costs

IBM Experience with a Global Development and Test Cloud



In an IBM Dev/Test Cloud in 2009:

- 40% CapEx reduction
- 15% OpEx reduction
- Each VM replacing a physical server saves \$2700/server/year
- Provision Server in under 20 min (down from >10 Hours)
- CPU Util over 40% (up from 7%)

Lessons Learned:

- Leveraging Cloud requires “Outside-In” perspective
- Automation Critical to realizing Savings
- Understanding *current* config critical to Automation



Using Business Service Focus to Manage Cloud



- Visualize all Cloud-based services in a single dashboard
- Gain Outside-In Service Perspective to enable End User driven decisions
- Leverage OMNIBus,
- Tivoli Monitoring,
- Systems Director and
- Tivoli Storage Manager
- Full visibility into cloud to optimize for power, performance, cooling and storage

Tivoli Service Automation Manager :

- Deliver Automated Image and Service Management for Cloud
- Federated image library
- Automated Provisioning new VM takes 5% as long as provisioning manually
- Increased (and simple) sharing between Development and Test for faster rev

Manage Risk

Availability Assurance
Predictive Analytics

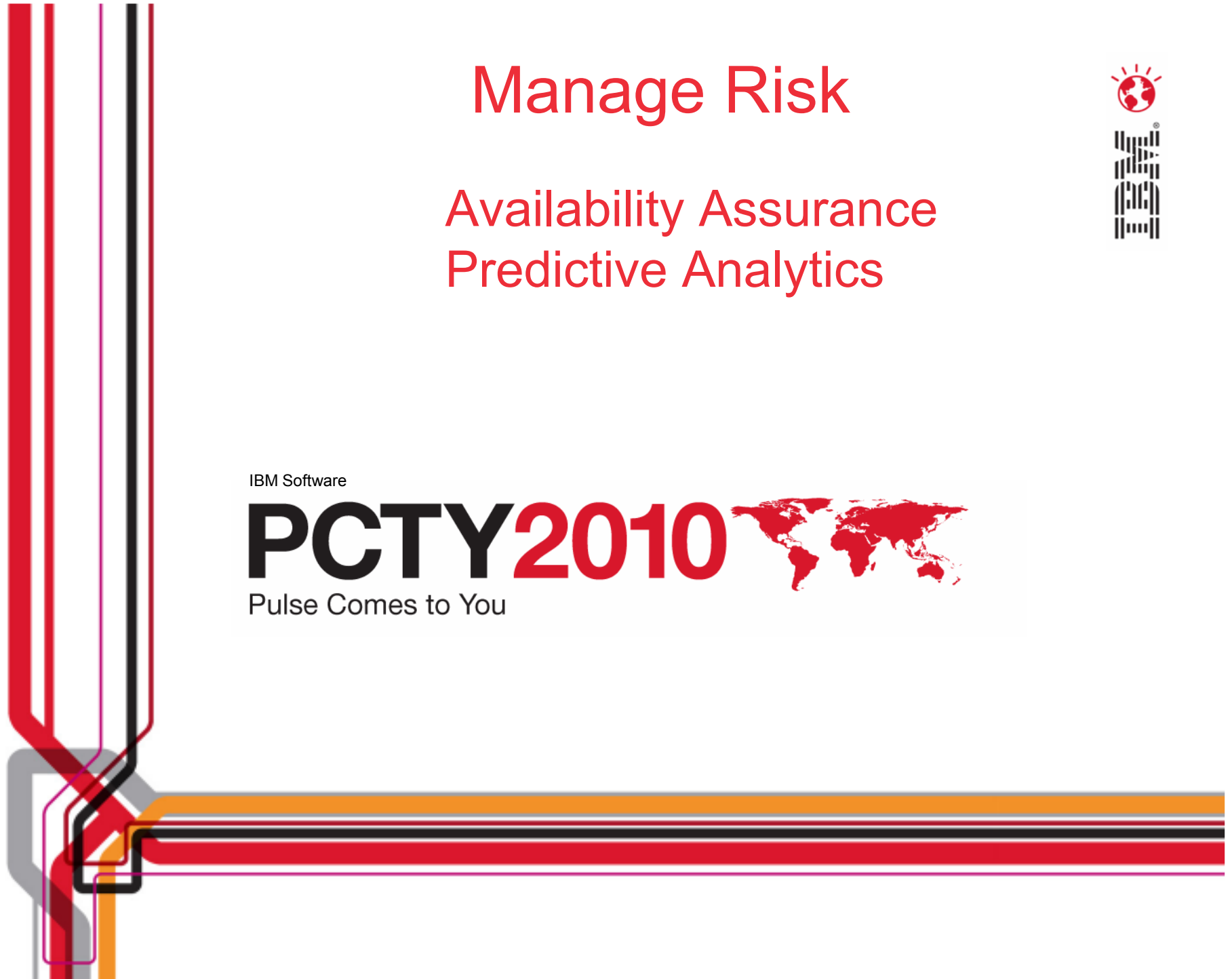


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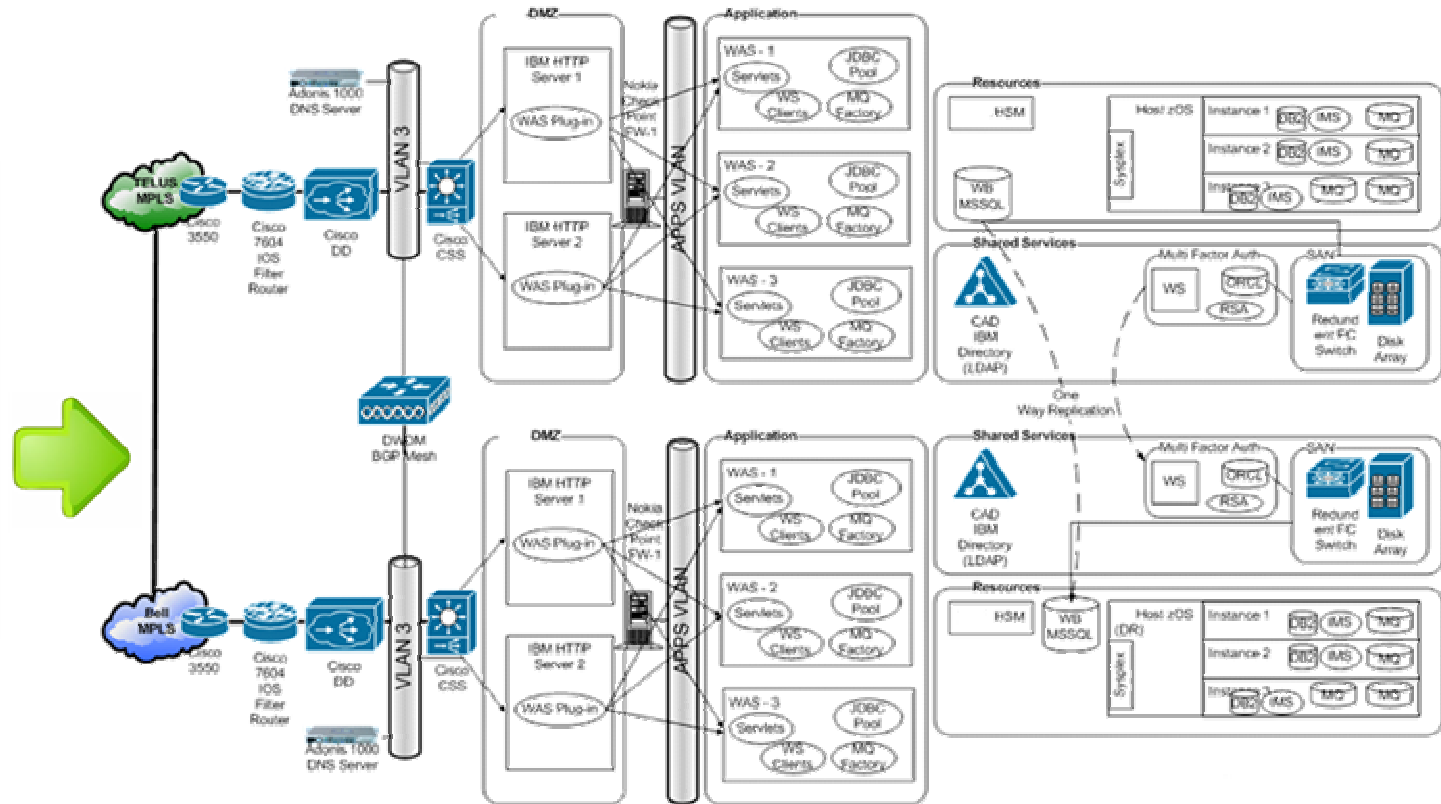




Manage Complexity with Integrated Solutions

When a service is Complex and Dynamic, total up-to-date context is crucial to quick problem resolution

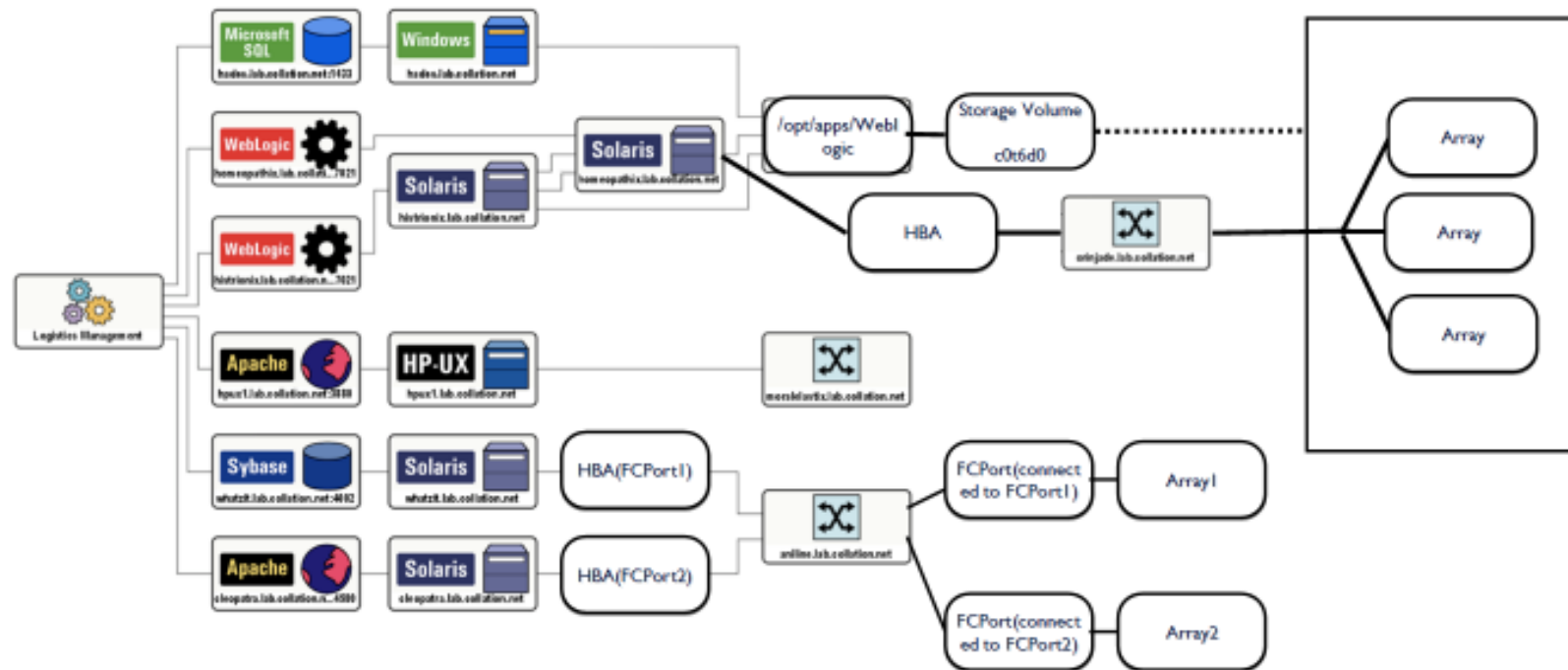
Consumer





Dynamic Discovery and Change Management

- Understand Application Topology and Relationships
- Maintain Business Service Redundancy Information
- Maintain Configuration Information and History
- Assure Configuration Compliance

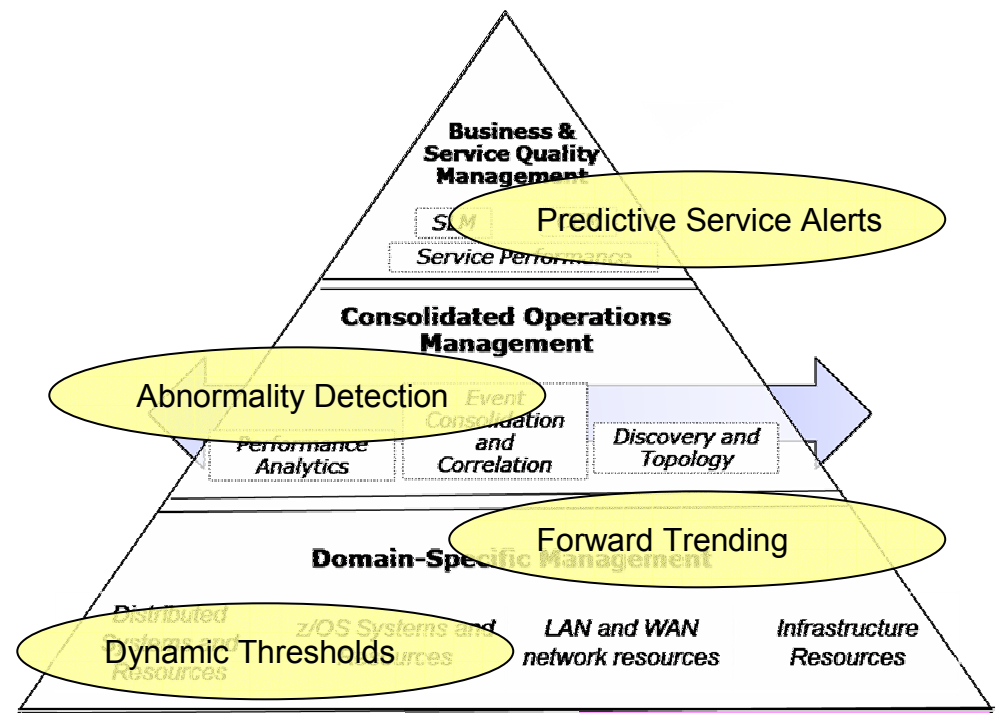




Predictive Analytics built *into* the Solution, not *onto*

Tivoli Solution

- ✓ **Predictive Analytics across all layers:** Built-in PAM span all levels of technology stack!
- ✓ **Broad collection/integration:** Largest available experience library of collectors, integrations, and run-books!
- ✓ **Robust domain experience:** We're investing more intelligence up-front!
- ✓ **Efficient & scalable:** We collect the right data, not just lots of data!
- ✓ **Robust visibility:** Get the metrics that matter most, more frequently!
- ✓ **Maximum intelligence:** Nimble approach to collecting & storing data for maximum intel



Add Predictive Capabilities into the data you are already collecting, distributed across the solution to provide maximum value with minimum extra effort



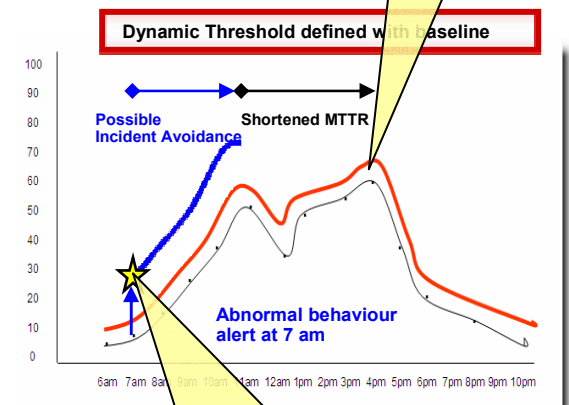
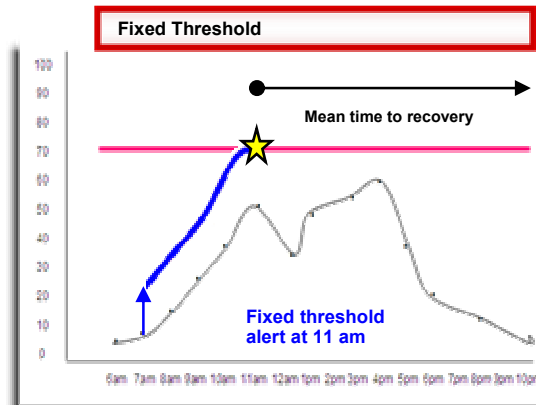
Getting Ahead of Service Outages

Baselining

- Track Normal behavior of services and resources
- Escalate Abnormal behaviors as soon as they are detected
- Reduce False Positives
- Reduce Configuration Challenges
- Increase Warning on Service Affecting Incidents

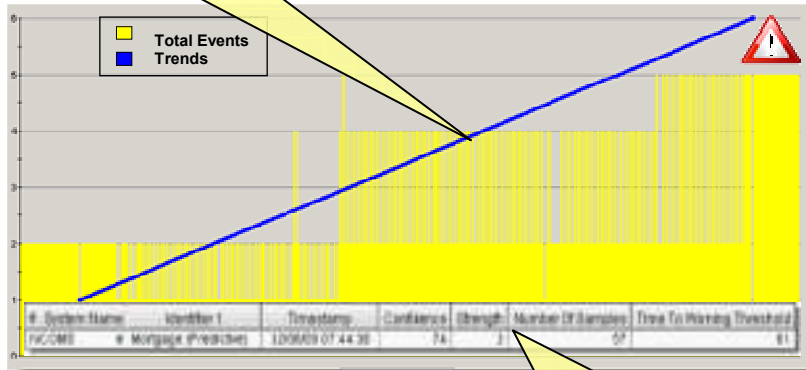


- No automated approach to define
- No warning of abnormal behaviors prior to peak periods
- No flexibility in the monitoring environment



Proactive warning for abnormal behavior occurring before peak periods or during non-peak periods

Predictive reporting, forecasting and alerting



Trends analysis based on sample size, confidence and strength levels

Trending

- Monitor Service and Resource Utilization
- Predict Emerging Capacity Issues
- Vary Sensitivity:
 - Short term high confidence analysis for virtual provisioning activities
 - Longer lead time alerting for problems that may require physical updates (purchase hardware)

Reduce Costs

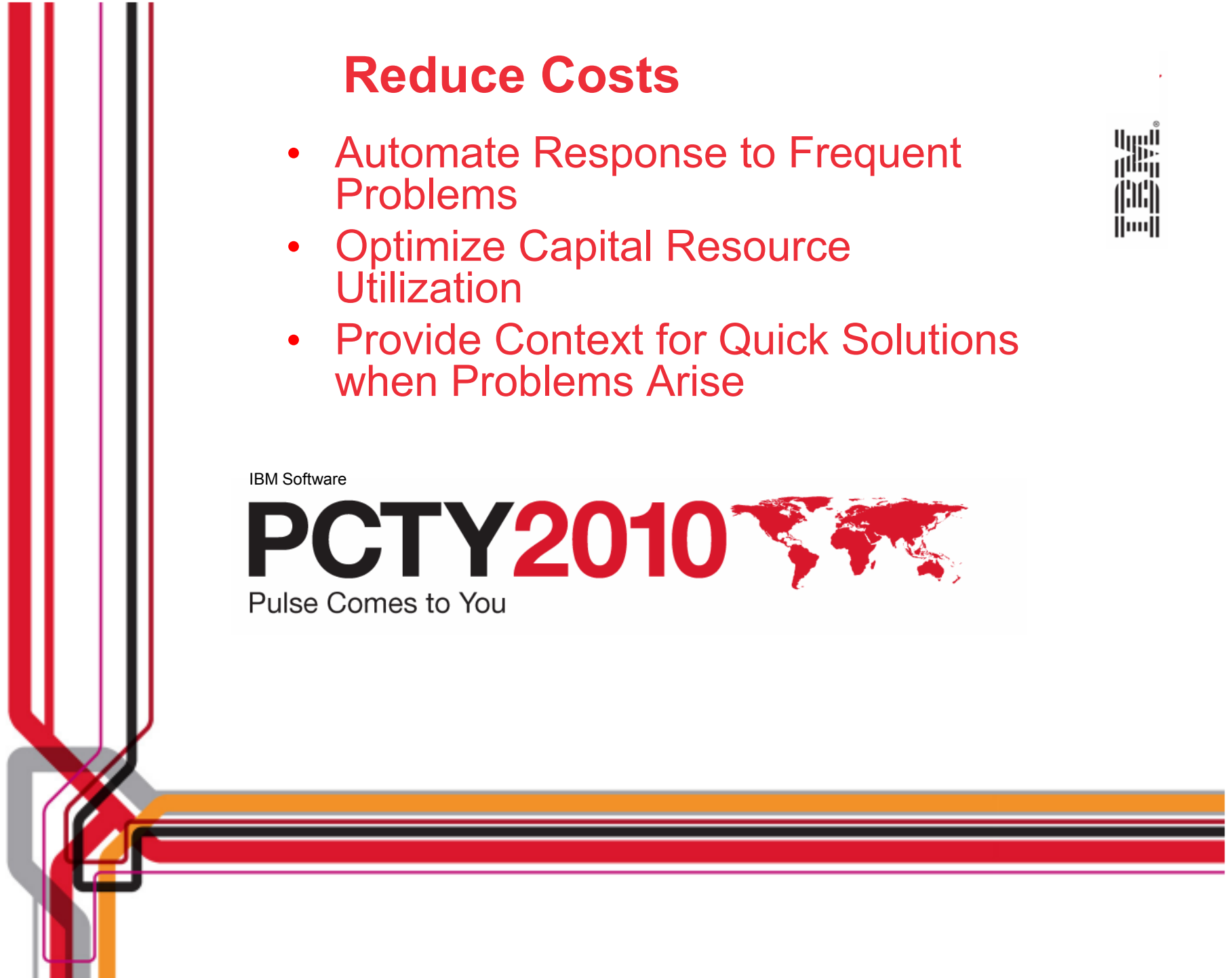
- Automate Response to Frequent Problems
- Optimize Capital Resource Utilization
- Provide Context for Quick Solutions when Problems Arise



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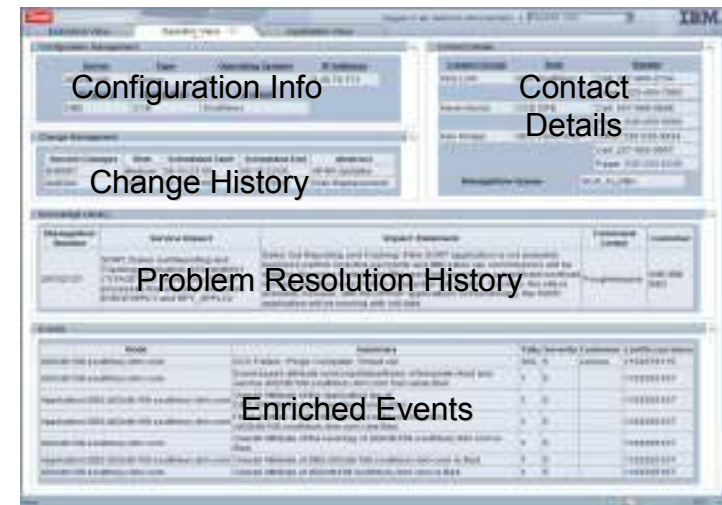
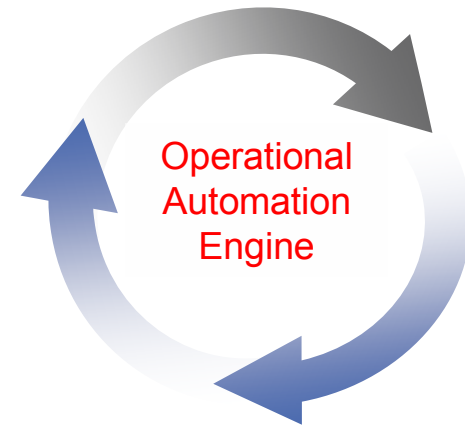
Realize Immediate Savings with Incident response Automation

- Event Enrichment – *Save minutes of lookups on every event*



- Task Automation -- *Take Simple actions to remediate Incidents*
- Business Resiliency – *Automate Application Restart and Automatically Optimize Component Distribution*
- Unify Context -- *Consolidated Operations View*
- Runbook Automation– *Custom Right-click actions to combine automation with Guided Operator activity*

| |
|---------------------|
| Assign Owner |
| Email/Page/Message |
| Restart App Service |
| Restart Server |
| Provision |
| Open Trouble Ticket |



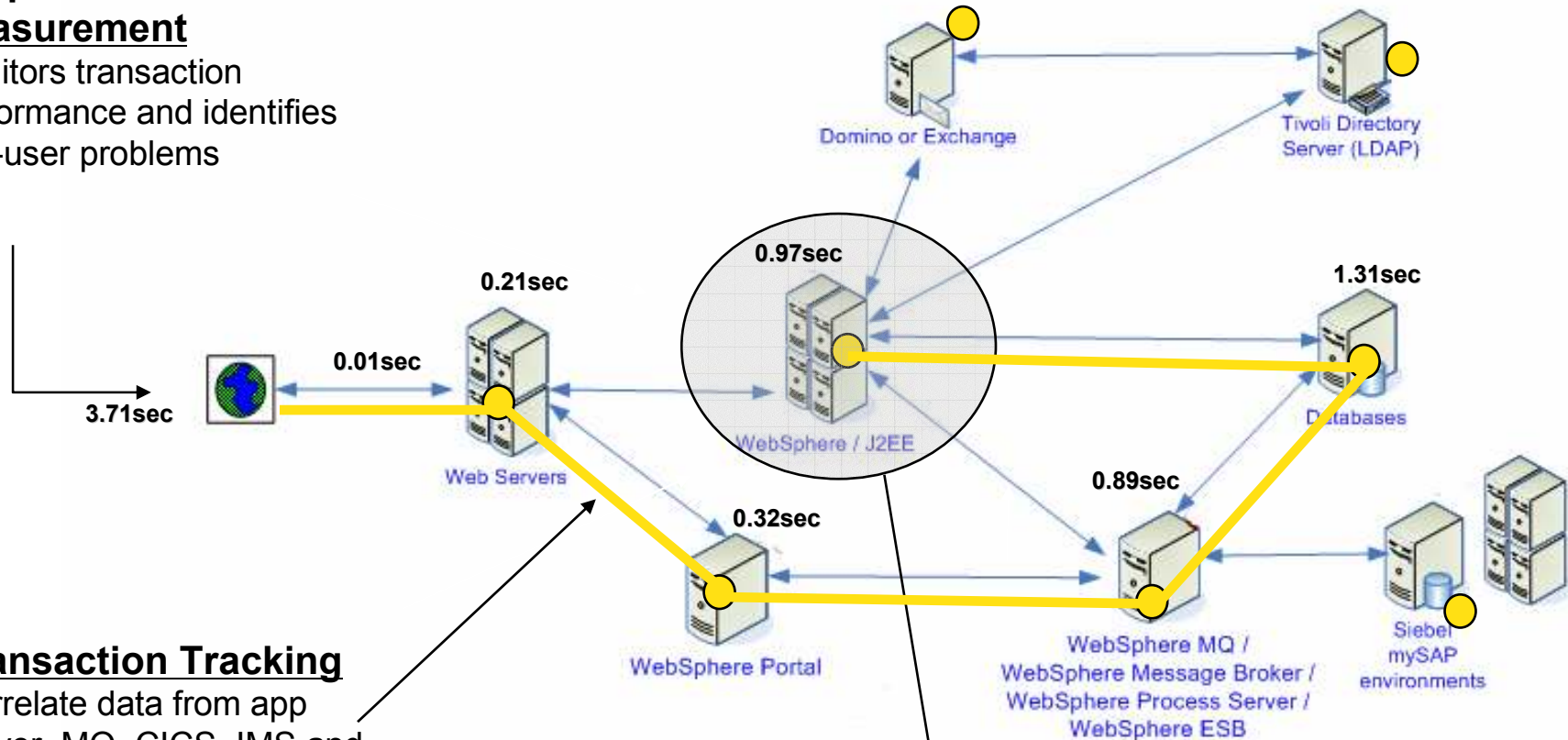


End-to-End Monitoring, Tracking and Isolation

Response Time

Measurement

Monitors transaction performance and identifies end-user problems



Transaction Tracking

Correlate data from app server, MQ, CICS, IMS and custom instrumentation to show topology and isolate problems

Detailed Problem Isolation

Launch in context to SME capabilities including SME level tracking within specific domain



Application Health Management

*Ensure Highest-Priority Mission Critical Applications
Provide Fast Response Times and Meet Service Levels*

Increase application availability by diagnosing and automatically correcting common application server problems

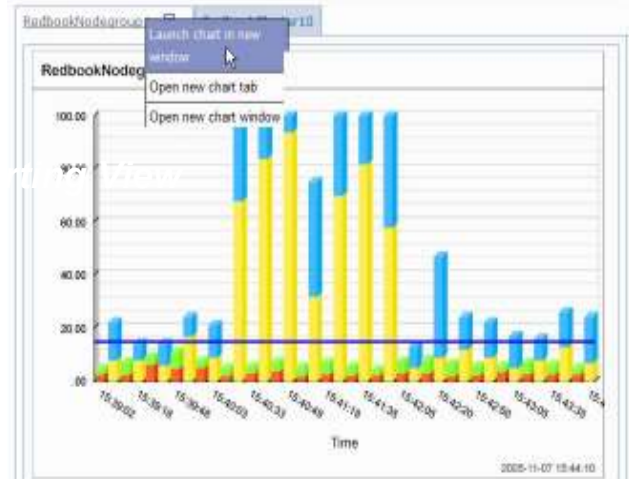
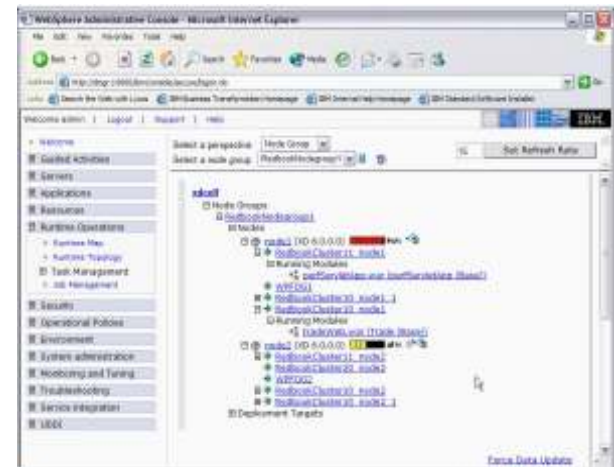
Meet service level agreements by dynamically delivering resources according to service policies

Improve performance by scaling workloads with advanced clustering, data replication services and unique workload distribution

Runtime view

Chart

Interruption-free application upgrades by running multiple versions in production at the same time

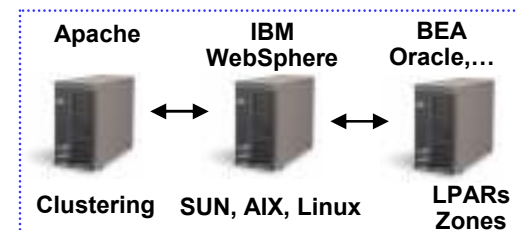
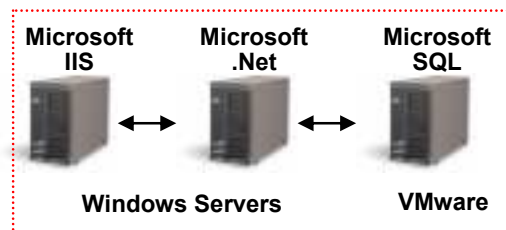
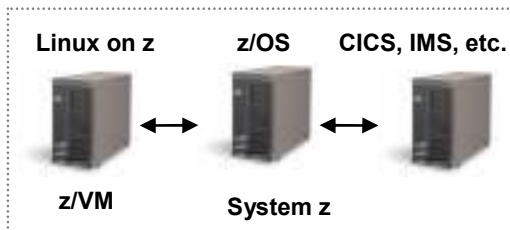
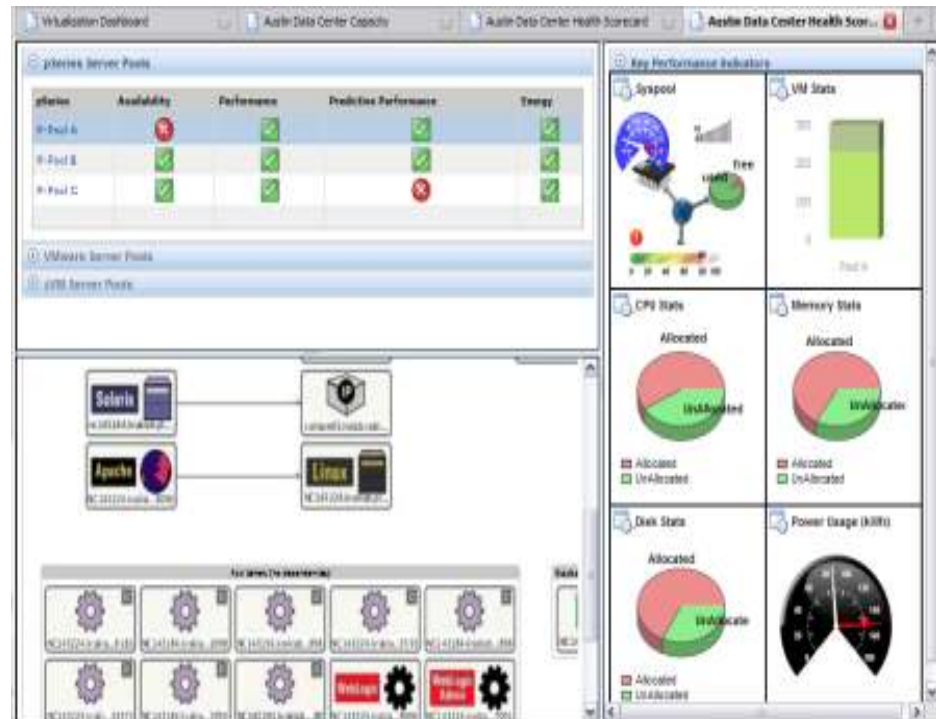




Unified Visibility into All Critical Resources

Physical and Virtual Resources integrated on a Single Console enabling rapid identification of problems for quick resolution

- Optimize workload
- Automate action to address resource constraints
- Manage Virtual Environment
 - Hypervisors, VIOS, etc.
 - Dynamic Mapping of Virtual Resources
- Gain Visibility into all critical resources
 - Servers, Middleware, Applications
 - J2EE, Web Servers, WebSphere
 - Mainframe and System z





Improving Operations Worldwide

US-based bank:

“Now we immediately see everything from the ATMs low on cash; highest transaction frequency; location density to the diverging activity or service level trends”

- 60% reduction in time spent investigating and managing incidents



Labor Efficiency
& Cost Reduction

Improved MTTR

European Cable Provider:

“Prior to Tivoli Netcool, manual searches took eight to 12 minutes per alarm and one hour of staff time per day to calculate the impact. With this step alone, we achieved a time reduction to one minute per alarm.”

- Can roll out new services to gain a competitive advantage, using the same headcount



European Managed Service Provider:

“We have built a successful cloud computing infrastructure using IBM Tivoli Monitoring software and working closely with IBM.”

- Automate and Simplify on-boarding of new customers



Implementing Cloud Solutions

Outside-In Tracking and Troubleshooting

Global Electronics Manufacturer:

“The ability of ITCAM to provide a comprehensive, detailed view of the transaction as it traces its path across the infrastructure enabled us to identify not only where the problem occurred but to pinpoint the cause of the problem. In the end, we were able to ... identify problems that resulted from the way our applications handled transactions.”

- Improved End User Response and Application Quality





Tivoli re-shapes IT to Respond to the Business



**Improve
Service**



**Reduce
Cost**



**Manage
Risk**

- Production Applications are the face of your Business
- Customer Response & Application Service Quality are key Differentiators
- Dynamic Infrastructure and Cloud Computing enables IT to deliver value at lower cost but add Complexity
- Dynamic Application Discovery, Transaction Tracking, and rich Automation help manage that complexity
- Optimize Service Performance with a Comprehensive Infrastructure View
- Monitor Application Component Relationships to ensure Business Service is resilient
- Use Predictive Operations Analytics to provide real-time view of emerging performance or operational risks



Thank you

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