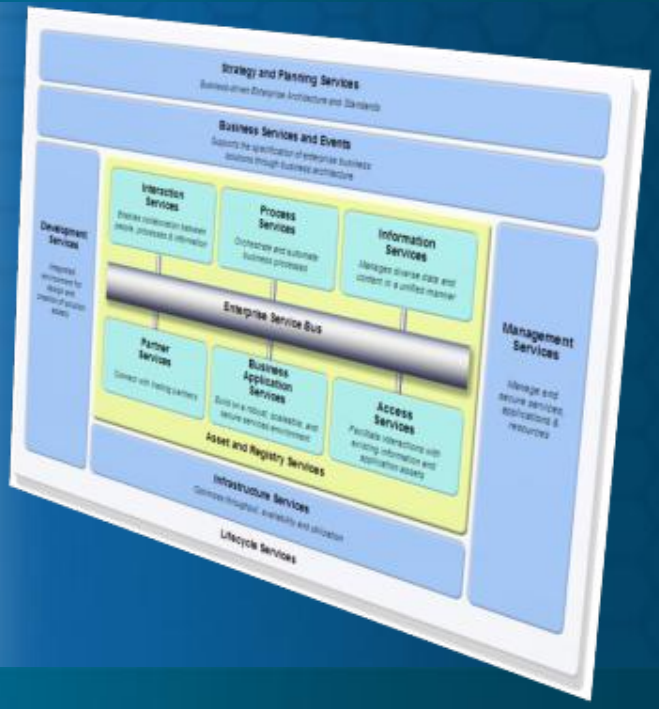
IBM SOA Architect Summit

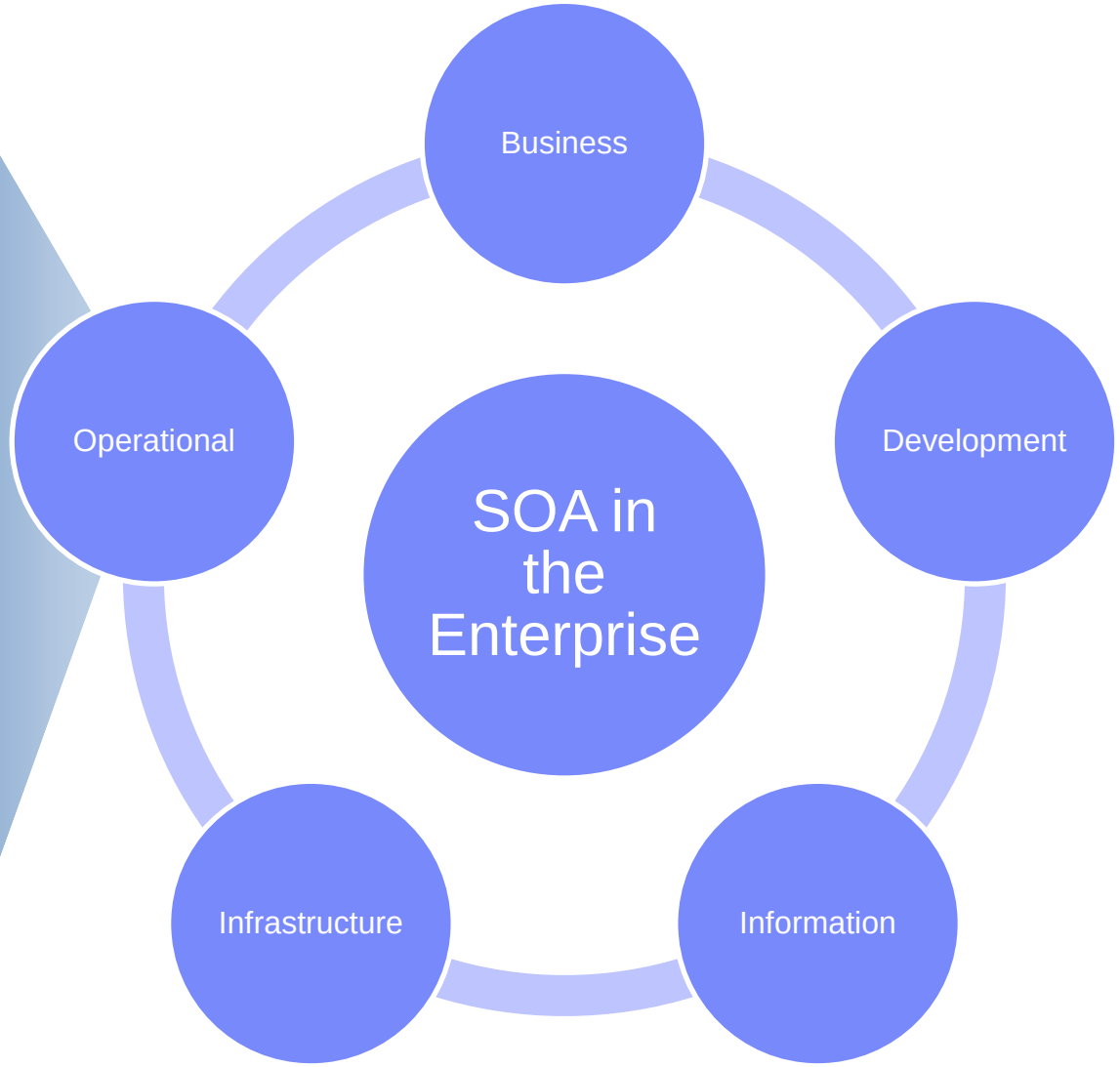
Operational Aspect of SOA



Fernando Garcia Velasco
Senior Certified IT Architect

Service-Oriented **Architecture** in the Enterprise

- **How does the Operational aspect of SOA impact the Enterprise?**
- **How do we support both the business and IT?**
- **What is the impact of dynamic solutions on operations?**
- **What levers do we have available to help us adjust, predict and control?**



Agenda

- **SOA Requires Updated Thinking About Operations**
- Operational Aspect for SOA
  - Top-Down
  - Bottom-Up
- Summary

Ready to Take the Leap?

- ✓ Business
- ✓ Development
- ✓ Information
- ✓ Infrastructure

Operations:

- **Dynamic** Business Processes?
- **Dynamic** Infrastructure?

dy·nam·ic: Characterized by continuous change, activity, or progress

Dynamic Business Processes

Increase Agility and Optimize Costs

Market Drivers

Cost Optimization

Agility

Business Priorities

- Improving Business Processes
- Reducing Enterprise Costs
- Improving Enterprise Workforce Effectiveness
- Attracting & Retaining New Customers

Dynamic Business Processes

Empower business users to collaborate on, manage, and continuously optimize business processes

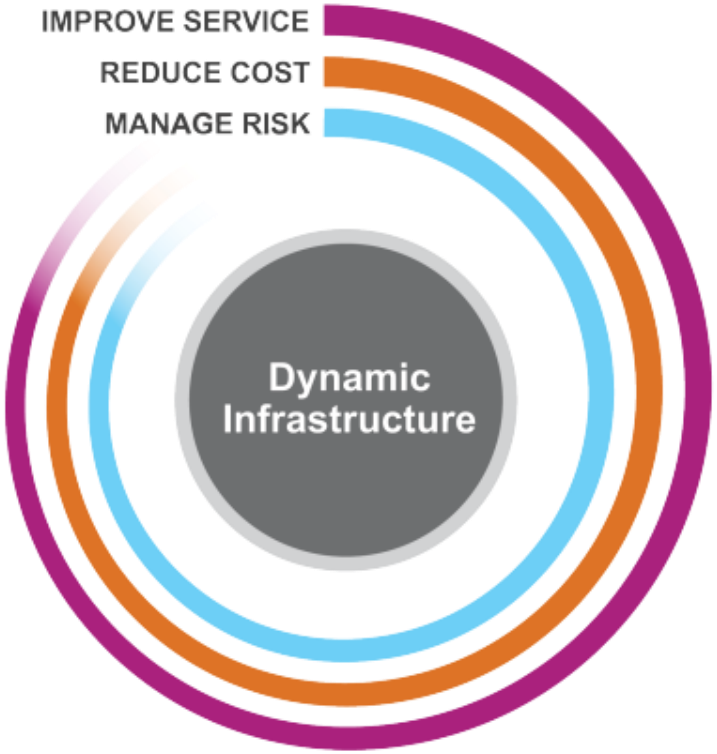
Optimize costs by automating processes

Capture insights for effective decisions

Adapt and respond dynamically to market change

Dynamic Infrastructure

Enables Business and IT Agility



A dynamic infrastructure…

- Enables visibility, control, and automation across all business and IT assets
- Transforms assets into higher value services
- Highly optimized to achieve more with less
- Addresses the information challenge
- Leverages flexible sourcing like clouds
- Manages and mitigates risks

…enables new computing and service delivery models like SOA

Transform and Adapt Dynamically

Increasing Operational Concerns

Value to Business	Greater agility in specific, departmental business areas	Optimization and innovation across end-to-end business processes	Business model innovation to support the Globally Integrated Enterprise	Predictive business automatically responding to market forces
Scope	Collaboration within a line of business	Coordination across lines of business	Enterprise-wide organizational cooperation	Enact significant shifts without direct IT involvement
	Foundational	**Extend End-to-End**	**Transform**	**Adapt Dynamically**
	Basic			Advanced
Value to IT	Focused, proven, high-ROI projects	End-to-end business process management to innovate and optimize	IT for strategic advantage and business model innovation	Technology becomes invisible
% functions expressed as services	<10%	<40%	<80%	>80%
% of services reused	<5%	<20%	<50%	>50%

Based on over ***8000*** customers using our SOA offerings

Levers to Adjust, Drive and Realize Dynamic Solutions

- **Policies**: Describes a desired state, or action to be performed that is recognizable by humans
  - Creates elements and attributes that can be understood and automated by machines
  - Translates desired actions into automated enforcement
- **Rules**: Declarative statements derived from policies, regulations, and procedures that are embedded into an enterprise system.
- **Events**: Any electronic signal (message) indicating a change in the state of the business has occurred
- **Patterns**: Find if a certain combination of events has happened
- **Metrics/Data**: Key Performance Indicators and Business Intelligence

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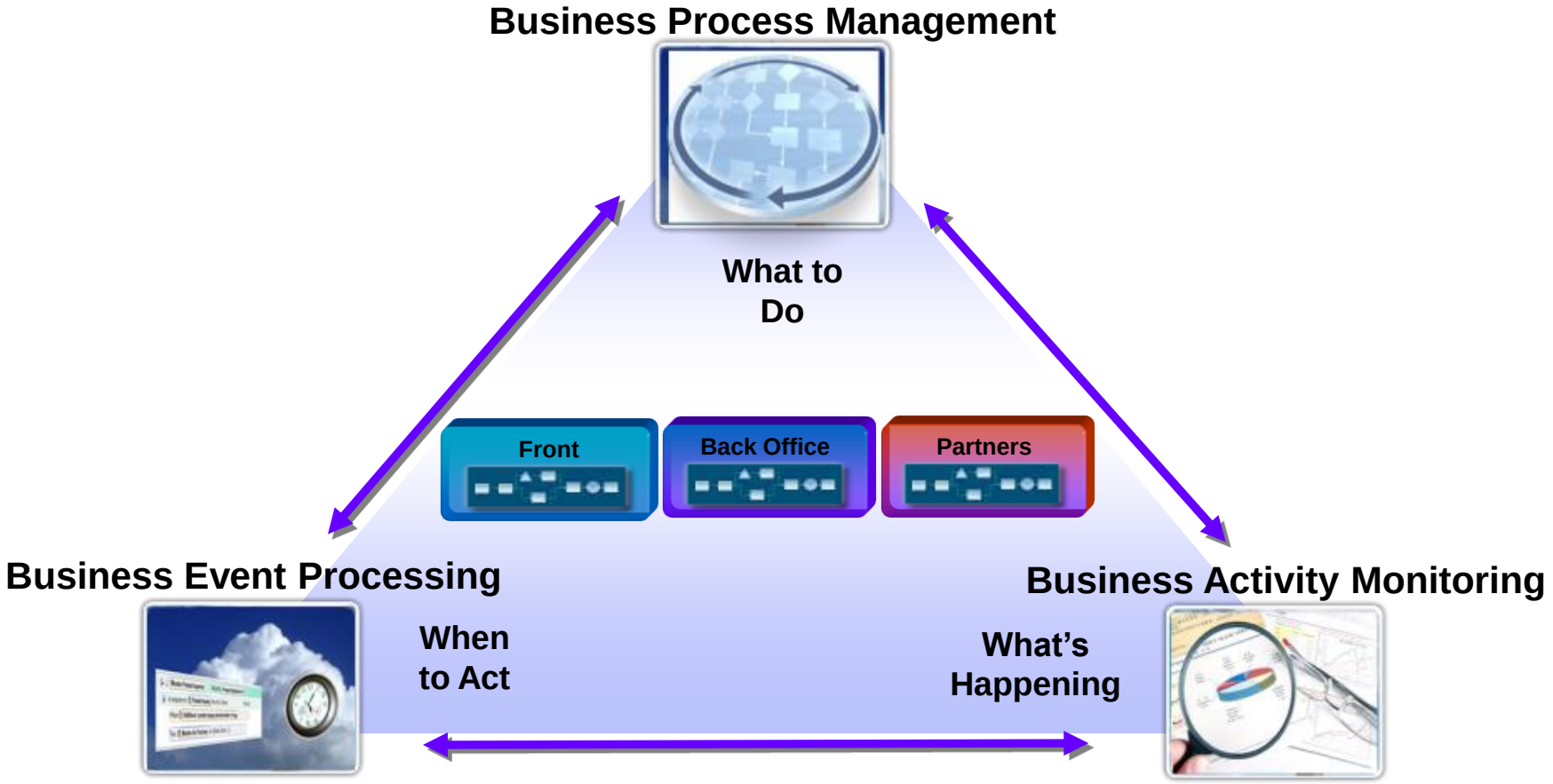
Benefits of BEP, BPM, and BAM

Embrace Change and Continuously Optimize Your Business



Know When to Act, What To Do, and What's Happening

Business activity monitoring (BAM) provides process visibility

Business leaders gain real-time visibility and actionable insight into processes

Real-time information consolidated into customizable, role-based dashboards

Business leaders monitor process KPIs and receive alerts

Achieve end to end process visibility

Understand, monitor and explore the state of business operations

Process Metrics

Key Performance Indicators
for business units

Collaboration

Share metrics and
models with teams
to resolve situations

Business Alerts

Notification of situations
that require response

External Information

Information affecting
business performance

Reports & Analyses

Understanding trends by
combining real-time performance
and historical information

Analyze a range of process data with BAM

Take action faster with up-to-minute information on personalized dashboards

Individual business situations

- Drill down to investigate why John Smith's new bank account request has not been processed within the specified service level agreement

Aggregated KPIs across multiple processes

- Redirect Group A's backlogged new account opening queue to Group B to rebalance workload

Trend analysis

- Compare new account opening metrics across time periods to manage resources more effectively

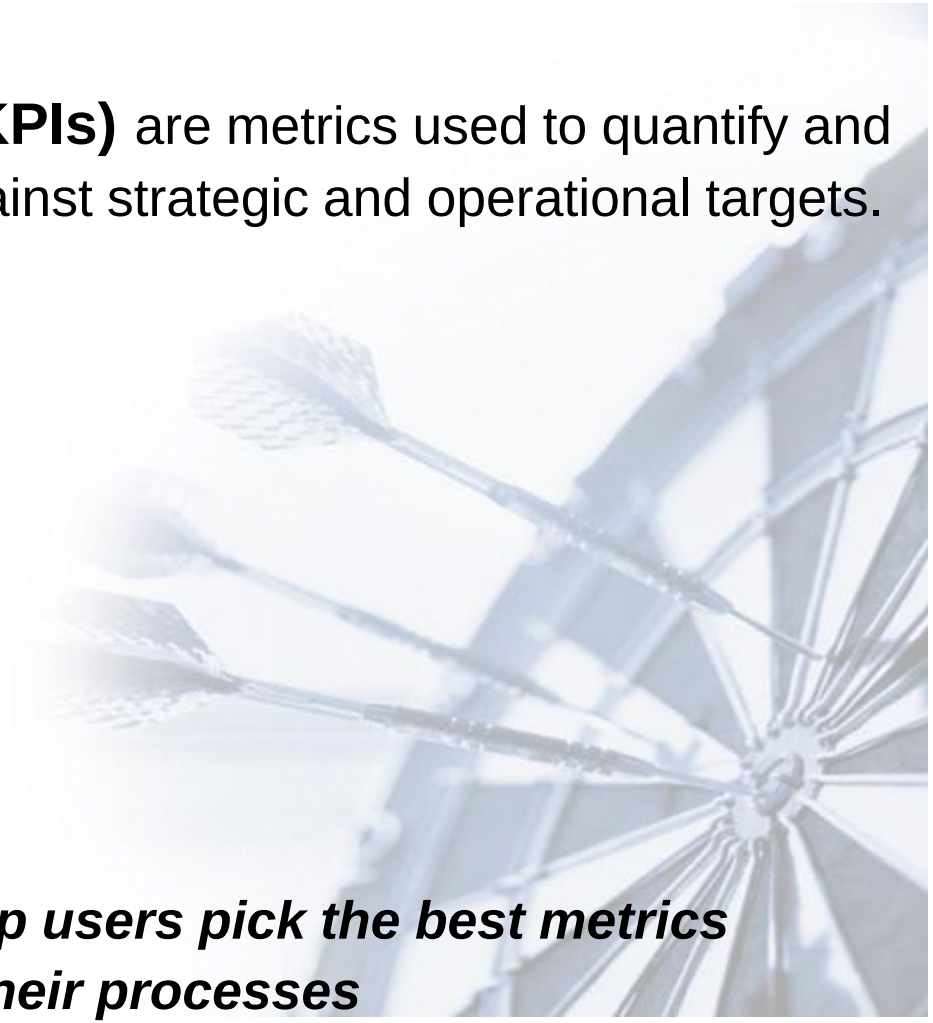
Real-time updates of KPIs help you make smarter decisions

Keep track of metrics and targets in the areas most critical to your business

Key Performance Indicators (KPIs) are metrics used to quantify and measure business performance against strategic and operational targets.

For example:

- Percentage of sales order line items delivered on time
- Average time to approve loan application
- Average time to process insurance claim



Integrated KPI libraries help users pick the best metrics to monitor their processes

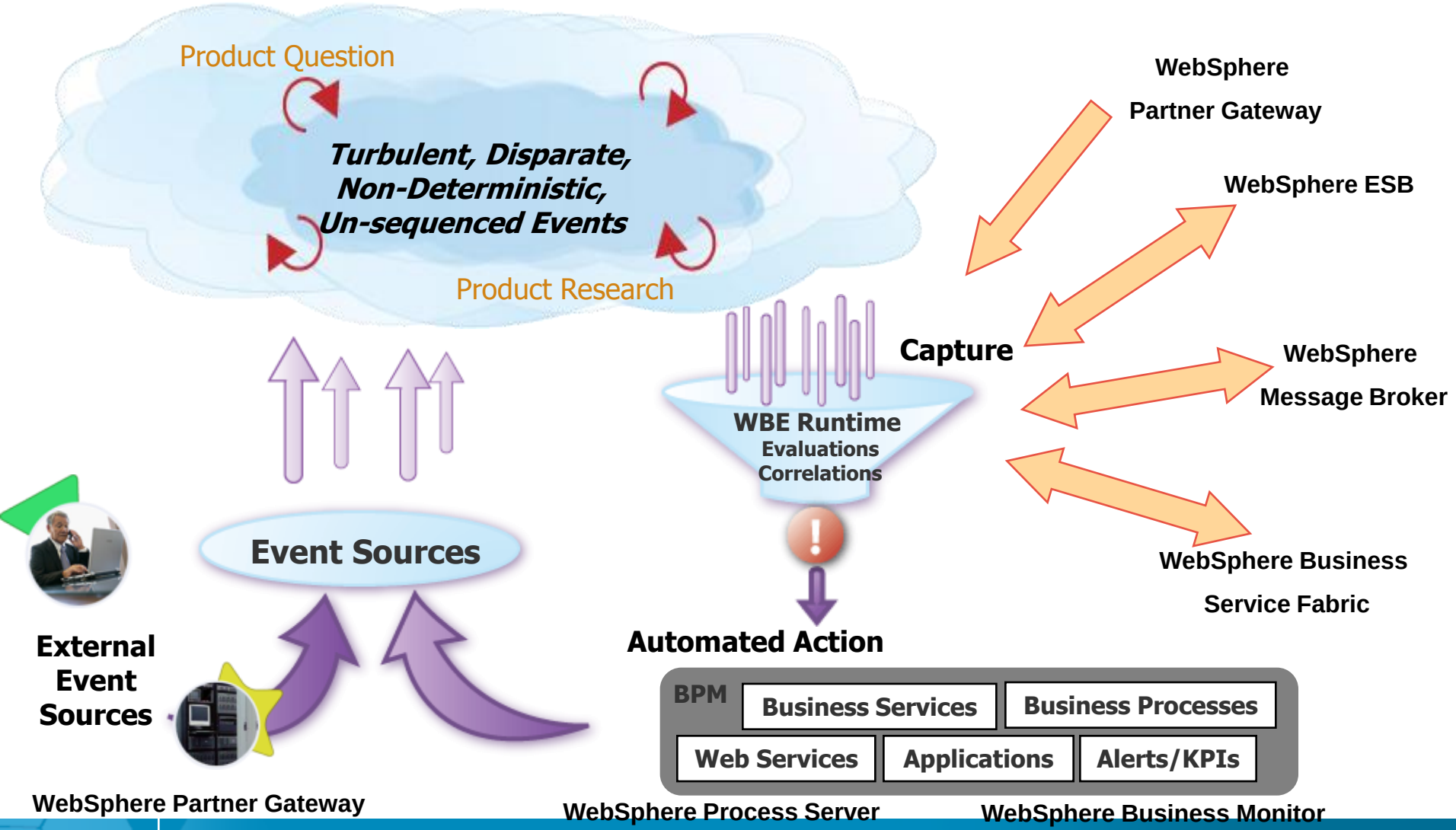
Predictive KPIs enable proactive management

Take advantage of market opportunities and prevent problems before they occur

- Predict future values of KPIs based on historic and cyclic trends
- Trigger alerts when predicted values indicate a problem
- Feed and correlate alerts with business event processing for enhanced pattern detection

Predictive KPIs in WebSphere Business Monitor

WebSphere Business Events Interoperability



Sense and Respond to Any Business Scenario

Identify trends, tune performance, and rebalance resources on-the-fly

Power and Flexibility to Respond Appropriately to a Rapidly Changing Market

Deployed Business Process

Human Decision Support

Continuous Process Improvement

- Deep Analytics and Business Optimization

- Feedback into Modeling and Simulation

Automated Response

- Process Monitoring and Event Triggers

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Today's Business Landscape is Undergoing ***More Rapid*** and ***Transformative*** Change

Both SOA and IBM Service Management create agility and flexibility and enable quick response to new market opportunities…

On the development and deployment side, SOA is a new way of organizing what you have to more efficiently and quickly create new composite applications and services

On the operations side, IBM Service Management is a new way of managing what you have focusing on optimizing the end-to-end service delivery to your customers

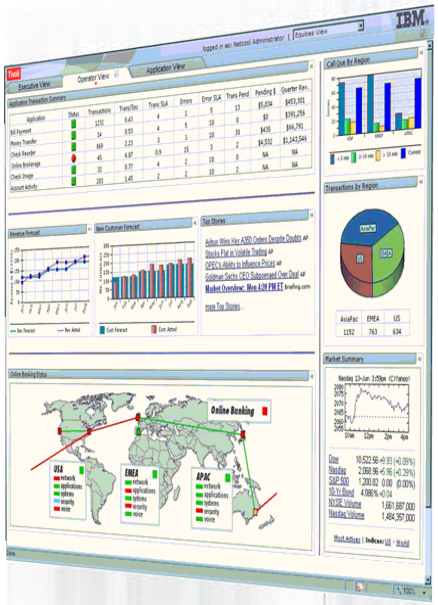
You can do Service Management without SOA, but you cannot do SOA without Service Management – or at least not very well.

IBM Service Management portfolio provides software, services, and best practices to address the challenges of managing a SOA environment.

IBM Service Management: Our Unique Value

Manages across the business and IT infrastructure to transform assets into business services

Visibility

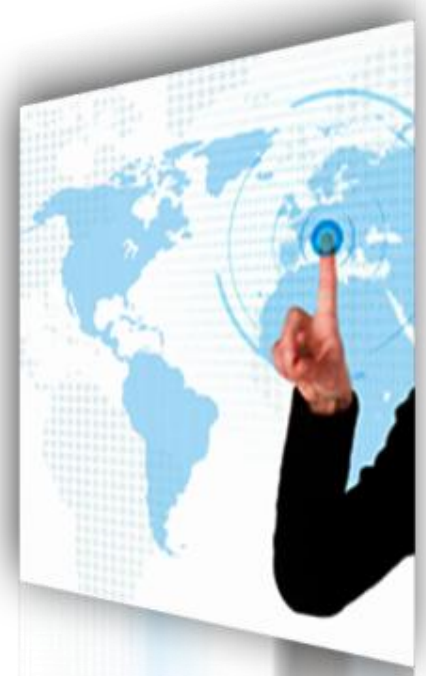


See Your Business Services & Processes

Control

Manage Your Risk & Compliance

Automation



Build Agility into Your Operations

Challenges of Managing a SOA Environment

Visibility

- No visibility to the services that are in use, where they are, what they do, who is using them and how much is being used
- Inability to perform root cause analysis of service problems
- Inability to perform business impact analysis of service outage

Control

- Cannot support multiple identity credentials
- Difficulty managing multiple security protocols
- Changes to identity and access are cost prohibitive when they require changes to application code
- Inability to consistently secure heterogeneous environments

Automation

- Existing infrastructure is not flexible enough to deal with dynamic services
- Inability to dynamically deliver resources to highest priority services during peak usage
- Inability to automatically diagnose and correct problems
- Inability to roll out new services without bringing system down

Lack of SOA Management and Governance is the most common reason SOA projects fail.

Companies that manage change well outperform their peers in the market (IBM CEO Study)

Business Service Dashboard: Integrated Visibility & Context

Tivoli Business Service Manager

Role-based dashboards

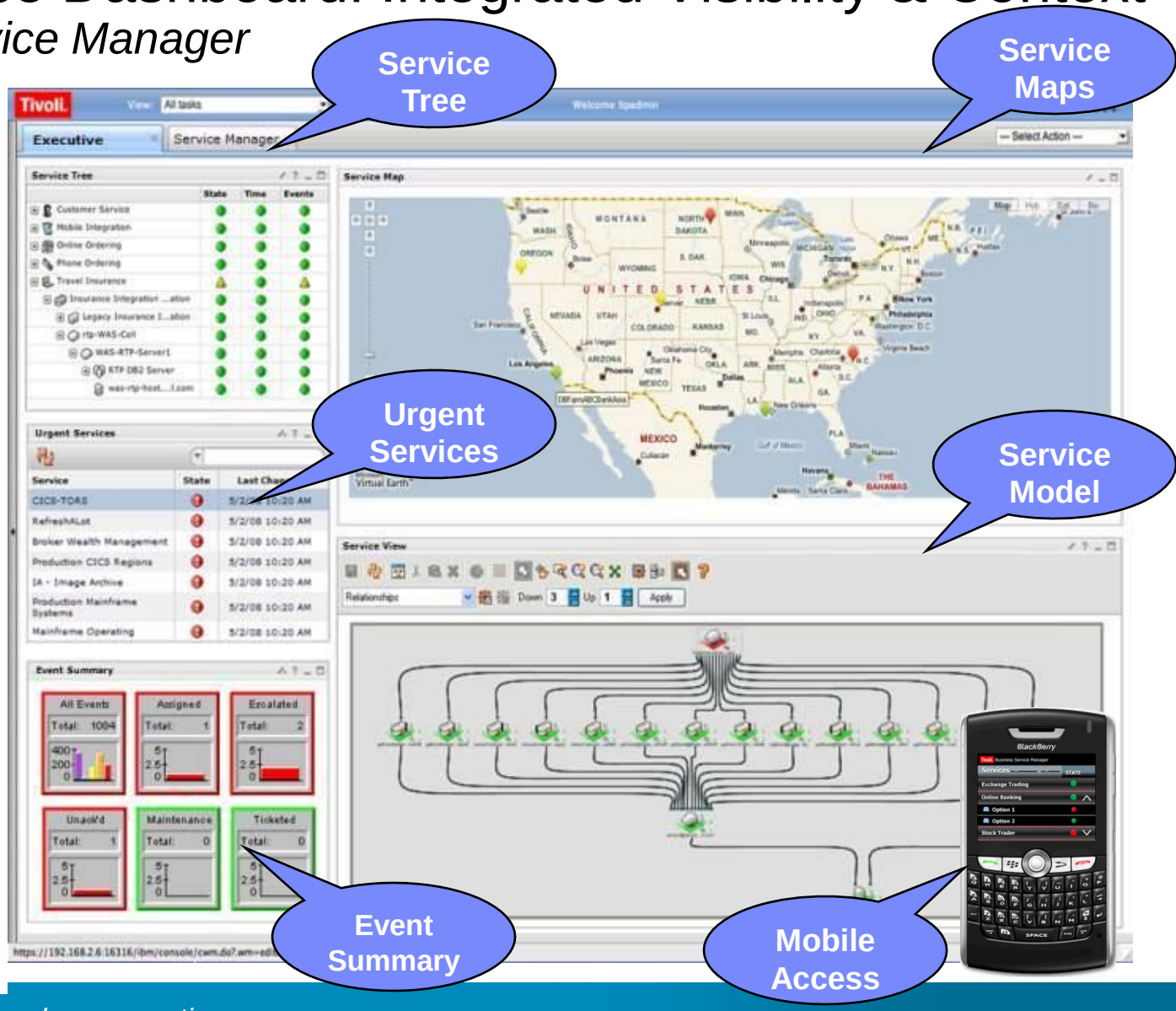
- LoB, Operations Mgmt, Operators.
- Customizable/sharing common context
- Launch in context views & automations.
- Realtime & Historical reporting across KPIs, event & performance.
- Web & Mobile Support

Visibility across:

- Services, Processes, Transactions
- Distributed & Mainframe
- SOA & Virtualization

Real-time & Historical Reporting

- Out of the box reports
- In-context launch from dashboard



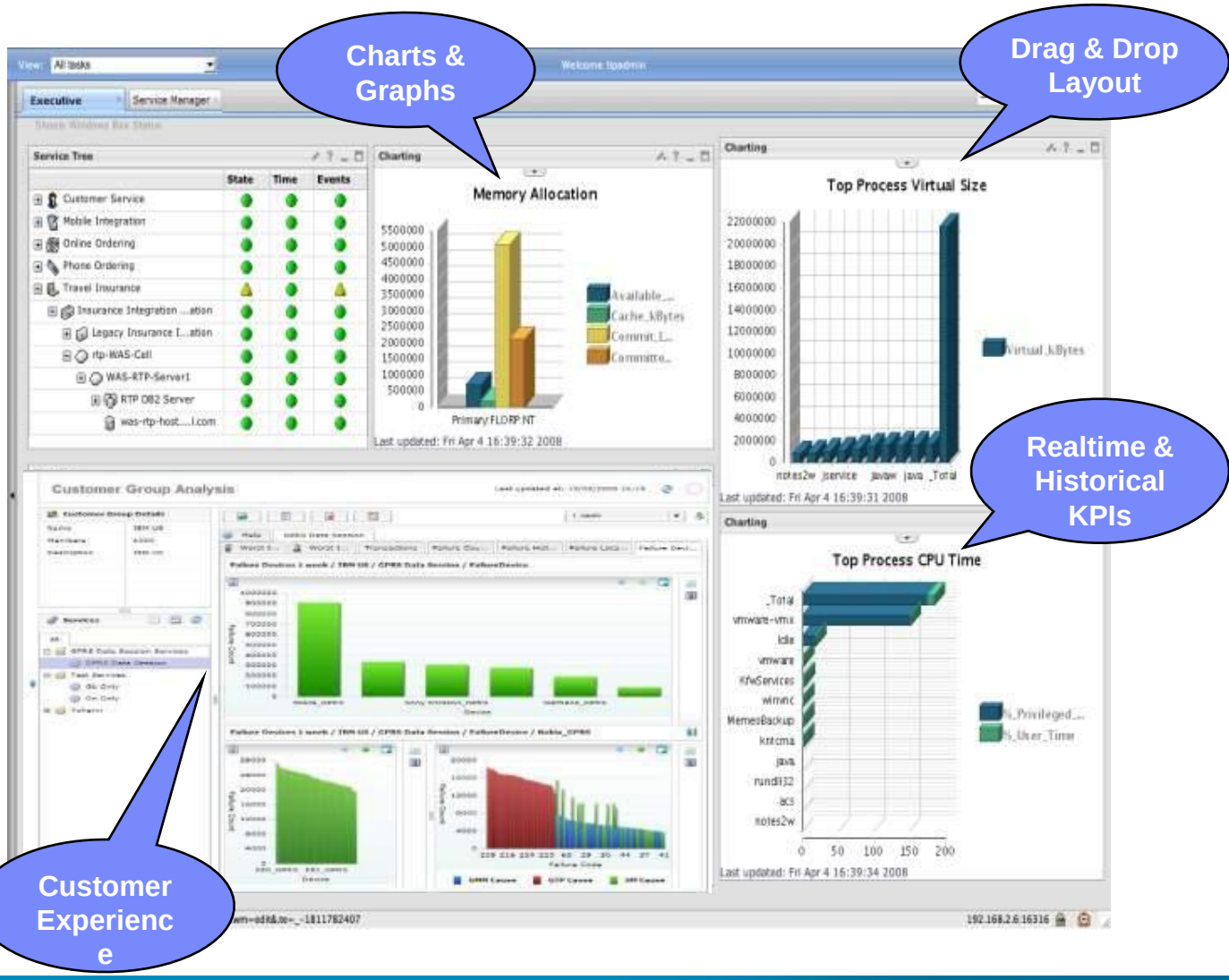
Business Service Dashboard: Integrated Visibility & Context

Common Tooling

- Visualization
- Navigation
- Single Sign-On
- Automation
- Data warehouse

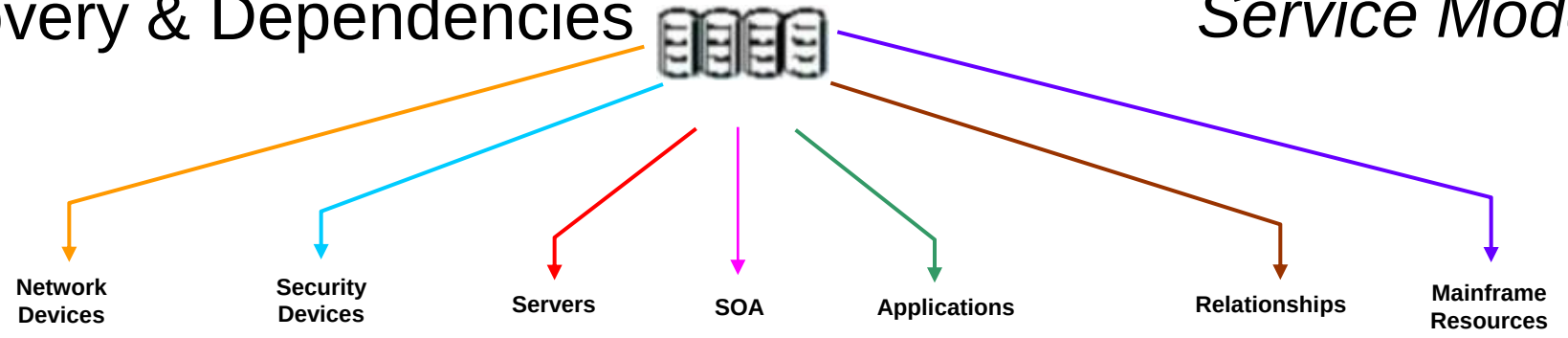
Measuring & Improving Delivery Against Objectives:

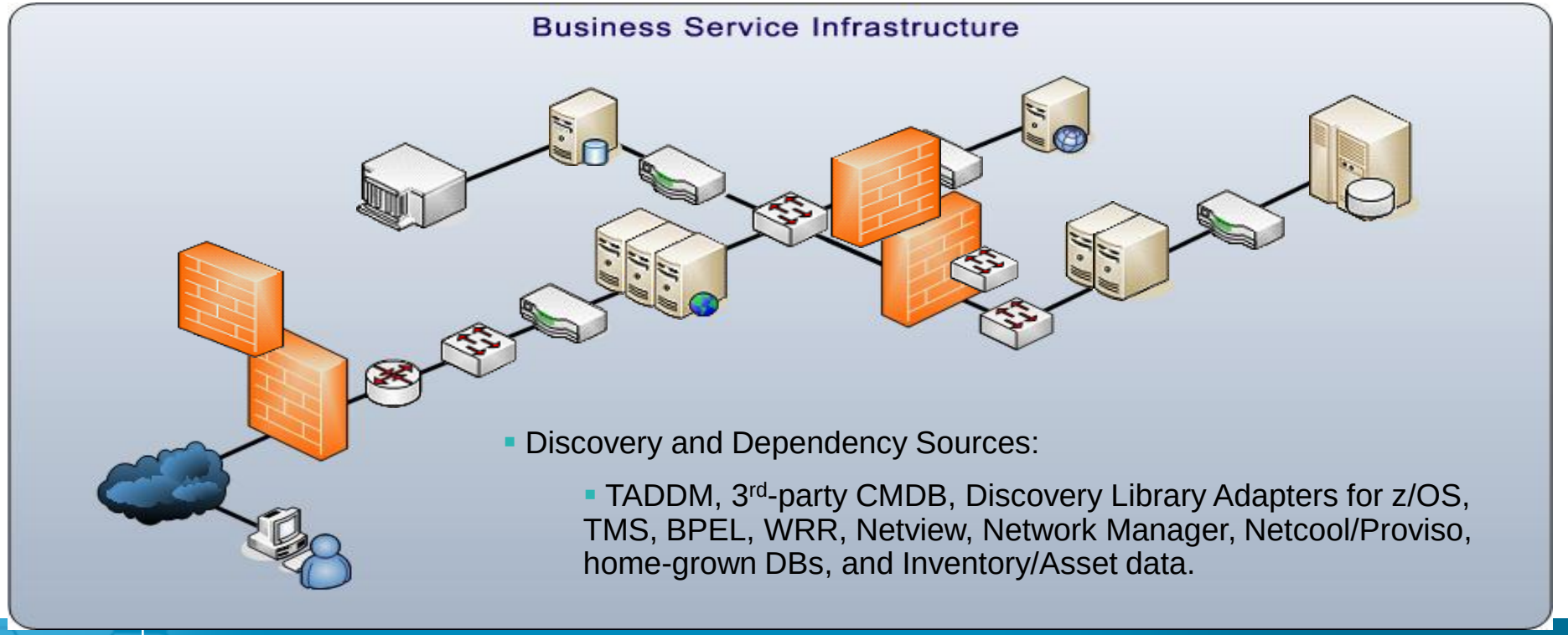
- Key Performance Indicators:
  - *E.g. Transactions, Revenue, MTTR, Call Volume*
- SLA Indicators:
  - *E.g. Customer Experience, Service Uptime, Transaction Rate, Infrastructure*
- Risk & Compliance Indicators:
  - *E.g. Cobit, ISO, SOX, Basel II*
- Usage & Financial Indicators:
  - *E.g. Service usage by LOB, Power by Service, IT cost per service*



Discovery & Dependencies

Service Model

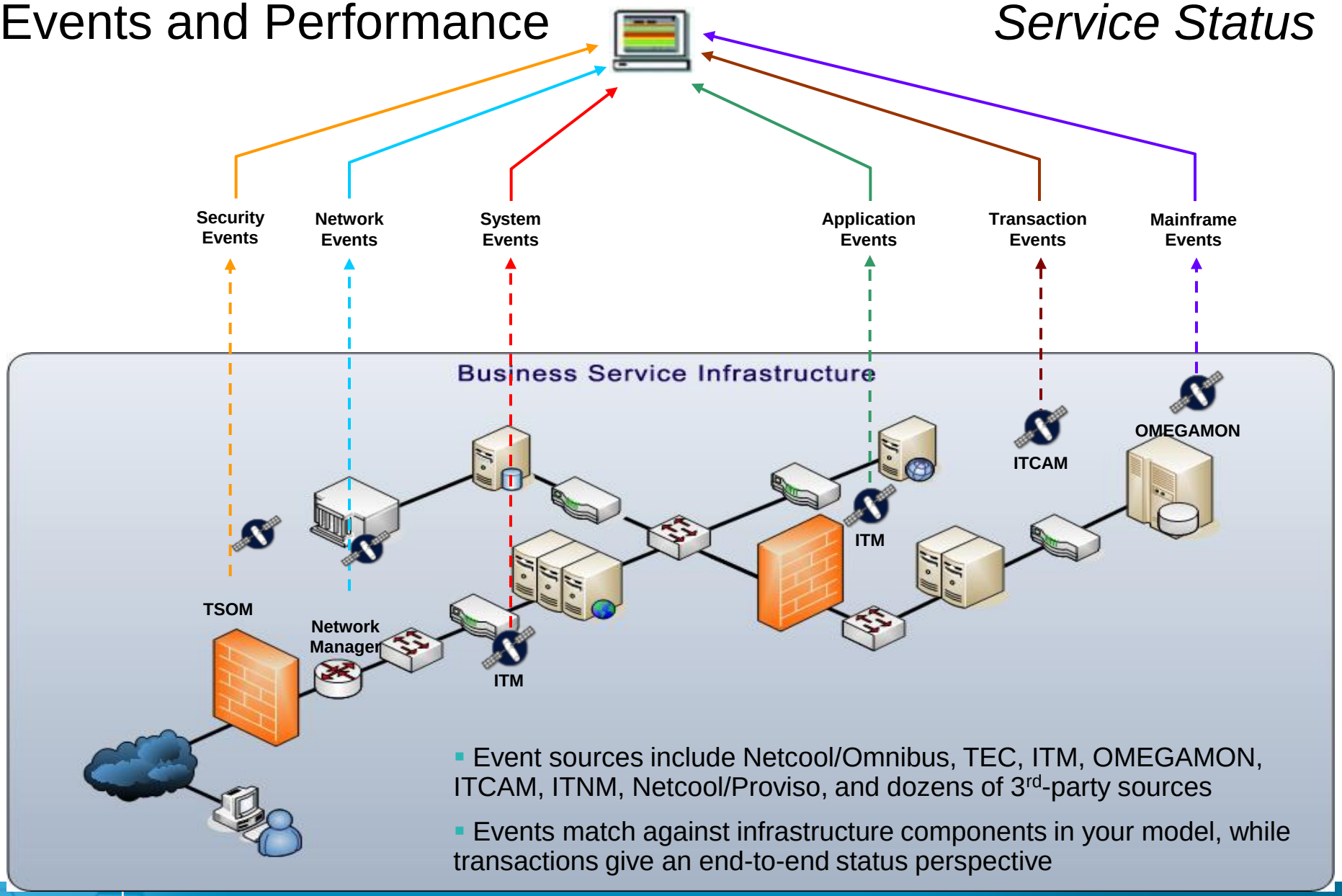




- Discovery and Dependency Sources:
  - TADDM, 3rd-party CMDB, Discovery Library Adapters for z/OS, TMS, BPEL, WRR, Netview, Network Manager, Netcool/Proviso, home-grown DBs, and Inventory/Asset data.

Events and Performance

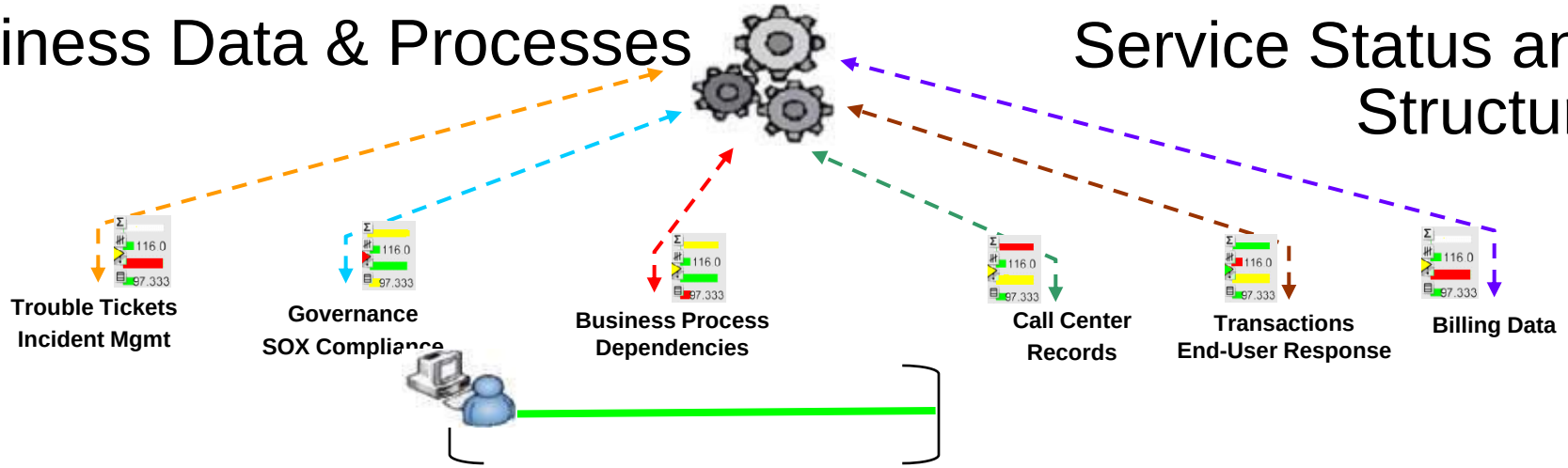
Service Status

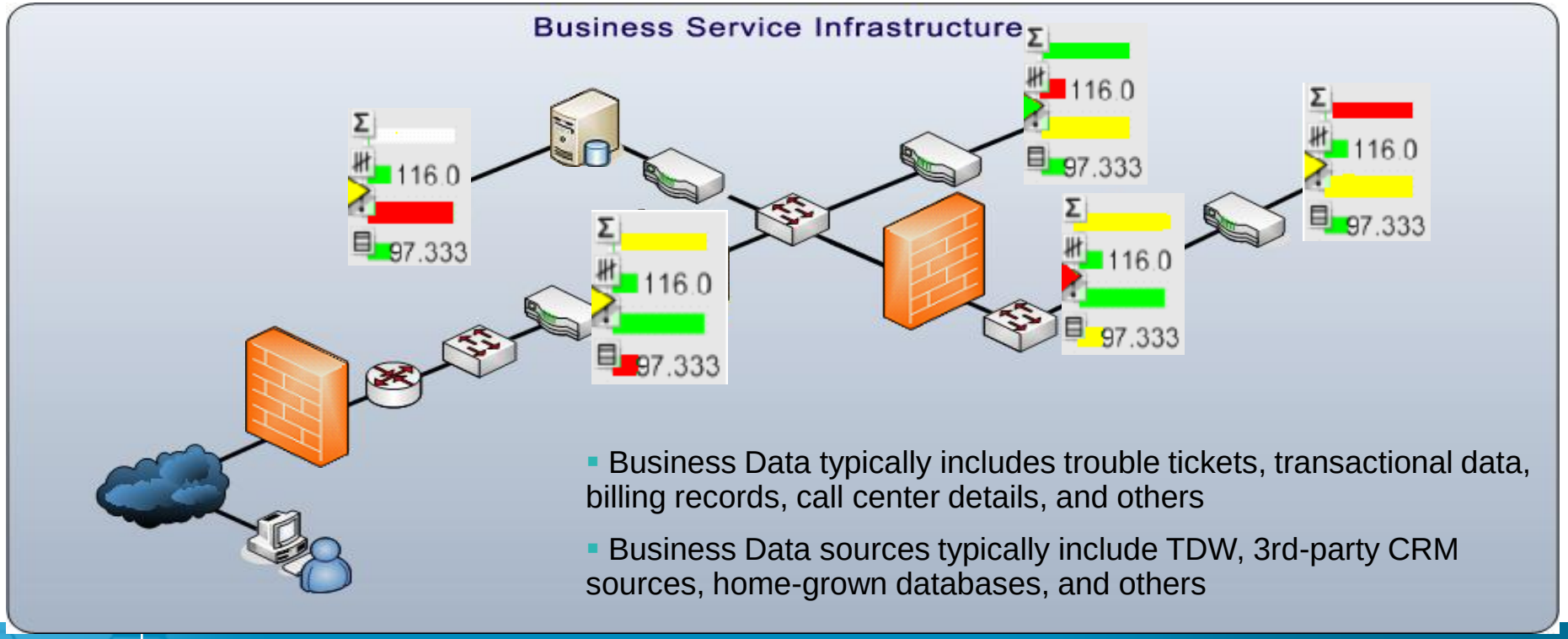


- Event sources include Netcool/Omnibus, TEC, ITM, OMEGAMON, ITCAM, ITNM, Netcool/Proviso, and dozens of 3rd-party sources
- Events match against infrastructure components in your model, while transactions give an end-to-end status perspective

Business Data & Processes

Service Status and Structure

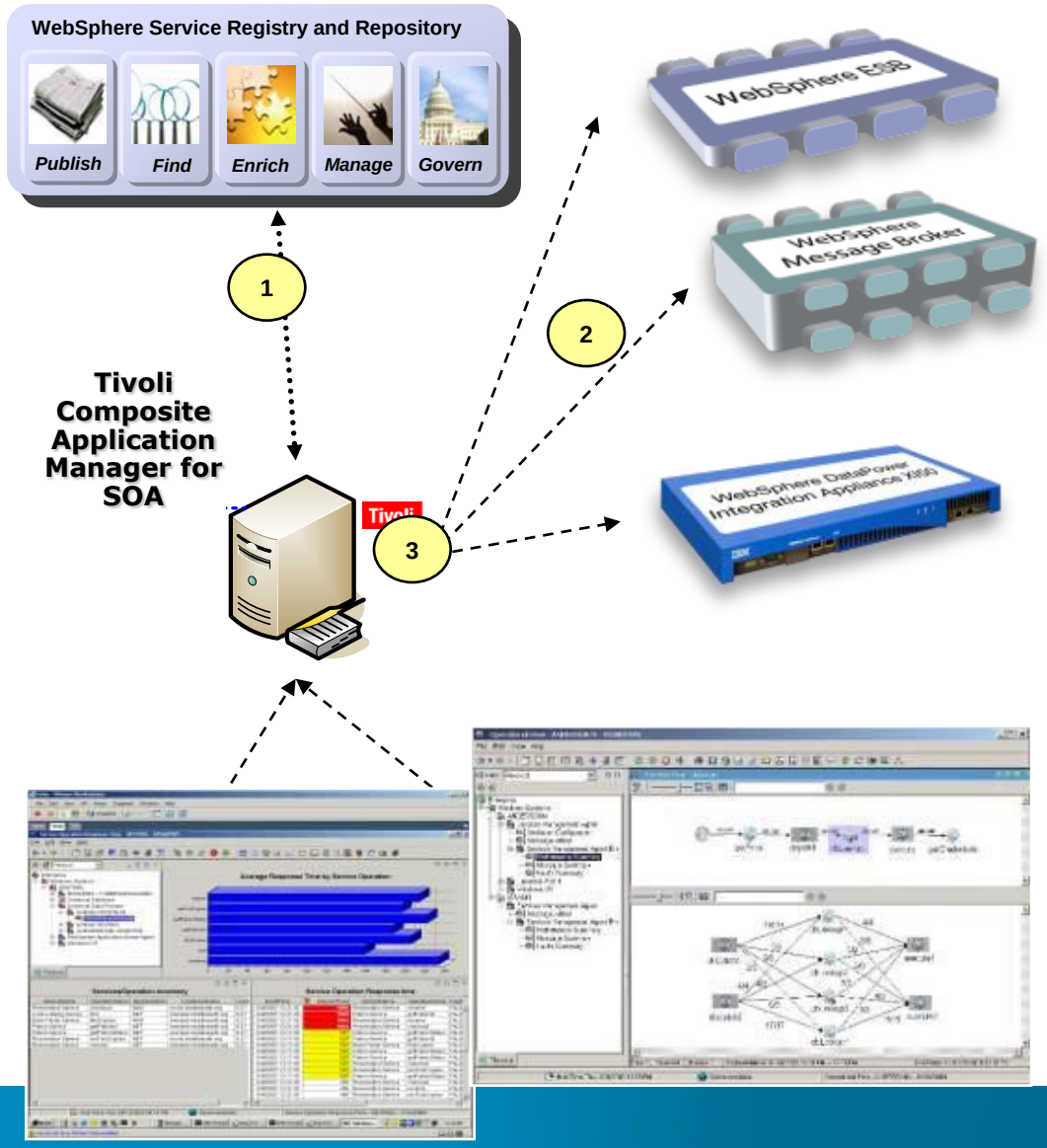




- Business Data typically includes trouble tickets, transactional data, billing records, call center details, and others
- Business Data sources typically include TDW, 3rd-party CRM sources, home-grown databases, and others

IBM Tivoli Composite Application Manager for SOA

1. Service Discovery & Reconciliation
   - ITCAM for SOA discovers *"rogue services"* running in production by comparing with registered services in WSRR
2. Service Monitoring & Logging
   - ITCAM for SOA maintains logs of service calls in data warehouse (for historical reporting)
   - Monitors for service degradation and thresholds defined by service level agreements
   - Automated 'take action' commands to re-route services to meet SLAs
3. Views Optimized for Operations and Web Services SMEs
   - Tivoli Usage & Accounting manager creates reports for chargeback
   - Tivoli Service Level Advisor creates SLA reports for compliance



IBM Service Management

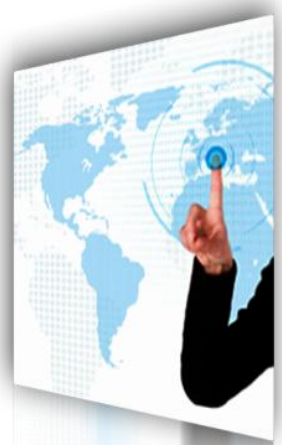
SMART IS: Visibility
See Your Business Services

Create an integrated, actionable, and insightful view into critical metrics

SMART IS: Control
Manage risk and compliance

Improve process discipline while remaining effective while systems grow

SMART IS: Automation
Build Agility into your Operations



Improve quality and reduce costs through operational and workflow automation

http://www.ibm.com/software/tivoli/governance/servicemanagement/

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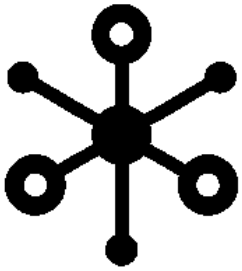
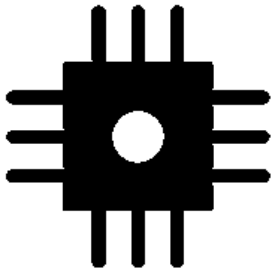


INTERCONNECTED

- Any to any linkage of people, process, and systems
- Social media and the internet used to collaborate
- Globally integrated resource pools accessible



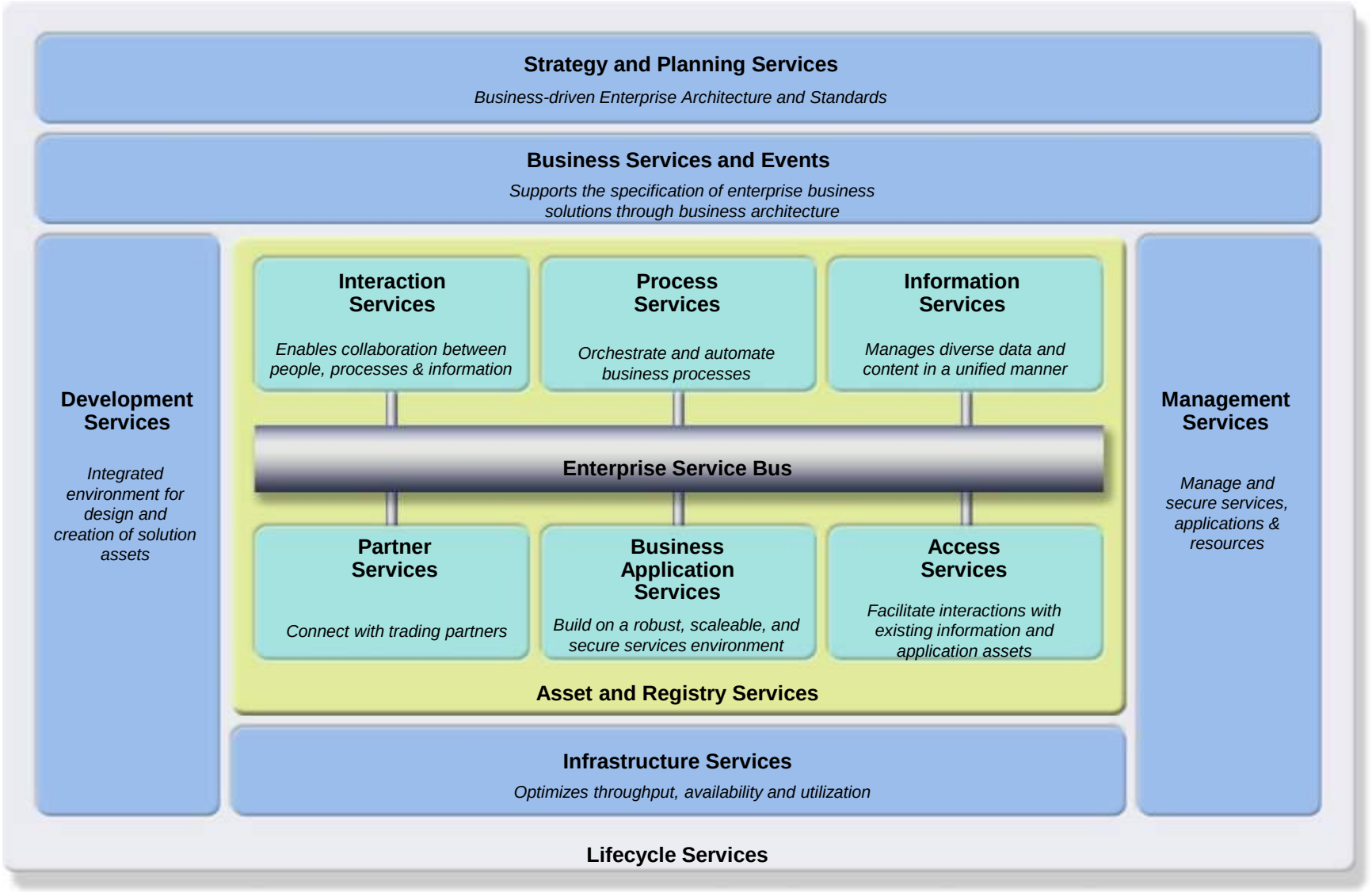
INSTRUMENTED

- Event capture and filtering for timely response
- Sensor solutions deliver new insights for action
- Systems that automatically adjust to your business

INTELLIGENT

- Deep discovery/search collaboration with clients/partners
- Work automated for and changed by LOB leaders
- Best practices for aligning IT to business needs

SOA Foundation Reference Model



Service-Oriented **Architecture** in the Enterprise

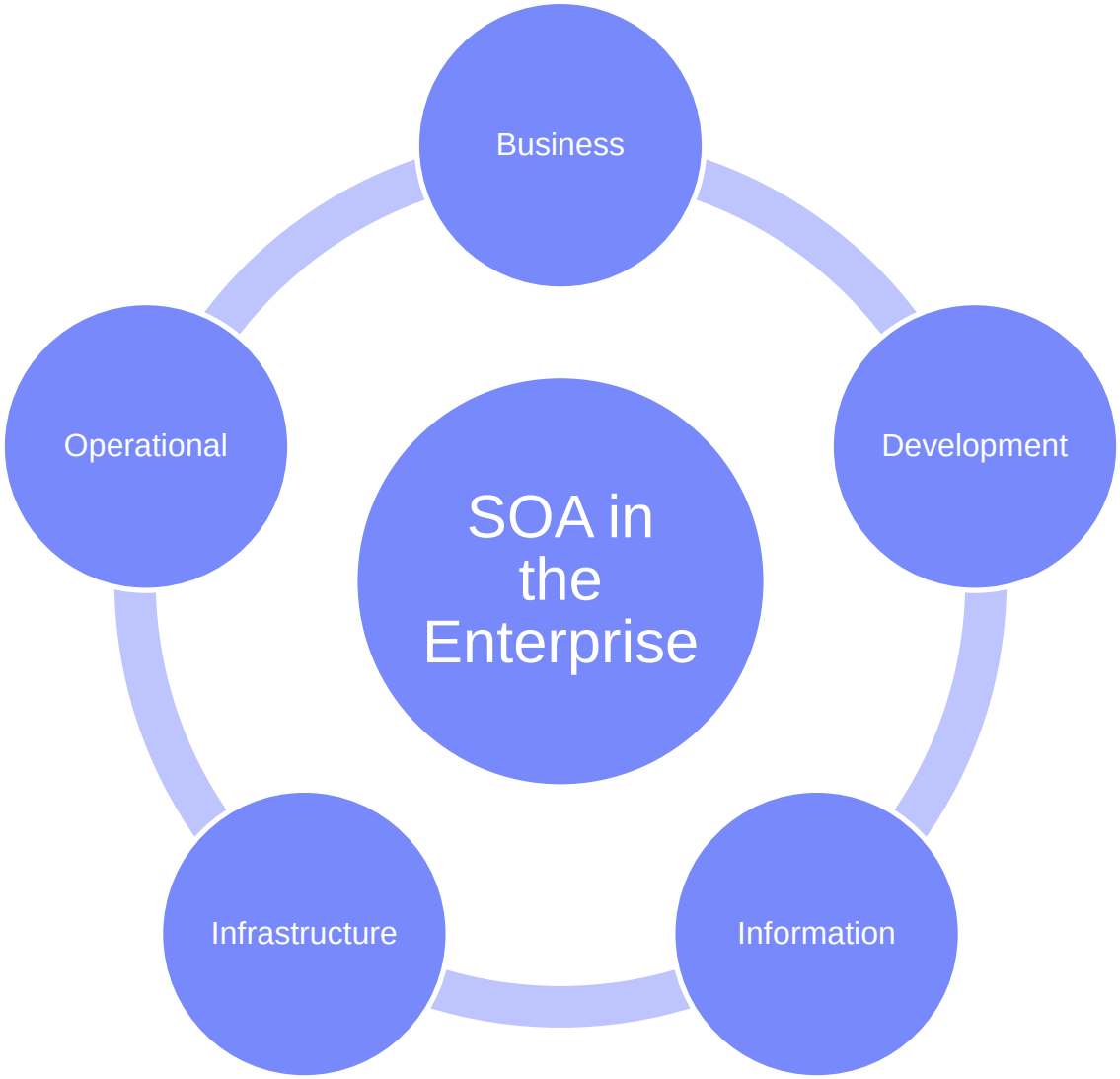
As Architects, how do we

…realize working smarter in a Smarter Planet?

…leverage service-orientation to become cost effective and agile?

…ensure that we are moving beyond silos, and becoming connected across business and IT?

…see beyond SOA as just development? Just infrastructure? Just information?



धन्यवाद

Hindi

多謝

Traditional Chinese

Teşekkür ederim

Turkish

Спасибо

Russian

Gracias

Spanish

شكرا

Arabic

Thank You

English

Obrigado

Portuguese

Grazie

Italian

Danke

German

Merci

French

Multumesc

Romanian

多谢

Simplified Chinese

감사합니다

Korean

ありがとうございました

Japanese

IBM SOA Architect Summit

SOA on your terms and our expertise