Service Management and Green IT - It's Time to Industrialize IT

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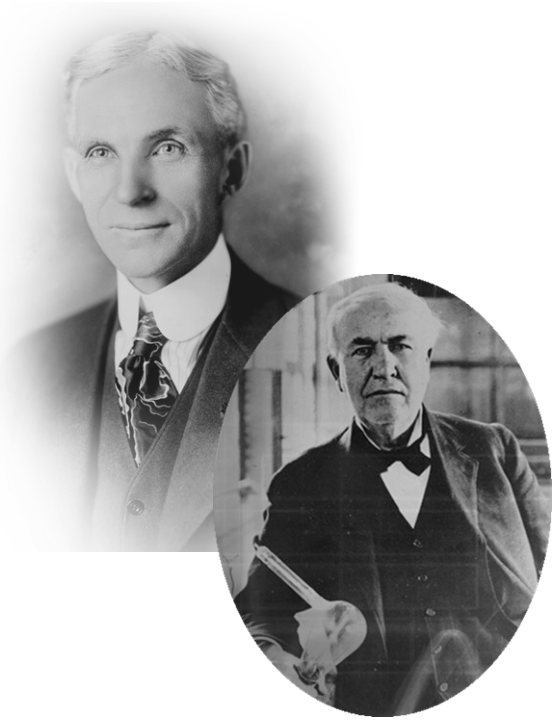
Industrialization and Innovation

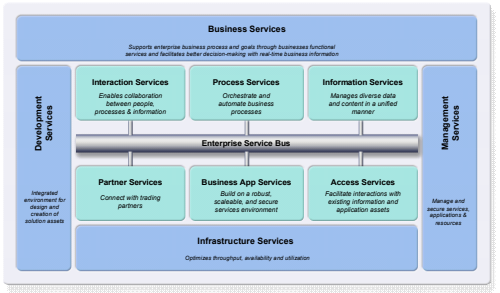
Industrialization is Second-Level Innovation

- Basic innovation
  → “Horseless Carriage”
- Process Innovation
  → Assembly Line
- Enabling technology
  → Scalable power distribution



Industrialization and Innovation

- Basic innovation
  → “Information Technology”
- Process Innovation
  → Service Management
- Enabling technology
  → Scalable computing grid



Why? Industrialization Enables the Next Level of Scalability

Financial services

- **Market data volumes rose by 1750% from 2003-2006**
- **By 2010 over half of U.S. equities trading will be algorithmic**
- **4 billion messages per day will grow to nearly 130 billion by 2010**

Medical imaging

- **1MB / 2D image in 2004**
- **1TB / 4D image in 2007**
- **2010: 30% of total world storage**

Wireless communications

- **In India:**
  - **Wireless lines doubling every two years**
  - **August 2007 -- 200M wireless lines**
- **Worldwide: 3 billion mobile subscribers in 2007**

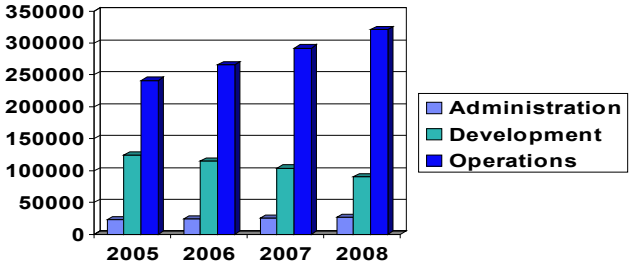
Sources: [1]Aite Group, Algorithmic Trading 2006: More Bells and Whistles, November 2006; [2]TABB Group, Trading at Light Speed: Analyzing Low Latency Market Data Infrastructure, March 2007

Why? IT is No Longer Just About the Datacenter

Real-time, mission-critical, connected…

If we don't Industrialize…

- IT's ability to drive further innovation will diminish.
- We'll run out of power, or money, or both.
- Somebody else will do it for us!



Data centers are at a tipping point and energy use and cost is the driver

Increased Computing Demand

Changing Cost Dynamics

Data Center Lifecycle Mismatch

- **Between 2000 and 2010 sever installations will grow by 6x and storage by 69x. Wintel and Unix server utilization low – 3 to 30% –** *IBM / Consultant studies*
- **Per square foot, annual data center energy costs are 10 to 30 times more than those of a typical office building.** [2] *- William Tschudi, March 2006*
- **Data centers have doubled their energy use in the past five years.** [3] *- Koomey, February 2007*
- **US commercial electrical costs increased by 10% from 2005-06.** [4] **-** *EPA Monthly Forecast, 2007*
- **"Eighty-seven percent of data centers were built before 2001"** [5]
- **"Twenty-nine percent of clients identified" data center capability affected server purchases** *"- Ziff Davis*

1. Gartner, *Data Center Power and Cooling Scenario Through 2015*, Rakesh Kumar, March 2007.
2. William Tschudi, March 2006.
3. Koomey, February 2007.
4. *EPA Monthly Forecast*, 2007.
5. Nemertes Research, Architecting and Managing the 21st Century Data Center, Johna Till Johnson, 2006.

So how do we…

- Deliver business results faster, cheaper and with repeatable quality?
- Move to a highly energy-efficient datacenter model?
- Scale beyond our current capabilities both in development and operations?
- Tackle the rising cost and complexity of the business infrastructure?

Opportunities abound for Green IT

The magnitude of the problem …

- Data Centers will consume 180B kWh in 2007 —doubling in next 4 years
- Some industries are forecasting doubling consumption annually
- Over $29B in power & cooling industry wide in 2007

– U.S. Energy Information Administration, IDC

…inefficiency needs to be addressed;

- 100 units of energy production ⇨ 3 units for productive IT
- Average resource utilization <10% = $140B excess server capacity *-U.S Dept. of Energy, IDC*

… e-waste can no longer be ignored.

- 1 billion computers will become potential scrap by 2010
- Only 45% of US companies have eco-friendly disposal plans
- The potential toxic risks of improper disposal are enormous

– IDC, National Safety Council

Industrialization is About Infrastructure, Process and People

Requires a **transformation** across the business and Technology

Infrastructure

- Consolidation
- Virtualization
- Transformation
- Automation and Mass Customization
- Enhanced IT and infrastructure productivity

Process

- Repeatable and documented process
- Discipline integrated across all organizations

People

- Enhanced people productivity
- Skills shift from operations (break fix) to Business Analysts
- Break down silos and organize around service delivery
- Paradigm shifts

Roadblocks to Innovation and Success

Enabling Innovation with IBM Service Management

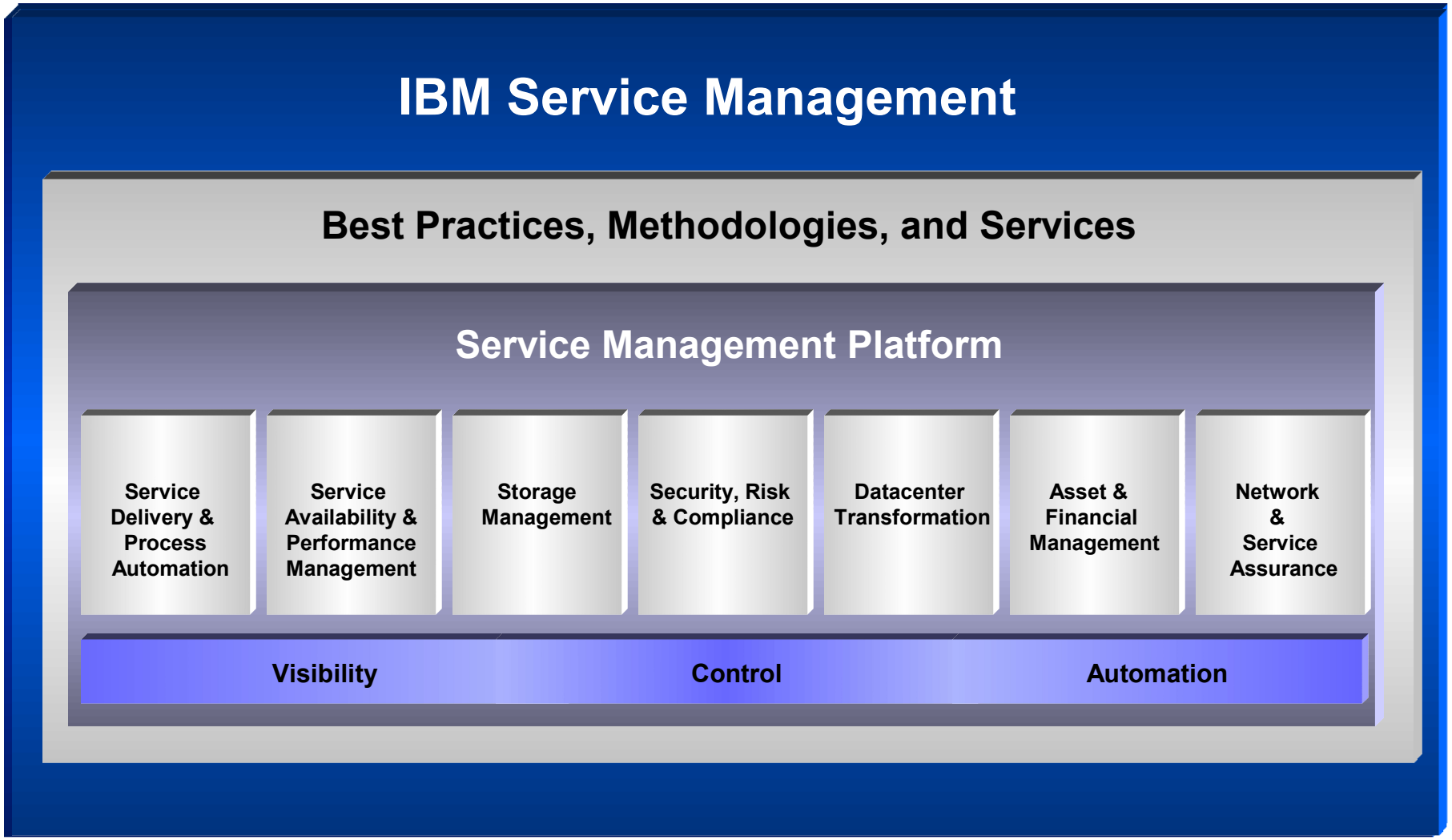
Enabling Innovation with IBM Service Management

Visibility: *See your Business*

Control: *Govern your Business*

Automation: *Optimize your Business*

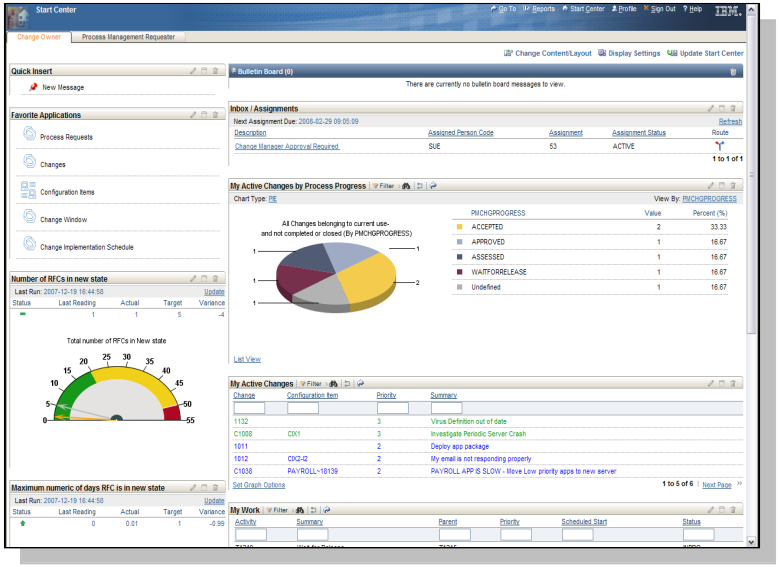
Comprehensive Capabilities, Built on Best Practices



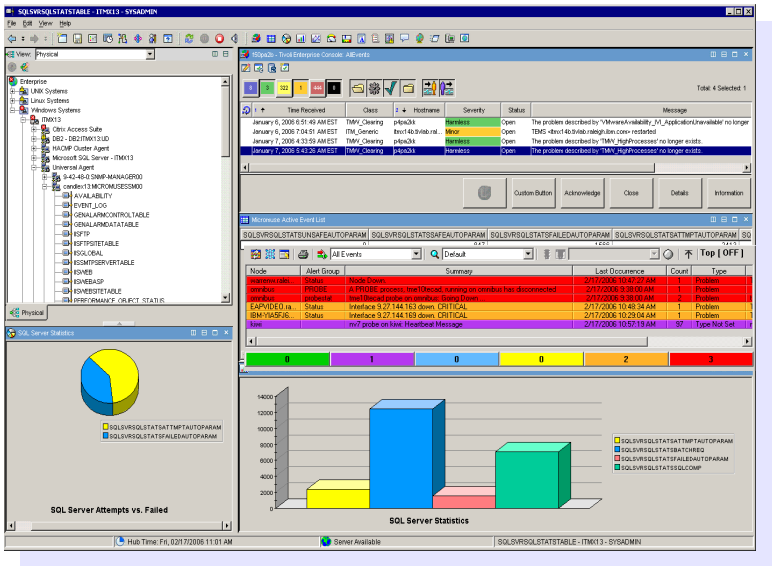
Visibility

Strategic Views

Process View



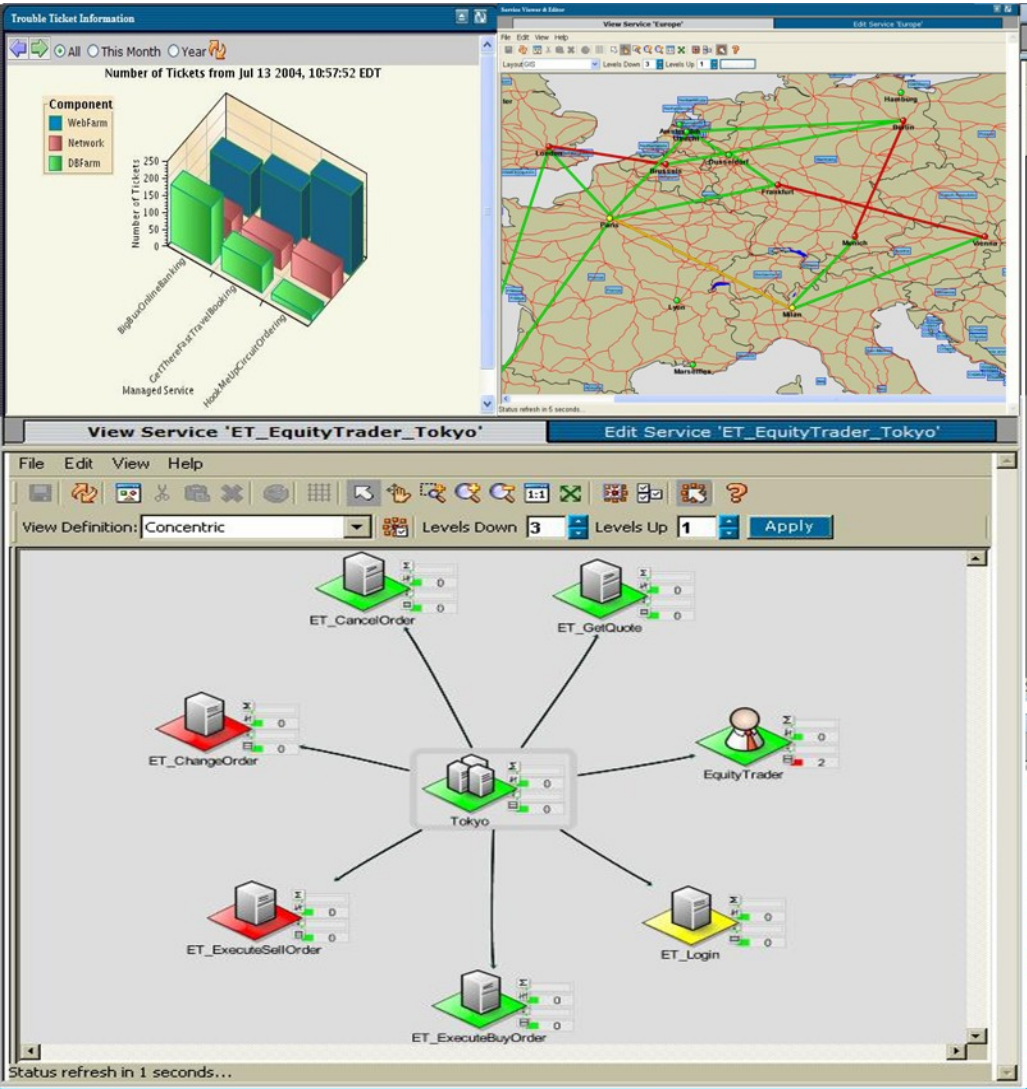
Operational View

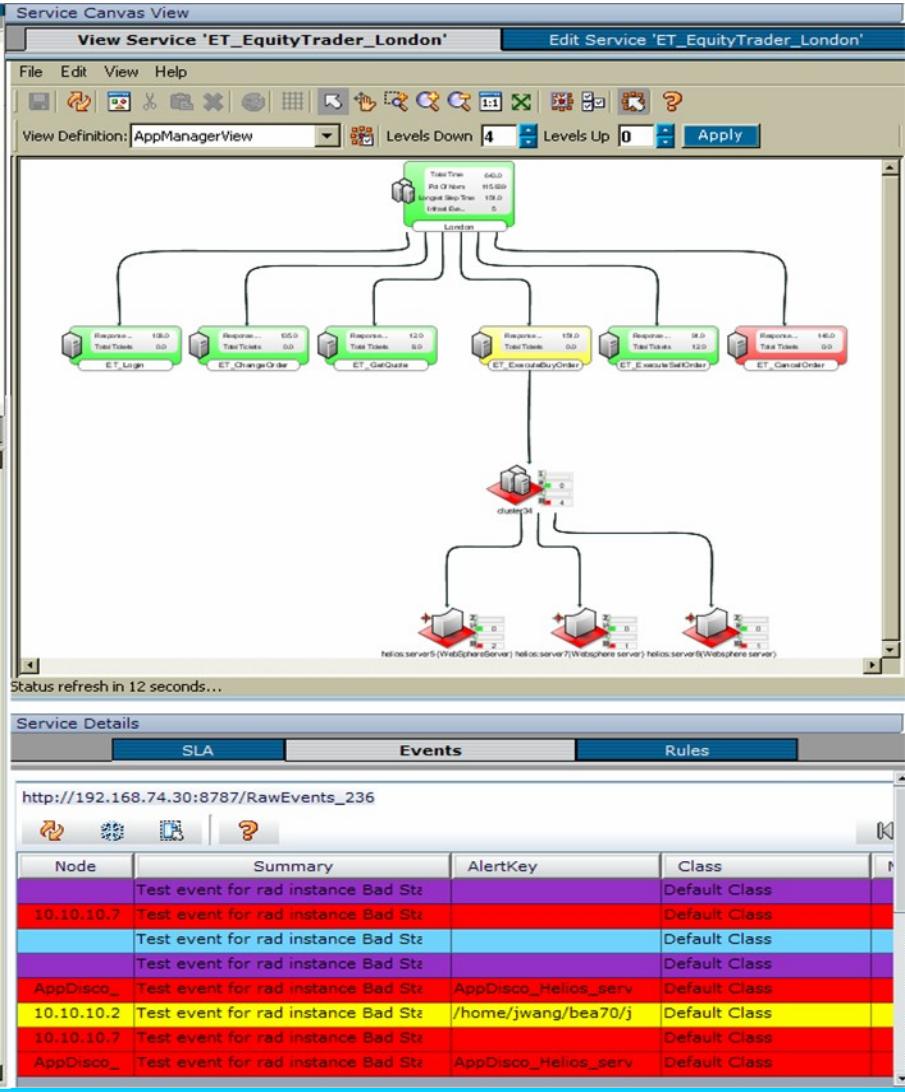


Service Management
Service Support
Service Deployment
Asset Management

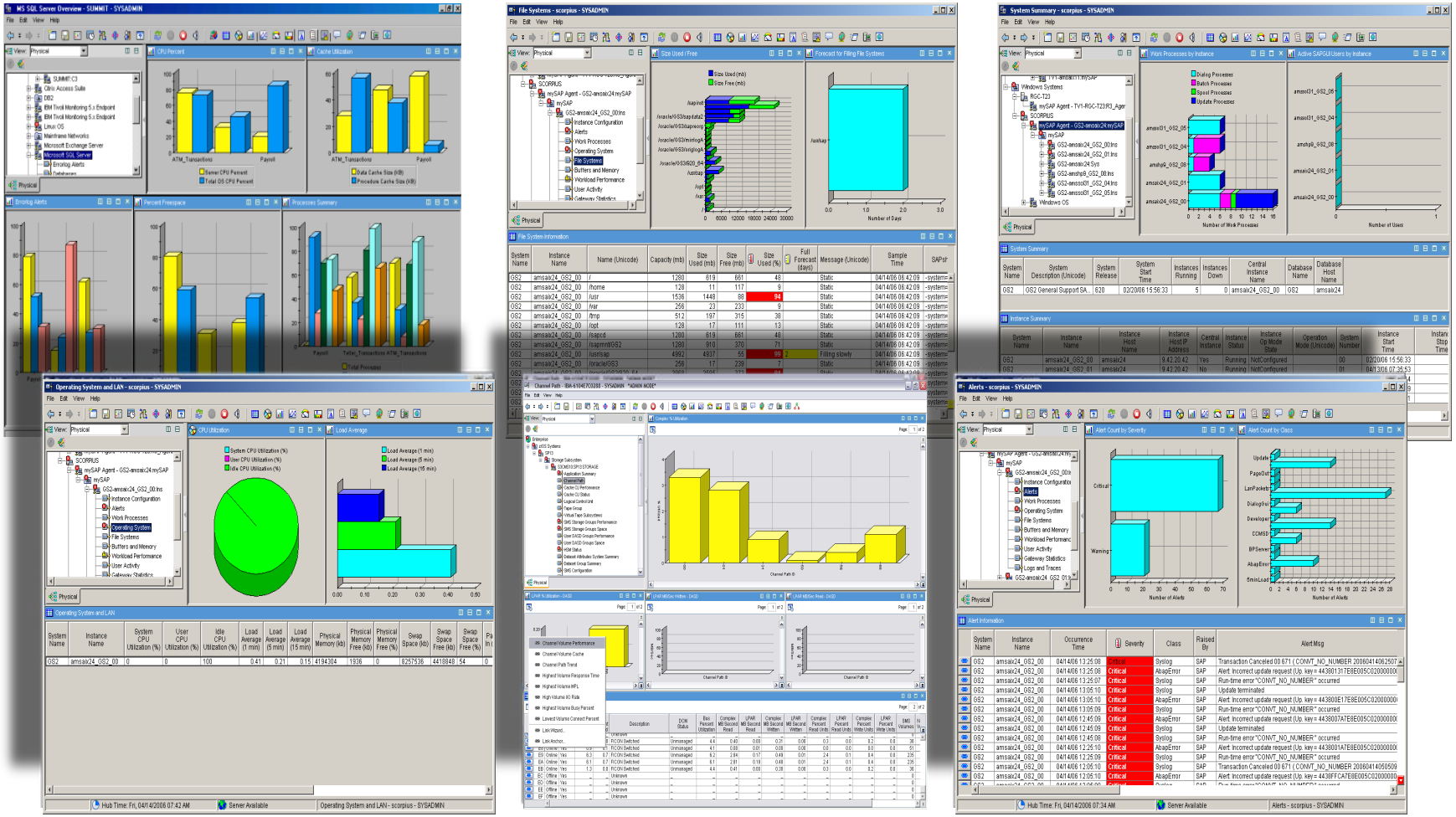
Service Delivery
Availability
Performance
Analytics

Visibility to Your Business and Service Level Agreements

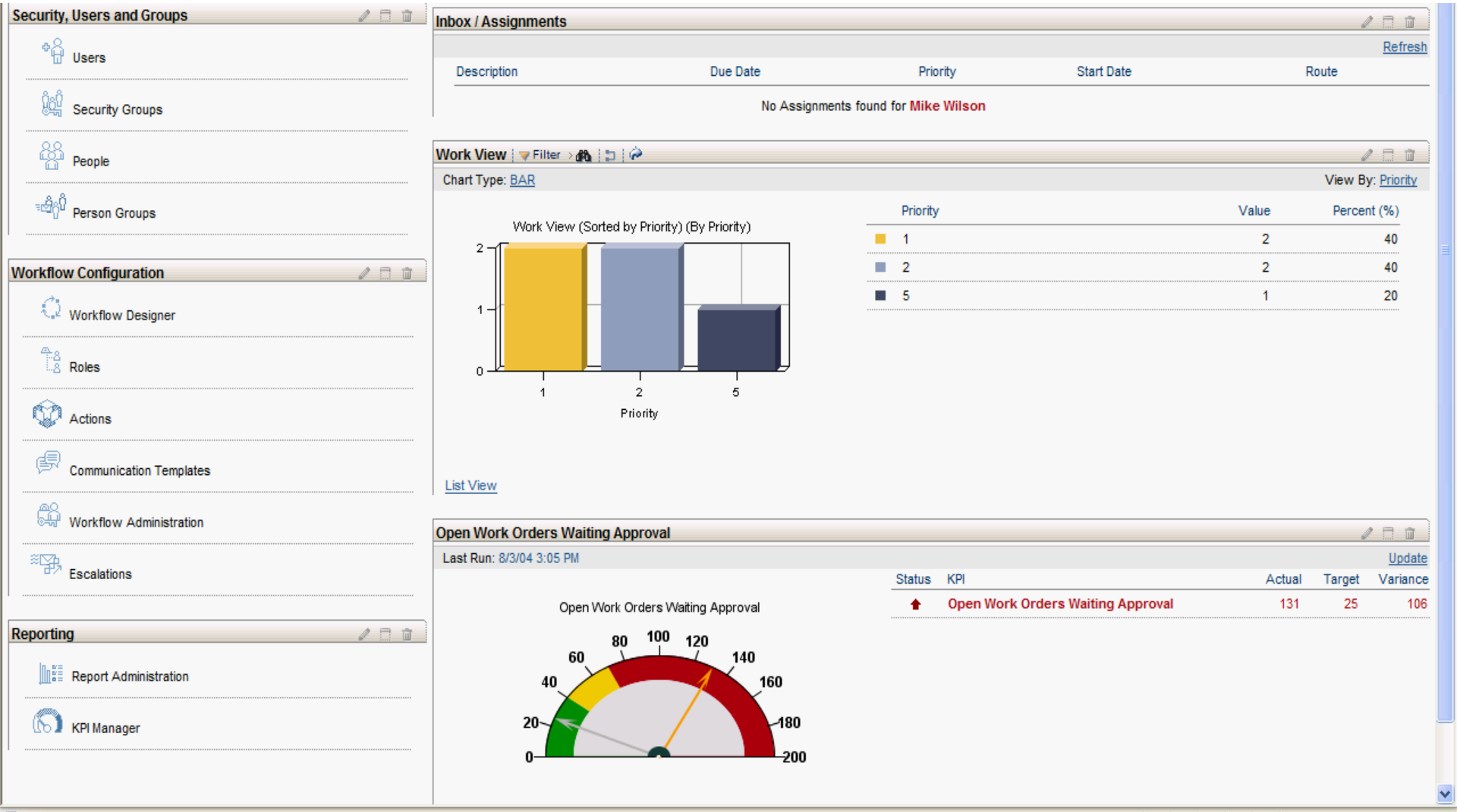




Visibility to Details

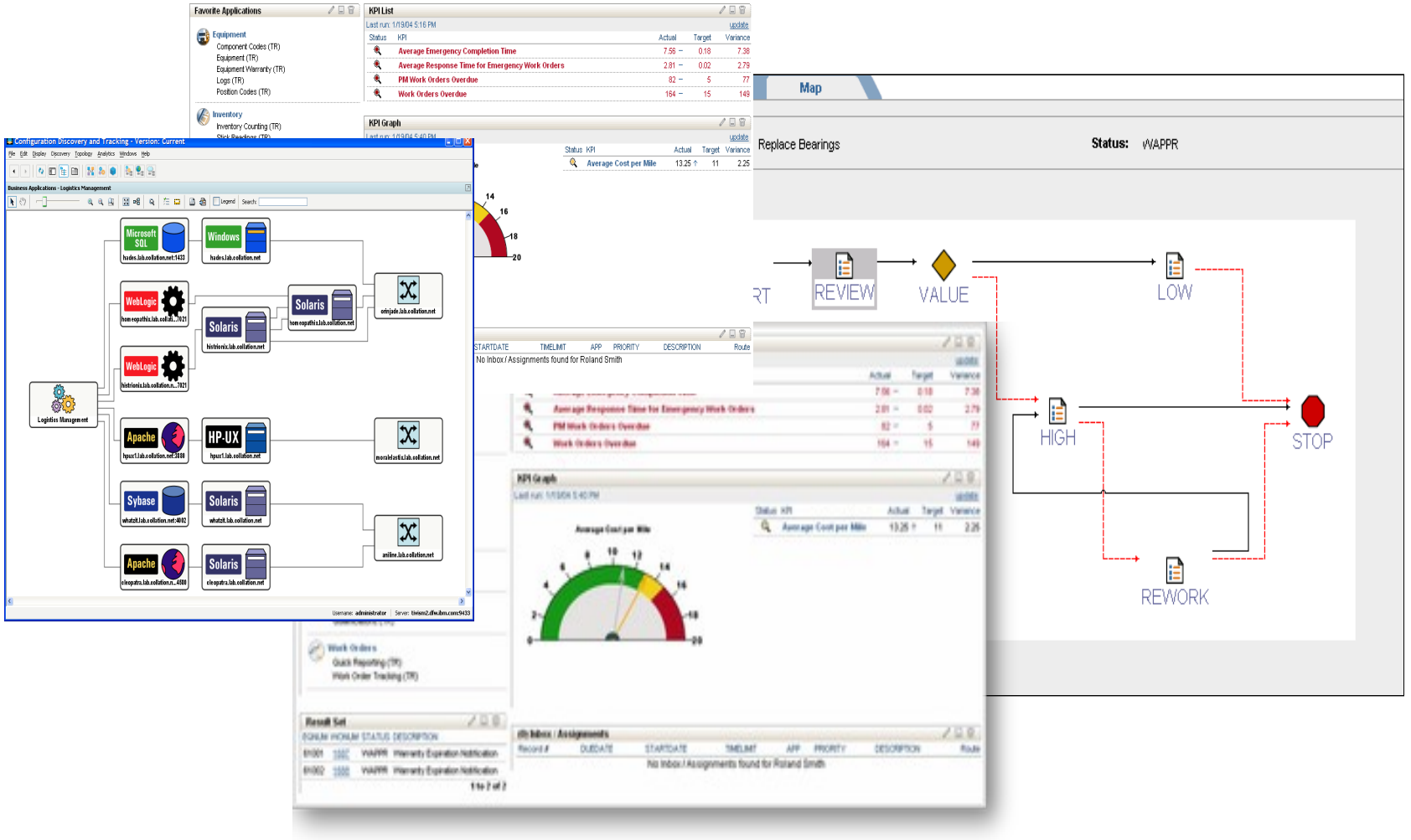


Visibility to Your Processes

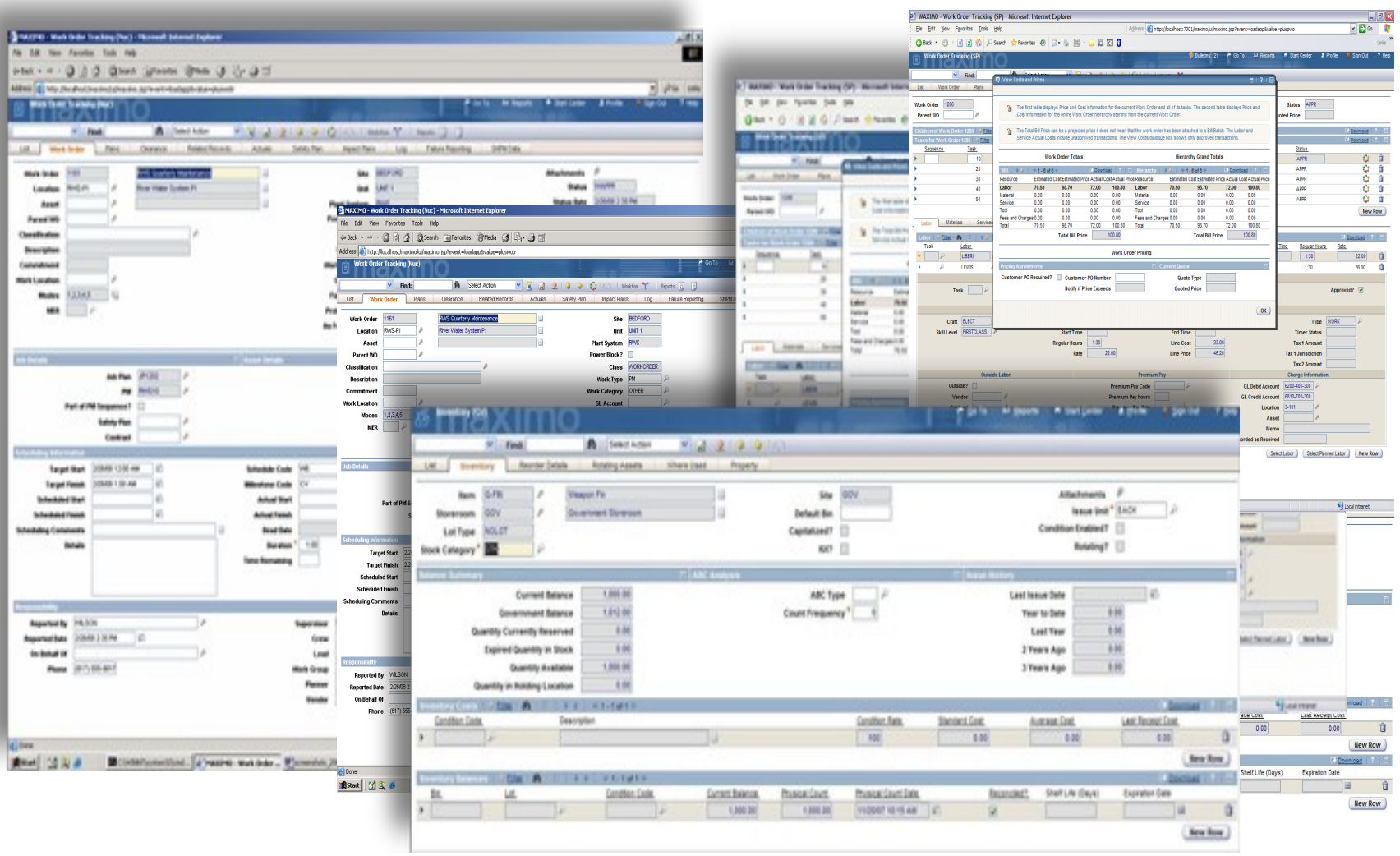


Control

Control over Change Management

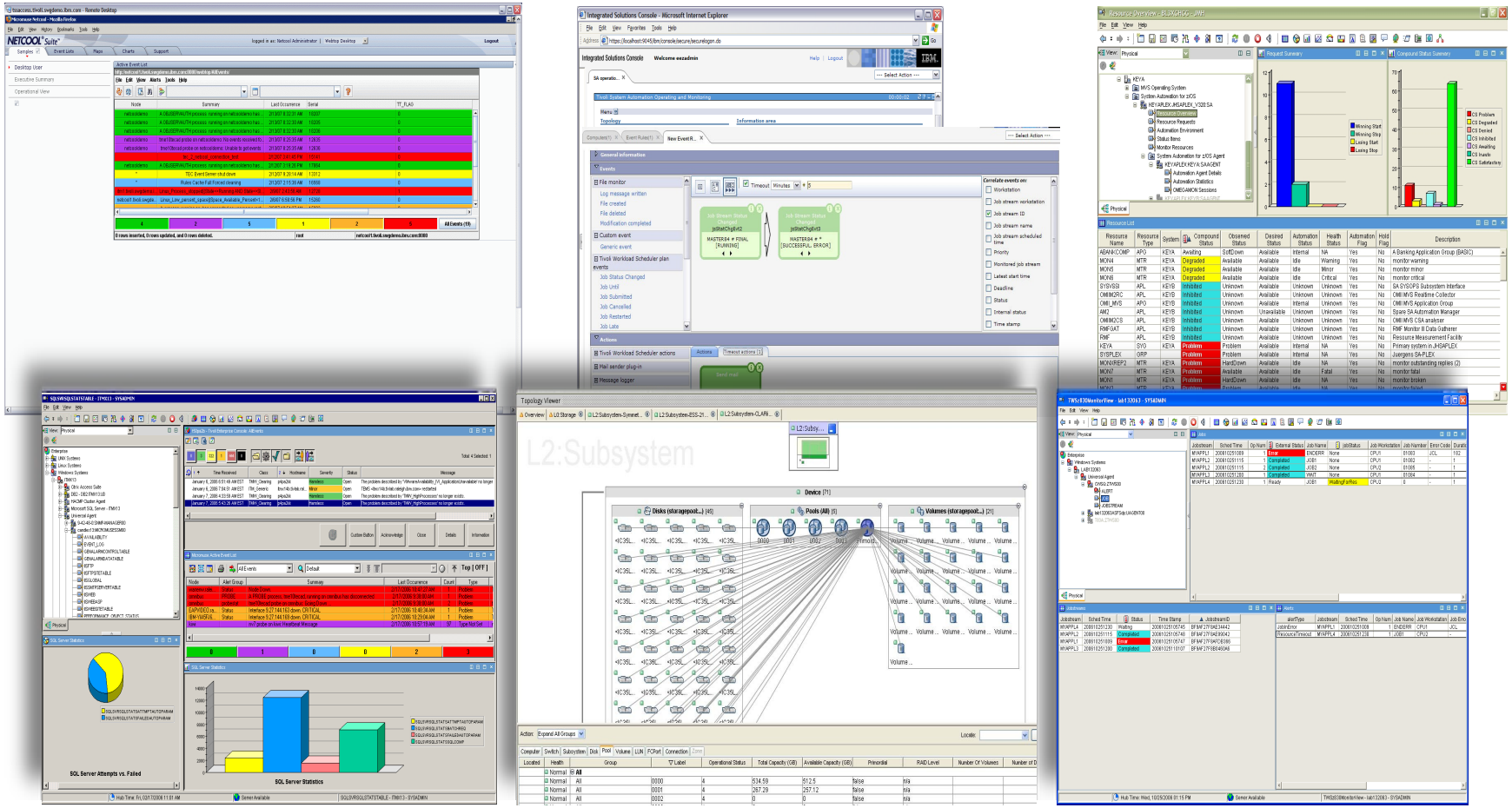


Control over Your Assets Life Cycle

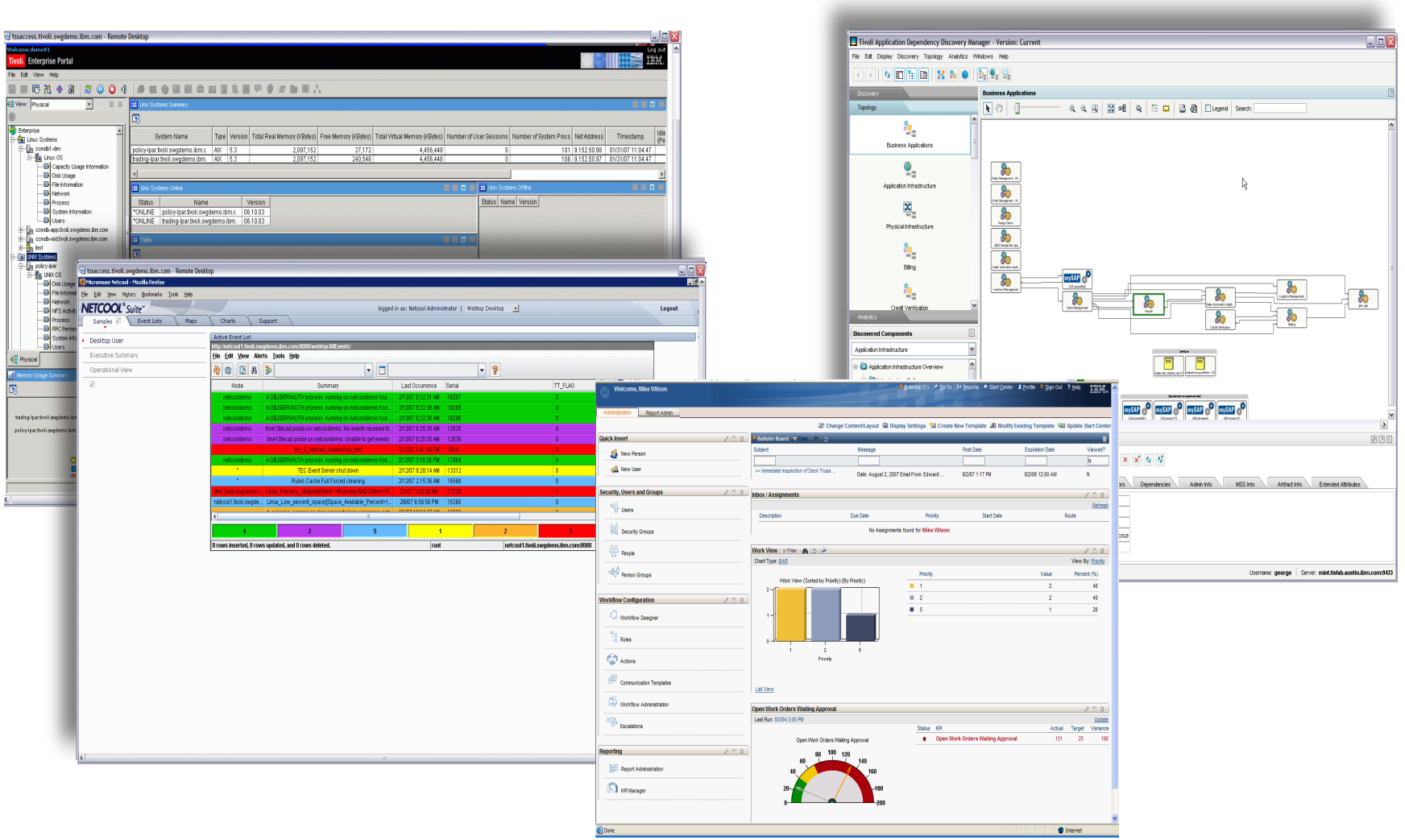


Automation

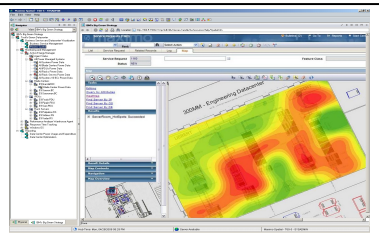
Automate What You Want, When You Want



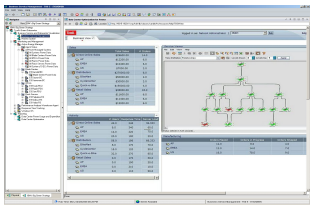
Automate Your Processes



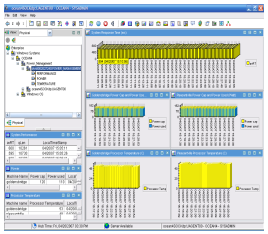
IBM Service Management's Green Data Center



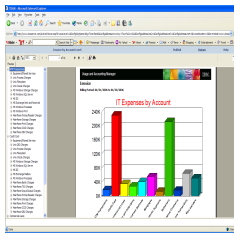
Optimize Assets by Energy Usage



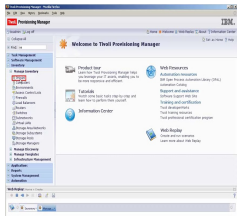
Green Business Services



Tivoli Monitoring for Green Energy



Intelligent Chargeback



Energy Aware Provisioning

Enabling Innovation with IBM Service Management

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What Should You do Next?

- Attend the specific content tracks that best meet your business needs
- Check out the IBM Service management tools:
  - Visibility. Control. Automation. (VCA) Tool
    www.ibm.com/software/tivoli/governance/servicemanagement/vca/
  - IBM Service Management Entry Points - documented projects based on actual customer usage and previous implementation experiences
    www.ibm.com/software/tivoli/governance/servicemanagement/overview.html
  - GTS Health check
    www.ibm.com/software/tivoli/pulse08/checkyourpulse.html
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