



Integrated Service Management delle Cose

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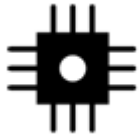
Integrated Service Management Leader, Tivoli Tiger Team

PCTY2011



Pulse Comes to You

Our world is getting smarter...“intelligence is being infused into the systems and processes that enable services to be delivered”



Our world is becoming

INSTRUMENTED



Our world is becoming

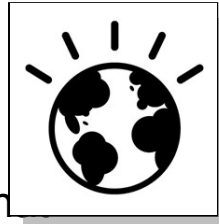
INTERCONNECTED



Virtually all things, processes and ways of working are becoming

INTELLIGENT

“By a smarter planet, we mean that intelligence is being infused into the systems and processes that



enable services to be delivered; physical goods to be developed, manufactured, bought and sold; everything from people and money to oil, water and electrons to move; and billions of people to work and live.”

Samuel J. Palmisano, 12 January, 2010

Innovative new services, previously not possible, are changing the way we live and work - elevating the human condition...



Smarter energy services

Smarter energy grids reduce CO2 emissions by 14%, enable compliance with federal mandates, while improving service reliability & lowering energy cost to consumers by 10%.



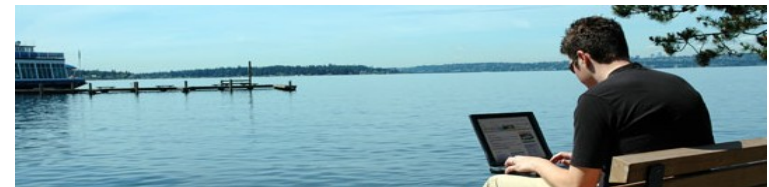
Smarter building services

Smart buildings reduce energy & CO2 emissions by 10-50% and water usage 20-50%, while reducing pollution, & brownouts and enabling a safer work environment for employees.



Smarter traffic services

Smarter traffic management systems drive 40k/day new users of public transportation, reduce traffic by 20% and emissions by 12%, while improving commuter quality of life with less traffic.



Smarter telecom services

Smarter telecom services enable 85% faster time to market reducing service delivery from 10 months to 40 days, while enabling broader communication and entertainment choices for users.

Today's Site Operation Challenges

Operational Efficiency

- Passive infrastructure operational silos
- Cost containment has never been more prominent, forcing more to be done with less resources
- Mean Time To Repair (MTTR) continues to be on the rise
- Data and systems for passive infrastructure lack integration to allow end-to-end optimization
- Lack of ability to measure performance in real time impacts ability to affect change until after the fact

Energy and Environment

- Inability to measure energy end to end to provide optimization and usage comparisons
- Growing need for power and environmental management
- Excessive truck rolls cause needless carbon emissions
- Systems needed for managing backup power and regulatory compliance
- Carbon footprint management and regulation compliance

Asset Lifecycle Management

- Preventative maintenance is fraught with third party mismanagement and manual processes impacting asset life
- “Stranded” assets and inventory force increased costs and lower efficiencies
- Critical infrastructure is more prone to theft now than ever (e.g. copper, electronics and fuel)
- “Partners” take advantage, for example:
 - Under deliver fuel quantities
 - Cut the fuel with water
 - Filters cleaned, not replaced



Command & Control Integration

Provide real-time data & control

- **Instrumentation** – Transform traditional “dumb” equipment and infrastructure into intelligent data sources
- **Communication** – Bi-directional communication and control to the site from the field, NOC or anywhere
- **Automation** – Transition from manual, technician based control at a site to mechanized and even automated control from anywhere

Intelligent Operations

Enable long-term sustainability

- **Intelligent dispatch** – Troubleshoot and isolate site degradations and/or failures to ensure single site visit resolution and even remedy many problems remotely
- **Integrated operations** – Bring together site data with trouble ticket, energy consumption and work force management systems to provide an enterprise-level view of human resource utilization and energy conservation
- **Energy management** - Manage assets and energy usage while implementing best practice process improvements



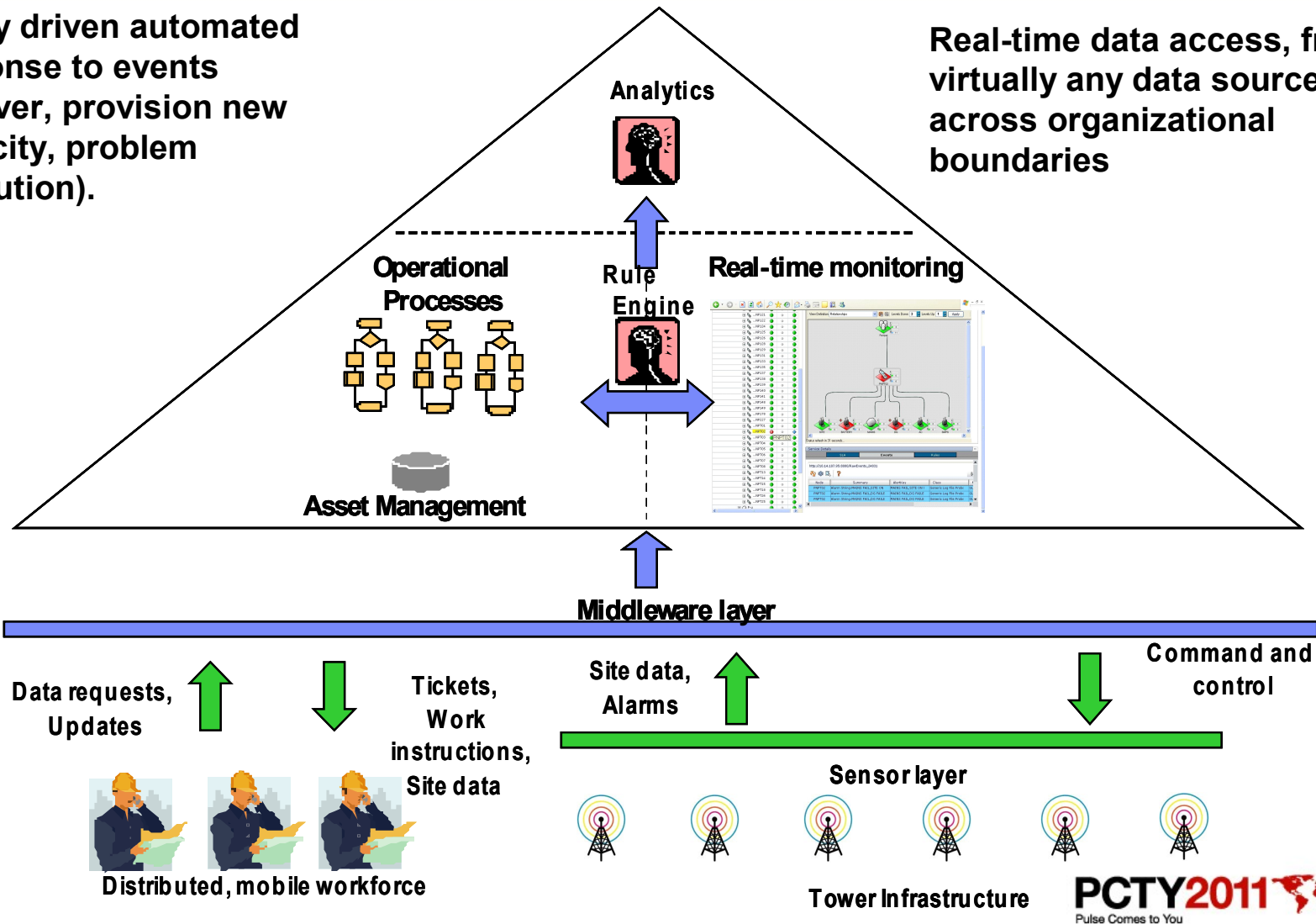
Infrastructure & Security

Optimize capital investments

- **Optimize equipment** - Right size equipment, install temperature and humidity sensors and gateway controllers, evaluate alternative power generation systems such as solar and wind
- **Secure facilities** – Automatically monitor and manage for fuel theft, short fuel deliveries, copper theft and more
- **Maximize back-up power** - Reduce the cost of backup power, minimize voltage variation and provide early warning of failing cells

Policy driven automated response to events (failover, provision new capacity, problem resolution).

Real-time data access, from virtually any data source across organizational boundaries



Business Dashboards

Data Analytics Engine

Business Rules Engine

Work Management

Asset Management

Correlation & Root-cause analysis

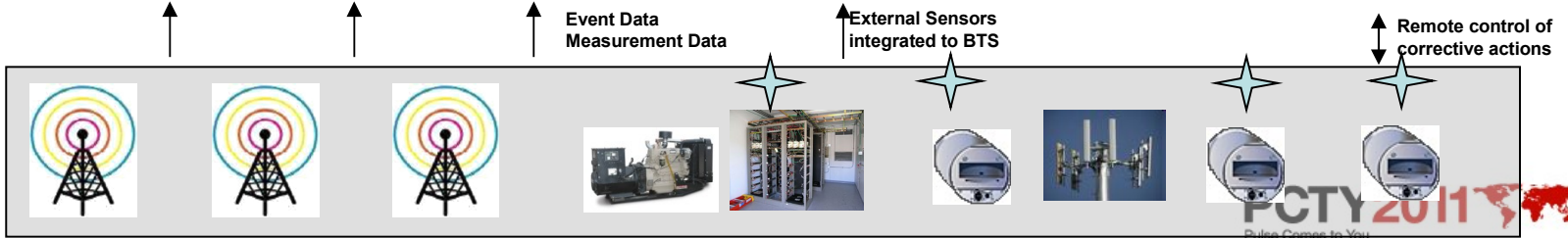
Supplier Management

Trouble Management

Fault Management

Performance Management

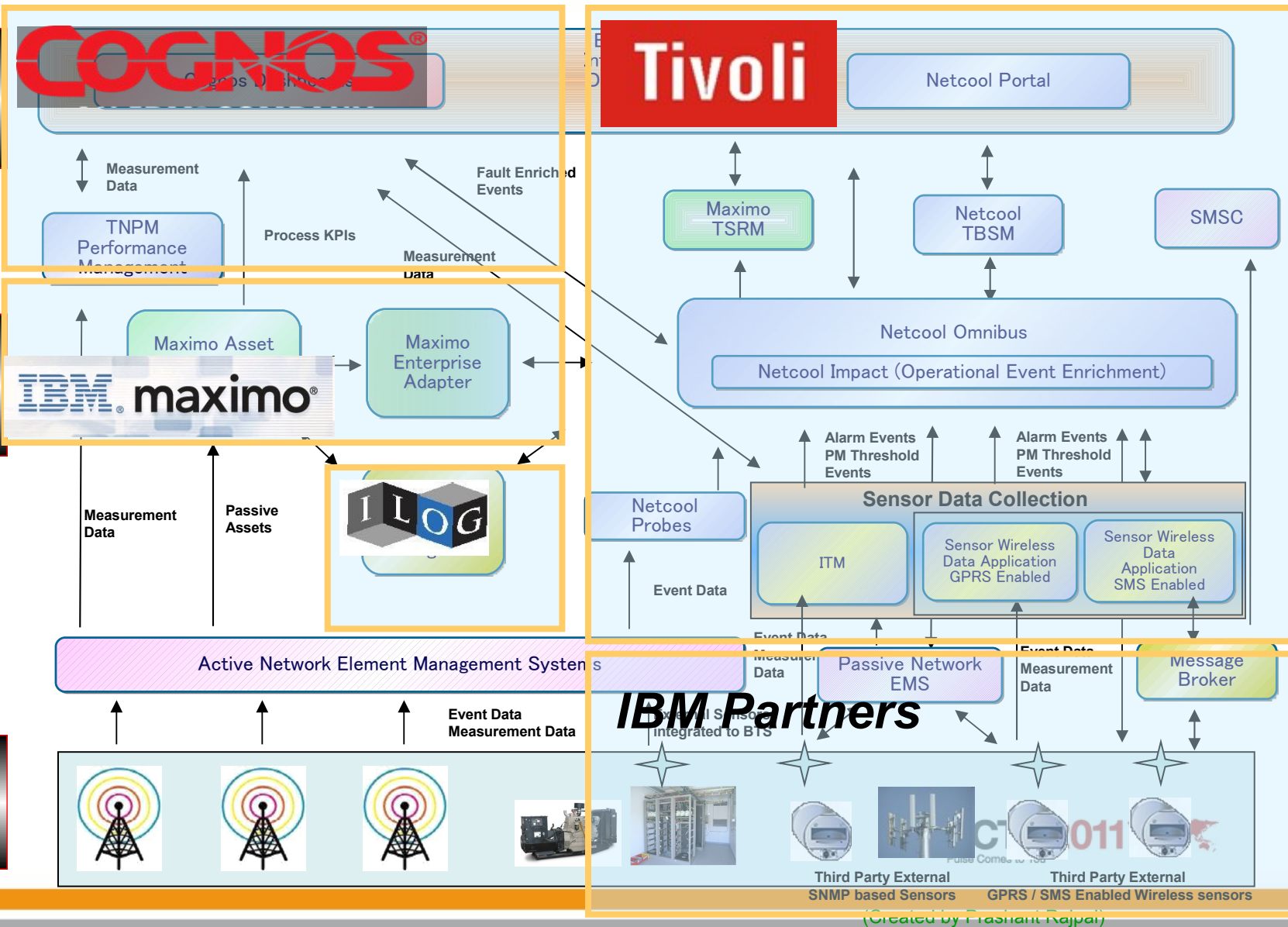
Data Collection & Instrumentation



- 1) Manage KPIs & SLAs
- 2) BI Intelligence
- 3) Work Force Management
- 4) Executive Dashboards
- 5) Trouble Tickets

- 1) Events to Netcool
- 2) Energy Consumption
- 3) Equipment Failure
- 4) Fuel Levels
- 5) Emergencies

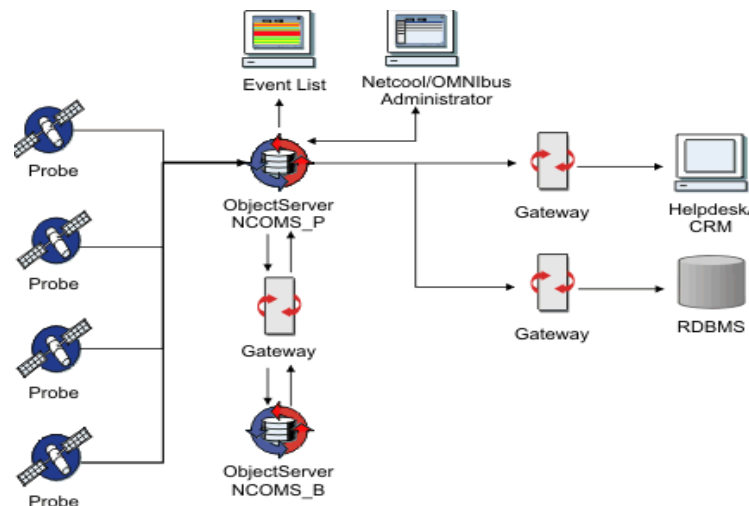
- 1) HVAC On/Off
- 2) Open/Close Vents
- 3) Backup Power Unit
- 4) Get/Set Energy, Temp, Humidity
- 5) Alarm Management



(Created by Prashant Rajpal)

Tivoli Netcool

- Consolidate information from different domain-limited network management platforms
- Tracks alert information in a high-performance, in-memory database, and presents information of interest to specific users through filters and views that can be configured individually.
- Enriches events with business context, provides integrated view of data from multiple sources in context,
- Supports automation functions that can perform intelligent processing on managed alerts.
 - The ObjectServer is the in-memory database server at the core of Tivoli Netcool/Omnibus.
 - Probes connect to an event source, detect and acquire event data, and forward the data to the ObjectServer as events.
 - Gateways enable the exchange of events between ObjectServers and complementary third-party applications, such as databases, and helpdesk or Customer Relationship Management (CRM) systems.
 - The desktop tools is an integrated suite of graphical tools used to view and manage events, and to configure how event information is presented.
 - Includes tools that administrators can use to configure and manage the system.



Tivoli Maximo Asset Management

Maximize return on assets & reduce cost of ownership

- Accurate **tracking** of assets through their entire lifecycle
- Forecast **demand** and optimize stock levels
- Manage **workforces** and reduce operational costs
- **Deploy/build** more quickly to accelerate revenues



Improve service quality & customer retention

- Proactive **maintenance** of critical network and service assets
- Rapid and accurate resolution of customer-affecting **incidents**
- Personalized **SLAs** and response plans
- Accurate and timely **billing**

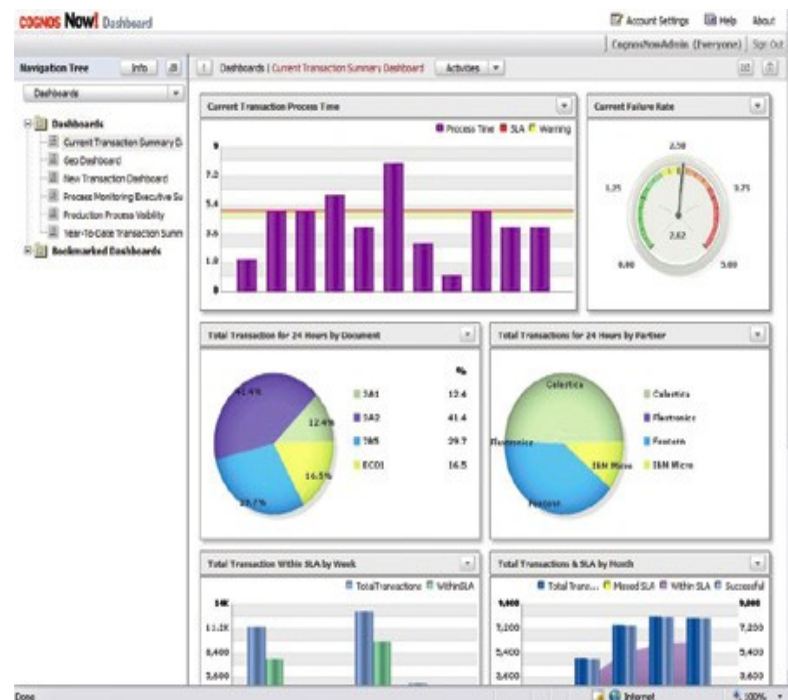
Streamline processes and accelerate growth

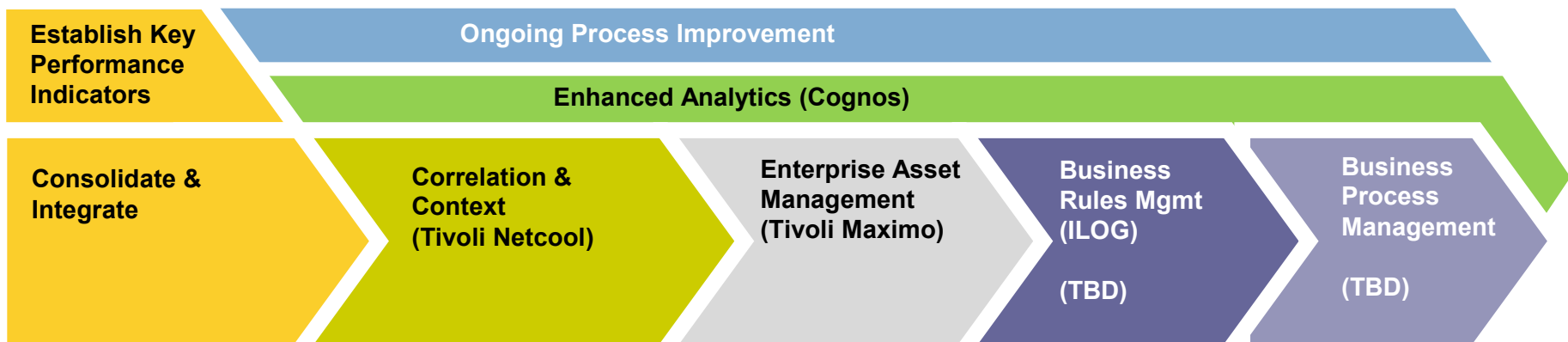
- **Flexible and configurable** process design and execution
- **Consolidate systems** and drive end-to-end workflows
- **Open, easily integrated** platform with strategic leverage

IBM provides a unified approach for service providers seeking to deliver differentiated and profitable operational services to telecommunications companies.

Cognos

- Provides continuous business monitoring of up to the minute operational KPIs and metrics for line of business users supporting a closed loop for decision making.
- Enable the user to take immediate corrective action through workflow or email notifications within the business process
- Simplicity, self service, ease of use and personalization
- Increase operational efficiencies, enhance customer experience and satisfaction
- Overall optimize organization's key operations to deliver increased revenue and net operating margin





Establish Key Performance Indicators

Consolidate & Integrate

- Establish Key Performance Indicators
- Define business object model
- Identify KPI's
- Define standardized reports and dashboards
- Define governance policies

- Consolidate & Integrate
- Consolidate ticketing systems (assumed to be currently in progress)

Correlation & Context (Tivoli Netcool)

Correlation & Context

- Escalate problems automatically
- Consolidate ticketing systems
- Diagnose and control events remotely
- Correlate events
- Enhance events with standard operating procedures
- Analytics to prevent and detect theft
- Analyze trends and history of work orders
- Manage service requests and work orders

Enterprise Asset Management (Tivoli Maximo)

Enterprise Asset Management

- Retire assets
- Integrate with ERP
- Enforce SLA with contractors and customers
- Manage view of assets throughout the organization

Business Rules Mgmt (ILOG)

(TBD)

Business Rules Management

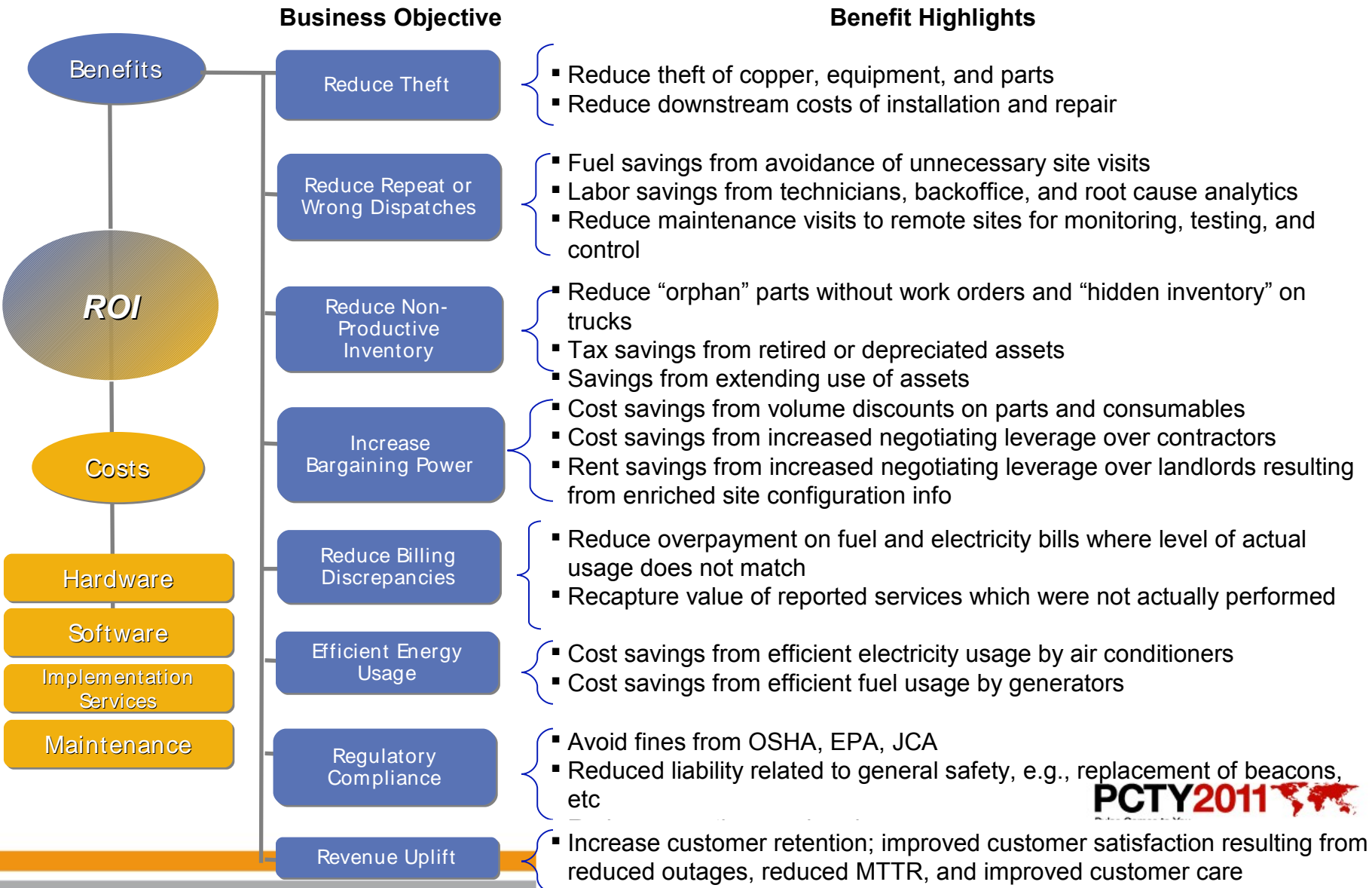
- Apply business rules to flag areas with potential issues

Business Process Management

- Automated workflow and process of escalation to coordinate cross-departmental efforts to resolve 3-way discrepancies

Business Process Management

(TBD)

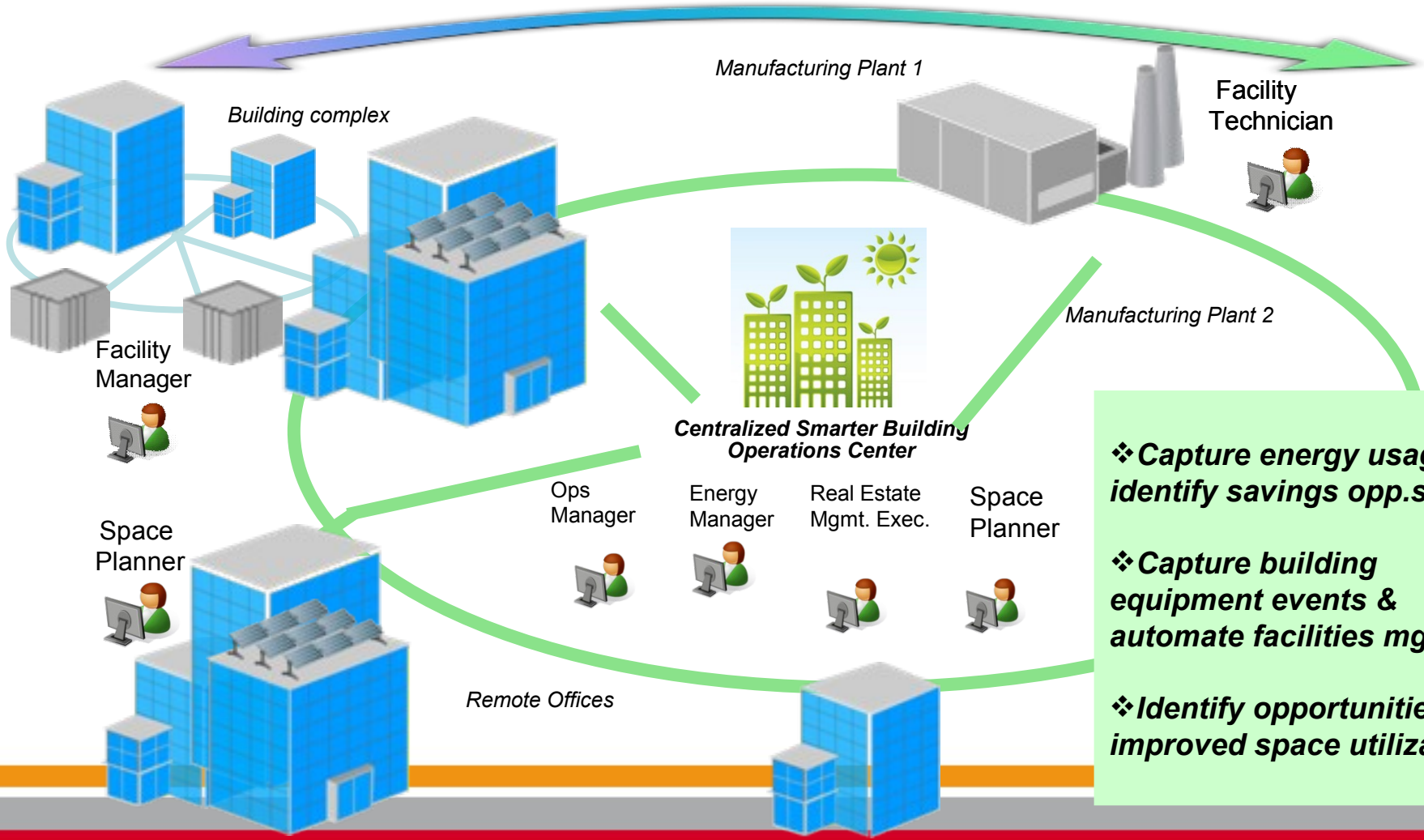


Smarter buildings solution

Energy Management

Facilities Operations

Space Management



- ❖ Capture energy usage & identify savings opp.s
- ❖ Capture building equipment events & automate facilities mgmt.
- ❖ Identify opportunities for improved space utilization



**VISIBILITY
INSTRUMENTED**



**CONTROL
INTERCONNECTED**



**AUTOMATION
INTELLIGENT**



Tivoli. software
SMARTER

