

# Pulse

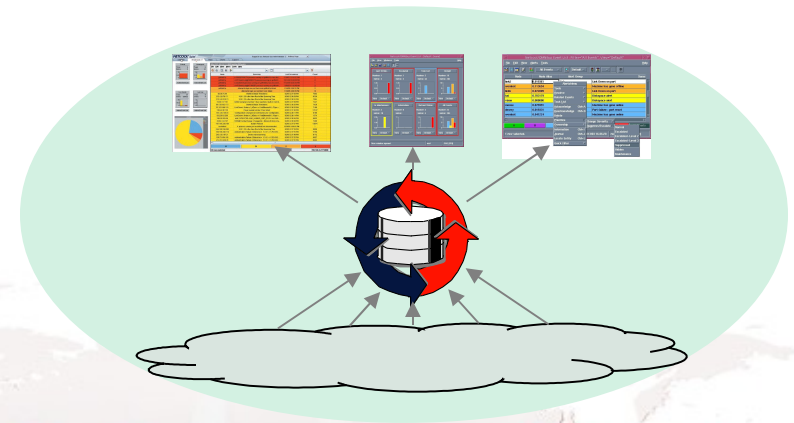
Comes to You



*Managing the World's Infrastructure*

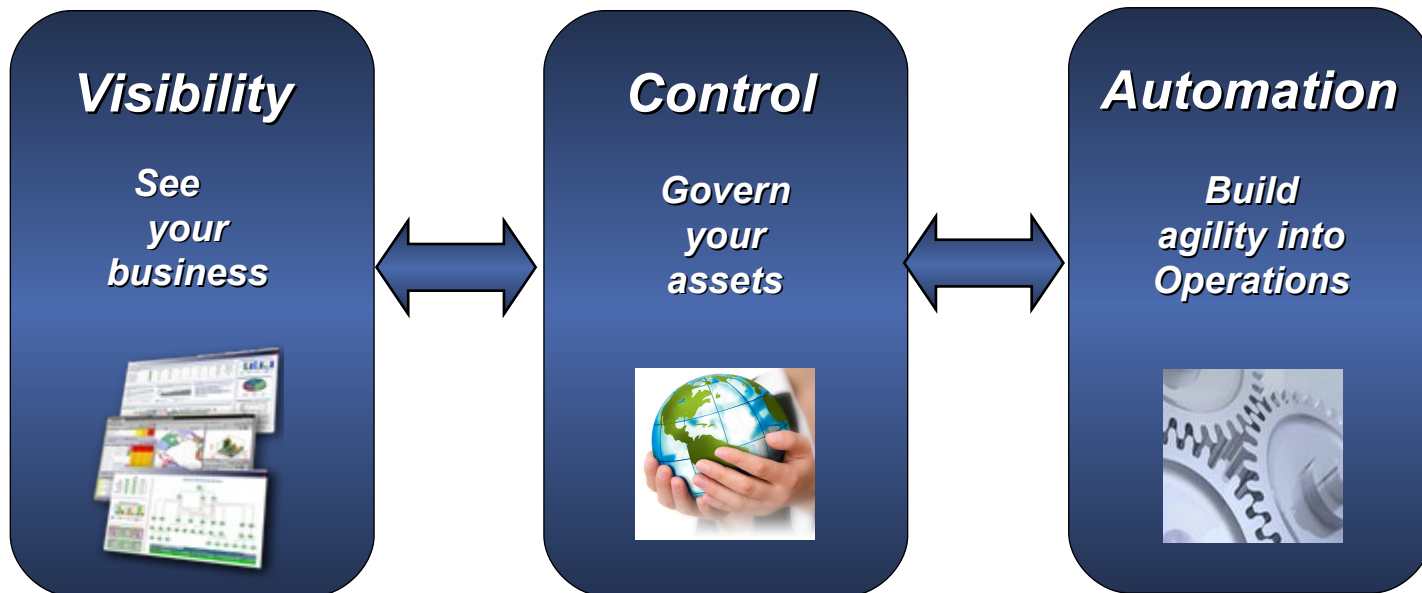
## Consolidated Operations Management From events to information

*Taylan Öklü, IBM 28.5.2009*



# IBM Service Management (ISM)

*An Integrated Approach to Getting Business Results*



**Only IBM delivers integrated visibility across Business & IT Audiences.**

e.g. Contextual LoB, Compliance, Security, Service, & Domain Dashboards


**Only IBM delivers integrated control across Business & IT Assets.**

e.g. EAM, IT Asset Mgmt, Change & Config, Access & Identity Mgmt, Data Mgmt.

**Only IBM delivers integrated automation across Business & IT Operations.**

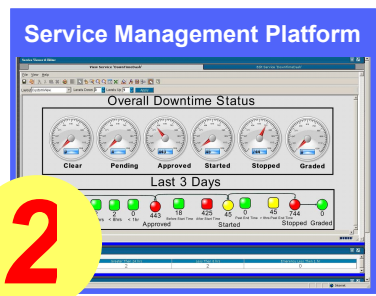

e.g. Enterprise Ops, Service provider Ops, IT Ops, Security Ops, Storage Ops...

## How does this relate to the business service?




**User Experience  
Service Request**

*Real-time Transaction Performance, Service Status, Trouble ticketing, End-User & Service Experience. Capacity Mgt trending*

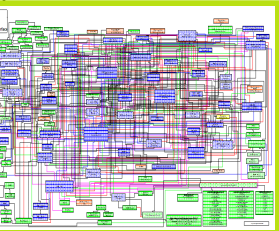
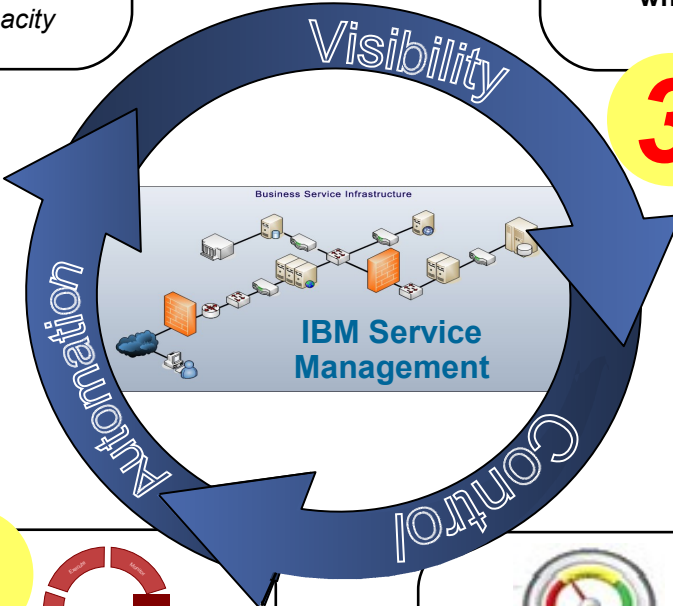
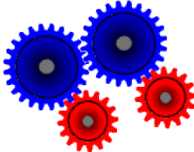



**Dependencies**



*Config items, Relationship and Discovery Data – What changed, why, and what did it do?*



**Monitor/Event**

**Business Metrics**

**Action-Service Fulfillment**

*How can I take action and insure it's done efficiently and without adversely affecting other services?*



**Views**

*How do I get the right info to the right person at the right point in time? IT Data Business data, risk, compliance ...*

**What actions do we take to correct the problems?**

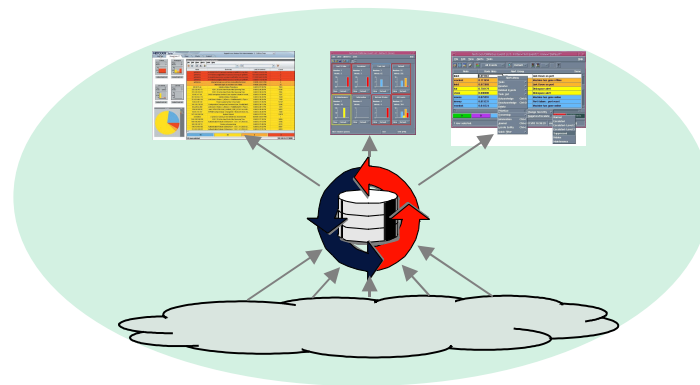
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**What's happening with the infrastructure?**



# Agenda

- The problem
- Our solution
- Industry recognition
- Customer references



***Would you drive your car in a rain storm without wipers?***



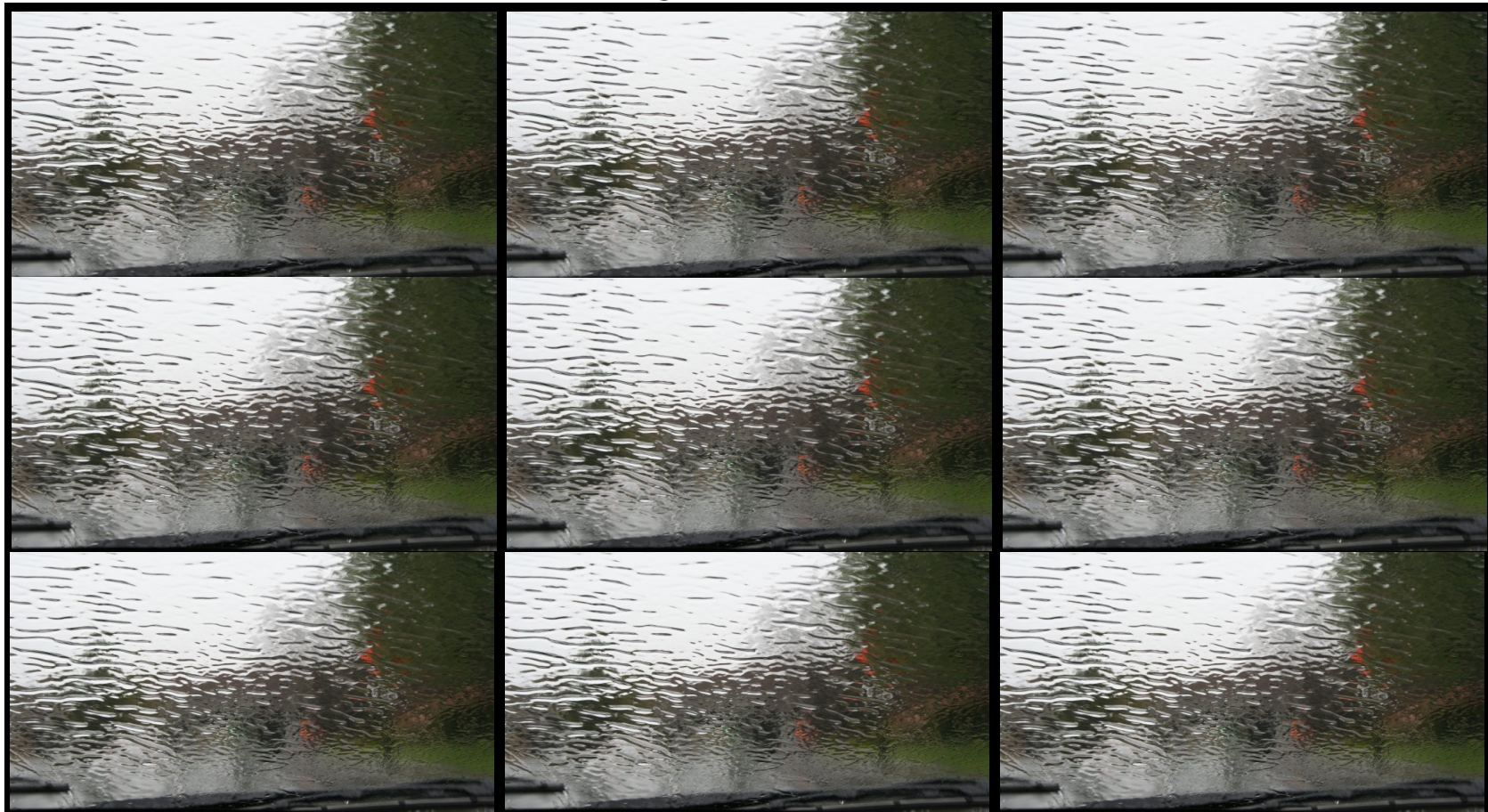
***Messages from IT tools can accumulate on consoles like rain on a windshield***

**Pulse**

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***But the problem is actually worse...***



***Managing IT requires several different tools – each with its own console***

# Your imperative:

- **Improve IT service availability**

- Comprehensive, real-time, visibility to IT status
- Understanding problem relationships
  - Server team working on performance problems while the network team deals with a router failure
  - Network team working on congestion problems while the security team battles an Internet “worm”



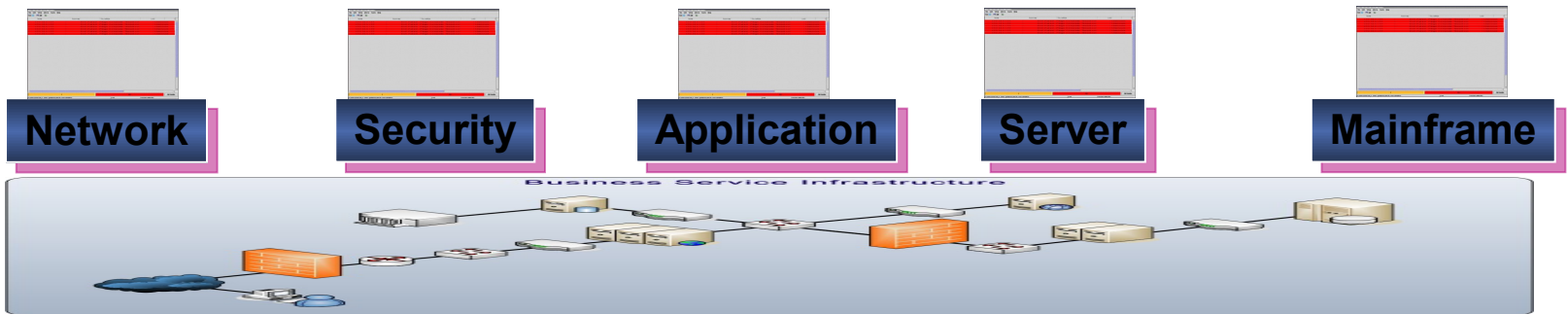
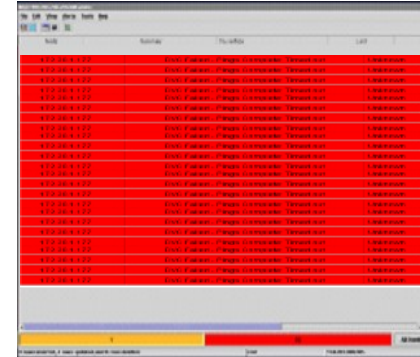
- **Reduce Operational Costs**

- Operations overwhelmed at times by console messages
- Difficult to sort critical issues from “noise”
- Sophisticated domain-specific operational skills required
  - Networks, Servers, Storage, Security,...



# So how does consolidation help?

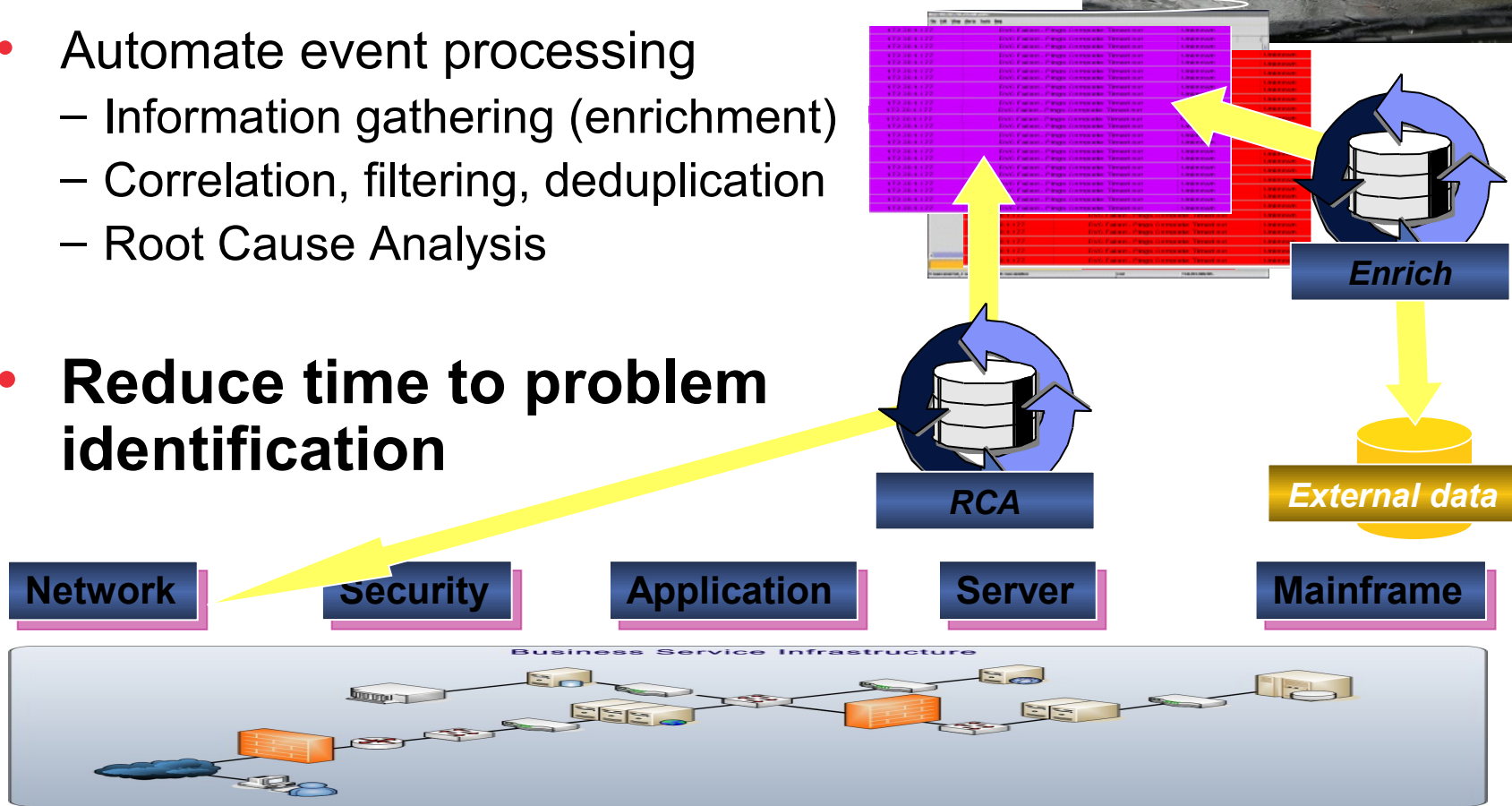
- A plethora of management systems
- One problem = many alerts
  - Poor visibility = long MTTR
- **Consolidation:** “single pane of glass”
  - Faster identification
  - Automate problem diagnosis across silos
- **Result:**
  - Reduce time to problem identification
  - Reduce operator workload – filtering, automation
  - Reduced training cost – learn one tool, not many
  - Ease pains with M&A, keep existing tools – consolidate





# Single pane of glass – what next?

- Automate event processing
  - Information gathering (enrichment)
  - Correlation, filtering, deduplication
  - Root Cause Analysis
- Reduce time to problem identification



# Three steps from events to information...

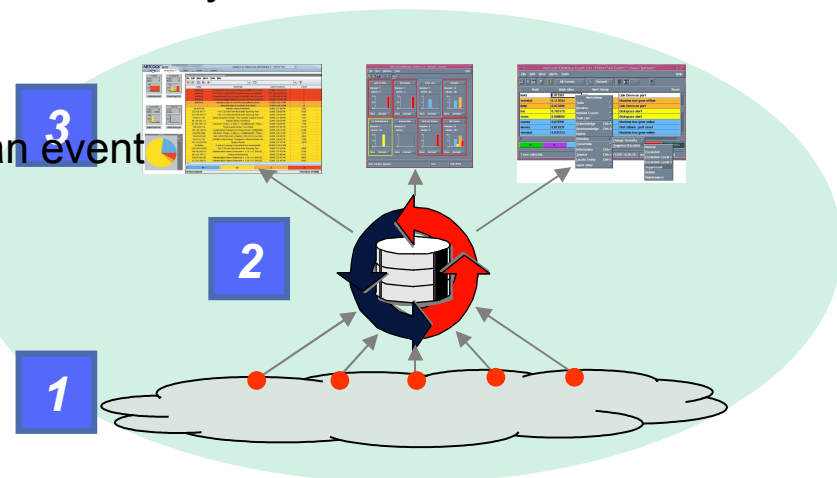
- **Improve IT service availability**

1. **Monitoring IT infrastructure** components for visibility

- Leveraging existing tools
- Adding Tivoli domain-specific management
- Lightweight probes – *anything* that can emit an event

2. **Consolidating events** for correlation

- Scalable, high-performance, event data store
- Correlation across management domains
- Topology-based Root Cause Analysis



- **Reduce Operational Costs**

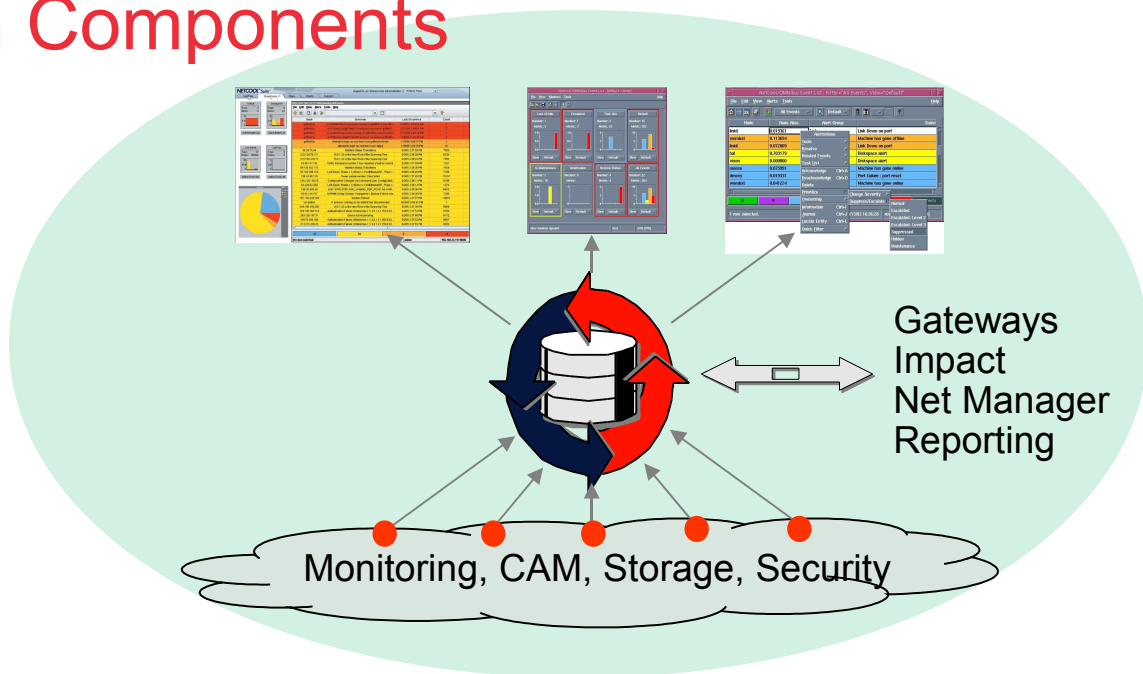
1. **Present comprehensive status** information on a “*single pane of glass*”

- Easy-to-use, highly-flexible interface
- Leveraging powerful tools to sort critical events from “noise”
- Event “enrichment” to provide actionable information for operator tasks
- Automate tasks/resolution

***From events to information!***



# IBM Consolidated Operations Management Solution Components



- **Netcool/OMNibus** – *Fast time to value!*
  - ObjectServer (event database)
  - Probes (integrate event sources)
  - User Interface
  - Gateways (integrate existing tools, e.g., trouble ticketing)
- **Netcool/Impact** – *Event enrichment*
- **Network Manager** – *Root Cause Analysis*
- **Netcool/Reporter** – *Historical reporting*
- Tivoli domain-specific management tools – *Strategic consolidation and/or to fill in gaps*
  - **Tivoli Monitoring**
  - **Composite Application Management**
  - **Storage management**
  - **Security management**

# Recognized as the best Consolidated Operations Management tool set in the industry!

## Gartner

## Research

Publication Date: 18 December 2007

ID Number: G00153661

### Magic Quadrant for IT Event Correlation and Analysis, 2007

IBM Tivoli = **LEADER**:

- ✓ Possess a large and satisfied installed base
- ✓ Have a high degree of visibility within the market
- ✓ offer highly scalable, robust applications
- ✓ have the strategic vision to address evolving enterprise requirements

“...widely used as a ‘manager of managers’ because of its strong scalability and its ability to integrate and consolidate data from a broad range of IT components and third-party management products”



# Customer example

## Leading U.K. financial services group

- Origin dates back to 1832
- Strong respected brand
- Over £100bn invested funds
- 70-80% of business through Independent Financial Advisors

## Situation

- IP Telephony Roll-out
- Only had old Candle tool set – no server, database, or network monitoring
- Concerned about visibility into the “Line of Businesses”
  - LoB was paying large amounts of Money and had no idea what business benefits it delivered
  - LoB wanted cost Transparency and real time Visibility of their key services

## Solution/Benefits

- Business Service Management / Consolidated Operations Management
- 1000 servers, 500 network devices, 5 operators

## Sales Points-Why We Won

- 5 Day PoC done in 3.5 days: Tools installed, ITM Integration, ITCAM Integration, TT Integration, Asset Integration, Built a simple business service model
- Network Manager PoC – 5 day, up and running Day 1 (4 Days working with end users showing Value)
- Silver Bullet:
  - Customers feedback: “this provides the glue between CA and IBM and convinces us IBM has a solution, Netcool is the differentiator”
- Identified additional opportunity for ITM



# Customer example

## Major UK investment bank

- The premier European investment bank in risk management and financing
- 2nd in Sterling Bond financing
- 4th in Euro Bond financing
- 2nd Globally for All Bonds

## Situation

- Operations mindset was in the “manage trouble ticket” paradigm
- Customer had purchased many tools that could not be consolidated into a single view or simply integrated to Remedy:
  - Microsoft Operations Manager (MOM)
  - HP OpenView IT Operations (ITO)
  - CA Aprisma

## Solution/Benefits

- Business Service Management / Consolidated Operations Management
- Global deployment
  - Ease of integration with other element management systems
  - Leveraging over 400 Netcool Probes – No custom development

## Sales Points-Why We Won

- Silver Bullets
  - Netcool perceived as industry leading “Manager of Managers”
  - Able to consolidate alerts from multiple disparate solutions: ITO, MOM, Aprisma
  - Unrivaled scalability- reference in sales cycle manages 55 million events daily
  - Simple event enrichment and access to disparate business-related data sources (not just event/fault data)
  - Rapid deployment
  - References of 3 largest global Financial Services clients using Impact – it being their “secret sauce”



## References (Searching Netcool/OMNIBus, link)

Customer Name	Geo / Country	Industry
BT Global Services	Northeast Europe, United Kingdom	Telecommunications
Cetelem	Southwest Europe, France	Banking
Commerzbank AG	Northeast Europe, Germany	Banking
EDS	Americas, United States	Services
Fannie Mae	Americas, United States	Financial Markets
HUK-COBURG	Northeast Europe, Germany	Financial Markets, Insurance
KeyBank	Americas, United States	Banking
La Poste	Southwest Europe, France	Government
Wells Fargo	Americas, United States	Financial Markets
ONO	Southwest Europe, Spain	Telecommunications
Orange SA	Southwest Europe, France	Telecommunications
TelstraClear Limited	Asia Pacific, New Zealand	Telecommunications
T-Systems	Northeast Europe, Germany	Telecommunications
Wilhelm Karmann GmbH	Northeast Europe, Germany	Automotive



# Compelling reasons to act

## Microsoft confirms outages worldwide

Microsoft fixed an outage that began Tuesday morning and cut off the majority of worldwide users of its Hotmail, Windows Live Messenger and Xbox Live services for most of the day. Microsoft spokeswoman Samantha McManus declined to say what malfunctioned but said the glitch blocked customers' ability to log in to their system. The service was fully restored at about 6 p.m. ET.

www.usatoday.com

USA TODAY

Money  
SECTION B

Wednesday, February 27, 2008

## Significant recent outages

- Long "Mean Time to Repair" (MTTR) – having trouble pinpointing problem sources
- Overwhelmed Operations team
  - Trying to focus on ten different monitors at once
  - Failures causing message floods and prioritization issues

## Mergers and acquisitions

- Strong financial incentive to quickly consolidate IT support
- Significant political, technical, and financial challenges involved with consolidating different-vendor domain management solutions\*



March 28, 2008

\* *Netcool/OMNibus provides out-of-the box integration for almost any domain-specific management software you are using.*

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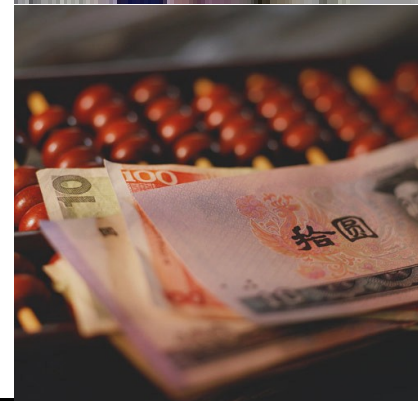
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## Action plan...

- **Phase 1: Consolidate events**
  - Netcool/OMNibus – *Fast time to value!*
    - ObjectServer (event database)
    - Probes (integrate event sources)
    - User Interface
    - Gateways (integrate existing tools, e.g., trouble ticketing)
- **Phase 2: Add advanced event processing**
  - Netcool/Impact – *Event enrichment*
  - Network Manager – *Root Cause Analysis*
  - Netcool/Reporter – *Historical reporting*
- **Phase 3: Fill in gaps in domain-specific management**
  - Tivoli Monitoring
  - Composite Application Management
  - Storage management
  - Security management
- **Phase 4: Implement Business Service Management on Consolidated Operations Management foundation**



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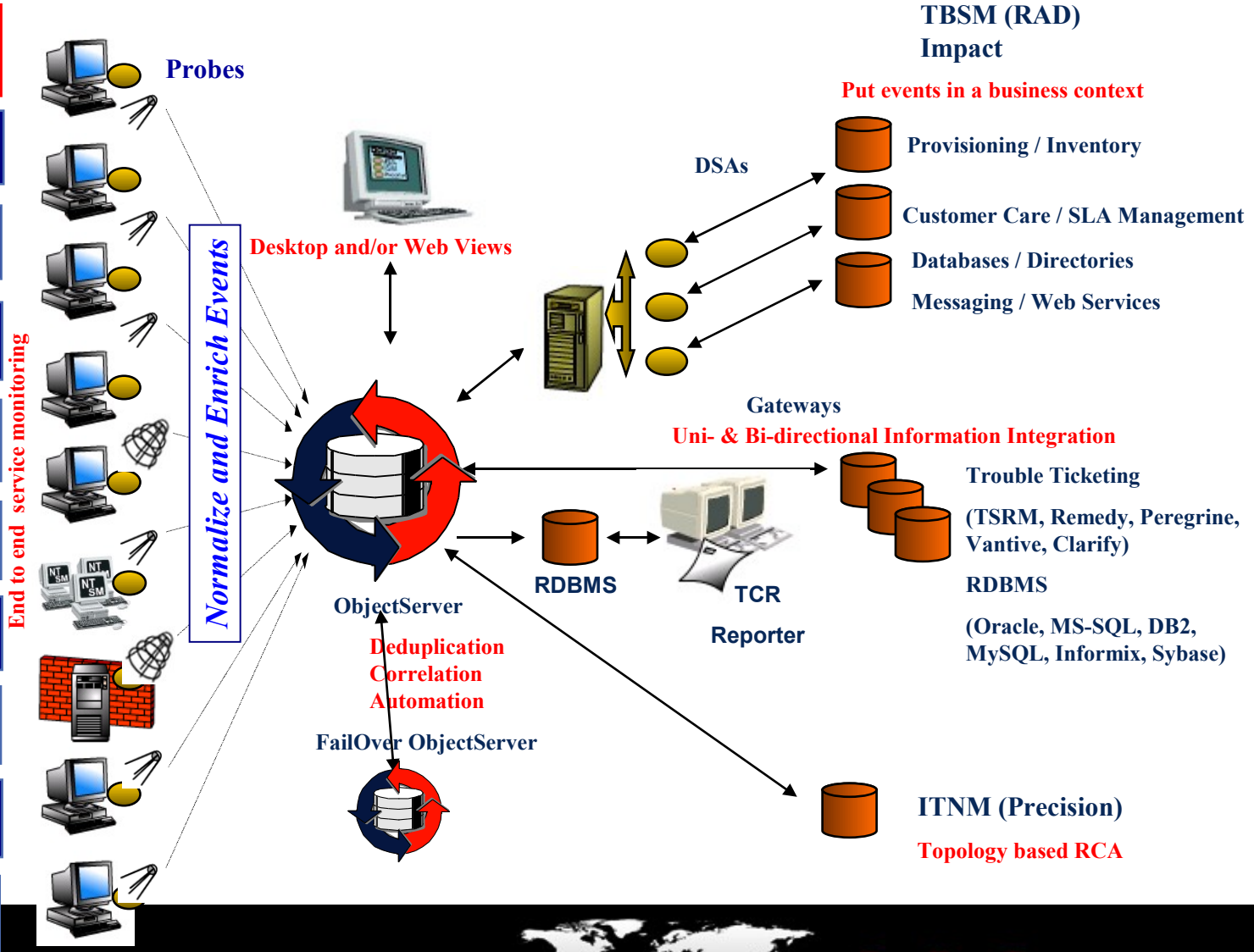
# OMNIbus details



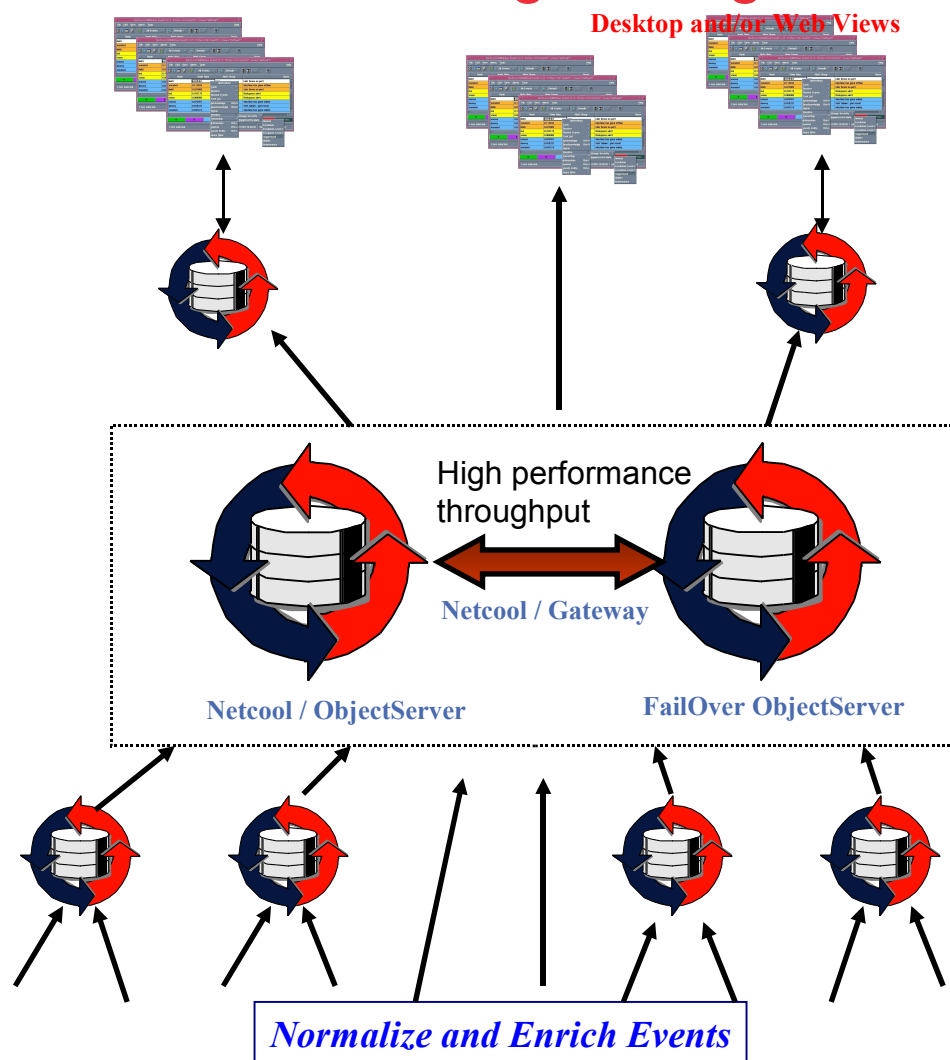
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# Tivoli Netcool/OMNibus Solution

- Tivoli Suite  
ITM, TEC, OMEGAMON
- Data Network  
(SNMP, Syslog)
- Systems & Applications  
(Mainframe, Unix, Windows)
- Other Management Systems  
(HP OpenView, BMC, Mercury...)
- Voice Network  
(PBX, IVR, Class 5 switches)
- Voice Over IP  
(Cisco, Nortel, Avaya, Siemens)
- End User Experience and  
Transaction Monitoring
- Security/Firewalls
- Non-IT Resources  
(HVAC, UPS's, Physical Security)
- Future



# Netcool/OMNIBus Strengths: High Availability and Scale



OMNIBus ObjectServer supports very high event arrival rates

- Large number of supported event feeds
- In-memory event model
- Optional persistence to an RDBMS archive
- Optimized for common correlation patterns:
  - De-duplication and State based correlation
  - Filtering
  - Automation
  - Reduce datacenter staff workload and lower administration costs
- Elegant high availability / failover
  - ObjectServer state replication
  - Event source (probe) failover / failback algorithms
- Mature ObjectServer topologies supporting many event sources and/or event consoles
- *Specialized in high volume event feeds for time sensitive transactions:*

*Telco Transmission management, Financial Trading Flows*

Netcool Probes

• Rules & Lookup files (systems, applications, data network, Voice network, VoIP, EMSs, etc)

Broad Scope

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# Netcool/OMNIBus Integrations (250+)

**Netcool Knowledge Library SNMP support (>175 MIBs), including:**

Bridge MIB RFC 1493	ATM Forum MIB RFC 1695 for ATM switches	31 different Cisco MIBs (including MPLS VPNs)
MIB-II RFC 1213/2096	ATM Forum PNNI (Single Pier) MIB	21 Nortel MIBs
RMON MIBs	ATM Forum ILMI MIB	6 different Extreme Networks MIBs (inc VLANs)
OSPF MIB	ATM Forum LANE Client MIB	Juniper MPLS VPN support
BGP MIB	Frame Relay MIB RFC 1315	
ifStack MIB	FDDI MIB RFC 1512	
VRRP MIB		
Alcatel OMC-R Probe	Gateway for MS SQL	Motorola OMC-R Q3 Probe
Alcatel OMC-S Probe	Gateway for MySQL (ODBC)	Mototola OMC-R 3GPP Probe
Alcatel OSOS TSM	Gateway for ODBC	NET 5000 Probe
Alcatel S12 Probe	Gateway for Oracle	NET Promina Probe
Alcatel SMC 1360 S12 Q3 Probe	Gateway for Peoplesoft Vantive	Netlabs Probe
AMS Probe	Gateway for Peregrine Service Center	NewNet SMS Probe
Aprisma Spectrum Probe	Gateway for Remedy ARS	Nokia Nectact for Broadband Probe
ARCOM Probe	Gateway for Reporter	Nokia Nectact for Wireless Probe
Ascom PANMAN Probe	Gateway for Siebel 6 eCommunications	Nokia NMS100 Probe
Ascom TimePlex TimeView Probe	Gateway for Siebel 6 Field Services Desk	Nokia NMS2000 Probe

## Vendor Alliances (~25) on OPAL:

- Alcatel
- Motorola
- Siemens
- Ericsson
- Tellabs
- Marconi
- Lucent
- Nokia
- Huawei
- Fujitsu
- Ciena
- Cisco
- Juniper
- Checkpoint
- Cramer
- Metasolv
- SAP
- Xtera
- Voyence

**– If you're not monitoring it, you're not managing it!**

CLM Probe	Glenayr VMS Probe	Nortel EC1 Probe
CFS Probe	Heartbeat Probe	Nortel EVDO Probe
Ciena Oncenter Probe	HP IT/Operations Probe	Nortel FMBB Probe
CLOG Probe	HP NNM Probe	Nortel Magellan NMS Probe
CMS400 Probe	HTTP Common Log Format Probe	Nortel MDM Probe
Converse Probe	HTTP Server Error Log Probe	Nortel Meridian Probe
Dantel Pointmaster Probe	Huawei T2000 MML Probe	Nortel MG9000 Probe
Datawatt Probe	Hughes Probe	Nortel OMC-R Q3 Probe
Dawcom Probe	IBM Netview Probe	Nortel OSSI Probe
DEC VAX OpCom Probe	IBM/Tivoli TEC Oracle Probe	Nortel PTM Probe
DFMS Probe	IBM/Tivoli TEC Sybase Probe	Nortel PWI 3GPP Probe
Eagle STP Probe	IBM/Tivoli TME 10 TEC Adapter Probe	Nortel STP Probe
ECI LightSoft probe	IDNX Probe	Nortel USP Probe
ECI eNM, EMS-XDM and EMS-Syncom probe	INET Geoprobe Probe	NT Event Log Probe
EIF Probe	Informix Probe	Octel Probe
Email Probe	IOC Probe	ODBC Probe
Ericsson ACP1000 Probe	Ion Networks Sentinel 2000 Probe	Okeford Probe
Ericsson AXE10 TSM	KBU Probe	Open Nervecenter Probe
Ericsson BNSI Probe	Kodiak EMS	Oracle Probe
Ericsson CN-OSS Probe	Landis Probe	Oryx EMS Probe
Ericsson MD110 Probe	LightWatch Probe	Ping Probe
Ericsson OSS-RC Probe	Lucent EPC Probe	

**New and updated versions are developed and deployed on a quarterly basis.**

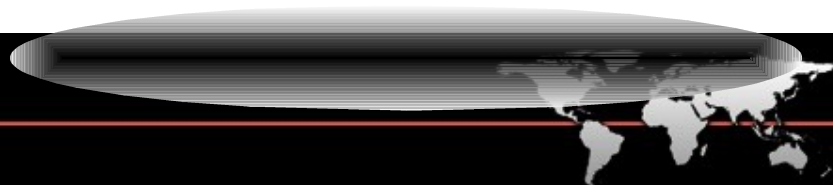
# Efficiency and Effectiveness

- Manage more with the same staffing levels
- Reduce 'truck rolls' through automated diagnostics
- Reduced training costs through standardisation of monitoring platform

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*Netcool saves BT Global Services over £700,000 per annum in operational efficiency savings and £171,000 per annum in reduced support and maintenance costs, and has contributed £190,000 per annum in additional revenue generated by BT Global Services' world class networks and service delivery.*

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# Key Reasons to choose OMNIbus over any other Event solution

- **Industry leadership**
  - Leader in Gartner Magic Quadrant and OSS Observer - for both Enterprise and Service Provider markets
- **Reduced Operational Expense – Unique Manager of Manager capabilities**
  - ability to eliminate and rationalize rules and reduce number of events, thus reducing costs.
  - ability to correlate more events and across infrastructure, to get more lean operations
  - Rapid Deployment
  - High productivity – easy of use
    - Interactive Desktop views
    - Reduce operator knowledge requirements
    - Context-sensitive tools
    - Automations (notification)
    - In-line direction and actions for operators (tools/resolutions)
- **Depth And Breadth Of Event Coverage And Correlation**
  - Netcool/OMNIbus collects consolidates and correlates data from thousands of device types through a range of generic data collectors (probes) including SOA, SNMP, log, and socket. The wide coverage is augmented by over 200 vendor specific probes and more than 25 Vendor Alliances.
- **Elegant SW failover**
- **Scalability to meet your need today and tomorrow**
  - Ability to scale up to support environments with >50 Million Events per day
  - Ability to scale down to run on most of today's normally equipped laptops.
  - A single Event Management solution suitable for all Service Provider and Enterprise



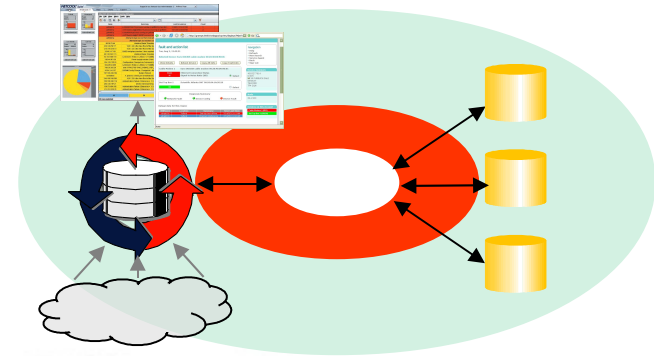
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## Event Enrichment





# Emergency Operator Scenarios

## Scenario 1:

- **EO:** Hello, emergency operator speaking. How can I help you?
- **Caller:** Help, I have an emergency. Come quickly. (caller hangs up)

*What is the problem with the above conversation?*



## Scenario 2:

- **EO:** Hello, emergency operator speaking. How can I help you?
- **Caller:** Help, I have an emergency. Come quickly.
- **EO:** What is your emergency?
- **Caller:** My house is on fire!
- **EO:** What is your address?
- **Caller:** 100 South Drive...
- **EO:** Is there anyone in the house?
- **Caller:** Yes, my two year old child is in the house.
- **EO:** Don't worry, we are sending emergency services right away!

*How is this scenario better?*



# Operations faces this same challenge every day...

## Normal Event

144.124.108.101	Link failed	
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## Enriched Event

Ecommerce One Inc	Cisco ASR 1000	AZ, 3 <sup>rd</sup> Floor, Rack 2	Mike Smith: 410-777-0987	SLA: 2 min
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**Service Name**

**Device Type**

**Device Location**

**Contact Details**

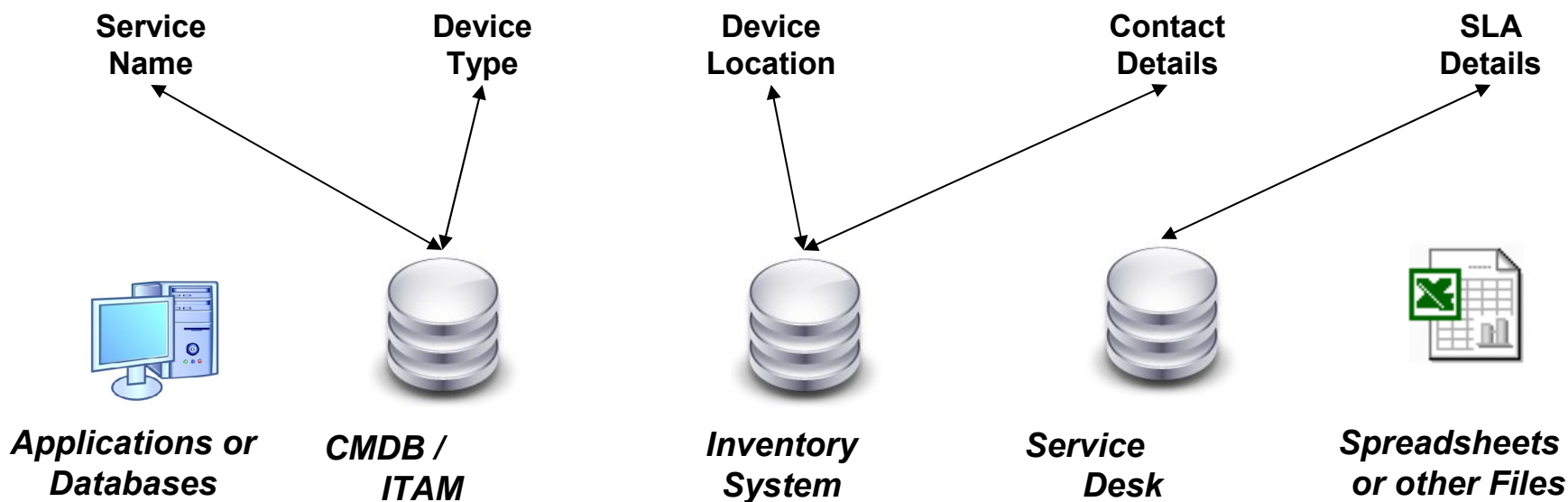
**SLA Details**

Enriched events provide the information staff need to take action!

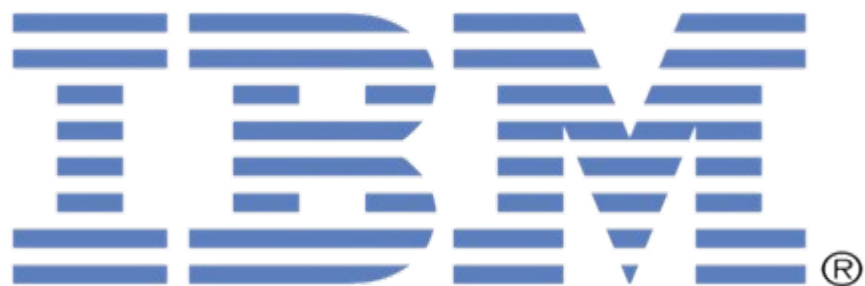


# How does Event Enrichment work?

## Enriched Event



Impact can collect & add information from virtually any source to an event!!



***Bu sunum 28 Mayıs 2009 tarihinde Swiss Otel'de yapılan Tivoli Pulse 2009 toplantısı için hazırlanmıştır.***

***<http://www.ibm.com/software/tr>***

***<http://www.ibm.com/software/tr/tivoli>***

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