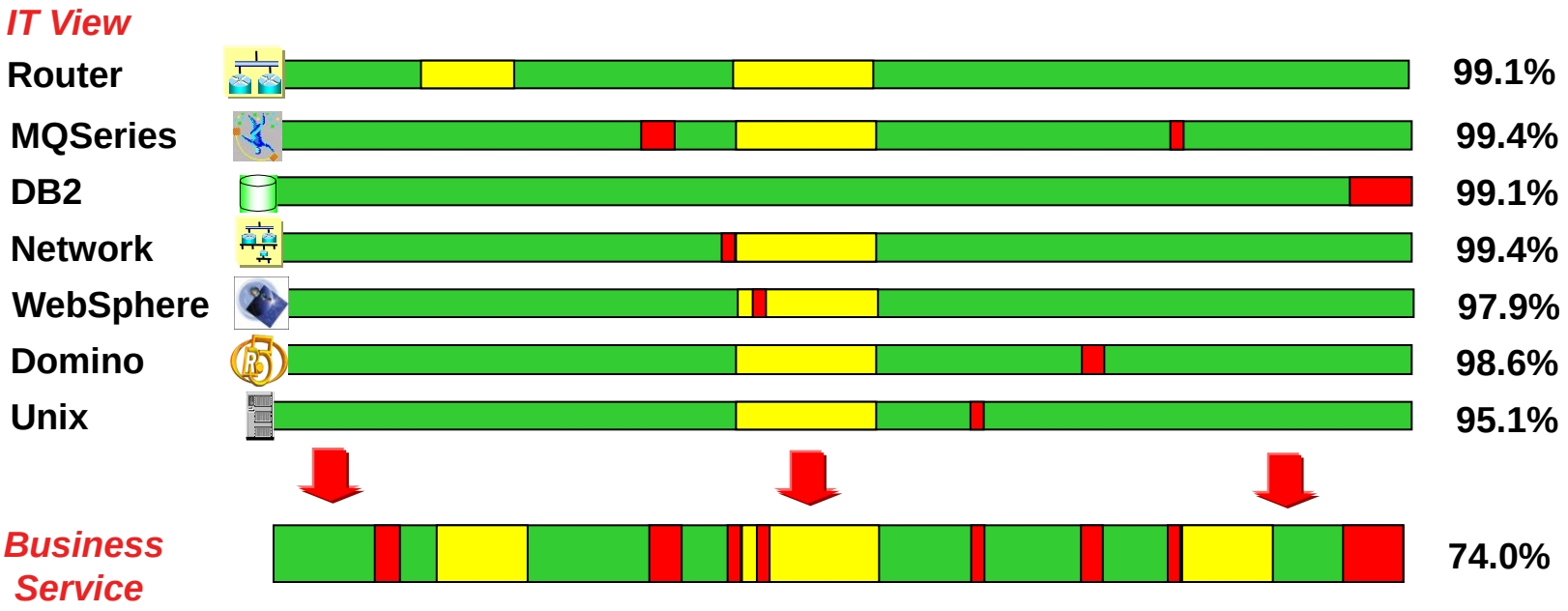
Bridging Gaps and Adding Value with Event Management

George Hunter
Tivoli World Wide Enablement Manager
grhunter@us.ibm.com

Agenda

- The Basics (Get a clear View of the Systems)
  - Why concern yourself with Event Management
  - What can be Gained for your Organization
- Bridge Gaps Across IT and Increase Business Value
  - Reduce MTTR by Managing other areas of IT
  - Reduce MTTR by taking action.
  - Manage the Services and Create Business Views
- Increase the Footprint into Non-IT
- Why IBM/Tivoli for Event Management

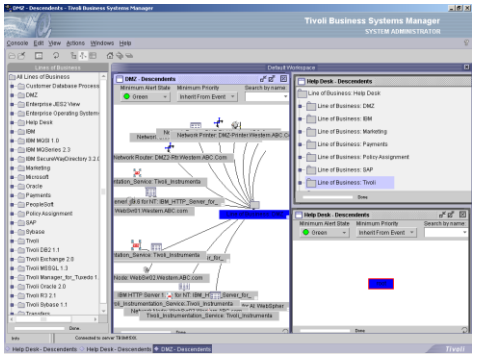
Here's the Problem… Islands of Management!



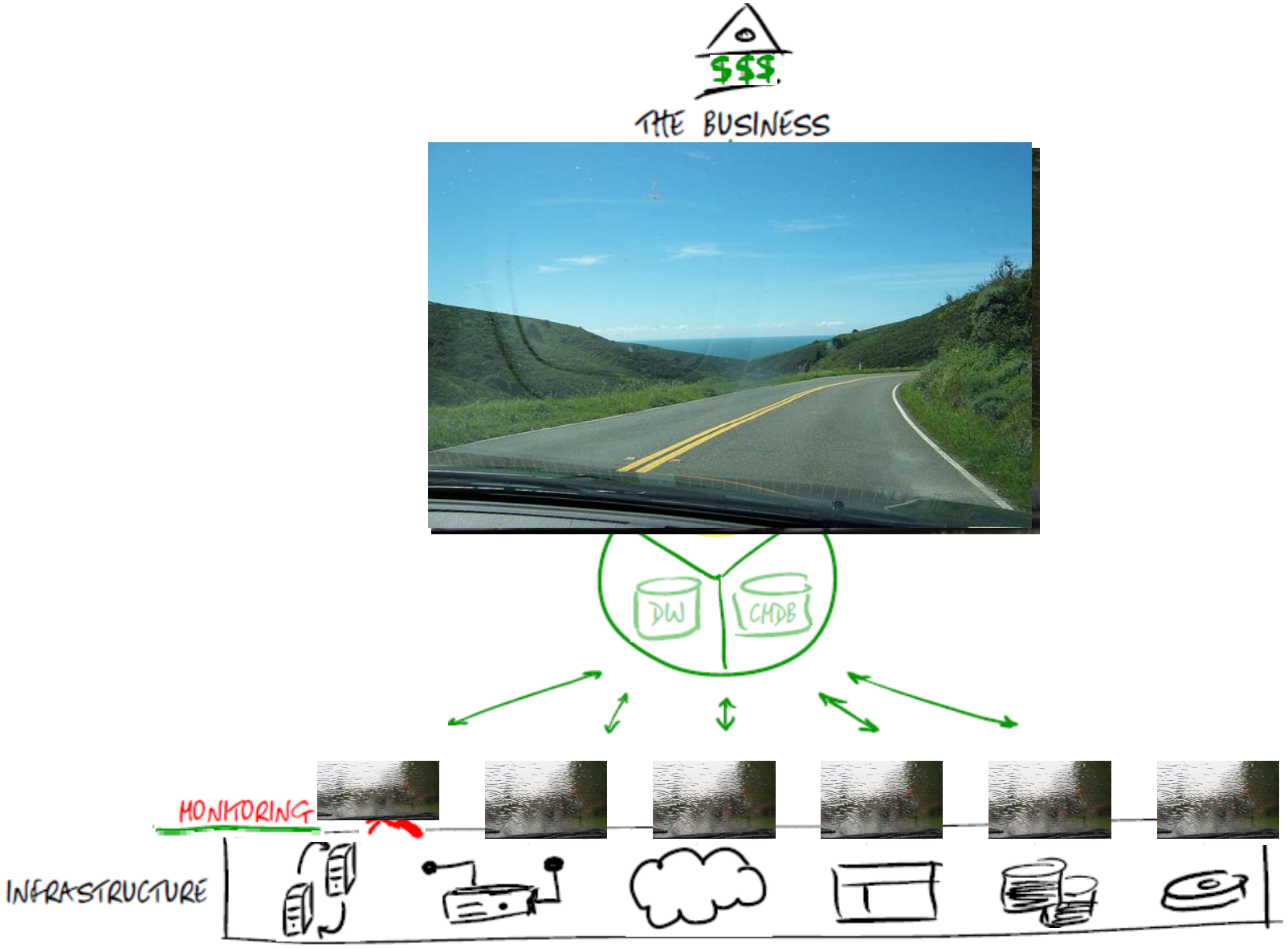
Aligning IT Management Activities

- Setting Priorities
- Understanding Impacts
- Knowing What to Automate
- Measuring Service Levels

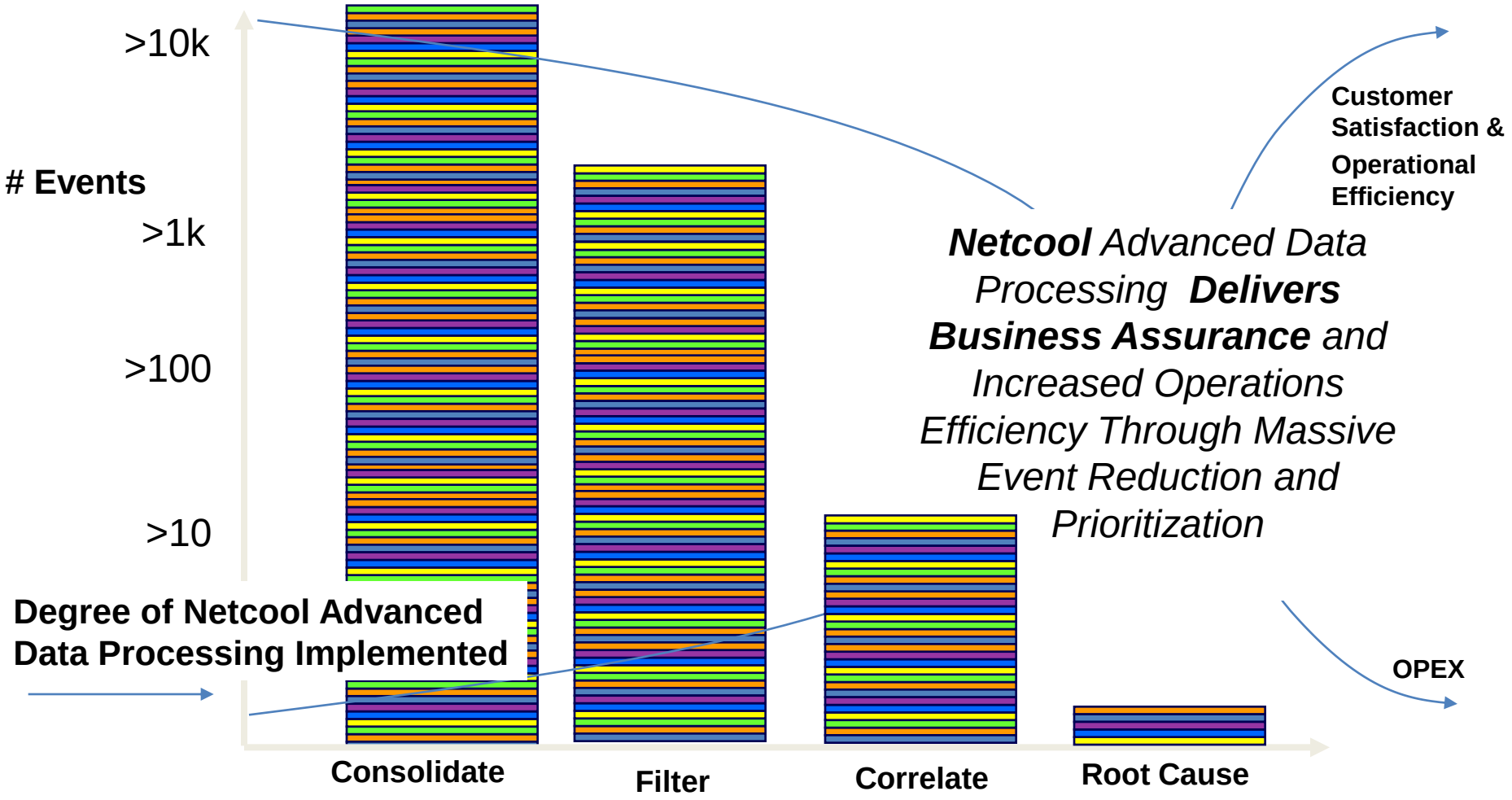
To Deliver Value to the Business



Here is What Customers Need (single pane of glass)



How do we Help you Get there?



"With distributed applications, it's not always clear which services are affected when a problem arises."

What are the Benefits from Analyst IDC

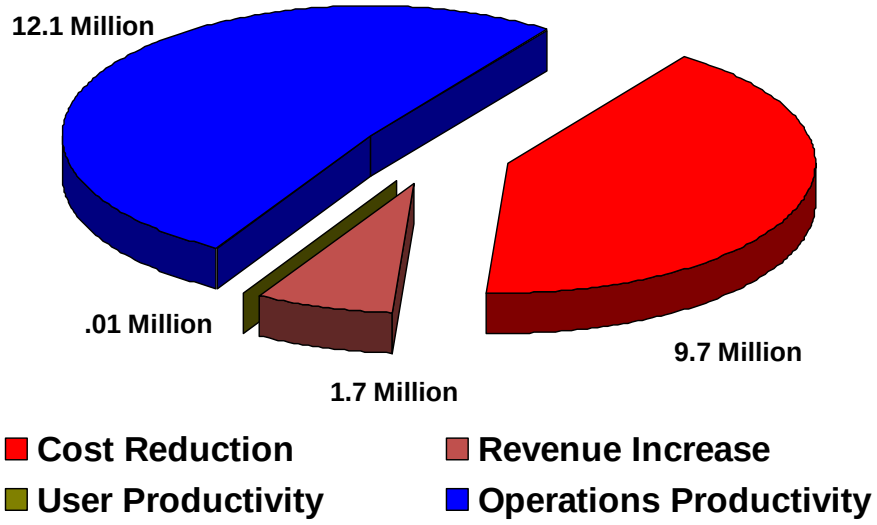
IDC's research indicates a high level of business value

- **Increased revenue** by $1.7 million
- **New services** delivered to market 37% faster
  - Earlier and increasing revenue
- **Improved mean-time-to-repair** a device or system by 54%
- **Saved** $9.5 million annually
  - Operations staff costs savings of $482,162
- **Reduced capital expenditure** by $1.3 million
- **Consolidated** NOC's
  - **Reduced expenses** by 70%
  - Annual savings of $293,801

IDC Analyze the Future

Hyperlink to report

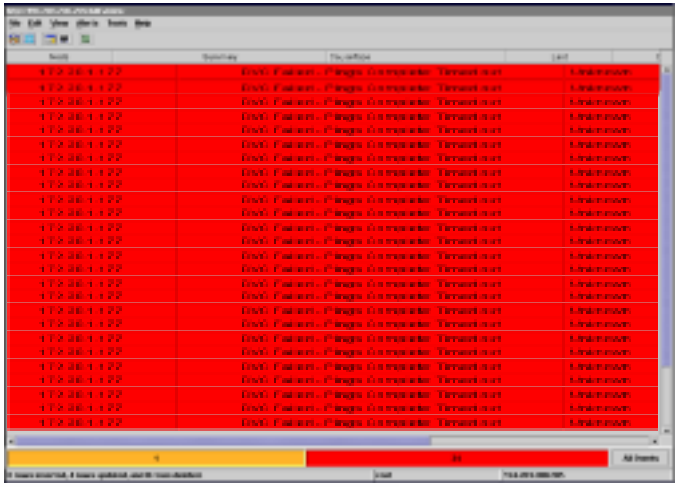
Average Annual Benefit in Millions

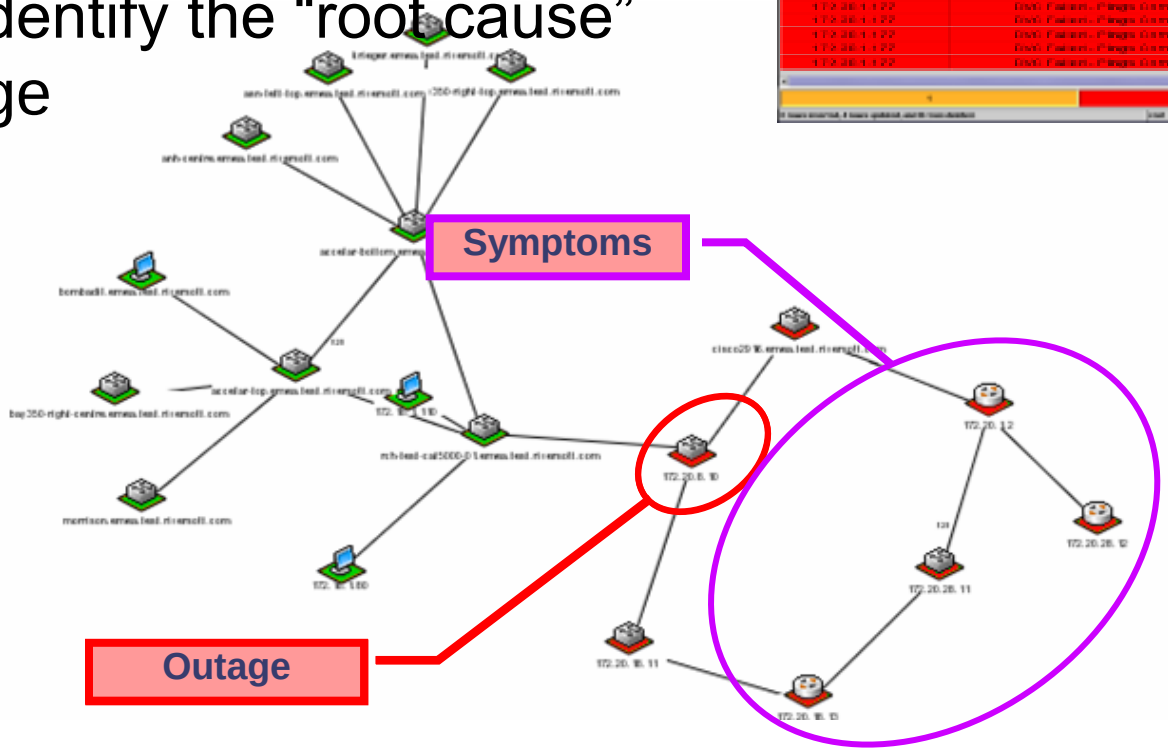


* "A Return on Investment Analysis of IBM Tivoli Netcool", IDC January 2009

Bridge Gaps Across IT with Network Topology

1. Automated discovery of network topology (devices and relationships)
2. Applying topology knowledge to precisely identify the “root cause” of an outage





Case Study – Harley Davidson

Business Background

- Under new IT leadership, Harley Davidson looked to consolidate the management of the multiple data centers into two centrally located centers.
- Many of the manufacturing facilities had their own IT departments and each BU retained their own IT services.
- The new CIO and select staff had prior experience with Tivoli and knew this was the tool to use for a ITIL based service management initiative.

Actual Results

- Critical events decrease 91%
- Downtime decreased by 29%
- Overall availability increased by 3 %
- Root cause ID'ed and resolved 17% faster

Solution Overview

- Harley consolidated seven service desk solutions into single IBM solution to automate resolution of both problems and incidents resulting in a reduction in downtime.
- Harley consolidated all the events from the newly implemented IBM monitoring solution as well as other management systems into an IBM consolidated event management solution to provide a centralized alerting system. This now gives them full control over all business impacting events leading to improved SLAs**.**
- Harley then streamlined the desktop management of 11,000 workstations with IBM's provisioning solution to automate a worldwide rollout of a single standardized operating system saving significant $$ in license and support costs.

Reduce MTTR with Actionable Data from other sources

What does an operator need in order to take action?

Emergency Operator scenario:

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

IT Operator scenario:

What is the problem with these scenarios?

It is obvious that something is wrong but they do not have enough information to take action to resolve the problem.

Use Help Desk escalation rules, Asset Data, SLA Data, Business Process Data, ect……

Same scenarios with a little more information…

Emergency Operator scenario:

- **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!

But Now what do you Do?

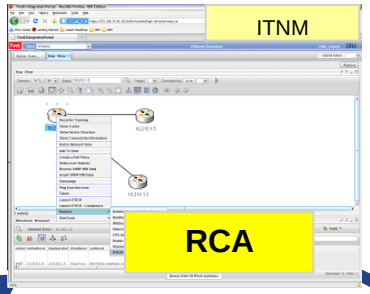
IT Operator scenario:

Uggs INC	Cisco ASR 1000	AN, 3rd Floor, Rack 2	Russell Crowe : 777-0987	SLA: 2 min
Service Name	Device Type	Device Location	Contact Details	SLA Details

Now we have provided "contextual" information needed to take action.

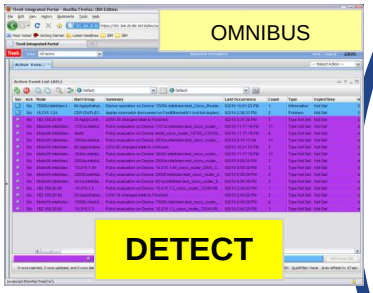
Take action on the Infrastructure item!

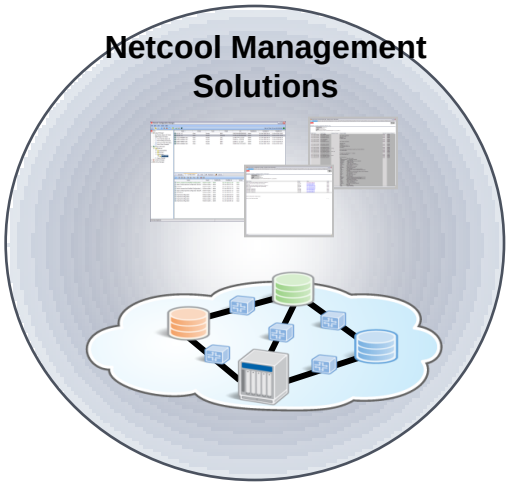
Use Case for Device Fault

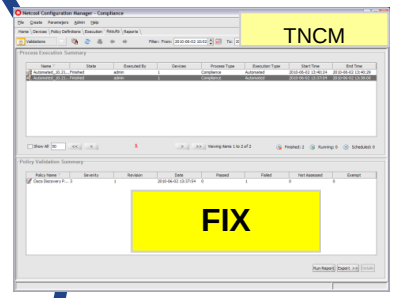


ITNM enables RCA and impact analysis of problem

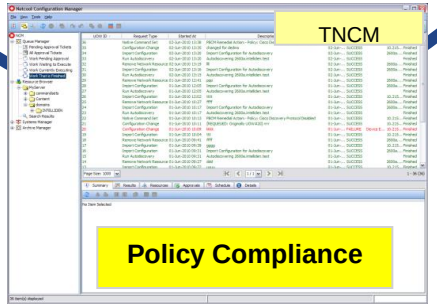
Today events come into OMNIbus and faults are localized







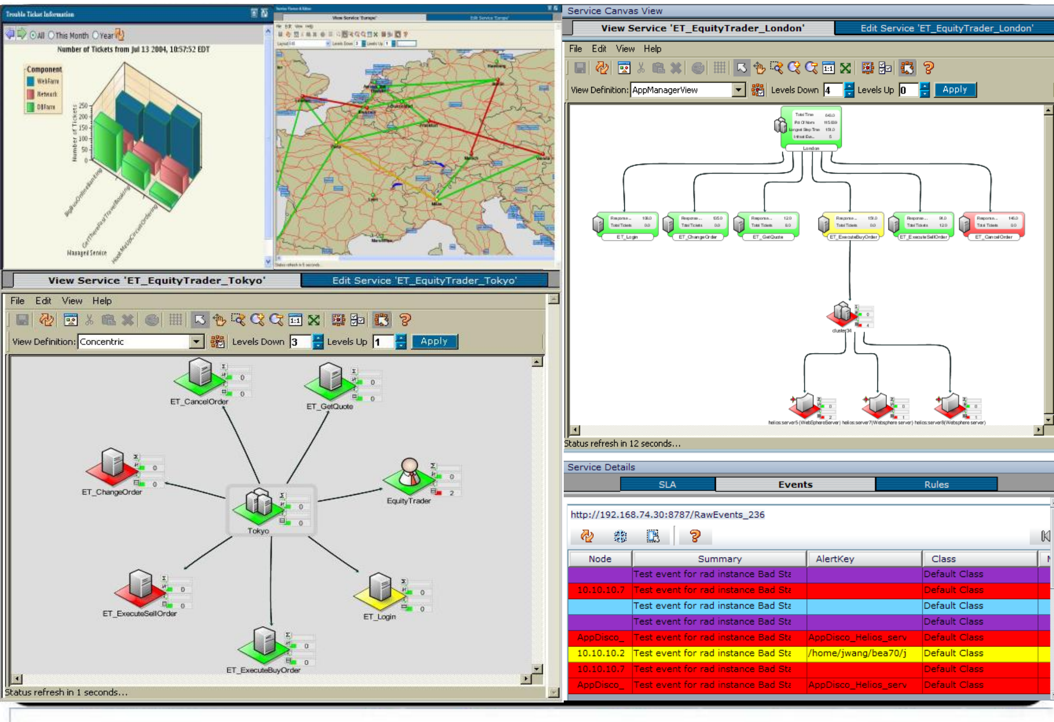
TNCM enables automated correction of common problems through automated remediation



Triggering traps to OMNIbus for policy breaches

Check if Network devices are compliant to best practices.

Build Business View and Business Value



Service Visualization

Visualization of Services:

- Active Service Tree (Nodes)
- Custom Dashboard visualization
- Dynamic Relationship Dependencies
- Show maps & images with dynamic status
- KPIs for service data and business data
- Chart and Table Reports
- Gauges for service data & business data
- Event roll-up on sub-services
- Drill-down on services
- Visio-like layouts, with live status feeds
- GIS map layout support
- User/Role permission control
- User/Role permission control

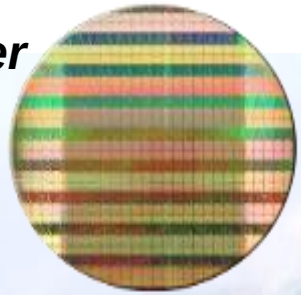
Expand your footprint to NON-IT

The world is getting smarter …

- INSTRUMENTED
- INTERCONNECTED
- INTELLIGENT

Technology is Driving Change and Creating Opportunity

Transistors per human:[1]
2001: 60 million
2010: One billion



Global cellular service:[2]
2007: 3.3 billion connections
64% of users are in emerging markets
2010 (Q1): 4 billion connections

Smart Sensors:[5]
"…**nearly half of all sensors** used for critical measurements across transportation, facilities & production equipment are now smart sensors."

RFID Tags:[3]
Nearly 4 trillion RFID events transmitted each day

Cyber Attacks:[4]
2007: *37k on US government / private sector*
158% increase in cyber attacks since 2006

Sources: 1) IBM Global Technology Outlook 2) GSM Association 3) Nilson Report 2007 4) US Department of Homeland Security 5) ARC Advisory Group

Helping Swiss Meet Swiss Expectations

SWISS RAILWAYS

- #1 transportation company in Switzerland - 860,000 pax/day
- #1 in rail freight in Switzerland - 220,000 t cargo/day
- #1 in network efficiency in the World - ~ 92%
- #2 in transported passengers in Europe

NIGHTMARE: 22nd June, 2005

- The good news
  - Nobody was hurt
  - 2 passengers fell in love and got married
- The bad news
  - 199,998 other passengers affected
  - 5,000,000 U$ of direct costs occurred
- The ugly news
  - There would have been enough time, to handle the situation correctly but ....

.... there were 18,000 system alarms within 60 minutes

.... and the tools to handle them correctly were missing!

SMART MOVES

- Convergence of Service Management and Asset Management layers
- System Alarms generating from Infrastructure views giving pro-active communication to Service View
- Setting Incident Management and Change Management policies

Why IBM? Integration, Integration, Integration!!!

MIB support (175 MIBs), including:

- Bridge MIB RFC 1493
- MIB-II RFC 1213/2096
- RMON MIBs
- OSPF MIB
- BGP MIB
- ifStack MIB
- VRRP MIB
- ATM Forum MIB RFC 1695 for ATM switches
- ATM Forum PNNI (Single Pier) MIB
- ATM Forum ILMI MIB
- ATM Forum LANE Client MIB
- Frame Relay MIB RFC 1315
- FDDI MIB RFC 1512
- 31 different Cisco MIBs (including MPLS VPNs)
- 21 Nortel MIBs
- 6 different Extreme Networks MIBs (inc VLANs)
- Juniper MPLS VPN support

Probes (~ 200):

- ADC Metrica NPR
- Airspan Sitespan
- Alcatel 1000 E10/OCB-283
- Alcatel 5620 Logfile
- Alcatel 5620 NM CORBA
- Alcatel 5620 SAM
- Alcatel AWS
- Alcatel DSC Dex per Class 5 Voice Switch
- Alcatel MT20
- Alcatel NMC 1300
- Alcatel OMC-R (3GPP)
- Alcatel OMC-R (Q3 Interface)
- Alcatel OMC-R (Terminal Server Connection)
- Alcatel OMC-S
- Alcatel OS-OS
- Alcatel S12
- Alcatel SMC 1360
- Aprisma Spectrum
- Arcom Environmental Monitoring System
- Ascom CLOG
- Ascom PANMAN
- Ascom TimePlex TimeView/2000
- Avaya Definity G3 per switch
- BMC Patrol
- CA Unicenter TNG
- Castlerock SNMPC
- Comverse
- Dantel PointMaster
- DAWCOM
- DEC VAX Operator Communication Facility
- ECI Lightsoft CORBA
- ECI/eNM
- ECI/Telematics
- Email Probe
- Enterprise SNMP EMS Probe
- Ericsson 3GPP (OSS-RC/RANOS/CNOS)
- Ericsson ACP 1000
- Ericsson AXE 10 per Class 5 Voice Switch
- Ericsson BNSI
- Ericsson MD110
- Ericsson RANOS (3GPP)
- Ericsson Xmate
- Exec Probe
- Fibermux LightWatch
- FIFO
- FLEXR Probe
- Freshwater Sitescope
- Fujitsu FENS
- Fujitsu ICS Probe
- Fujitsu Netsmart
- Generic Logfile Probe
- Generic trapd/syslog capture per device
- Glenayre VMS Probe
- Hewlett Packard IT/Operations Center
- Hewlett Packard OpenView NNM
- Hewlett Packard Vantage Point Operations
- Cisco WAN Manager
- CMS400 Probe
- Compaq Tandem
- Informix
- Ion Networks Sentinel 2000
- KBU Fivemere
- Kodiak EMS
- Lucent 5ESS - Class 5 Voice Switch
- Lucent Agile ATM
- Lucent ECP
- Lucent ITM-NM/OMS
- Lucent ITM-SC
- Lucent JMTE (CORBA)
- Lucent Naviscore
- Lucent NFM
- Lucent OMC (CORBA)
- Lucent OTAF/SDHLR
- Lucent Wavestar SNMS

Gateways (~ 30):

- Bi-Directional
- Flat File
- HP OpenView
- IBM DB2 6.2
- IBM DB2 7.1
- IBM Informix 9.20
- MS SQL
- ObjectServer 3.5
- Remedy 7
- Siebel
- SNMP
- Socket
- ObjectServer v7 Unidirectional
- Oracle 10.1.0.2 EE & SE
- Peoplesoft Vantive 8

Vendor Alliances (~25):

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

And if you need to manage something *really unusual*, OMNIbus probes can be developed and deployed quickly to enable you to manage virtually anything!

Tivoli Leads the Way for Event management

Gartner Market Share Leader

- #1 Overall ITOM category (8th consecutive year)
- #1 Availability and Performance
- #1 Event, Fault and Log Management
- #1 Network Management
- #1 Web Access Management
- #1 Security Information & Event Management
- #1 HSM and Archive Software

Gartner Magic Quadrant Leadership

- EAM for Power Generation - Leader
- EAM for Energy Distribution Utility - Leader
- EAM for Manufacturing - Leader
- User Provisioning – Leader
- Web Access Management – Leader
- SOA Governance - Leader

OSS Observer – Analysys Mason

- #1 Service Assurance
- #1 Event Management
- #1 Performance Management

IDC Marketshare

- #1 Overall in Systems / Network Management
- #1 in Overall Performance and Availability Management
- #1 Performance Management
- #1 Event Automation
- #1 Network Management
- #1 Archiving
- #1 Identity and Access Management
- #1 Security and Vulnerability Management
- #1 Enterprise Asset Management

Forrester Waves

- IT Asset Lifecycle Management (our 1st inclusion!)
- Identity and Access Management

ARC

- #1 in EAM Worldwide and in North America
- #1 in EAM Software Revenues and Service Revenues
- #1 in EAM for Oil & Gas, Pharmaceutical & Biotech, Automotive, Logistics,
- #1 in Government, and independent Maintenance Service Providers

Believe your Peers

Finance: 96 of Top 100 Institutions	ING, GUARDIAN, Prudential Financial — Growing and Protecting Your Wealth®
Communications: 20 of 20 Companies To	T-Mobile, belgacom, BT, DiGi, CABLE & WIRELESS
Healthcare: 9 of 10 Top Companies	MayoClinic.com — Tools for healthier lives, ANMED HEALTH, DUKE UNIVERSITY HEALTH SYSTEM
Retail: 8 of 10 Top Companies	ebay, ups, Federated DEPARTMENT STORES, INC., Parcelhouse SMART eLOGISTICS
Government Agencies	Michigan.gov, WestVirginiaUniversity. Where Greatness is Learned
Energy/Utilities	e·on IS, gasNatural, bp, HydroOttawa
Manufacturing/Industrial	GOODYEAR, TOSHIBA, PHILIPS
Media/Entertainment	REUTERS, US OPEN, TECHNICOLOR. moving entertainment, PGA TOUR.COM

Strategies for Enterprise Event Management

Michel AZZI
Independent Consultant
azzi.mic@gmail.com

Agenda

Topics addressed in this presentation:

- Operation in General
- Why the need for Operational Strategies?
- Enterprise Event Management use case
- Business Outcomes

Operation In General

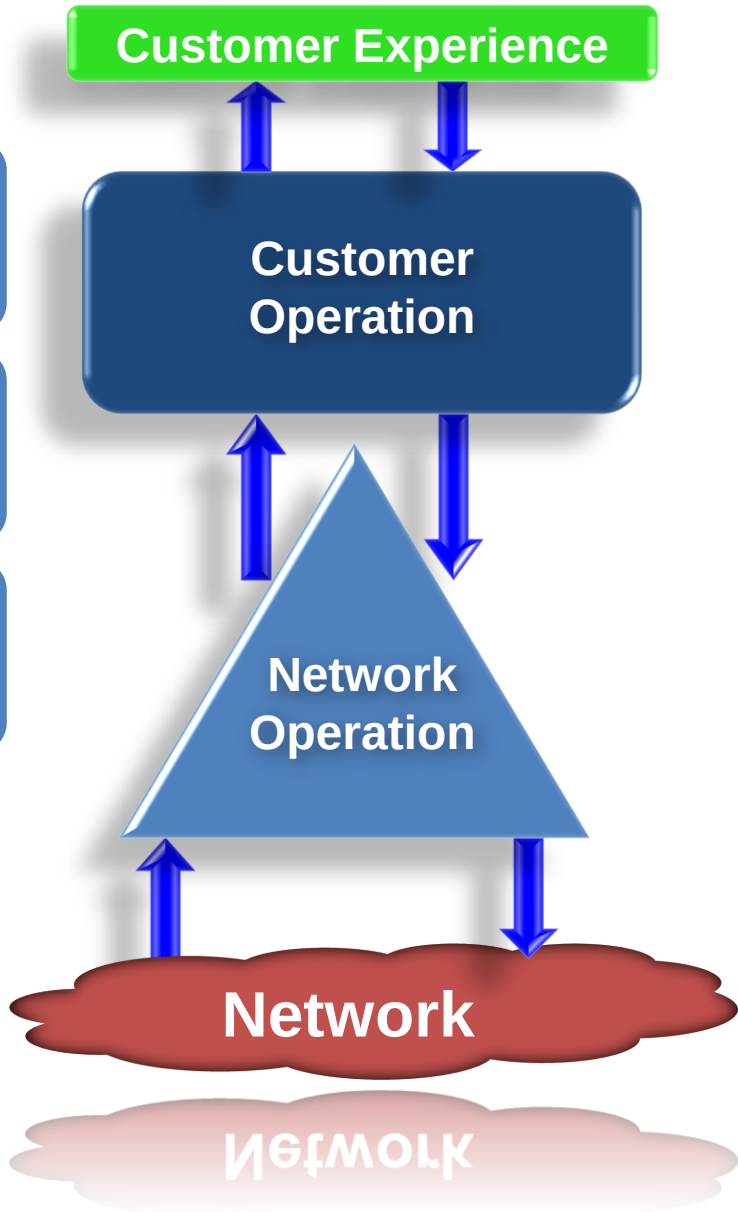
Operation represents the empirical discovery about the situation awareness (or the ability to understand and measure network health)

Operation is about shaping to simplify the ecosystems in which services and technology can thrive.

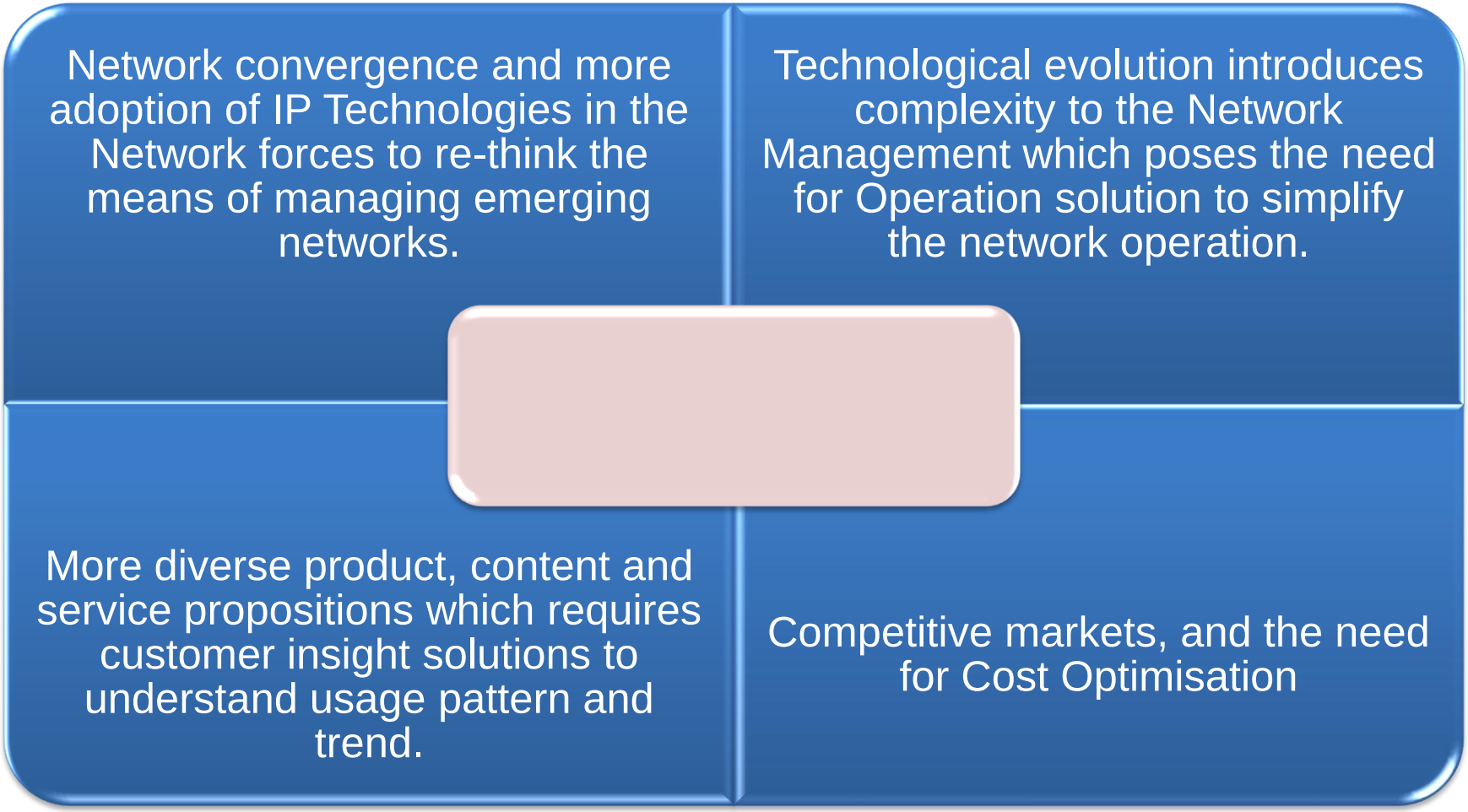
Operation is the utility that shape organisation's ability to manage the customer experience by either being Reactive or (near) Proactive.

Ultimately

Operation is the battle against time!



Operation Strategy Drivers



2010 IT & Enterprise Business Driver

2010 is the time of transition from recession to recovery [economically]

Strategically

move from efficiency to productivity:

- Strong focus on being; productive; collaborative and innovative.
- Transition to meet future strategies which organisation see themselves going through a shift from being a technology service providers to a *source of competitive advantage*
- The recession focussed on recovery of the things that are important. And outsourcing commodity service is not doing the task that they are used to do because they are no longer important.
- Business executives are Reconnecting IT with Business Productivity.

Technically:

Opportunity for innovation

- this transformation enables opportunities to create new type of innovative solutions rather than focusing on replacing core systems
- Here this is a shift from heavy weight application to light weight technology: New Technologies lead to New Opportunities: Cloud computing, web 2.0 and new mobile data devises.

What does this mean!

Shift to lightweight technologies

things can be implemented quickly and with an Optimised cost

Focus more on **raising productivity rather than cutting cost**.

As this increases the opportunity to create value and cutting cost does not drive growth.

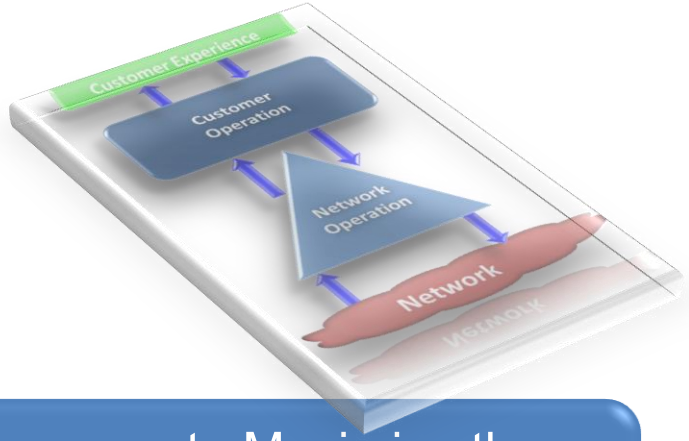
While moving into lightweight technologies **concentrate on Operational results and Issues**. As this is where IT greatest challenge.

IT is strategic, but operation is the one that gets in the way of not realising the values.

With the current opportunity at hand, IT should move from being a back office base and a resource function to become a **result based source of innovation and advantage**.

Strategies for Availability Management

From an Operational perspective



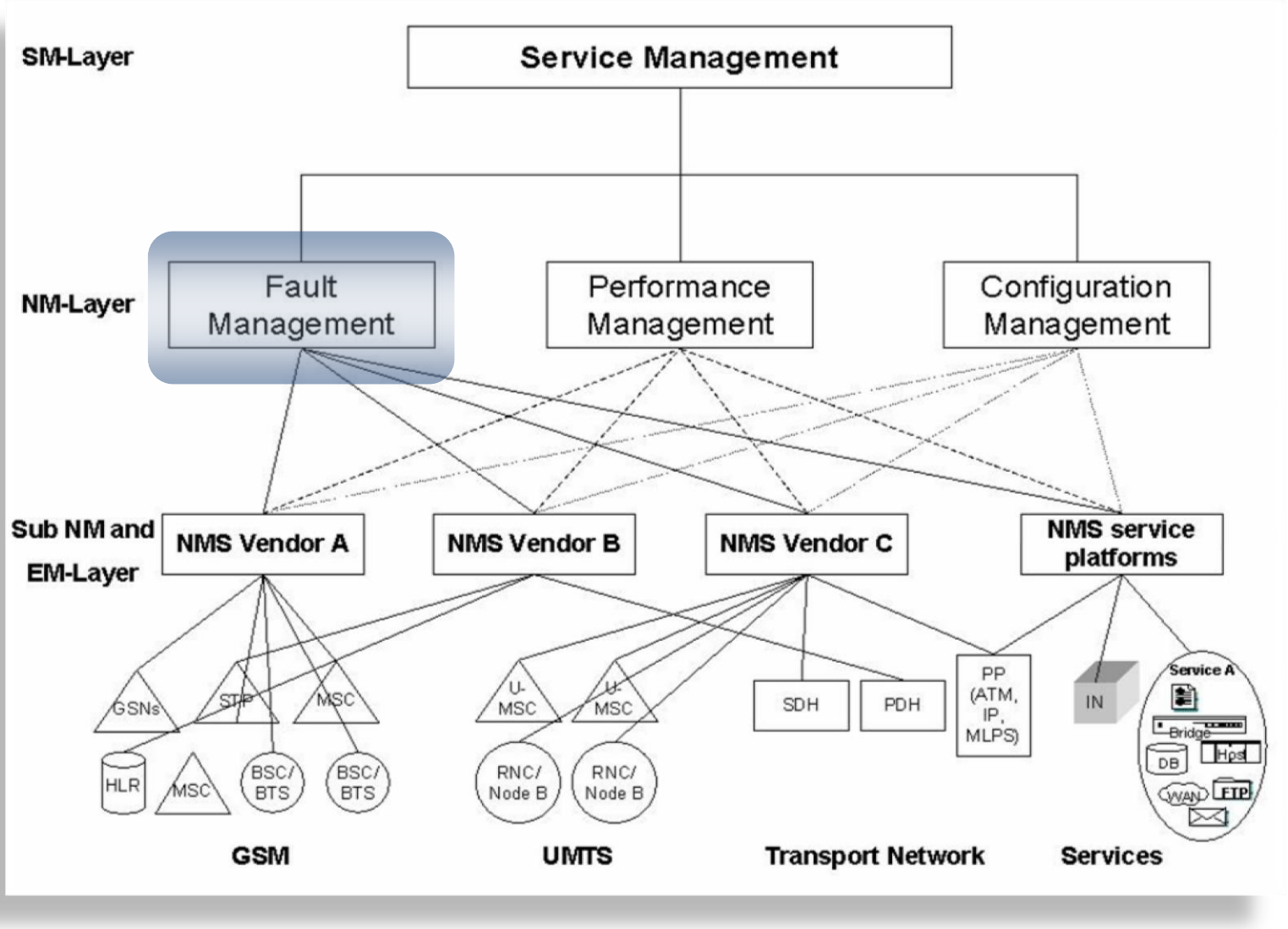
A “Fix before Broken” strategy or a proactive means to Maximise the automation of network failure resolution and restoration to reduce customer impact.

Establish a stable and predictable system by eliminating variables (through time).

Establish a closed loop monitoring system to build means for improving the operational model.

Solutions that increases the business efficiencies by better informing and process automation.

Target Network Management Architecture

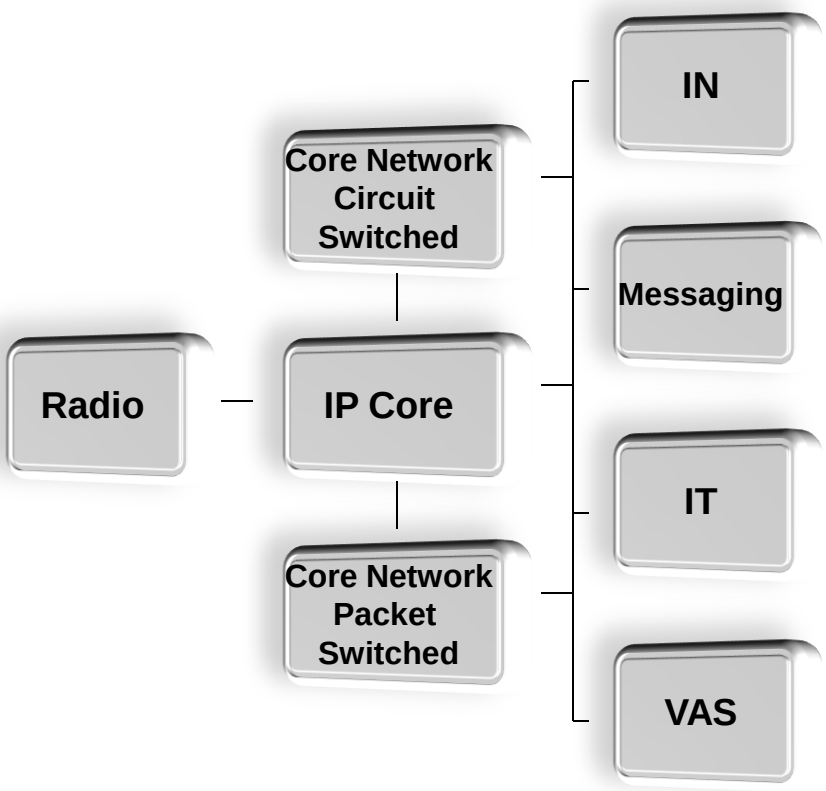


Event Management Business Case

The Business Case:

Reducing OPEX	Reducing Alarms that the Network Operational Centre has to administer and reducing the number of screen that needs to be managed.
Consolidation	Consolidation of different Fault Management systems from the Operation and Business Support Systems into a single framework. *The whole is greater than the sum of the parts*
Life Cycle Management	Replacing end of life systems (or shareware) for a sustainable business continuity and to meet our continuing network growth.
Customer and Business Impacts	Understand the customer and business impacts to prioritise fault ratification tasks rather than managing by network status

Virtualised Domains Management



Event Rate:

Collection: 1,372,141 per day

Correlation: 147,159 Alarms

With 4,303 Critical Alarms

Correlation Ratio: 1/319

= 99.68% reduction

3rd Party Integrations

3rd parties integrations:

- Performance Management
- Threshold Based Alarming
- Problem and Incident Management
- Change Management
- Contractual SLA monitoring
- Active Probing

Stand-alone functional integration:

- Knowledge Base
- Custom Reporter Tool

Functional Requirements Mapping to the Architecture

Functional Requirement	Functional Goal
• Fault Consolidation & Correlation	• Netcool/Omnibus (Probes, ObjectServers)
• Operational Mgmt	• Netcool/Impact
• Reporting	• Tivoli Common Reporting
• Service & Bus Mgmt	• Netcool/TBSM

Event Management Business Benefit

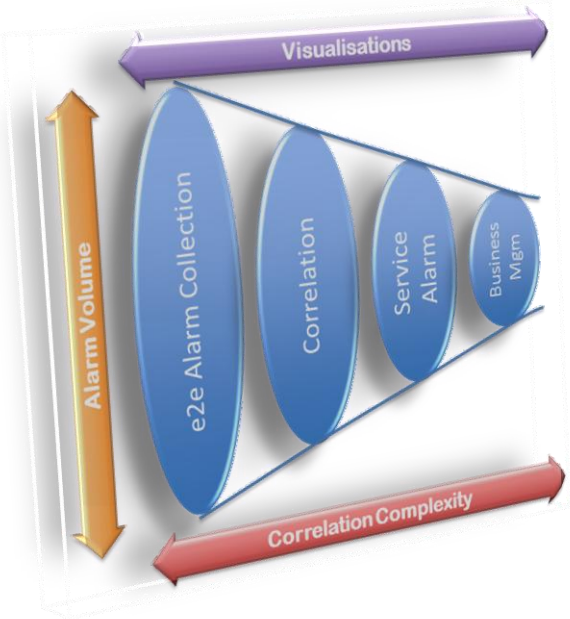
Faster adoption of new Technologies	With continuous network evolution, time is saved by leveraging the NGFM framework to integrate any new technologies your corporate chooses to adopt and all related process automations
Increased throughput of monitoring processes	Time to acknowledge root cause alarms has been reduced due to the enhanced alarm enrichment and correlations
Reduced time to restore faults	Time to create and manage Incident and Problem management has been reduced due to 3rd party integrations; knowledge db & TT platform
Monitoring Processes Consolidation	Consolidation enables Virtualised Technology Alarm Dashboard, this results in reduced OPEX to manage network Operation by applying consolidated processes to the different technologies.

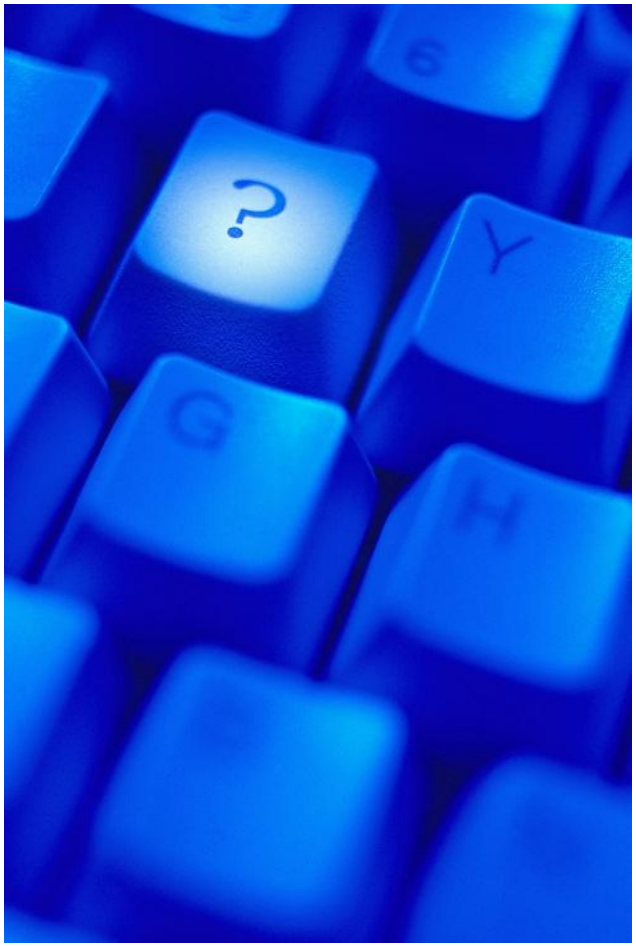
34% Time Saving in Alarm Monitoring → Higher network Availability

Event Management Future Strategies

Business Views

- Build of *automatic operational processes that is targeted on minimising revenue impact rather than minimizing actual downtime!*
- While maintaining high customer satisfaction.




?
Y
G
H

For more information

To find out more about how IBM's Tivoli solutions can help your organisation contact IBM via:

Phone: 1800 557 343

Email: rlm@au1.ibm.com

Trademarks and Disclaimers

The customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics may vary by customer.

Information concerning non-IBM products was obtained from a supplier of these products, published announcement material, or other publicly available sources and does not constitute an endorsement of such products by IBM. Sources for non-IBM list prices and performance numbers are taken from publicly available information, including vendor announcements and vendor worldwide homepages. IBM has not tested these products and cannot confirm the accuracy of performance, capability, or any other claims related to non-IBM products. Questions on the capability of non-IBM products should be addressed to the supplier of those products.

All statements regarding IBM future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

Some information addresses anticipated future capabilities. Such information is not intended as a definitive statement of a commitment to specific levels of performance, function or delivery schedules with respect to any future products. Such commitments are only made in IBM product announcements. The information is presented here to communicate IBM's current investment and development activities as a good faith effort to help with our customers' future planning.

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput or performance improvements equivalent to the ratios stated here.

Prices are suggested U.S. list prices and are subject to change without notice. Starting price may not include a hard drive, operating system or other features. Contact your IBM representative or Business Partner for the most current pricing in your geography.

Photographs shown may be engineering prototypes. Changes may be incorporated in production models.

References in this document to IBM products or services do not imply that IBM intends to make them available in every country.

Trademarks of International Business Machines Corporation in the United States, other countries, or both can be found on the World Wide Web at http://www.ibm.com/legal/copytrade.shtml.