



Management of E-Services Infrastructure with HP OpenView

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www.inotech.com
800 InoTech



What We'll Cover

- The Opportunity
- The Implementation Approach
- Management of E-Services
- Glimpses of What You Get
- Cost, Time, and ROI

Who We Are

- InoTech: An Overview
 - Focus on Network, Systems, and Application Management Solutions
 - Resale/Strategic Partners
 - Network, Systems, and Application Management Consulting
 - Operations Management: Sys Admin and NOC
 - Management Application/Agent Development
 - One of Original 16 OpenView Channel Partners
 - OpenView Crystal Award Winner: E-Services Mgmt
 - One of Fastest 500 Growing Technology Firms



Who Are You ?

- Areas of Responsibility?
 - Systems, Network, Apps Only? All?
 - Number of Servers ?
 - Types of Systems ?
(HPUX, MPE, NT, OTHER)

Where Are You ?

<u>Level</u>	<u>Maturity</u>	<u>Processes</u>
4	Value	IT/Business Metric Linkage
3	Service	Capacity Planning, Service-Level Management
2	Proactive	Performance, Change, Problem Configuration, Availability Management Automation, and Job Scheduling
1	Reactive	Event Up/Down, Console, Trouble Ticket, Backup, Topology, Inventory
0	Chaotic	Multiple Help Desks, Non-Existent IT Operations, User Call Notification

The Opportunity

The Threshold for Pain for E-commerce Customers

What will end-users tolerate?

- 8 seconds maximum to show something on the page
- 20 seconds to complete the display
- 6 seconds for end user to decide to stay/leave
- 6 mouse-clicks maximum to find the desired information

And if the threshold is exceeded?

- Take their business to a competitor
- Hold on to their money
- Make use of a more costly channel - a call center, the local sales rep

The Opportunity

Costs
of Poor Customer
Experiences



\$4.35 billion per year lost in
total E-commerce sales due to
unacceptable end-user wait
times!

Zona Research

The Opportunity

The **competition** is a mouse-click away!



What **will it cost** your organization ?

- If e-shoppers get disconnected in the middle of lengthy sessions?
- If your sales reps and channels can't get their orders in at month-end?
- If your clients can't access your systems to enter their trades?
- If your customers go back to phone support because they couldn't access your website?

More traffic means **less revenue** if customers click away because of poor performance.



The Opportunity

Like it or not ... You're at bat

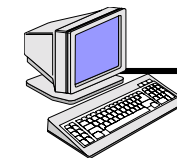
Your Company



Your Company.com

Customers Visit
Your Store

Customers Visit
Your Data Center

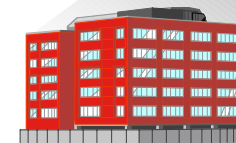
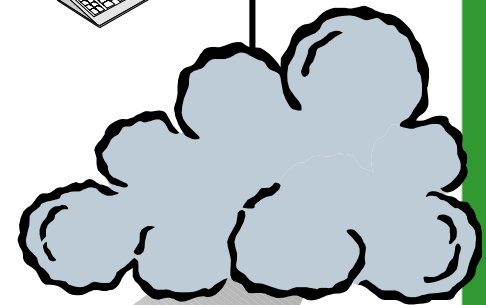


Personal
Interaction with
Customers

Electronic
Interaction with
Customers

Known Number of
Customers

Unknown
Number of
Customers



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Systems, Network, and Applications Management

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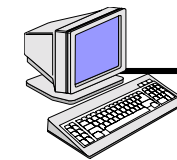


The Opportunity

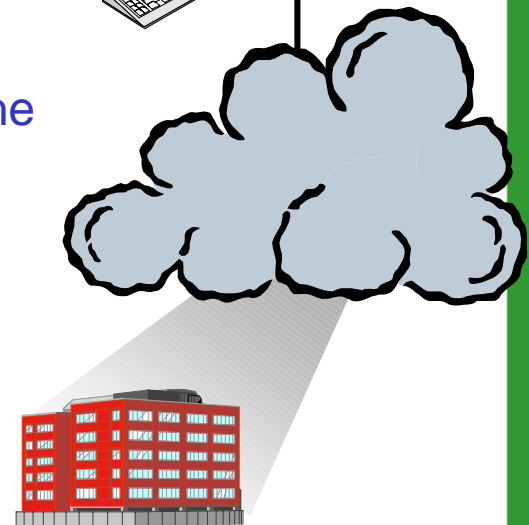
Like it or not ... **You're at bat** ... and the stadium is full



IT (you) **SUPPORT**
the Business



IT (you) **ARE** the
Business



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The Opportunity

Like it or not ... **You're at bat** ... and the stadium is full



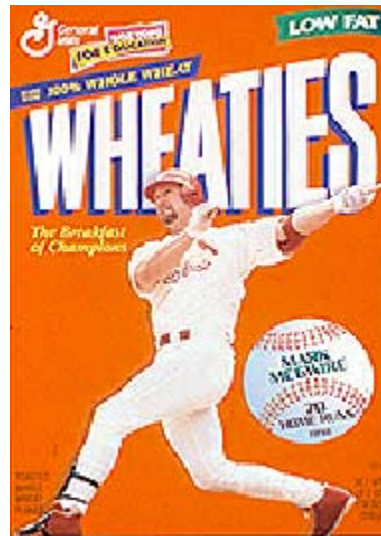
It's **your moment** to deliver

The Opportunity

And to make sure you do ... Apply technology and expertise



HP OPENVIEW



Agilent Technologies
Innovating the HP Way



The Opportunity

So you have an Effective Management System

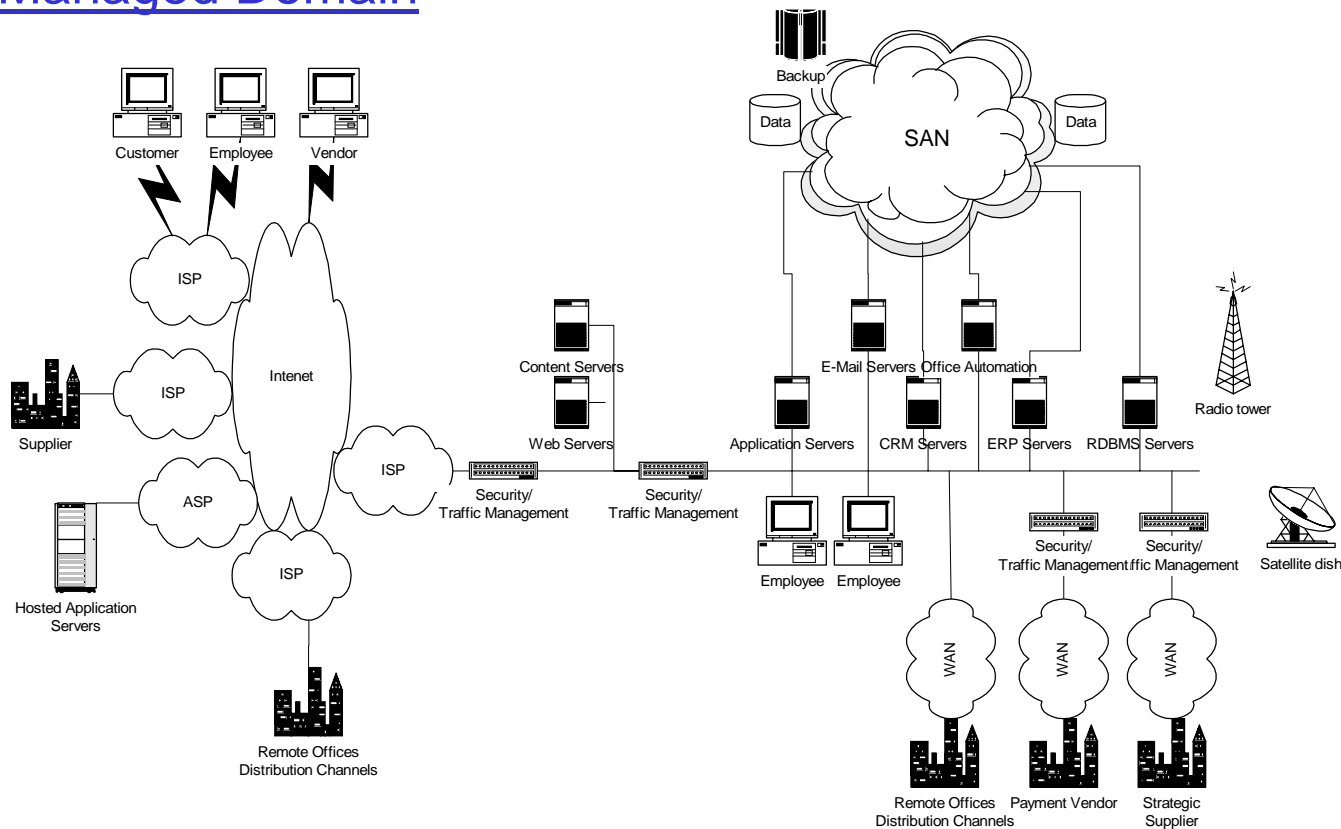


Which **Clearly** and **Quantitatively**

- ✓ Proactively *Prevents* Problems
- ✓ Quickly *Find* the Root Cause of Problems that Occur
- ✓ Monitor and Communicate the *Health* of Your Infrastructure
- ✓ Provide Useful *Business Metrics* to Senior Management
- ✓ Monitor and Report *SLO* and *SLA Status*
- ✓ Monitor and Report *Customer Satisfaction* Metrics

The Challenges

Typical Managed Domain





The Challenge

Security

Crackers

Storage Area Networks

Typical Shared Domain

Firewalls

Databases

Remote Access

Switches

Content Servers

Desktop Management

Hosted Applications

Web Servers

Payment Networks

ASPs

Proxy Servers

Web Cache

Bandwidth

Routers

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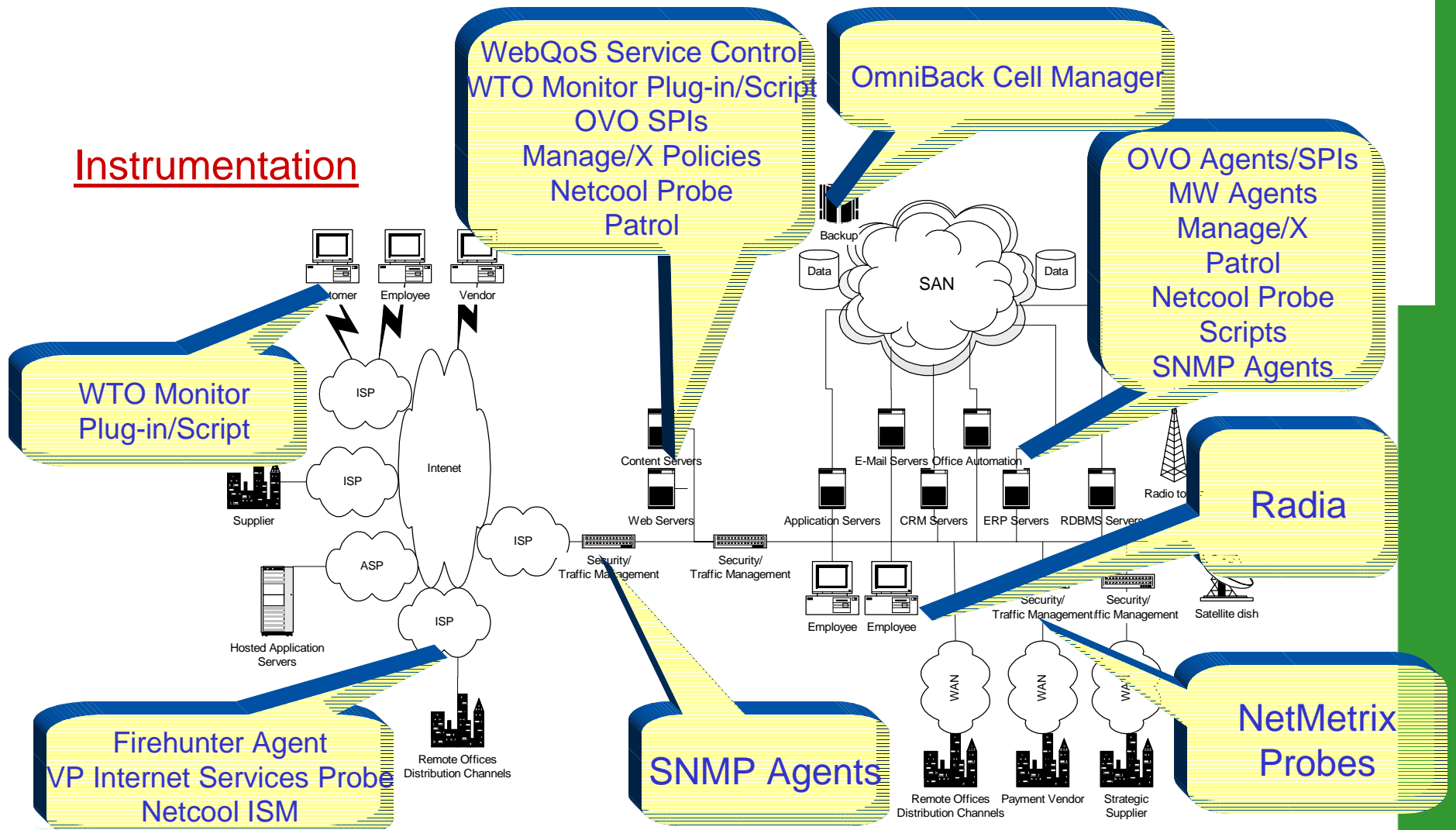
The Challenges

- Complex Infrastructure
- Responsibility Without Authority
- Demanding User/Customer Expectations
- IT Front and Center

Good Thing Your Budget Increased ...

Solutions

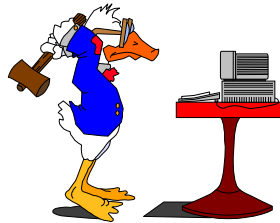
Instrumentation



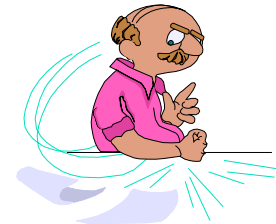
Solutions



Operators



Users



Management

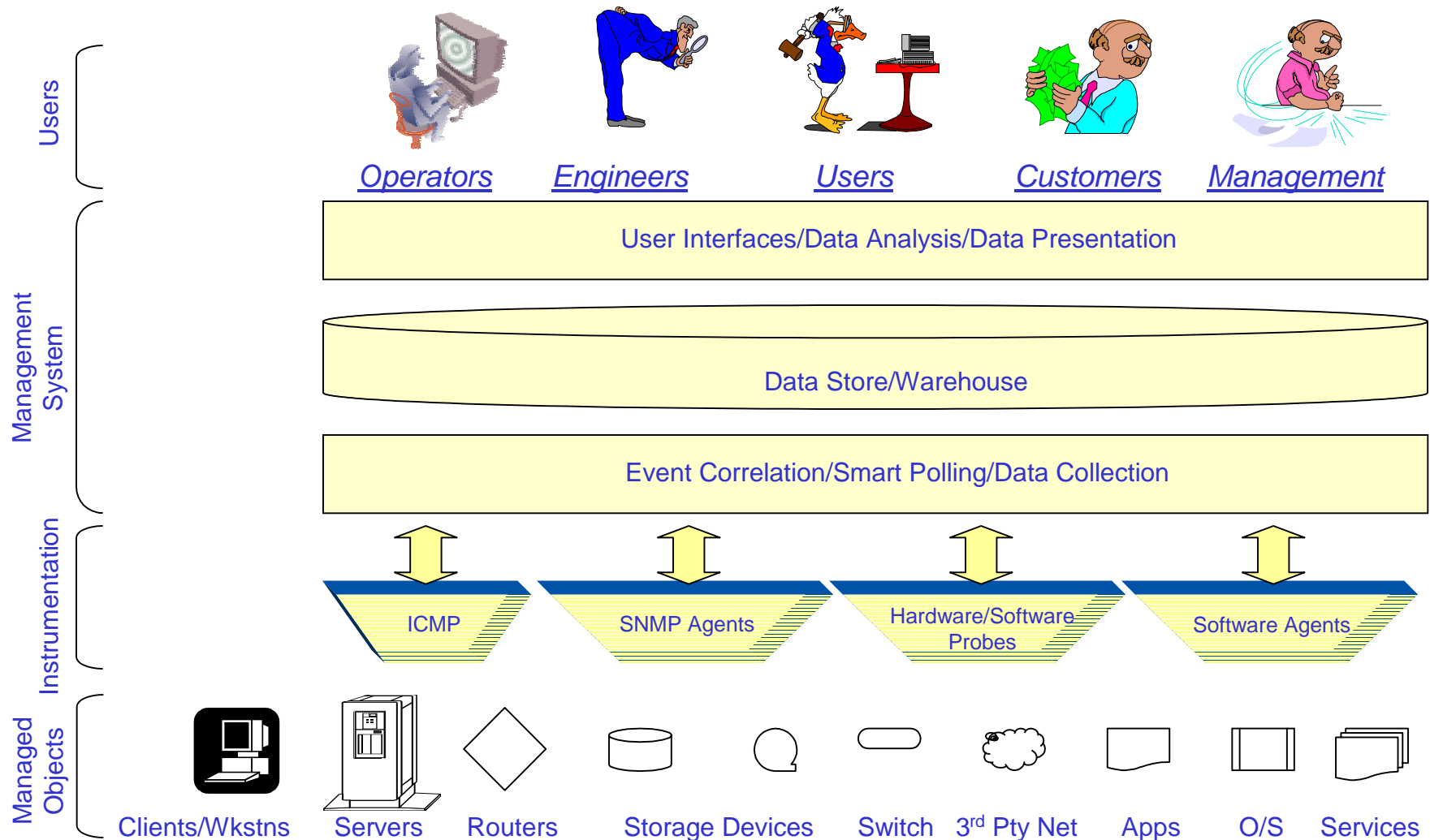


Engineers



Customers

Solutions



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Systems, Network, and Applications Management

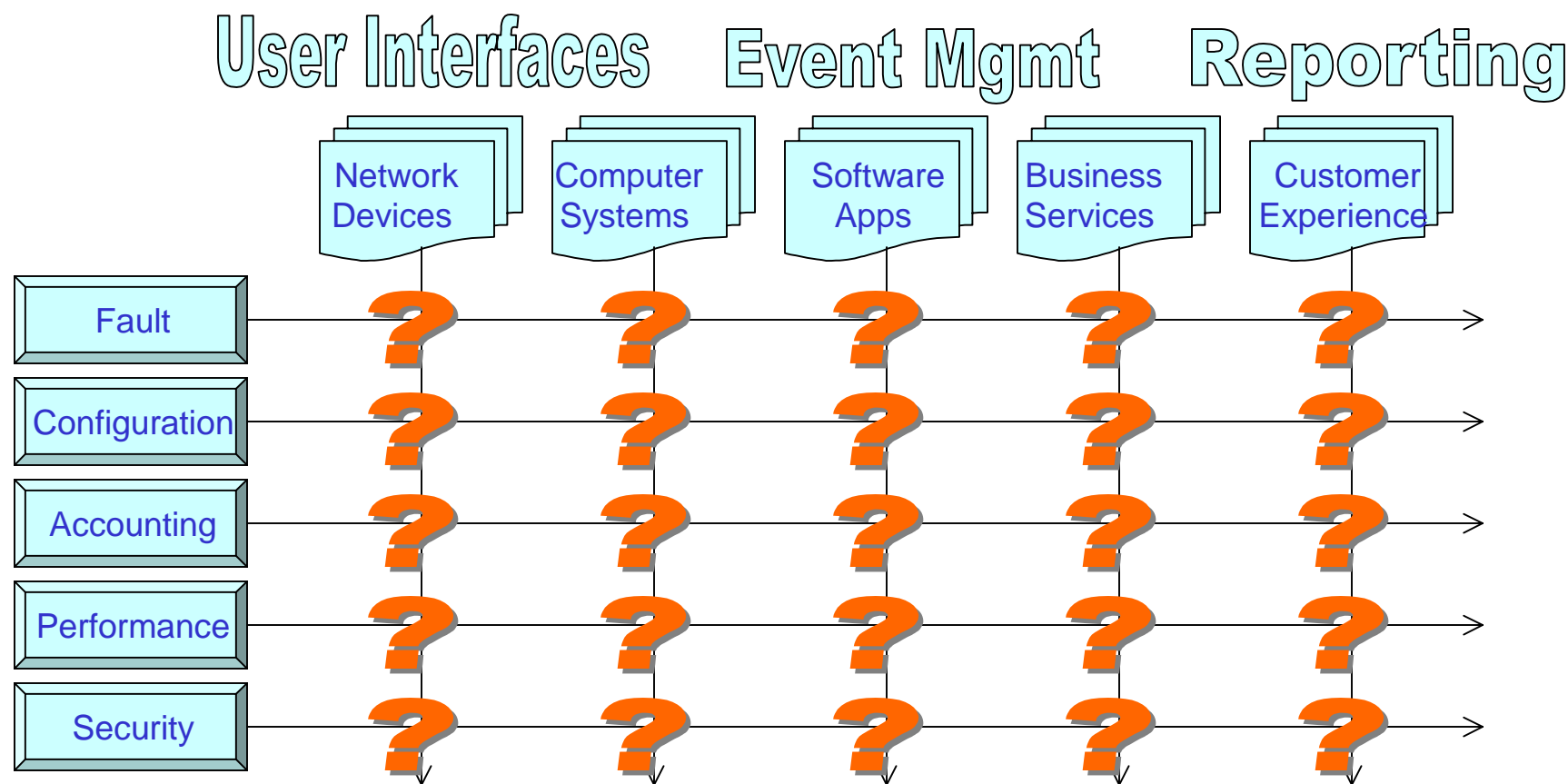
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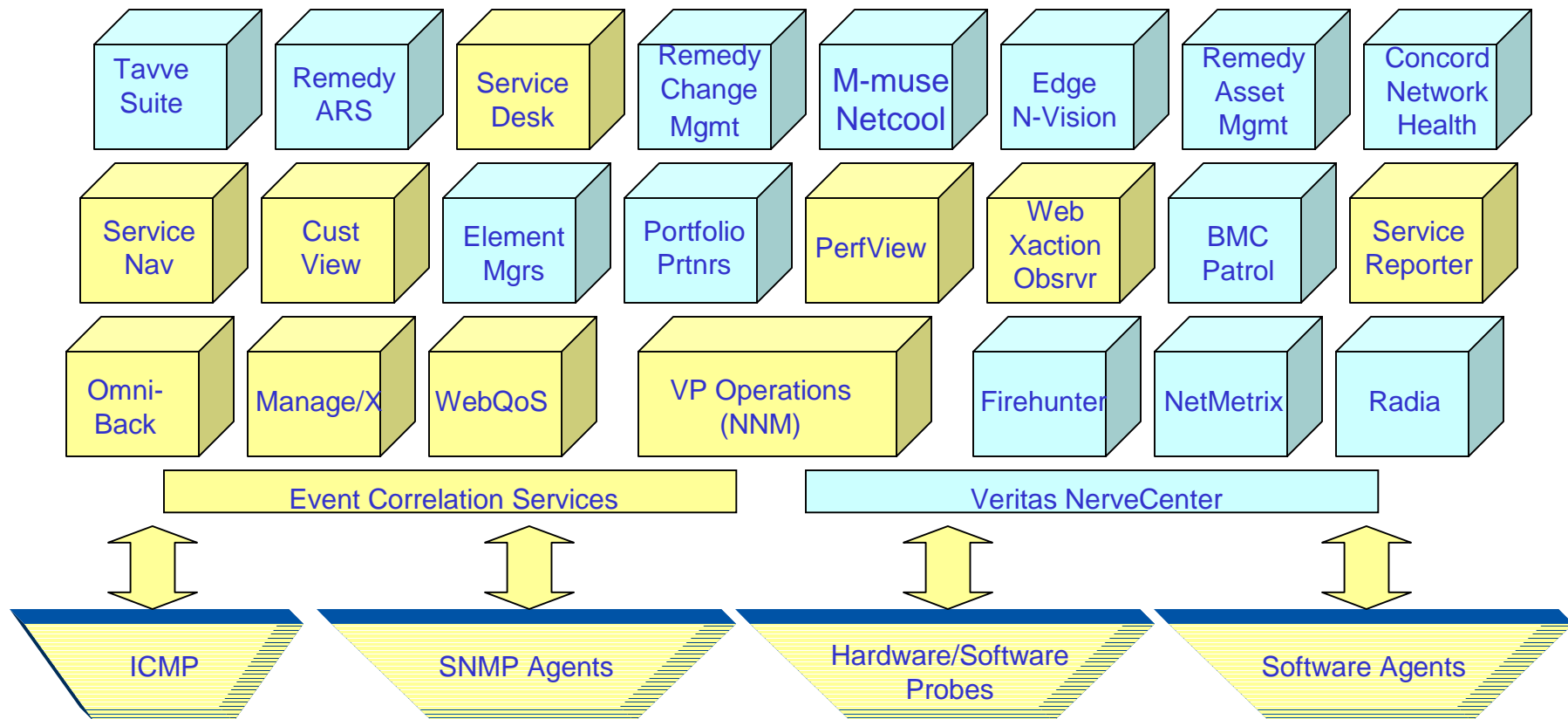
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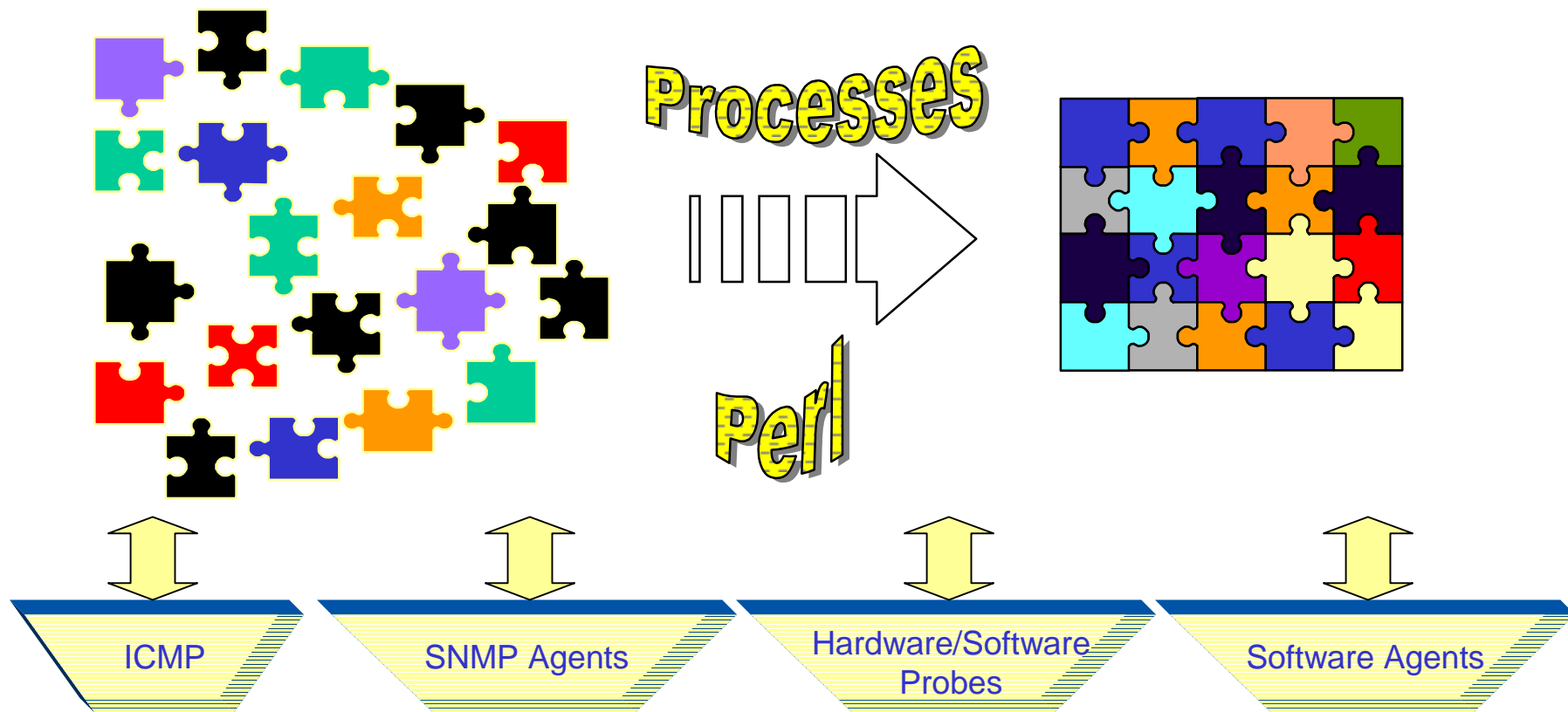
Solutions



Solutions



Solutions





The OpenView Family

management software

→ application management

Business application and computing resources support

→ availability management

Ensure availability of critical IT resources

→ network management

Keep your network devices up and running

→ performance management

Ensure performance of critical IT resources

→ service management

Centralizes control of all back office operations

→ systems management

Effectively monitor your entire computing environment

→ storage & data management

Ensures that the data is there when you need it

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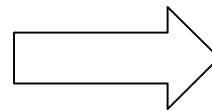
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- hp openview desktop administrator
- hp openview express
- hp openview IT administration
- hp openview managex
- hp openview response time workbench
- hp openview smart plug-ins
- hp openview vantagepoint database pak 2000
- hp openview vantagepoint internet services
- hp openview vantagepoint operations
- hp openview vantagepoint for windows

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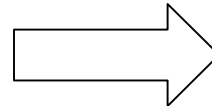
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- hp openview express
- hp openview glanceplus
- hp openview glanceplus pak 2000
- hp openview managex
- hp openview vantagepoint smart plug-ins
- hp openview vantagepoint database pak 2000
- hp openview vantagepoint operations
- hp openview vantagepoint reporter
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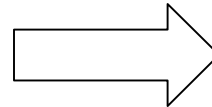
Centralizes control of all back office operations

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Ensures that the data is there when you need it



- hp openview communication/service assurance
- hp openview customer views for nrm
- hp openview express
- hp openview extensible snmp agent
- hp openview network node manager
- hp openview policyxpert
- hp openview vantagepoint reporter
- hp openview vantagepoint for windows



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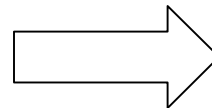
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- hp openview glanceplus pak 2000
- hp openview managex
- hp openview policyxpert
- hp openview smart plug-ins
- hp openview vantagepoint internet services
- hp openview vantagepoint operations
- hp openview vantagepoint performance
- hp openview vantagepoint reporter
- hp openview vantagepoint web transaction observer
- hp webqos



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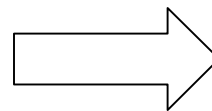
Centralizes control of all back office operations

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Effectively monitor your entire computing environment

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Ensures that the data is there when you need it



- hp openview service desk
- hp openview service information portal
- hp openview vantagepoint operations
- hp openview vantagepoint performance
- hp openview vantagepoint reporter
- hp openview vantagepoint smart plug-ins
- hp openview vantagepoint web transaction observer
- hp web qos



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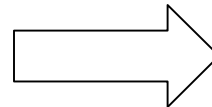
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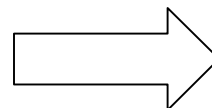
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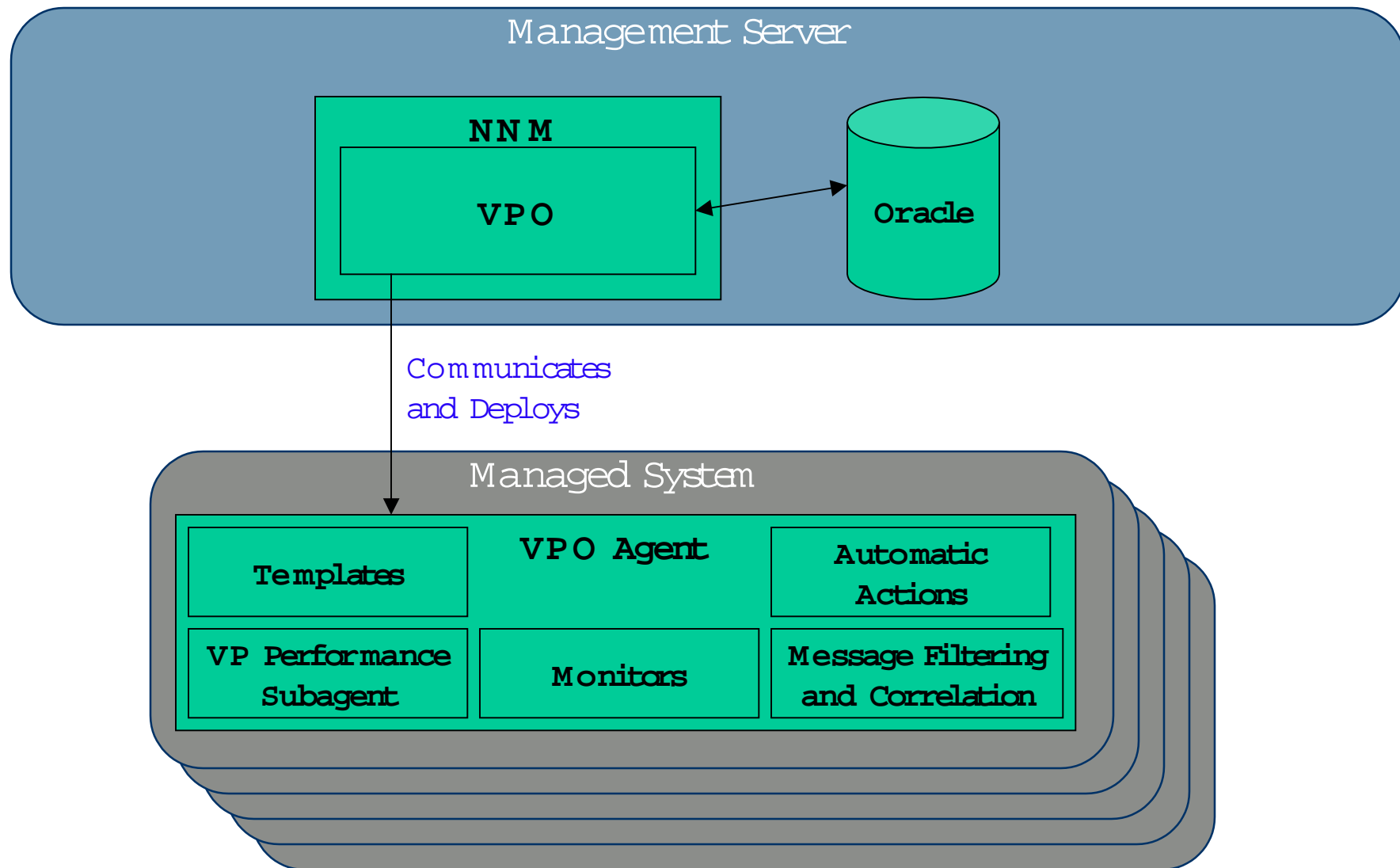
→ storage & data management

Ensures that the data is there when you need it



→ hp openview omniback II
→ hp openview omnistorage
→ hp openview express

IT Operations Mgmt – OpenView Operations



IT Operations Mgmt – OpenView Operations

OpenView Operations Agent


Collecting

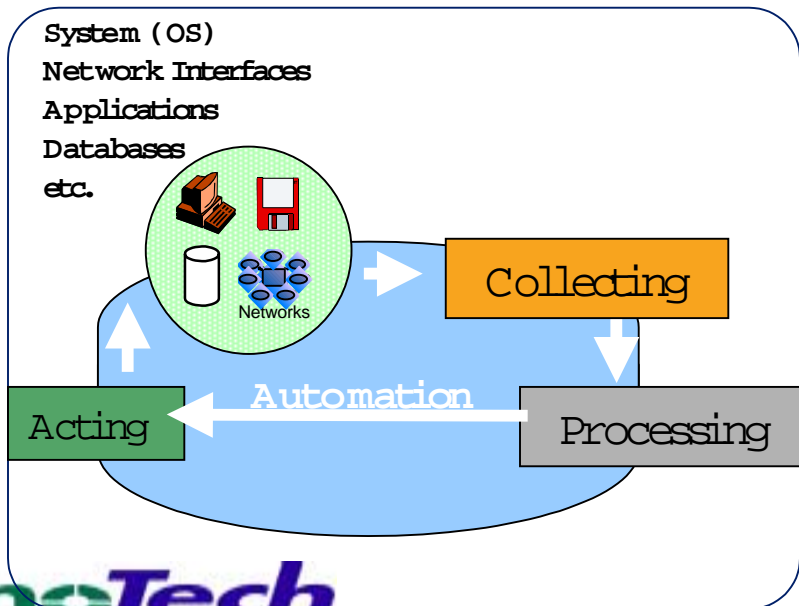
- ❖ SNMP traps & variables
- ❖ Application log files
- ❖ System messages
- ❖ User defined collection attributes

Processing

- ❖ Event filtering, prioritizing (critical, major, etc.), and grouping of messages
- ❖ Event correlation

Acting

- ❖ Buffering  messages if management system is down
- ❖ Forwarding messages to pre-defined OVO management servers
- ❖ Performing automatic action



IT Operations Mgmt – OpenView Operations

OpenView Operations Console

Collecting

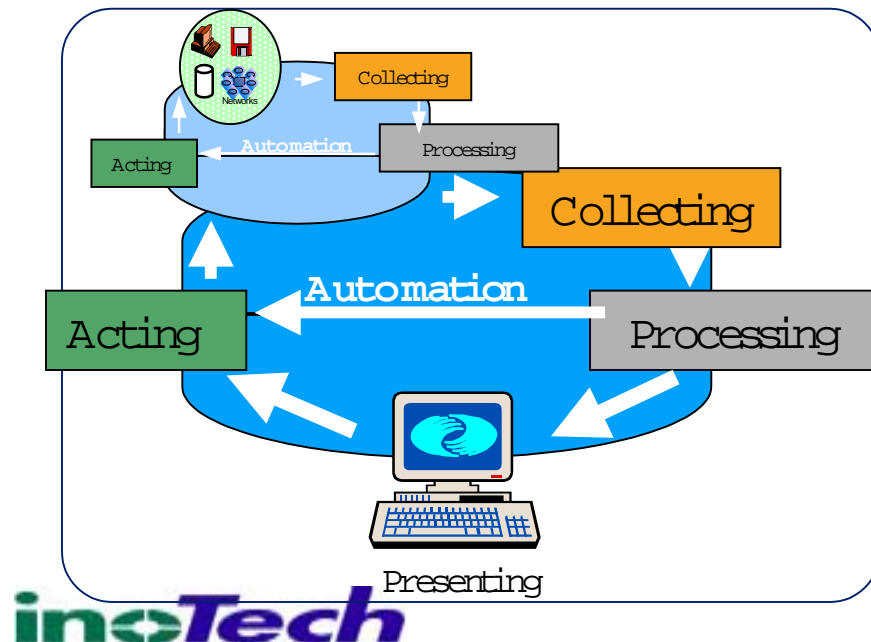
- ❖ Messages sent from agents via RPCs

Processing & Presentation

- ❖ Event correlation
- ❖ Central storage of events and configuration data
- ❖ Presentation of messages and problem resolution steps to responsible operators
- ❖ Forward Messages to trouble-ticket systems and to other management systems

Acting

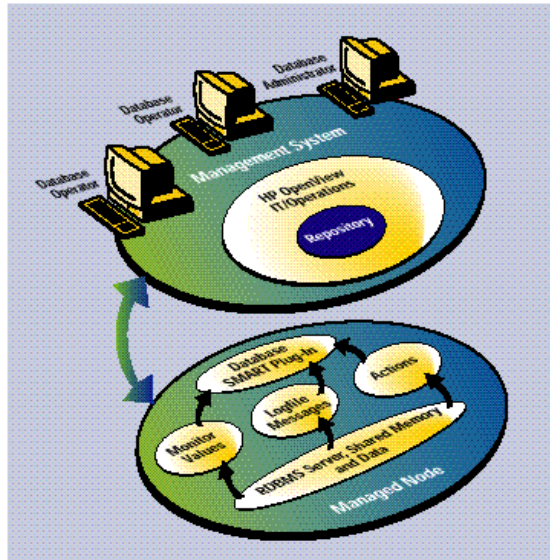
- ❖ Start any integrated application/script
- ❖ Operator-initiated actions & automatic actions
- ❖ Escalate to other management systems
- ❖ Triggering of external remote notification services (e.g., pager)



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IT Operations Mgmt – OpenView Operations/SPIs

SPI technology



❖ HP OpenView Operations SPIs

- SPI's sold by HP and channel partners
- Events, processes, actions, performance metrics, service reports/ views/discovery, transactions, etc.
- Full OpenView support

❖ SPI Gallery

- Free download from OV web
- Event, process monitoring and some actions
- Self-help community
- Co-marketed by ISV, included in SPI solutions guide
- Customers may make and submit enhancements

❖ Partner SPIs

- SPI's sold by partners
- Events, processes, actions, performance metrics, service reports, etc.
- Full support by partner
- Reference selling through SPI solutions guide

IT Operations Mgmt – OpenView Operations

Sample Smart Plug-Ins

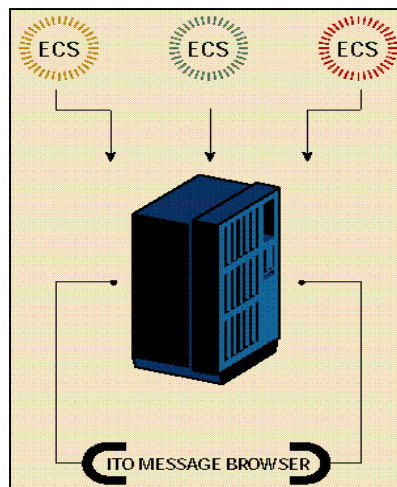


IT Operations Mgmt – OpenView Event Correlation

Event Correlation

What is Correlation?

- ❖ Correlate events from networks, systems, applications, databases, etc., resulting in reduced and more meaningful messages for the operators
- ❖ Correlation at central management server and local intelligent agents
- ❖ Integrate other correlation applications and use them as an additional information resource or to execute commands as part of the event processing ('annotate node')



ECS Runtime

- ❖ Included with OVO and NNM, enabling out-of-the box correlation

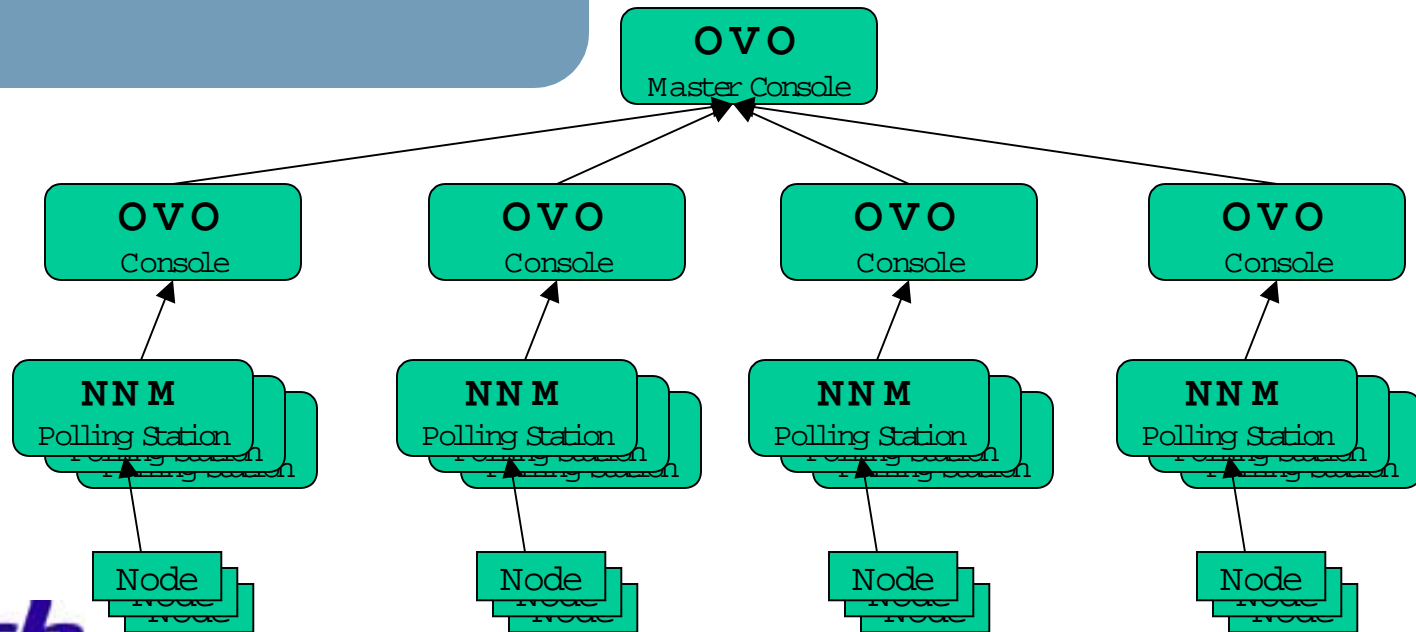
ECS Designer for OVO and NNM

- ❖ Ability to design new and edit default event correlation templates (circuits)
- ❖ Test, simulate and debug correlation rules

IT Operations Mgmt – OpenView Multi-Tier

Multi-Tiered Architecture

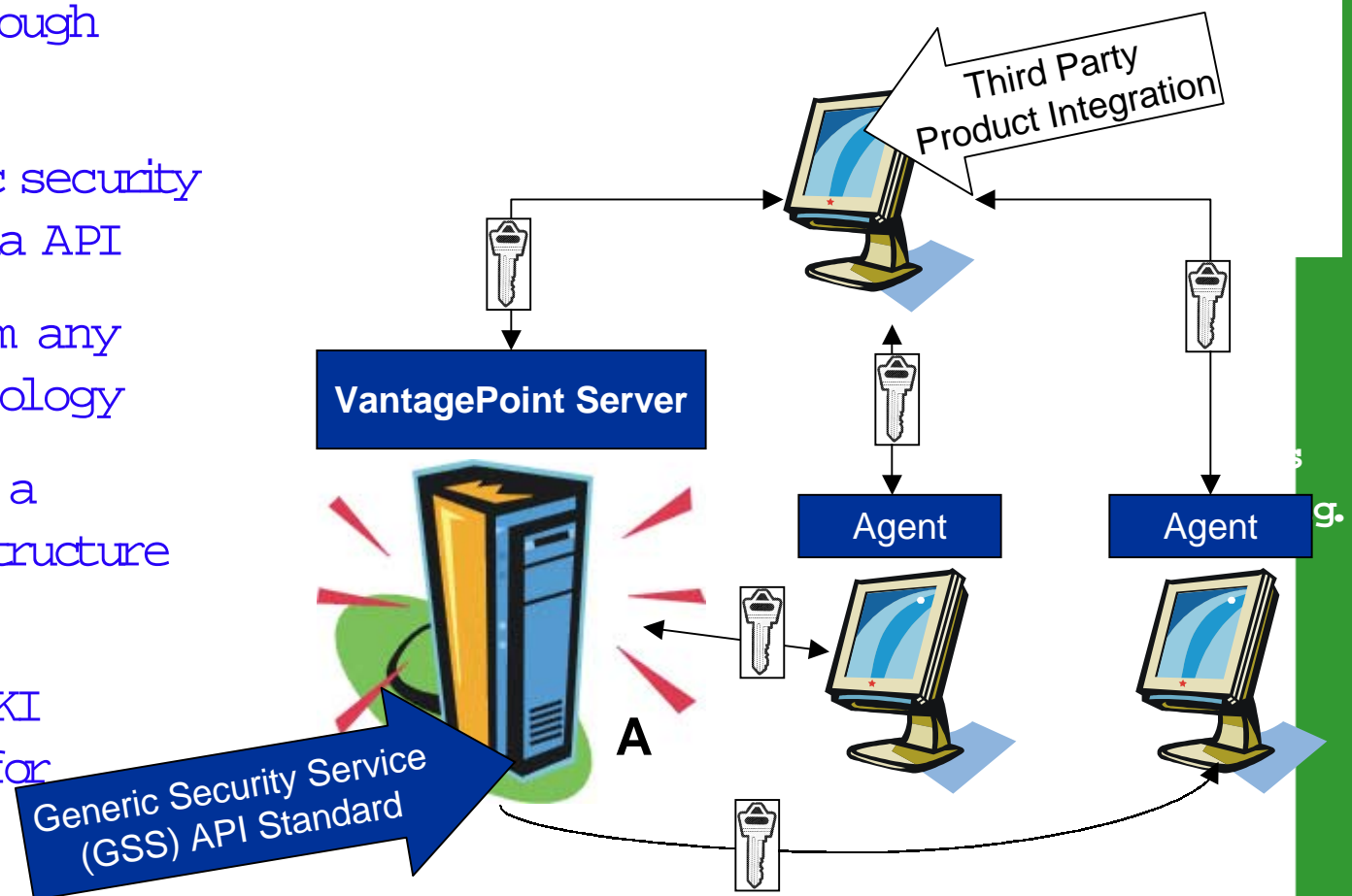
- ❖ Multiple NNM polling stations can report into a single OVO console
- ❖ Multiple OVO consoles can report into one “master” console
- ❖ Known as Managers of Managers or MoM .
- ❖ Allows OVO to scale into very large enterprises – Scalability
- ❖ Allows NNM to scale into very large NOCs



IT Operations Mgmt – OpenView Operations

Trusted management fabric via open and flexible security model

- ❖ management through firewalls
- ❖ supports generic security service (GSS) via API
- ❖ independent from any encryption technology
- ❖ allows to plug-in a public key Infrastructure (PKI)
- ❖ out-of-the-box PKI implementation for Entrust





The Implementation Approach



(Yeah, right ...)



The Implementation Approach

Iterative Process!

1. Understand Domain to be Managed

- IT Resource Perspective
(Yours and Vendors)
- Business Services Perspective
- Customer Perspective
- User Perspective



The Implementation Approach

2. Consider Value

- IT Now on Front-Line
- Basic Business Equation

$$\text{Revenue} - \text{Cost} = \text{Profit}$$



The Implementation Approach

3. Consider Revenue

- Ensure/Enhance Customer Experience
(Can't improve what you're not measuring)
- Collect Valuable Sales and Marketing Data
- Differentiate Your Organization
(Automated, real-time communication with customers)
- Stay In Front of Competitors
(Measure customer experience at competitors' sites)



The Implementation Approach

4. Consider Costs

(Direct, Indirect, Corporate Valuation)

- Downtime
- Performance Degradation
- Lost Customers/Orders
- Troubleshooting/Corrective Action
- Time To Effectiveness for New IT Ops Staff



The Implementation Approach

5. Deploy

- Instrumentation
- Technology Integration
- Event Flow, Data Collection and Data Management
- User Interfaces - Ops, Escalation, Mgmt, Customers
- Reporting



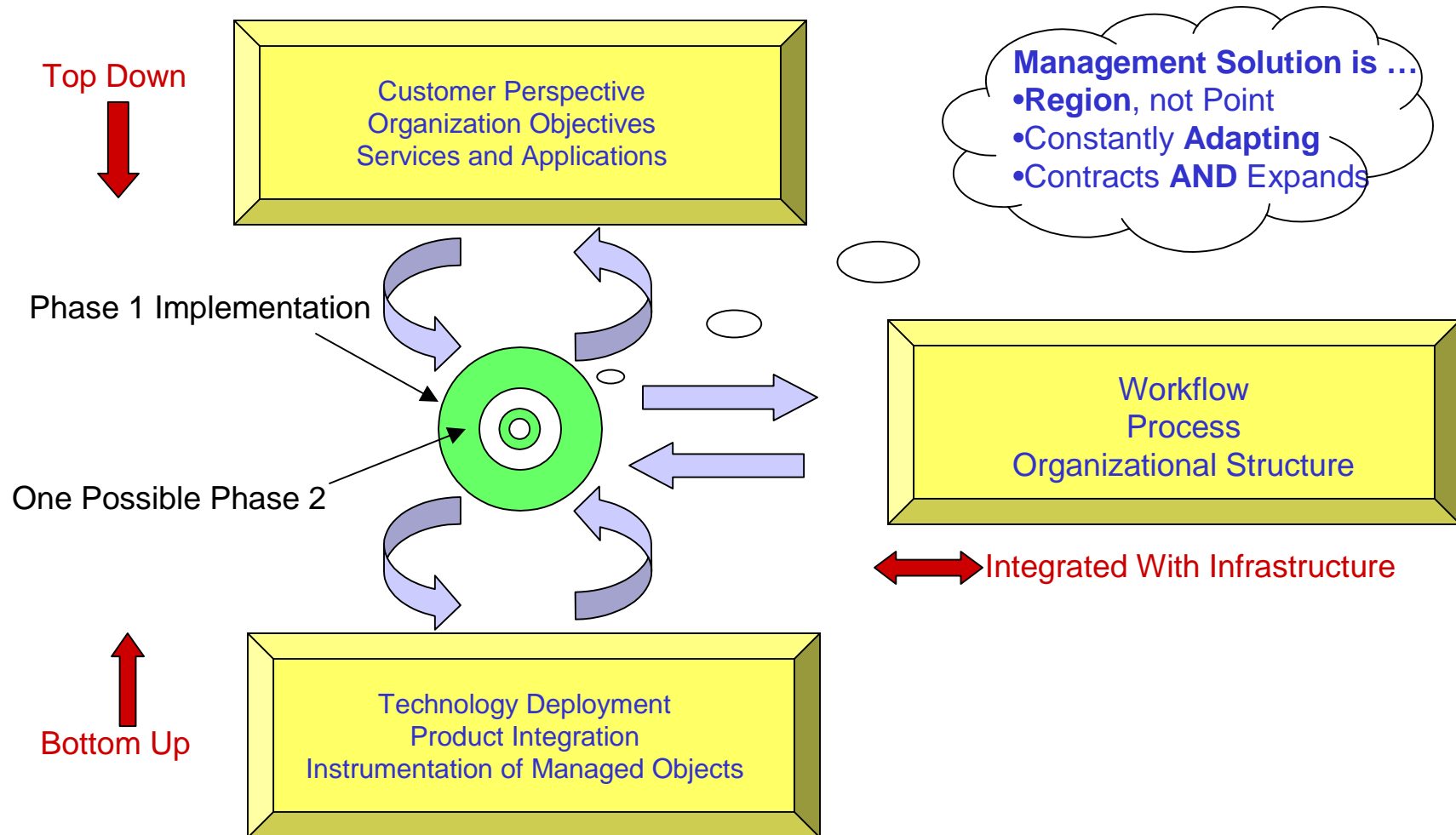
The Implementation Approach

5. Deploy (cont'd)

- Go for High Value/ROI (IRR)
- 80/20 Rule: Get the Basics
- Go for the Pain & What's Important
- Set-up for Success: SMART Objectives

The Implementation Approach

Rapid Value and Adaptability ...





The Implementation Approach

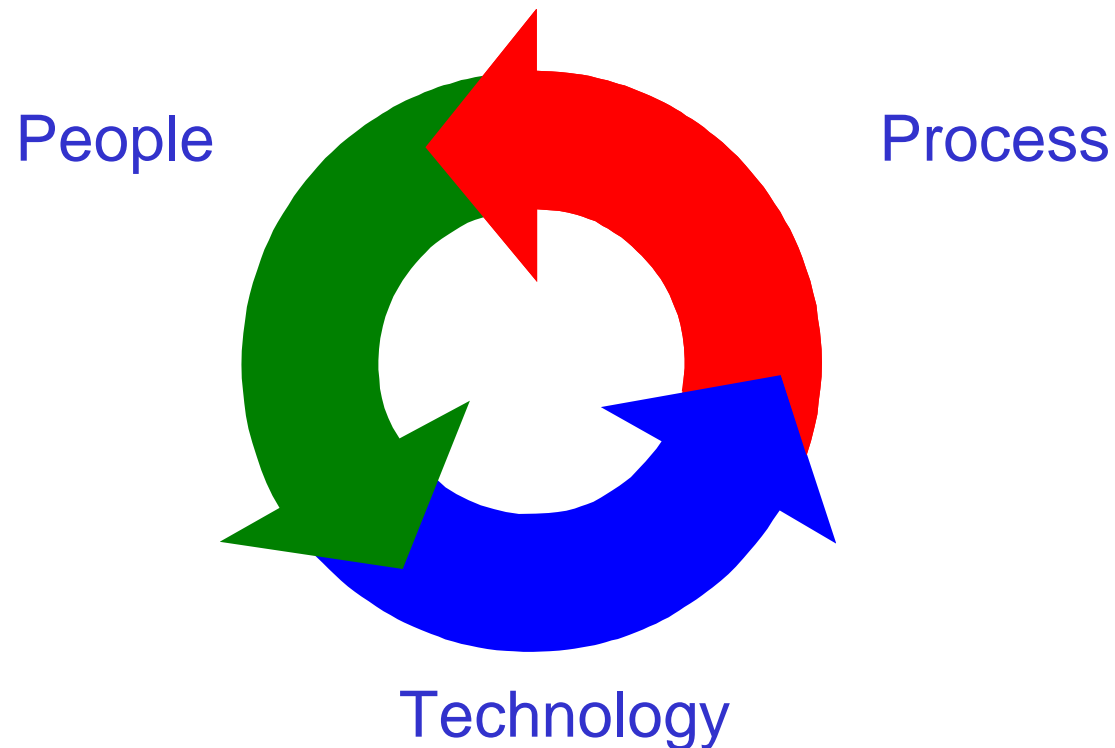
6. Operate

- People
- Process/Work Flow/Change Management
- Key Performance Indicators/Metrics (Mgmt System)
- Management of Management System
- Minor Enhancements & Capture Knowledge



The Implementation Approach

6. Operate - Balance





The Implementation Approach

7. Quarterly Review

- Changes in Managed Domain (Infrastructure, Scale)
- Opportunities for Value and Cost Savings
- Key Performance Indicators/Metrics (Mgmt System)
- Last Quarter's Events, Problems, Outages
- Captured Institutional Knowledge



The Implementation Approach

8. Quarterly Management System Enhancement

- Additional Instrumentation
- Integration/Upgrade/Patching of Components
- Process/Work Flow Changes
- Training of New Personnel
- Changes to Event Flow, Data Collection, and Data Mgmt



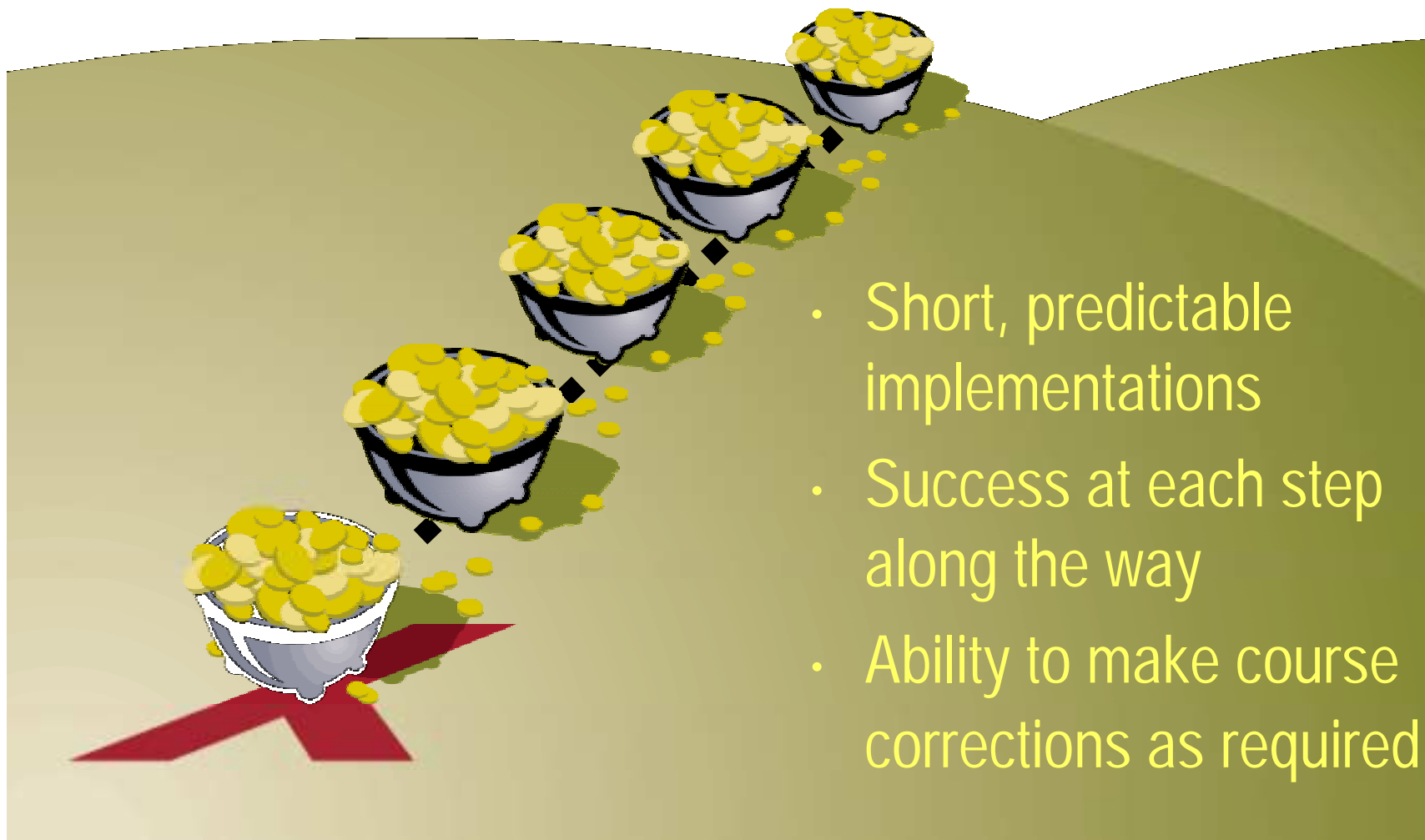
The Implementation Approach

8. Quarterly Management System Enhancement (cont'd)

- Enhance User Interfaces: Ops, Escalation, Mgmt, Customers
- Enhance/Expand Reporting

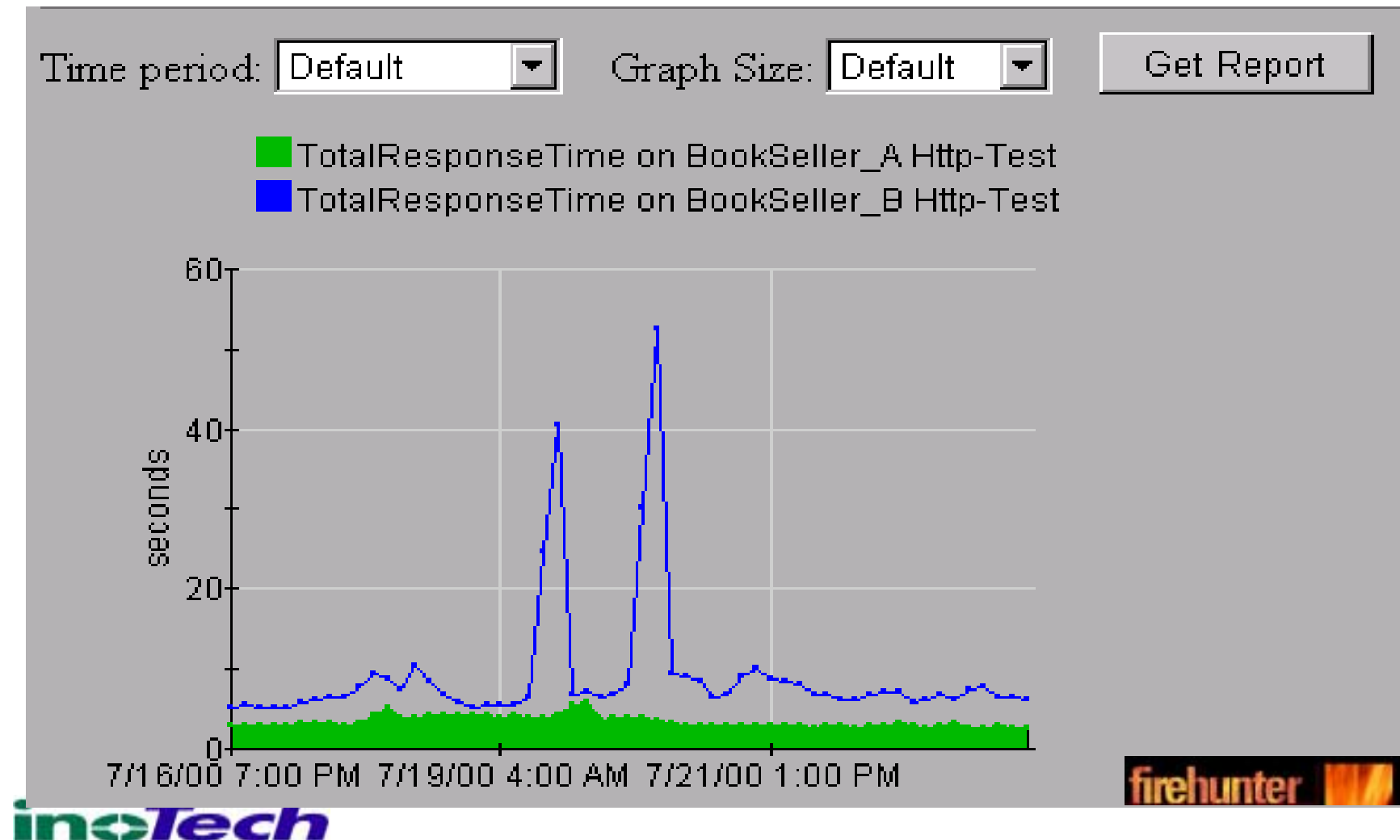


The Implementation Approach

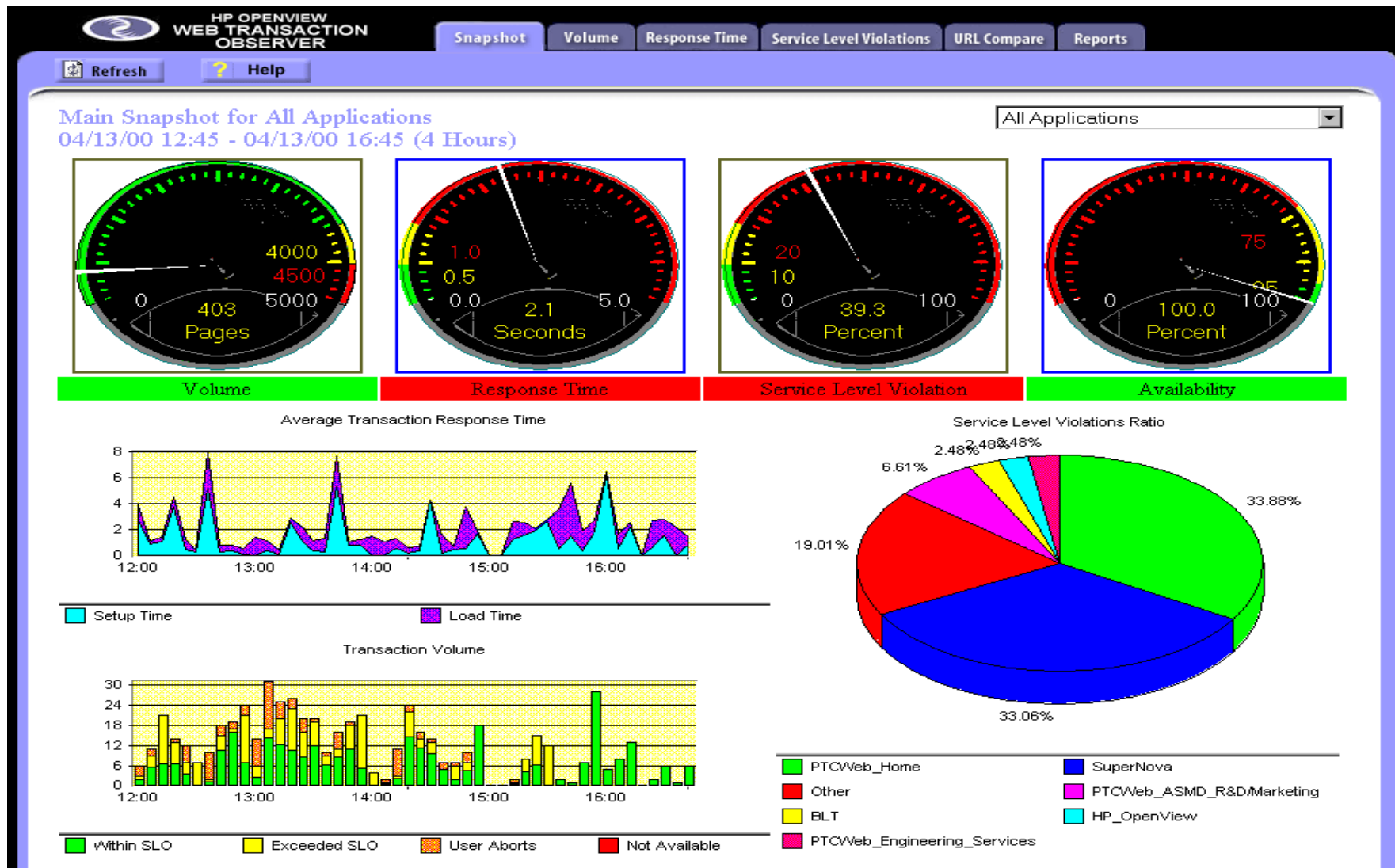




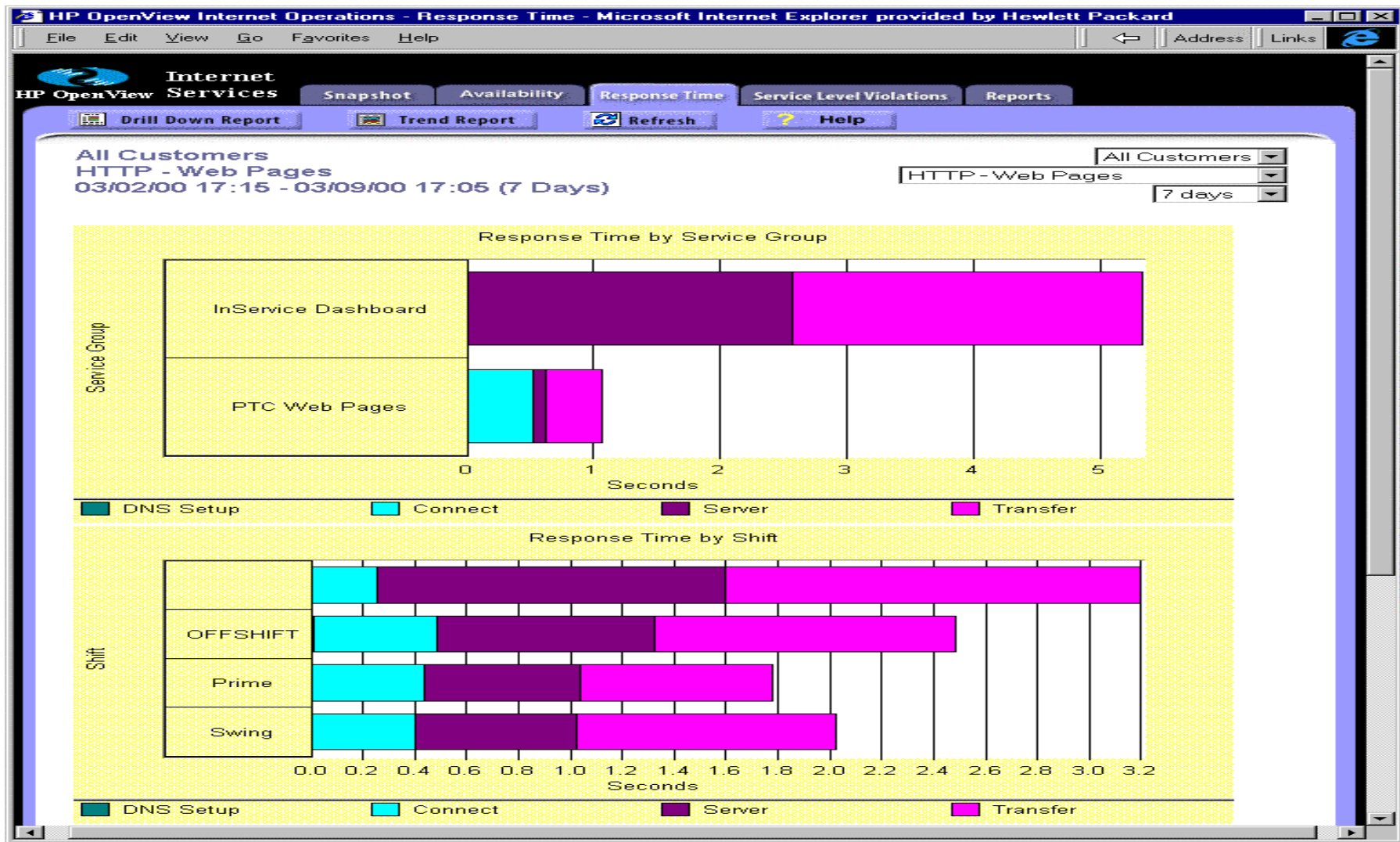
Glimpses of What You Get – Customer Experience



Glimpses – Customer Experience



Glimpses – Customer Experience



Glimpses – Customer Experience

Action Request System -- User Tool

File Edit Query Actions Macros

Finding no solutions matching his problem, Joe completes and submits the form.

Your Profile

Employee ID+ Last Name First Name

3000 User Joe

Case Information

Category Type Item Affected

Software Web Browser Web Wanderer

Short Description Impact

Cannot access http://www.remedy.com Low

Details

I get "can't access document - Error 500".
No match in Self Help.

Self Help

Possible Solution Search Keyword

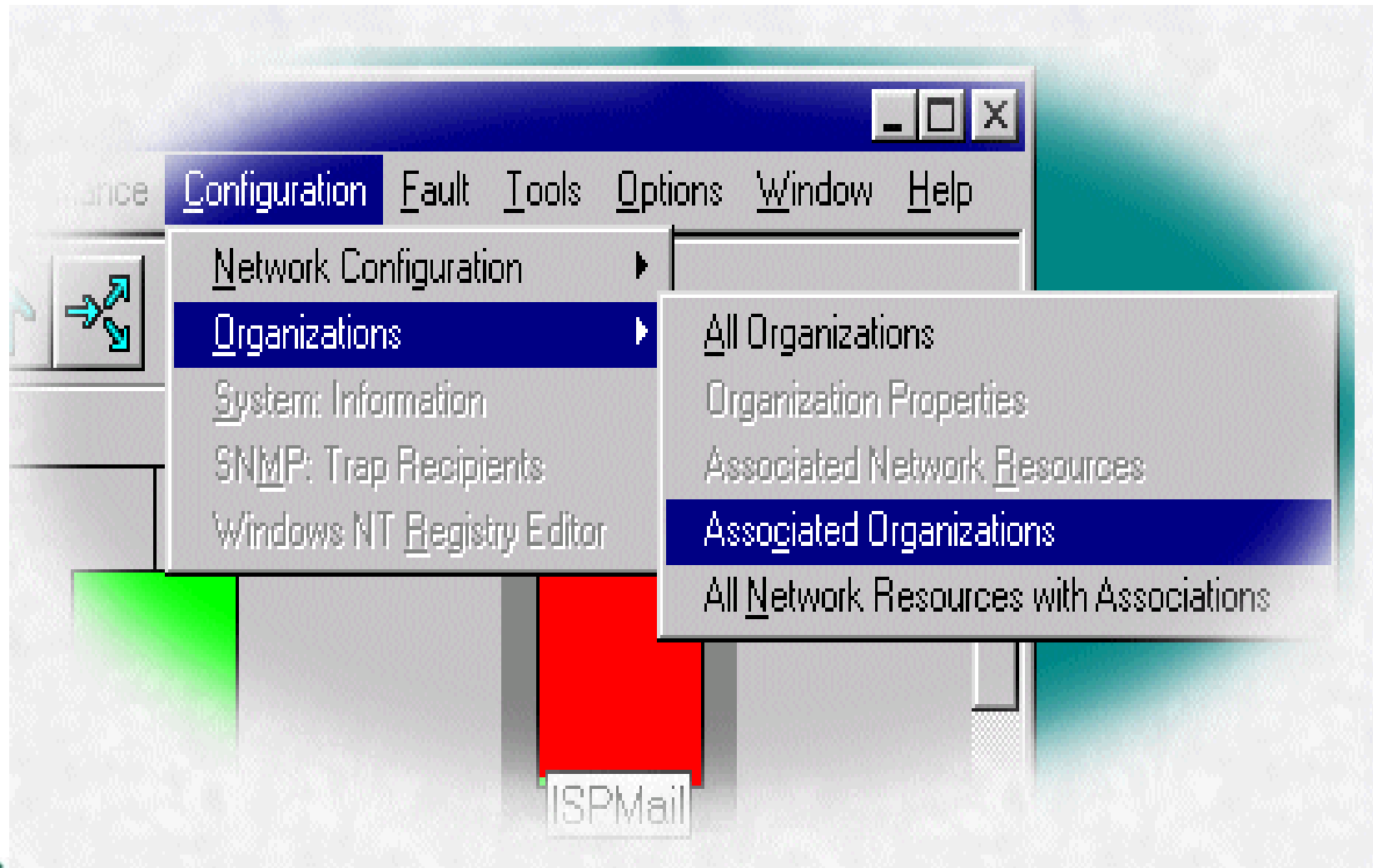
Search

Possible Solutions becomes available upon selection of a Category and a Type.

Search the Knowledge Base by entering data in Category, Type, or Search Keyword and selecting Search.

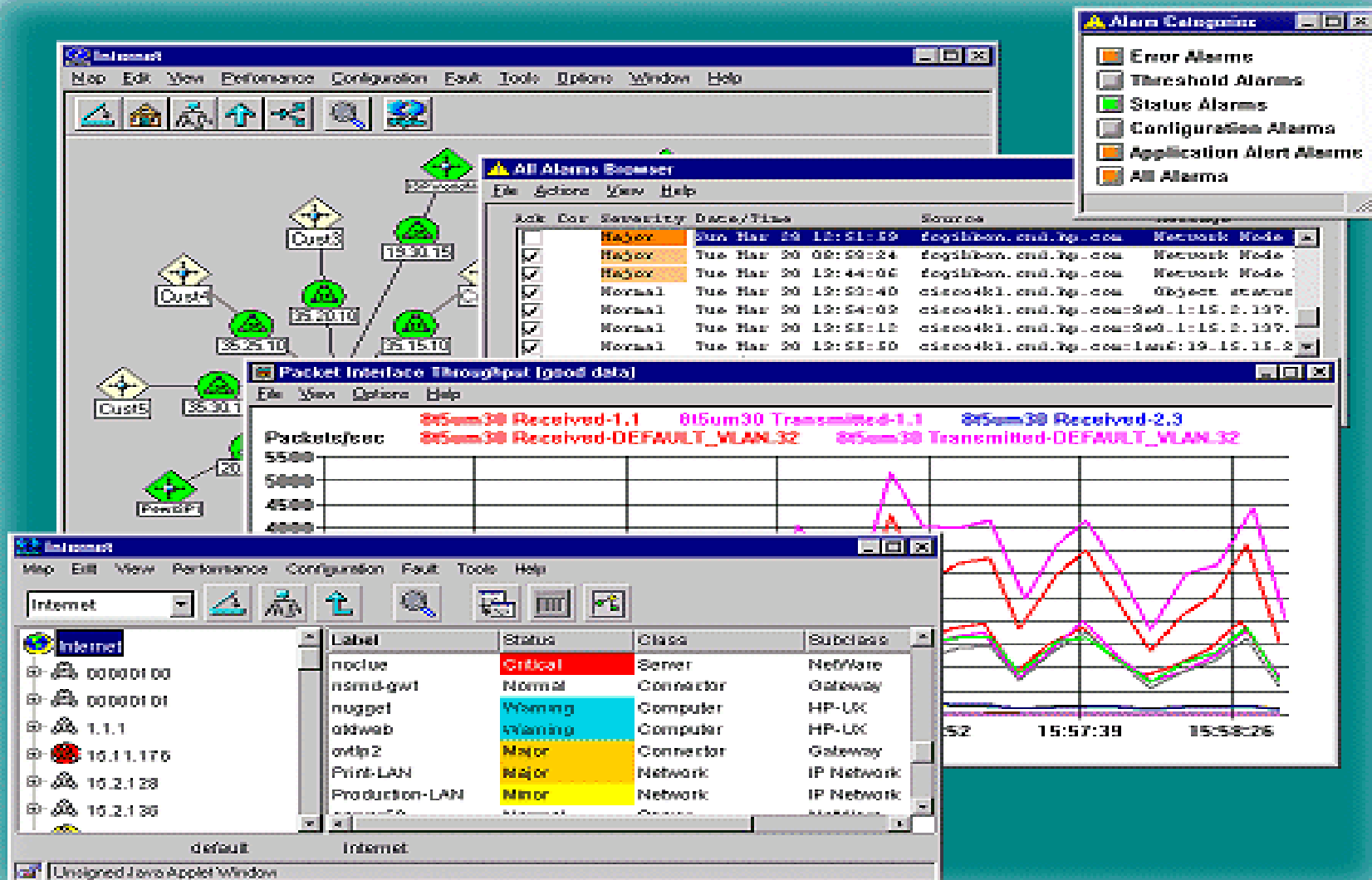
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Glimpses – Customer Perspective





Glimpses – Integrated Tools



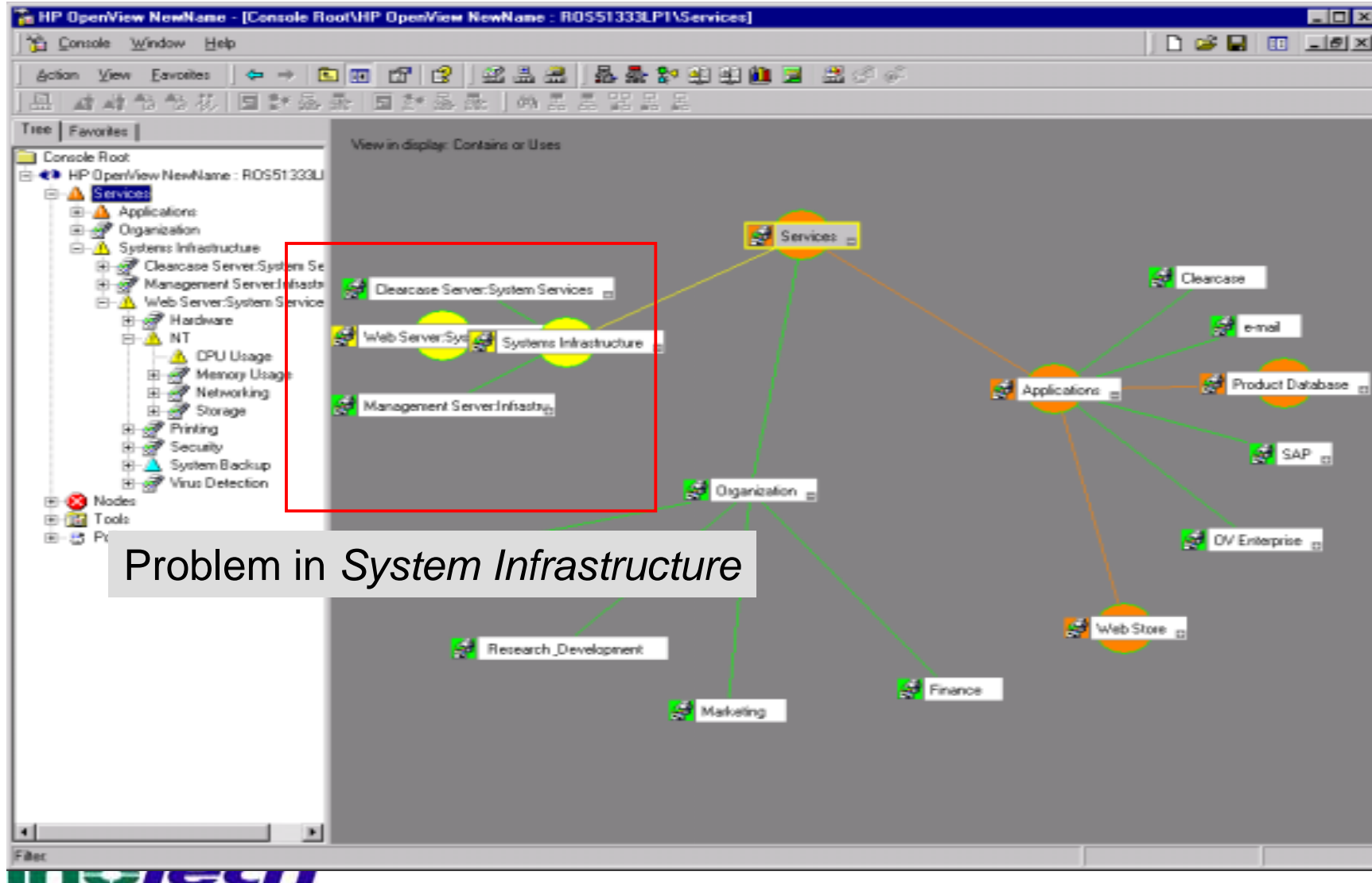
Glimpses – Integrated Tools

The screenshot displays three windows from the Glimpses integrated tools suite:

- ITO Message Group Bank:** A window showing a grid of icons representing various system components like Backup, DBSP, Database, EXSPI, EX_Fault, EX_Perf, Hardware, IOPS_HTTP, Job, Misc, NetWare, Network, OS, OVIS_ICMP, OpC, Ora_Admin, Ora_Conf, Ora_Fault, Ora_Perf, Output, Performance, SNMP, Security, OVIS_DNS, OVIS_POP3, OVIS_NNTP, OVIS_SMTP, OVIS_HTTP, OVIS_HTTPS, OVIS_FTP, and OVIS_Radius.
- ITO Node Bank:** A window showing icons for specific nodes: curly, fc-moe, curley, nadine, garlic, HoldingArea, and IOPS.
- Message Browser [opc_adm on garlic.cnd.hp.com]:** A window displaying a list of messages with columns for Sev., SUIAONE, Date, Time, Node, Application, Message, Object, and Message Text. The messages are sorted by time and show various service response times and availability status.

At the bottom of the Message Browser window, there is a summary bar with colored boxes indicating message counts: 5 (red), 4 (orange), 2 (yellow), 2 (cyan), 0 (green), 0 (blue), 0 (pink), and 0 (white). Below this bar are buttons for 'Own', 'Highlight', 'Details...', 'Perform Action', 'Annotations...', and 'Acknowledge'. A checkbox for 'Autoscroll On' is also present.

Glimpses – Business Perspective



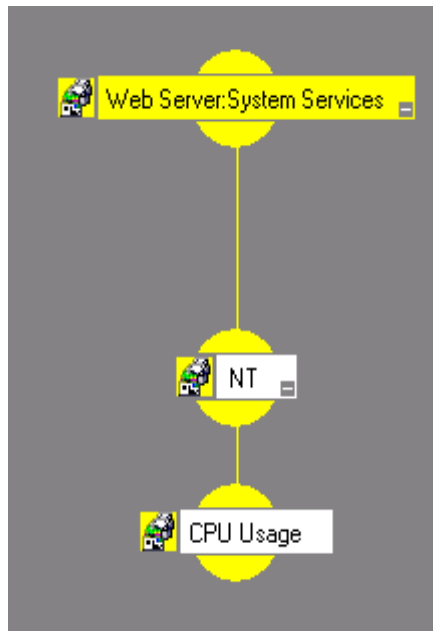


Event affecting Webserver (Yellow = Minor) What is the root cause?

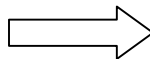
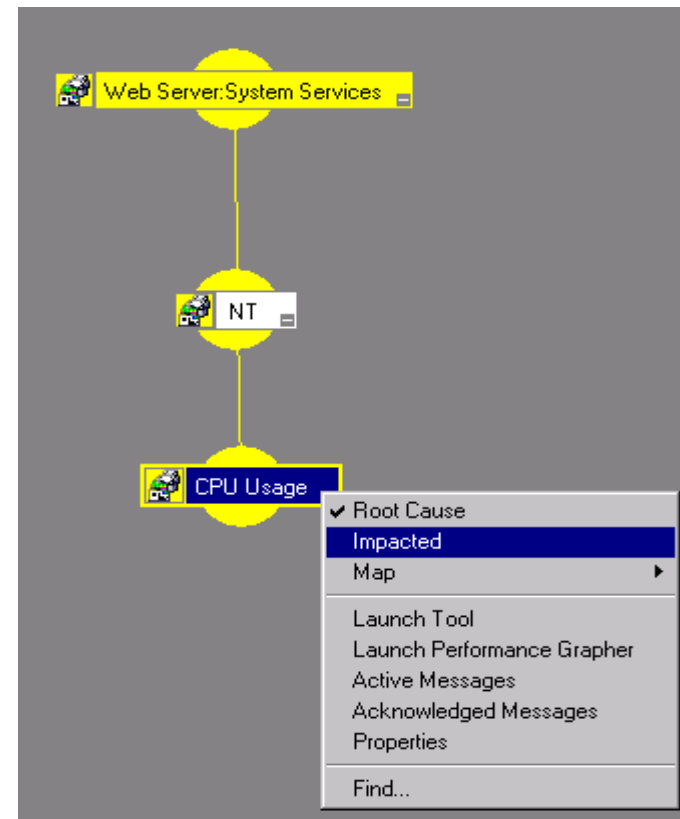


Glimpses – Visualization/Context

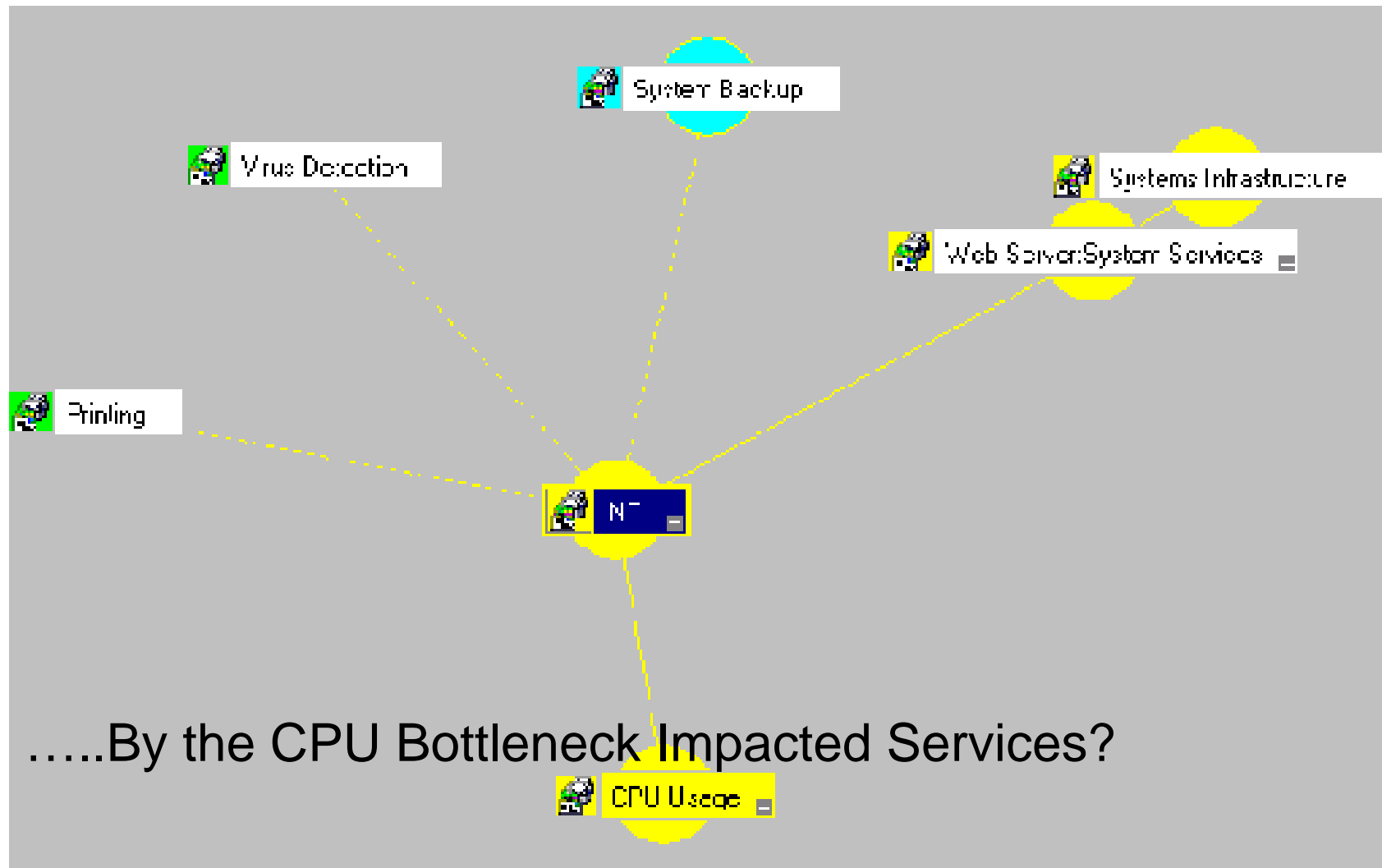
Root Cause: CPU bottleneck



What else is impacted by this CPU bottleneck?

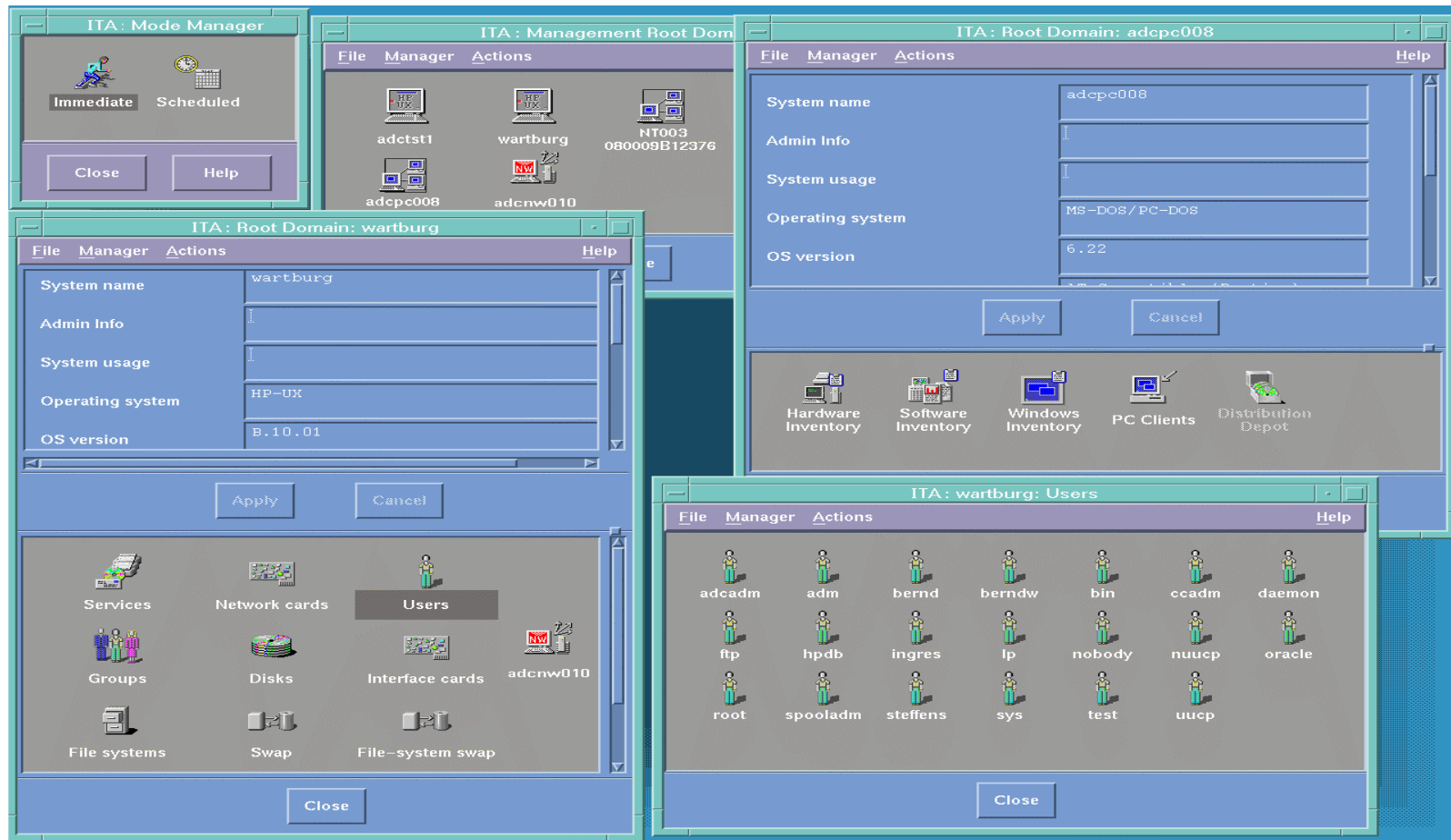


Glimpses – Visualization/Context





Glimpses – Institutional Knowledge/Process Integration





Glimpses – Support Business Strategy

HP WebQoS

File Actions Help

Filter Statistics Edit Copy

WebQoS
THE WEB EXPRESSWAY

Services

- My Domain
 - BigCompany
 - hpntc2k
 - www.BigCompanyStore.com
 - www.BigCompanySupport.com
 - SmallCompany
 - hpntc2k
 - www.SmallComapny.com

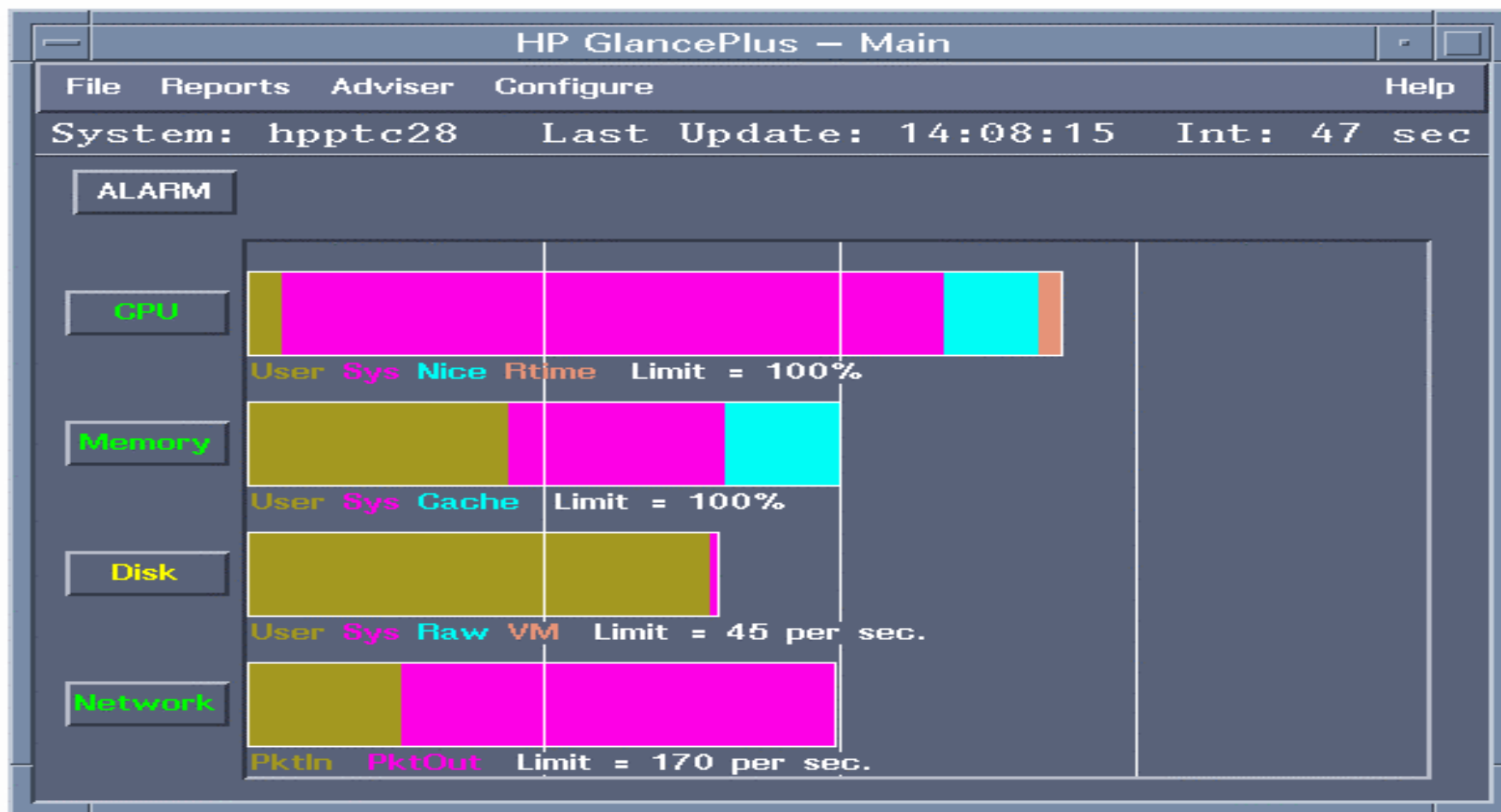
Service level objectives for www.BigCompanyStore.com in BigCompany on hpntc2k

Status	Priority	Component	Objective
Violation	3	www.BigCompanyStore.com	Support up to 90% CPU load on hpntc2k.cup.hp.com in v
Risk	2	www.BigCompanyStore.com	Support at least 100 concurrent session(s) in www.BigCo
Compliance	1	www.BigCompanyStore.com	Maintain less than 5 millisecond average response time

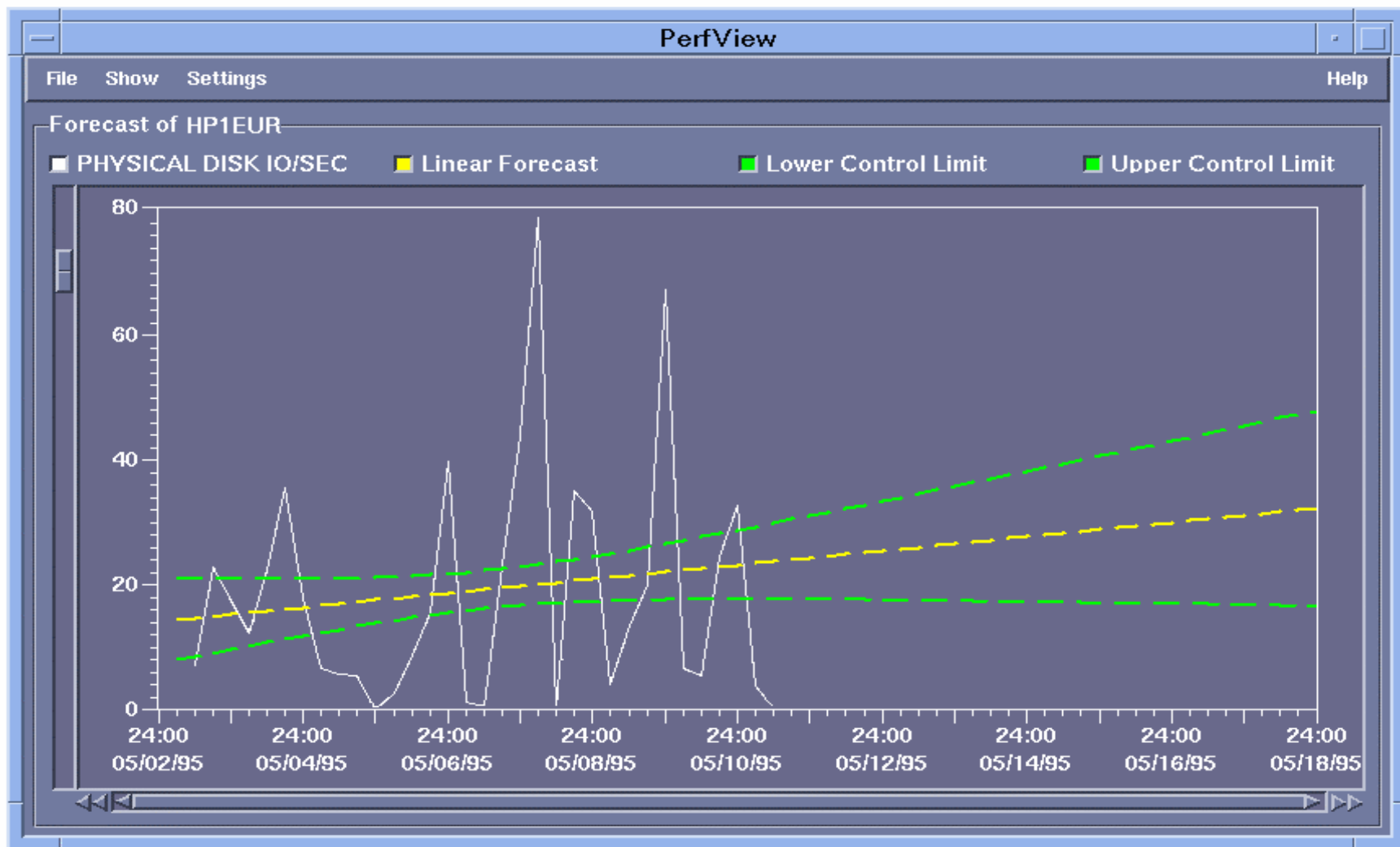
1 1 1 0



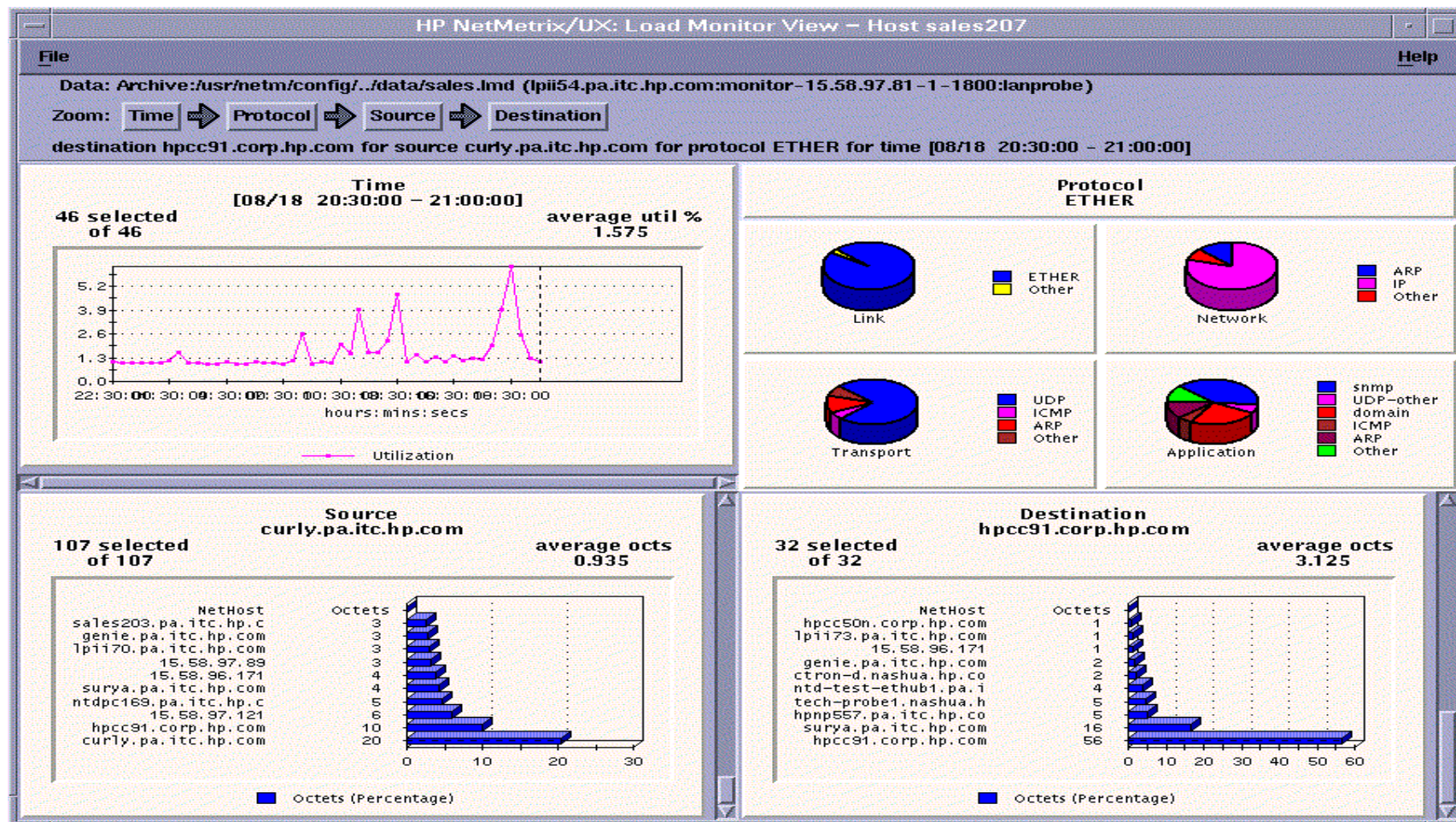
Glimpses – Real-Time Server Management



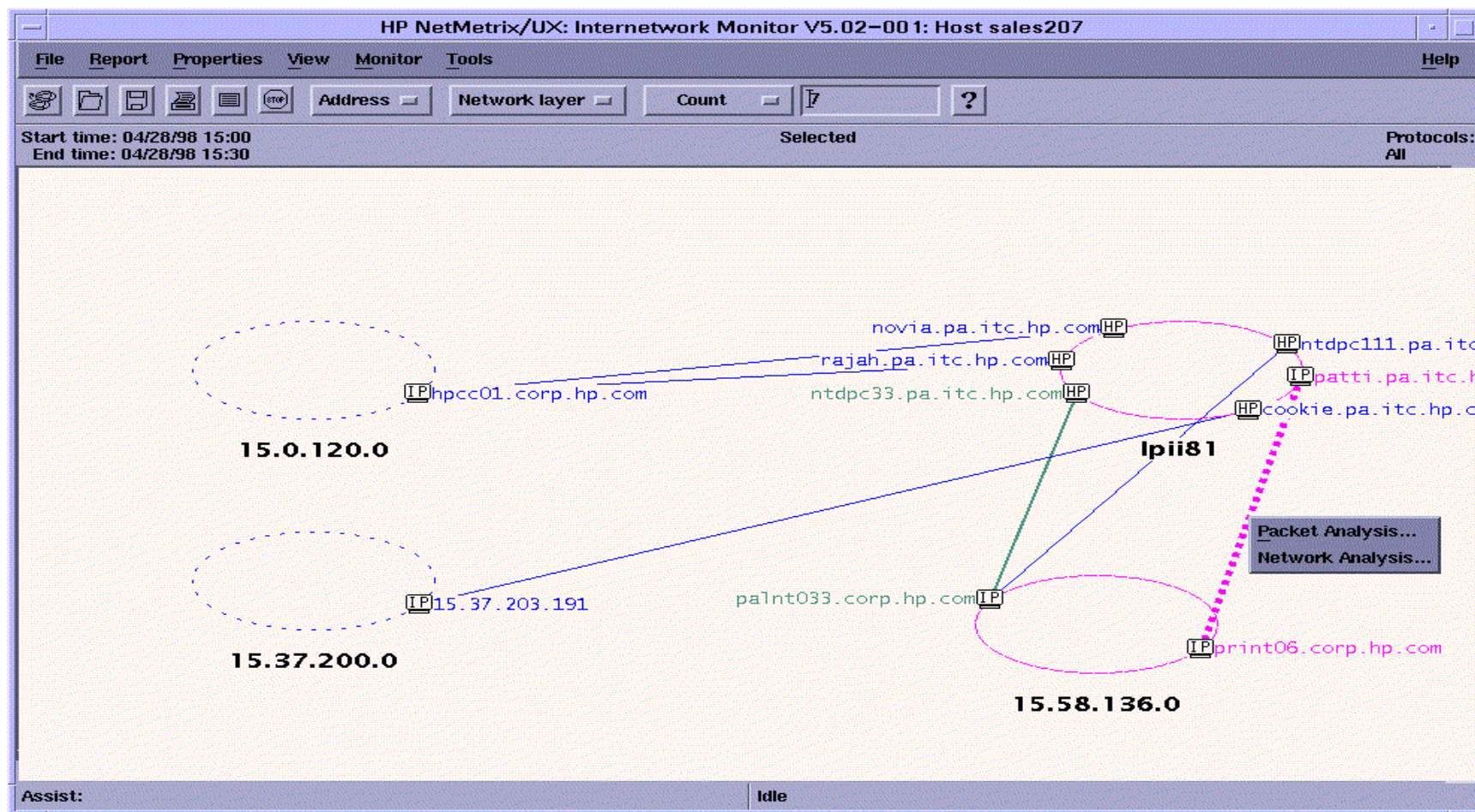
Glimpses – Planning Ahead



Glimpses – What's REALLY Going on in Your Network

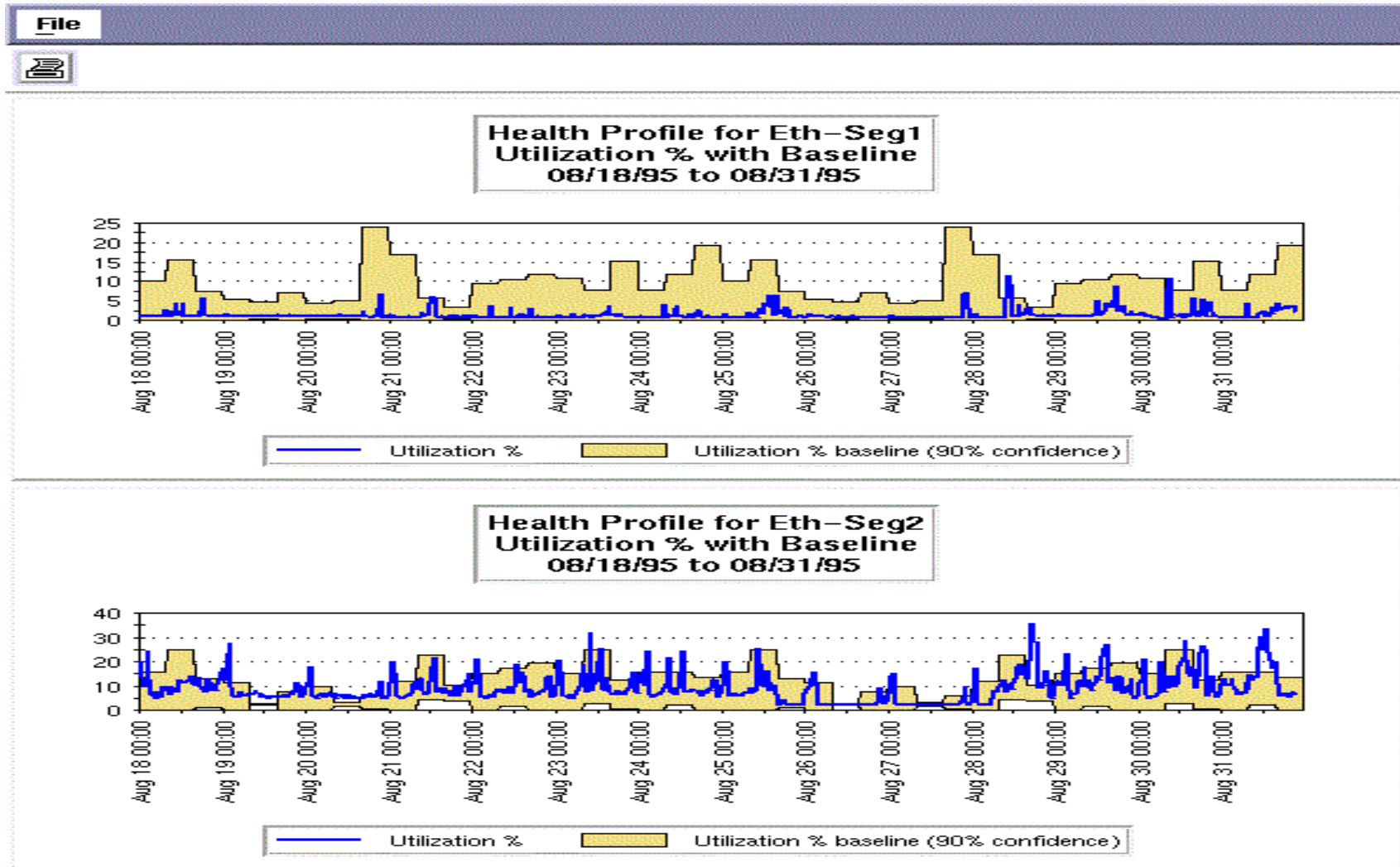


Glimpses – What's REALLY Going on in Your Network





Glimpses – Baseline Data



Assist:

inoTech

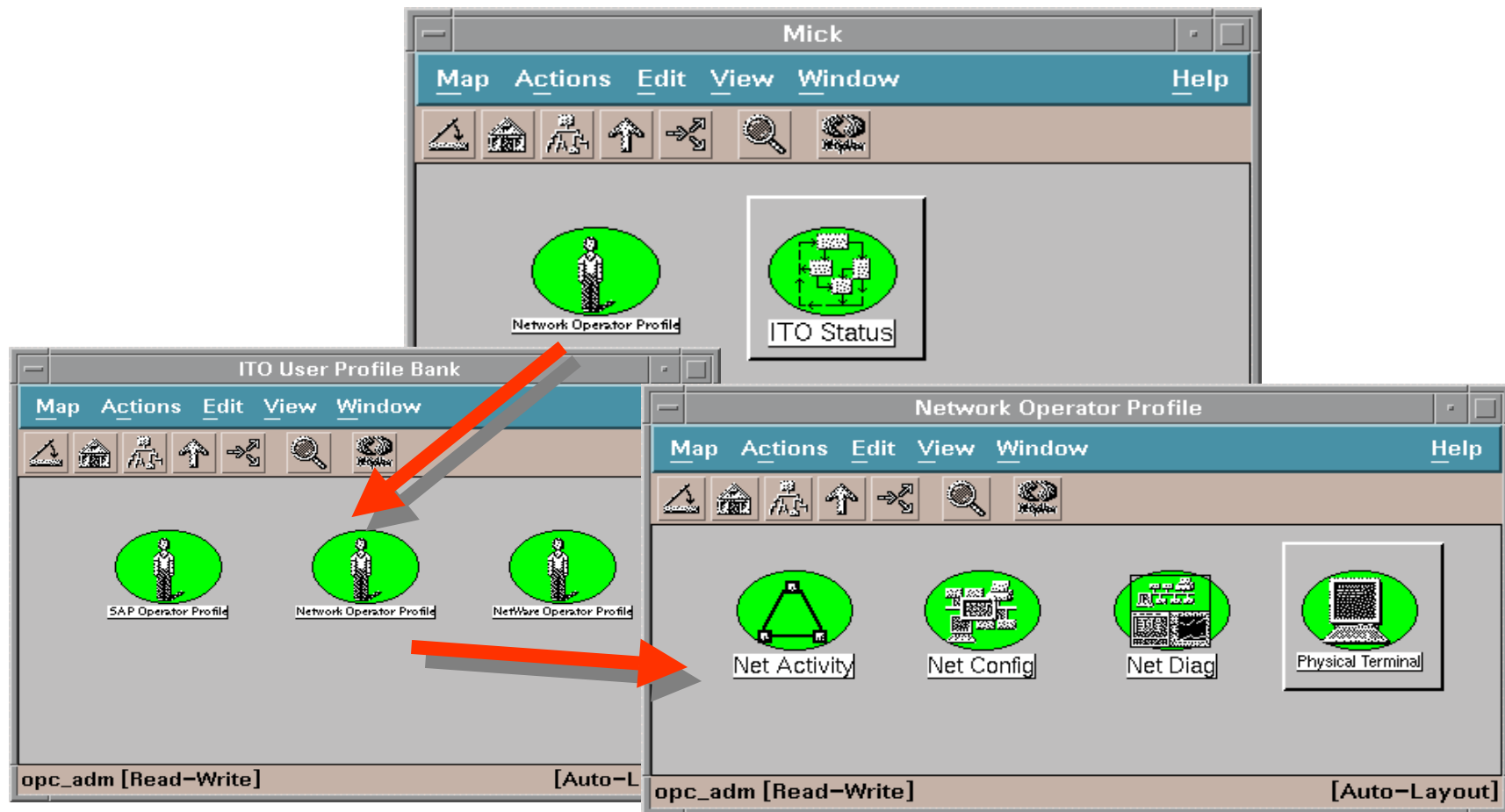
Systems, Network, and Applications Management

<http://www.inotech.com>

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Glimpses – Centers of Expertise/ Management Domains





Glimpses - Reporting



System Up Time

System Up Time is calculated based on the amount of time that the MeasureWare collector was running.

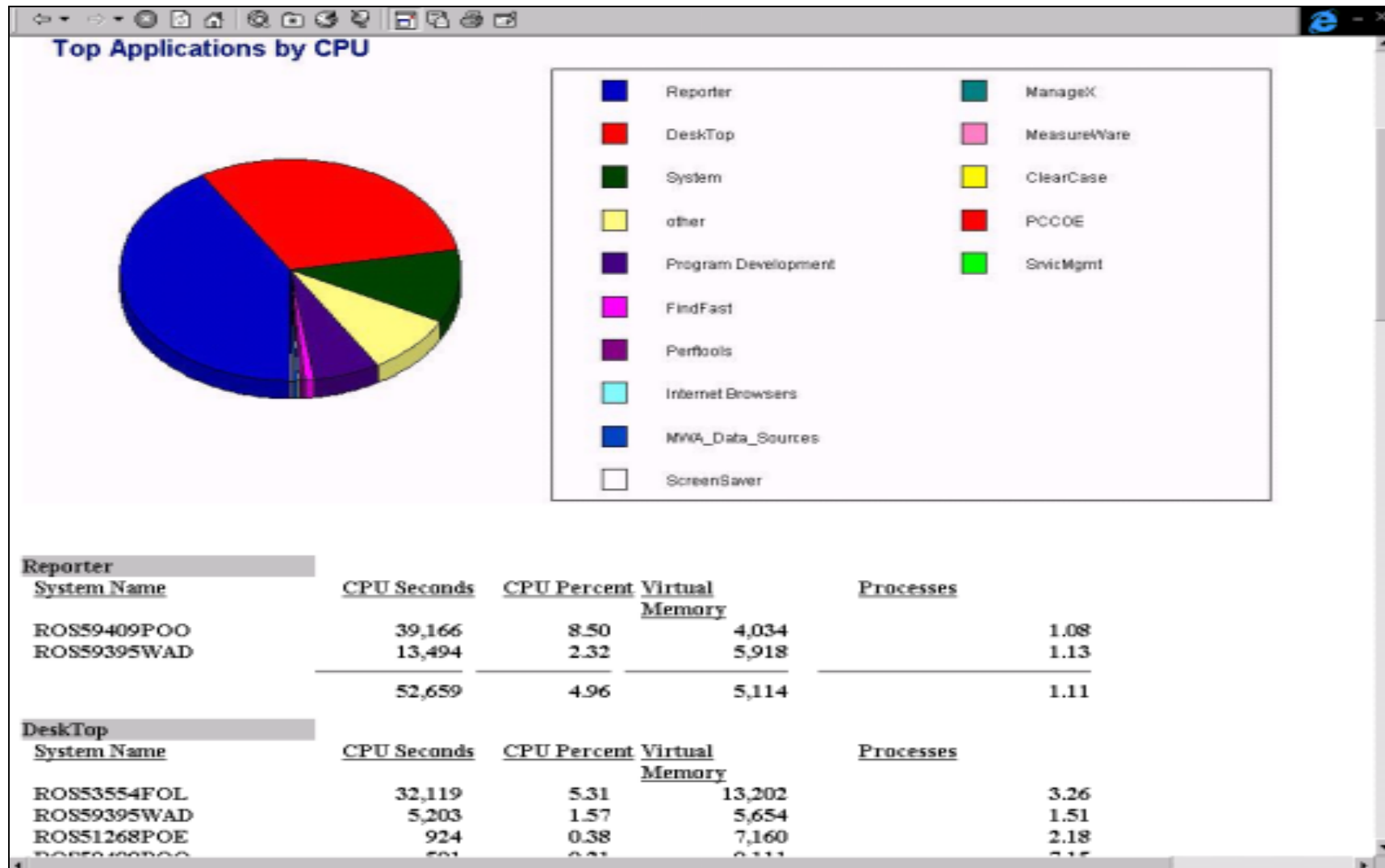
Prime Shift is defined as shown at the end of this report. **Off Shift** is all other times. The "**All Day**" percent is based on 24 hour days for the range of dates in the database.

This report was prepared: 7/2/99, 5:23:29 PM

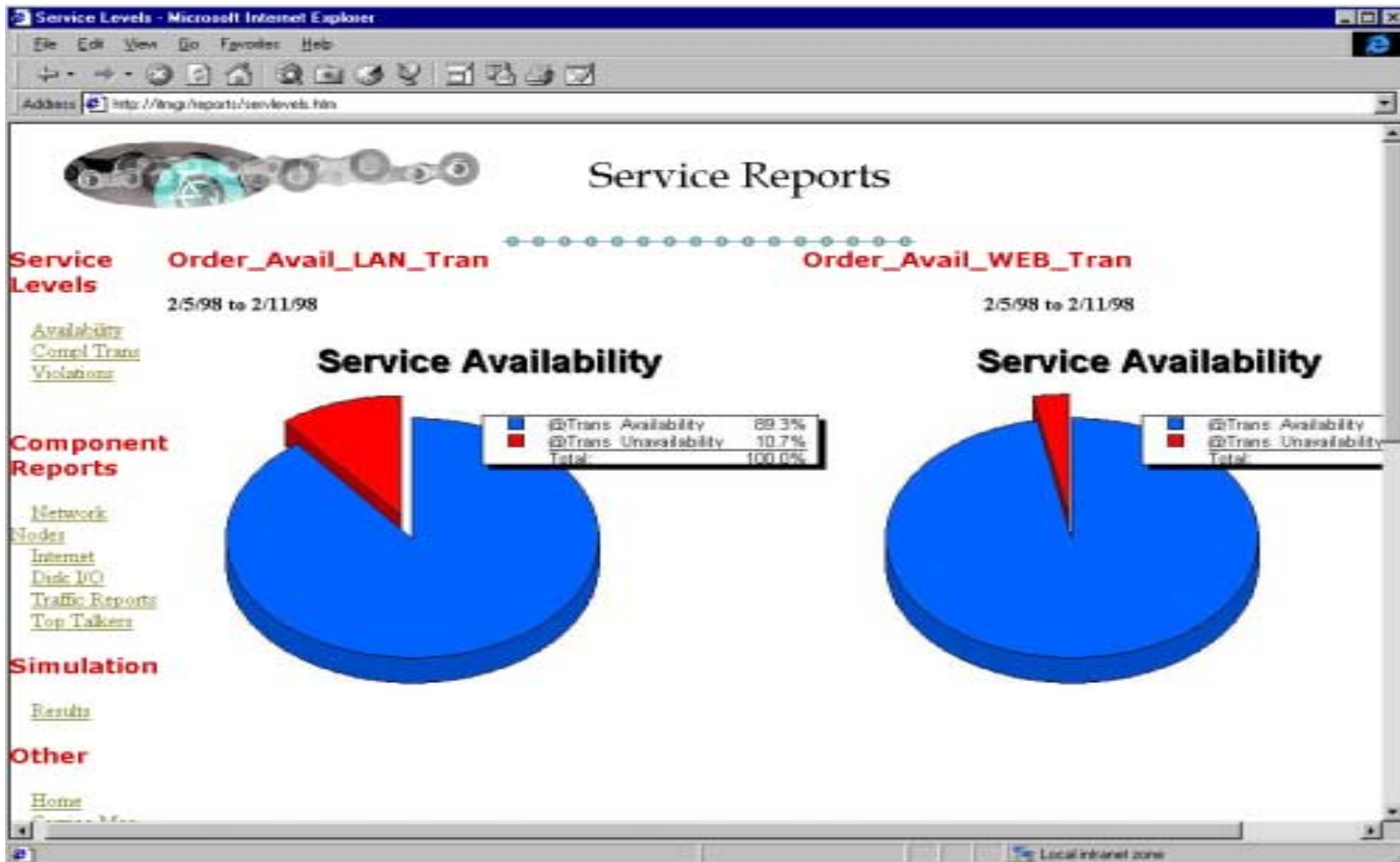
<u>SystemName</u>	Dates in Database	Days in Database	All Day Up Time %	Prime Up Time %	Off Shift Up Time %
appsrv0	4/13/99 -4/19/99	7	100.0	100.0	100.0
appsrv1	4/13/99 -4/19/99	7	100.0	99.9	100.0
appsrv128	4/13/99 -4/19/99	7	100.0	100.0	100.0
appsrv27	4/13/99 -4/19/99	7	100.0	100.0	100.0
appsrv42	4/13/99 -4/19/99	7	100.0	100.0	100.0
appsrv50	4/13/99 -4/19/99	7	100.0	100.0	100.0
appsrv6	4/13/99 -4/19/99	7	98.9	96.6	99.4
appsrv77	4/13/99 -4/19/99	7	100.0	100.0	100.0
ashir	4/13/99 -4/19/99	7	99.6	99.1	99.7
elanna	4/13/99 -4/19/99	7	100.0	100.0	100.0
igbird	4/13/99 -4/19/99	7	97.1	87.0	99.4
rat	4/13/99 -4/19/99	7	99.9	99.7	100.0
hakotay	4/13/99 -4/14/99	2	89.2	91.3	88.1



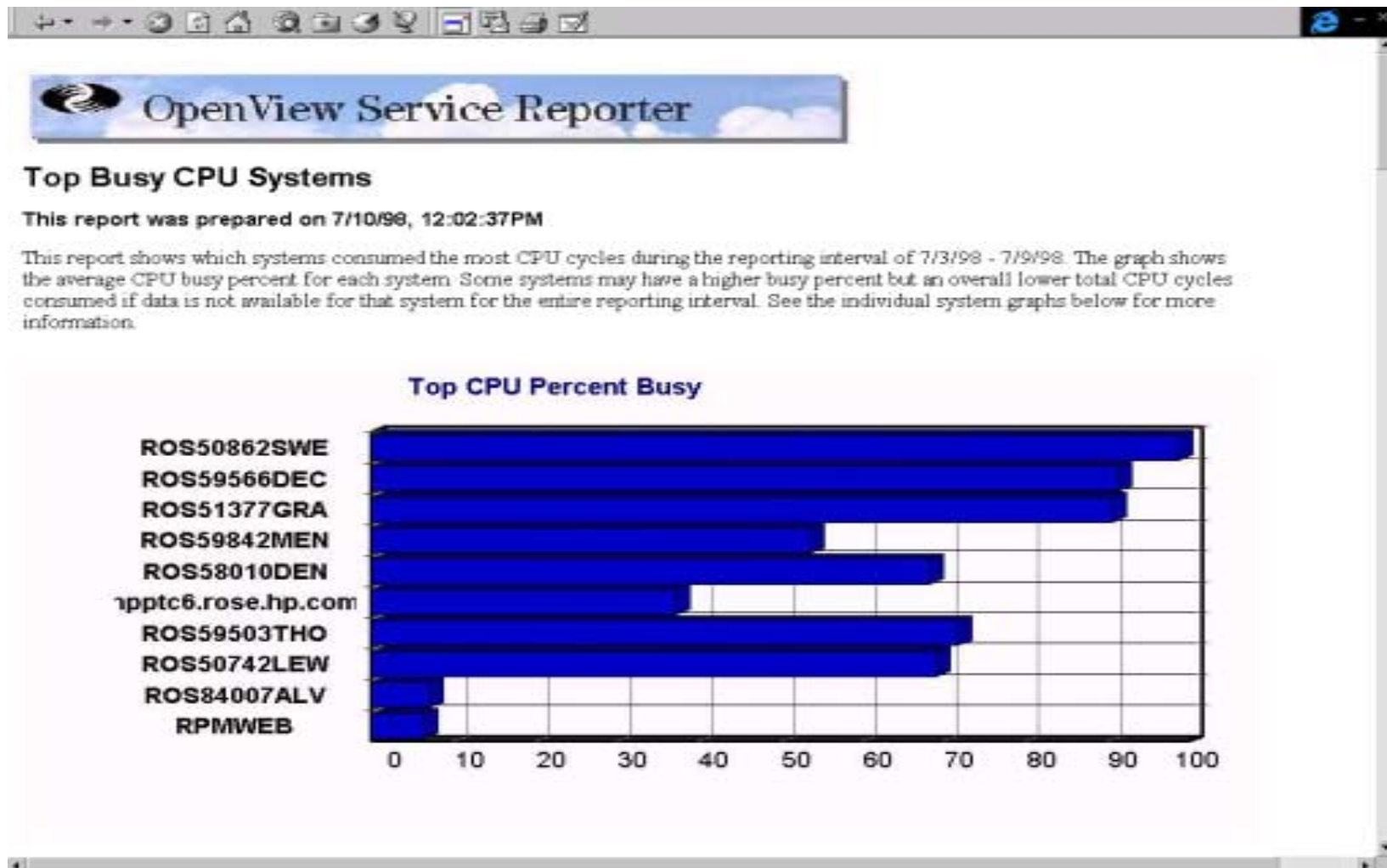
Glimpses - Reporting



Glimpses - Reporting



Glimpses - Reporting



Glimpses – Management System Effectiveness

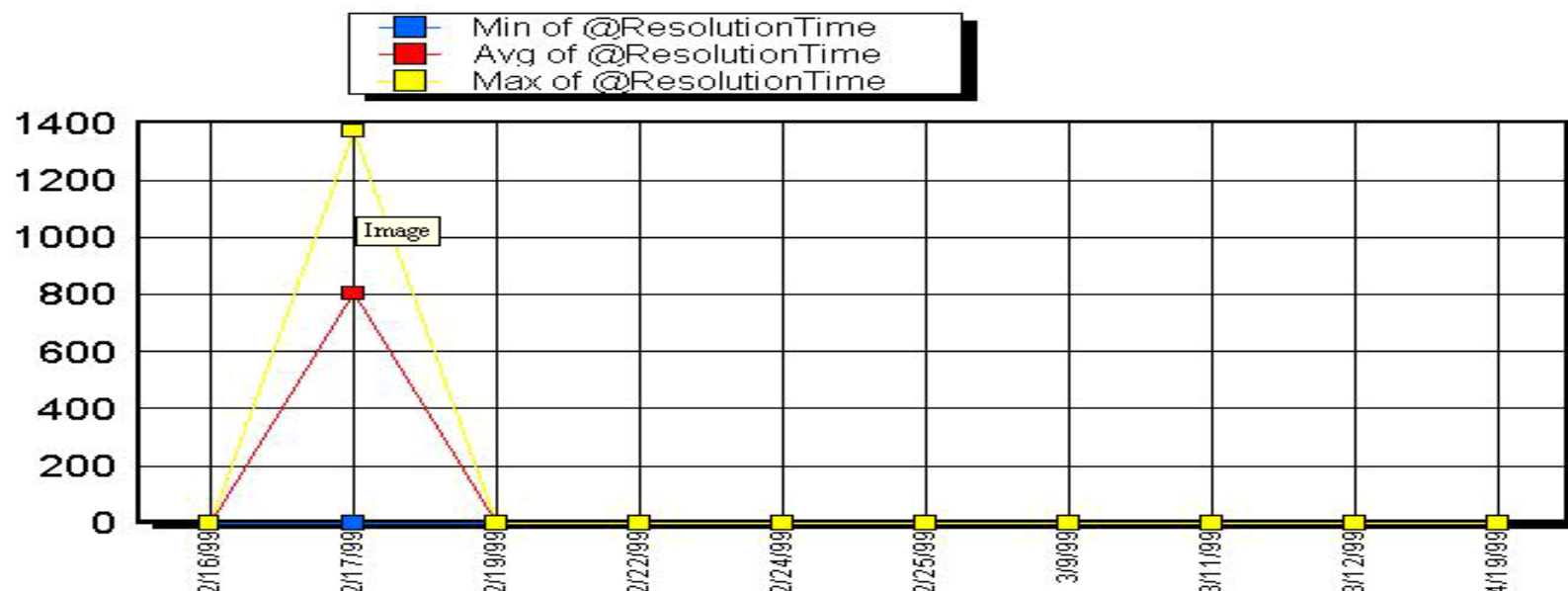


ITO Resolution Time Trend

This report shows the minimum, average, and maximum time to acknowledge messages each day.

This report was prepared: 7/6/99, 12:25:55 PM

ITO Management Server: plumas



Note: The resolution time is given in minutes.

<u>Date</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>	<u>Count</u>
2/16/99	0.00	0.00	0.02	14



Glimpses – Management System Effectiveness

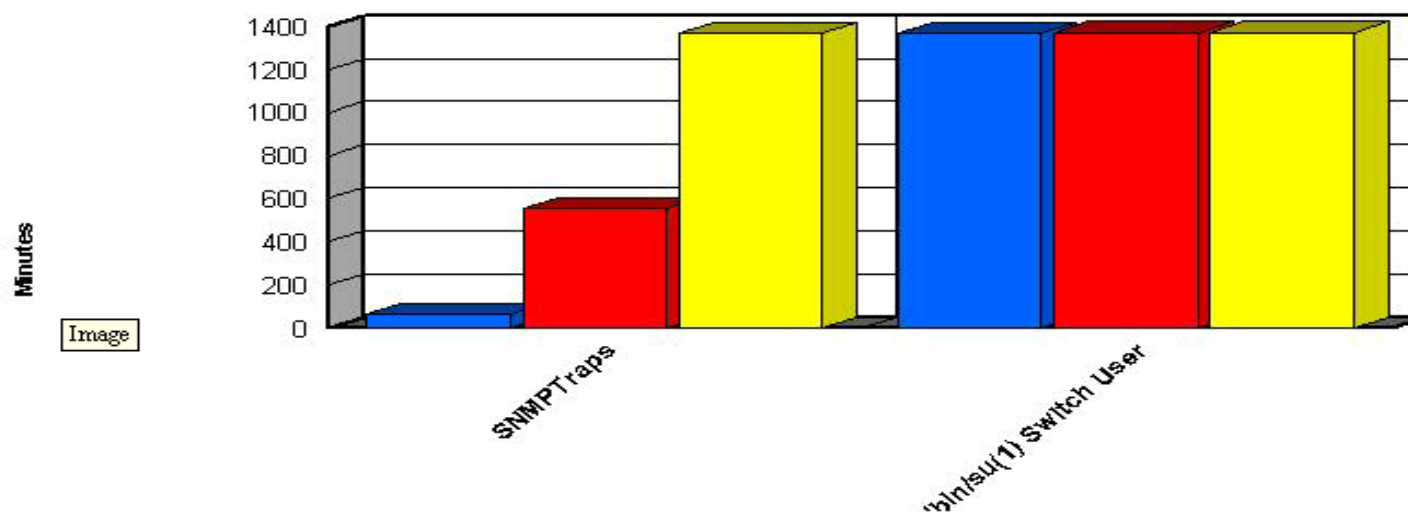


OpenView Service Reporter

ITO Resolution Time by Application

This report shows the time it takes to acknowledge a message for each application (minimum, average, and maximum).

This report was prepared: 7/6/99, 12:24:33 PM
ITO Management Server: plumas



The resolution time (in minutes) for an incoming message is:

Application	Minimum	Average	Maximum	Count
SNMPTraps	64	554	1,367	4
/usr/bin/su(1) Switch User	1,368	1,370	1,372	6



Glimpses – Management System Effectiveness

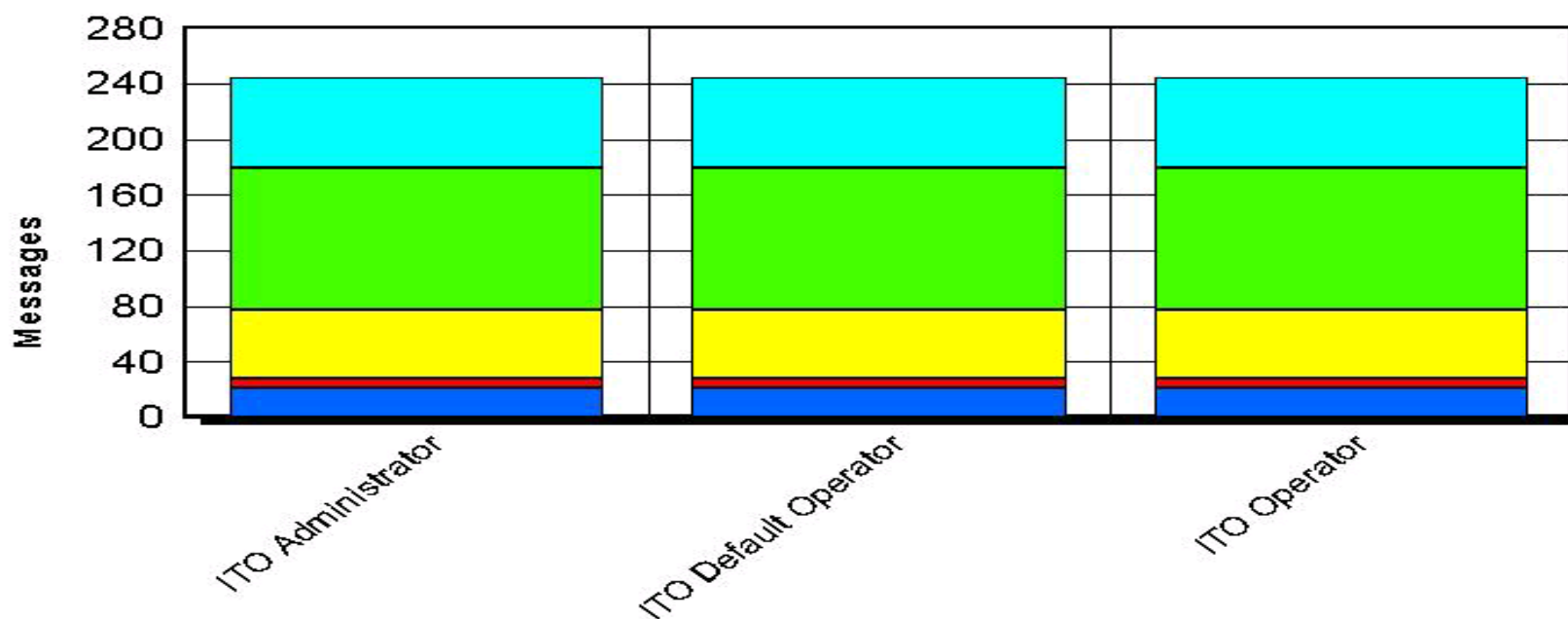
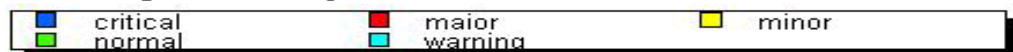


ITO Message Load per Operator

This report shows the number of messages received by each operator.

This report was prepared: 7/6/99, 12:24:53 PM

ITO Management Server: plumas





Cost, Time, and ROI ...

(see fine-print)

- **Estimated Costs ...**
 - From \$75k - \$100k to \$1.5m - \$3m
- **Time to Value ...**
 - 1-3 months
- **Time to Substantially Operational ...**
 - 3 - 9 months
- **Return-on-Investment/IRR**
 - 10:1 within 12-24 months, IRR 25%+



Typical Estimates for Small to Medium-Large E-Business Infrastructures

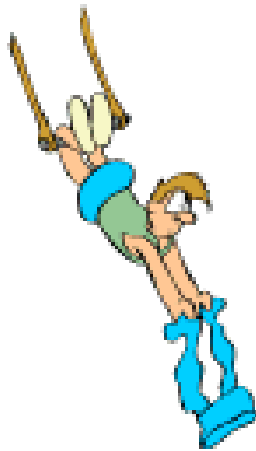
Your Mileage May Vary

You Must Take Delivery By December 1, 1998



Bonus, Extra Value, Slide ...

The Worst Mistake You Can Make ...



is to ...



Do Nothing ...

What We Covered

- The Opportunity
 - IT Front and Center

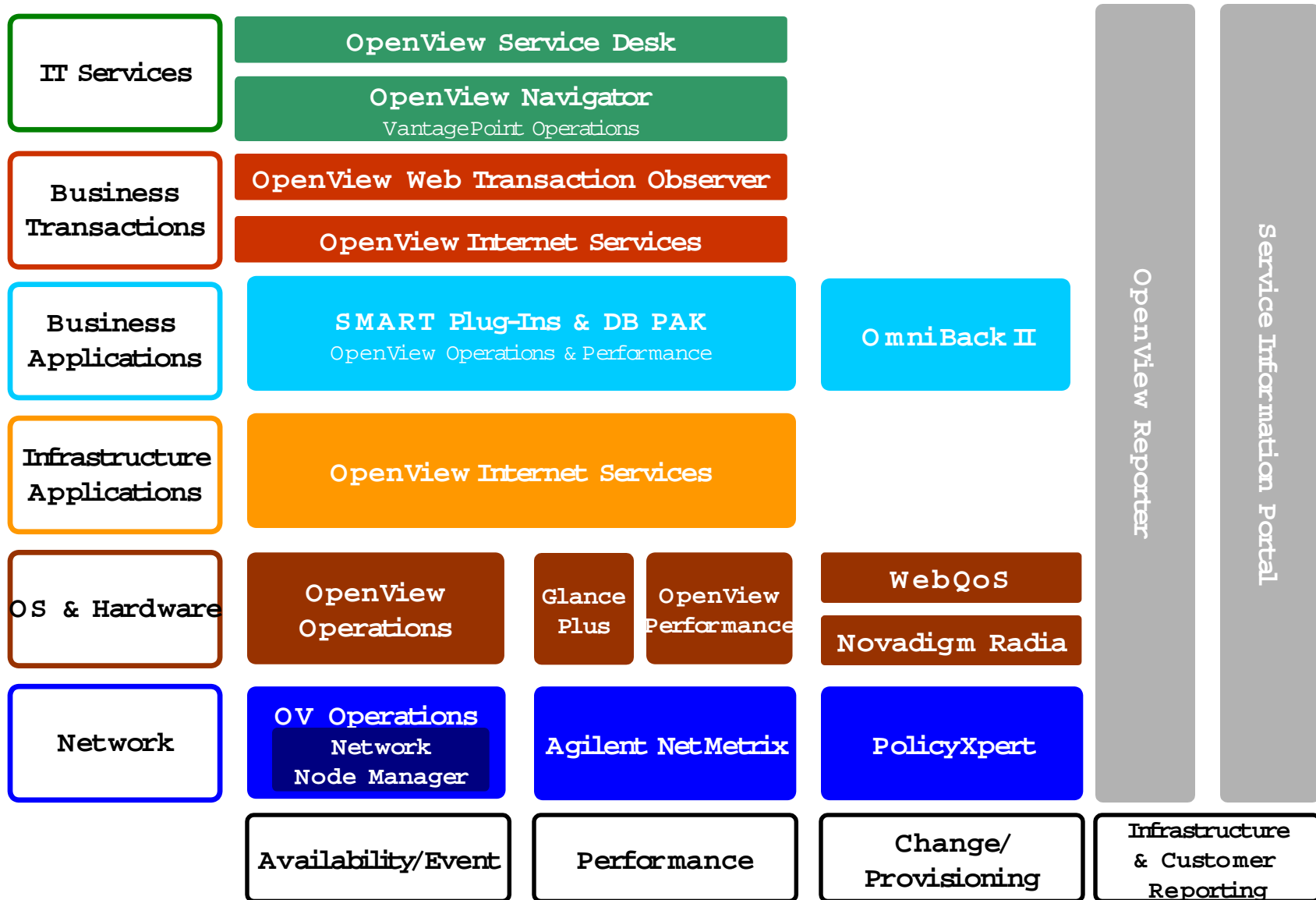
What We Covered

- The Implementation Approach
 - Understand Domain to be Managed
 - Consider Value
 - Consider Revenue
 - Consider Costs (Direct, Indirect, Corporate Valuation)
 - Deploy
 - Operate
 - Quarterly Review
 - Quarterly Management System Enhancement

What We Covered

- Management of E-Services
- Glimpses of What You Get
- Cost, Time, and ROI

OpenView – Building Block Architecture



Questions ? ... More Info ?

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