



## *Manage Your BI Environment Just as You Manage the Business*

**Cognos.**  
software

**Tivoli** software



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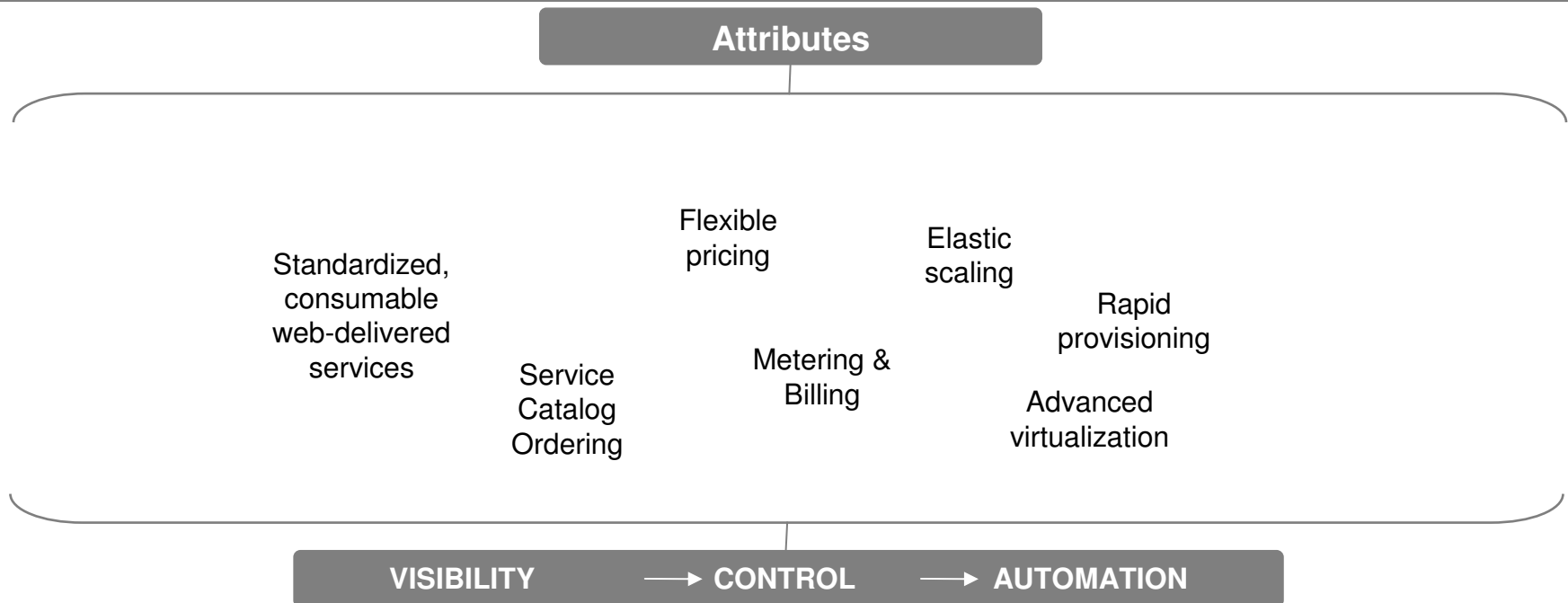
## ***Disclaimer***

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# Cloud computing is a deployment option for BI

“Cloud” is an emerging consumption and delivery model for many IT-based services, in which the user sees only the service, and has no need to know anything about the technology or implementation



....service oriented and service managed

Learn more about IBM and cloud computing: <http://www.ibm.com/ibm/cloud/>

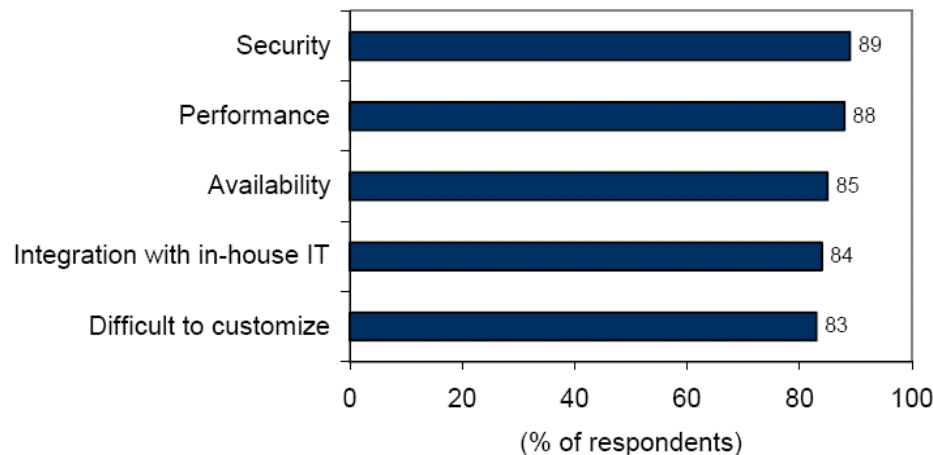


# System z and private cloud computing

## The right answer for the large enterprise

Enterprises must overcome obstacles to adopt cloud computing ...

Cloud Computing Implementation Challenges Described as "Significant"



Note: Multiple responses were allowed.

Source: IDC's Enterprise Panel, 2008

...and System z can help.



**Virtual** – a “share all” approach to system resources for efficiency



**Secure** - a multi-tenant design point with EAL 5 certification



**Available** - 24x7x365 operations with zero data loss recovery



**Efficient** - consuming 80% less energy than distributed solutions



**Scale** - ability to meet massive demands from users and data

Learn more about System z and Cloud: [http://www.ibm.com/systems/z/news/announcement/20090915\\_annnc.html](http://www.ibm.com/systems/z/news/announcement/20090915_annnc.html)



## ***The Challenges of BI for IT***

- Widely varying usage “patterns”
  - Daily, weekly, monthly, quarterly, annually
- “Adhoc” business reporting and analysis
  - Not static, persistent transaction
- Accelerated usage growth when IT and BI CoC provide well-running infrastructure
  - Continual intra-year peaks



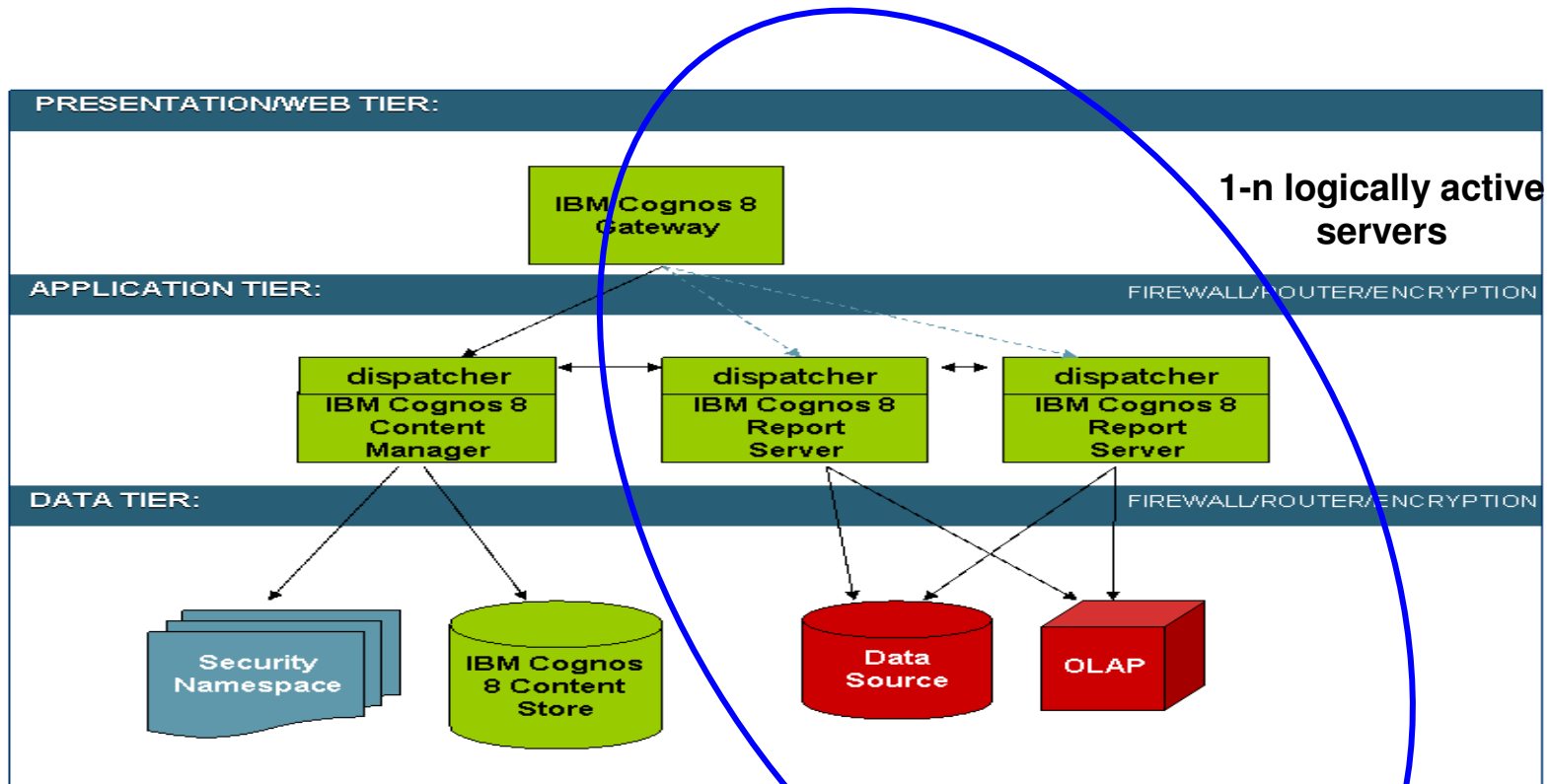
## ***BI Infrastructure***

- Multiple logical/physical hardware/software components
  - Web servers
  - Application servers (analytics, report generation, metadata management)
  - Security server(s)
  - Data source servers
  - OS for each server

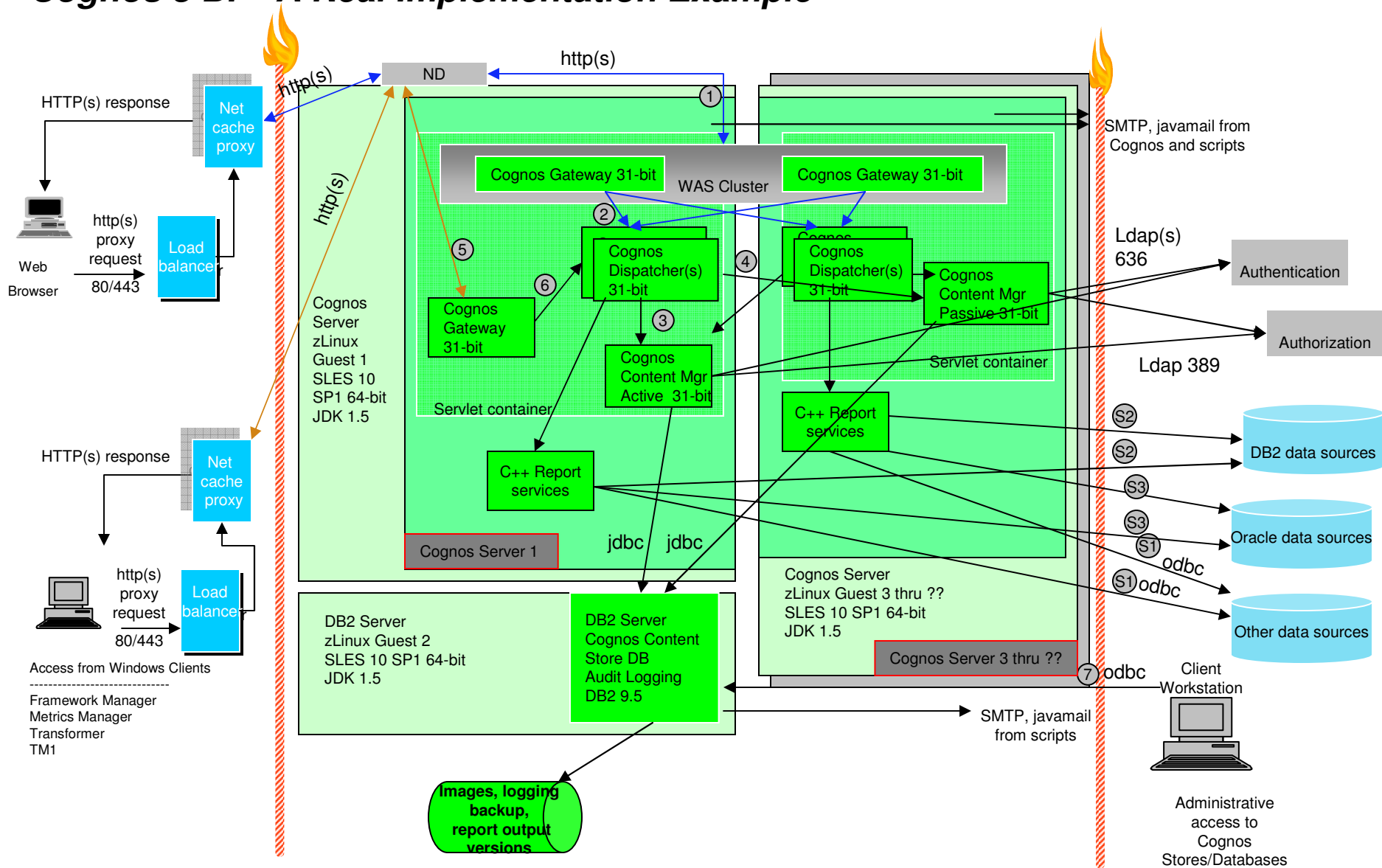
THE WHOLE IS MORE THAN THE SUM OF ITS PARTS!



# IBM Cognos 8 BI Architecture



# Cognos 8 BI – A Real Implementation Example





# IBM Cognos Administration

**Cognos Administration** - Sam Carter | Log On

**Status** | Security | Configuration

**Scorecard**  
 All servers > wottmassons > http://wottmassons:9300/p2pd

Name	Status
http://wottmassons:9300/p2pd	Available
AgentService	Available
BatchReportService	Available
ContentManagerService	Available
DeliveryService	Available
EventManagerService	Available
JobService	Available
LogService	Available
MonitorService	Available
PresentationService	Available
ReportDataService	Available
ReportService	Available
SystemService	Available

**Metrics - BatchReportService**

Name	Value
Process	0
Request	0
Last response time	9.563s
Percentage of failed requests	0%
Percentage of successful requests	100%
Response time high watermark	25.328s
Seconds per successful request	4.974s

**Settings - BatchReportService**

Name	Value
Logging	
Tuning	

Last Updated: August 22, 2007 2:36:28 PM

**Cognos Connection** - Administrator | Log Off

Public Folders | My Folders | **Admin Portal** | System Page

**Administration Alerts**

- Report Usage is Down!
- New - Check Scheduled Reports
- Authorization Failures too high
- Server aS down - rerouted

**Administrative Tasks**

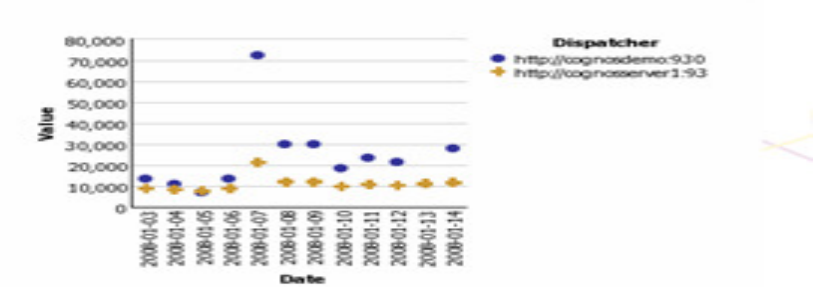
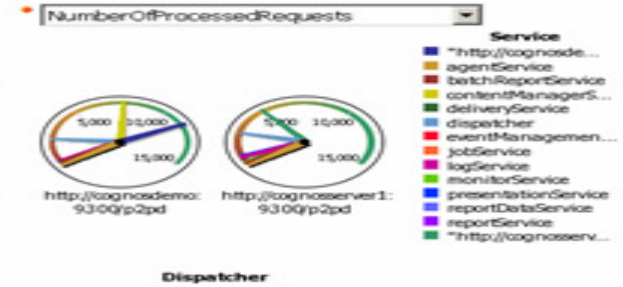
- Ad Hoc Authoring
- Centralized Activity Monitoring
- Enterprise Routing
- Service Control
- System Administration Dashboard
- Top 10 Reports that have the longest Run Times

**Security Reports**

- # of Reports Run
- Division Models Viewed
- Login errors
- Models Viewed this Week

No filter | No grouping

Δvg	Name	Actual	Target	Variance	Variance %	Time Period
▼	Authorization Failures	21.00	15.00	6.00	40.00%	Dec 2007
▲	System Downtime	1.20%	1.20%	0.00%	0.00%	Dec 2007
▼	# of requests for access	10.00	9.00	1.00	11.11%	Dec 2007
▲	Application Compliance	89.00%	85.00%	-4.00%	-4.71%	Dec 2007
▼	Average Response Times	11.00	9.00	2.00	22.22%	Dec 2007
▲	Authentication Failures	32.00	30.00	2.00	6.67%	Dec 2007
▲	IS&T Backlog	31.00	29.00	2.00	6.90%	Dec 2007



## ***A New Alternative -- Cognos 8 BI w/ Tivoli Monitoring***

- Cognos 8 BI Administration console
  
- IBM Tivoli Monitoring
  - Portal
  - Monitoring agents for OS, Middleware, and Database Systems
  
- Tivoli Data Warehouse
  
- Tivoli Common Reporting



# ***Cognos and Tivoli Integration ... Better Together***

## **Complete BI Service Management Center solution**

- Healthcheck, problem determination/resolution, and historical reporting for the BI infrastructure at your fingertips

## **Instantaneously at your finger tips**

- **KPIs**
  - CPU
  - Memory
  - I/O
  - Network
  - JVM utilization and Garbage collection
  - Response time
- **Real time view of system usage with threshold and alerts**
- **Historical usage trend reports with threshold and alerts**
- **Single source of usage data access for IT System Administrators, DB Administrators, and BI Administrators**



## ***Value to the Business***

### **Customer Scenario**

- Proactive – Address system issues before it affects users
- Reactive – Address system issues after users have been affected

### **Value to the Business**

- Health Check – Enabling real-time monitoring of the BI infrastructure so they can identify potential issues before they affect the BI service
- Problem Determination and Resolution – Enables BI administration to quickly and easily identify what is broken & needs to be fixed within the overall BI infrastructure
- Historical Reporting – Enables the IT System & BI administrators to easily look back at the system activity to identify trends vs exceptions and the associated actions to reduce future re-occurrences



## ***Health Check***

- **Enabling real-time monitoring of the BI infrastructure so they can identify potential issues before they affect the BI service**



# Tivoli Monitoring for Cognos 8

Are enterprise systems running well?

The screenshot displays the Tivoli Enterprise Portal interface. On the left is a Navigator tree showing a hierarchy of Cognos environments: ABC Financials, Administration Console, Application Report Server, Content Manager, Content Store, Data Source, Gateway Server, ABC Personnel, and ABC Sales. The main area features three dashboards:

- z/VM - COGVMNL2 Overall System Summary:** A 3D bar chart showing system metrics. The Y-axis ranges from 0 to 60. The legend includes: Tasks in Wait (green), Percent of CPU (cyan), and Users Waiting for Resources (red). A red arrow points from the text box to the Percent of CPU bar.
- COGVMNL2 - Top 5 Workloads by CPU Utilization:** A grouped bar chart comparing CP % of CPU (yellow), CPU Percent (blue), and Virtual CPU % (red) across five workloads: SVLXCOT7, SVLXCOT4, SVLXCOT3, SVLXCOT6, and SVLXCOT1.
- COGVMNL2 - Top 5 Workloads by Working Set Size:** A grouped bar chart comparing Resident Pages (yellow), Resident Pages > 2GB (blue), and Working Set Size (red) across the same five workloads.

At the bottom, the status bar shows: Hub Time: Fri, 10/23/2009 12:24 PM, Server Available, and IOD\_V1 - svlxcofb.svl.ibm.com - SYSADMIN.



# Operations View

CPU limit needs investigation

The screenshot shows the Tivoli Enterprise Portal interface. The main window is titled 'Situation Event Console' and displays a list of events. A red box highlights a 'Fatal' event with the status 'Open' and the name 'App Report Server CPU Limit'. A red arrow points from the text 'CPU limit needs investigation' to this event. The event details show it is from source 'svlxcot3:LZ' and 'server1'. Below the event list, there are two tables: 'Cognos Monitoring Agent status' and 'Message Log'. The 'Cognos Monitoring Agent status' table shows various agents and their statuses (OFFLINE, ONLINE). The 'Message Log' table shows various messages with statuses like 'Open', 'Stopped', and 'Warning'.

Severity	Status	Owner	Situation Name	Display Item	Source	Impa
Fatal	Open		App Report Server CPU Limit	server1	svlxcot3:LZ	svlxcot3
Critical	Open		WASHighCPUPercentUsed	N/A	cogprofrs1_server1:svlxcot7:KYNS	Pool Ar
Critical	Open		WASError	N/A	cogprofrs1_server1:svlxcot7:KYNS	Log An
Critical	Open		WASError	N/A	AppSrv01_server1:svlxcot3:KYNS	Log An
Critical	Open		WASError	N/A	AppSrv01_server1:svlxcot4:KYNS	Log An
Critical	Open		WASError	N/A	AppSrv01_server1:svlxcot6:KYNS	Log An
Critical	Open		WASError	N/A	AppSrv01_server1:svlxcot1:KYNS	Log An
Critical	Open		WASError	TCPC0003E	AppSrv01_server1:svlxcot6:KYNS	Log An

Status	Origin Node	Managing System	Timestamp
*OFFLINE	AppSrv01_server1:svlxcot1:KYNS	Primary:svlxcot1:KYNA	10/23/09 11:02:59
*ONLINE	svlxcot6:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	svlxcot7:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	svlxcot3:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	svlxcot1:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	svlxcot4:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	svlxcot2:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	AppSrv01_server1:svlxcot6:KYNS	Primary:svlxcot6:KYNA	10/23/09 11:04:02
*ONLINE	AppSrv01_server1:svlxcot3:KYNS	Primary:svlxcot3:KYNA	10/23/09 11:04:02
*ONLINE	AppSrv01_server1:svlxcot4:KYNS	Primary:svlxcot4:KYNA	10/23/09 11:04:02

Status	Name
Open	MS_Offline
Stopped	KM5_No_Sysplex_DASD_Filter_Warn
Stopped	Sysplex_DASD_Dev_ContIdx_Warn
Stopped	MVS_CFStructUsers_Connect_Crit
Stopped	Sysplex_XCFSystems_Status_Crit
Stopped	Sysplex_Workloads_PerfIdx_Crit
Stopped	MVS_XCFGroupMembers_Status_Crit
Stopped	KM5_Weak_Plex_DASD_Filter_Warn
Stopped	MVS_CCFSystems_Performance_Crit

# Cognos Administration Traditional View

Is Cognos running well?

The screenshot displays the IBM Cognos Administration console in a Windows Internet Explorer browser. The interface includes a navigation tree on the left, a central scorecard, and a settings panel on the right. The scorecard shows the following services and their status:

Name	Status
RS http://svlxcot3.svl.ibm.com:9080/p2pd	Available
SystemService	Available
BatchReportService	Available
AgentService	Available
MonitorService	Available
ReportDataService	Available
EventManagerService	Available
JobService	Available
ReportService	Available
MetadataService	Available
PresentationService	Available
LogService	Available
DeliveryService	Available

The right-hand panel shows the 'Metrics' section with a table that currently contains no entries. Below it, the 'Settings' section is visible, showing options for 'Logging' and 'Tuning'. The status bar at the bottom indicates 'Hub Time: Fri, 10/23/2009 12:43 PM' and 'Server Available'.



# Threshold and Alerts

CPU limit needs investigation

The screenshot shows the Tivoli Enterprise Portal interface. The 'Situation Event Console' is open, displaying a list of alerts. The top alert is a 'Fatal' event with the status 'Open', titled 'App Report Server CPU Limit'. A red arrow points from the text 'CPU limit needs investigation' to this specific alert. Below the console, the 'Cognos Monitoring Agent status' table shows the status of various agents, and the 'Message Log' shows system messages.

Severity	Status	Owner	Situation Name	Display Item	Source	Impact
Fatal	Open		App Report Server CPU Limit	server1	svlxcot3:LZ	svlxcot3:...
Critical	Open		WASHighCPUPercentUsed	N/A	cogprofrs1_server1:svlxcot7:KYNS	Pool Ar...
Critical	Open		WASError	N/A	cogprofrs1_server1:svlxcot7:KYNS	Log An...
Critical	Open		WASError	N/A	AppSrv01_server1:svlxcot3:KYNS	Log An...
Critical	Open		WASError	N/A	AppSrv01_server1:svlxcot4:KYNS	Log An...
Critical	Open		WASError	N/A	AppSrv01_server1:svlxcot6:KYNS	Log An...
Critical	Open		WASError	N/A	AppSrv01_server1:svlxcot1:KYNS	Log An...
Critical	Open		WASError	TCPC0003E	AppSrv01_server1:svlxcot6:KYNS	Log An...

Status	Origin Node	Managing System	Timestamp
*OFFLINE	AppSrv01_server1:svlxcot1:KYNS	Primary:svlxcot1:KYNA	10/23/09 11:02:59
*ONLINE	svlxcot6:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	svlxcot7:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	svlxcot3:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	svlxcot1:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	svlxcot4:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	svlxcot2:LZ	REMOTE_SVLXCOG9	10/23/09 11:04:02
*ONLINE	AppSrv01_server1:svlxcot6:KYNS	Primary:svlxcot6:KYNA	10/23/09 11:04:02
*ONLINE	AppSrv01_server1:svlxcot3:KYNS	Primary:svlxcot3:KYNA	10/23/09 11:04:02
*ONLINE	AppSrv01_server1:svlxcot4:KYNS	Primary:svlxcot4:KYNA	10/23/09 11:04:02

Status	Name
Open	MS_Offline
Stopped	KM5_No_Sysplex_DASD_Filter_Warn
Stopped	Sysplex_DASD_Dev_ContIdx_Warn
Stopped	MVS_CFSstructUsers_Connect_Crit
Stopped	Sysplex_XCFSystems_Status_Crit
Stopped	Sysplex_Workloads_PerfIdx_Crit
Stopped	MVS_XCFGroupMembers_Status_Crit
Stopped	KM5_Weak_Plex_DASD_Filter_Warn
Stopped	MVS_CFSsystems_Performance_Crit

# New Cognos Administrative Views -- LOB Dashboard

LOB-Dashboard - Windows Internet Explorer

http://svlxcobf.svl.ibm.com:1920///cnp/kdh/lib/cnp.html?-1021A=Aggregation&-5001=TOP-109.09.10-07.07.03-00001&-12006=SYSADMIN&-10105=124356c27dc&-2400=OBJ-109.09.10-07.59.10-1

File Edit View Favorites Tools Help

IBM Business Transformation IT Help Central Google IBM Business Transformation IBM Home Page IBM Internal Help IBM Internal Help Homepage Search the Web with Lycos

LOB-Dashboard

Tivoli Enterprise Portal Welcome SYSADMIN Log out IBM

File Edit View Help

Navigator View: IOD\_V1

- IOD\_V1 - Enterprise Mgmt
  - Cognos Environments
    - ABC Financials
      - Administration Console
      - Application Report Server
        - Application Report Server 1 - JVM
        - Application Report Server 2 - JVM
      - svlxcot3
        - Linux OS
          - Capacity Usage Information
          - Disk Usage
          - File Information
          - Network
          - Process

Physical IOD\_V1

Appri Rpt Svr1 Busy CPU (Percent) - SVLXCOT3 89.44

Appri Rpt Svr2 Busy CPU (Percent) - SVLXCOT4 90.00

Gateway Server Busy CPU (Percent) - SVLXCOT1 58.75

Content Mgr Busy CPU (Percent) - SVLXCOT6 38.38

Content Store Busy CPU (Percent) - SVLXCOT2 21.73

Data Server - z/OS Average CPU Percent - STLAB4C 2

Data Source.1 Average CPU Percent - STLAB4C DB2 2

Hub Time: Tue, 10/20/2009 08:45 PM Server Available LOB-Dashboard - svlxcobf.svl.ibm.com - SYSADMIN

Applet CMWApplet started Local intranet 100%

## ***Problem Determination and Resolution***

- **Enables BI administration to quickly and easily identify what is broken & needs to be fixed within the overall BI infrastructure**



# Application Report Servers Overview

Hardware Resource KPIs

System and Cognos Processes Summary - Microsoft Internet Explorer

Address: http://svlxc0fb.svl.ibm.com:1920///cnp/kdh/lib/cnp.html?-1021A=Aggregation&-5001=TOP-109.09.10-07.07.03-00001&-12006=SYSADMIN&-10105=123ebc2440f&-2400=OBJ-109

Tivoli Enterprise Portal Welcome SYSADMIN Log out IBM

File Edit View Favorites Tools Help

Navigator View: IOD\_V1

- IOD\_V1 - Enterprise Mgmt
  - Cognos Environments
    - ABC Financials
      - Administration Console
      - Application Report Server
      - Content Manager
      - Content Store
      - Data Source
      - Gateway Server
      - ABC Personnel

Physical IOD\_V1

Application Report Servers

Resource Summary

- User CPU (Percent)
- System CPU (Percent)
- I/O Wait (Percent)

Application Report Servers

Memory Summary

- Total Memory (MB)
- Memory Free (MB)
- Memory Used (MB)
- Total Virtual Storage (MB)
- Used Virtual Storage (MB)
- Free Virtual Storage (MB)

SVLXCOT3

Cognos Process CPU Summary

- Busy CPU (Percent)

SVLXCOT4

Cognos Process CPU Summary

- Busy CPU (Percent)

SVLXCOT3

Cognos Process Memory Summary

- Data Size (MB)
- VM Size (MB)

SVLXCOT4

Cognos Process Memory Summary

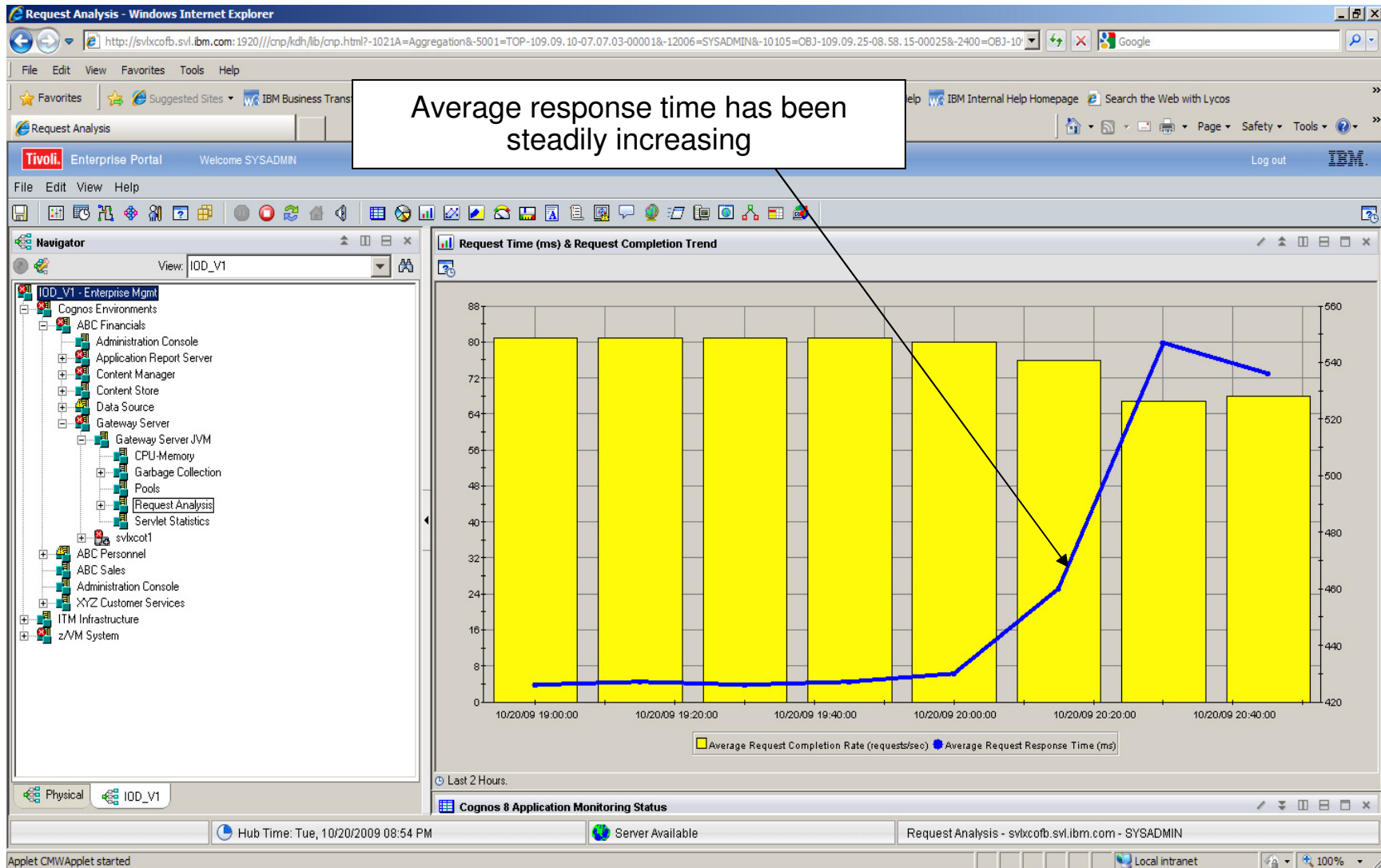
- VM Size (MB)
- Data Size (MB)

Hub Time: Mon, 10/19/2009 04:17 PM Server Available

System and Cognos Processes Summary - svlxc0fb.svl.ibm.com - SYSADMIN



# Is service degrading with high CPU?



# Take Action (add virtual CPU)

The screenshot displays the Tivoli Enterprise Portal interface. The main window shows a tree view on the left with 'Linux OS' selected under 'svlxcot3'. The central pane displays 'System CPU Usage' with a 3D bar chart showing high usage for 'Aggregate', '0', and '1'. Below this are two smaller charts: 'Disk IO Transfers' and 'System Load Averages'. A 'Take Action' dialog box is open on the right, showing the action 'zLinux Add CPU' and a list of destination systems including 'svlxcot3:LZ'.

**System CPU Usage Data (Approximate):**

Category	User CPU (Percent)	System CPU (Percent)	IO Wait (Percent)
Aggregate	~90	~5	~5
0	~90	~5	~5
1	~90	~5	~5

**Disk IO Transfers Data (Approximate):**

Device	Transfers per sec
dasda	~0
dasda2	~0
dasdb	~5
dasde	~22
dasdc	~1
dasdc1	~1
dasdf	~0
dasdf1	~0
dasdd	~0
dasdd1	~0
dm-0	~22
dm-1	~0

**System Load Averages Data (Approximate):**

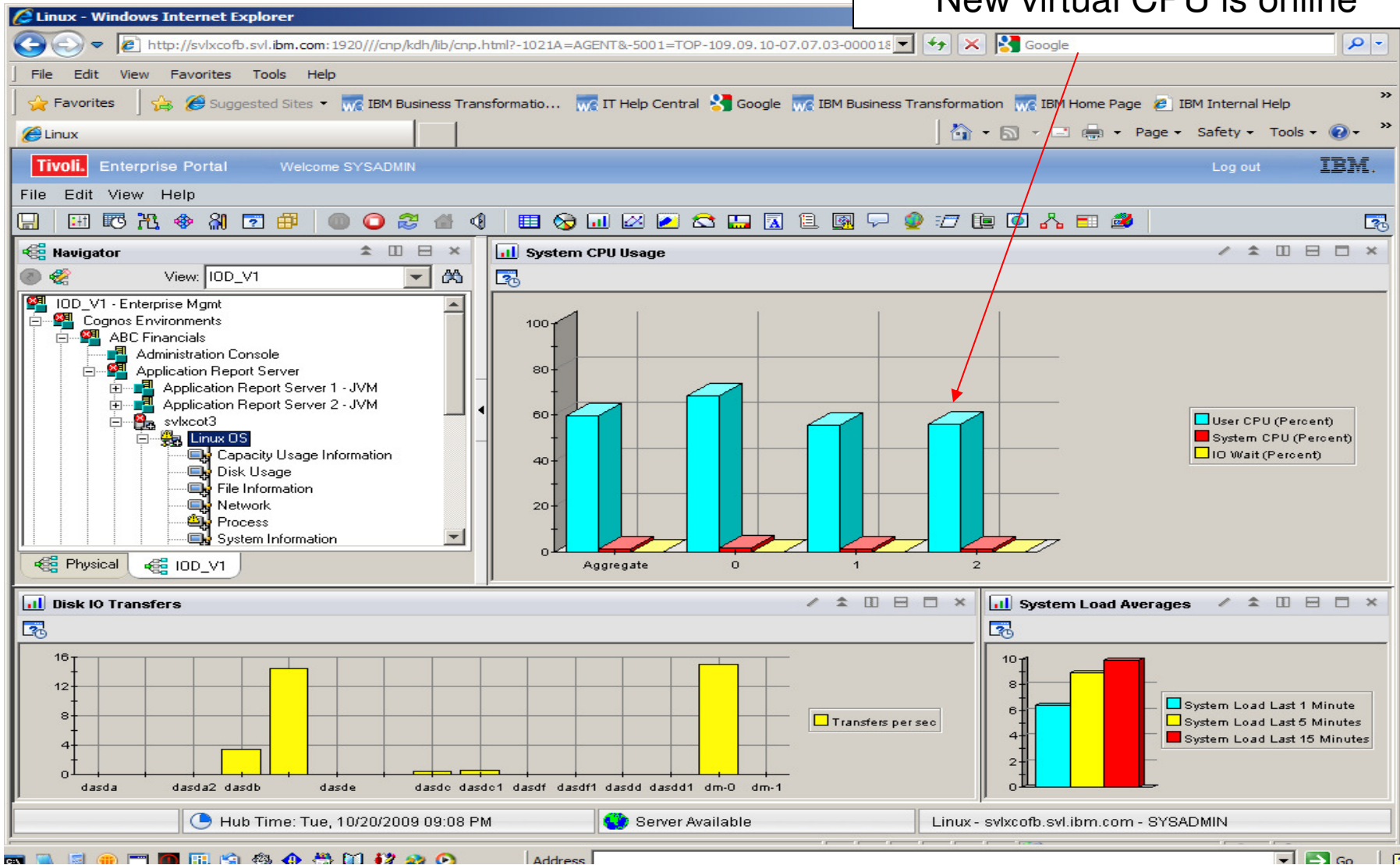
System Load	Value
System Load Last 1 Minute	~7.5
System Load Last 5 Minutes	~10.5
System Load Last 15 Minutes	~11.0

**Take Action Dialog Details:**

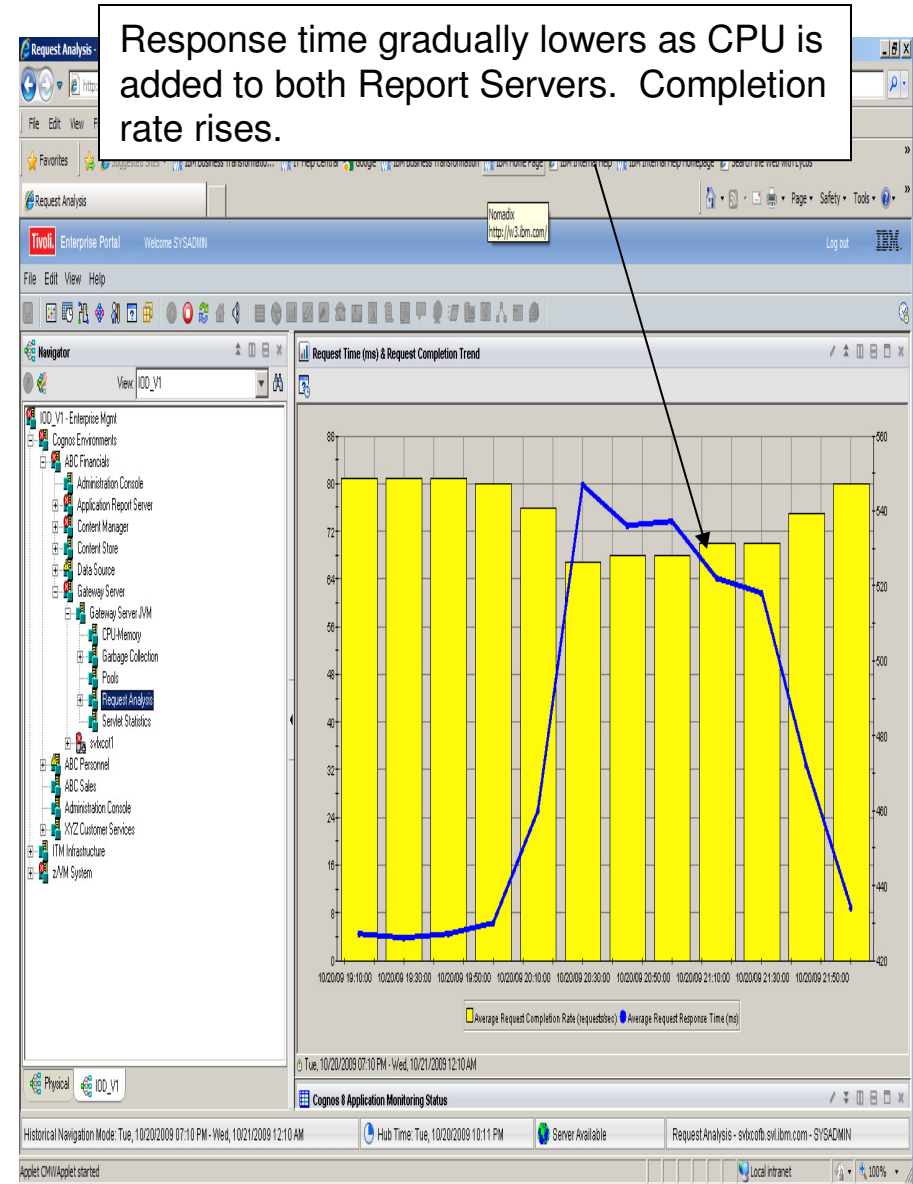
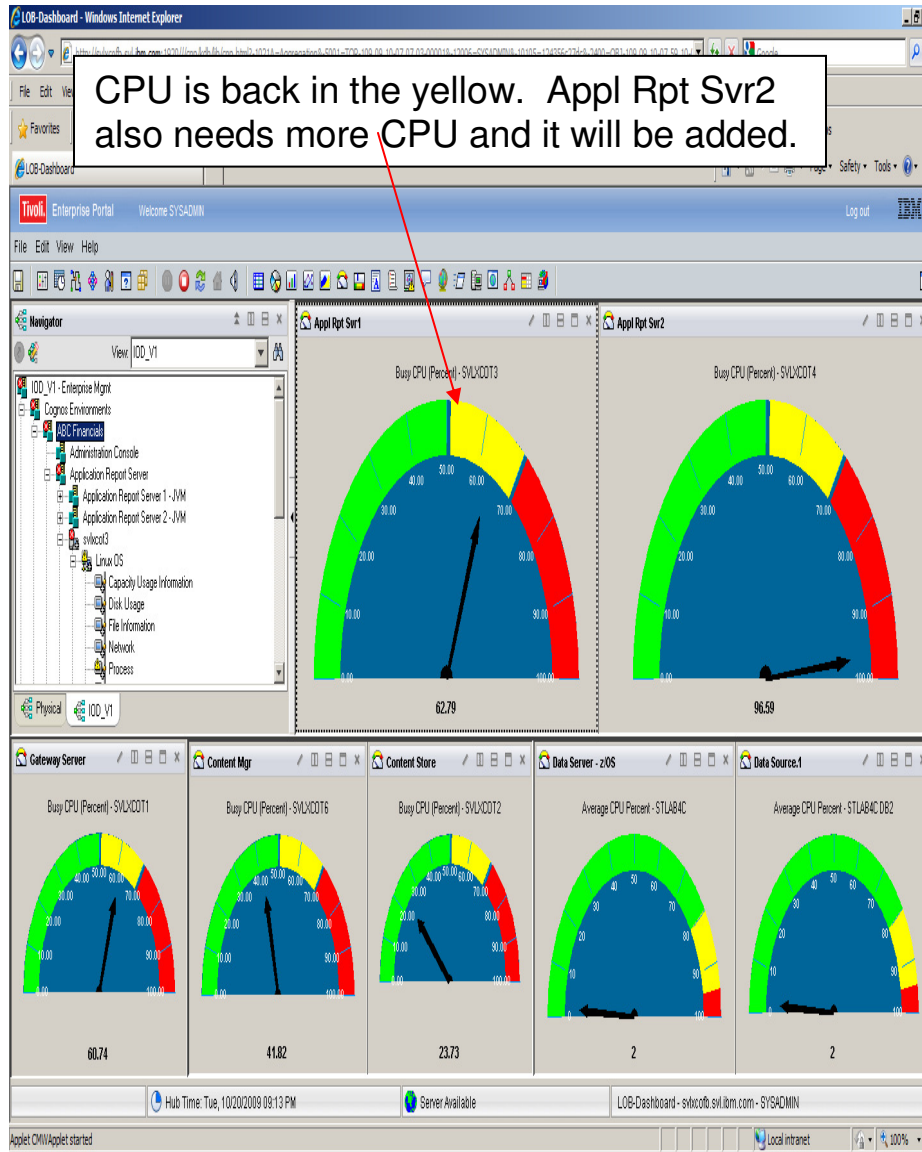
- Action Name:** zLinux Add CPU
- Command:** /netfs/depot/bin/cpu\_add.sh 1; /netfs/depot/bin/itm\_restart.sh;
- Destination Systems:** svlxcod3:LZ, svlxcog8:LZ, svlxcog9:LZ, svlxcogb:LZ, svlxcogq:LZ, svlxcogz:LZ, svlxcot1:LZ, svlxcot2:LZ, **svlxcot3:LZ**, svlxcot4:LZ, svlxcot6:LZ

# System Overview with new virtual CPU Online

New virtual CPU is online



# Verify Problem Resolution





## ***Historical Reporting***

- **Enables the IT and BI administrator to quickly analyze past system activity to assess whether permanent change is necessary or this is an infrequent occurrence.**



# Historical CPU Usage

Tivoli Integrated Portal - Windows Internet Explorer

https://svlxc0ff.svl.ibm.com:16316/ibm/console/login.do?action=secure

File Edit View Favorites Tools Help

Tivoli Integrated Portal

View: All tasks

Welcome annj

Help Log out IBM

Common Repo...

Work with reports

Cognos Viewer - ITM CPU Heat Chart

Start Date: Sep 20, 2009 12:00:00 AM End Date: Oct 20, 2009 11:59:59 PM

Selected Resource: svlxcot1, svlxcot2, svlxcot3, svlxcot4, svlxcot5, svlxcot6, svlxcot7

Enter New Parameters

AVG_Busy_CPU	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
svlxcot1	22.36	23.39	24.31	26.77	27.58	26.3	26.37	63.51	20.35	74.15	73.98	74.79	73.86	72.41	63.88	65.64	68.09	62.07	62.73	72.83	76.59	75.68	76.75	78.83
	76.52	76.72	76.5	76.35	76.77	75.81	77.49	76.22	59	3.46	3.52	21.74	77.74	78.44	77.28	78.73	73.83	68.56	79.96	79.09	79.3	78.83	79.26	82.1
	79.59	78.75	79.34	79.72	64.94	47.09	16.97	3.37	2.2	3.03	2.48	2.62	2.65	2.26	2.98	1.82	3.39	1.93	3.14	2.1	2.52	2.46	2.35	2.4
	1.74	3.3	1.79	3.29	2.2	2.96																		
	54.45	51.89	52.14	51.95	52.44	53.17	46.64	41.62	54.59	53.44	54.35	57.22	53.68	53.96	52.39	54.47	52.3	53.1	52.21	53.34	52.47	53.12	54.12	59.1
	51.95	52.28	51.15	50.55	52.47	51.32	52.56	35.35	34.54	46.67	45.58	50.11	46.22	45.94	45.24	45.86	44.15	44.8	47.16	47	44.61	45.68	46.78	51.1
	44.48	44.85	45.03	44.18	44.32	45.06	45.31	39.83	41.5	53.03	36.29	29.93	39.33	46.48	46.01	45.61	46.32	45.22	46.65	45.34	44.93	44.24	46.29	50.1
	47.18	45.62	44.92	45.51	44.74	44.75	36.92	40.04	53.24	51.38	51.37	58.27	52.33	52.37	53.18	53.91	52.23	50.72	52.36	51.49	51.04	53.51	53.08	60.1
	53.63	50.87	52.79	50.73	52.28	40.11	32.29	54.56	55.29	54.23	53.35	58.46	40.23	52.5	52.33	50.79	52.12	53.61	39.34	52.8	52.28	50.2	55.89	60.1
	57.77	52.38	51.56	51.79	40.51	28.67	51.48	52.21	50.86	50.88	51.76	54.82	52.23	52.42	53.41	52.17	51.55	52.01	50.98	52.35	51.64	54.12	54.15	59.1
	55.88	50.34	50.14	50.25	39.33	2.33	2.28	2.34	2.34	40.35	55.01	60.99	53.95	54.85	53.01	53.42	55.65	54.05	53.47	54.15	54.06	55.39	54.92	60.1
	58.59	52.08	52.29	53.21	52.51	53.15	50.81	52.91	52.65	13.77	2.03	5.57	8.74	9.84	4.03	1.37	2.23	1.63	4.34	1.98	5.48	2.78	3.96	3.1
	2.28	2.13	3.12	1.98	2.57	3.14	3.4	3.94	1.82	3.4	4.43	8.6	6.66	7.93	7.25	8.6	7.95	7.35	8.39	6.11	7.43	7.15	9.55	6.1
	6.81	6.55	6.43	7.28	5.94	7.59	7.19	7.75	7.54	6.63	5.93	13.66	6.49	6.74	7.59	6.87	7.73	7.43						
	1.1	1.02	1.03	1.02	1.02	1.02	1.02	1.03	1	1.03	19.39	1.1	1.03	1.05	1.12	1.13	1.15	1.15	1.11	1.13	1.13	1.18	1.45	1.1
	1.2	1.2	1.03	1.06	1.03	1.05	1.02	1.05	1.03	1.04	1.07	1.05	1.04	1.03	1.07	1.14	1.15	1.16	1.16	1.14	1.13	1.13	1.75	1.1
	1.15	1.15	1.13	1.06	1.06	1.06	1.06	1.04	39.61	56.97	54.14	52.99	54.79	55.57	54.86	55.04	53.93	54.3	52.59	53.26	53.53	54.52	55.54	60.1

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Local intranet 100%

## ***Summary***

Integrate Cognos with Tivoli to provide

- An integrated, customizable IT console to manage BI service delivery
- A single, shared source of usage indicators for IT system administrators, database administrators, and BI administrators
- Real time and historical system usage data with alerts and actionable options to understand service delivery, resolve resource usage concerns, and manage capacity requirements



## ***Questions??***





**Thank you!**