



# ***Business Service Management on System z***

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## ***Agenda***

- Business Service
- Business Metrics vs IT Metrics
- IBM Business Service Management

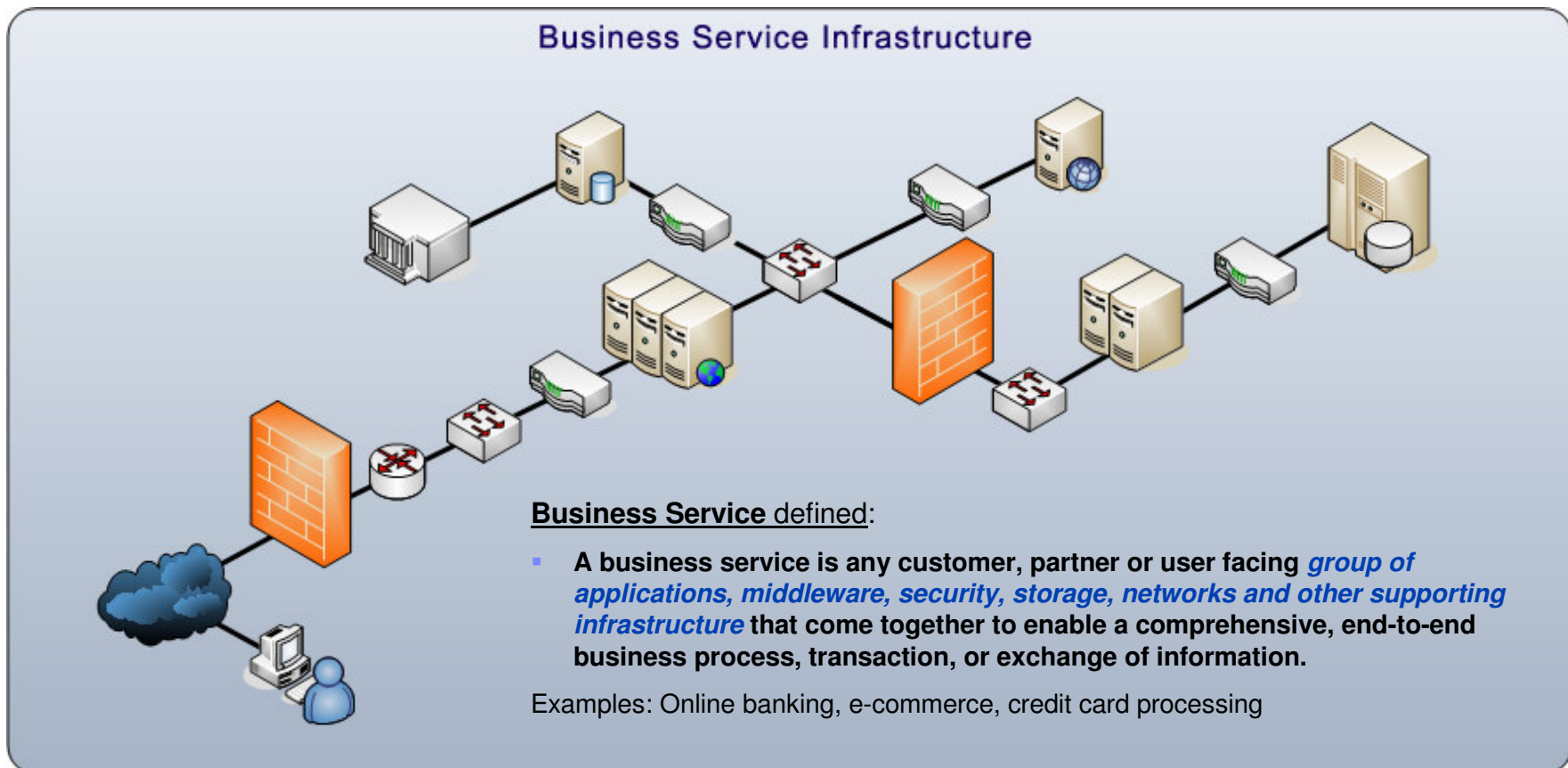


# ***Business Service Business Metrics vs. IT Metrics***

# What is a Business Service?

Traditional understanding:

- A customer, partner or user facing *business application*.
  - Examples: SAP, Seibel, Oracle, Microsoft Exchange, Websphere



## ***What are KPIs?***

***KPIs*** (Key Performance Indicators) are Operational, Line of Business, and financial **metrics** that reflect the strategic performance of an organization

*Sample KPIs: Banking Transactions, Medical Record Lookups, processed orders, failed transactions, transaction response time*

## ***KPIs by Industry***

### ***Retail Financial Services***

- Teller, ATM, Retail Banking Transactions completed
- Avg. Response Time by Transaction Type
- Failed Transactions
- Revenue from transactions
- Operational Penalty for application downtime and severe performance degradation

### ***Equities Trading***

- Transactions completed online
- Transactions passed to trading floor
- Online trading application performance
- Online trading application availability

### ***Auto Manufacturing Sales***

- Dealer Application Availability
- Orders processed
- Failed & reprocessed orders
- Order processing time when circuit utilization high.

### ***Video Publishing***

- Number of videos purchased by retailers
- 'Order processing' application availability
- Partner network circuit availability
- Failed & reprocessed orders

### ***ASPs (service hosting)***

- Active Users per application instance by Customer SLA Type
- Failed queries per application instance
- Average logged-in time by customer
- Average transaction completion time, and comparison to historic metrics under identical loads

Great location on industry specific KPIs:

<http://w3-03.ibm.com/sales/compass/industry/lc/custbusvalqv.nsf/Content/85257067%3A00573A45>

# IT Centric KPIs

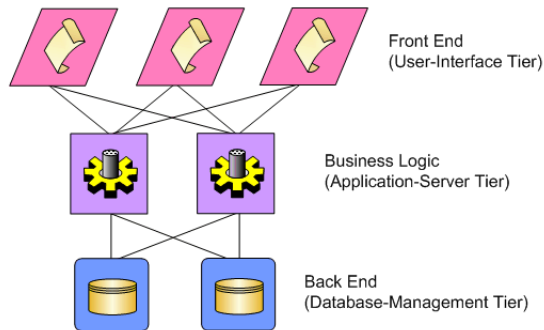
## Email Environment

- *MB of email processed by server and region*
- *Internal and external Messages transferred*
- *Average internal & external email transfer times*
- *Failed transfers*



## 3 Tier Web Applications

- *Breakdown of response times by tier and network*
- *Response time by tier as percentage of historic averages*
- *Active Users per application*
- *Load Balancer sessions*



## Server Virtualization

- *LPAR & Virtual Machine Utilization*
- *Physical server or mainframe utilization*
- *Efficiency achieved through virtualization*
- *Virtual Instance and physical device availability*



## Enterprise Operations

- *High Severity Tickets per Line Of Business*
- *Line of Business Application Availability*
- *Mean Time To Repair*
- *User experience by line of business vs. historic a*



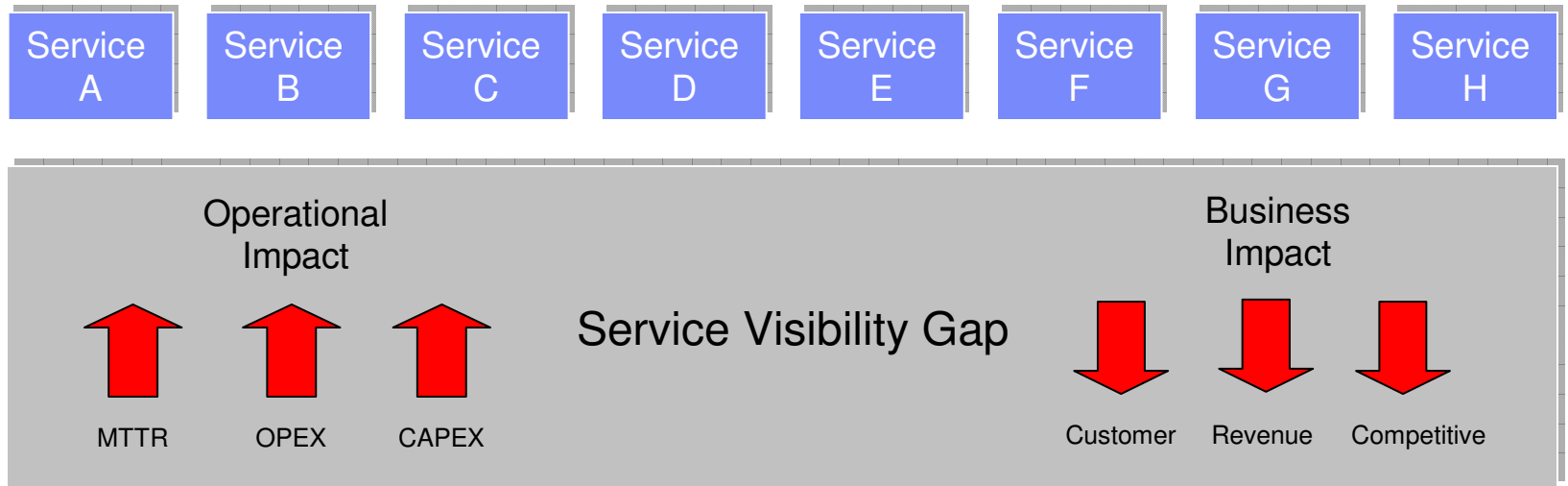


# ***IBM Business Service Management***

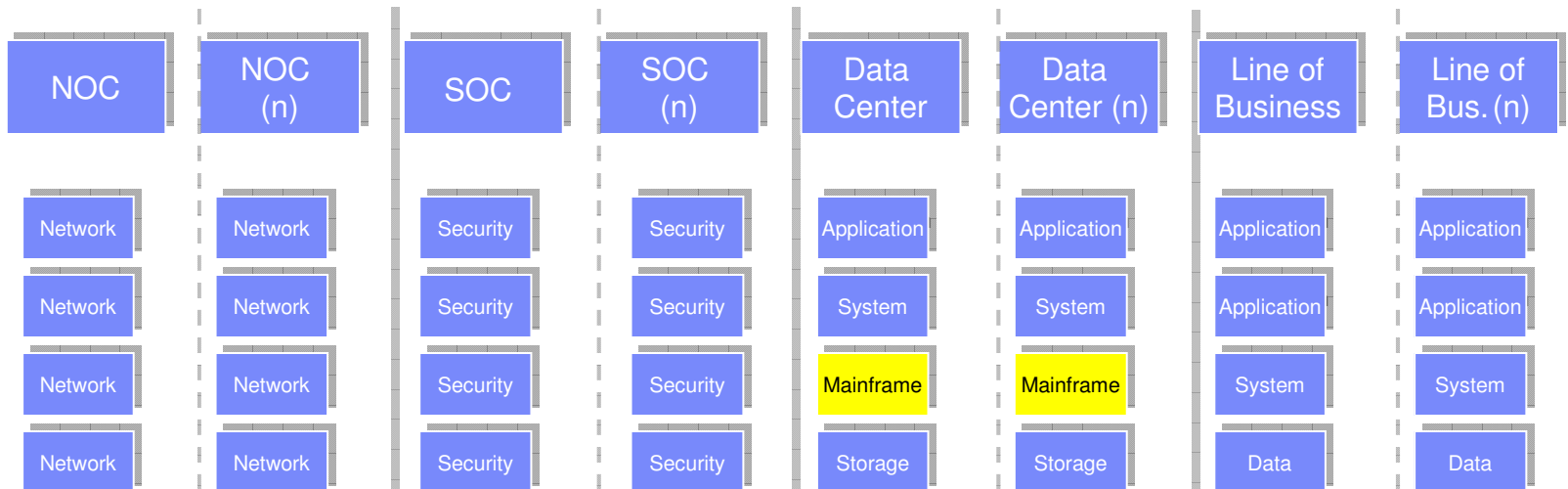


# Common Challenges to Aligning Operations & Business Services

Multiple Business Services

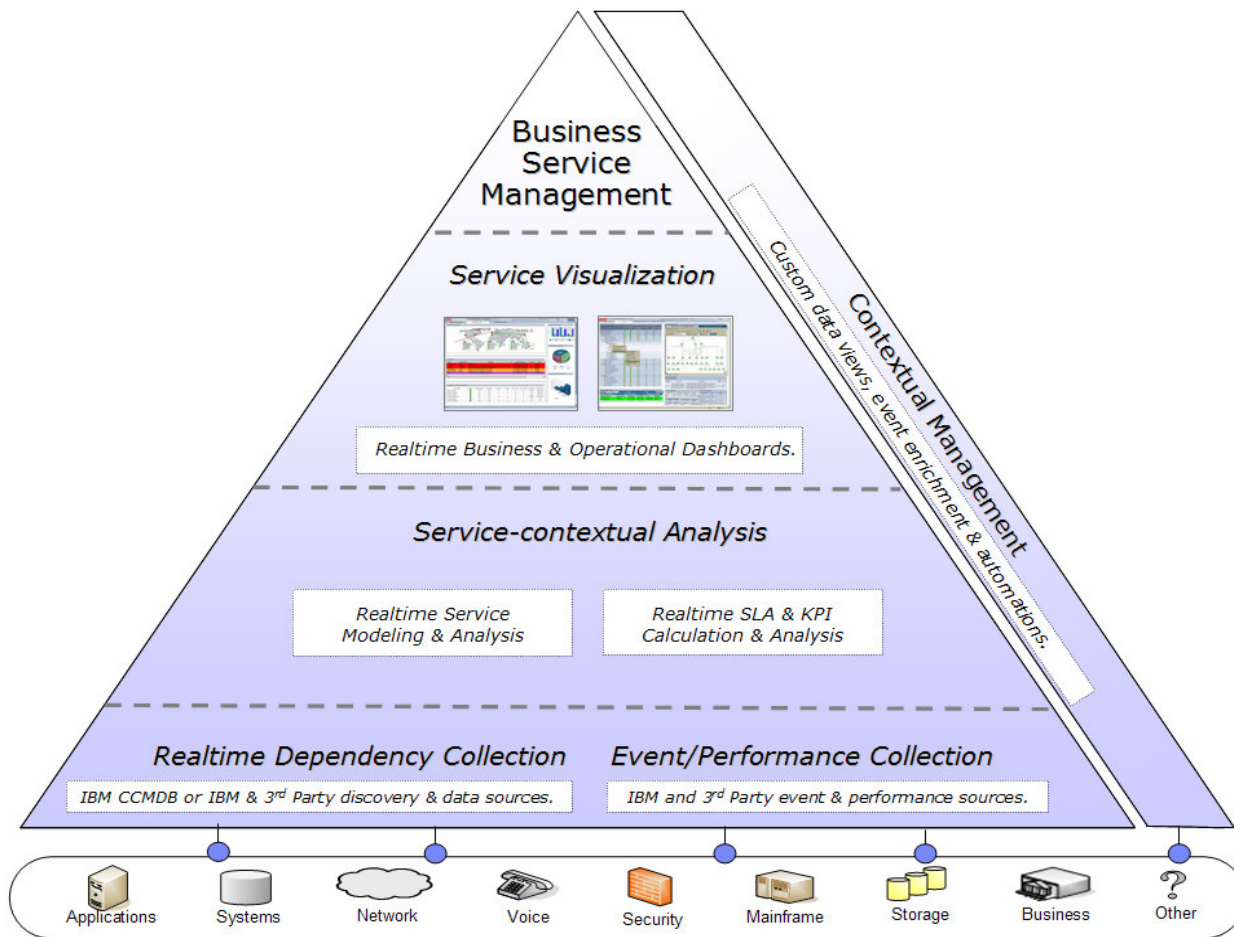


Multiple Operations Centers



Multiple Silos, Tools, Technology, Metrics, Data, Staff, Vendors...

# IBM BSM Solution



## **Service-contextual Analysis:**

- Realtime Service Modeling
- Service Impact Analysis
- Root Cause Analysis
- KPI calculation & tracking
- SLA calculation & tracking

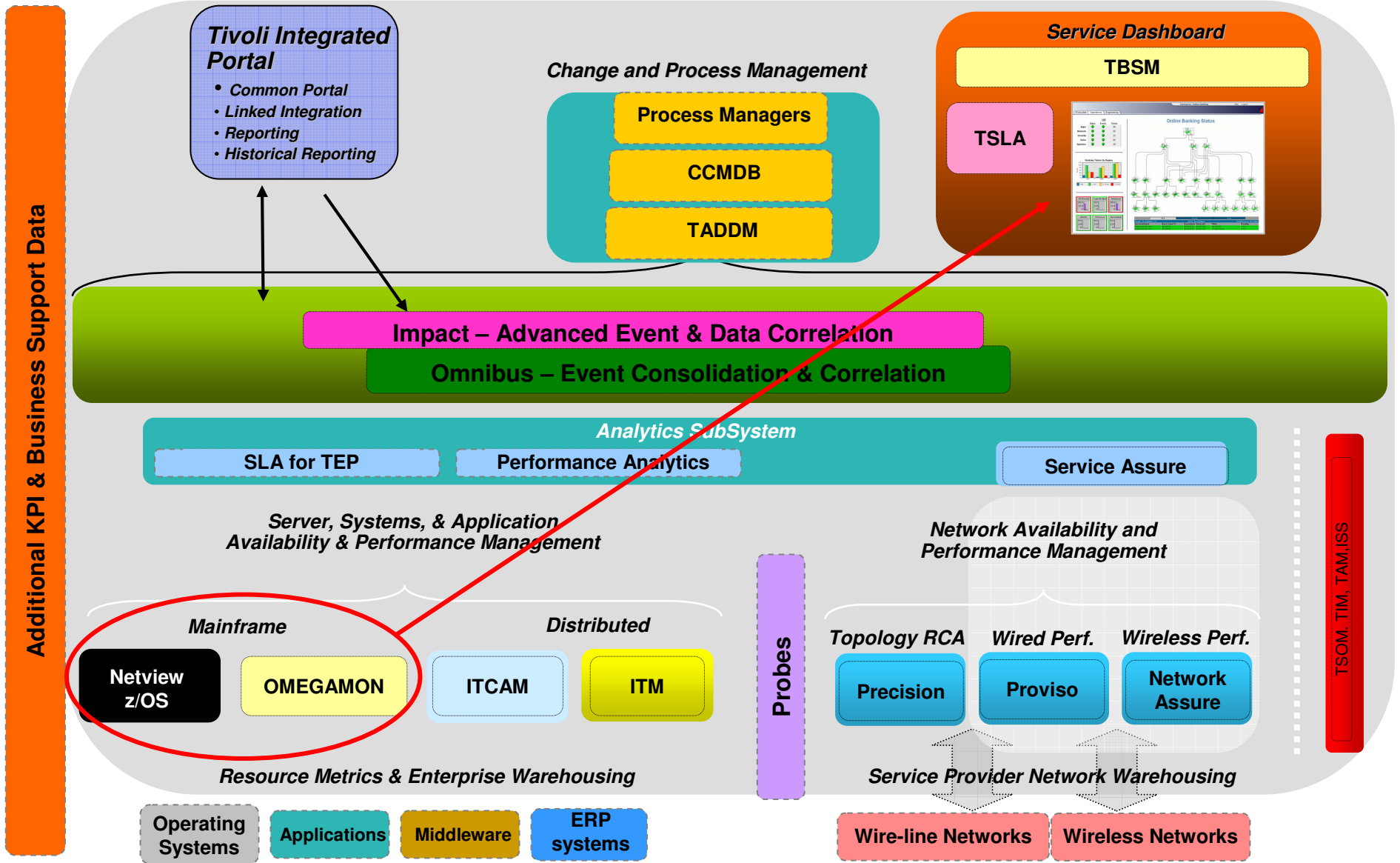
## **Contextual Management:**

- Leverages external data sources & custom policies to deliver:
  - Custom views of distributed data in an integrated web interface.
  - Advanced KPI calculation
  - Event enrichment with business context.
  - Advanced/custom correlation
  - Custom automations and integrations.

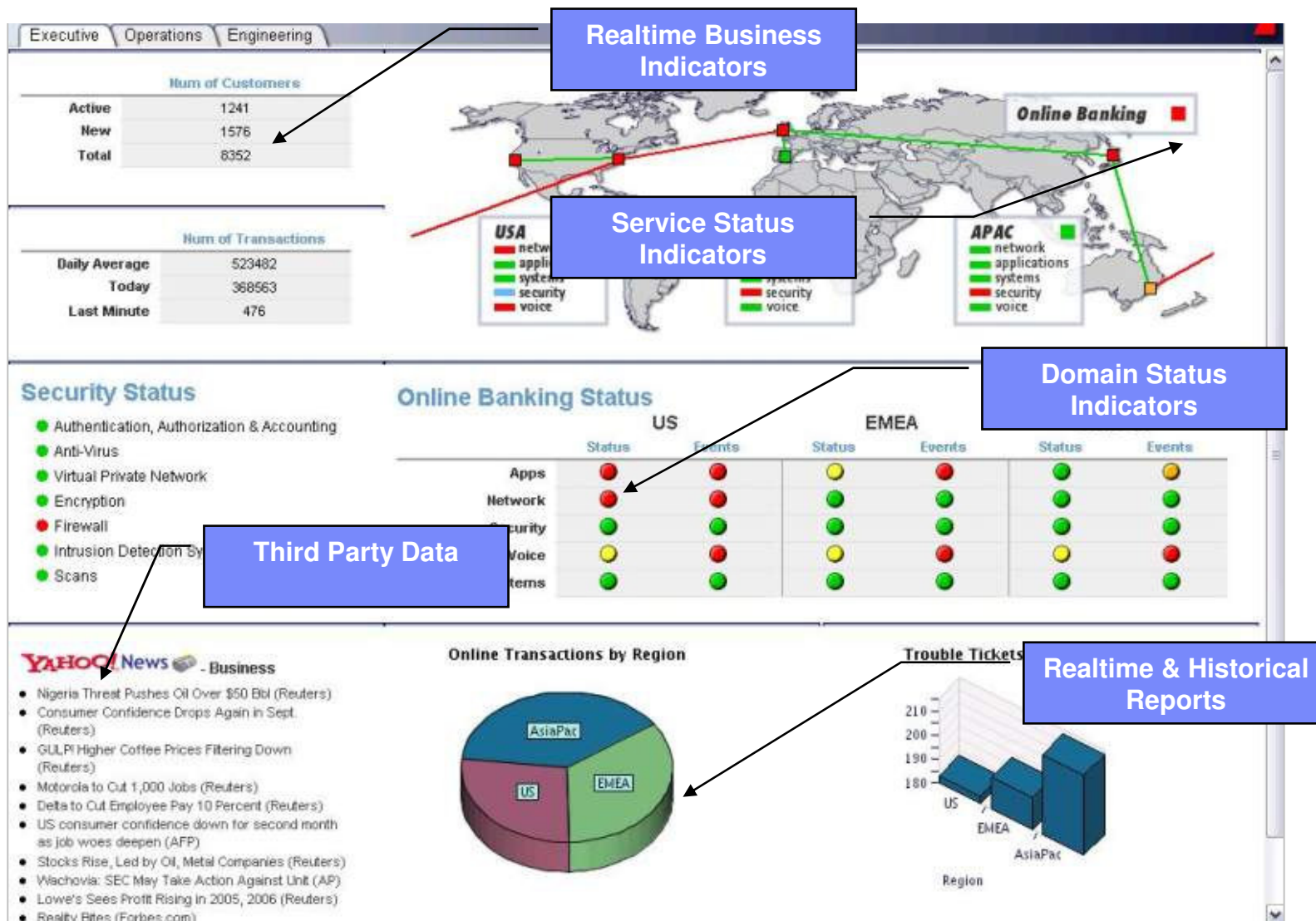
## **Service-centric Collection:**

- Leverages existing investments in IBM & 3<sup>rd</sup> party CMDBs, discovery and dependency sources.
- Leverages existing investments in IBM & 3<sup>rd</sup> party monitoring
- Includes ultra-scalable event consolidation & correlation.

# Business Service Management



# Single Effective Management Interface: Business Dashboard



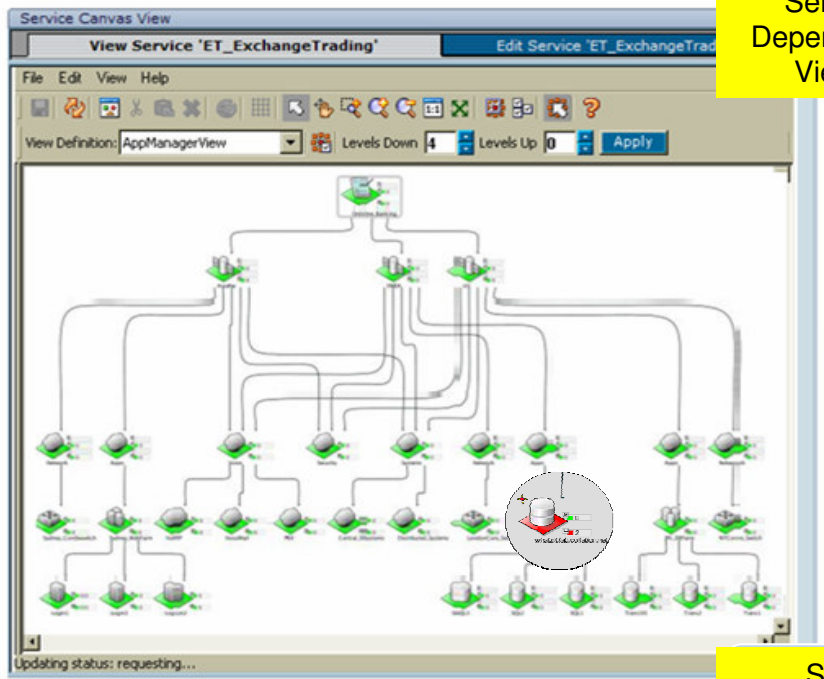
# Contextual Service Visibility

Balanced Scorecards & KPIs

Tivoli Service Manager View

Service	State	Infrastructure State	% Throughput vs. Baseline	ResponseTime (ms)	Historical Baseline (ms)	Total Tickets
ExchangeTrading	●	●	81%	544	444	35
OnlineBanking	●	●	88%	680	600	3
StockTrader	●	●	101%	592	600	43
London	●	●	142%	387	550	10
ET_CancelOrder	●	●	55%	90	50	0
ET_ChangeOrder	●	●	267%	52	139	0
ET_ExecuteBuyOrder	●	●	81%	92	74	0
cluster34	●	●				
helios:server5 (WebSphere)	●	●				
helios:server7 (WebSphere)	●	●				
helios:server8 (WebSphere)	●	●				
ET_ExecuteSellOrder	●	●		65	136	6
ET_GetQuote	●	●		12	18	4
ET_Login	●	●		76	132	0
ISM Service Report Viewer	●	●		598	533	28
New York	●	●				
ET_CancelOrder	●	●	78%	138	107	7
ET_ChangeOrder	●	●	91%	168	153	0
ET_ExecuteBuyOrder	●	●	74%	215	159	0
ET_ExecuteSellOrder	●	●	413%	5	20	0
ET_GetQuote	●	●	188%	3	5	14
ET_Login	●	●	126%	69	87	7
Tokyo	●	●				
ET_CancelOrder	●	●	202%	81	163	0
ET_ChangeOrder	●	●	65%	293	190	2
ET_ExecuteBuyOrder	●	●	189%	70	132	3
ET_ExecuteSellOrder	●	●	61%	38	23	0
ET_GetQuote	●	●	79%	118	94	0
ET_Login	●	●	58%	193	112	0

Realtime Service Dependency Views



SLA Performance Tracking

Service Details View

Entity: SLAStatus_14	View: SLA Status	DataSource: ...			
Service Name	Best Case %	Downtime	TimeLeft	Twin	Priority
NYWebFarm	99.991	00:03:47s	00:56:12s	12-Aug-07	145.14
SFWebFarm	97.736	00:03:47s	00:22:15s	19-Sep-07	300.57

Realtime Event & Root Cause Views

Event View

Node	Alert Group	Summary	Last Occurrence	Count	Type
watersrv.ral...	Status	Node Down.	10:47:27 AM	1	Problem
omnibus	PROBE	A PROBE process, tree10recad, running on ...	9:38:00 AM	1	Problem
omnibus	probestat	tree10recad probe on omnibus: Going Down	9:38:00 AM	2	Problem
FAPUWDEO.ra...	Status	Interface 9.27.144.163 down. CRITICAL	10:48:34 AM	1	Problem
FJ6...	Status	Interface 9.27.144.163 down. CRITICAL	10:29:04 AM	1	Problem
rw7 probe on kwi...	Status	Heartbeat Message	10:57:19 AM	97	Not Set

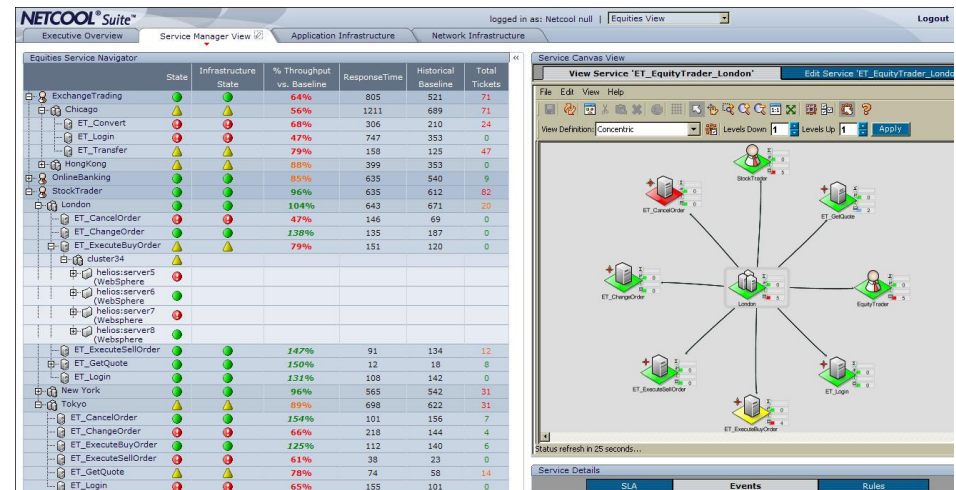
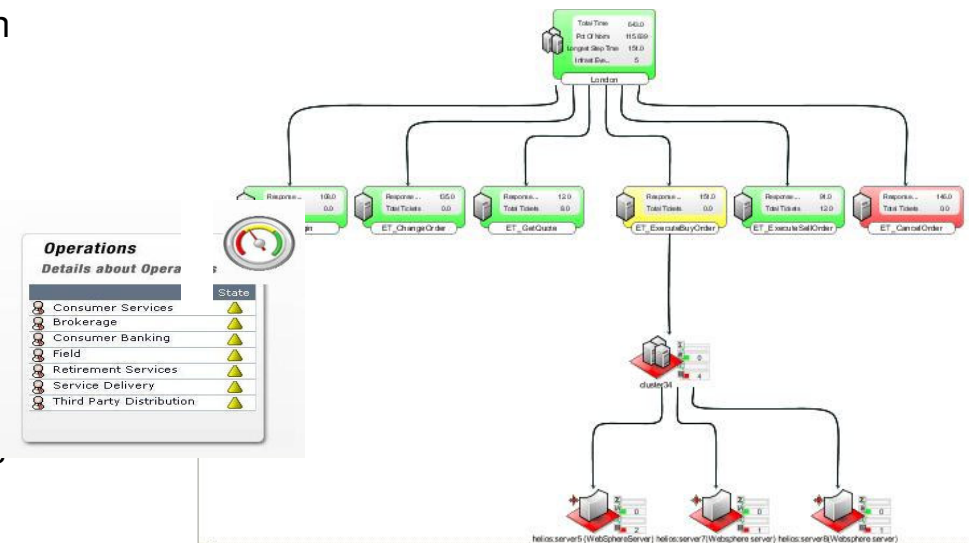
Contextual Views of Federated Data/Intelligence

Contextual Data View

Management Number	Service Impact	Impact Statement	Command Center	Customer
29762127	SORT (Sales out Reporting and Tracking) application: b03edr001 ('STAGE' db2 server), the DPROF processes that are down are called EVENTAPPLY and RPT_APPLY2	Sales Out Reporting and Tracking- If the SORT application is not available, business partner incentive payments and IBM sales rep commissions will be delayed. Business Partner and IBM users will experience a significant workload increase and Business Partner satisfaction will decline. Currently, the site is available, however, with the DPROF applications not functioning, the SORT application will be running with old data.		

## Business Service Management – Key Features

- Service Management is all about aligning IT with the services offered by the business, to improve service quality to the customer.
- BSM provides the means for IT and service managers to visualize and assure the health and performance of critical business services.
- Capabilities:
  - Model and visualize business systems and services*
  - Custom business views & dashboards*
  - Real-time service status from events and external sources*
  - Dynamic key performance indicators (KPIs)*
  - Advanced numeric rules for calculations*
  - Service definition from TADDM/CMDB/inventory*
  - Real-time Service Level Tracking*
  - Tailored business dashboards*
  - Granular user and role permissions to control views and filter content*
  - Drill-down support for operations – access to event details and history, and detailed monitors*
  - Broad operating system platform support*



## IBM BSM: A better way to manage your business



### Business Benefits

- ✓ Gain real-time visibility into business performance indicators
- ✓ Understand and improve the customer experience.
- ✓ Streamline business processes via identification of bottlenecks.
- ✓ Ensure SLA guarantees are being met.
- ✓ Improve investment planning and reduce unnecessary capital expense.

### Operational Benefits

- ✓ Manage against business objectives via improved business impact analysis .
- ✓ Improve operational agility through tools integrations and high automation.
- ✓ Pinpoint service root causes across silos and improve MTTR
- ✓ Identify future service requirements for improved IT investment planning
- ✓ Streamline service delivery processes and improve staff productivity.

*IBM BSM software provides the service visibility & intelligence you need to deliver against your business objectives.*

# IBM BSM Software: Integrated Service Visibility & Intelligence



- **BREADTH**: *From business to service infrastructure.*  
The *only* industry solution to provide real-time, end-to-end management for Layers 1 – 7, as well as critical business events.
- **SCALE**: *Scalability to cover business growth.*  
The industry's fastest, most scalable engine for event collection, consolidation, and correlation.
- **SPEED**: *More value, faster.*  
Deploys quickly for immediate ROI and enables rapid response to service problems before services are impacted.
- **LEVERAGE**: *Leverage your existing investments.*  
Integrates and adds value to your existing platforms, tools, and applications...*without* disruptive changes to architecture or workflow.
- **FLEXIBILITY**: *Fit the tool to the business.*  
Customizable and configurable to adapt to your organization's unique requirements ... *not* the other way around.





## ***Delivering BSM on System z***

**Infrastructure Views**

- Operations staff
- Technical Support staff

→ ITM & OMEGAMON XE

**Low level Diagnostics**

- Technical Support staff
- Systems Programmers

→ OMEGAMON Classic

The screenshot shows the 'System CPU Utilization' web interface in Microsoft Internet Explorer. The interface includes a navigation tree on the left, a main display area with two charts (Workload CPU Usage and Partition CPU), and a data table at the bottom. The table provides metrics for Average CPU Percent, RMF MVS CPU Percent, RMF LPAR CPU Percent, Total TCB%, Total SRB%, Average IFA Percent, Average IFA on CP Percent, MVS Overhead, 4 Hour MSUs, Undispatched Tasks, Partition LCPD%, Partition PCPD%, Partition Overhead%, CPUs Online, CPUs Offline, and Physical CPU Count.

Average CPU Percent	RMF MVS CPU Percent	RMF LPAR CPU Percent	Total TCB%	Total SRB%	Average IFA Percent	Average IFA on CP Percent	MVS Overhead	4 Hour MSUs	Undispatched Tasks	Partition LCPD%	Partition PCPD%	Partition Overhead%	CPUs Online	CPUs Offline	Physical CPU Count
100	21.0	22.9	5	1	0	0	14	N/A	0	0	0	0.00	00		0

Below the table, the terminal output shows 'Virtual Storage Under- and Over-Allocations' and 'VMEM IMS Virtual Storage Constraint Analysis'. The analysis table lists regions like Control Region, DBRC, DLS, and IRLM with their respective Lsq, Free, Largest, Assured, Private Free, Private Largest, and Private Top block values.

```

> Virtual Storage Under- and Over-Allocations

VMEM IMS Virtual Storage Constraint Analysis
+
+
+      Lsq      Lsq      Lsq      Private Private Private
+      Free     Largest Assured Free     Largest Top block
+ Control Region : 6580k  6580k   0k    6580k  6580k  6580k
+ DBRC   Region : 8944k  8924k   0k    8924k  8924k  8924k
+ DLS    Region : 8340k  8324k   0k    8372k  8324k  8324k
+ IRLM   Region : 8540k  8524k   0k    8524k  8524k  8524k
=====
> For more information on a specific region, place the cursor on the region
> name and press PF11.

RGNA  IMP1CTL IMP1DBR IMP1DLI IMP1IRM  IMP1FP2 IMP1FP1 IMP1MP1 IMP1FP3
=====
  
```

B  
PF11

AREA  
=====

### High Level Business Views

- Business Managers
- End Users

→ TBSM

### Business Component Views

- Application Support staff
- Help Desk staff
- Operations staff

→ TBSM

### Infrastructure Views

- Operations staff
- Technical Support staff

→ ITM & OMEGAMON XE

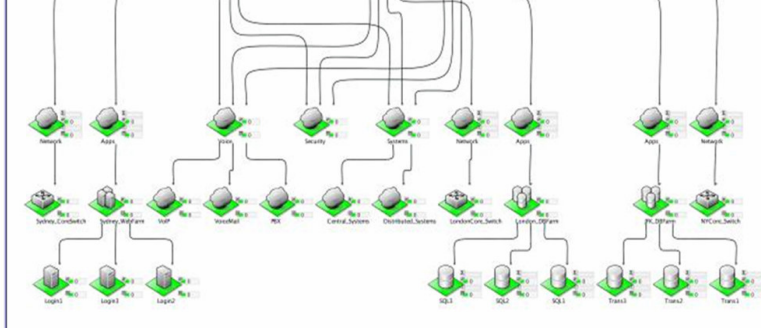
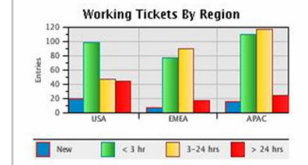
### Low level Diagnostics

- Technical Support staff
- Systems Programmers

→ OMEGAMON Classic

#### Equities Service Navigator

	State	Infrastructure State	% Throughput vs. Baseline	ResponseTime	Historical Baseline	Total Tickets
EquityTrader	●	●	93%	463	432	125
London	●	●	92%	545	505	30
ET_CancelOrder	●	●	50%	122	61	0
ET_ChangeOrder	●	●	113%	125	141	0
ET_ExecuteBuyOrder	●	●	77%	127	98	0
ET_ExecuteSellOrder	●	●	122%	69	84	18
ET_GetQuote	●	●	150%	12	18	12
ET_Login	●	●	114%	90	102	0
New York	●	●	100%	373	374	38
Tokyo	●	●	88%	472	418	57
ExchangeTrading	●	●	62%	615	381	107
OnlineBanking	●	●	82%	424	349	14



ServiceName	Best Case %	DownTime	TimeLeft	TWin	Penalty
BigBuyWebE-arm	99.991%	00:03:47s	00:56:12s	Apr-2004	2.15
BigBuyWebE-arm	99.736%	00:03:47s	00:26:12s	92-Apr-2004	2.15

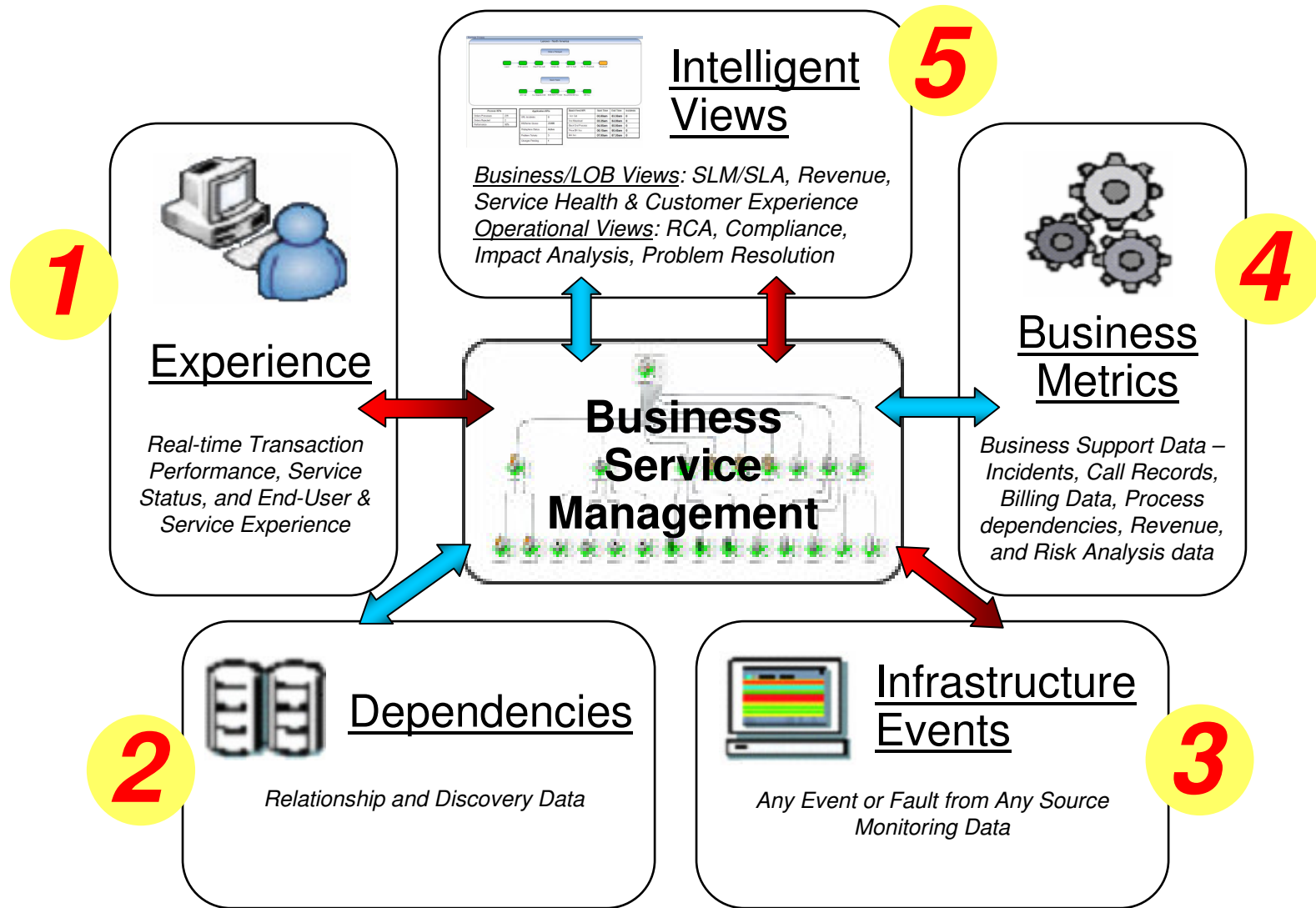
Average CPU Percent	RMF MVS CPU Percent	RMF LPAR CPU Percent	Total TCBE%	Total SRB%	Average IFA Percent	Average IFA on CP Percent	MVS Overhead	4 Hour MSUs	Undispatched Tasks	Partition LCPD%	Partition PCPD%	Partition Overhead%	CPUs Online	CPUs Offline	Physical CPU Count
100	21.0	22.9	5	1	0	0	14	N/A	0	0	0	0.00	00	0	0

For System OMO1  
Hub Time: Thu, 03/29/2007 12:04 PM  
Server Available  
System CPU Utilization - pthrv22 - SYSADMIN

```

RGNA  IMP1CTL IMP1DBR IMP1DLI IMP1IRM IMP1FP2 IMP1FP1 IMP1MP1 IMP1FP3
=====
  
```

# What are the key steps to a successful BSM solution?



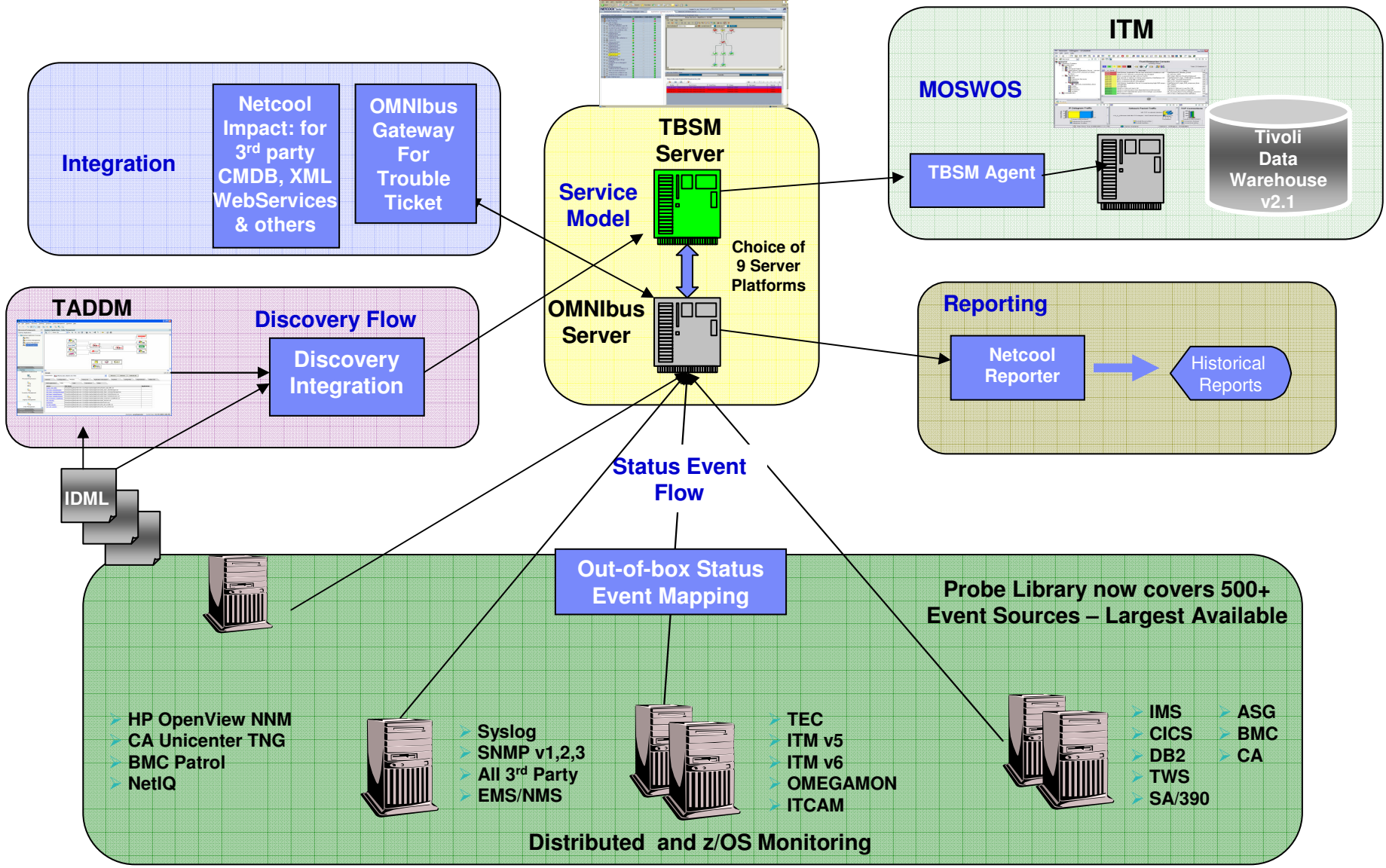


# ***Tivoli Business Service Manager***

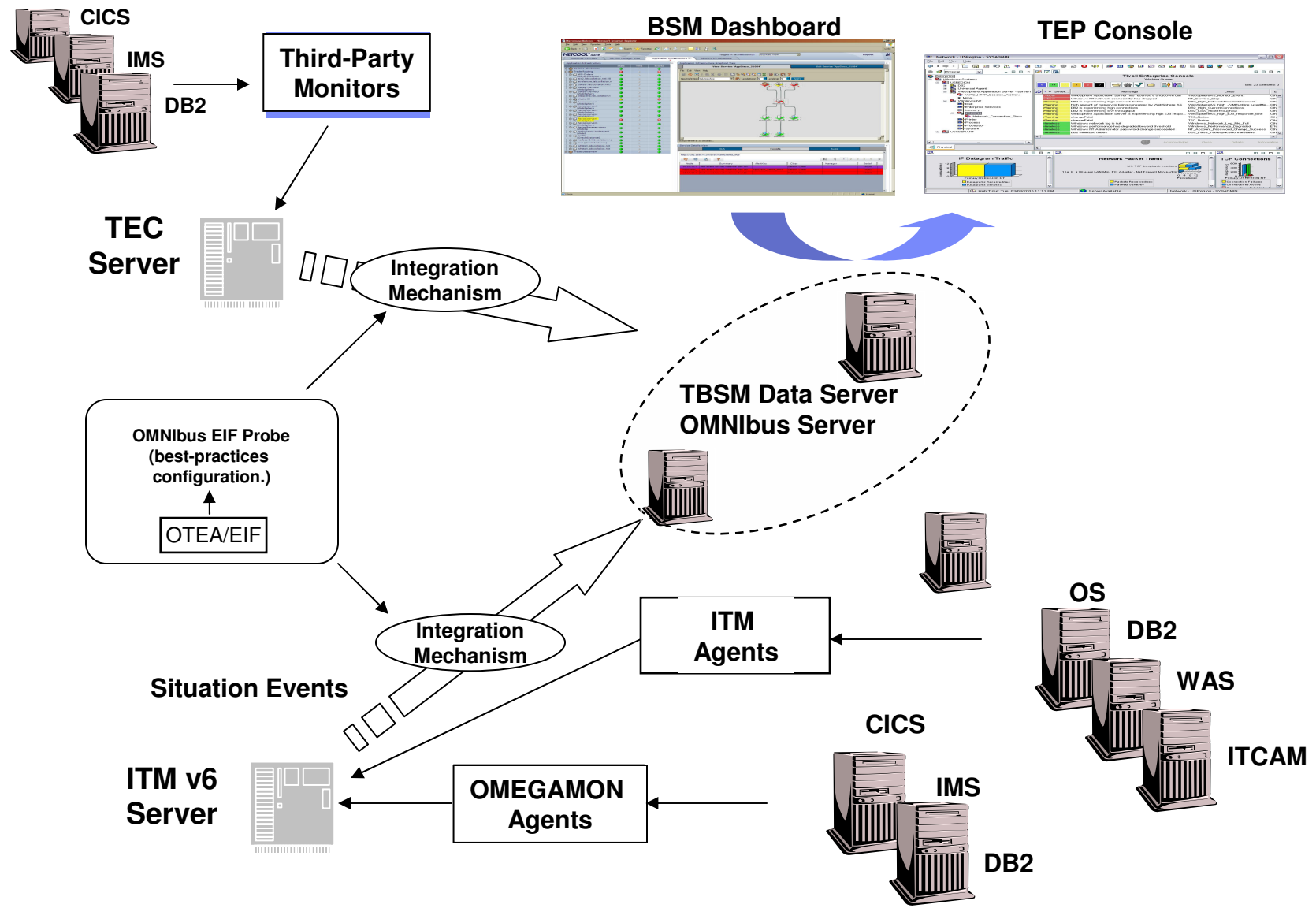
# TBSM v4.1 Architecture

TBSM V4 Dashboard

 = TBSM V4 installed



# TBSM Integration: ITM/OMEGAMON Events



# Status and Structure

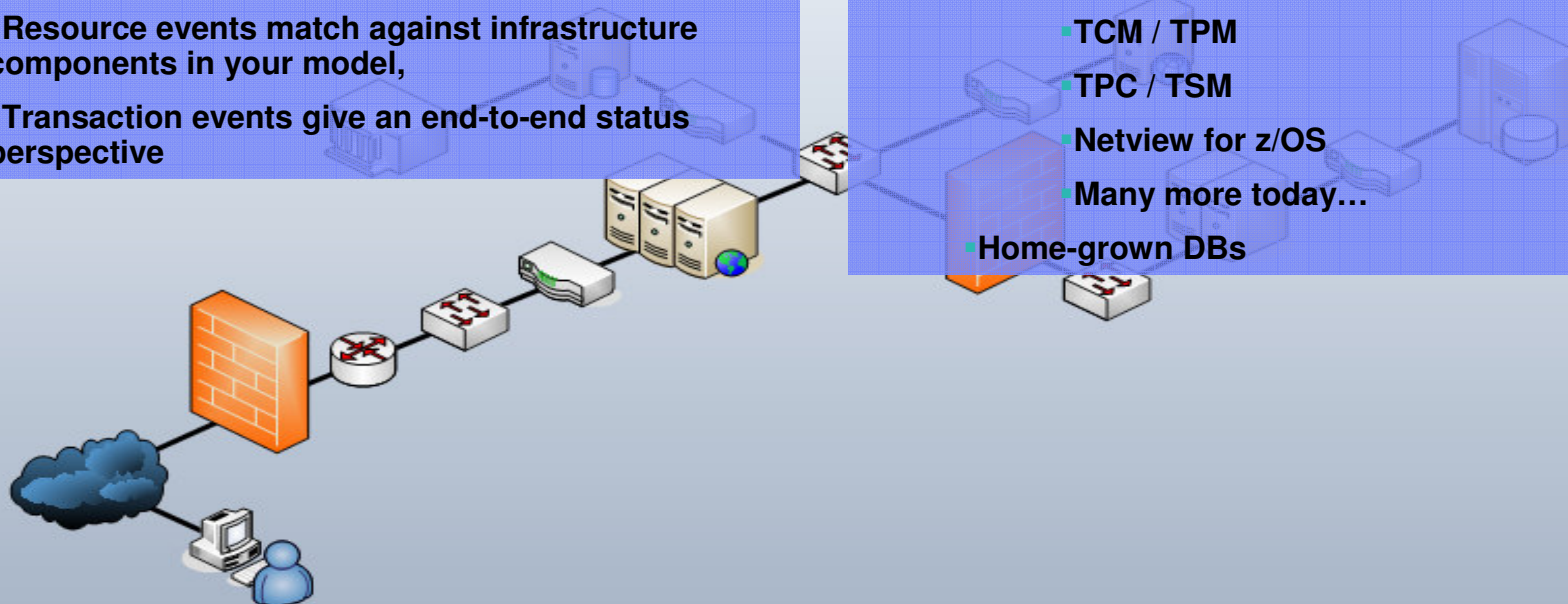


## Events Sources:

- Netcool/Omnibus
- TEC
- OMEGAMON
- NetView for z/OS
- Any source that sends an event OMNibus, TEC, SNMP Trap, ...
- Resource events match against infrastructure components in your model,
- Transaction events give an end-to-end status perspective

## Discovery and Dependency Sources:

- TADDM, CCMDB
- 3rd-party CMDB
- Discovery Library Adapters (DLAs):
  - z/OS
  - TMS
  - ITCAM family
  - TCM / TPM
  - TPC / TSM
  - Netview for z/OS
  - Many more today...
- Home-grown DBs







# ***Business Service Management Discovery Library Adapters z/OS***

## What is a Discovery Library Adapter

- Discovery Library Adapters (DLAs)
  - Discover resources and relationships
  - Aim for zero prerequisites
  - Create an XML file that is in Identity Markup Language (IdML) format, which conforms to the Common Data Model (CDM)
  - The XML files are loaded into TADDM via the Discovery Library Bulk Loader
  - The XML files can be loaded directly into TBSM v4
  
- z/OS DLA
  - Discovers z/OS hardware and z/OS details; Address Space details; Subsystem Details (DB2, IMS, MQ, CICS, WAS)
  
- TMS DLA
  - Discovers Tivoli Monitoring Services resources; All Managed Systems, including Distributed Agents and OMEGAMON XE mainframe agents. Logical Groupings.
  
- IBM Tivoli NetView for z/OS DLA
  - Discovers System z IP Managed Element data

## **TBSM 4.1 z/OS -- Key Value**

### ■ Quick Time to **Value**

#### – XML

- CCMDB loads the XML files to detect configuration changes
- TBSM loads the XML files for dependency relationships and event correlation (BSM\_Identity).

### ■ Strong design focus to be **simple, efficient** and accurate

- Batch job that can be run “out of the box”
- Anyone with basic access to the z/OS can perform the discovery
  - > Does not require complex customization
  - > Does not require a live agent environment to be installed.
  - > Does not require z/OS, IMS, CICS etc expertise.
  - > Does not require site knowledge e.g. no naming conventions needed

## ***Discovery Library Adapter relevant for TBSM z/OS***

- The (Tivoli Monitoring Services) **TMS DLA** comes with Tivoli Enterprise Portal (TEP) and discovers:
  - All Managed Systems, including ITM and OMEGAMON XE agents
  - Logical View “collections”
  - Attributes to enable context sensitive launch into TEP
  
- The **NetView for z/OS DLA** discovers:
  - IP Networking Topologies
  - Recognizes SystemZ and Distributed networked servers
  - Attributes to enable context sensitive launch into TEP
  
- The **z/OS DLA and TMS DLA** can be used independently or in conjunction with each other.
  - Main strengths of z/OS DLA not covered by TMS DLA
    - > Richer Subsystem Relationship & Attribute discovery
    - > Z Hardware discovery
  - Main strengths of TMS DLA not covered by z/OS DLA
    - > Enables context sensitive launch to TEP
    - > Event correlation to ITM & OMEGAMON XE

## ***Agenda***

- IBM Business Service Management
- Convergence of Tivoli and Netcool BSM Products
- What is BSM?
- Managing z/OS Business Systems with TBSM
  - TBSM v3 and TBSM v4
  - TBSM z Directions
  - Key Value
  - z/OS Discovery
  - Integrations

## ***OMEGAMON integration to TBSM***

- Imports resource information from all OMEGAMON agents
  - Via the TMS DLA
  
- Provides support for z/OS data sources using OMEGAMON as a key source for resource status information
  - OMEGAMON status events are mapped to the right instances “Out-of-the-box”
  
- Supports any z/OS data sources
  - Using EIF-based status events
  - NetView for z/OS, System Automation for z/OS, etc...

# BSM Solution for z/OS – Alignment with OMEGAMON

The screenshot displays the Tivoli Enterprise Portal interface for CICSGroups. The browser window title is "CICSGroups - Microsoft Internet Explorer". The address bar shows a URL: `http://cvtwin32.tivlab.raleigh.ibm.com:1063/kdh/lib/cnp.html?-12000=SYSADMIN&-5001=TOP-107.04.19-15.49.50-00001&-1021A=Aggregation&-1020=OBJ-107.04.1`. The page header includes "Welcome SYSADMIN" and "Tivoli Enterprise Portal" with a "Log out" link. The main interface is divided into several sections:

- View: CICSGroups**: A tree view on the left showing the hierarchy of CICSGroups. It includes "CICSGroup1" with sub-items "LP11.CICST11A", "LP11.CICST11B", and "CICSGroup2" with sub-items "LP11.CICST11C", "LP11.CICST11D", and "LP11.CICST11E".
- Graphic View**: A world map showing the geographical distribution of CICSGroups. Labels on the map include "LP11.CICST11B" (North America), "LP11.CICST11A" (Europe), "LP11.CICST11C" (Africa), and "LP11.CICST11E" (Asia).
- Service Viewer**: A network topology diagram showing the relationships between CICSGroups. It features a central "CICSGR2" node at the top, connected to three intermediate nodes: "LP11.CICST11D", "LP11.CICST11B", and "LP11.CICST11E". These intermediate nodes are further connected to a bottom layer of nodes: "CICST11C.LPT1", "CICST11D.LPT1", and "CICST11E.LPT1".

At the bottom of the interface, there is a status bar with the following information:

- Hub Time: Fri, 04/20/2007 09:57 AM
- Server Available
- CICSGroups - cvtwin32.tivlab.raleigh.ibm.com - SYSADMIN
- Applet CMWApplet started
- Internet

# *Integration Interfaces*

## **Discovery Information**

Any IDML-producing source provides resource and relationship information to TBSM  
External Service Dependency Adapters (ESDAs) federate other resource info sources  
Event sources auto-populate (auto-pop) resources into TBSM  
When TADDM / CCMDB is in the environment, TBSM imports all resource and relationship information

## **Status Feeds**

Any source that sends events to OMNibus or TEC is enabled to send to TBSM  
TBSM ships out-of-the-box event mapping rules for OMEGAMON, ITM, and many other event sources  
All event mapping rules are customizable and extensible by users  
Data Fetchers allow myriad service status information to integrate to the dashboard



# Contextual Launch Integration

DB2  
Subsystem

Service Tree

Service	State	Time	Events
Imported Busin...vices	Green	Green	Green
StockTrader	Green	Green	Red
OnlineTrade	Green	Green	Red
CICS	Green	Green	Green
Databases	Green	Green	Red
DB81-LP11	Red	Green	Red
PERFPLEX:LP11:MVSSYS	Green	Green	Green
LP11-z/OS	Green	Green	Green
PERFPLEX	Green	Green	Green
TradeApp	Green	Green	Green
TradeAppWebServices	Green	Green	Green

Service Viewer

View Definition: Relationships | Levels Down: 3 | Levels Up: 1 | Apply

DB2 Subsystem

Service Details

Node	Summary	AlertKey	Class	Manager	Serial
DB81:LP11	KDP_EDMU_Critical[[EDM_Utilizatio	KDP_EDMU_Critical	TME10tecad	tme10tecad probe on	1328

## Contextual Launch – Show Service Affecting Events

IBM Tivoli Netcool - Windows Internet Explorer

http://cvtwin53.tivlab.raleigh.ibm.com:8080/

logged in as: Netcool Administrator | Desktop | Go | Logout

**Service View**

**Service Tree**

Service	State	Time	Events
Imported Busin...vices	●	○	●
StockTrader	●	○	●
OnlineTrade	●	○	●
CICS	●	○	●
Databases	●	○	●
DB81-LP11	●	○	●
PERFPLEX:LP11:MVSSYS	●	○	●
LP11-z/OS	●	○	●
PERFPLEX	●	○	●
TradeApp	●	○	●
TradeAppWebServices	●	○	●

**Service Viewer**

View Definition: Relationships | Levels Down 3 | Levels Up 1 | Apply

DB81-LP11

- Edit Service Instance
- Re-Center View from Selected Instance
- Children
- Edit Member Templates
- Show
- Integrations

- Service Affecting Events (Table)
- Service Affecting Events (AEL)
- Show Rule Status
- Show Root Cause Events
- Show SLA Chart for Children
- Show SLA Chart for Service
- Send Test Event
- ISM Service Report Viewer

Status refresh in 4 seconds...

**Service Details**

SLA | **Events** | Rules

http://cvtwin53.tivlab.raleigh.ibm.com:8080/RawEvents\_51

Node	Summary	AlertKey	Class	Manager	Serial
DB81:LP11	KDP_EDMU_Critical[(EDM_Utilizatic	KDP_EDMU_Critical	TME10tecad	tme10tecad probe on	1328

1/1 | All[1/1]

## Contextual Launch – Tivoli Enterprise Portal (TEP)

The screenshot displays the IBM Tivoli Netcool interface within a Windows Internet Explorer browser. The browser address bar shows the URL `http://cvtwin53.tivlab.raleigh.ibm.com:8080/`. The interface is logged in as 'Netcool Administrator' on a 'Desktop' environment.

**Service Tree (Left Panel):**

Service Name	State	Time	Events
Imported Busin...vices	Green	Green	Green
StockTrader	Green	Green	Green
OnlineTrade	Green	Green	Red
CICS	Green	Green	Green
Databases	Green	Green	Green
DB81-LP11	Red	Green	Red
PERFPLEX:LP11:MVSSYS	Green	Green	Green
LP11-z/OS	Green	Green	Green
PERFPLEX	Green	Green	Green
TradeApp	Green	Green	Green
TradeAppWebServices	Green	Green	Green

**Service Viewer (Right Panel):**

The Service Viewer displays a hierarchical diagram of services. A context menu is open over the 'DB81-LP11' node, showing the following options:

- Edit Service Instance
- Re-Center View from Selected Instance
- Children
- Edit Member Templates
- Show
- Integrations (highlighted)
  - Launch TEP
  - Launch TADM

**Service Details (Bottom Panel):**

The Service Details section shows a table of events. The URL is `http://cvtwin53.tivlab.raleigh.ibm.com:8080/RawEvents_51`. The table has the following columns: Node, Summary, AlertKey, Class, Manager, and Serial.

Node	Summary	AlertKey	Class	Manager	Serial
DB81:LP11	KDP_EDMU_Critical[(EDM_Utilizatio	KDP_EDMU_Critical	TME10tecad	tme10tecad probe on	1328

The table shows 1/1 events, with a button labeled 'All[1/1]'.

## Contextual Launch – Tivoli Enterprise Portal (TEP)

The screenshot shows a web browser window displaying the Tivoli Enterprise Portal. The browser address bar shows the URL: `http://cvtwin53.tivlab.raleigh.ibm.com:8080/webtop/Template/ael.html?Entity_Name=RawEvents_51`. The page content includes a table with the following data:

Node	Summary	AlertKey	Class
DB81:LP11:DB2	0.0) ON DB81:LP11:DB2 (EDM_Utiliz...	KDP_EDMU_Critical	TME10tecad

A context menu is open over the first row of the table, showing options: "Integrations", "Launch IBSM", and "Launch IEP". The status bar at the bottom of the browser window indicates "1 rows selected" and "admin" user.

## Launch in Context to Tivoli Enterprise Portal (TEP) – DB2 Workspaces

System Resource Manager (EDM) - Windows Internet Explorer

http://cvtwin32.tivlab.raleigh.ibm.com:2589/kdh/lib/cnp.html?~12000=SYSADMIN&~5001=MOPHYSICAL&~1021A=REPORT&~1020=DB81:LP11:DB2@zDB2\_050\_SRM\_EDM

Welcome SYSADMIN

Tivoli Enterprise Portal

File Edit View Help

View: Physical

Enterprise

- Windows Systems
- z/OS Systems
  - PERFPLEX:MVS:SYSPLEX
    - LP11
      - DB2
        - DB81:LP11:DB2
          - Thread Activity
          - System Status
          - Detailed Thread Exception
          - Lock Conflicts
          - Subsystem Management
          - Log Manager
          - Utility Jobs
          - EDM Pool
          - Buffer Pool Management
          - Volume Activity
          - CICS Connections
          - IMS Connections
          - DB2 Connect Server

Physical

EDM Statistics

Description	Total	Delta	Rate
Failures due to EDM Pool Full	2126592752	0	0.0
Database Descriptor (DBD) Reqs	2126591600	0	0.0
DBD Loads	2126591456	0	0.0
% of DBD Loads from DASD	100	0	0.0
Cursor Table (CT) Reqs	2126592464	0	0.0
CT Loads	2126592320	0	0.0
% of CT Loads from DASD	100	0	0.0
Package Table (PT) Reqs	2126591312	0	0.0
PT Loads	2126591168	0	0.0
% of PT Loads from DASD	100	0	0.0
Dynamic Sql (DSC) Reqs	2126590592	0	0.0
DSC Loads	2126590736	0	0.0
% of DSC Loads into Pool	100	0	0.0

EDM Utilization

EDM Summary

Time	Interval Time	InUse Pages	InUse Percentage	Database Descriptor Pages	Database Descriptor Percentage	Cursor Table Pages	Cursor Table Percentage	Package Table Pages	Package Table Percentage	Available Pages	Available Percentage	Skeleton Cursor Table Pages	Skeleton Table P
04/19/07 14:19:10	12	2084806352	104.0	2126590448	106.0	2126592176	106.0	2126591024	106.0	-83570128	-4.0	2126591744	

DB2 System: DB81, MVS System: LP11

Hub Time: Not Available Server Available System Resource Manager (EDM) - cvtwin32.tivlab.raleigh.ibm.com - SYSADMIN

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