



# THE EVOLUTION of Tivoli on system z

February 8<sup>th</sup>, 2007

**Tivoli** software

## **Ernie Gilman**

*Tivoli Performance Automation  
Sr. Consulting IT Specialist  
Hurley, NY, USA  
egilman@us.ibm.com*

IBM, the IBM logo, Candle, CICS, CT, CT/DS, CUA, DB2, eServer, ETE, RACF, IMS ,iSeries, MVS, NetView, OMEGAMON, OMEGAMON II, OMEGAVIEW, AIX, Rational, Redbooks, S/390, Tivoli, Tivoli Enterprise, Tivoli Enterprise Console, VTAM, Lotus, WebSphere, z/OS, and zSeries are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both.

Netcool, Netcool/Desktop, Netcool/Impact, Netcool EventList, Netcool/OMNIbus, Netcool/Precision, Netcool Probes, Netcool/Proviso, Netcool/RAD and Netcool/Webtop are trademarks of Micromuse, an IBM company, in the United States, other countries or both.

Consul, are trademarks of Consul risk management, Inc, an IBM company, in the United States, other countries or both.

Java™ and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, and Windows NT® are registered trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries. Other company, product, and service names may be trademarks or service marks of others.

The session will focus on which IBM products have been replaced over the years by current Tivoli System z solutions, and the role they play in end-to-end systems management. This discussion will be based on traditional job roles found in the mainframe environment

- Performance Monitoring
- Network Management
- Business Service Management
- Automation
- Job Scheduling
- Performance Reporting and Accounting
- Enterprise Storage Management
- Change, Problem and Asset Management
- Composite Application Management
- WebSphere MQ & WBI
  
- OMEGAMON Consolidation
  - ▶ z/OS, USS, CICS, IMS, DB2, Storage z/VM, Linux, MQ, WBI, WAS



# IBM Product Acronyms



- **CCMDB** Change and Configuration Management Database
- **GDPS** Geographically Dispersed Parallel Sysplex
- **InfoMan** Information Management for z/OS
- **ITCAM** IBM Tivoli for Composite Applications Management
- **ITM** IBM Tivoli Monitoring
- **ITMNP** IBM Tivoli Monitoring for Network Performance
- **ITUAM** IBM Tivoli Usage and Accounting Manager
- **ITUP** IBM Tivoli Unified Process
- **MFN** *OMEGAMON* for Mainframe Networks
- **NPM** Network Performance Monitor (part of OMEGAMON MFN)
- **NLDM** Network Logical Data Manager “session manager” (part of NetView)
- **NPDA** Network Problem Determination Application (part of NetView)
- **OPAL** Open Process Automation Library
- **OPC** Operations Planning & Control (TWS)
- **RAD** Realtime Active Dashboards
- **RTT** Response Time Tracking
- **SLR** Service Level Reporter (TDS for z/OS)
- **SA MP** System Automation for Multiplatforms
- **SA z/OS** System Automation for z/OS
- **TADDM** Tivoli Application Dependency Discovery Manager
- **TBSM** Tivoli Business Service Management
- **TEC** Tivoli Enterprise Console
- **TDS z/OS** Tivoli Decision Support for z/OS
- **TDW** Tivoli Data Warehouse
- **TSLA** Tivoli Service Level Advisor
- **TWS** Tivoli Workload Scheduler
- **WAS** WebSphere Application Server

# Evolution of Tivoli on System z End-to-end

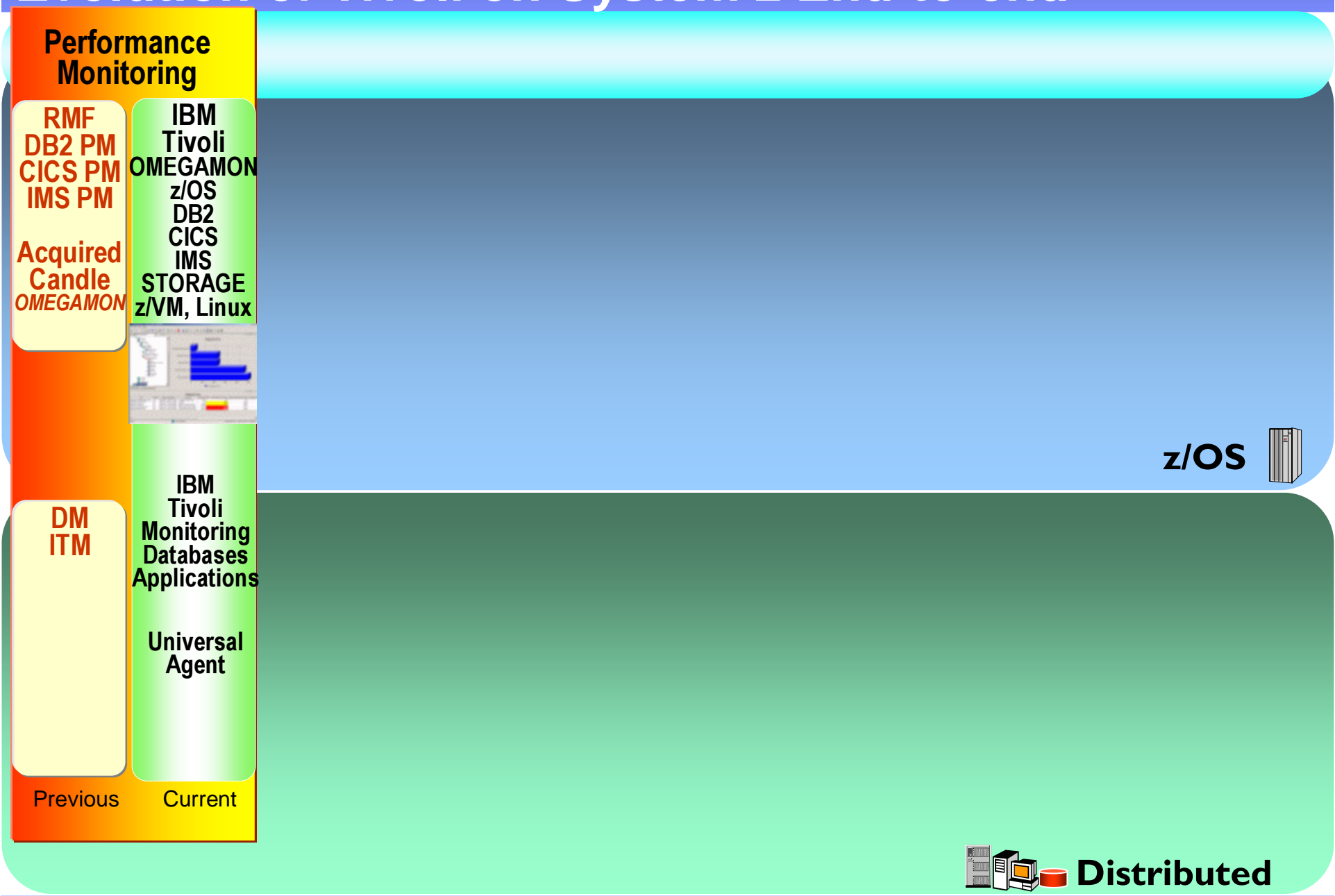


Performance Monitoring   Network Mgmt   Business Service Mgmt   Automation   Job Scheduling   Performance Reporting & Accounting   Enterprise Storage Mgmt   Security Mgmt   Change Problem Asset Mgmt   Composite Application   WebSphere MQ & WBI

z/OS 

 **Distributed**

# Evolution of Tivoli on System z End-to-end



# Evolution of Tivoli on System z End-to-end



Performance Monitoring

**Network Mgmt**

IBM Tivoli OMEGAMON z/OS DB2 CICS IMS STORAGE z/VM, Linux

IBM NetView for OS/390 NPM NPM/IP ITMNP

IBM Tivoli NetView for z/OS OMEGAMON MFN



IBM Tivoli Monitoring Databases Applications Universal Agent

Tivoli NetView for AIX Acquire Micromuse NetCool

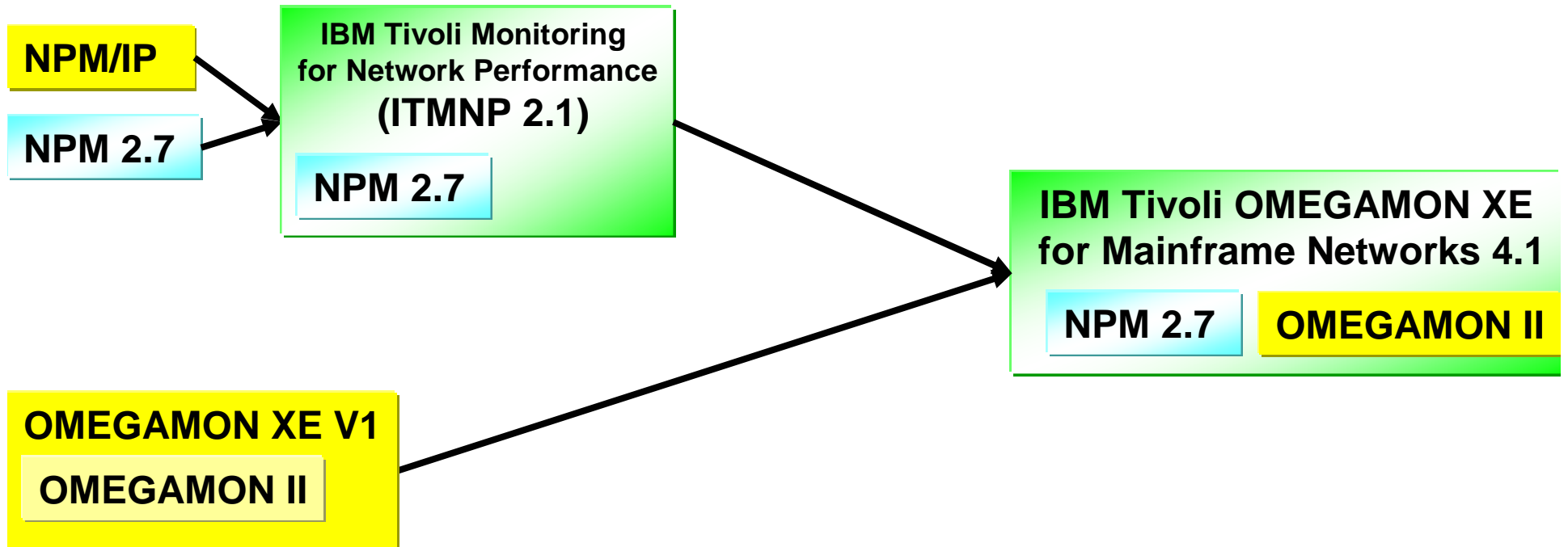
NetCool/Precision Proviso UQM IPC

Previous

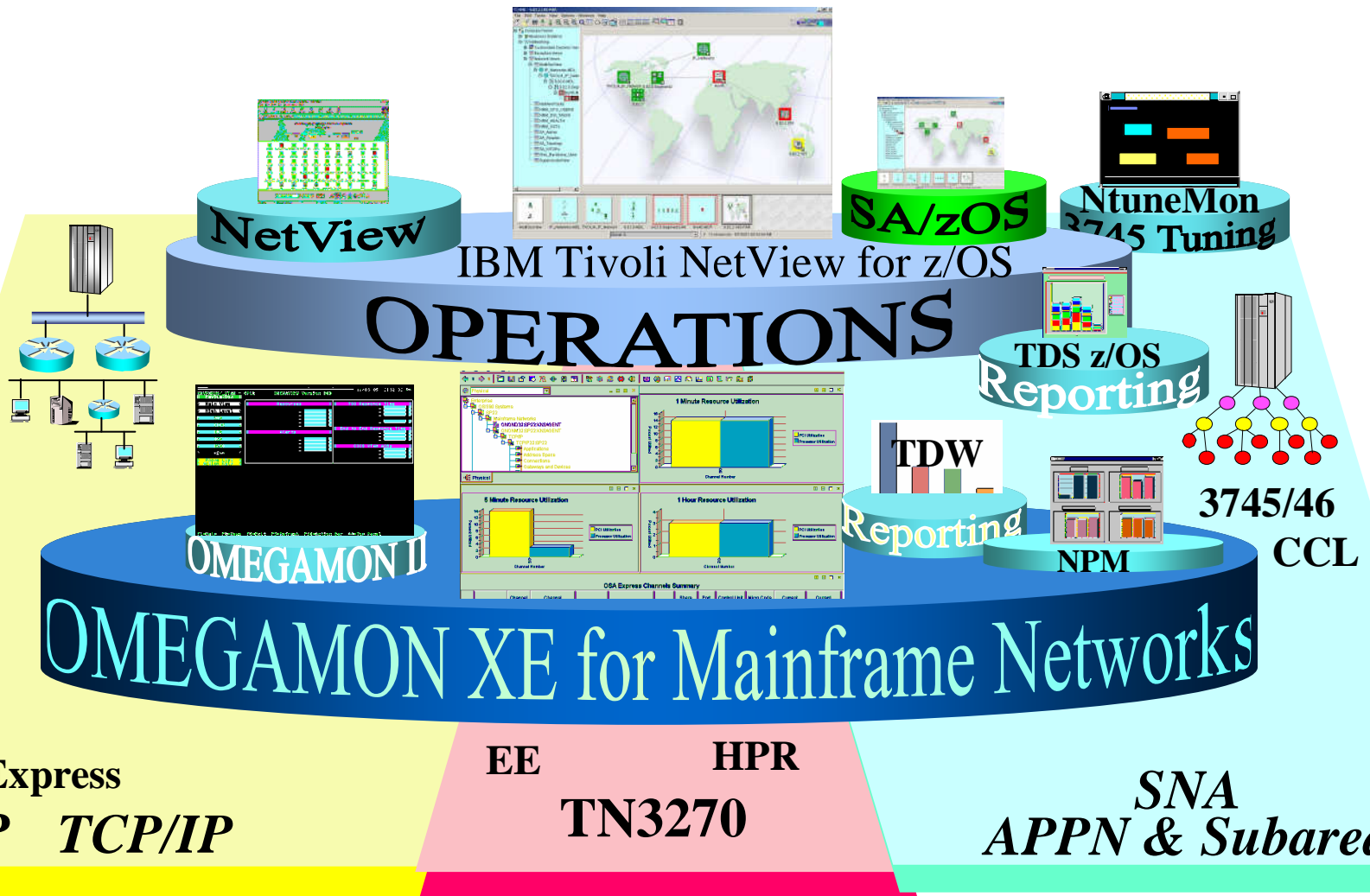
Current

z/OS 

 **Distributed**







# Evolution of Tivoli on System z End-to-end



Performance Monitoring    Network Mgmt

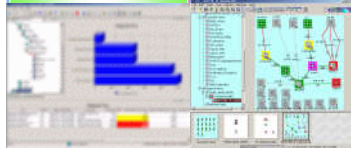
**Business Service Mgmt**

IBM Tivoli OMEGAMON z/OS DB2 CICS IMS STORAGE z/VM, Linux

IBM Tivoli NetView for z/OS OMEGAMON MFN

TBSM TM/390

IBM TBSM



IBM Tivoli Monitoring Databases Applications Universal Agent

NetCool/Precision Proviso UQM IPC

TBSM

TBSM TSLA

NetCool /RAD SLA Tracker Impact

Acquired Collation Confignia

TADDM

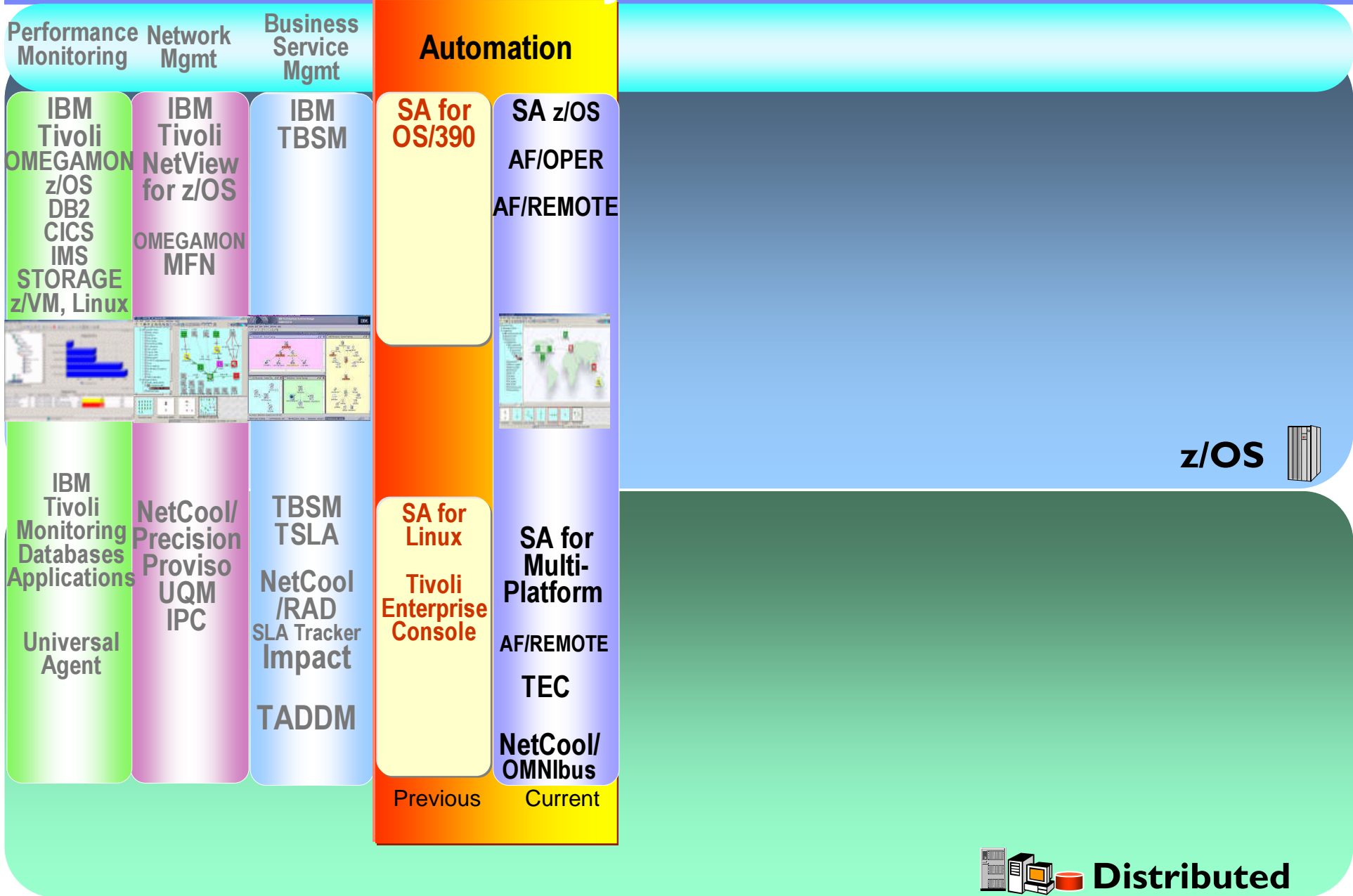
Previous

Current

z/OS 

 **Distributed**

# Evolution of Tivoli on System z End-to-end



I am concerned about the complexity of managing a Parallel Sysplex

High Availability Automatic Recovery Startup

*AF/Oper*

*SA z/OS*

*SA for MP*

How do I coordinate automation between z/OS and distributed systems?

*Parallel Sysplex*

*GDPS*

*NetView for z/OS*

*ESCON/FICON*

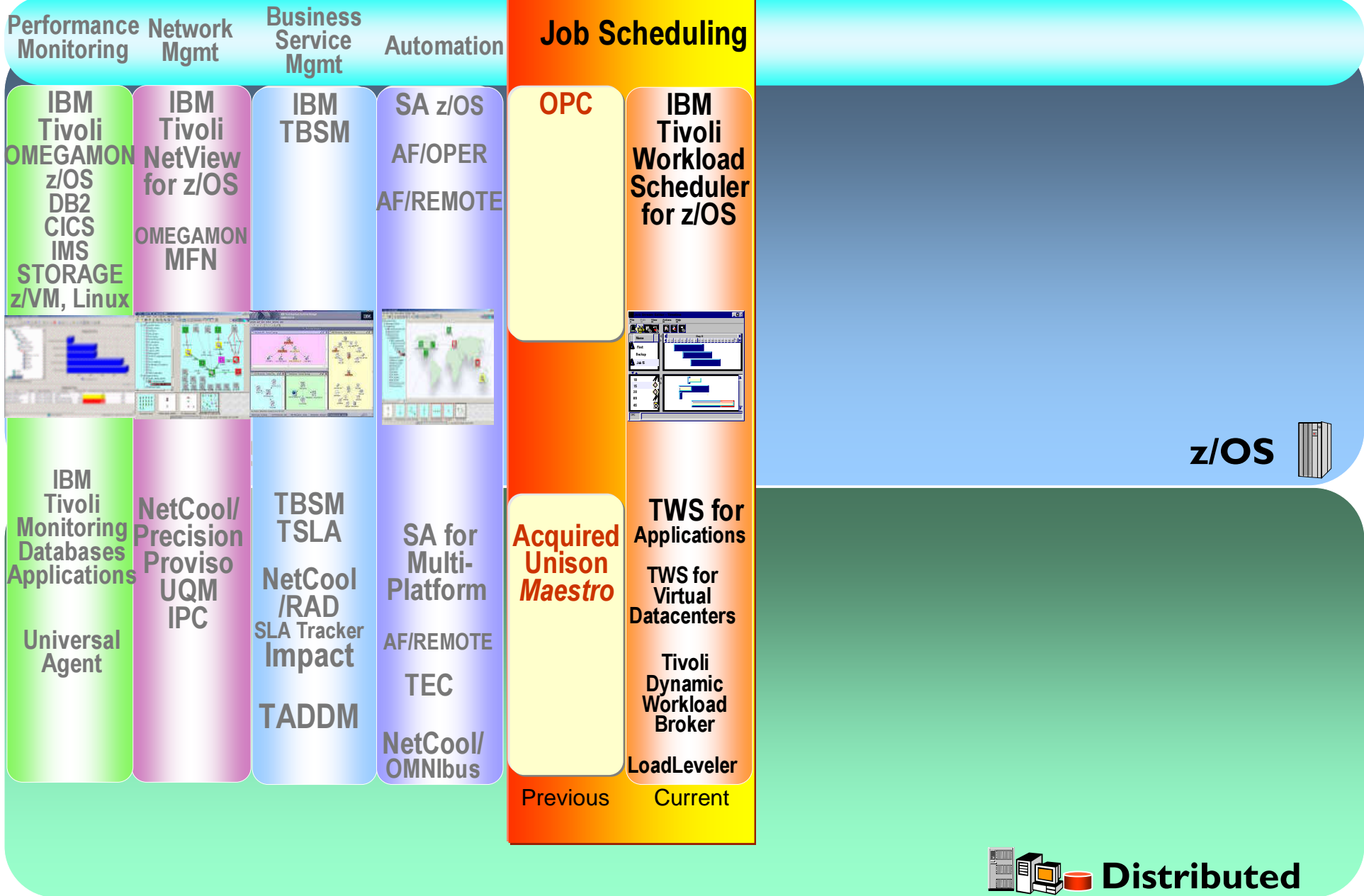
*z/VM*

*SAP / DB2*

*TBSM*

*TWS*

# Evolution of Tivoli on System z End-to-end

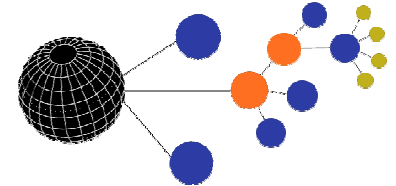


How can I make sure  
by critical batch jobs  
finish on time?

Previous

OPC

Maestro



JCL

JES2  
JES3

Critical Batch jobs  
Job Dependencies  
Schedules  
End-to-end

Tivoli  
Workload  
Scheduler  
on z/OS

Integration

Automation  
SA for z/OS  
NetView for z/OS

End-to-end

High Availability

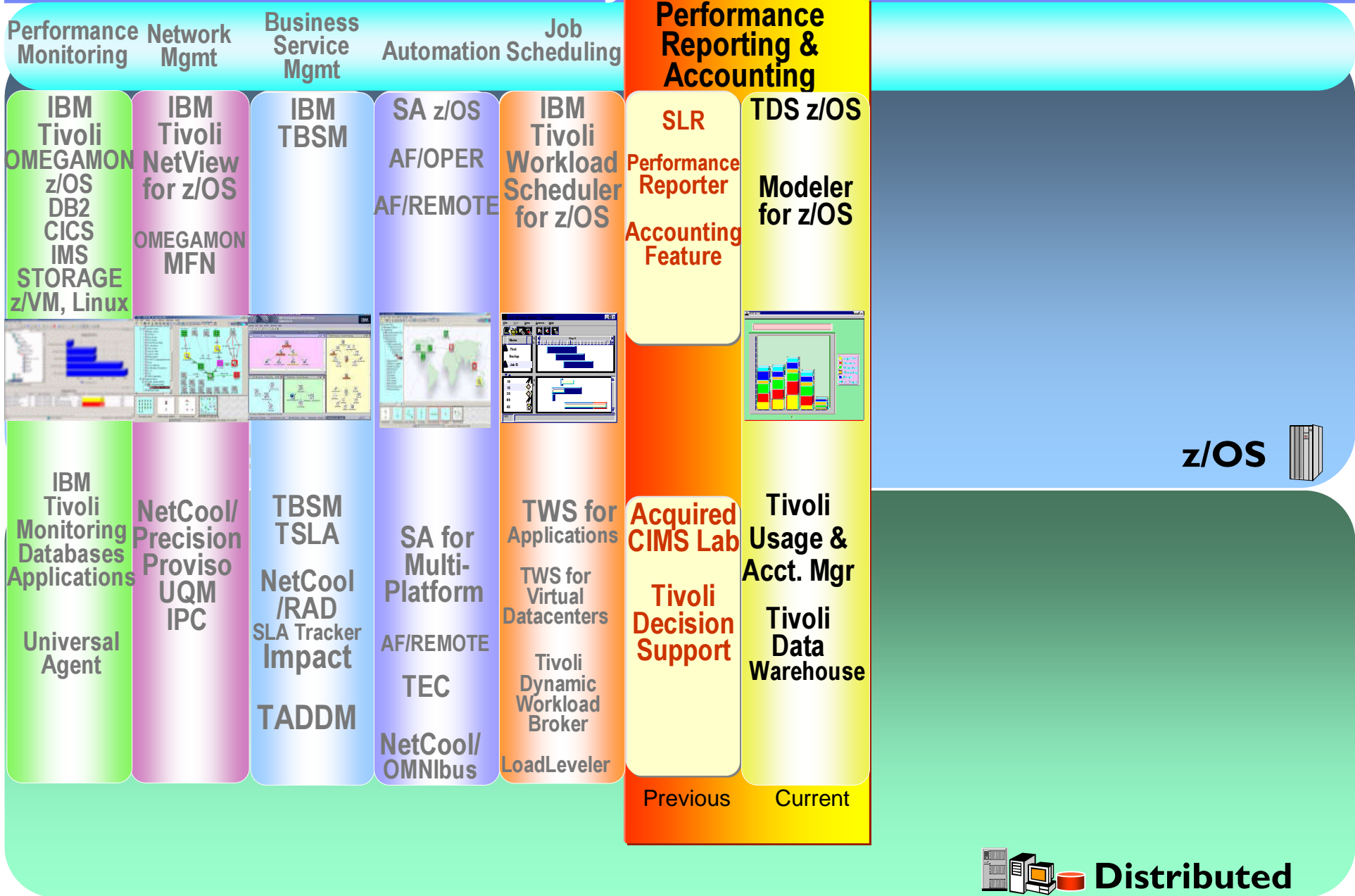
Sysplex

WLM

Goal Mode

**TWS** has simplified end-to-end job scheduling by allowing control z/OS and distributed job streams, from an easy to use console. Integrated with WLM and ARM on z/OS and fault tolerant distributed agents.

# Evolution of Tivoli on System z End-to-end



How do I know if more storage is needed?

SMF

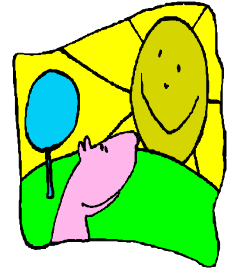
Trend Analysis  
Performance  
Capacity

Performance data can help improve the performance of the IT investment.

Tivoli Decision  
Support for  
z/OS

SLR  
Previous

Performance  
Reporter



What will my response time be next year?

Tivoli Modeler for z/OS

How do I charge my System z usage, to help pay for an upgrade?

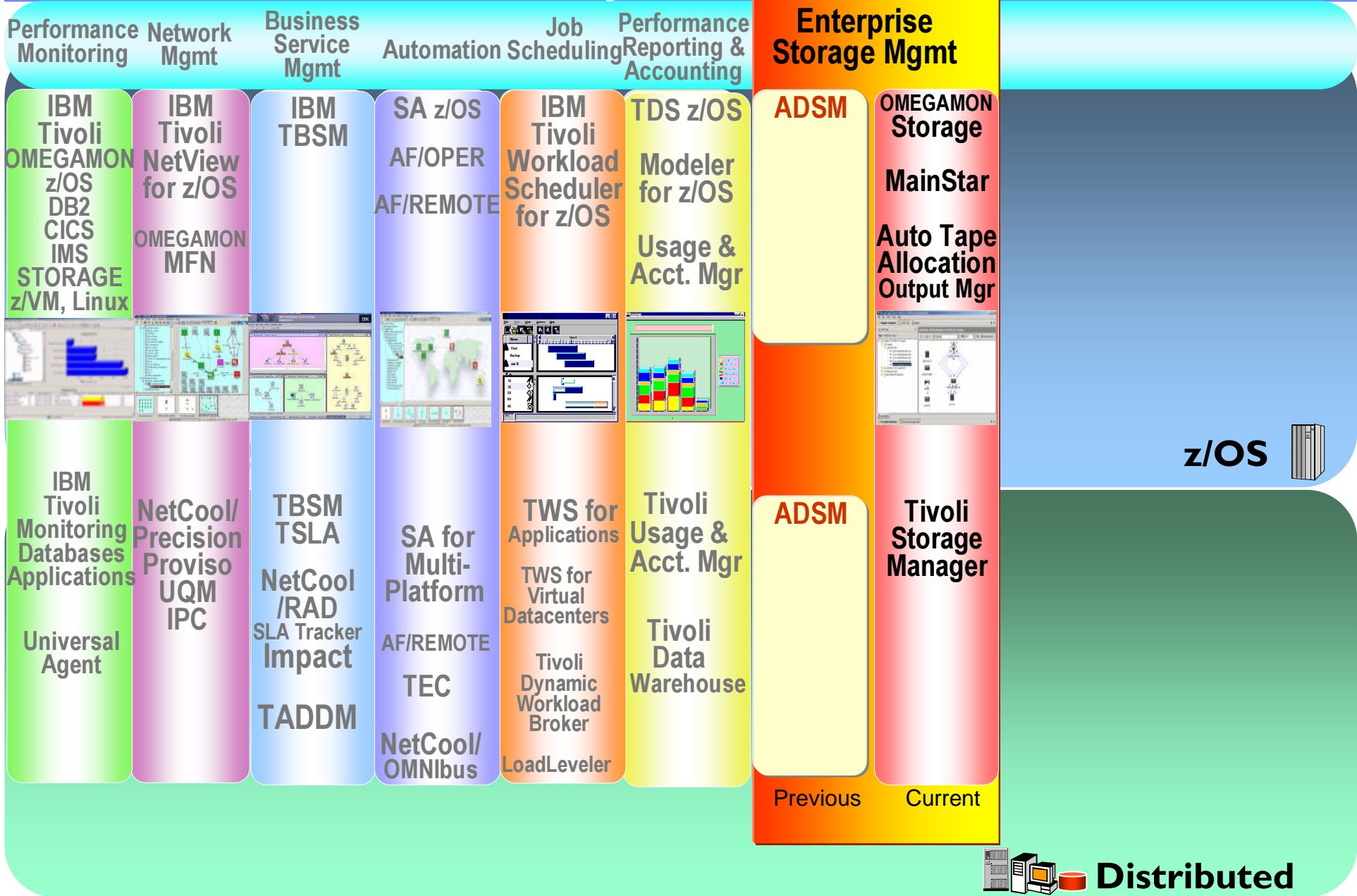
IBM Tivoli Usage and  
Accounting Mgr

How do I know what software I can eliminate?

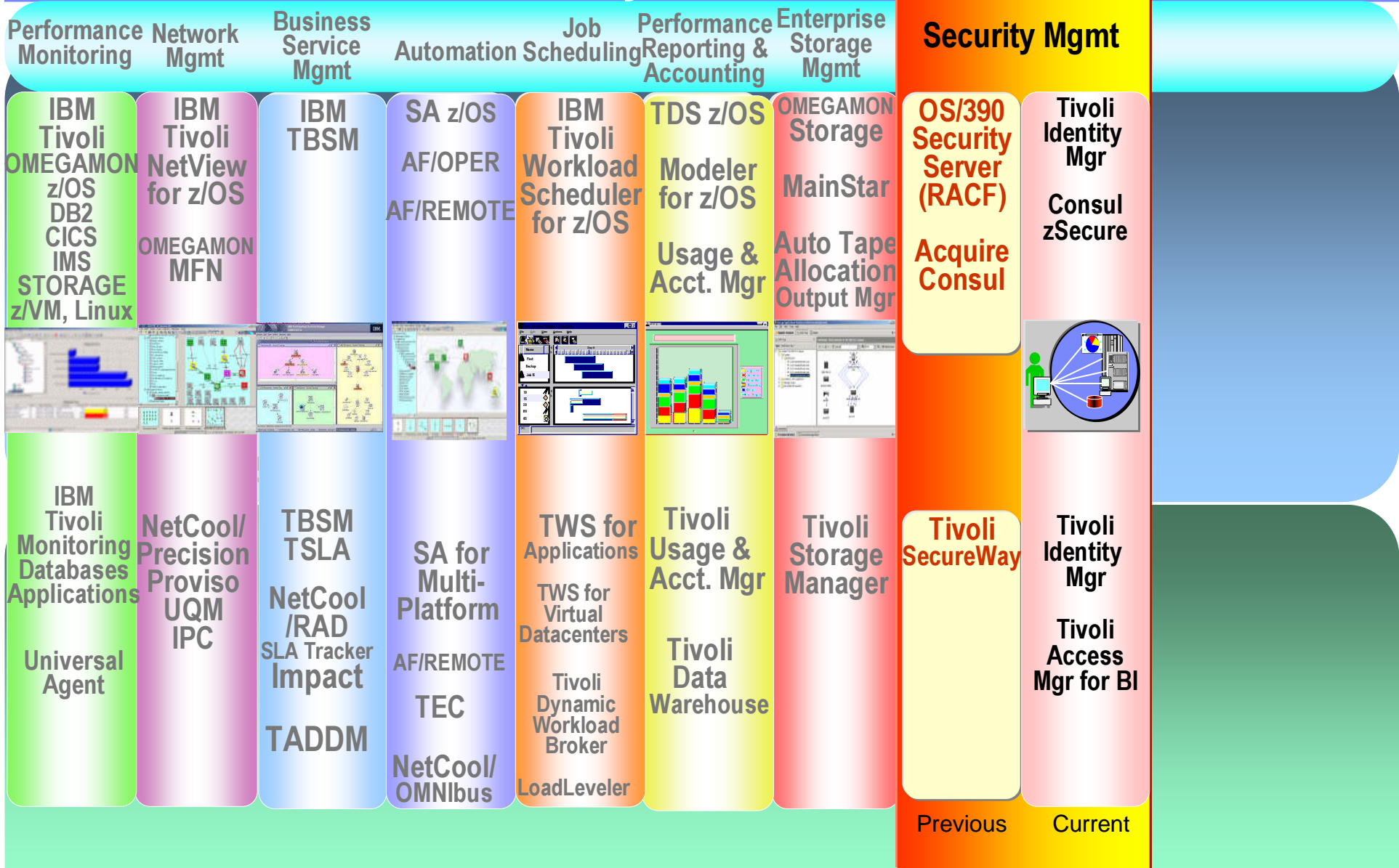
Tivoli License Compliance  
Manager for z/OS



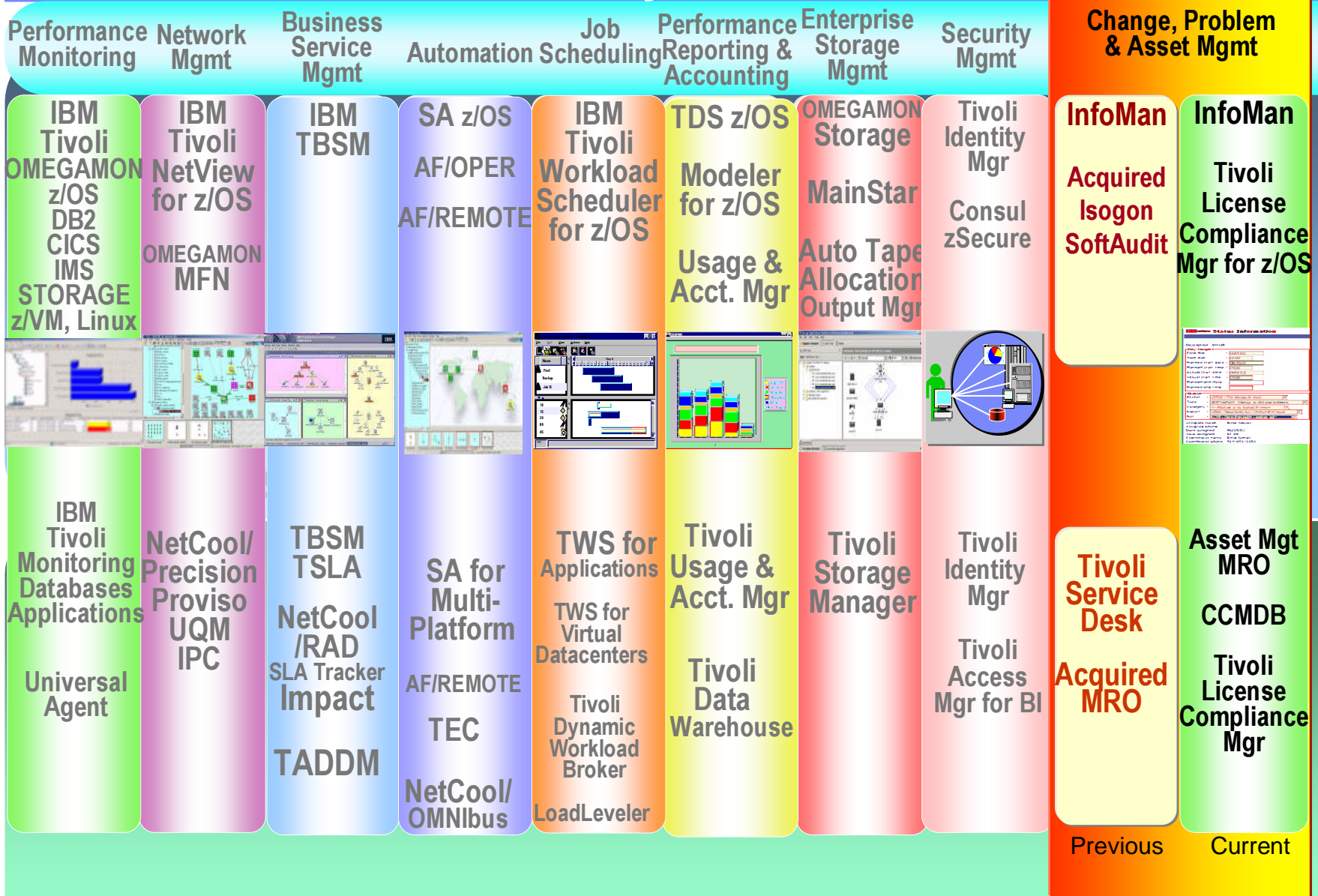
# Evolution of Tivoli on System z End-to-end



# Evolution of Tivoli on System z End-to-end



# Evolution of Tivoli on System z End-to-end



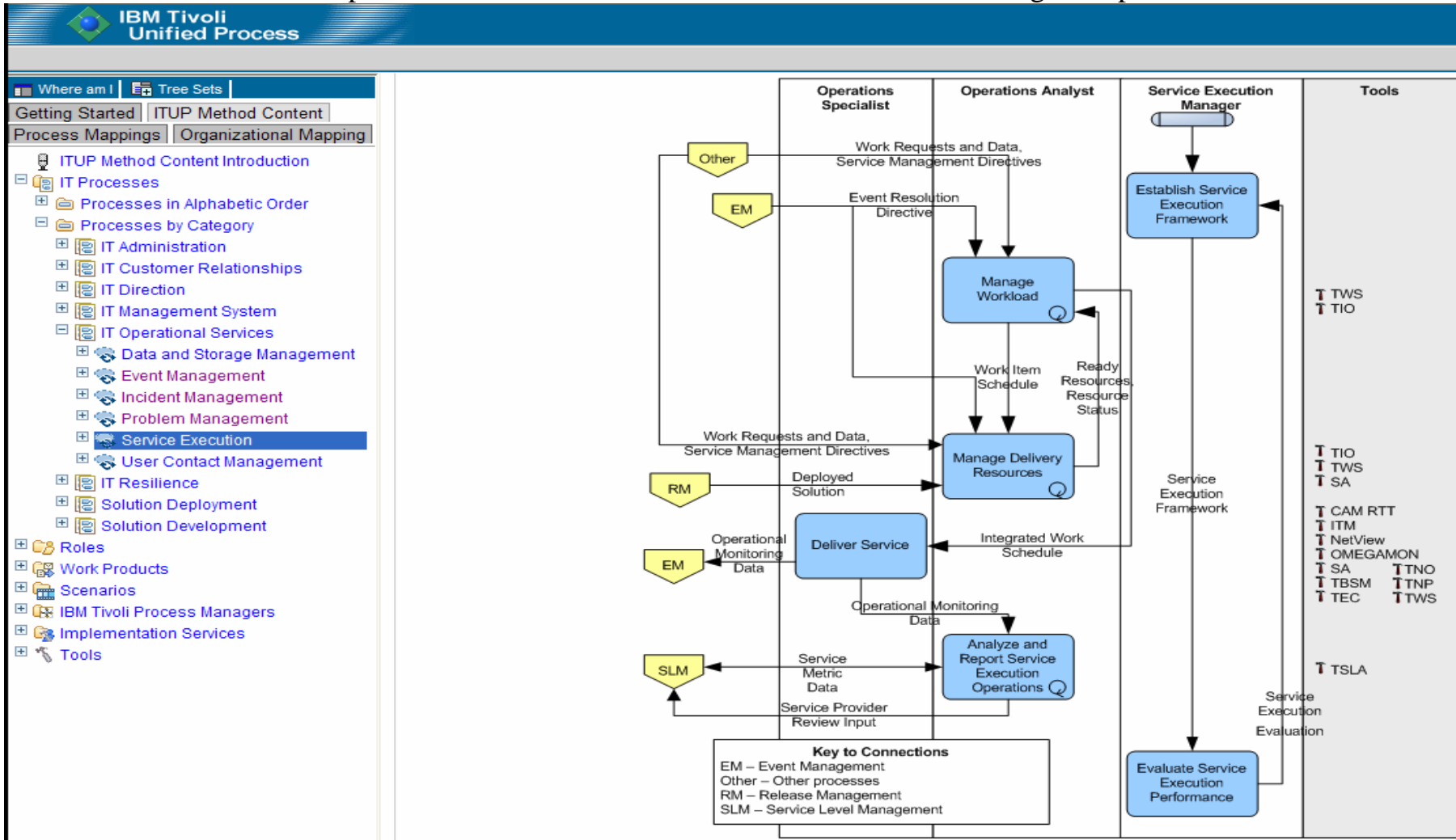
# IBM Tivoli Unified Process (ITUP)



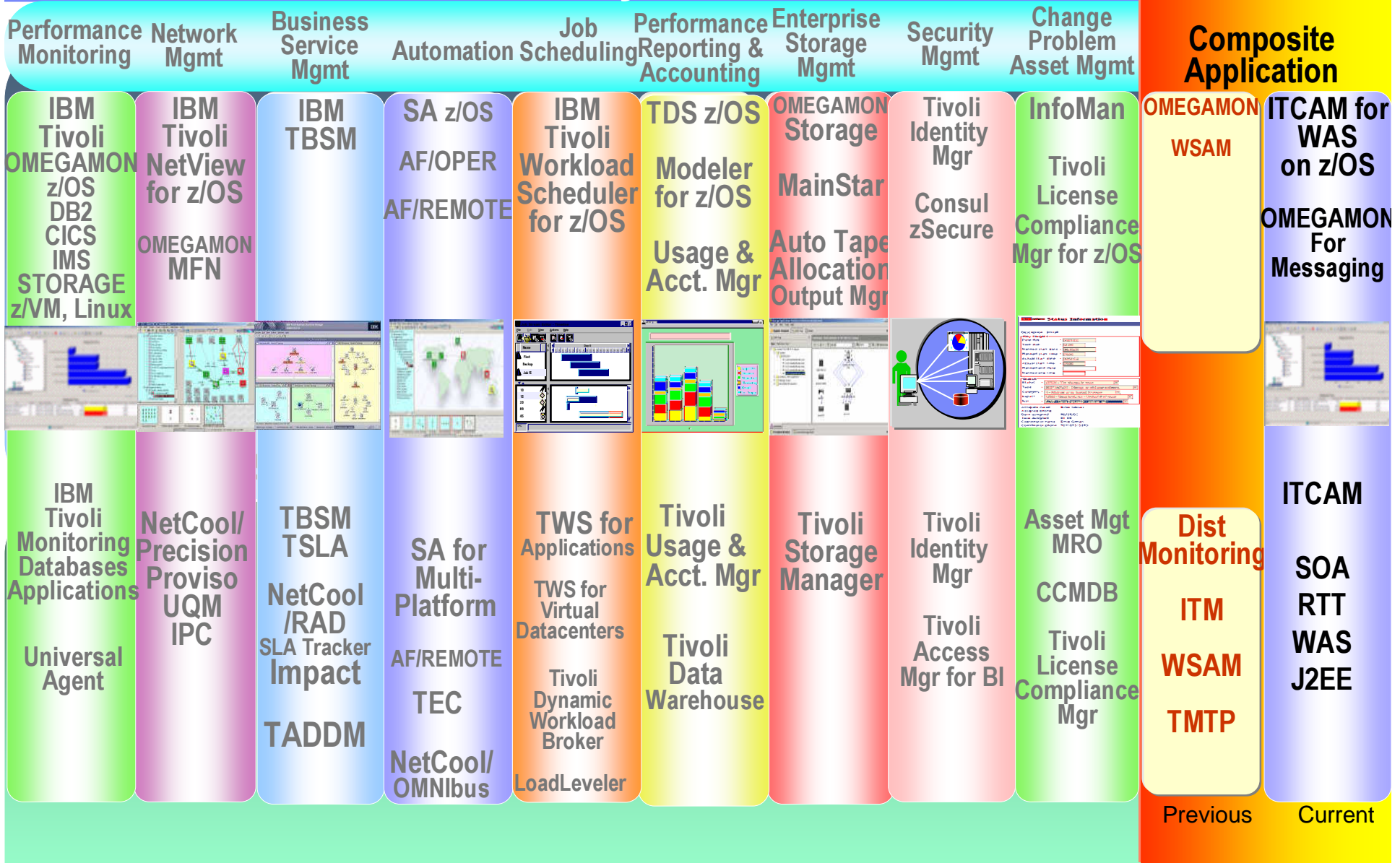
IBM Tivoli  
Unified Process



- IBM documentation of IT Service Management processes based on industry best practices.
- Gives the ability to significantly improve organization's efficiency and effectiveness.
- Enables easy understanding of:
  - Processes and relationships between processes
  - Roles and mapping of IBM tools involved in an efficient process implementation.
  - Downloads and Demo <http://www-306.ibm.com/software/tivoli/features/it-serv-mgmt/itup/index.html>



# Evolution of Tivoli on System z End-to-end

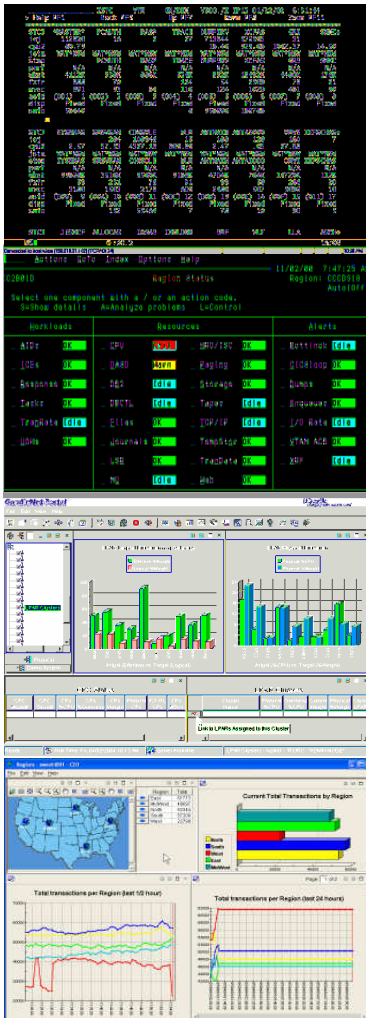


# Evolution of Tivoli on System z End-to-end



| Performance Monitoring  | Network Mgmt                                    | Business Service Mgmt                                 | Automation   | Job Scheduling   | Performance Reporting & Accounting                        | Enterprise Storage Mgmt                                 | Security Mgmt                                       | Change Problem Asset Mgmt                                 | Composite Application                       | WebSphere MQ & WBI        |
|---|---|---|--|--|---|---|---|---|---|---------------------------|
| <b>IBM Tivoli OMEGAMON z/OS DB2 CICS IMS STORAGE z/VM, Linux</b>    | <b>IBM Tivoli NetView for z/OS OMEGAMON MFN</b> | <b>IBM TBSM</b>                                       | <b>SA z/OS AF/OPER AF/REMOTE</b>                           | <b>IBM Tivoli Workload Scheduler for z/OS</b>  | <b>TDS z/OS Modeler for z/OS</b>                          | <b>OMEGAMON Storage Auto Tape Allocation Output Mgr</b> | <b>Tivoli Identity Mgr Consul zSecure</b>           | <b>InfoMan Tivoli License Compliance Mgr for z/OS</b>     | <b>ITCAM WAS on z/OS OMEGAMON Messaging</b> | <b>OMEGAMON Messaging</b> |
|   |   |   |  |  |   |   |   |   |   |                           |
| <b>IBM Tivoli Monitoring Databases Applications Universal Agent</b> | <b>NetCool/Precision Proviso UQM IPC</b>        | <b>TBSM TSLA NetCool/RAD SLA Tracker Impact TADDM</b> | <b>SA for Multi-Platform AF/REMOTE TEC NetCool/OMNibus</b> | <b>TWS for Applications TWS for Virtual Datacenters Tivoli Dynamic Workload Broker LoadLeveler</b> | <b>Tivoli Usage &amp; Acct. Mgr Tivoli Data Warehouse</b> | <b>Tivoli Storage Manager</b>                           | <b>Tivoli Identity Mgr Tivoli Access Mgr for BI</b> | <b>Asset Mgmt MRO CCMDB Tivoli License Compliance Mgr</b> | <b>ITCAM SOA RTT WAS J2EE</b>               | <b>OMEGAMON Messaging</b> |





## OMEGAMON Classic For System Programmers

- ✓ Original 3270 interface
- ✓ Hundreds of detailed commands

## OMEGAMON II – For System Programmers & Specialists

- ✓ 3270 interface
- ✓ Intelligent CUA look and feel – 2 levels of event lights

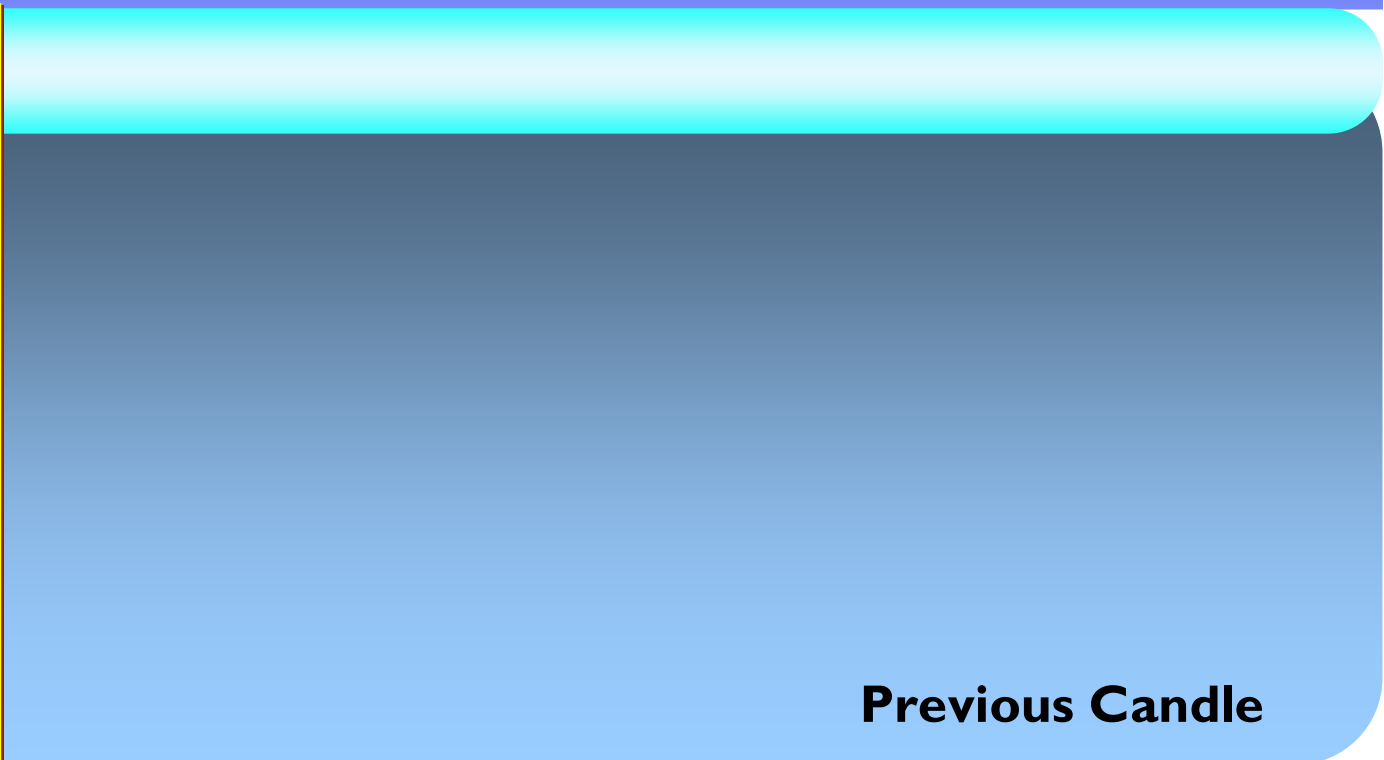
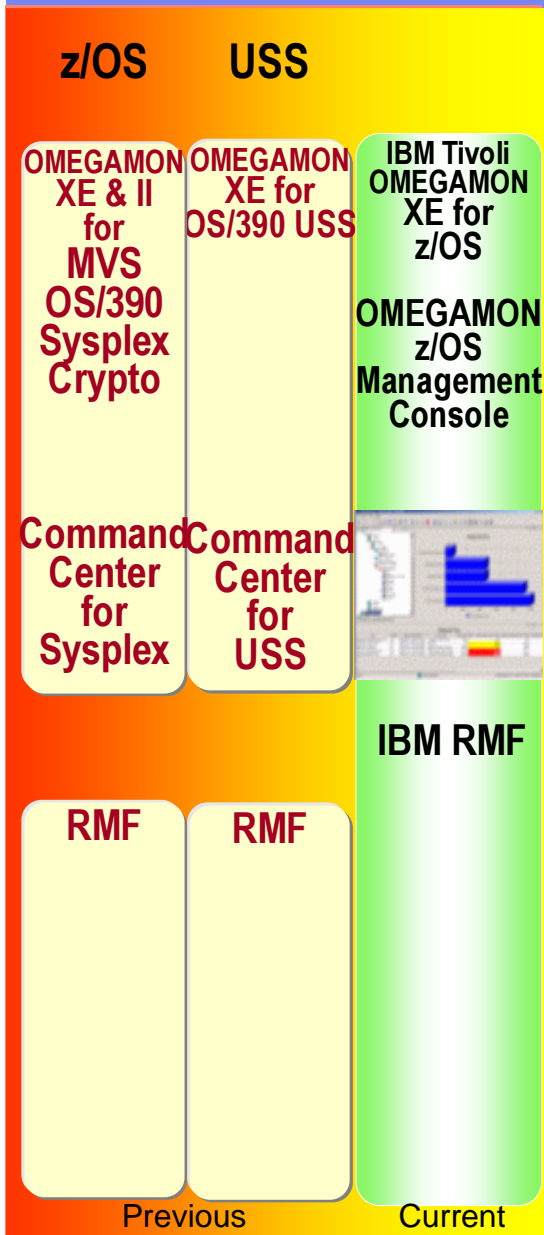
## OMEGAMON XE – For IT Specialists

- ✓ Web browser or Java client – Fly over event pop-ups
- ✓ Diagnose and resolve complex problems
- ✓ Visualize trends through graphs

## OMEGAMON DE – For Operations Managers

- ✓ Integrates multiple OMEGAMON XE monitors

# IBM's OMEGAMON Consolidation



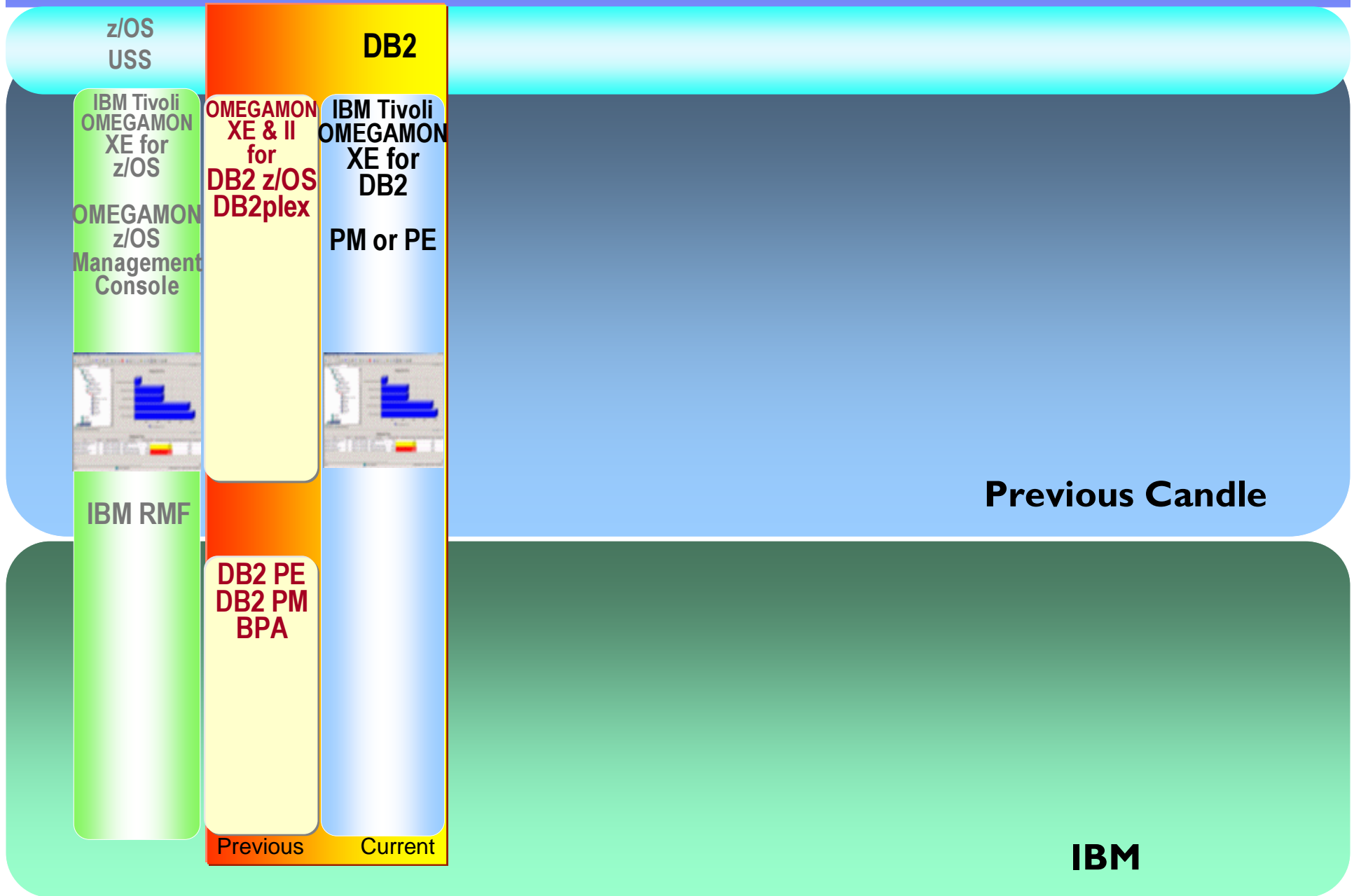
Previous Candle



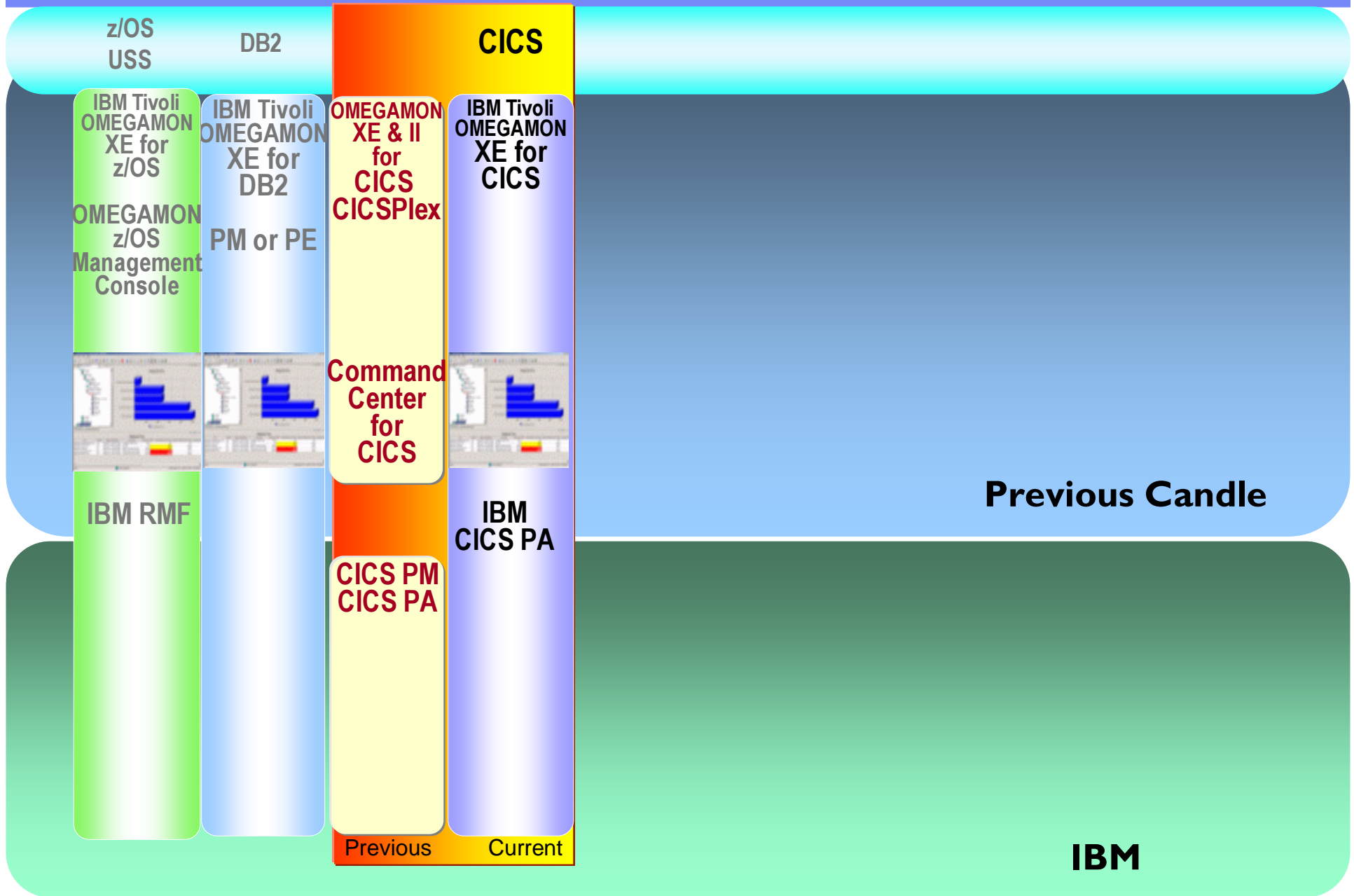
IBM



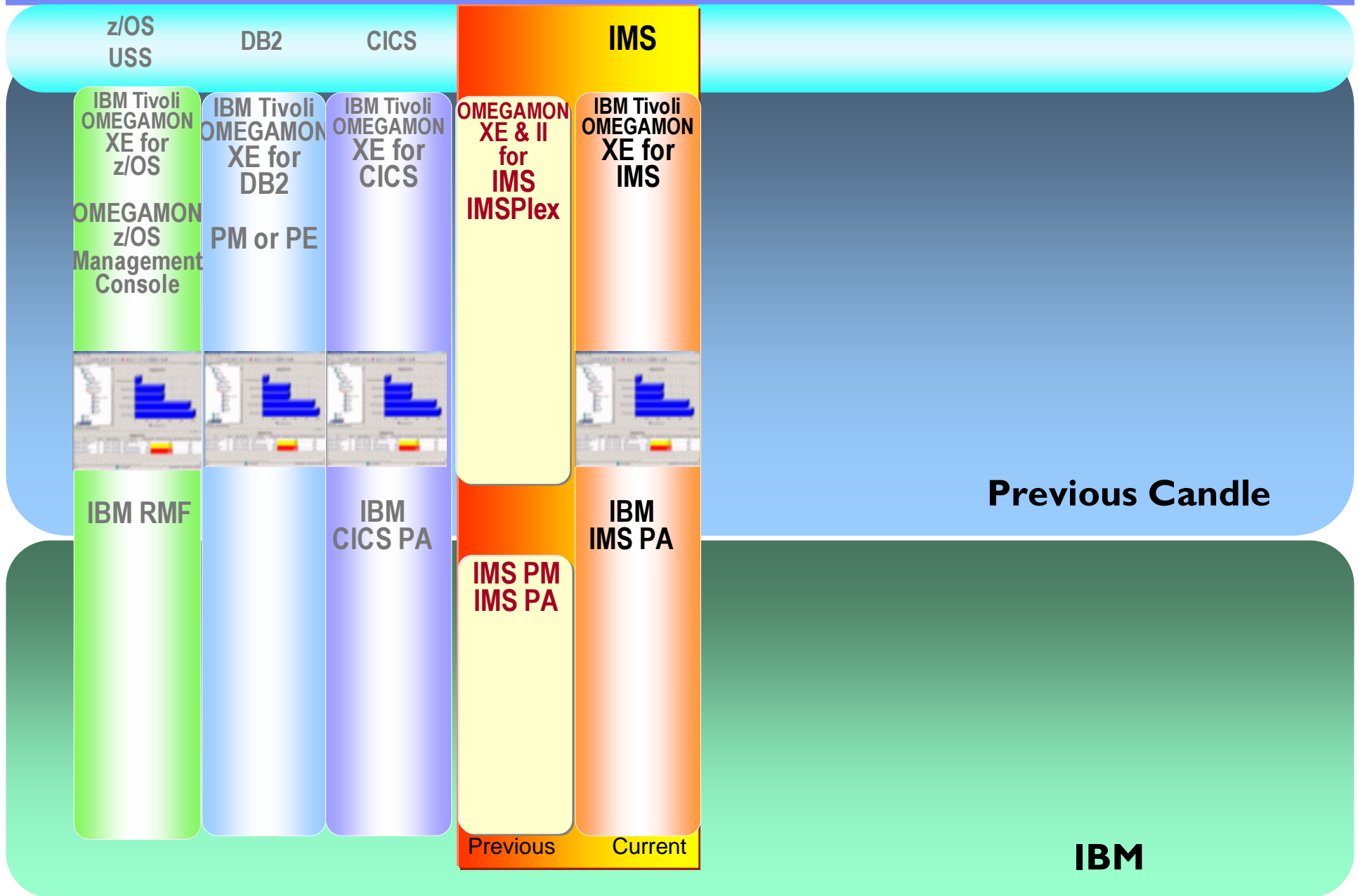
# IBM's OMEGAMON Consolidation



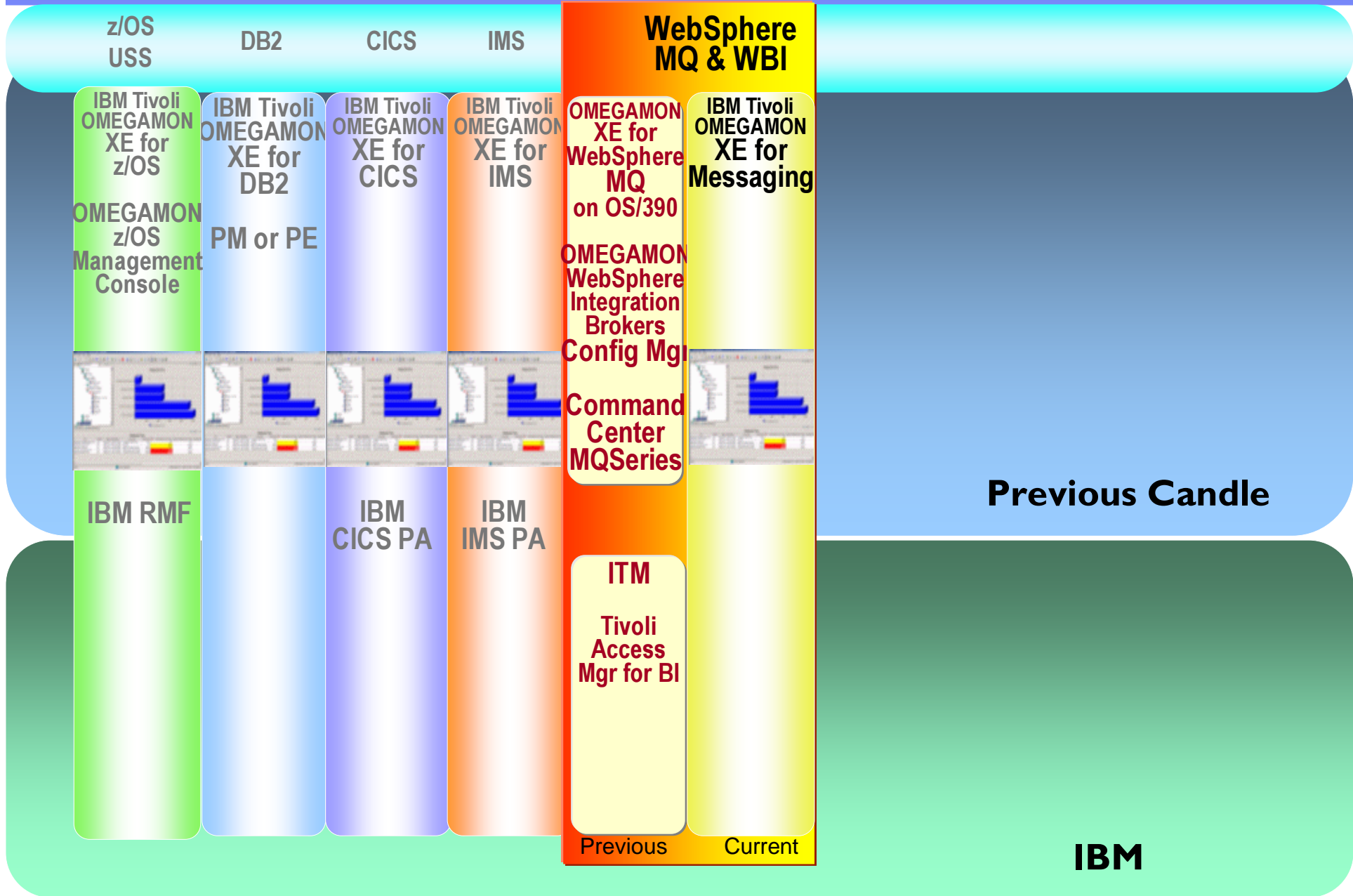
# IBM's OMEGAMON Consolidation



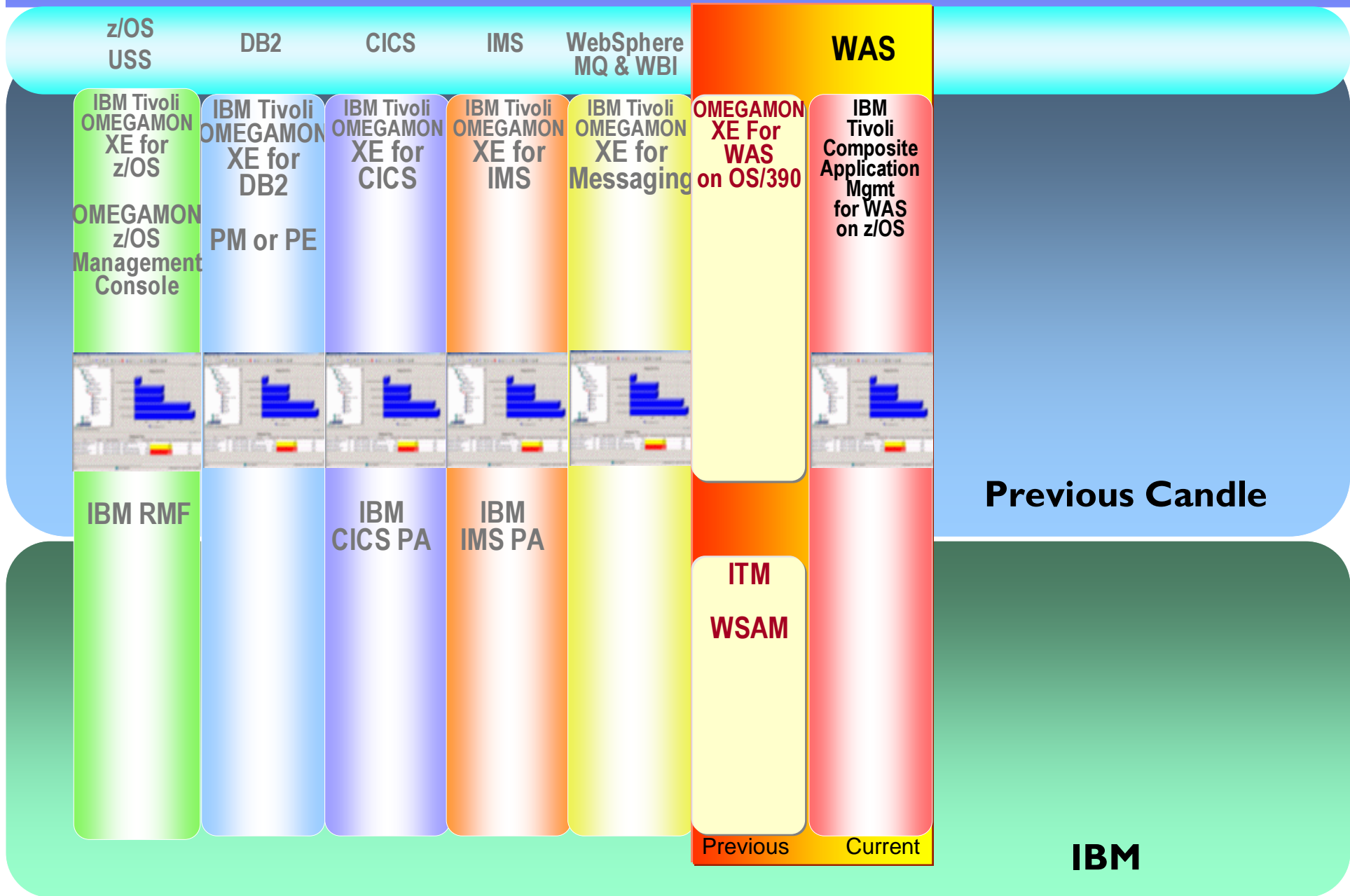
# IBM's OMEGAMON Consolidation



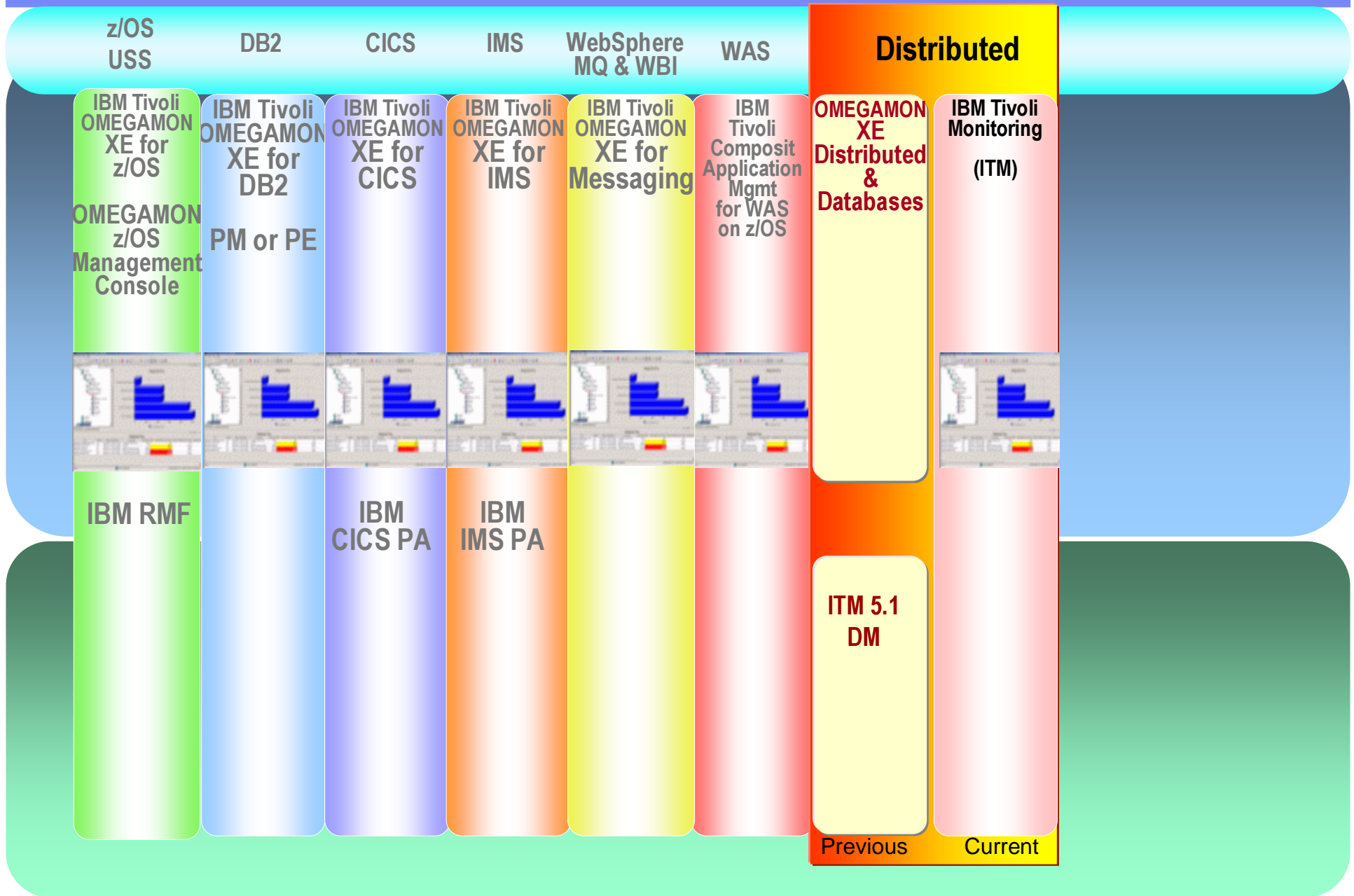
# IBM's OMEGAMON Consolidation



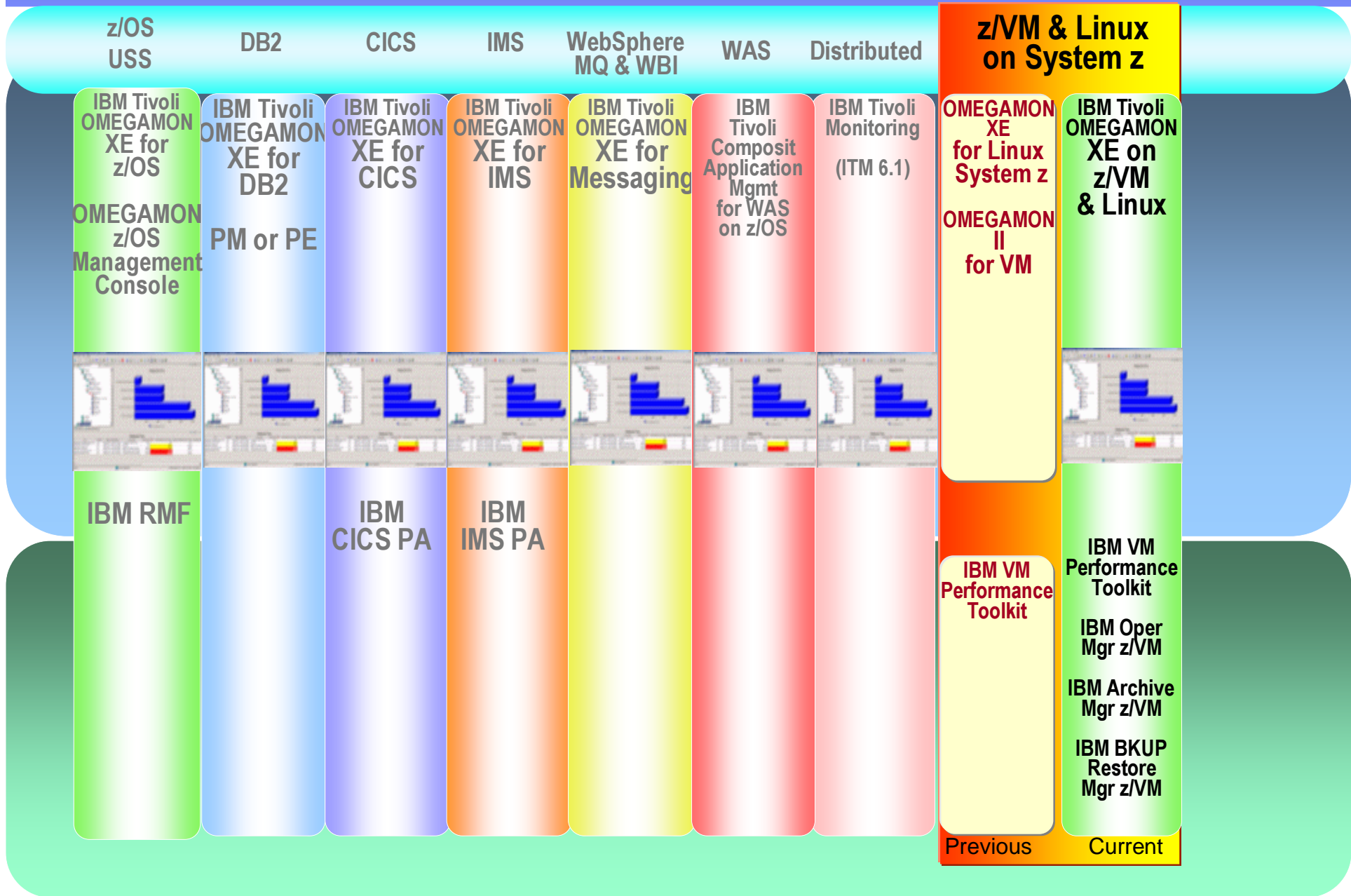
# IBM's OMEGAMON Consolidation



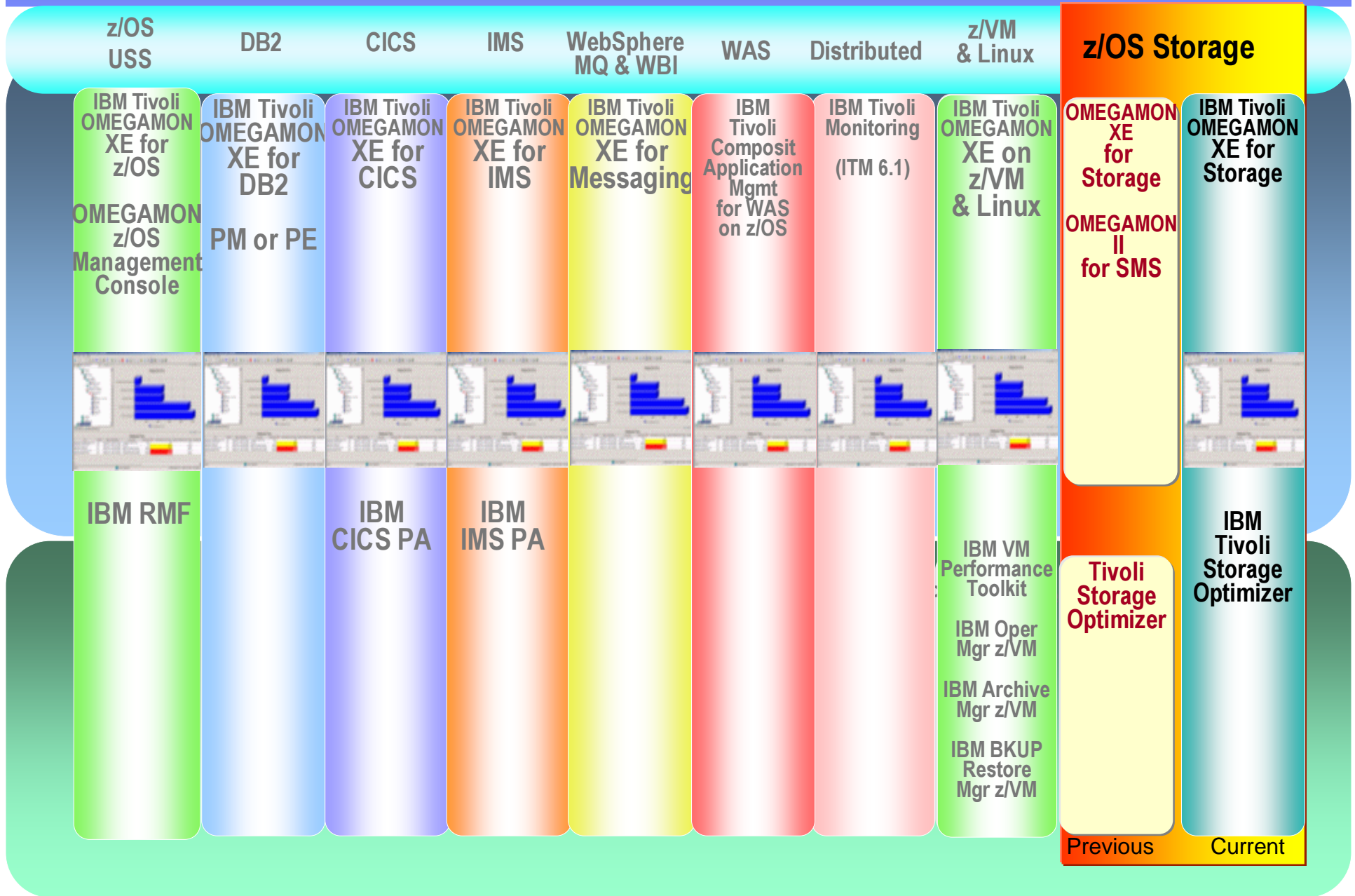
# IBM's OMEGAMON Consolidation



# IBM's OMEGAMON Consolidation



# IBM's OMEGAMON Consolidation



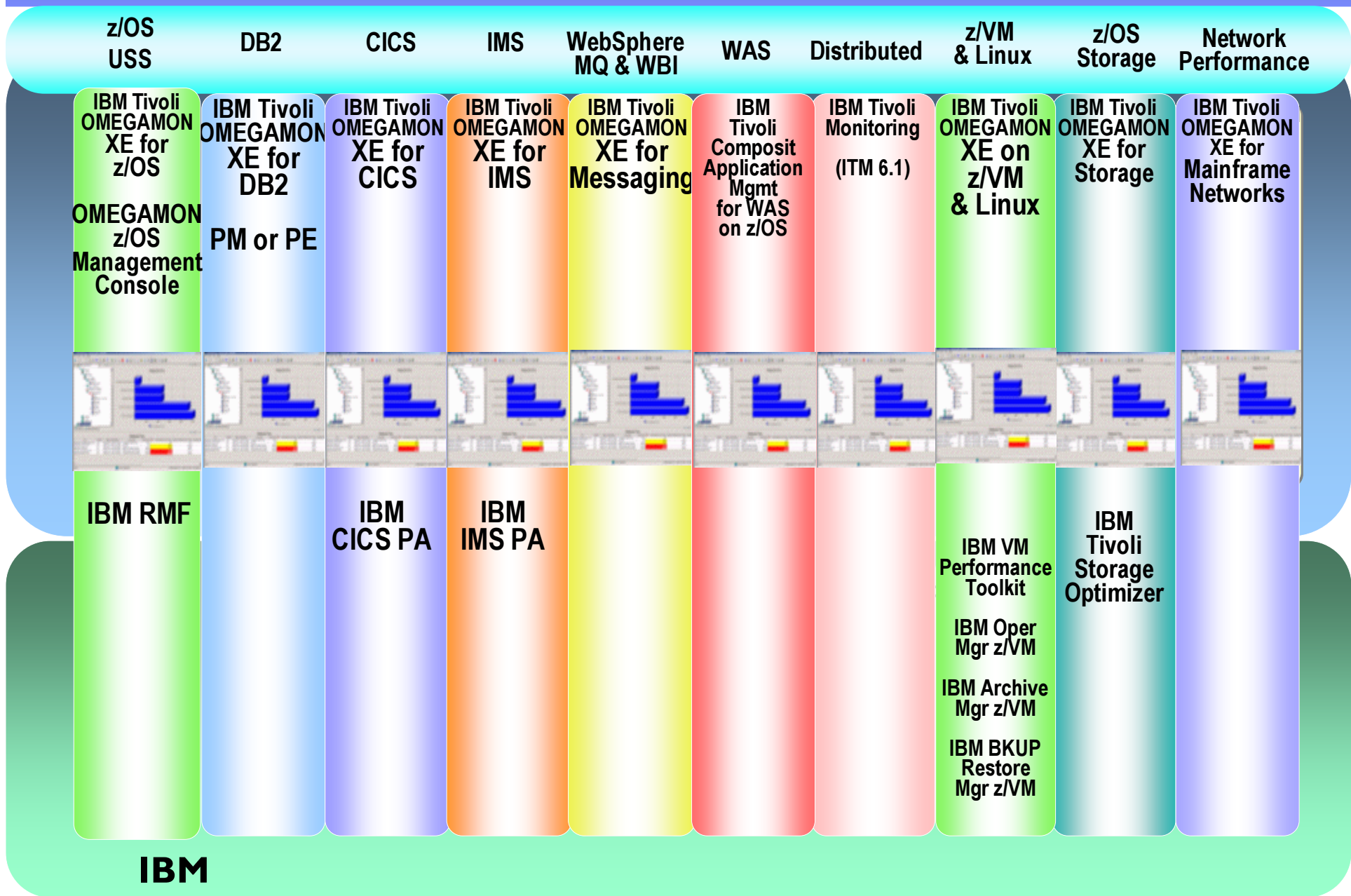


# IBM's OMEGAMON Consolidation



| z/OS USS                         |  |  |  |  |  |  |  |  | DB2                            |  | CICS                            | IMS                            | WebSphere MQ & WBI                   | WAS  | Distributed                     | z/VM & Linux                           | z/OS Storage                       | Network Performance                     |                        |   |  |
|----------------------------------|--|--|--|--|--|--|--|--|--------------------------------|--|---------------------------------|--------------------------------|--------------------------------------|--|---------------------------------|--|------------------------------------|---|------------------------|---|--|
| IBM Tivoli OMEGAMON XE for z/OS  |  |  |  |  |  |  |  |  | IBM Tivoli OMEGAMON XE for DB2 |  | IBM Tivoli OMEGAMON XE for CICS | IBM Tivoli OMEGAMON XE for IMS | IBM Tivoli OMEGAMON XE for Messaging | IBM Tivoli Composit Application Mgmt for WAS on z/OS | IBM Tivoli Monitoring (ITM 6.1) | IBM Tivoli OMEGAMON XE on z/VM & Linux | IBM Tivoli OMEGAMON XE for Storage | OMEGAMON XE & II for Mainframe Networks |                        | IBM Tivoli OMEGAMON XE for Mainframe Networks |  |
| OMEGAMON z/OS Management Console |  |  |  |  |  |  |  |  | PM or PE                       |  |                                 |                                |                                      |  |                                 |  |                                    |   |                        |   |  |
|                                  |  |  |  |  |  |  |  |  |                                |  |                                 |                                |                                      |  |                                 |  |                                    |   |                        |   |  |
| IBM RMF                          |  |  |  |  |  |  |  |  |                                |  | IBM CICS PA                     | IBM IMS PA                     |                                      |  |                                 |  | IBM VM Performance Toolkit         | IBM Tivoli Storage Optimizer            | ITMNP<br>NPM<br>NPM/IP |   |  |
|                                  |  |  |  |  |  |  |  |  |                                |  |                                 |                                |                                      |  |                                 | IBM Oper Mgr z/VM                      |                                    |   |                        |   |  |
|                                  |  |  |  |  |  |  |  |  |                                |  |                                 |                                |                                      |  |                                 | IBM Archive Mgr z/VM                   |                                    |   |                        |   |  |
|                                  |  |  |  |  |  |  |  |  |                                |  |                                 |                                |                                      |  |                                 | IBM BKUP Restore Mgr z/VM              |                                    |   |                        |   |  |
|                                  |  |  |  |  |  |  |  |  |                                |  |                                 |                                |                                      |  |                                 |  |                                    |   | Previous               | Current                                       |  |

# IBM's OMEGAMON Consolidation



**IBM**

# Where to go for more information

Tivoli Product overviews, Manuals, Demos, and Support  
<http://www.ibm.com/software/tivoli/>

Tivoli Technical Exchange Webcasts  
 – Download slides and AVIs  
[http://www.ibm.com/software/sysmgmt/products/support/supp\\_tech\\_exch.html](http://www.ibm.com/software/sysmgmt/products/support/supp_tech_exch.html)

Tivoli Open Process Automation Library (OPAL)  
 – Download extensions for IBM IT Service Mgt Application  
<http://catalog.lotus.com/wps/portal/topal/>

OMEGAMON 4.1 and ITM 6.1 demo (180-day trial license)  
 You can order the demo DVDs (SK4T-0622--03)  
<http://www.elink.ibm.com/publications/servlet/pbi.wss>

## Simulated agents that runs on the live ITM 6.1 code on your desktop

| Mainframe  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• OMEGAMON XE Storage for z/OS</li> <li>• OMEGAMON XE Mainframe Networks</li> <li>• OMEGAMON XE z/OS</li> <li>• OMEGAMON XE for IMS</li> </ul>  | <ul style="list-style-type: none"> <li>• OMEGAMON XE CICS</li> <li>• OMEGAMON XE on z/VM and Linux</li> <li>• ITCAM for WAS on z/OS</li> <li>• InfoMan</li> </ul> |
| Distributed  |   |
| <p>ITM 6.1 w/FP3 ITM for Databases ITM for Application<br/>                     Linux, UNIX, Windows (Real agent), DB2, Sybase, Oracle, SQL,SAP, Lotus Domino,<br/>                     Microsoft Exchange, Microsoft Active Directory, VMWare, Citrix, Microsoft Virtual Server,<br/>                     Microsoft .net Framework, Microsoft Cluster Manager, ITM 5.1 Integration<br/>                     TEC Console Integration<br/>                     ITCAM for SOA, for WAS, for Response Time Tracking</p> |   |

