

## **MONITORING @ THE SPEED OF THOUGHT**

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## **THE WEBSPHERE & J2EE CHALLENGE**

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The end

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## MONITORING @ THE SPEED OF THOUGHT THE UNICREDIT GROUP AT A GLANCE

### UniCredit Group

- One of the largest European financial institutions
- Headquartered in Milan, Italy
- Banking operations in 23 countries
- 40 million of customers
- About 9500 branches
- About 170,000 employees
- [www.unicreditgroup.eu](http://www.unicreditgroup.eu)

### Global Information Services

- UniCredit Global Information Services, as a part of the Banking Services Department, provides comprehensive ICT services to the Companies in the Group
- We want to provide our customers with high-quality and cost-efficient solutions

The first truly European bank

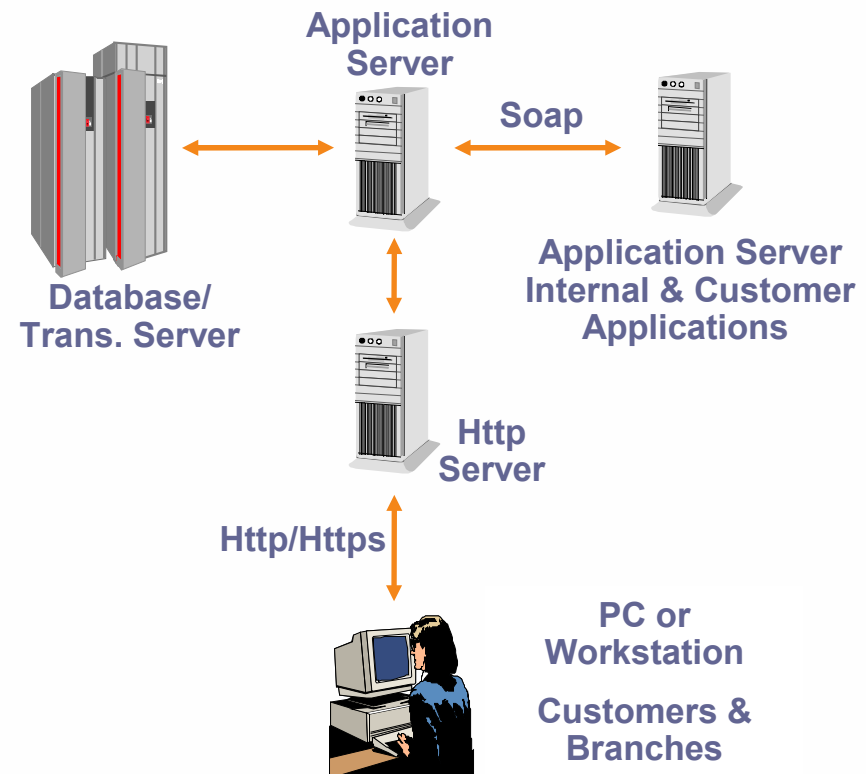
 UniCredit Group



# MONITORING @ THE SPEED OF THOUGHT

## THE ICT SCENARIO: APPLICATIONS, INFRASTRUCTURE

- Some years ago a process was started to migrate all the old-fashioned 3270-based services to a standard J2EE-based architecture.
- At the beginning of that process UGIS
  - defined its own development standard, based on the J2EE specification
  - identified its own target J2EE enabled infrastructure
- Right now that process has been completed and all the new applications are developed following that internal standard and are hosted on our standard infrastructure.



## MONITORING @ THE SPEED OF THOUGHT

### THE ICT SCENARIO: APPLICATIONS, INFRASTRUCTURE

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- **Operating Systems**
  - z/OS
  - Aix 5.3 micropart.
  - Linux
- **RDBMS**
  - DB2 on z/OS
  - Oracle on Aix 5.3
- **Transaction Managers / Messaging**
  - IMS, CICS, Mq on z/OS
  - Mq on Aix
- **Application Servers**
  - WebSphere AS on Aix, z/OS
  - Other J2EE AS
- **Web Servers**
  - IBM HTTP Server on Linux

## The Websphere environment

50 Http servers / 50 AIX Lpars

10 Was cells / 900 Jvms

70 Ears/Jvm

Vertical and orizontal  
scalability Was capabilities used

70.000.000 requests/hour

90% for branches and internet banking

10% other applications

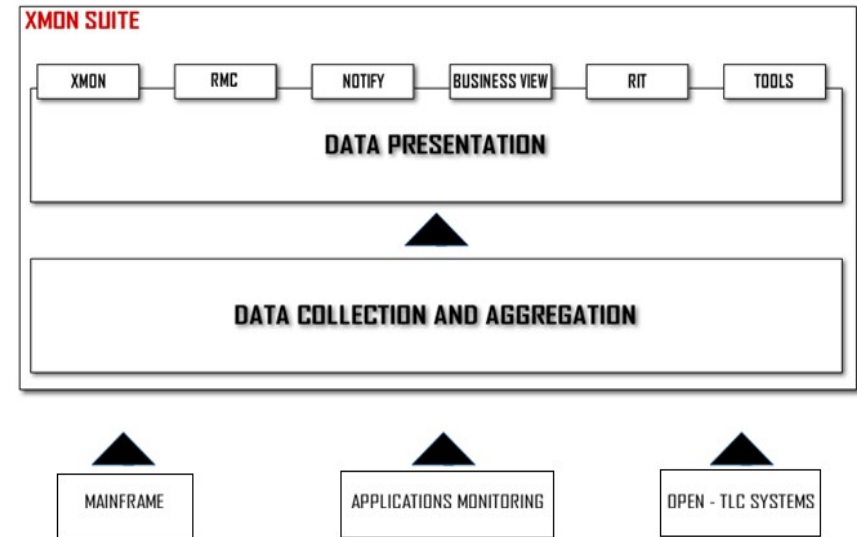
**High  
Volumes  
and  
Complexity**

# MONITORING @ THE SPEED OF THOUGHT

## THE ICT SCENARIO: THE MONITORING INFRASTRUCTURE

### Key features

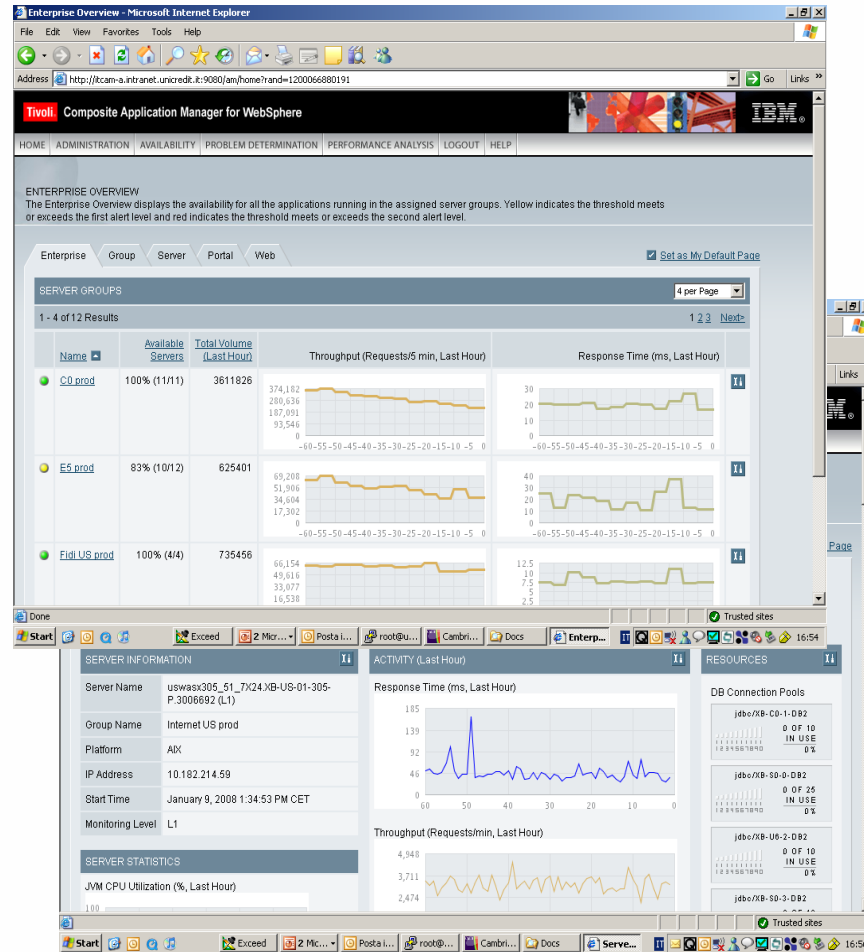
- service oriented
- act as a “nervous system”
  - (real time) performance oriented
  - fuzzy logic based
  - able to process a huge amount of performance data
- multi layered architecture
  - collection
  - aggregation
  - presentation



# MONITORING @ THE SPEED OF THOUGHT

## MONITORING THE WEBSHERE ENVIRONMENT – WHY ITCAM?

- Developed by the same Websphere vendor: less problems in the interaction between the DC and the Jvm.
- Ability to detect and show real time status/health of our big Was infrastructure
- User friendly
- Was for z/OS is supported as well as JCA towards CICS and IMS
- Ability to zoom inside the Jvm black-box
- Integration with the Jvm. The DC lives inside the Jvm itself: no external objects on the Was lpar is needed
- Ability to dynamically change monitoring level

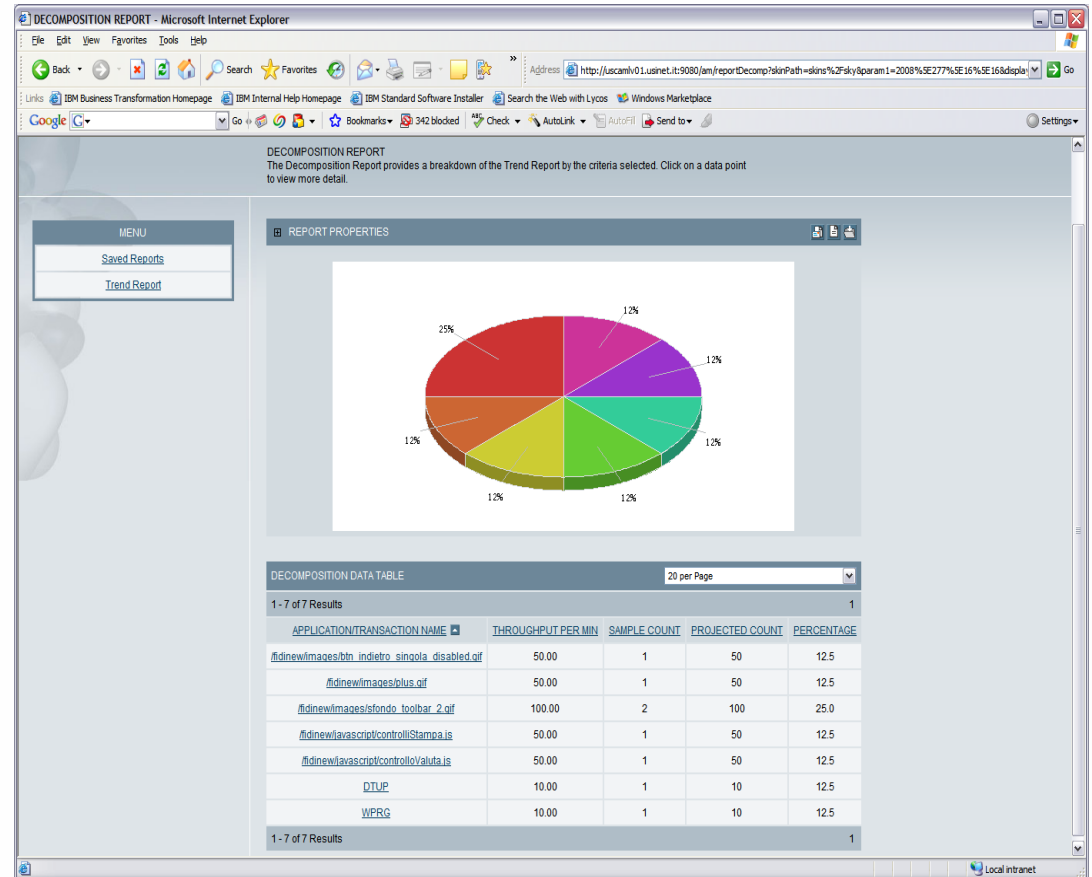


# MONITORING @ THE SPEED OF THOUGHT

## MONITORING THE WEBSPHERE ENVIRONMENT – ARCHITECTURE EVOLUTION

### Composite application management working...

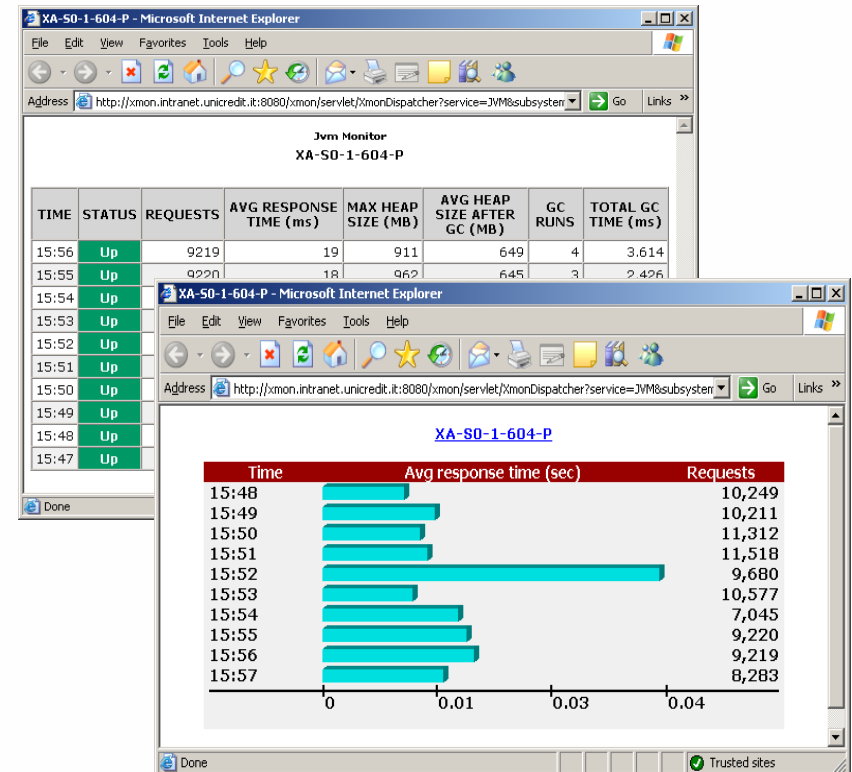
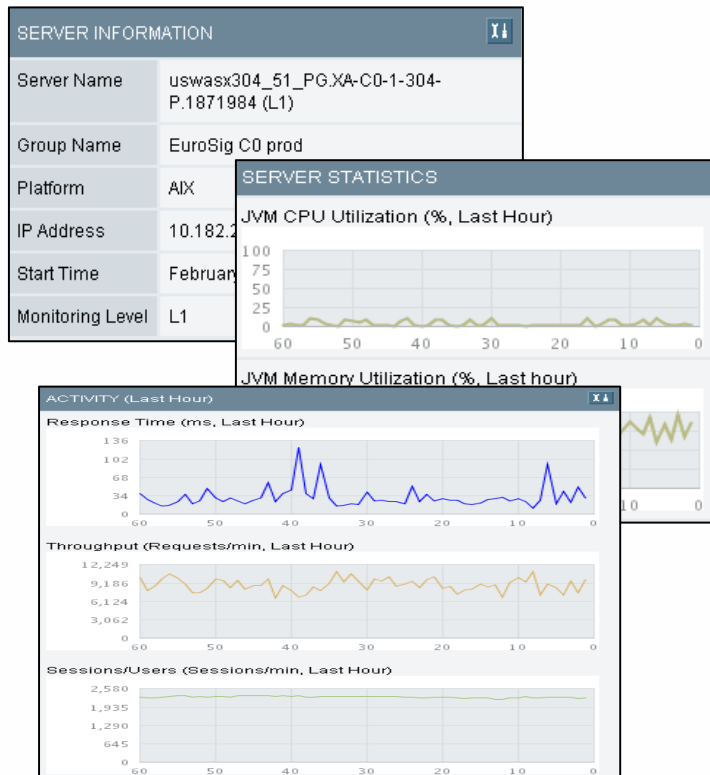
- Application with Was front end and CICS back end
- Requests coming from different datacollectors
- WebSphere
- CICS



# MONITORING @ THE SPEED OF THOUGHT THE INTEGRATION WITH OUR 'NERVOUS SYSTEM'

## The integration working...

Jvm related data are collected by ITCAM and sent to Xmon





## MONITORING @ THE SPEED OF THOUGHT SOME ADDED VALUES...

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### Some added values arise from the implemented ITCAM infrastructure

- Deep Application Performance Analysis  
Sometimes L2 2% is enough to perform deep analysis on application performances in QA environment as well as in production environment
- Deep incident analysis  
After building a library of the most critical classes/methods dynamic L3 activation may be used to find incident root causes
- Integration with the internal capacity management process  
Data collected by TEMA are used to feed the internal capacity management process, helping us to outline business trends