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# ITCAM for WebSphere Messaging

## Les solutions de supervision de WebSphere MQ, WebSphere Message Broker/IIB

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@business on demand.

## Agenda

- Supervision WebSphere MQ
- Supervision WebSphere Message Broker/IIB
- Suivi de bout en bout des transactions
- Anticiper les problèmes de production

# ITCAM Agents for WebSphere Messaging

*What is new in SmartCloud APM v7.7 and ITCAM for Applications 7.2*



## ■ WebSphere MQ

- WebSphere MQ Event Archive - view archived WebSphere MQ events that are reported to a queue manager
- Channel Summary - on both queue manager level and the channel level
- Current Queue Manager Status workspace updates with new summary data - understand the overall activity and health of the queue manager in real time
- 64-bit integer attribute support for distributed platform accounting/statistics attributes
- WebSphere MQ v7.1 and v7.5 support

## ■ WebSphere Message Broker / IBM Integration Bus

- WebSphere Message Broker v7 (and above) - updated workspaces, attributes, situations, and Take Action commands
- WebSphere Message Broker v7 Resource Statistics - statistics of system resources collected by a broker
- WebSphere Message Broker v8 support - including Application/Library support
- IBM Integration Bus v9 support

## ■ Tivoli Common Reporting - Cognos data models and sample reports



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# Superviser WebSphere MQ

***Alerter, visualiser et automatiser WMQ***

Tivoli software



e-business on demand.

# La problématique

- État de fonctionnement des QMs
- État de remplissage des files d'attente
- Problème de la DLQ, reroutage
- Trace des applications WebSphere MQes
- Fonctionnement et débit des canaux
- Performances de WebSphere MQ
- État des applications WebSphere MQ
- Stagnation des messages dans les files
- Réactivité de l'application

# ITCAM for WebSphere Messaging

- Une solution intégrée de gestion de la disponibilité et des performances dans un réseau WebSphere MQ
- Une méthode pro-active pour minimiser l'impact des dégradations sur les applications
- Point central de supervision du réseau WebSphere MQ
- Integration avec les autres agents OMEGAMON ou ITM 6.3 : OS, DB, WAS, WBM (+40 agents au total)
- Plates-formes WMQ supportées : Windows, AIX, HP-UX, Solaris, OS/390 & zOS, OS/400, Linux, zLinux
- Support WebSphere MQ V5.3, V6 , V7,V7.5

+1200 Attributs  
+80 Situations d'alertes  
+20 Actions

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>■ Queue Managers</li><li>■ Applications</li><li>■ Buffers</li><li>■ Logs</li><li>■ Channels</li><li>■ Queues</li><li>■ Clusters</li><li>■ Accounting</li><li>■ MQI Statistics</li></ul> | <ul style="list-style-type: none"><li>■ Messages</li><li>■ DLQs</li><li>■ Event Queues</li><li>■ Page Sets</li><li>■ Initiators</li><li>■ Error Log</li><li>■ Response times</li><li>■ Message Latency</li></ul> |
|---|--|

# Domaines d'expertises WebSphere MQ

The screenshot displays the MQSeries management console for the queue manager **BROKER\_1\_QM**. A large blue arrow points from the top center towards the left pane, which lists various system components and queue managers.

**Queue Summary:** This chart shows the total count of different types of queues for the **BROKER\_1\_QM** queue manager. The legend includes:

- DLQ Depth (yellow)
- Monitored Queues (blue)
- Local Queues (red)
- Remote Queues (dark green)
- Alias Queues (light green)
- Transmit Queues (orange)
- Predefined Queues (purple)
- Permanent Dynamic Queues (dark blue)
- Temporary Dynamic Queues (green)
- Open Queues (dark purple)
- Number Queues with High Depth (red)
- Number of Queues Put-Inhibited (dark red)
- Number of Queues Get-Inhibited (teal)

Category	Count
Monitored Queues	~30
Local Queues	~28
Remote Queues	~2
Alias Queues	~1
Transmit Queues	~2
Predefined Queues	~22
Permanent Dynamic Queues	~2
Temporary Dynamic Queues	~3
Open Queues	~16
Number Queues with High Depth	~1
Number of Queues Put-Inhibited	~1
Number of Queues Get-Inhibited	~1

**Channel Summary:** This chart shows the number of channels for the **BROKER\_1\_QM** queue manager. The legend includes:

- Active Channels (yellow)
- Inactive Channels (blue)
- Indoubt Channels (red)
- Active Sender Channels (dark green)
- Inactive Sender Channels (light green)
- Active Server Channels (orange)
- Inactive Server Channels (purple)
- Active Receiver Channels (dark blue)
- Inactive Receiver Channels (green)
- Active Requestor Channels (dark purple)
- Inactive Requestor Channels (red)

Category	Count
Active Channels	~1
Inactive Channels	~16
Indoubt Channels	~1
Active Sender Channels	~1
Inactive Sender Channels	~3
Active Server Channels	~1
Inactive Server Channels	~7
Active Receiver Channels	~2
Inactive Receiver Channels	~5
Active Requestor Channels	~3
Inactive Requestor Channels	~1

**Queue Manager Summary:** This table provides a summary of the queue manager configuration.

QMGR Name	Host Name	QMGR Subsys	Host Jobname	Start Date & Time	QMGR Status	QMGR Type	DLQ Depth	DLQ Maximum	Monitored Queues	Local Queues	Remote Queues	
BROKER_1_QM	MQLABB1				Active	NT	0	640000	30	25	1	

**BROKER\_1\_QM::MQ**

Ready

# Utilisation des files d'attente

Queue Statistics - tlee:14450 - TLEE

File Edit View Help

Queue Statistics Summary

Number of Queues

Monitored Queues: 40  
Open Queues: 20  
Number Queues with High Depth: 5  
Number of Queues Get-Inhibited: 0  
Number of Queues Put-Inhibited: 0

Queue Utilization

Queue Name: MQINPUT1 (100% Full)  
MQINPUT01 (25% Full)

Link To:

- Recent Queue Statistics (selected)
- Historical Queue Statistics
- Queue Parameters
- Tran/Pgm Statistics by Queue
- Queue Messages

Remove

Print Preview...

Print...

Properties...

MQINPUT01

MQINPUT1

MQINPUT1

Queue Statistics

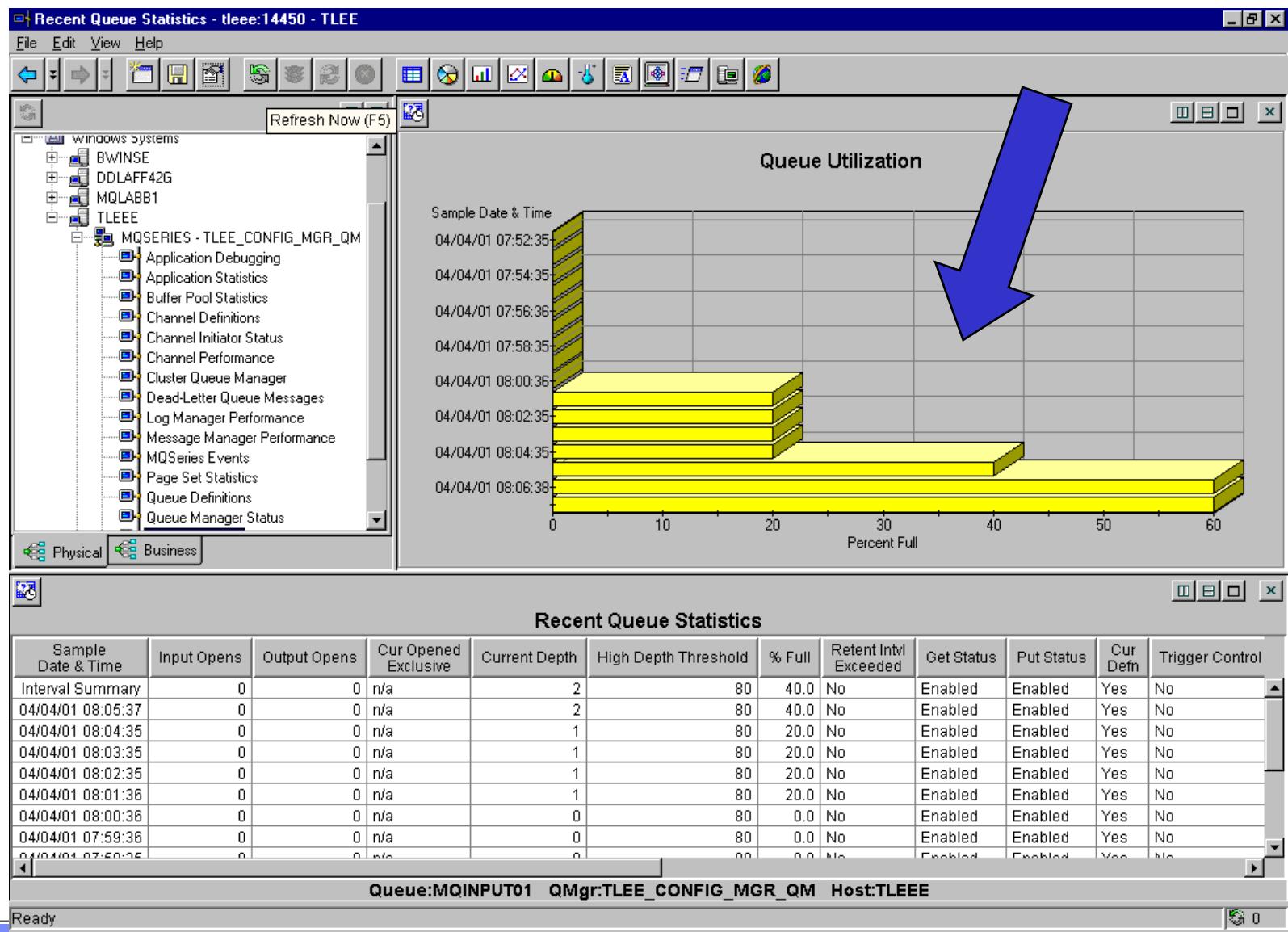
Type	Total Opens	Cur Opened Exclusive	Current Depth	High Depth Threshold	% Full	Get Status	Put Status
XmitQ	Predefined	0	n/a	0	80	0.0	Enabled
XmitQ	Predefined	0	n/a	0	80	0.0	Disabled
XmitQ	Predefined	0	n/a	0	80	0.0	Enabled
Normal	TempDyn	2	n/a	0	80	0.0	Enabled
Normal	TempDyn	1	n/a	0	80	0.0	Enabled
Normal	Predefined	0	n/a	1	80	20.0	Enabled
MQINPUT1	Normal	Predefined	0	n/a	2	100.0	Enabled

TLEE\_CONFIG\_MGR\_QM::MQ

Ready



# Vision temps réel et historique



# Latence des messages

Current Message Statistics - GCHAV5 - GCHAV

File Edit View Help

Physical

- Channel Initiator Status
- Channel Performance
- Cluster Queue Manager
- Dead-Letter Queue Messages
- Error Log
- Log Manager Performance
- Message Manager Performance
- MQSeries Events
- Page Set Statistics
- Queue Definitions
- Queue Manager Status
- Queue Statistics

GCHAV5

- MQSERIES - QM\_gchav5
- Application Debugging
- Application Statistics
- Buffer Pool Statistics
- Channel Definitions
- Channel Initiator Status

Physical

**Message Count**

Number of Messages

Total Messages (Yellow) + Delayed Messages (Blue) = 2400

**Message Duration**

In Seconds

Oldest Msg(Secs) (Yellow), Average Msg(Secs) (Blue), Newest Msg(Secs) (Pink), High Priority Msg(Secs) (Green)

**Current Message Statistics**

Total Messages	Delayed Messages	% Delayed	Latency Threshold	Oldest Msg(Secs)	Average Msg(Secs)	Newest Msg(Secs)	High Priority Msg(Secs)	Priority 0 Messages	Priority 1 Messages	Priority 2 Messages	Priority 3 Messages	Priority 4 Messages	Priority 5 Messages
2201	2201	100.0	120.00	349,040.81	305,007.71	87,224.40	347,780.34	275	300	141	118	318	42

Queue:TEST QMgr:QM\_gchav1 Host:GCHAV1

Ready Server Available. Current Message Statistics - GCHAV5 - GCHAV

Start 4:01 PM

# Temps de réponses et comptages

**Current Message Statistics by Correlation ID - GCHAV5 - GCHAV**

File Edit View Help

Physical

- Channel Initiator Status
- Channel Performance
- Cluster Queue Manager
- Dead-Letter Queue Messages
- Error Log
- Log Manager Performance
- Message Manager Performance
- MQSeries Events
- Page Set Statistics
- Queue Definitions**
- Queue Manager Status
- Queue Statistics

GCHAV5

- MQSERIES - QM\_gchav5
- Application Debugging
- Application Statistics
- Buffer Pool Statistics
- Channel Definitions
- Channel Initiator Status

Physical

**Message Count by Correlation ID**

Number of Messages

**Message Duration by Correlation ID**

In Seconds

**Current Message Statistics by Correlation ID**

Correlation ID	Average Msg(Seconds)	Newest Msg(Seconds)	High Priority Msg(Seconds)	Priority 0 Messages	Priority 1 Messages	Priority 2 Messages	Priority 3 Messages	Priority 4 Messages	Priority 5 Messages	Priority 6 Messages	Priority 7 Messages	Priority 8 Messages	Priority 9 Messages
.81	349,085.81	349,085.81	349,085.81	0	0	0	0	0	0	0	0	0	1
.62	99,920.08	94,068.08	102,233.62	0	0	0	0	0	0	0	0	0	85
.91	322,672.82	102,576.22	342,888.91	0	0	0	0	0	0	0	0	0	0
.83	344,875.12	342,909.25	347,585.83	0	0	0	0	0	0	330	0	0	0
.86	346,244.48	346,193.32	346,280.86	0	0	0	118	0	0	0	0	0	0
.87	346,047.01	346,023.33	346,065.67	0	71	0	0	0	0	0	0	0	0
.75	344,696.95	343,154.15	344,167.77	275	229	0	0	0	0	0	0	0	0
.87	346,399.33	346,290.23	346,601.87	0	0	0	0	203	0	0	0	0	0
.76	102,437.90	102,254.26	102,556.76	0	0	0	0	0	0	0	0	0	172
.86	347,627.01	347,592.52	347,699.06	0	0	0	0	0	0	65	0	0	0

Queue:TEST QMgr:QM\_gchav1 Host:GCHAV1

Ready Server Available. Current Message Statistics by Correlation ID - GCHAV5 - GCHAV

Start 4:02 PM

# Queue Definition Workspace

The screenshot displays the Queue Definitions workspace for IBM-B76DE6E9DBF - SYSADMIN. The interface includes a Navigator pane on the left showing a tree view of the enterprise, and a Queue Definitions Summary chart and table on the right.

**Available for WMQ75 on Distributed and Z/OS**

**Available for WMQ75/WMQ71 on Distributed and Z/OS**

Is	Default Priority	Default Persist	Queue Description	Cluster	Cluster Namelist	Host QMgr	Cluster Queue Type	Cluster Channel Name	Custom	Alter Date & Time	Cluster Date & T
WebSphere MQ	0	No	WebSphere MQ Default Initiation Queue			n/a				09/05/13 13:35:57	n/a
WebSphere MQ	0	No				n/a				09/05/13 13:35:57	n/a
WebSphere MQ	0	No				n/a				09/05/13 13:35:57	n/a
WebSphere MQ	0	No				n/a				09/05/13 13:35:57	n/a
WebSphere MQ	0	Yes	WebSphere MQ .NET XA Recovery Queue			n/a				09/05/13 13:36:03	n/a
WebSphere MQ	0	No	Model for managed queues for durable subscriptions			n/a				09/05/13 13:36:00	n/a
WebSphere MQ	0	No	Store of information about durable subscribers			n/a				09/05/13 13:36:00	n/a
WebSphere MQ	0	Yes	MQ Publish/Subscribe Distributed Pub/sub hierarchy relation...			n/a				09/05/13 13:36:01	n/a
WebSphere MQ	0	Yes	MQ Publish/Subscribe Distributed Pub/sub Control Queue ...			n/a				09/05/13 13:36:00	n/a
WebSphere MQ	0	Yes	MQ Publish/Subscribe Distributed Pub/sub proxy-sub request...			n/a				09/05/13 13:36:00	n/a
WebSphere MQ	0	Yes	MQ Publish/Subscribe Distributed Pub/sub Publications ...			n/a				09/05/13 13:36:00	n/a
WebSphere MQ	0	No	WebSphere MQ Internal Reply Queue			n/a				09/05/13 13:36:01	n/a
WebSphere MQ	0	No	WebSphere MQ Internal Request Queue			n/a				09/05/13 13:36:03	n/a

QM8\_1:MQ

Hub Time: 星期二, 09/10/2013 12:10 下午

Server Available

Queue Definitions - IBM-B76DE6E9DBF - SYSADMIN

# Channel Summary Workspace

Channel Summary - tivp003 - SYSADMIN

File Edit View Help

Navigator View: Physical

Enterprise

- UNIX Systems
- tivp003
  - MQSERIES
    - QM1
      - Channel Definitions
      - Channel Performance
      - Cluster Queue Manager
      - Dead-Letter Queue
      - Error Log
      - MQSeries Events
      - Queue Definitions
      - Queue Manager Statistics
      - Queue Statistics
      - Application Accounts
      - MQI Statistics
      - Publish Subscribe
    - QMA
    - QMR

Physical

Workspace

- Take Action...
- Link To...
- Launch...
- Situations...
- Show Navigator List...
- Split vertically
- Split horizontally
- Print Preview...
- Print...
- Find...
- Properties...
- Channel Summary

Server-connection Channel Resource Usage Rates

Usage Rate

% Max Instances

% Max Instances per Client

% Max Sharing Conversations

Highest Transmit KB/Sec

Average Transmit KB/Sec

The workspace provides the channel level summary per channel

SYSTEM.DEF.SVRCONN

Channel Summary

	Channel Name	Channel Type	Client Count	Running Instances	Retrying Instances	% Max Instances	% Max Instances per Client	% Max Sharing Conversations	Highest In-Doubt Samples	Latest Send Date & Time	Highest Transmit KB/Sec	Average Transmit KB/Sec	Highest Net Time
	SYSTEM.DEF.CLUSRCVR	CLUSRCVR	0	0	0	n/a	n/a	n/a	0	n/a	0.00	0.00	0
	TO.QM1	CLUSRCVR	0	0	0	n/a	n/a	n/a	0	n/a	0.00	0.00	0
	SYSTEM.DEFCLUSSDR	CLUSSDR	0	0	0	n/a	n/a	n/a	0	n/a	0.00	0.00	0
	TO.QM2	CLUSSDR	1	0	1	n/a	n/a	n/a	0	n/a	0.00	0.00	0
	SYSTEM.AUTO.RECEIVER	RCVR	0	0	0	n/a	n/a	n/a	0	n/a	0.00	0.00	0
	SYSTEM.DEF.RECEIVER	RCVR	0	0	0	n/a	n/a	n/a	0	n/a	0.00	0.00	0
	SYSTEM.DEF.REQUESTER	RQSTR	0	0	0	n/a	n/a	n/a	0	n/a	0.00	0.00	0
	SYSTEM.DEF.SENDER	SDR	0	0	0	n/a	n/a	n/a	0	n/a	0.00	0.00	0
	SYSTEM.DEF.SERVER	SVR	0	0	0	n/a	n/a	n/a	0	n/a	0.00	0.00	0
	SYSTEM.AUTO.SVRCONN	SVRCONN	0	0	0	0.0	0.0	n/a	0	n/a	0.00	0.00	0
	SYSTEM.DEF.SVRCONN	SVRCONN	1	3	0	0.0	0.0	10.0	0	08/27/12 10:29:21	0.00	0.00	0

QM1::MQ

Hub Time: 星期一, 08/27/2012 12:54 下午

Server Available

Channel Summary - tivp003 - SYSADMIN

not for distribution

# MQ Event Search

Event Archive - tvp003 - SYSADMIN

File Edit View Help

Navigator

View: Physical

Message Log

Status	ID	Display Item	Origin Node	Global Timestamp	Local Timestamp	Node	Type
Open	MS_Offline		QMB:MQ	08/27/12 08:37:39	08/27/12 08:37:39	TE...	Sampled
Open	MS_Offline		QMA:MQ	08/27/12 08:37:39	08/27/12 08:37:39	TE...	Sampled
Open	MS_Offline		tvp003::RCACFG	08/20/12 02:53:39	08/20/12 02:53:39	TE...	Sampled

OK/S

Enterprise

UNIX Systems

tvp003

MQSERIES

QM1

- Channel Definitions
- Channel Performance
- Cluster Queue Manager
- Dead-Letter Queue Messages
- Error Log
- MQSeries Events**
- Queue Definitions
- Queue Manager Status
- Queue Statistics
- Application Accounting
- MQI Statistics
- Publish Subscribe

Physical

Event Archive

Recording Time Event Date & Time Event Event Qu

08/27/12 08:40:00	08/27/12 08:40:46	Configuration Create Object	n/a
08/27/12 08:40:00	08/27/12 08:40:46	Configuration Create Object	n/a
08/27/12 08:40:00	08/27/12 08:40:46	Command MQSC	Create Queue
08/27/12 08:41:00	08/27/12 08:41:02	Command MQSC	Inquire Queue
08/27/12 08:41:00	08/27/12 08:41:28	Configuration Change Object	Attributes Before Change
08/27/12 08:41:00	08/27/12 08:41:28	Configuration Change Object	Attributes Before Change
08/27/12 08:41:00	08/27/12 08:41:28	Configuration Change Object	Attributes After Change
08/27/12 08:41:00	08/27/12 08:41:28	Configuration Change Object	Attributes After Change

Page: 1 of 4

Name Resource Name XML Event Data

QA <Param Event="Configuration Create Object" ActionType="Predefined" Qtype="Local" ...>

QA <Param Event="Command MQSC" EventCode="CREATE" ...>

QA <Param Event="Command MQSC" EventCode="INQUIRE" ...>

QA <Param Event="Configuration Change Object" Action="Before" PropertyControl="Compatibility" Definition="..." ...>

QA <Param Event="Configuration Change Object" Action="After" PropertyControl="Compatibility" Definition="..." ...>

QM1::MQ

Last 24 Hours.

Hub Time: 星期一, 08/27/2012 11:26 上午

Server Available

Event Archive - tvp003 - SYSADMIN

NOT FOR DISTRIBUTION

MQ Event Search to find your events by conditions

By default only 24 hours data is displayed in this workspace

Take Action...

Link To...

Launch...

Model Situation...

Export...

**MQ Event Search...**

Split vertically

Split horizontally

Remove

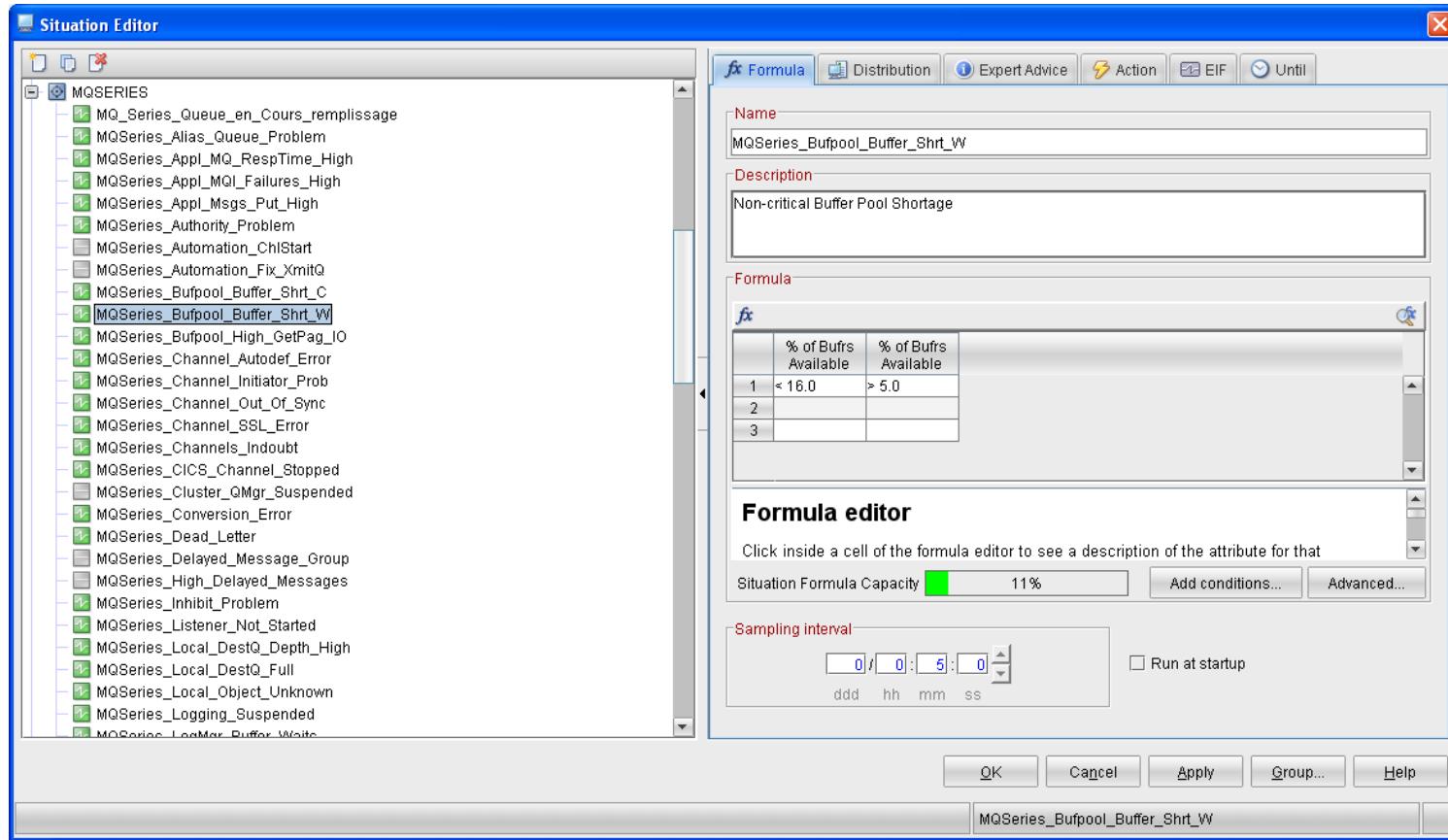
Print Preview...

Print...

Find...

Properties...

# Des alarmes prédéfinies pour WebSphere MQ





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# Support fonction MQ V7.x

Tivoli software



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# Nouveautés agent WMQ version 7

The screenshot displays the IBM Tivoli Monitoring Application Center interface, featuring several windows:

- Topic Status - Subscribers - LWGTEST - SYSADMIN**: Shows a tree view of MQSERIES resources under qm.lwgtest01, including Channel Definitions, Cluster Queue Manager, Dead-Letter Queue, Error Log, MQSeries Events, Queue Definitions, Queue Statistics, Application Accounting, MQI Statistics, Publish Subscribe, and MQSC Scripts.
- Subscribe Topology**: A diagram illustrating the publish-subscribe topology. It shows a central node labeled "ibm" connected to three subscribers: "sub.ibm.info", "sub.stock.ibm", and "dest01".
- Number of ...**: A chart showing the number of subscribers over time, with two bars: "sub.stock.ibm" (yellow) and "sub.ibm.info" (blue).
- Application Connections - MSG7KPI - SYSADMIN**: Shows a detailed view of application connections, including a table of connection details and a list of selected connections.
- Application Topology**: A diagram showing the relationships between various application components, including "ebSphere MQbin\amqfuma.exe", "ebSphere MQbin\amqrnra.exe", "ebSphere MQbin\amqdmra.exe", "MAITM6\kmqlocal\_qm\_kpi01.exe", and "ebSphere MQbin\amqfcba.exe".
- Support du Publish and Subscribe en V7**: A red callout box highlighting the support for Publish and Subscribe in Version 7.
- Topologie des applications**: A red callout box highlighting the application topology feature.

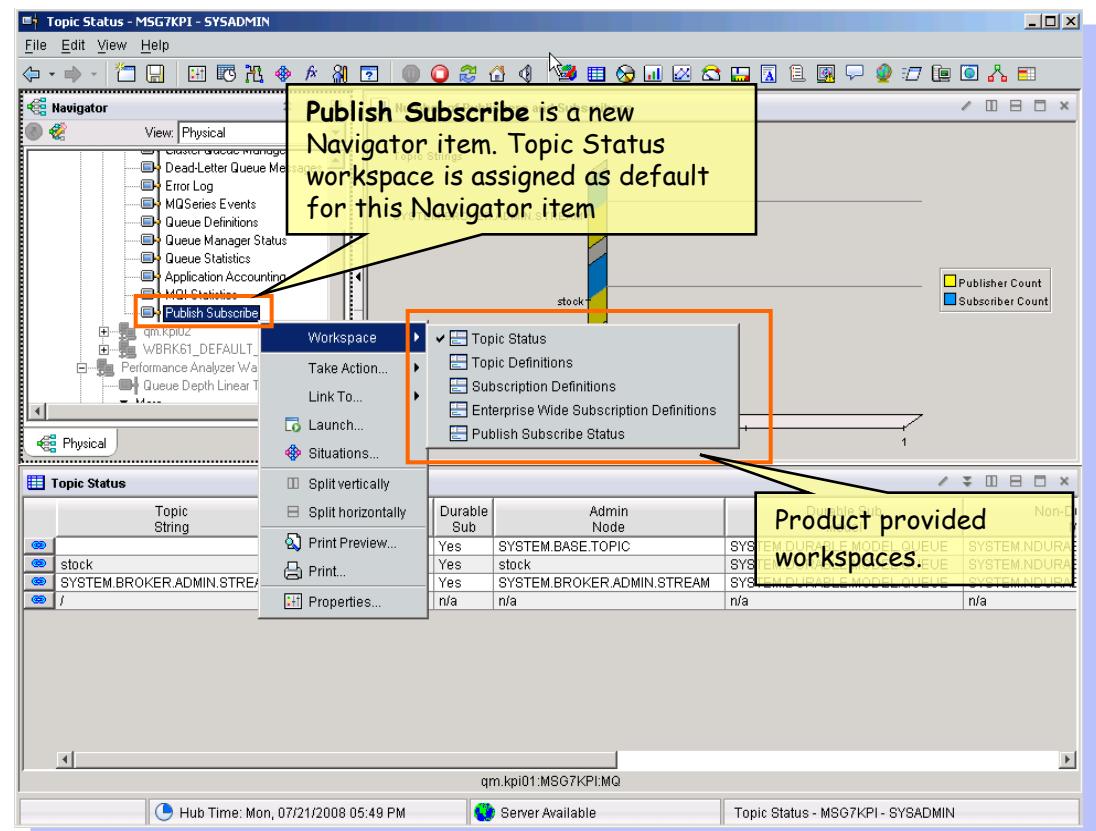
# Publish/Subscribe Workspaces

Présentation des information publish/subscribes

## ▶ 5 vues prédéfinies

- Topic Status
- Topic Definitions
- Subscription Definitions
- Enterprise Wide Subscription Definitions
- Publish Subscribe Status

## ▶ MQ Search function



# Nouvelle console : Application Overview

Application Overview

Settings Edit

Application Summary

Application in Critical	Application in Warning	Application in Normal
0	0	2

**Status indicator**  Resource >  Client >  Event >  Transaction >

Test2 Credit Card

*Drill down to Resource Dashboard*

*Drill down to Client Dashboard*

*Drill down to Event Dashboard*

*Drill down to Transaction Dashboard*

The screenshot displays the 'Application Overview' interface. At the top, there's a navigation bar with 'Settings' and 'Edit' buttons. Below it is a section titled 'Application Summary' with three large boxes: one red for 'Application in Critical' (0), one yellow for 'Application in Warning' (0), and one green for 'Application in Normal' (2). Underneath this is a 'Status indicator' row with four buttons: 'Resource >', 'Client >', 'Event >', and 'Transaction >'. The 'Resource >' button has a red circle around its checkbox. Below this are two rows of application cards: 'Test2' and 'Credit Card', each with its own set of status indicators. At the bottom, four blue callout boxes point to the status indicators for Resource, Client, Event, and Transaction, with the text 'Drill down to [Dashboard Name]' inside each.

# Resource Dashboard (1)

**Tivoli Trader - Resource Dashboard**

**Back** **Edit**

## Transaction Performance

Response time

3,334ms

Requests

248

Percent available

100%

Percent slow

100%

Transaction status

7% Green, 1% Yellow

Server status

100%

Client status

100%

## HTTP Status - v5254001a7c4d

Server status

Running

Failed requests rate

0.012

Server failures rate

0.113

## HTTP Status - v525400684dce

Server status

Running

Failed requests rate

0.032

Server failures rate

0.860

## WAS Status - v52540032ac-2

Server status

Connected

Hung threads total

0

JVM memory used

172,831Kb

CPU used(%)

10%

Conn pool used(%)

100%

Heap used(%)

60%

GC real time(%)

5%

## WAS Status - v52540032ac-1

Server status

Connected

Hung threads total

0

JVM memory used

233,714Kb

CPU used(%)

20%

Conn pool used(%)

20%

Heap used(%)

60%

GC real time(%)

5%

## DB Status - v525400caeae17

Instance status

Active

BP hit ratio(%)

71%

Max failed SQL stmts(%)

5%

Buffer used(%)

70%

Conn entry used(%)

20%

## DB Status - v525400a62844

Instance status

InActive/Busy

BP hit ratio(%)

0%

Max failed SQL stmts(%)

0%

Buffer used(%)

0%

Conn entry used(%)

0%

## MQ Status - brkqm1

Queue manager status

Normal

Queue status

Normal

Channel status

Normal

Critical errors

0

Event count

0

# Resource Dashboard (2)

**TivoliTrader - Resource Dashboard**

**HTTP\_CLUSTER**

Server status  3

Max failed requests(per min)	0.000
Max server failed rate(per min)	0.000
Max failed login rate(per min)	0.000

**WAS\_CLUSTER**

Server status  5

Max JVM CPU (%)  0 50 100

**DB2\_CLUSTER**

DB2 Instance status  5

Top 5 Buffer Usage:

Instance Name	Buffer used(%)
db2inst3:v52540005ca45:UD	<span style="color: green;">✓</span> 0.00%
DB2INST2:v52540005ca45:UD	<span style="color: green;">✓</span> 0.00%
db2inst3:v525400438ac1:UD	<span style="color: green;">✓</span> 0.00%
DB2INST2:v5254007f706e:UD	<span style="color: green;">✓</span> 0.00%
DB2INST2:v52540047acac:UD	<span style="color: green;">✓</span> 0.00%

**MQ\_CLUSTER**

Server status  2

Worst BP hit ratio(%) ✖ 0.00%

Max failed SQL stmts(%) ✓ 0.56%

Top 5 Sort Heap Used:

Server	Status	Channel initiator status	Command server status
brkqm1::MQ	<span style="color: green;">✓</span> Running	<span style="color: green;">✓</span> Running	<span style="color: green;">✓</span> Running
DB2INST3:v5254006c8f66:MQ	<span style="color: green;">✓</span> Running	<span style="color: green;">✓</span> Running	<span style="color: green;">✓</span> Running
DB2INST2:v52540005ca45:UD	<span style="color: green;">✓</span> 0.00%	<span style="color: green;">✓</span> 0.00%	<span style="color: green;">✓</span> 0.00%
DB2INST2:v525400438ac1:UD	<span style="color: green;">✓</span> 0.00%	<span style="color: green;">✓</span> 0.00%	<span style="color: green;">✓</span> 0.00%
DB2INST2:v5254007f706e:UD	<span style="color: green;">✓</span> 0.00%	<span style="color: green;">✓</span> 0.00%	<span style="color: green;">✓</span> 0.00%
DB2INST2:v52540047acac:UD	<span style="color: green;">✓</span> 0.00%	<span style="color: green;">✓</span> 0.00%	<span style="color: green;">✓</span> 0.00%

**Top 5 Servers With Highest Average Response Time(ms)**

Server Instance	Avg Response(ms)
node3server1:v525400184b39:KYNS	215.0
node3server1:v525400184b39:KYNS	111.0
node1server1:v52540051a39e:KYNS	13.0
node1server1:v52540051a39e:KYNS	13.0
node3server1:v525400184b39:KYNS	8.0

*Click one row to drill down to Cluster Summary Dashboard for health of the particular resource*

# Versions supportées

ITCAM Configuration Agent for WebSphere MQ level	WebSphere MQ level					
	V7.5	V7.1	V7.0.1	V7.0.0	V6.0	V5.3
<u>V7.1.0 FP01</u>	Yes*	Yes*	Yes*	Yes*	Yes	No
<u>V7.1.0 GA</u>	Yes*	Yes*	Yes*	Yes*	Yes	No
<u>V7.0.1 FP02</u>	No	Yes*	Yes*	Yes*	Yes	No
V7.0.1 FP01	No	No	Yes*	Yes*	Yes	No
V7.0.1 IF01	No	No	Yes*	Yes*	Yes	No
V7.0.1 GA	No	No	Yes*	Yes*	Yes	No
<u>V7.0.0 FP03 IF02</u>	No	Yes*	Yes*	Yes*	Yes	No
<u>V7.0.0 FP03</u>	No	No	Yes*	Yes*	Yes	No
V7.0.0 FP02	No	No	Yes*	Yes*	Yes	No
V7.0.0 FP01	No	No	No	Yes*	Yes	No
V7.0.0 GA	No	No	No	Yes*	Yes	No
V6.0.1 FP02	No	No	Yes*	Yes*	Yes	Yes
V6.0.1 FP01 IF02	No	No	No	Yes*	Yes	Yes



IBM Software Group

# La configuration de WebSphere MQ

**Gérer les grandes infrastructures WMQ**

Tivoli software



@business on demand.

# OMEGAMON Configuration Agent for WebSphere MQ

- Découverte automatique du réseau WebSphere MQ
- Groupage d'objets WebSphere MQ
- Vérification de cohérence
- Utilisation de variables pour la normalisation
- Modélisation
- Audit des mises à jour
- Importer/Exporter les définitions
- Clonage multiple de ressources

# Définitions des groupes et des ressources WebSphere MQ

Screenshot of the IBM WebSphere MQ Configuration tool interface.

The left pane shows a tree view of configuration objects:

- Configuration
  - Defined View (selected)
  - Prototype View
  - Defined and Prototype
  - Global Variable Editor
  - Audit Log

A large blue arrow points from the left towards the center-right pane.

The center-right pane displays the details for the selected "Defined View" object. The tree view on the left highlights "Defined View".

Properties listed in the right pane:

Attribute	Value
- Manager	
Name	CVILL_ATHENS
Description	
Dead letter queue	
Trigger interval (milliseconds)	999999999
CCSID	
Maximum open handles	256
Maximum message length	4194304
Maximum uncommitted mess...	10000
Expired messages scan interv...	
Default Transmit Queue	
Host system name	
Agent Queue Prefix	KMC.IRA.V350.QUEUE
Queue Manager Platform Type	HPUX
Websphere MQ Version	Unknown
- Auto Start	
Auto start	<input type="checkbox"/>
Auto define channels	<input type="checkbox"/>
Start listener	<input type="checkbox"/>
Start channel initiator	<input type="checkbox"/>
Start trigger monitor	<input type="checkbox"/>
Workstation userid is defined ...	<input type="checkbox"/>
Configure permanent dynamic...	<input type="checkbox"/>
Configure Websphere MQ aut...	<input type="checkbox"/>
Protocol	TCP/IP
Port number(IP only)	1414

Buttons at the bottom right: Save, Help, Reset.

Status bar at the bottom: Ready, Server Available, Defined View - jhabe5:60471 - SYSADMIN, 3:33 PM.

# Création de ressources MQ à l'aide de prototypes

Screenshot of the IBM MQ Configuration tool interface showing the creation of MQ resources using prototypes.

The interface has two main panes:

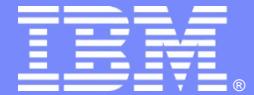
- Defined View (Top Left):** Shows a tree structure of defined resources:
  - Configuration
  - Defined View
  - Prototype View
  - Defined and Prototype** (selected)
  - Global Variable Editor
  - Audit Log
- Prototype View (Bottom Left):** Shows a list of available prototypes:
  - Configured System Prototypes
  - Resource Group Prototypes
  - Resource Prototypes** (selected)
    - \$AutoCreate\_MQWin\_Receiver\_Channel\_Proto
    - \$AutoCreate\_MQWin\_Sender\_Channel\_Proto
    - \$AutoCreate\_MQWin\_XmitQ\_Proto
    - \$AutoCreate\_Receiver\_Channel\_Proto
    - \$AutoCreate\_Sender\_Channel\_Proto
    - \$AutoCreate\_Start\_Channel\_Process\_Proto
    - \$AutoCreate\_XmitQ\_Proto
    - APPLA.Proto.Queue

**Attribute Editor (Right Side):** Displays configuration details for the selected resource (e.g., \$Default\_Group, \$Channels, etc.). A large blue arrow points from the Prototype View pane towards the Attribute Editor pane, indicating the process of selecting a prototype and applying its settings.

**Attribute Editor (Top Right):** Shows the configuration for the selected resource (e.g., BANSQM1.TOBANSQM3). The "MCA Type" is set to "Process".

**Attribute Editor (Bottom Right):** Shows the configuration for the selected prototype (\$AutoCreate\_MQWin\_Receiver\_Channel\_Proto). The "Name" is set to "&SENDCHL".

At the bottom, status bars indicate "Ready" and "Server Available". The title bar reads "Defined and Prototype - jhabes5:60471 - SYSADMIN".



IBM Software Group

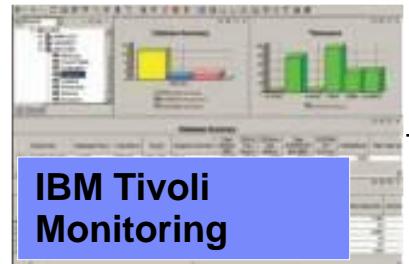
# Reporting

Tivoli software

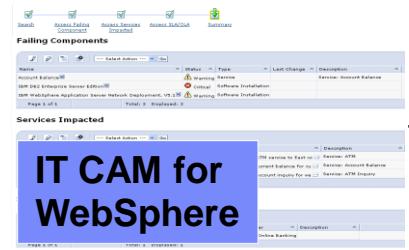


@business on demand.

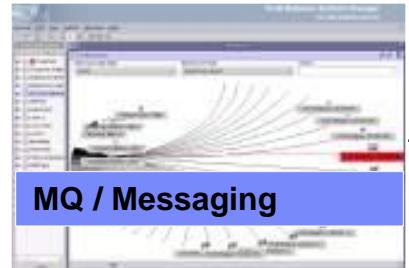
# IBM Tivoli Common Reporting : outils de reporting



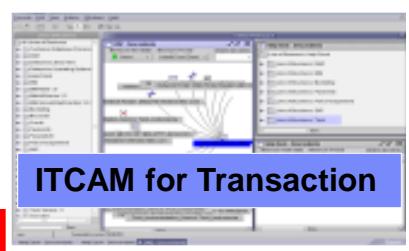
IBM Tivoli Monitoring



IT CAM for WebSphere



MQ / Messaging



ITCAM for Transaction



## Report Administration

- Organization
- Customization
- Subscription & Distribution
- Scheduling

**Cognos**

**Interface Web  
Facile à utiliser**

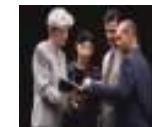


HTML



HTML  
PDF  
CSV  
etc

**Distribution  
aisée**



**TCR est une solution ouverte bâtie sur Cognos engine qui fournit des rapports prédéfinis pour l'ensemble des solutions Tivoli sans cout additionnels**

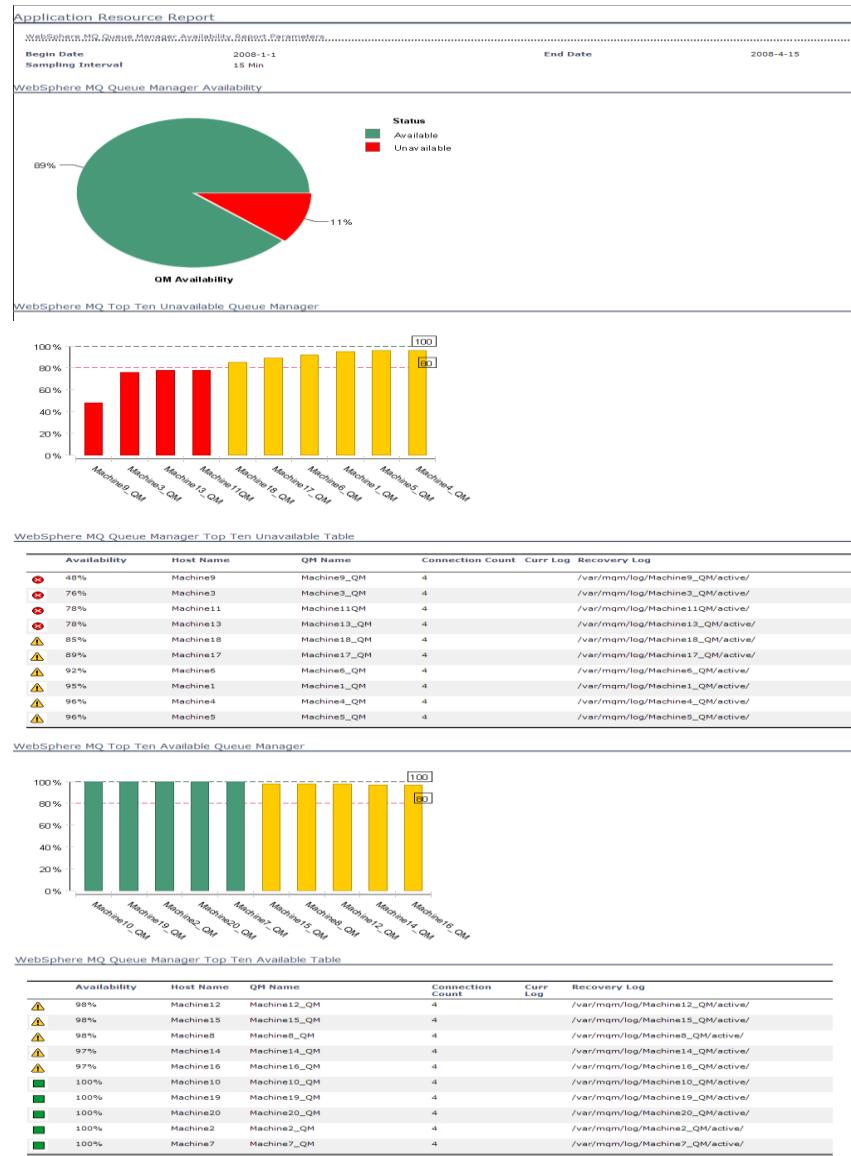
# Tableau de bord

Rapport prédefinies

- Disponibilité des Queues Managers
- Profondeur des Queues
- Analyse des files d'attentes pleines
- Disponibilité des canaux

Fréquence des rapports

- Journalière, hebdomadaire, mensuelle, annuelle



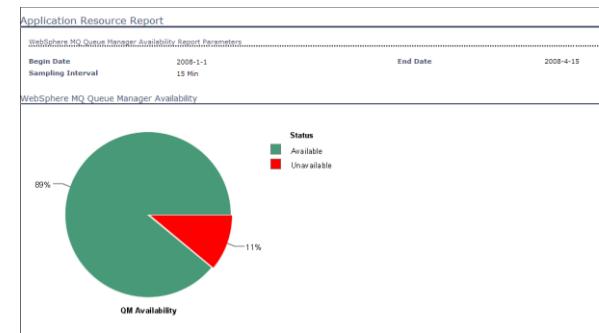
# Rapport sur les Queues Manager

Disponibilité de tous les queues manager

- Tous ou par serveur

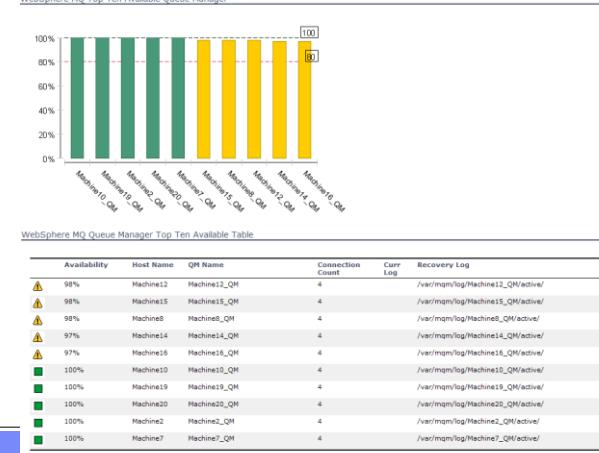
Top 10 des queues manager les moins disponibles

Top 10 des Queue manager les plus disponibles



Availability	Host Name	QM Name	Connection Count	Curr Log	Recovery Log
● 49%	Machine9	Machine9_QM	4	/var/mqm/log/Machine9_QM/active/	
● 76%	Machine3	Machine3_QM	4	/var/mqm/log/Machine3_QM/active/	
● 78%	Machine11	Machine11_QM	4	/var/mqm/log/Machine11_QM/active/	
● 78%	Machine13	Machine13_QM	4	/var/mqm/log/Machine13_QM/active/	
● 85%	Machine18	Machine18_QM	4	/var/mqm/log/Machine18_QM/active/	
● 89%	Machine17	Machine17_QM	4	/var/mqm/log/Machine17_QM/active/	
● 92%	Machine8	Machine8_QM	4	/var/mqm/log/Machine8_QM/active/	
● 95%	Machine1	Machine1_QM	4	/var/mqm/log/Machine1_QM/active/	
● 96%	Machine4	Machine4_QM	4	/var/mqm/log/Machine4_QM/active/	
● 95%	Machine5	Machine5_QM	4	/var/mqm/log/Machine5_QM/active/	

**WebSphere MQ Queue Manager Top Ten Available Table**



# Availability Reports – Queues Manager

## OmegaMon XE For Messaging Report

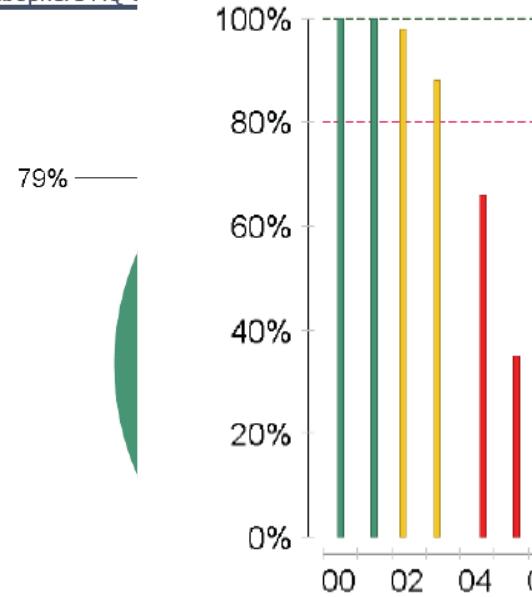
### WebSphere MQ Queue Manager Availability Report Parameters

Date November 25, 2007

Host Name

### WebSphere MQ Queue Manager Availability Table

#### WebSphere MQ C



#### Queue Manager Availability

Availability	Date	Hour	MQ Manager Name	Host Name	Connect Count	Current Log	Recovery Log	Media Restar
							Recover Log	Recover Log
100%	11/25/07	00	QMforRepo!	TIVU17	7		C:\IBM\WebSphere MQ\log\QMforReporting\active\	
100%	11/25/07	01	QMforRepo!	TIVU17	7		C:\IBM\WebSphere MQ\log\QMforReporting\active\	
98%	11/25/07	02	QMforRepo!	TIVU17	7		C:\IBM\WebSphere MQ\log\QMforReporting\active\	
88%	11/25/07	03	QMforRepo!	TIVU17	7		C:\IBM\WebSphere MQ\log\QMforReporting\active\	
66%	11/25/07	04	QMforRepo!	TIVU17	7		C:\IBM\WebSphere MQ\log\QMforReporting\active\	
35%	11/25/07	05	QMforRepo!	TIVU17	7		C:\IBM\WebSphere MQ\log\QMforReporting\active\	
78%	11/25/07	06	QMforRepo!	TIVU17	7		C:\IBM\WebSphere MQ\log\QMforReporting\active\	
98%	11/25/07	07	QMforRepo!	TIVU17	7		C:\IBM\WebSphere MQ\log\QMforReporting\active\	
100%	11/25/07	08	QMforRepo!	TIVU17	7		C:\IBM\WebSphere MQ\log\QMforReporting\active\	
100%	11/25/07	09	QMforRepo!	TIVU17	7		C:\IBM\WebSphere MQ\log\QMforReporting\active\	

# Resource Report – Queue Depth

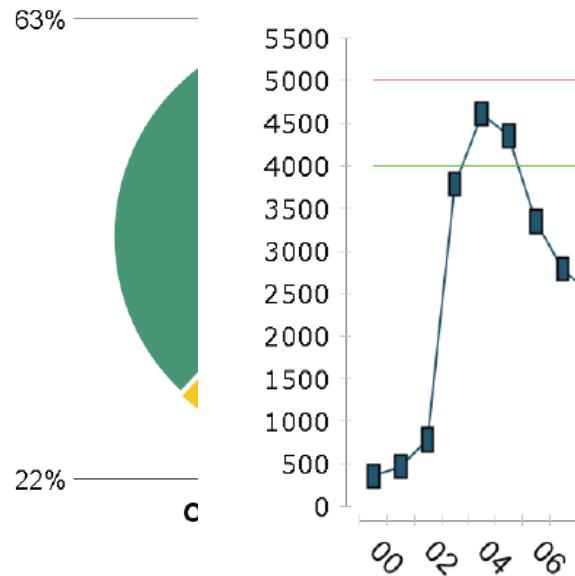
## OmegaMon XE For Messaging Report

### Queue Depth Analysis Report Parameters

Date November 25, 2007  
 Host Name TIVU17

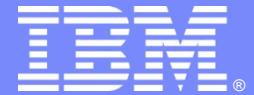
Queue Name LQTest  
 MQ Manager Name QMforReporting

### Average Queue Depth Chart



### Average Queue Depth Table

	Avg Queue Depth	Max Queue Depth (Queue Full)	Date	Hour	Queue Name	MQ Manager Name	Host Name	Input Opens	Output Opens	Total Opens
	350	5000	11/25/07	00	LQTest	QMforReporting	TIVU17	0	0	0
	460	5000	11/25/07	01	LQTest	QMforReporting	TIVU17	0	0	0
	780	5000	11/25/07	02	LQTest	QMforReporting	TIVU17	0	0	0
	3780	5000	11/25/07	03	LQTest	QMforReporting	TIVU17	0	0	0
⚠	4600	5000	11/25/07	04	LQTest	QMforReporting	TIVU17	0	0	0
⚠	4350	5000	11/25/07	05	LQTest	QMforReporting	TIVU17	0	0	0
	3350	5000	11/25/07	06	LQTest	QMforReporting	TIVU17	0	0	0
	2780	5000	11/25/07	07	LQTest	QMforReporting	TIVU17	0	0	0
	2500	5000	11/25/07	08	LQTest	QMforReporting	TIVU17	0	0	0
	1950	5000	11/25/07	09	LQTest	QMforReporting	TIVU17	0	0	0
	3500	5000	11/25/07	10	LQTest	QMforReporting	TIVU17	0	0	0



IBM Software Group

# Supervision WebSphere Message Broker

Tivoli software



@business on demand.

# ITCAM Agent pour Message Broker (WMB)

- Supervise le message broker et les flux de messages
- Visualise les statistiques de performance sur le broker, les groupes d'exécution, les flux de messages et les nœuds de traitement
- Analyse les temps de réponse (flux & sous-flux)
- Comptage des messages (accounting)
- Affiche des rapports sur le pub/sub

+450 Attributs  
+30 Situations d'alertes  
+20 Actions

- Broker info.
- Broker events
- Broker statistics
- Message flow events
- Message flow info.
- Messages flow statistics
- Execution group info.
- Execution group statistics
- Node statistics
- Processing node statistics
- Pub/Sub info.
- ACL
- Gestion des Subflow
- Accounting (message flow, nodes, terminal, thread)

# IBM Integration Bus / WebSphere Message Broker Monitoring Agent

**Navigator**

- View: Physical
- QI Agent
  - Components
  - Product Events
- + QI Broker - BK6009
- WebSphere Message Broker
  - ABRK7
  - ABRK8
    - Broker Status
    - Broker Status Events
    - Accounting Message Flow Statistics
    - Monitor Node Broker Statistics
    - Resource Statistics

**Message Flow Throughput**

**Message Flow Elapsed Time**

**Message Flow Start Rate**

**Message Flow CPU Time**

**Archive Accounting Message Flow Statistics**

Execution Group	Application	Library	Message Flow	Start Date & Time	End Date & Time	Total Input Msgs	Input Msg Rate	Input Byte Rate	Avg Elapsed Microseconds	Max Elapsed Microseconds	Min Elapsed Microseconds	Total Elapsed Microseconds	
EG2	App1		MF1	08/23/12 21:45:42	08/23/12 21:48:42	0	0.00	0.00	0	0	0	0	0
EG2	App1	Lib2	MF2	08/23/12 21:45:42	08/23/12 21:48:42	0	0.00	0.00	0	0	0	0	0
EG2	App1	Lib3	MF3	08/23/12 21:45:40	08/23/12 21:48:42	36	0.20	72.81	1,001,966	1,008,601	1,001,351	36,070,780	
EG2			MF4	08/23/12 21:45:42	08/23/12 21:48:42	0	0.00	0.00	0	0	0	0	0

- Monitor broker availability and performance
- Topology with status for Broker, Execution Groups and Message Flows
- Message flow node topology
- Broker status events for broker deployment
- Supports ITM features with historical data, situations, etc.
- Accounting Message Flow Statistics include message flow CPU and elapsed timings, message rate and error counts
- Resource Statistics provide Execution Group level statistics for JVM, Parsers, Files, ODBC, JDBC and SOAP

# Workspace – Combined Broker Status

- By clicking the Broker Status item only once, all the definition data can be displayed.
- The application and library information for message flows of a V8 broker can be displayed. Broker Topology also can display the application and library objects.

**Navigator**

View: Physical

- QI Agent
  - Components
  - Product Events
- + QI Broker - BK6009
- WebSphere Message Broker
  - + ABRK7
  - ABRK8
    - Broker Status
    - Broker Status Events
    - Accounting Message Flow Statistics
    - Monitor Node Broker Statistics
    - Resource Statistics
- Windows Systems
  - TIVTMP02
    - MQSERIES - QM711
  - TIVVM300
    - MQSERIES - QM3

**Physical**

**Broker Topology**

```

graph TD
    ABRK8[ABRK8] --- EG3[EG3]
    ABRK8 --- EG2[EG2]
    ABRK8 --- EG1[EG1]
    EG3 --- Lib1((Lib1))
    EG2 --- App1[App1]
    EG2 --- MF4[MF4]
    EG1 --- MF1[MF1]
    EG1 --- MF2[MF2]
    EG1 --- MF3[MF3]
    EG1 --- MF1_PurchaseOrder[MF1_PurchaseOrder]
    EG1 --- MF3_Banking[MF3_Banking]
    EG1 --- MF4_Payroll[MF4_Payroll]
    Lib1 --- MF2_CreditApplication[MF2_CreditApplication]
    App1 --- MF1_PurchaseOrder
    App1 --- MF3_Banking
    App1 --- MF4_Payroll
    MF4 --- MF2[MF2]
    MF4 --- MF3[MF3]
    MF1 --- MF1_PurchaseOrder
    MF2 --- MF1_PurchaseOrder
    MF3 --- MF1_PurchaseOrder
    MF4 --- MF1_PurchaseOrder
  
```

Total: 18 Selected: 0      Last refreshed: 08/23

**Broker Status**

	Broker	Broker Status	Execution Groups	Total Msg Flo
	ABRK8	Started	3	

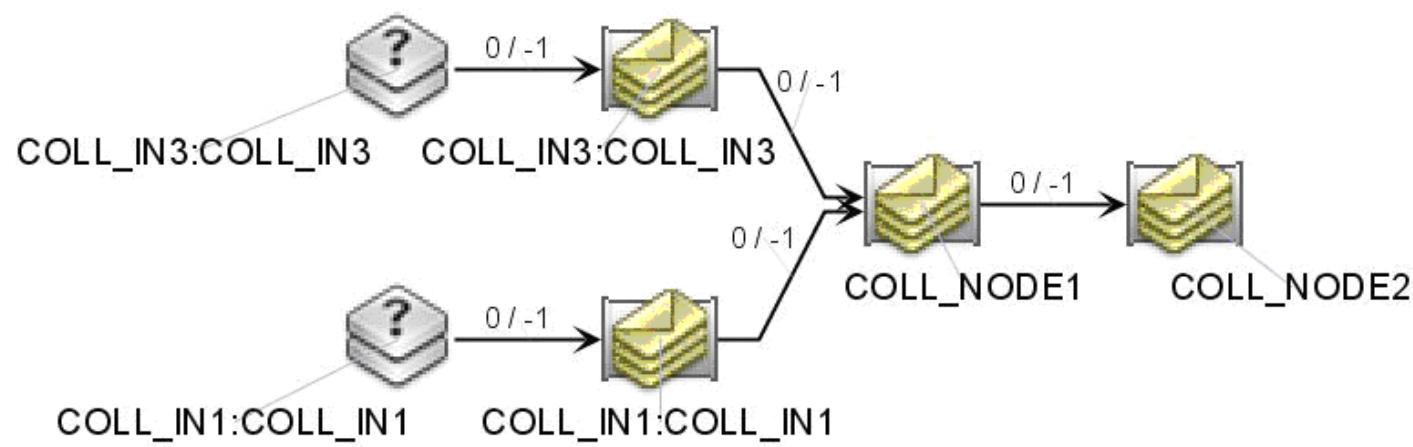
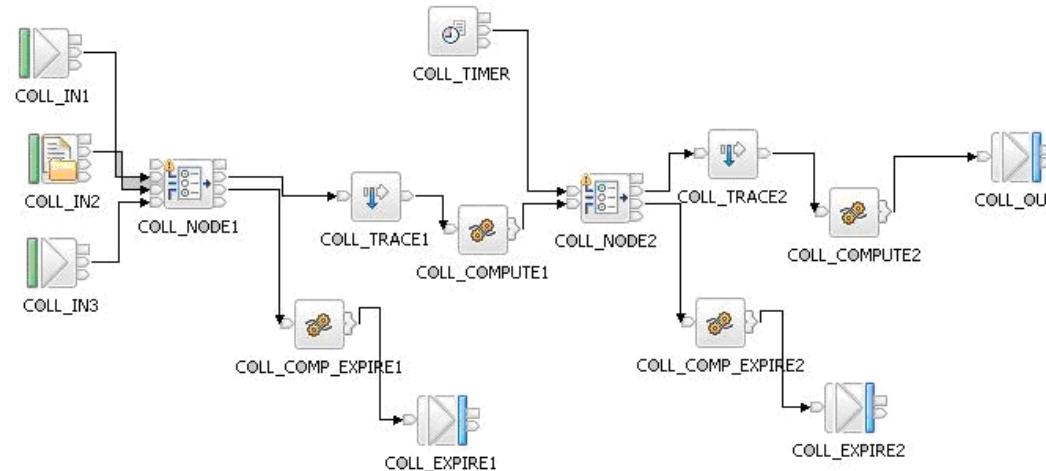
**Execution Group Status**

	Broker	Execution Group	Status	Total Msg Flows
	ABRK8	EG2	Started	4
	ABRK8	EG1	Started	4
	ABRK8	EG3	Started	2

**Message Flow Status**

	Execution Group	Application	Library	Message Flow	Status
	EG2	App1	Lib2	MF2	Started
	EG2	App1	Lib3	MF3	Started
	EG2	App1		MF1	Started
	EG2			MF4	Started
	EG3			test	Started
	EG1			MF2_CreditApplication	Started

# Supervision de flux dans WMB



# Navigator item – Accounting Message Flow Statistics

- The data reported in this navigator item is captured automatically by the agent after the broker has been enabled by the mqsichangeflowstats command.
- When you click this item, the default Archive Accounting Message Flow Statistics workspace is displayed.
- All the message flows are displayed.
- By right-clicking this navigator item, you can link to all the other accounting related workspaces including archive/snapshot accounting workspaces.

**Navigator**

View: Physical

- QI Agent
  - Components
  - Product Events
- + QI Broker - BK6009
- WebSphere Message Broker
  - + ABRK7
  - + ABRK8
    - Broker Status
    - Broker Status Events
    - Accounting Message Flow Statistics**
    - Monitor Node Broker Statistics
    - Resource Statistics

**Physical**

**Archive Accounting Message Flow Statistics**

Execution Group	Application	Library	Message Flow	Start Date & Time	End Date & Time	Total Input Msgs	Input Msg Rate	Input Byte Rate	Avg Elapsed Microseconds	Max Elapsed Microseconds	Min Elapsed Microseconds	Total Elapsed Microseconds	
EG2	App1		MF1	08/23/12 21:45:42	08/23/12 21:48:42	0	0.00	0.00	0	0	0	0	0
EG2	App1	Lib2	MF2	08/23/12 21:45:42	08/23/12 21:48:42	0	0.00	0.00	0	0	0	0	0
EG2	App1	Lib3	MF3	08/23/12 21:45:40	08/23/12 21:48:42	36	0.20	72.81	1,001,966	1,008,601	1,001,351	36,070,780	
EG2			MF4	08/23/12 21:45:42	08/23/12 21:48:42	0	0.00	0.00	0	0	0	0	0

**Message Flow Throughput**

Message Flow	Total Input Msgs	Total Commits	Total Backouts
MF1	1	1	1
MF2	1	1	1
MF3	36	36	36
MF4	1	1	1

**Message Flow Elapsed Time**

Message Flow	Total Input Msgs	Total Commits	Total Backouts
MF1	100	100	100
MF2	100	100	100
MF3	900,000	900,000	900,000
MF4	100	100	100

**Message Flow Start Rate**

Message Flow	Input Msg Rate
MF1	0.00
MF2	0.00
MF3	0.20
MF4	0.00

**Message Flow CPU Time**

Message Flow	Total Input Msgs
MF1	3,200
MF2	1,600
MF3	100
MF4	100

# Workspace – Snapshot Accounting Message Flow Statistics

- This workspace is designed to show the dynamic information about the runtime behavior of a message flow.
- The snapshot data collection interval is fixed 20 seconds.
- You can check whether the snapshot configuration is active from the Message Flow Status workspace.
- The snapshot accounting data might generate much more data, so the only recommended usage for enabling this data is to examine a particular message flow with a problem.

**Navigator**

View: Physical

- WebSphere Message Broker
  - ABRK7
  - ABRK8
    - Broker Status
    - Broker Status Events
    - Accounting Message Flow Statistics
    - Monitor Node Broker Statistics
    - Resource Statistics
- Windows Systems
  - TIVTMP02
  - MQSERIES - QM711
  - TIVVM300

Physical

**Message Flow Throughput**

Deciseconds

Message Flow	Total Input Msgs	Total Commits	Total Backouts
MF1	~0.1	~0.1	~0.1
MF2	~5.0	~4.5	~4.5
MF3	~5.0	~4.5	~4.5
MF4	~0.1	~0.1	~0.1

**Message Flow Elapsed Time**

Microseconds

Message Flow	Total Elapsed Time
MF1	~1,200,000
MF2	~1,200,000
MF3	~1,200,000
MF4	~1,200,000

**Message Flow Start Rate**

processes per second

Message Flow	Input Msg Rate
MF1	~0.00
MF2	~0.00
MF3	~0.22 (MF3)
MF4	~0.00

**Message Flow CPU Time**

Microseconds

Message Flow	Total CPU Time
MF1	~1,000,000
MF2	~1,000,000
MF3	~1,000,000
MF4	~1,000,000

**Snapshot Accounting Message Flow Statistics**

Execution Group	Application	Library	Message Flow	Start Date & Time	End Date & Time	Total Input Msgs	Input Msg Rate	Input Byte Rate	Avg Elapsed Microseconds	Max Elapsed Microseconds	Min Elapsed Microseconds
EG2	App1		MF1	08/23/12 21:33:41	08/23/12 21:34:01	0	0.00	0.00	0	0	0
EG2	App1	Lib2	MF2	08/23/12 21:33:42	08/23/12 21:34:02	0	0.00	0.00	0	0	0
EG2	App1	Lib3	MF3	08/23/12 21:33:39	08/23/12 21:34:02	5	0.22	80.29	1,001,598	1,001,893	1,001,371
EG2			MF4	08/23/12 21:33:41	08/23/12 21:34:01	0	0.00	0.00	0	0	0

# Workspace – Monitor Node Sub-Flow Statistics

- Provides the subflow dynamic information if one message flow contains subflows.

The screenshot shows the IBM Tivoli Monitoring workspace interface. On the left is the Navigator pane, displaying a tree view of monitoring resources under "View: Physical". Key nodes include QI Agent, QI Broker - BK6009, WebSphere Message Broker, ABRK7, and ABRK8. Under ABRK7, "Monitor Node Broker Statistics" is selected. The main area contains three charts and a table:

- Current Message Rates:** A 3D bar chart showing message rates per second for three sub-flows: Shipping, UpdateAR, and UpdateInventory. The Y-axis ranges from 0.00 to 0.03 messages per second. The bars are colored purple, orange, and purple respectively.
- Current Average Message Time:** A 3D bar chart showing average message time in seconds for the same three sub-flows. The Y-axis ranges from 0.000 to 0.020 seconds. The bars are colored purple, orange, and purple respectively.
- Monitor Node Sub-Flow Statistics:** A table providing detailed statistics for each sub-flow. The columns include Execution Group, Message Flow, Sub-Flow Name, Monitor Nodes, Current Msg Input Count, Current Msg Output Count, Current Msg Input Rate, Current Msg Output Rate, Current Msg Byte Input Rate, and Current Msg Byte Output Rate.

	Execution Group	Message Flow	Sub-Flow Name	Monitor Nodes	Current Msg Input Count	Current Msg Output Count	Current Msg Input Rate	Current Msg Output Rate	Current Msg Byte Input Rate	Current Msg Byte Output Rate
1	EG1	MF1_PurchaseOrder	Shipping	2	0	0	0.00	0.00	0.00	0.00
2	EG1	MF1_PurchaseOrder	UpdateAR	2	2	0	0.03	0.00	13.72	0.00
3	EG1	MF1_PurchaseOrder	UpdateInventory	2	0	0	0.00	0.00	0.00	0.00

# Workspace – ODBC Resource Statistics

- Statistics are reported for each ODBC DSN that has been accessed since the execution group started.

The screenshot displays three main panels:

- Navigator:** Shows a tree view of resources under "Physical" view. It includes sections for "WebSphere Message Broker" (with ABRK7 and ABRK8 nodes) and "Windows Systems" (with TIVTMP02 and TIWMM300 nodes). The "Resource Statistics" node under ABRK8 is selected.
- ODBC Execute Results Summary:** A chart titled "Execute" showing the number of successes and failures across three execution groups (EG2, EG3, EG1). The Y-axis ranges from 0 to 1. The legend indicates blue for "Execute Success" and red for "Execute Failure".
- ODBC Resource Statistics:** A table providing detailed statistics for each execution group. The columns include Broker, Resource Type, Execution Group, Start Date & Time, End Date & Time, Resource Identifier, Execute Successes, Execute Failures, Closed Connections, Connection Errors, and Active Connections.

	Broker	Resource Type	Execution Group	Start Date & Time	End Date & Time	Resource Identifier	Execute Successes	Execute Failures	Closed Connections	Connection Errors	Active Connections
1	ABRK8	ODBC	EG2	08/23/12 20:52:54	08/23/12 20:53:14	summary	0	0	0	0	0
2	ABRK8	ODBC	EG3	08/23/12 20:52:41	08/23/12 20:53:01	summary	0	0	0	0	0
3	ABRK8	ODBC	EG1	08/23/12 20:52:56	08/23/12 20:53:16	summary	0	0	0	0	0

# Workspace – SOAP Input Resource Statistics

- The SOAPInput and SOAPReply nodes send and receive SOAP messages.
- Use the SOAPInput resource statistics to review how many inbound messages the SOAPInput node is receiving, how many replies the SOAPReply node is sending, and how many of those calls are successful or result in SOAP Faults.

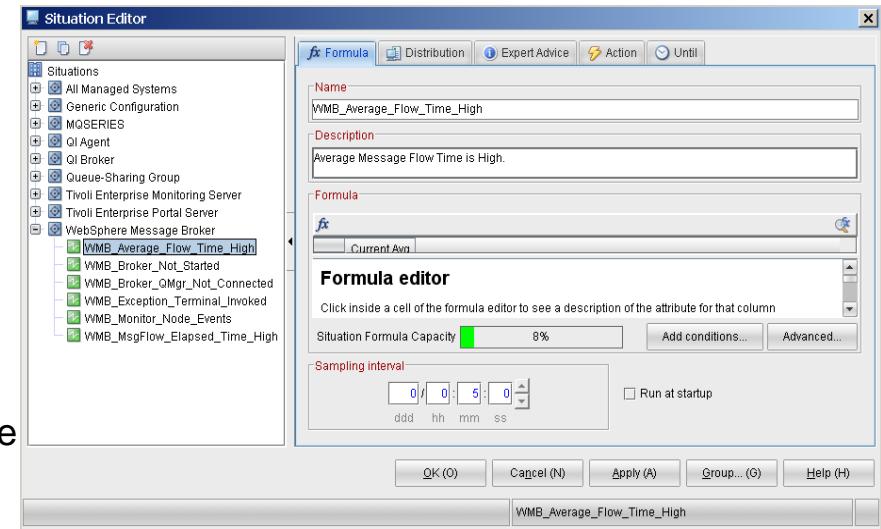
The screenshot shows the IBM Tivoli Software Group workspace interface. On the left is the Navigator pane, displaying a tree view of components, products, and systems. The 'Resource Statistics' node under ABRK8 is selected. The main area contains three charts and a table:

- Successful and Faulted Input Metrics:** A bar chart titled "Successful and Faulted Input Metrics" showing "Inbound Msgs" over three execution groups (EG2, EG3, EG1). The legend indicates "Inbound Msgs Made Flow" (blue) and "Inbound Msgs Faulted before Flow" (red). All bars are blue, with heights approximately 11, 1, and 1 respectively.
- Successful and Faulted Replies Metrics:** A bar chart titled "Successful and Faulted Replies Metrics" showing "Replies Sent" over three execution groups (EG2, EG3, EG1). The legend indicates "Successful Replies Sent" (blue) and "Fault Replies Sent" (red). All bars are red, with heights approximately 1, 1, and 1 respectively.
- SOAP Input Resource Statistics:** A table titled "SOAP Input Resource Statistics" providing detailed metrics for each execution group. The columns include Broker, Resource Type, Execution Group, Start Date & Time, End Date & Time, Resource Identifier, Policy Set Applied, Total Inbound Msgs, Total Replies Sent, Inbound Msgs Made Flow, Inbound Msgs Faulted before Fl, Successful Replies Sent, and Fault Replies Sent.

	Broker	Resource Type	Execution Group	Start Date & Time	End Date & Time	Resource Identifier	Policy Set Applied	Total Inbound Msgs	Total Replies Sent	Inbound Msgs Made Flow	Inbound Msgs Faulted before Fl	Successful Replies Sent	Fault Replies Sent
1	ABRK8	SOAPInput	EG2	08/23/12 20:59:55	08/23/12 21:00:15	summary		0	0	0	0	0	0
2	ABRK8	SOAPInput	EG3	08/23/12 20:59:42	08/23/12 21:00:02	summary		0	0	0	0	0	0
3	ABRK8	SOAPInput	EG1	08/23/12 20:59:56	08/23/12 21:00:16	summary		0	0	0	0	0	0

# Situation

- The following broker-level predefined situations are newly added for V7 and V8 brokers:
  - ▶ WMB\_Average\_Flow\_Time\_High
    - The Message Flow Statistics.Average Flow Seconds value is found to exceed a threshold.
  - ▶ WMB\_Broker\_Not\_Started
    - The Broker Status.Broker Status value is found to be Not Started.
  - ▶ WMB\_Broker\_Qmgr\_Not\_Connected
    - The Broker Status.Queue Manager Status value is found to be Not Connected.
  - ▶ WMB\_Monitor\_Node\_Events
    - A Monitor Node Events row occurs.
  - ▶ WMB\_MsgFlow\_Elapsed\_Time\_High
    - The maximum time that any message takes to go through a given message flow during an archive statistics interval exceeds 100 milliseconds. You can create a new situation based on this situation using a threshold value that is appropriate for your environment. In this case, the links included in the predefined situation are not valid. You can create a new link using the Link Wizard.
  - ▶ WMB\_Exception\_Terminal\_Invoked
    - Messages have gone down a failure path in a message flow. You can create a new situation based on this situation using parameters that are appropriate for your environment. In this case, the links included in the predefined situation are invalid. You can create a new link using the Link Wizard.



# Listes des rapports

**Public Folders**    My Folders

**IBM® Tivoli®**  
**Broker Availability Report**

Date: Sep 8, 2011 12:00 AM Sampling Interval: 30 minutes  
Warning: 80 Critical: 60  
Host Name: tivpSalp6 Broker Name: BK10

The report shows one broker in one day's availability status.

**WebSphere MQ Message Broker Daily Availability Report Chart**

**Broker Daily Availability Report**

- Broker Daily Availability Report
- Broker Execution Group Daily Availability Report
- Broker Execution Group Weekly Availability Report
- Broker Message Flow Daily Availability Report
- Broker Message Flow Detail Report
- Broker Message Flow Weekly Availability Report
- Broker Top n Elapsed Microseconds Report
- Broker Weekly Availability Report
- Broker6 Daily Availability Report
- Broker6 Message Flow Detail Report
- Broker6 Top n Elapsed Microseconds Report
- Broker6 Weekly Availability Report

**Available Percentage**

**Hourly Availability Data**

Status	AvailableHourly	Date	Hour	Broker	Total Msg Flows	Started Msg Flows	Stopped Msg Flows	System Name	Platform	Data Source Name (Deprecated)
Green	1	Sep 8, 2011	0	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	1	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	2	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	3	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	4	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	5	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	6	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	7	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	8	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	9	BK10	17	17	0	tivpSalp6	AIX	BKDB
Red	0.5	Sep 8, 2011	10	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	11	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	12	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	13	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	14	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	15	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	16	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	17	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	18	BK10	17	17	0	tivpSalp6	AIX	BKDB
Green	1	Sep 8, 2011	19	BK10	17	17	0	tivpSalp6	AIX	BKDB

Sep 15, 2011      1      11:00:32 AM  
Top Page up Page down Bottom



IBM Software Group

**Suivi de bout en bout des transactions**  
Décomposition des temps de réponses dans les serveurs  
WebSphere , WMQ, DB2, WebSphere Message Broker

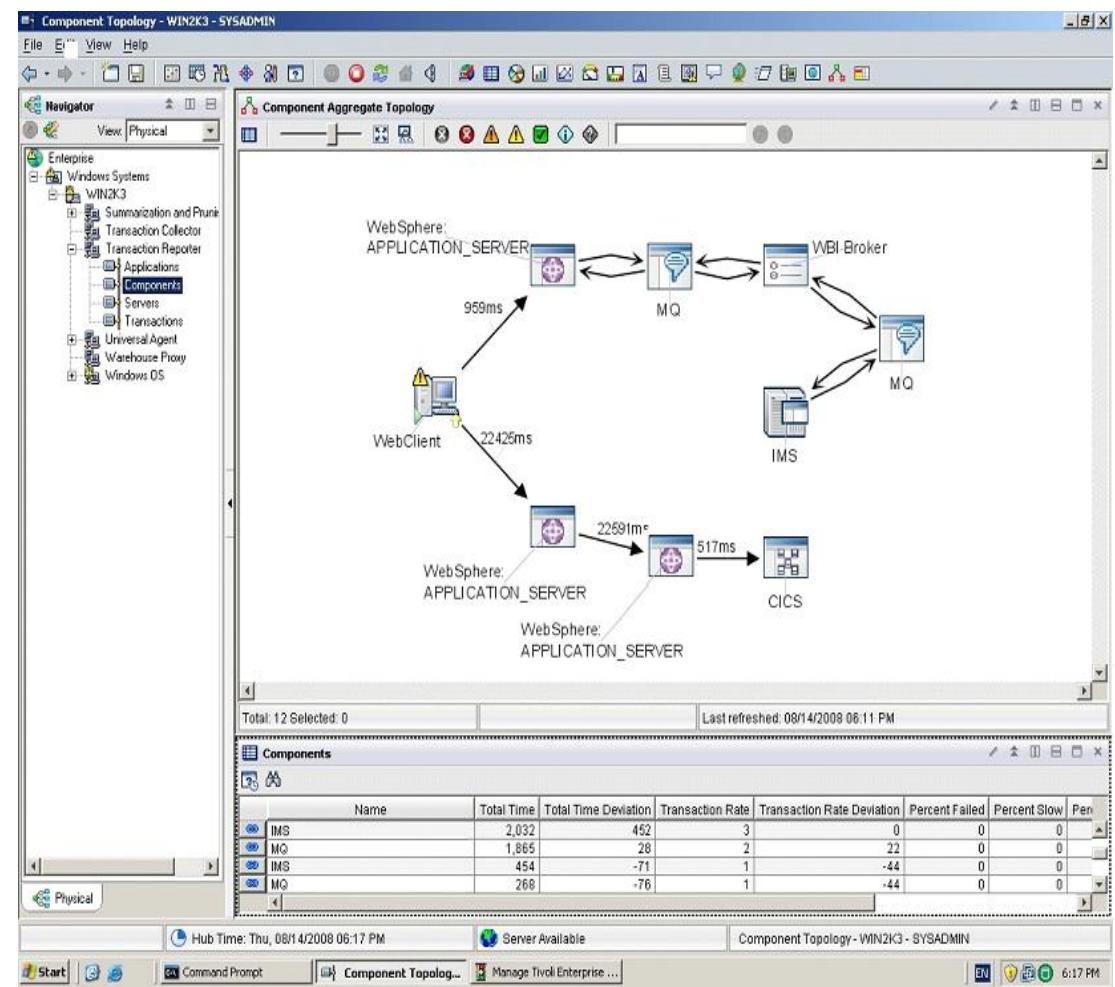
Tivoli software



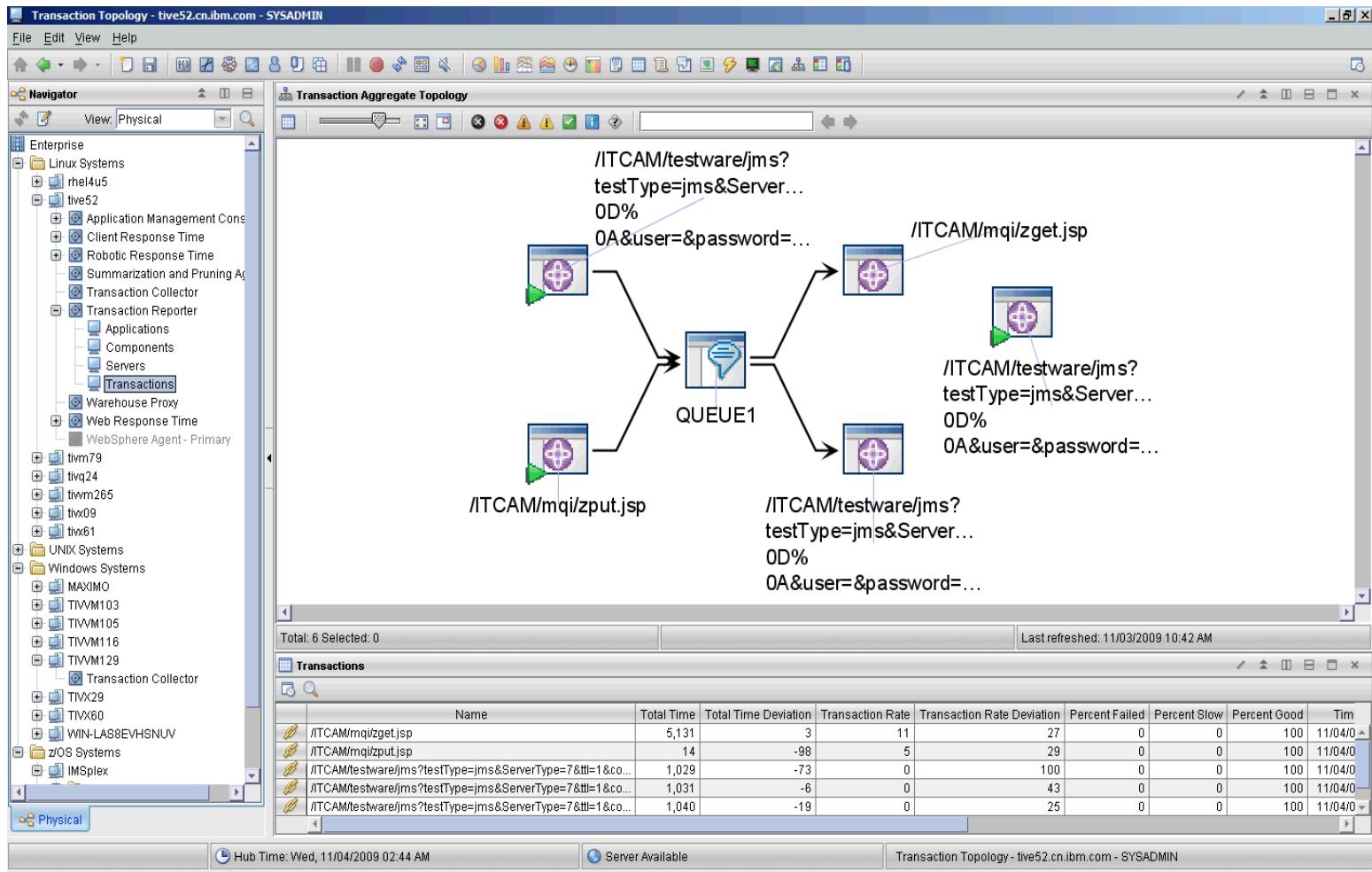
@business on demand.

# Décomposition des temps de réponses de bout en bout

- Suivi de transaction de bout en bout
  - ▶ Suivi des transactions de bout en bout pour: WebSphere, MQ, DB2, CICS /IMS
  - ▶ CTG 7.1 , WMB
  - ▶ WAS MQ/JMS via JMS (connection factory and queue)
  - ▶ Suivi des messages WebSphere MQ Series Asynchrones
  - ▶ API pour développer le suivi des transactions clientes (C, C++, Java)

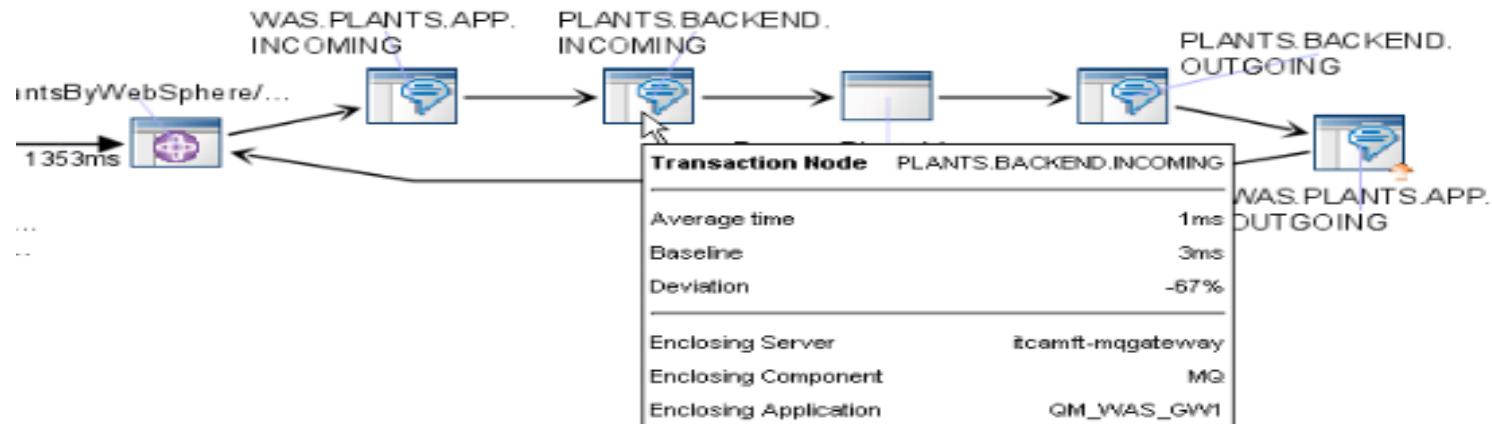


# Exemple WebSphere / WMQ

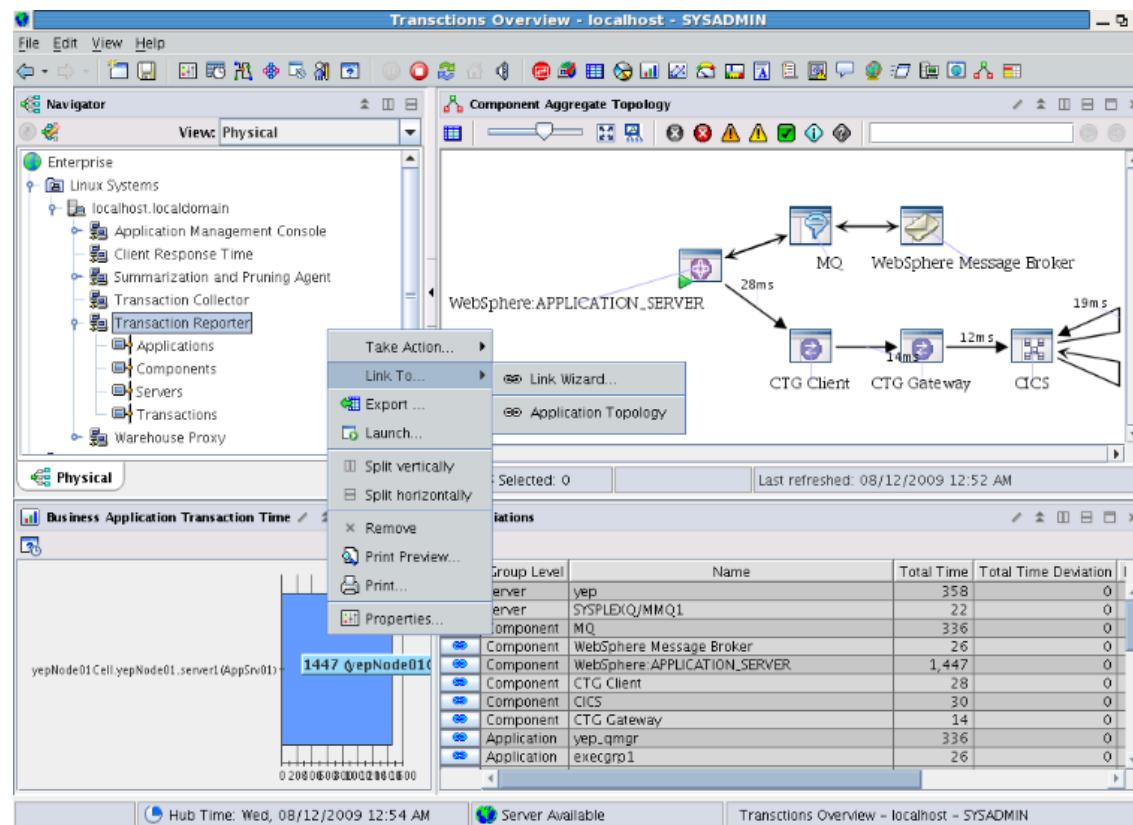


# Tracking WebSphere MQ

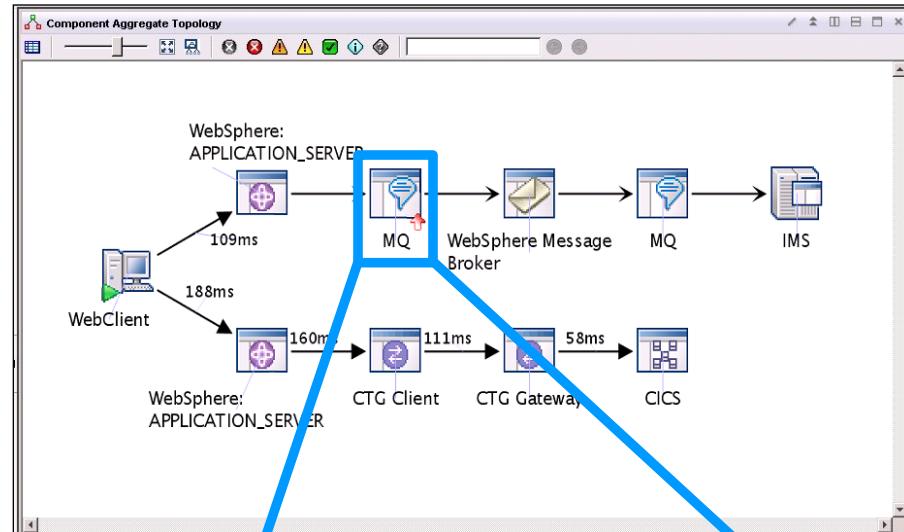
- Suivie de bout en bout de WebSphere MQ
- Integrates with ITCAM for IMS and ITCAM for Websphere



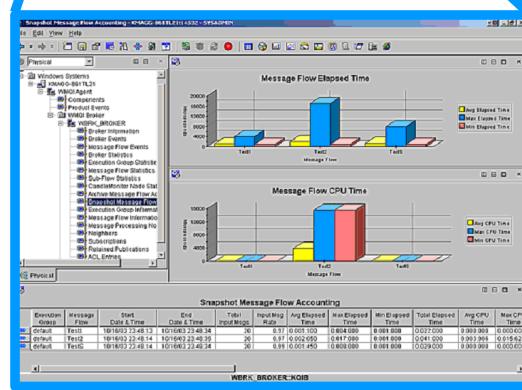
# Tracking WMQ ⇔ WMB



# Lancement des outils de supervision en contexte



ITCAM for Transactions



OMEGAMON XE  
for Messaging

- Lancement des outils de supervision en contexte pour :
  - MQ/WMB -> OMEGAMON XE for MSG
  - WAS -> ITCAM for WAS
  - CICS -> OMEGAMON for CICS
  - IMS -> OMEGAMON for IMS
- Lorsque cela est pertinent, lancement dans le contexte de l'objet (file d'attente pour MQ par exemple)

# IBM SmartCloud Analytics – Predictive Insight

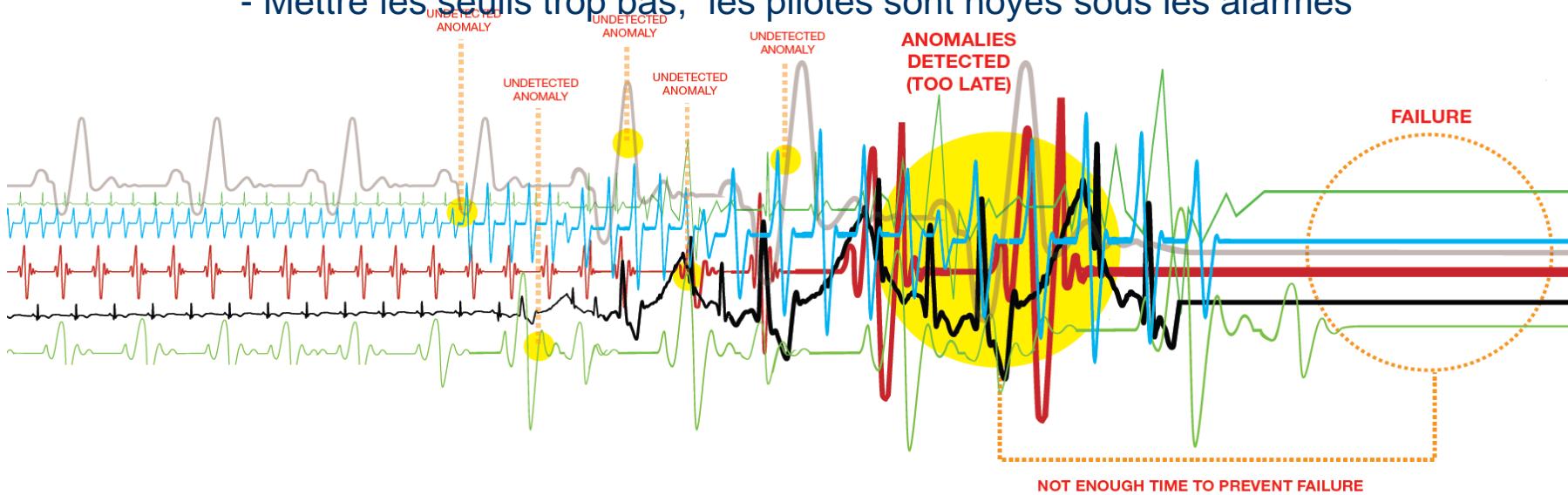
Avril 2014

*Prédire et anticiper les incidents de production*

## Pourquoi les opérations ne sont elles pas proactives?

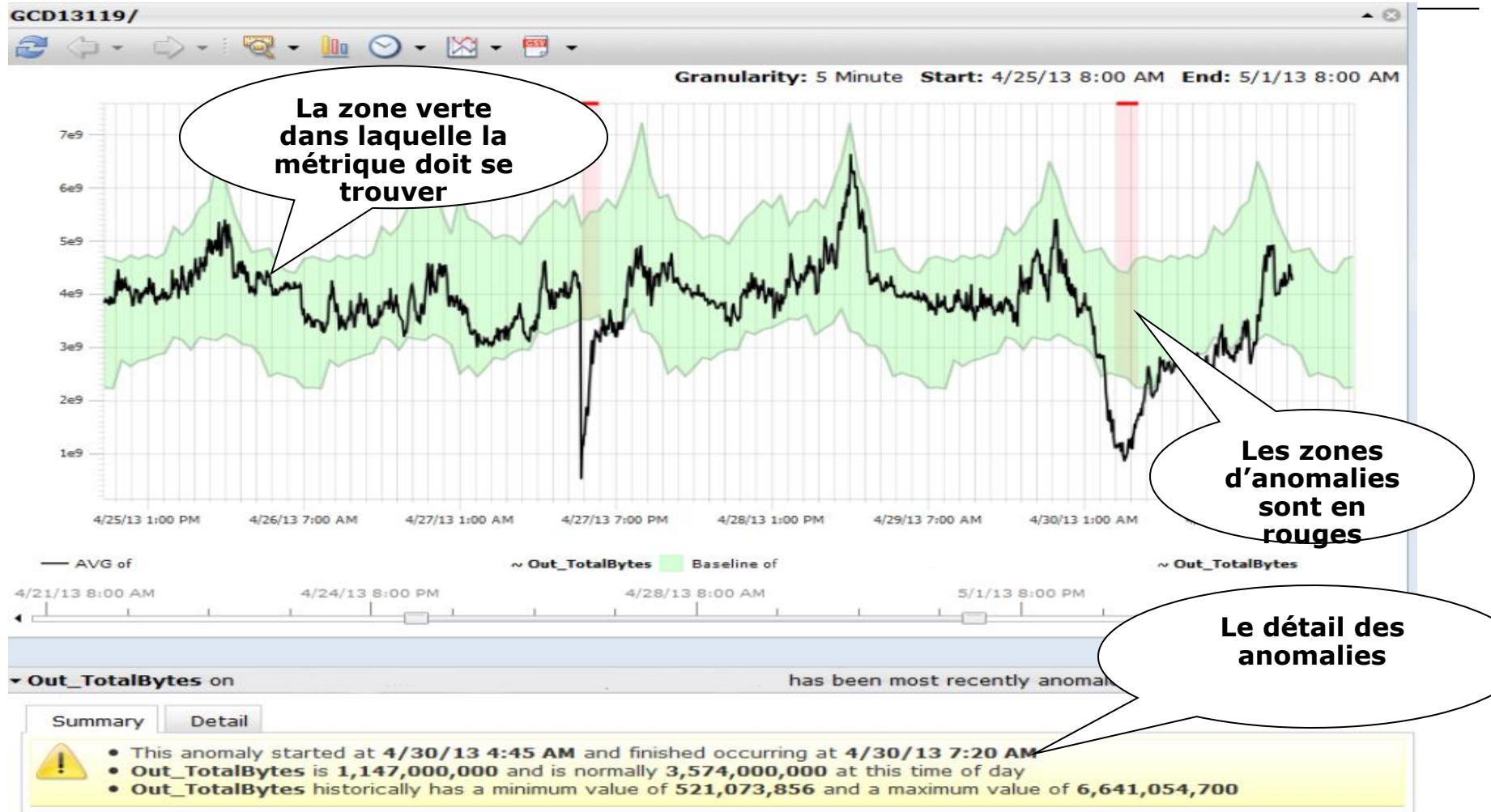


- Trop de données à analyser
- Les techniques habituelles, comme les alertes sur seuils ont montré leur limites
- On ne peut pas détecter les problèmes alors qu'ils émergent
- Mettre les seuils trop haut, les alarmes arrivent trop tard
- Mettre les seuils trop bas, les pilotes sont noyés sous les alarmes



*S'il n'y a pas de détection très tôt en amont, les équipements peuvent seulement réagir alors que les problèmes impactent déjà les utilisateurs finaux.*

# Analyse uni-variable



SCA-PI détecte automatiquement si une métrique a un comportement «saisonnier» à savoir basé sur l'heure dans la journée ( la journée dans la semaine,...)

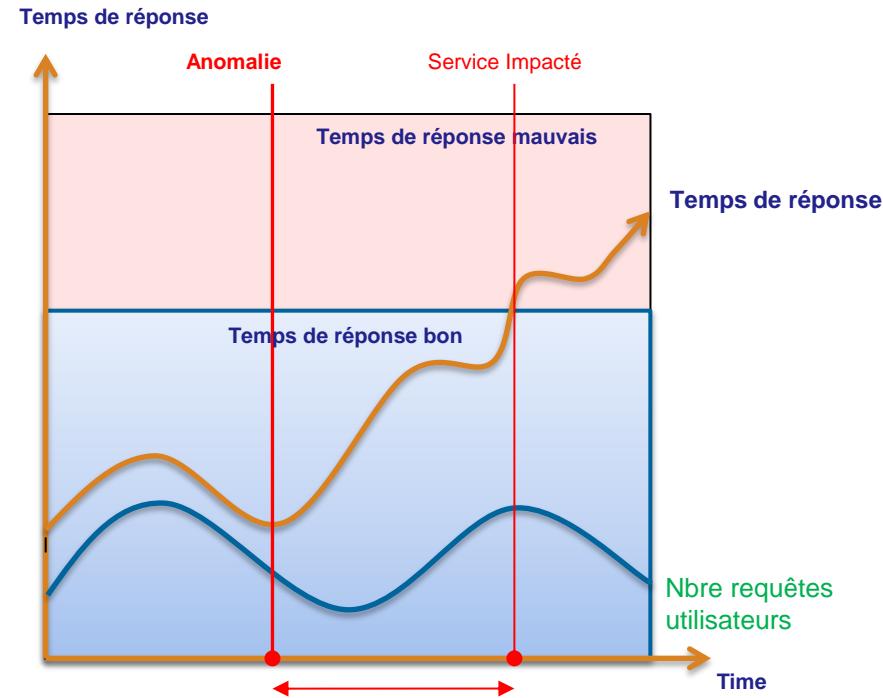
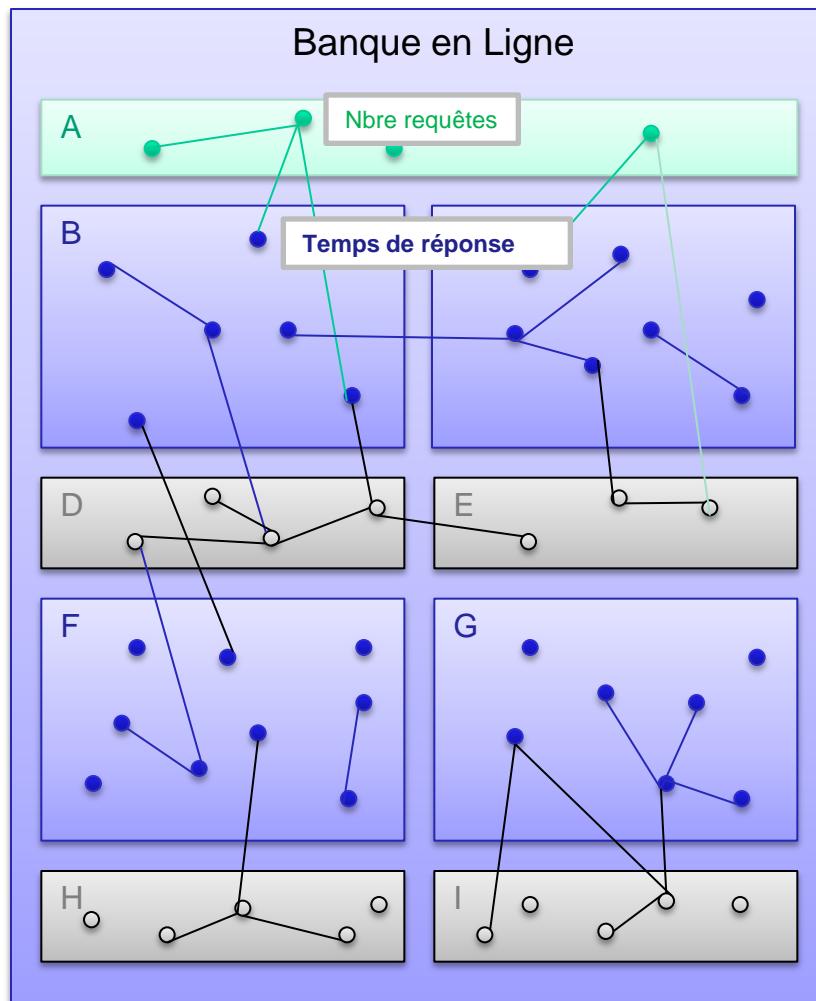
=> L'analyse est faite en temps réel sur des dizaines de milliers de métriques

=> Une alarme est générée si une métrique sort du modèle

# Exemple : application banque en ligne



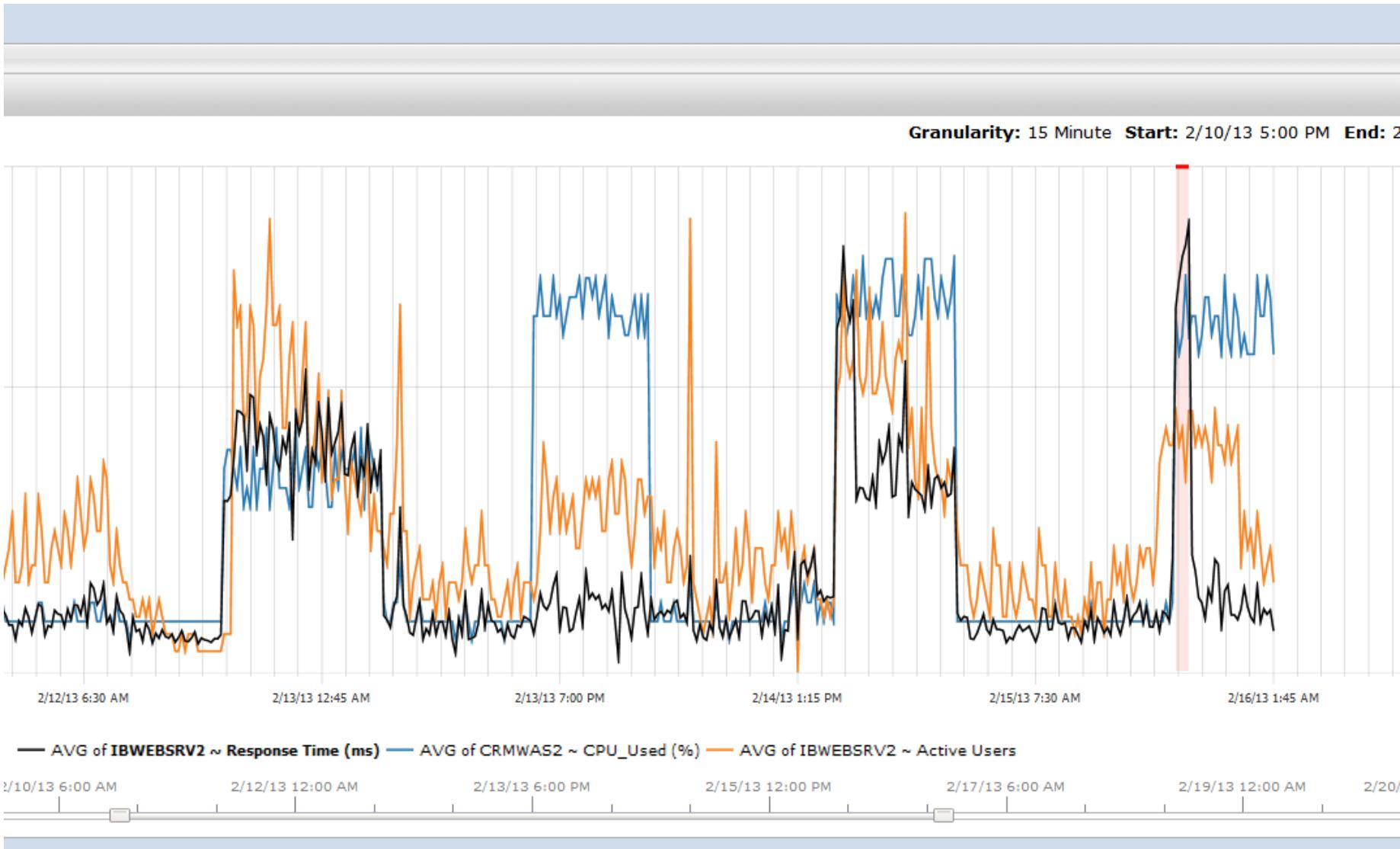
En utilisant des modèles d'analyses Granger, les relations entre les métriques sont découvertes automatiquement.



- Par apprentissage, la solution établit une relation entre le temps de réponse de l'application et le nombre d'accès utilisateurs – [Les temps de réponse se dégradent à mesure que la charge augmente.](#)
- Si la relation entre les deux métriques diverge, par exemple à cause d'une fuite mémoire, une alarme d'anomalie est envoyée.
- Le problème est détecté alors que le temps de réponse est toujours considéré comme « bon », en accord avec les engagements de SLA

Les problèmes qui émergent sont détectés alors que les SLA sont toujours respectés

# Exemple d'analyse multi-variable



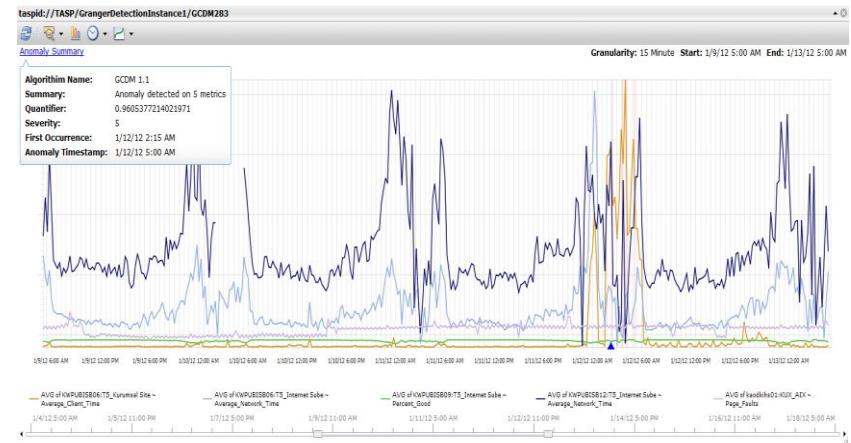
# Exemple: Banque en ligne



Banque en ligne pour laquelle des problèmes de production se posaient régulièrement

## Environnement de test:

- Banque en ligne avec son back end
- Supervision AIX, Linux, Windows, supervision WebSphere, Supervision des temps de réponses
- ~80 serveurs
- ~40k métriques



## Résultats

- 15 Incidents majeurs pendant les 4 semaines du test
- 10 Incidents majeurs ont été détectés par SCA-PI
- 5 Incidents non détectés car ils provenait de problèmes de code qui ne se manifestaient pas dans les métriques. (L'outils de gestion de log auraient pu les détecter)
- 100% des problèmes détectables par les métriques ont été détectés

## Prédiction et intervalle de détection

Les rapports d'incident du client incluent l'information suivante: "Heure de démarrage du problème", "Heure de détection du problème", "Heure de résolution du problème".

- Sur 10 incidents , 6 ont été détectés / prédits avant le temps « Heure du démarrage du problème »
- Sur les 10 incidents, tous ont été détectés avant ou au alentour du temps « Heure de détection du problème »

## Résultat pour se client

- Gain en utilisant les standard de l'industrie en terme de coûts d'indisponibilité pour 4 semaines : **\$600k**
- Gain suite à la réduction du nombre d'évènements pour 4 semaines: **\$53k**