Finding the Needle in the Heterogeneous Haystack

Cross Enterprise APM and CICS
July 2011
Time Is Money

- Speed Up Triage
  - Reduce the MTR
- Everyone's Guilty until Proven Innocent
  - The war room
every customer counts

A positive customer experience is your business lifeline.

IT is critical to delivering a positive customer experience to drive revenue and growth.
There are big problems with managing application performance

- Customers and end-users are detecting problems
  - Nearly 60% of organization are unable to identify applications issues before end-users*

- Infrastructure is getting more complex
  - SOA/Web Services
  - Fewer and fewer people understand overall application architecture

- IT history has caused separation and silos
  - Everyone says it’s “not me”
  - Mainframes and distributed teams do not know what other does

Case studies for APM: could this be your organization?

- Car rental agency’s missing reservations
  - No one knew there was an “IT” problem for 6 months
  - MQ admin became “curious” about a queue that was down but did not know which application it supported
  - Queue supported all reservations made from one region

- Investment brokerage
  - No connection between mainframe systems and applications they support
  - Rely on 30 years of mainframe staff experience

- Mutual fund company
  - Distributed and mainframe teams are 1500 miles apart
The importance of monitoring at the business level

And no one is measuring the real customer experience...

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<th>Time</th>
<th>Web Server</th>
<th>App Server</th>
<th>MQ</th>
<th>DB2</th>
<th>z/OS</th>
<th>CICS</th>
<th>End-User App</th>
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% available

- Web Server: 99%
- App Server: 99%
- MQ: 99.9%
- DB2: 99.9%
- z/OS: 99.999%
- CICS: 99.9%
- End-User App: ?

- Unavailable or Slow
- Available, Performant
“The gulf that has historically divided mainframe systems management and distributed systems management at most IT organizations is extremely problematic when it comes to maintaining the health of the kind of multi-tier applications widely in use today," said Bill Malik, Research Director, Gartner. "By offering a practical way to bridge this gulf, tools that collect and assess information from multiple platforms can help IT organizations do a better job of ensuring optimized service levels for these multi-tier applications."
The enterprise application performance management opportunity

- Opportunities:
  - Evolve method of performance monitoring from IT silos to a business-centric (customer) view
  - Reduce the need for “conference room triage” to determine the source of a problem
  - Faster detection of problems and root cause determination
  - Improve collaborations between distributed and mainframe teams
— Enterprises have 70 to 80% of their data on the mainframe*
  — Most critical applications and transactions touch the mainframe
— Mainframe MIPS have quadrupled over the last decade
  — More and more processing is on the mainframe
  — “Enterprise Server” of choice and growing
— Application performance management reality:
  — Today APM solutions stop at the mainframe “glass house”
  — Limited visibility into the transaction once inside mainframe
  — Linking to mainframe is complicated - CICS, IMS, MQ, Web Services, etc.

Real-time, end-to-end solution providing visibility of transactions that span distributed and mainframe:

- Customizable distributed and mainframe dashboards
- CICS and MQ transaction tracing into the mainframe
- CICS transaction context

Benefits:

- **See What Matters** – know there is a problem; know where it is and get the right people involved – no more “war room triage”
- **Extend Your Visibility** – trace transactions in real-time from distributed systems into the mainframe environment and subsystems
- **Take Action Faster** – keep your SLA’s, improve end-user experience
What Is possible: detailed view of distributed environment with limited mainframe visibility

- Understand End-User experience; establish SLAs
- Monitor all business transactions through the IT infrastructure; measure response and SLAs
- Proactively detect issues; Conduct problem triage; diagnose root cause

Diagram:
- USER
  - End User
  - WAN/WWW
- NETWORK
  - Router
  - Firewall
  - Switch
  - Load Balancer
  - Web Servers
  - Portal
- MIDDLEWARE
  - App Server
  - Web Services
  - 3rd Party Applications
  - Databases
- BACK END
  - SAP
  - PSFT
  - Siebel
  - Mainframe
  - Databases

Graph:
- Performance monitoring metrics
- Network traffic analysis
- Application load distribution
End-to-end view of business transactions – distributed & mainframe

Understand End-User experience; establish SLAs

Monitor all business transactions through the IT infrastructure; measure response and SLAs

Proactively detect issues; Conduct problem triage; diagnose root cause

Understanding:
- Proactively detect issues
- Conduct problem triage
- Diagnose root cause

Monitoring:
- Monitor all business transactions through the IT infrastructure
- Measure response and SLAs

Understanding End-User experience:
- Establish SLAs
End-to-End View of Business Transactions – Distributed & Mainframe

Understand End-User experience; establish SLAs

Monitor all business transactions through the IT infrastructure; measure response and SLAs

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Cross Enterprise Monitoring Benefits

> **End-to-end application monitoring**
  
  “The Holy Grail of performance monitoring is end-to-end monitoring.”

> **Avoiding round table discussions and getting right to the problem**
  
  “We are now able to quickly identify problem systems and subsystems and immediately inform the appropriate personnel”

> **Performance monitoring at the business level**
  
  “Monitoring by the health of the application is the essence of the health of IT. Integration will add significant value, reducing need for siloed evaluation of tools.”

> **Managing problems by the customer experience**
  
  “We can prioritize our response to performance problems by our knowledge of the applications’ impact to revenue and the business.”
To find the needle

- Gain access to the details you previously lacked
  - drill down from distributed into the mainframe

- Follow transactions across the mainframe
  - Displays IT and business metrics within the familiar user interface

- Common Dashboard
  - Monitors the health of Distributed and Mainframe sub-systems z/OS, USS, CICS, TCP/IP, MQ, CA Datacom/DB, IMS and DB2 under a single pane of glass
  - Unifies technologies otherwise managed by separate groups

- Monitor the health of groups of CICS transaction related to an application
What does all this Work?
An APM Walkthrough
### Executive Overview

#### Trading

<table>
<thead>
<tr>
<th>Avg Transaction Time (ms)</th>
<th>Current Business Activity</th>
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#### System Status

![System Status Diagram](image)
CICS Regions|SYSC620|CPIH|0000152|Transaction Lifetime

Duration: 255555 ms
Timestamp: 0 ms
100% of total transaction time
Centralized alerting of transactional issues

Problem Analysis

Takes corrective action
thank you