CA Mainframe Performance Strategy

Today - news and examples

CA Mainframe Acceleration Workshops
Transforming IT management mainframe modernization and optimization

Application Performance Management
CA Strategy

Cross Enterprise Solutions integration

Modernization and staff efficiency improvement

Mainframe Application Tuning Automation

Reduce Costs
Rationalize Software

Sustain Critical Skills
Modernize & Simplify Management

Reduce Costs & Server Sprawl
Consolidate Servers on zLinux

Cross-Enterprise Management
360° View of APM

Mainframe Modernization & Optimization
Monitoring expectations and requirements in 2013
How CA Technologies solutions address requirements
Cross-Enterprise APM
How to improve Mainframe Application Performance
Monitoring expectations and requirements in 2013
The cost of monitoring in real-time

- Real time => pro-active vs re-active => not after the fact
- For most businesses batch-next-day follow up is NOT an option
- Real-time means some ‘fuel’ (MIPS)
- Consumption influencers
  - environment complexity
  - online transaction rates
  - volume of metrics considered
  - collection intervals
  - monitor logging mechanics
  - # of monitoring instances required (footprint)
  - monitoring inter-communication
Implementation, maintenance and administration

- System z hardware, OS and middleware annual releases
- Day one support expected
- Operational monitoring infrastructure should not be complex
- Monitor upgrade should not be ‘a project’
- Build-in self-awareness
- Minimal configuration effort/skill requirement
- Multi/cross system setup should be out of the box
- Durability of configurations across IPL’s
No two companies have the same requirement for end-use

Individual user communities, different roles
- Bringing various performance views together by or across roles
- Easy and non-proprietary user extendability
- Freedom to view from where it makes most sense PC, web, 3270, etc
- Flexibility to pick out-of-box, company/team or individual end-user set-up

Usage should be trackable and secured through standard OS security – an audit requirement
Reality check!
- Business applications span multiple platforms and technologies
- Systems management and operations tools are not from single vendor
- Silo-views are not productive in multi-tiered environments and TTR is critical

- Openness for 3rd party connectivity (API)
- Industry standard communication mechanisms
- Horizontal (Enterprise) integration points
- Vertical integration points (subsystems and code level)
CA Technologies Performance Monitoring Solutions

- addressing the challenges
overview – performance management
zIIP offload on both collector and user level
granular and selective collection intervals for required balance
granular selection of metrics that matter
– Largest (most likely) volume of performance metrics available today
– Pick what is important, don’t pay ‘fuel’ for the rest
all data logging done through IBM zOS system logger for max efficiency
footprint - a monitoring set-up for zOS, USS, CICS, IMS, TCPIP and MQSeries requires just 2 STC’s per LPAR as an example
challenge: Implementation, maintenance and administration

- industry recognized CA Mainframe Software Manager (MSM)
  - Install – Deploy – Configure through MSM
  - Upgrade complete monitor set to new release in hours
  - Wizard driven configuration

- annual release schedule (every May)

- operational footprint - a monitoring set-up for zOS, USS, CICS, IMS, TCPIP and MQSeries requires just 2 STC’s per LPAR

- 6 monitors → one install → one load library

- automatic health checks through IBM zOS Health Checker

- best practices guide

- dynamic changes – e.g. thresholds – survive IPL’s
CA Sysview PM’s core task is to monitor real-time performance across zOS and subsystems and provide a tool box for fast problem resolution - however:

- Any single piece of performance data is available through open API to both CA and 3rd party solutions
- Any performance related alert can be pushed to an Enterprise focal point from CA or any other vendor
- For multi-tiered business applications, a subset of CA Sysview technology acts as an agent to fulfil true E2E application performance management
- For intermediate code level deep dive CA Sysview can trigger CA Mainframe Application Tuner (MAT) for follow up analysis
What is coming now
Improve staff efficiency
CA Mainframe Chorus vision

Object-oriented workspace, with a new role-based interaction model that incorporates rich features and data visualization and leverages CA Technologies portfolio of products as a single bank of features and functions.
Performance Management
Interactive Diagnostic & Problem Resolution Tools

Detail combined metrics
Integrated time graphics
Topology
**Performance management**

Investigate Job Activity Related to Network Data

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Details for Job activity for QAPUT 02BC on CA11 in PLEXC1

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Performance Management

Investigate CICS Region Activity

![CICS Region Activity Dashboard](image-url)
The new CE APM R 2.0 from CA Technologies
– so what does it add to APM ??
Questions to ask yourself when managing what your customer and end-user is experiencing

Does your Help Desk get calls before IT knows there is a problem?

Are you spending too much time on triage conference calls, pointing fingers at each other?

Do you have application dashboards that help determine where the problem is not?

What is your process for pinpointing a cross-enterprise problem that is affecting users?

Can you get to the line of code that is causing the application problems on the mainframe?
CA Cross-Enterprise Application Performance Management

real-time end-to-end transaction visibility

real end user experience monitoring

proactive performance management across platforms

link transactions to infrastructure
correlate end-user-experience to business impact
detect, triage, diagnose root cause

22 May 2013
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Extends APM to include......

- **Mainframe Health Metrics**
  - z/OS
  - CICS
    - CICS Transaction Groups
  - IMS
    - IMS Transaction Groups
  - DB2
  - Websphere MQ
  - TCPIP
  - Datacom

- **Cross-Process Transaction Tracing**
  - CICS
    - through MQ, CTG, Web Services
  - IMS
    - through MQ
Included Dashboards – Mainframe Health Overview
Included Dashboards – z/OS System Health

![z/OS System Health Dashboard](image-url)
Cross-Process Tracing - CICS
CA Executive Insight
key performance indicators for executives on the go
Improving mainframe application performance: CA Mainframe Application Tuner
what CA Mainframe Application Tuner supports

Languages:
- COBOL
- PL/I
- Assembler
- C
- C++
- REXX
- CA Ideal™
- Natural
Integration with CA Application Quality and Testing via a common source listing symbolic file

- With a single pre-processing step, the same symbolic listings are dynamically available to CA InterTest™, CA SymDump®, CA Optimizer®/II, and CA Mainframe Application Tuner users
  - No need to compute addresses or displacements,
  - No need to worry about address changes after recompilation
  - Applies even to modules that consist of separately compiled programs link-edited together.
Integration with CA SYSVIEW® Performance Management for superior Application Performance Management

- CA Mainframe Application Tuner is now part of our comprehensive Cross Enterprise Application Performance Management solution
- When CA SYSVIEW detects an application performance management, it can automatically initiate CA Mainframe Application Tuner measurements
- This integration enables performance analysts to drill down to the line of code where the problem is
CA Mainframe Application Tuner: Performance Management Assistant

- New / Changed Module
- Runaway Program
- User

FILTERING MEASUREMENTS AND STORING IN THE CA MAINFRAME APPLICATION TUNER DATABASE

- Measurement Request

Performance Management Assistant

CA MAT DB

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Cross-Enterprise Application Performance Management (APM)

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

WAN/WWW
End User

Router
Firewall
Switch
Load Balancer
Web Servers
Portal

PSFT
Siebel
Web Services
Load Balancer
Portal

SAP

3rd Party Applications
Databases

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Nastel AutoPilot® Overview
7 common challenges in Middleware Management

- Significant investments in middleware (Messaging Middleware, Application Server, Enterprise Service Bus)
- Users identify application issues before IT staff are aware of them
- Expensive Tier 2 / Tier 3 support staff are engaged to resolve application issues
- Complexity of application architecture makes identifying the source of problems a difficult task
- “Siloed” views of application infrastructure prevent experts from seeing problems affecting users
- Incomplete transactions, performance problems or downtime represent a risk for the organization
- Performance & availability of mission critical applications is a high priority
Unique Business Value and Benefits

Faster, Easier Deployment of WMQ Management and Message Tracking functions

- **Unique Capability:**
  - faster and easier to deploy than ANY other Messaging Middleware Management product.

- **Unique Benefit:**
  - WMQ Administrators spend less time deploying WMQ Management
  - spend more time on tasks that deliver higher value

Dynamic vs Static Policies

- **Unique Capability:**
  - use of generic operators and dynamic thresholds in policy definitions. Other products use *static policy definitions.*

- **Unique Benefit:**
  - policies adapt dynamically to changes in WebSphere MQ object definitions or data volumes,
  - easy to maintain.
Unique Business Value and Benefits

Automated Detection of Service Level Breaches for WMQ Message Flows

- **Unique Capability:**
  - WebSphere MQ message flows are automatically detected through auto-discovery – *no transaction modeling required.*
  - Other products require *manual transaction modeling* – a time consuming process.
  - With AutoPilot, SLA’s for WMQ Message Flows are easily defined, and Message Flows that are non-compliant with SLA’s are *automatically reported.*

- **Unique Benefit:**
  - Immediate detection of WMQ message flows in breach of SLA’s.

Secure Self-Service WMQ Administration and Message Management

- **Unique Capability:**
  - WebSphere MQ objects definitions and messages can be safely delegated by WMQ administrators to other IT staff.

- **Unique Benefit:**
  - WMQ Administrators can delegate repetitive administrative tasks to other IT professionals, so they can spend more time on strategic and tactical projects that deliver higher value to the IT organization.
Key Stakeholders/Benefits

- **Middleware Team**
  - Proactive Middleware Monitoring in DEV, TEST and PROD
  - Transaction visibility

- **Application Support**
  - Identify root cause of performance issues
  - Faster time to repair (MTTR)

- **Application Development**
  - User Acceptance Testing
  - Improve quality of new releases
  - Compare real behavior with expectations

- **Enterprise Architect**
  - Monitor SLA’s
  - Improve Business Processes
  - Lower costs
  - Prevent performance problems

- **Application Owner**
  - Improve Business Processes
  - Lower costs
  - Prevent performance problems
Nastel AutoPilot® for Messaging Middleware

Pre-defined & User-Defined Dashboards
Key Performance Indicators
Alerts, Notifications, Automated Actions
Locate issues

Middleware Management
Pinpoint SLA breaches

CEP Policy Engine

IBM WMQ
IBM WMB
DATA POWER
TIBCO EMS
TIBCO RV
AutoPilot Differentiators
what makes it unique?

Complete MQ Management:
- Automated Discovery of all servers and WMQ objects
- Administration, Change Management and Audit trail of all WMQ objects
- WMQ Configuration Management Database
- Message Management and message search
- Alerting and Automation
- History, Capacity planning and Reporting

Flexible implementation:
- Granular security integrated with LDAP, Kerberos
- Ease of use, quick implementation and wide platform coverage
- Highly scalable and highly available
- Support for WMQ 5.x, 6.x, 7.x
- Agent and agentless management
Application Performance Management
link end-users to applications and infrastructure

360° view of end-user experience

End-users
Applications
Infrastructure & Networks

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Cross-Enterprise Application Performance Management

What went where, when, and what happened?

IT needs to know.

Transactions make knowledge possible.
Cross-Enterprise coverage
is there a gap?

What went where, when, and what happened?
AutoPilot for WebSphere MQ

solution overview

Nastel Autopilot® for WebSphere MQ solution

- Configuration Management
  - Configuration Management Database
  - Change Management

- Message Management
  - Find, Fix & Re-route
  - View, Move, Copy, Delete & Edit

- Performance Management

- History & Reporting
  - Capacity Planning
  - Accounting & Statistics

- Message Tracking
  - Track, Audit & Monitor
  - Message Tracking Database

- Self Service Management
  - Secured Access for Dev/Ops
  - Browse & Manage Messages

(limited overlap with some capabilities of CA SYSVIEW & CA APM)
AutoPilot for WebSphere MQ
architecture

- WMQ Management
- WMQ Monitoring
- WMQ Message Tracking

CEP Policy Engine

Active Data Grid - Metrics & Events (“Facts”)

- AutoPilot WMQ Workgroup Server
- WMQ EXPERT
- WMQ AGENT
Demo
AutoPilot for WebSphere MQ: Management
AutoPilot On-Demand for WebSphere MQ
AutoPilot for WebSphere MQ: Highly Granular Security

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<th>Administrator</th>
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<th>Message Browser</th>
<th>Operator</th>
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Making It Easy: AutoPilot Dashboard Wizard

1) "What" : Select facts (metrics) which impact a business condition

2) "How" : Define a pattern of activity that determines normal vs. abnormal – a Business or IT Outcome

3) "Action" : Determine how to handle an outcome – alert, action, event.
### Search transactions

(Where is my order?)

### Individual transactions

- **Start Date**: 2012-10-15 13:41:43
- **Applications**: InfoServ, MsgBroker, TradeAudit, TradeValidation, TradeVerificationEnrichment
- **Status**: Complete
- **Work (HH:MM)**: 0:00:00.097, 0:00:00.187
- **Transaction ID**: 12388

- **Start Date**: 2012-10-15 13:41:44
- **Applications**: InfoServ, MsgBroker, TradeAudit, TradeValidation, TradeVerificationEnrichment
- **Status**: Missed SLA
- **Work (HH:MM)**: 0:00:03.308, 0:00:03.797
- **Transaction ID**: 12397

- **Start Date**: 2012-10-15 13:41:45
- **Applications**: InfoServ, MsgBroker, TradeAudit, TradeValidation, TradeVerificationEnrichment
- **Status**: Missed SLA
- **Work (HH:MM)**: 0:00:03.446, 0:00:03.353
- **Transaction ID**: 12415

- **Start Date**: 2012-10-15 13:41:46
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- **Status**: Missed SLA
- **Work (HH:MM)**: 0:00:03.375, 0:00:03.701
- **Transaction ID**: 12416

- **Start Date**: 2012-10-15 13:41:47
- **Applications**: InfoServ, MsgBroker, TradeAudit, TradeValidation, TradeVerificationEnrichment
- **Status**: Missed SLA
- **Work (HH:MM)**: 0:00:03.441, 0:00:03.722
- **Transaction ID**: 12424

- **Start Date**: 2012-10-15 13:41:48
- **Applications**: InfoServ, MsgBroker, TradeAudit, TradeValidation, TradeVerificationEnrichment
- **Status**: Missed SLA
- **Work (HH:MM)**: 0:00:03.863, 0:00:03.613
- **Transaction ID**: 12433

### Detailed transaction trace

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AutoPilot for WebSphere MQ : Message Flow

"Stitched" transaction flow
AutoPilot for WebSphere MQ: Transaction View

- Transaction volume and throughput
- Delayed and incomplete transactions
- Performance bottlenecks
- Transactions with monetary value
- Audit trail (MQPUT, MQGET, MQBACK)
- Root-cause analysis with drill-down
- User-defined, rule-based policies
- Notification and automated actions
- Reports (daily, weekly, monthly)
- Trend analysis and capacity planning
Summary

- Nastel AutoPilot is now available via CA Technologies
- Leading MQ Management solution in the field
- Extremely flexible and scalable
- Complements CA SYSVIEW by providing the enterprise view of the MQ solution.
Thank you

Questions?