End User Monitoring with Enterprise Manager

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Agenda

- Why should we monitor end users?
- Oracle’s Application Performance Management Solutions
- Oracle’s End User Monitoring Solutions
- Active Monitoring
- Passive Monitoring
- Customer Case Study
- Q&A
Analysts Agree: User Experience is critical

“Real life experience shows: 74% of problem alerts come from end users complaining to the service desk about performance problems, not from monitoring infrastructure components!”

Jean-Pierre Garbani.

Forrester Research 2004

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Consistent end-to-end application and service performance guarantees: 87%

Unplanned infrastructure changes resulting in incidents and downtime: 73%

Unanticipated infrastructure effects from consolidation & new application projects: 49%

Misconfiguration of network objects: 28%

Source: Forrester Research, Top Five Challenges For Enterprise IT Infrastructure Managers — And How To Resolve Them, Thomas Mendel, March 2005
Poor Performance = Less Revenue
Typical Result is 10% Revenue Loss

Joint study between Gartner Research and Response Tek
Application Performance Management

(1) Source: Gartner 2006
Comprehensive End User Monitoring

- User Experience is the ultimate measure of application performance.
- Comprehensive end user monitoring enables you to be proactive, and measure business performance.
- Integrates with diagnostics for complete Application Performance Management.
User Experience Management Approaches

Service Test Monitoring
- Proactively monitor end user experience
- Baseline performance & trend over time

Real End User Monitoring
- Monitor ALL real end user transactions
- No instrumentation, No maintenance
Active Monitoring
SLM: Best Approach

• Model
  • Focus on end-user perspective
  • Map business service to IT resources
  • End-to-end relationships of ‘service’ from end-user and system perspectives

• Monitor
  • Instrument service availability, performance, usage, business metrics
  • Service level compliance

• Diagnose
  • Enable administrators to quickly pinpoint cause of service problems

• Report
  • Centralized reporting and viewing
  • Business and administrative level reporting
  • Out-of-box and customized reporting
Grid Control: Systems and Services

Services
- Provide business function for end-users
- Business processes or Applications

System
- Data center infrastructure
- Hosts, Databases, Application servers, etc.
Modeling Services

• A Service is an entity that exposes a useful function to its end-users:
  • Generic
  • Web Application
  • OCS Application
  • Forms Application (EM 10.2.0.3)
  • Aggregate

Examples:

Email

Online Trading
Service Level Monitoring

- Availability
- Performance
- Usage
- Business
Service Availability (*Test*-based)

Can users complete these critical business functions successfully from key representative user communities?
Service Availability (Test-based)
Modeling User Communities Using ‘Beacons’

Availability may vary from location to location
Service Availability - Beacons

- Installed with Management Agent
- Easily configured through GC console
- Placed in each user community or representative geographical location
- Plays back service tests (and recorded web / forms transactions)
- Supports various protocol tests
Rich Coverage for Service Test Protocols

Representative Client

NY
Tokyo
Paris
SF
Berlin
Rio

Any service protocol

DNS, FTP, HTTP(s), Ping, ICMP Ping, IMAP, JDBC SQL Timing, LDAP, NNTP, Oracle SQL Timing, POP, Port Checker (includes SSL), SMTP, SOAP, TNS Ping, Web Transaction, Forms Transaction (10.2.0.3) Custom Script

Related System Components

Monitor more services by incorporating tests for nearly any application protocol
Service Level Compliance

- Service Level parameters specification:
  - Business Days, Hours
  - Availability Criteria
  - Performance Criteria

- Calculation of Service Level over a time-period as:
  - % of time during business hours Service meets the availability and performance criteria

- Comparison of achieved Service Levels to requirements in your SLA
Service Level Management for Web Applications

• Inherits all the monitoring features of a Service:
  • Availability, Performance, Usage, Business Metrics, SLA Compliance

• Web Application service monitoring features:
  • Web Transaction: http/s Web application ‘service test’ for monitoring availability and performance
  • Transaction Recorder automatically records web transactions for service test monitoring and are played back using beacons
  • Test Performance identifies bottlenecks within the network, server, connect time, or content of transactions and pages
Service Level Management for Forms Applications

- Forms Service Test / Transaction Monitoring
  - Available from EM 10gR3
  - Supported for Forms versions 9.0.4, 10.1.2, 6i
  - Monitors transaction metrics:
    - Forms total transaction time
    - Login time
    - Avg time per message
    - Network latency
    - Slowest message block time
    - Database time
  - Monitors Forms Application availability, performance, usage, service level compliance
  - Monitors key Forms transaction- runform, callform, commit etc
This graph shows the service dependencies of this aggregate service and its sub-services, and the systems on which these services run. Any causes of service failure identified by Root Cause Analysis have been highlighted; select any of these highlighted links to view details associated with the cause.
Passive Monitoring
Why Moniforce?

• Moniforce the EMEA leader
  • Relatively new market with regional leaders – no worldwide de facto leader
• 100+ customers across several industries
  • Strong presence in financial services, telecommunications, e-commerce, and government
• Strong Product
  • Only offering that combines both performance management and business analytics in a single solution
  • Mature product, tested and customized in large deployments with demanding financial services customers
Architecture: Network Protocol Analysis (NPA)

Collected data:

- Client-ip, Server-ip, Gateway-ip
- Requested URL (Page, Object)
- Cookie/Session-id
- Referrer
- GET & POST requests
- User agents (phone type)

- Response?
- Server error, web site error, Hit OK
- Content of page (i.e. order details, functional errors)

- Delivered?
- Aborted?
- Network timeout?
UXInsight Product Overview
Optimizing end-user experience through real end-user monitoring

UXInsight key highlights:
- Replay of poor performance
- Executive dashboards
- Extensive KPI and SLA monitoring
- Full alerting capabilities
- Quick bottle-neck analyses
- Transaction performance analyses
- Customized reporting
- Trend analyses
- Full data integration via XML
Oracle UXInsight
Key Buyers and Value Propositions

Improve Business Performance
Line of Business (LOB) Executive

Optimize Application And User Experience
Apps Manager / Apps Support

Proactive Monitoring And Diagnostics
IT Operations
What Does UXInsight Do For:
Line of Business

Satisfaction Reports

Business Transaction Funnel

Usage Reports:
• Data Browser
• Sales by Country/State
What Does UXInsight Do For:
Application Owners and Application Support

- Dashboards & SLM
- Business Service Monitoring (e.g. Order Entry, Buy Stock)
- User Experience Tracking, Page Replay
What Does UXInsight Do For:
IT Operations

- KPI configuration, monitoring, & alerting
- Error reports & analysis
- Data Export
- Server, network, & object performance diagnostics
Deployment Configurations

Recommended configuration is Server = 2 CPUs and Standalone Collector = 1 CPU

- **Standard Configuration**
  - Collector
  - Server

- **Maximum security Configuration**
  - Collector
  - Server

- **Distributed Configuration (load balanced or high volume applications)**
  - Collector
  - Collector
  - Collector
  - Server
Example use case

Leading navigational system provider

The web services provide a
- corporate website,
- shopping section and
- provision automatic software updates/upgrades
Christmas 2007, user experience suffers

Overall performance was affected from after about 16:00, resulting in a drop of total pageviews and frustrating long page load times.

Root cause: Updates and latest manuals sections

Overall pageview performance:
- Green = Satisfied
- Orange = Tolerating
- Blue = Frustrated

Overall page load time (blue) 4.5 – 37.1 sec
Client aborts (orange) 2.6 – 28.4%
Sales is affected

Affected sales shown in sales transaction funnels

24th of December
955 transactions completed successfully

25th of December
Only 689 transactions completed successfully
Decline of 27% in sales!
Overview Affected users

UXinsight drill-down feature shows list of affected users on 25th after 15:00hrs
Questions