

CA APM: help you to manage SiteMinder performance

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Agenda

1 Introduction and Purpose APM for SiteMinder

2 Demonstration

3 Comparison OneView and APM for SiteMinder

4 Study cases

5 Conclusion

Voice of the Customer

- CA Application Performance Management (CA APM) monitoring mission and business critical applications
- Today's objective:
 - Understand how CA APM for SiteMinder can extend visibility into the performance of CA SiteMinder web agents, policy servers and connected backend systems



Complex Heterogeneous Environments

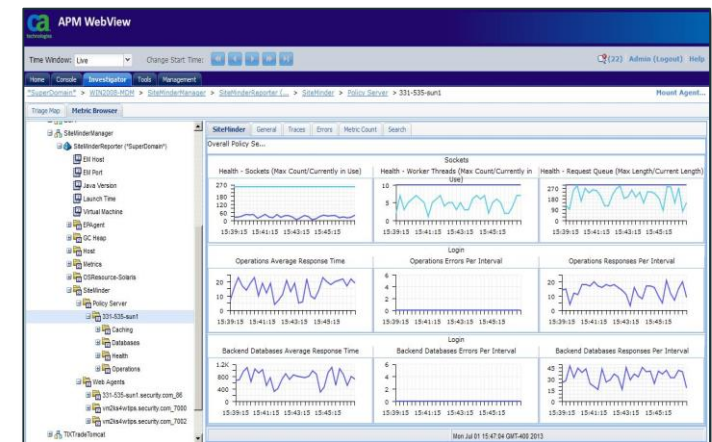
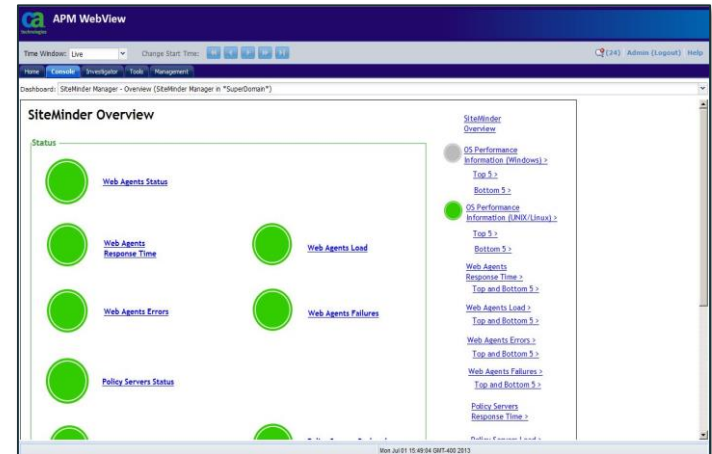
little issues add up



Unavailable or Slow
Available, Performant

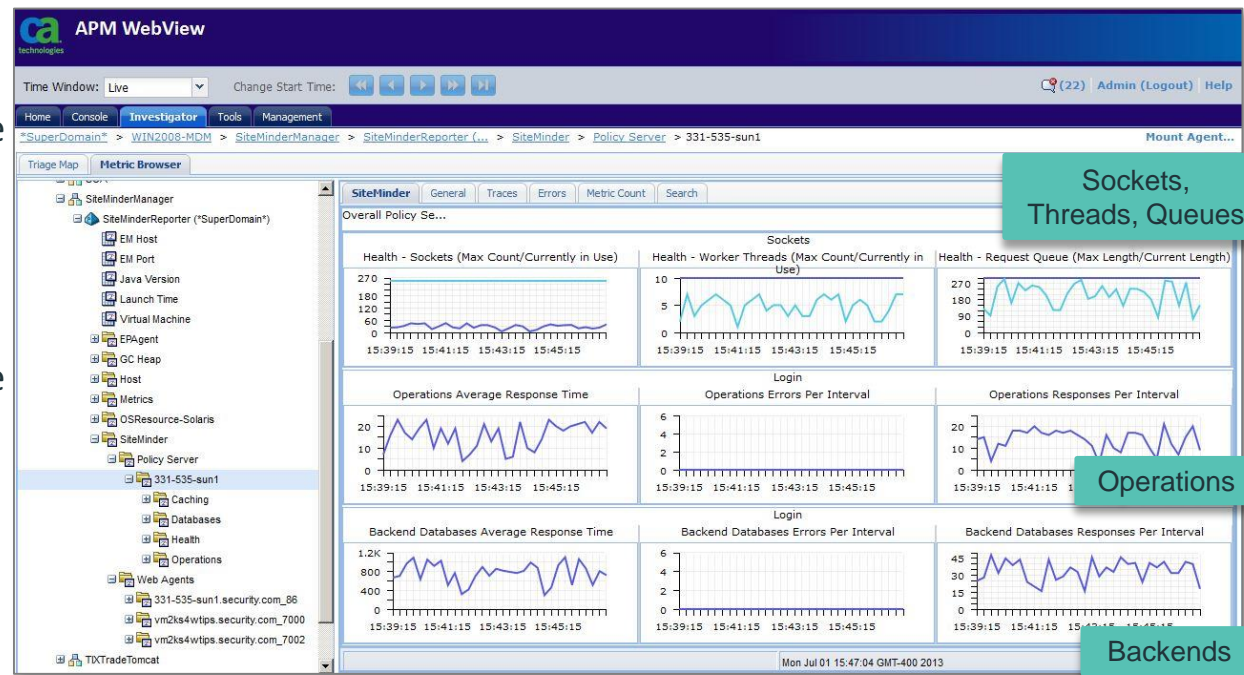
SiteMinder Performance

- Detect Availability and Performance problem on any SiteMinder operation or external data store access as it occurs
- Identify Abnormal load (high or low)
- Pinpoint Abnormal internal health metrics (queues, threads, sockets) inside SiteMinder Policy Servers
- Detect Errors reported by elements in the SiteMinder infrastructure
- Triage problems pointing to SiteMinder go to SiteMinder Administrator
- Investigate problems pointing to back end data or networks go to appropriate system or network administrators



Critical SiteMinder Policy Server Performance Metrics

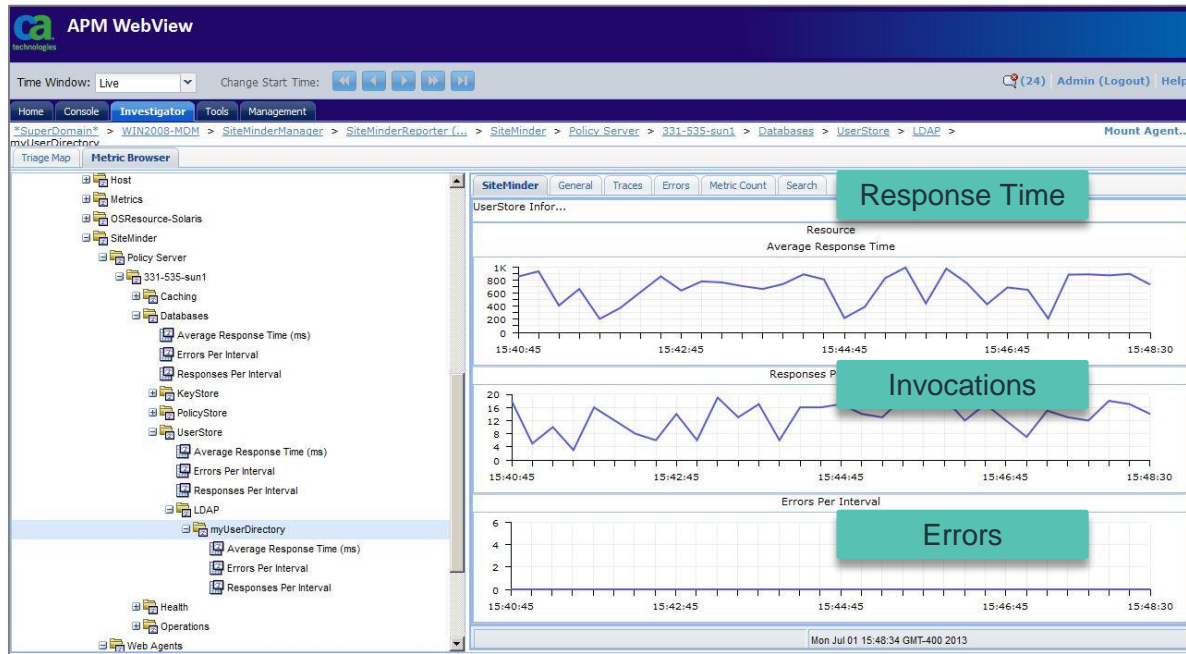
- Policy Server Availability
- Policy Server Performance
 - Per period average response time for each operation
 - Per period load for each operation
- Policy Server Back End
 - Per period average response time for each user/policy/key store call
 - Per period load for each user/policy/key store call
- Policy Server Health
 - Queues, Threads Sockets
 - Caching
 - OS platform metrics



Here a Policy Server instance is selected in the tree(left), with corresponding performance metrics for this instance displayed in real-time (right)

APM enables summary/aggregate reporting with drill-down capability into any individual instance & metric

Performance of SiteMinder Policy Server Backends



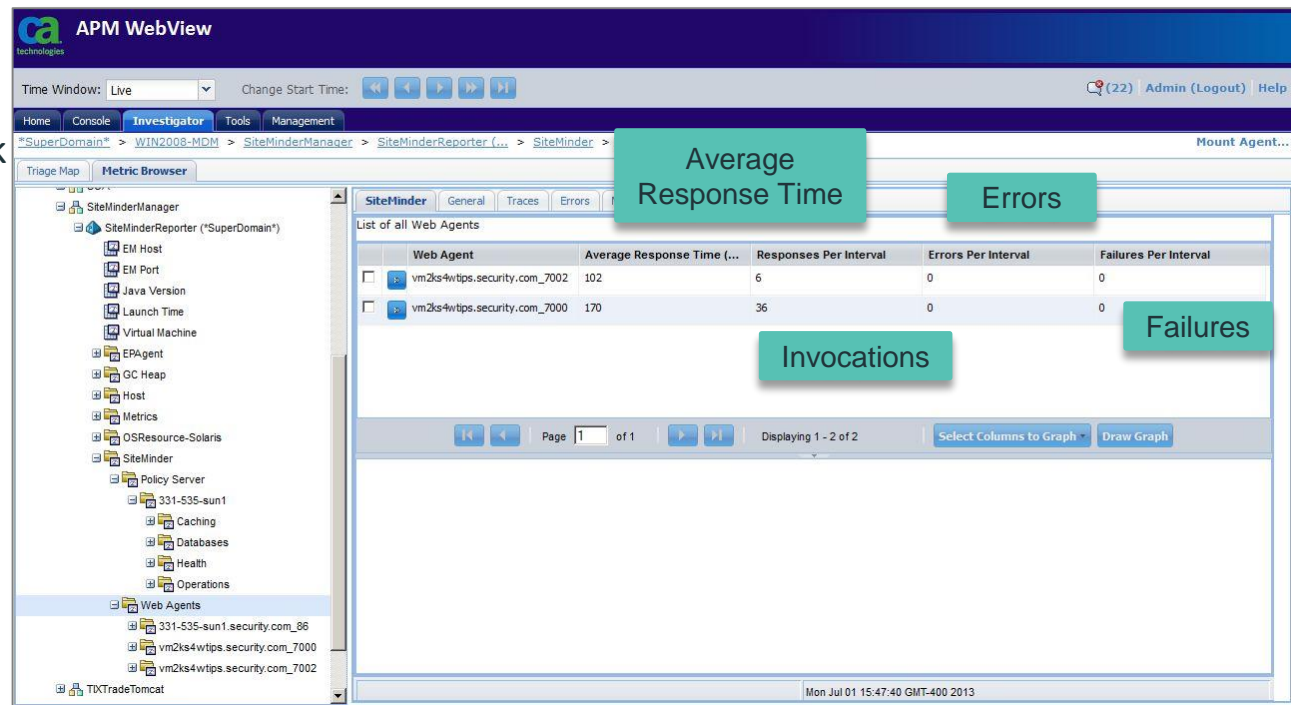
Determine if User Store performance is due to slow responding LDAP directory

Isolate delays due to slow responding backend systems, poor cache hit ratio, over utilized policy server instance due to unbalanced load...

- Policy Server Backend Performance
- Database Performance
 - Per-period average/peak response time for Key Store, Policy Store, User Store
 - Invocation and error counts for data stores
- Directory Performance
 - Average response time, invocation and error counts for User Store dependent Directories such as LDAP

Performance of SiteMinder Web Agents

- Web Server Availability
- Web Agent Performance
 - Per-period average/peak response time for each agent operation
 - Per-period load for each operation
- Web Agent Health
 - Cache statistics for user session and resource caches
 - URL/Cookie problems
 - OS platform metrics



Determine Web Agent availability and performance

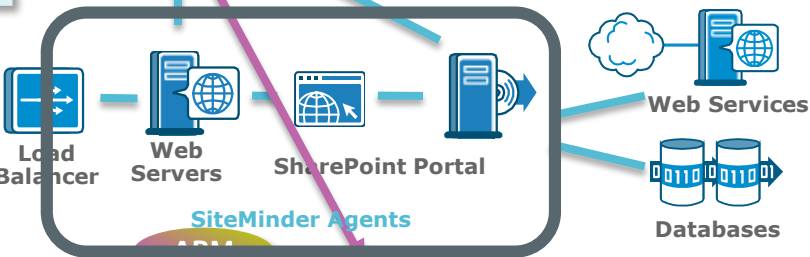
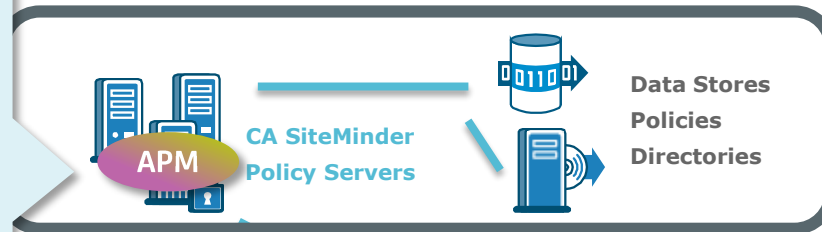
Isolate delays due to slow responding backend systems, poor cache hit ratio, over utilized policy server instance due to unbalanced load...

how we do it:

Visibility into performance of Policy Server & backend systems

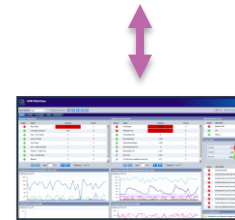
- Detect excessive (maxing out) socket connections to backend directories?
- Alert on slow response from backend systems (LDAP delays, errors; excessive calls to data store, directories; low cache ratio...)
- Unbalanced load across policy server cluster

or monitoring CA SiteMinder



Visibility into performance of Web Agents

- Pinpoint performance variance to specific Operation (ex: Login)
- Understand slowdowns relative to cache hit ratios (and subsequent excessive calls to Policy Servers)
- Factor in OS-related performance impact



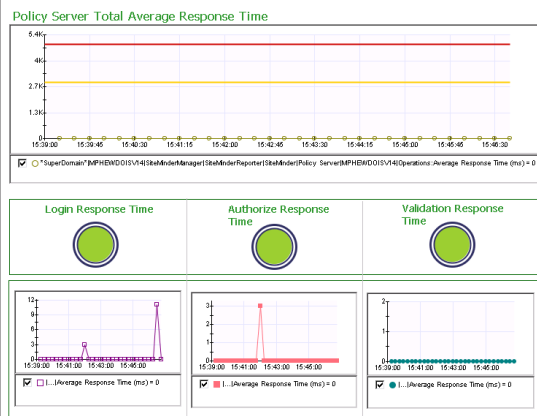
Get the Right Information to the Right People

Siteminder Admin























- I need visibility into Siteminder load and performance
- Our SM environment is large - many web agents and policy servers
- I have to detect problems earlier

SiteMinder Policy Server Response Time



SiteMinder Overview

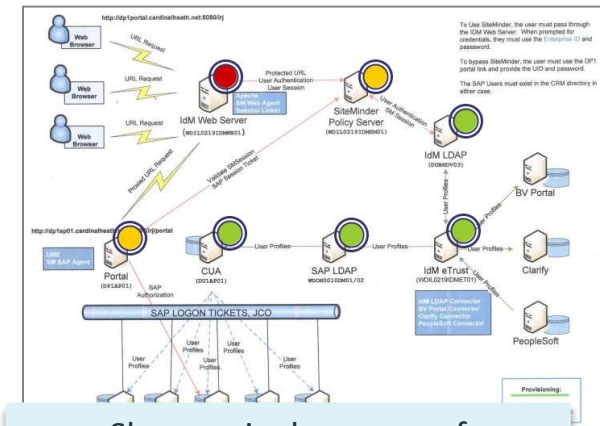


	Caching	Cookies	Operations	URLs	OS
WB01-IL					
WB02-IL					
WB01-OH					
WB02-OH					

Operations



- I want to see problems before customers do
- I need to know who to contact when alerted



Share a single source of
Siteminder performance truth - in
a format friendly to each
audience

Demonstration



What OneView Measures

Web Agent

- Operations performance, load and errors
- Cache status
- Cookie/URL errors

NOTE: Report for each web agent per Policy Server. No single point of truth

Policy Server

- Operations load
- Health (sockets)
- Availability

What CA Wily Manager for SiteMinder Measures

Web Agent

- Operations performance (includes per-period max), load and errors
- Cache status
- Cookie/URL errors
- Availability
- OS Metrics
- Single report per web agent

Policy Server

- Operations performance, load and errors
- Health (sockets, threads, queue sizes)
- User, Policy and Key Store availability, load, performance, and errors
- Data store cache statistics
- Availability
- OS Metrics

Auto Notification if SLA Thresholds are Violated

The screenshot displays the Introscope Workstation interface. On the left, a tree view shows the 'Alerts' section expanded, listing various monitoring metrics. The central pane shows a line graph for 'Policy Server Databases - Average Response Time (ms)'. The right pane shows the configuration for this alert, including a table of thresholds and actions.

Alert Configuration Table:

Severity	Threshold	At least	Of the last	Periods	Actions	Action Delay
Danger	5000	2	5	(last 1:15)	Console Notification Action	0 h 0 m 0 s
Caution	3000	2	5	(last 1:15)	Console Notification Action	0 h 0 m 0 s

The 'Alert Messages' window on the right shows a list of 11 alert messages, including several 'OSMonitor - Memory Page Faults Per Sec' alerts that exceeded caution and danger targets.

Log Reader Extension – Error Detail as Events

Historical Query Viewer - Introscope Workstation [admin@localhost:5001]

Workstation Edit Trace Properties Help

Events Query

Query: type:errorsnapshot Go Time range: All

Type	Domain	Host	Process	Agent	Timestamp	Duration (ms)	Description	UserID
E	*SuperDomain*	MEAJE04-d620	SiteMinderLog	EPAgent	19:21:11.146 (02 Sep 2008)	0	SiteMinder	
E	*SuperDomain*	MEAJE04-d620	SiteMinderLog	EPAgent	19:21:11.146 (02 Sep 2008)	0	SiteMinder	
E	*SuperDomain*	MEAJE04-d620	SiteMinderLog	EPAgent	19:21:11.146 (02 Sep 2008)	0	SiteMinder	
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E	*SuperDomain*	MEAJE04-d620	SiteMinderLog	EPAgent	19:21:11.146 (02 Sep 2008)	0	SiteMinder	
E	*SuperDomain*	MEAJE04-d620	SiteMinderLog	EPAgent	19:21:11.146 (02 Sep 2008)	0	SiteMinder	
E	*SuperDomain*	MEAJE04-d620	SiteMinderLog	EPAgent	19:21:11.146 (02 Sep 2008)	0	SiteMinder	

Stack View

Agent: *SuperDomain*[MEAJE04-d620]SiteMinderLog|EPAgent
Timestamp: 09/02/08 19:21:11 CDT
Duration: 0 ms

Error at 19:21:11.146 (02 Sep 2008)

- SiteMinder (0 ms)
 - Trace ID: 1220401276818:4926
 - Trace Type: ErrorSnapshot
- SmDslDapConnMgr.cpp:828 (0 ms)
 - Error Message: SmDslDapConnMgr Bind. Server eemeaseal01.eemea.ericsson.se : 3268. Error 85-Timed out

500 events found Sep 5, 2008 5:48:56 AM

Common SiteMinder Issues

1. LDAP Connections
2. Socket Connections Maxing Out
3. Performance Statistics for SiteMinder
4. Network “blips”
5. Catching Errors
6. Alerting and Reporting

Scenario #1: LDAP Connections

- Wily Manager for SiteMinder monitors the unique Policy Server connections to LDAP or ODBC user/policy/key stores.
- Each Policy Server reports its connections to each external data store.
- SMM can alert when the average response time for an LDAP that is slow, or when the load across a given LDAP from a Policy Server exceeds baseline levels.
- If an LDAP server is shared among several Policy Servers, SMM2 can be configured to give a cumulative load metric showing the overall load placed by SiteMinder Policy Servers on that LDAP server and alert accordingly.

Scenario #2: Socket Connections Maxing Out

- SiteMinder Policy Server socket connections can be consumed to an unhealthy level, resulting in slow SiteMinder performance.
- SMM can alert when overall socket consumption exceeds acceptable thresholds.
- In some cases, certain directories are assigned a subset of the overall available socket connections.
- This subset can be consumed, even when overall socket consumption remains below the warning threshold.
- These problems can be identified because socket availability limits the number of operations that the Policy Server can execute.

Scenario #3: SiteMinder Performance Statistics

- Look at performance and load measured across all three tiers.
 - At the agent tier, the performance shows end-user performance for each SiteMinder agent – and broken down by operation. A slow agent on a specific operation (say, Login) indicates a poor login performance.
 - It is also important to see if the slowdowns are accompanied by periods of low cache hit ratio (excessive calls to the Policy Server), or abnormal metrics from the underlying OS platform (OS-related performance problems).
 - At the Policy Server tier, operation performance can either be correlated to slow back-end performance on a data store, low cache ratio, or it may be an indicator of a set of socket connections with limited availability from the Policy Server to a back end data store.

Scenario #4: Network “blips”

- For instance, if an agent shows slow performance, but a Policy Server shows consistent operations response within the acceptable performance range, this could be a network problem.
- Or a spurious Policy Server-data store connection could also be a sign of a bad network connection between a Policy Server and Data Store.
- Any errors exposed by the calls to the back end data stores can also indicate broken data connections between Policy Server and data store – which might be unique to the Policy Server or shown across multiple Policy Servers accessing a shared data store.

Scenario #5: Catching Errors

- Agent errors are reported by the Agent on each operation.
- Agent failures, which typically result in a 500 error, are also reported.

Scenarios #6: Alerting and Reporting

- Introscope can alert and report on any metric or metric group.
- Alerts can include email, workstation pop-up, or any scripted action.
- Reporting can be done ad-hoc or via scheduled job.

Why is Wily Used to Manage More Critical Applications Than Any Other Provider?

- **Originator of and Leader in J2EE application management**
 - Patented core technology part of **Java standard** (JSR-163)
 - Introduced agents to monitor **.NET** applications
 - Introduced agents to monitor **SiteMinder** Web Agents, Policy Servers, and connected Backends
- **Ability to monitor applications with:**
 - **End-to-end** visibility, from User to back-end Systems
 - **Low Overhead, Always-on** performance recording
 - **All the Transactions** Diagnostics:
 - Deep **real-time** monitoring of 100% of real transactions
- **Single management system for All application stakeholders**
 - For Business and IT
 - Expert and Non-expert Operations
 - User-customized
- **Fast implementation — End the pain, fast**

Reporting for trending, auditing, post mortem analysis



Report

Created on: Jan 9, 2014 1:09 PM
 Start Date: Jan 9, 2014 11:00 AM
 End Date: Jan 9, 2014 1:09 PM

Table of Contents:

SiteMinder Policy Server - Operations Performance Data Table

Below is the average response time for Operations handled by SiteMinder Policy Servers for the given reporting period.

Policy Server Operations Average Response Time (ms)	Mean	Average Min	Average Max	Absolute Max
WIN2008-MDM[SiteMinderManager[SiteMinderReporter[SiteMinderPolicy Server[331-535-sun1]Operations[Authorize:Average Response Time (ms)	1	0	1	
WIN2008-MDM[SiteMinderManager[SiteMinderReporter[SiteMinderPolicy Server[331-535-sun1]Operations[IsProtected:Average Response Time (ms)	0	0	0	
WIN2008-MDM[SiteMinderManager[SiteMinderReporter[SiteMinderPolicy Server[331-535-sun1]Operations[Login:Average Response Time (ms)	19	0	19	
WIN2008-MDM[SiteMinderManager[SiteMinderReporter[SiteMinderPolicy Server[331-535-sun1]Operations[Logout:Average Response Time (ms)	1	0	1	
WIN2008-MDM[SiteMinderManager[SiteMinderReporter[SiteMinderPolicy Server[331-535-sun1]Operations[Validate:Average Response Time (ms)	3	0	3	

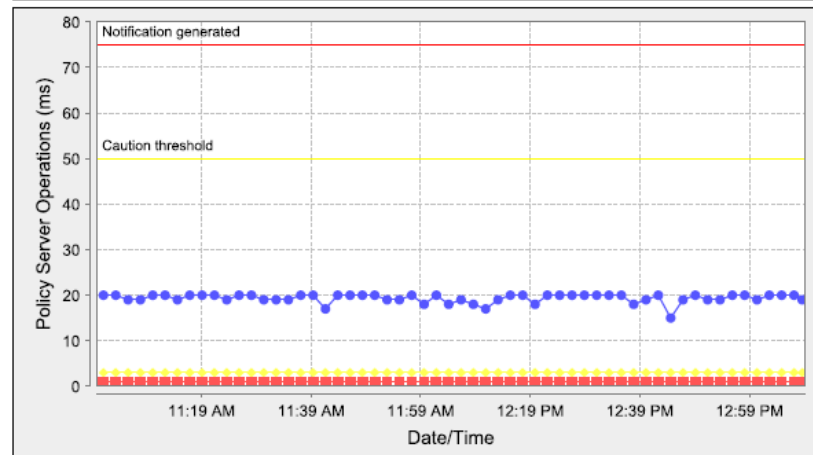
Start: 1/9/14 11:00 AM

Report

SiteMinder Policy Server - Operations Performance

Below is the average response time for Operations handled by SiteMinder Policy Servers for the given reporting period.

Policy Server Operations Average Response Time (ms)



Start: 1/9/14 11:00 AM

End: 1/9/14 1:09 PM

Period: 2 minutes, 15 s

Agents: WIN2008-MDM[SiteMinderManager[SiteMinderReporter

Legend:

- WIN2008-MDM[SiteMinderManager[SiteMinderReporter[SiteMinderPolicy Server[331-535-sun1]Operations[Authorize:Average Response Time (ms)
- WIN2008-MDM[SiteMinderManager[SiteMinderReporter[SiteMinderPolicy Server[331-535-sun1]Operations[Login:Average Response Time (ms)
- WIN2008-MDM[SiteMinderManager[SiteMinderReporter[SiteMinderPolicy Server[331-535-sun1]Operations[IsProtected:Average Response Time (ms)
- WIN2008-MDM[SiteMinderManager[SiteMinderReporter[SiteMinderPolicy Server[331-535-sun1]Operations[Validate:Average Response Time (ms)

CA APPLICATION PERFORMANCE MANAGEMENT



APPLICATIONS



Multi-dimension analytics
for operational intelligence



Complete picture of your
application transaction
performance



Scales for the largest, most
critical applications



Flexible access for a
broad audience

TO



Reduce MTTR and
cost of downtime



Ensure consistent and
exceptional user
experience



Meet increased
business expectations
of IT

Because there are no tradeoffs when application
performance really counts