



Automated Maintenance



- LightSpeed PM – A Certified Quest Partner

Quest™

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Foglight Maintenance Challenges

Keeping your Foglight infrastructure running at top performance can take time and attention. The process is normally manual, and there are several things to keep track of, including:

- Making sure agents are always running and collecting data
- Keeping Alarms in check.
- Ability to view Foglight Health and load (Especially across servers).
- Avoiding Topology Problems.
- Knowing what is using what.
- Managing Credentials

Solution Highlights

- Easy to deploy
- Lots of options
- User friendly UI
- **Centralized Monitoring** of multiple Foglight Servers
- **Remote Administration** of solution across servers
- Maintains:
 - Agents
 - Alarms
 - Topology
 - ...

Agents

- Automated Maintenance eliminates your challenges by supporting all the below listed tasks but also offers a plethora of options for full control over the various tasks:
 - Ability to display, alert and act on an agent's various conditions:
 - Inactive
 - Try to activate, repeated failures will result in an alarm
 - Data Collection not started
 - Try to start data collection, repeated failures will result in an alarm
 - Obsolete Agents
 - Attempt to delete, repeated failures will result in an alarm
 - Stale Agents
 - Healthy Agents that where collecting data and suddenly stop will result in an alarm
 - Zombie Agents
 - Healthy Agents that never collected will result in an alarm or can be automatically deleted.

FGLAM Management

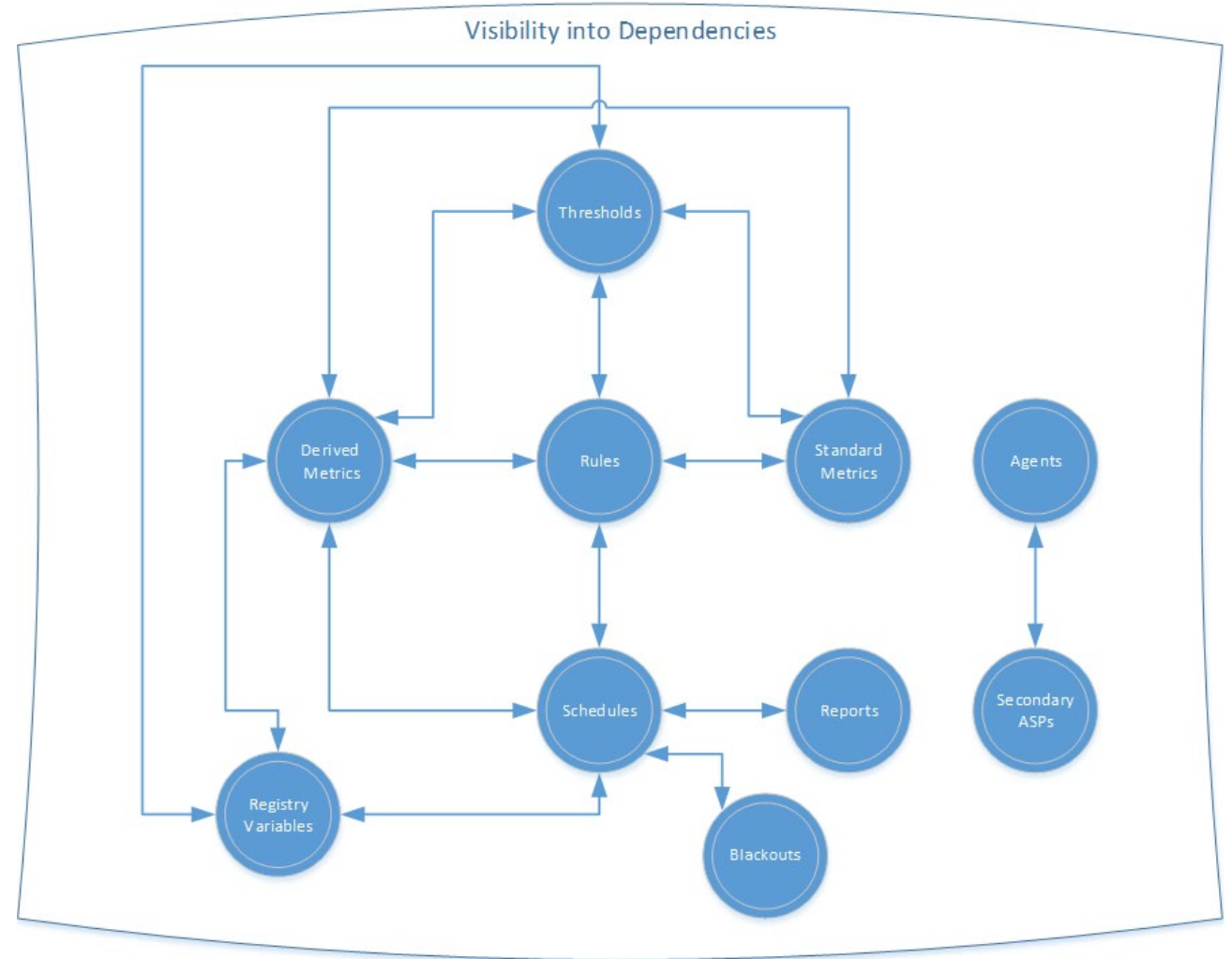
- FGLAM HA Monitoring
 - Display the make up of the various HA clusters
 - Alert if a cluster is misconfigured
 - Multiple Primaries
 - No Primary
 - Invalid state
- FGLAM Log Analysis
 - Analyses logs for WARN, ERROR and FATAL messages to provide a count summary for each unique message for the last 24 hours, 2, 3, 5, 7, 14, 21 and 28 Days.

Alarm Management

- Ability to display, alert and act on alarms:
 - Clear Alarms to keep current alarms optimal and the alarms fully functional
 - Purge Alarms to reduce number of Alarms in the database for better performance.
- The engine allows you to clear/purge alarms using 2 methods:
 - Sliding window.
 - Processes older alarms and within the same date the lowest severities first.
 - Severity Order
 - Processes the alarms of a given severity first and within the same severity the oldest to the newest. In the case that there is not enough to fix the issue the engine will use the next specified severity.
- Failure to reduce the number of alarms will result in an alarm.

Admin Information

- Ability to display what a given an item is using and which items are using it:
- Many cleanup functions for unused Secondary ASPs, Schedules, ...



Credentials Management

- Display all available credentials
- Informs whether or not a record has a hit on the system
- Allows the deletion of records with no hits
- One button clean up of unused credentials

Foglight Self-Management

- Foglight Internal Check
 - Ability to report on the various internal information that foglight provides to self monitor itself.
 - Catalyst Alarms
 - Unit Count
 - Load
 - Connections, . . .
- Foglight Log Analysis
 - Analyses logs for WARN, ERROR and FATAL messages to provide a count summary for each unique message for the last 24 hours, 2, 3, 5, 7, 14, 21 and 28 Days.

Storage Time Slices

- Display time slices that should be Obsolete
- Ability to automatically Obsolete any invalid time slice



Topology

Topology Churn

- Ability to display and alert on topology objects causing churn either by frequent updates or the creation of too many versions.

Topology Dangling References

- Ability to display, alert and automatically remove references to objects that are no longer in the system.

Topology Limit

- Ability to display, manage and alert on topology limits.

Topology Stale Objects

- Ability to display, manage, alert and automatically delete stale objects

- Topology Churn is most often caused by either a misconfigured agent or multiple agents monitoring the same element
- Dangling references are references to non-existent objects
- Topology limit is reached when the amount of objects stored is greater than 50,000.
- Stale defines and object not updated for an extended period of time

Changing Settings

Auto Maintenance Registry Settings - Local FMS

Save | Undo | Filter

Name	Value	Scoping	
Agent			
Activate			
PSO.AutoMaintenance.Agent.AutoActivate	false		True to automatically attempt to activate non obsolete inactive agents, false otherwise.
PSO.AutoMaintenance.Agent.AutoActivate.ExcludeTypes	.NET Application,.NET IIS,WebLogic,We...		Comma separated list of agent types whose lifecycle can not be managed by the Agent Manager.
PSO.AutoMaintenance.Agent.AutoActivate.MaxRetries	5		Maximum number of times to try activating an agent.
Data Collection			
PSO.AutoMaintenance.Agent.AutoStartCollection	false		True to automatically attempt to start data collection for active agents, false otherwise.
PSO.AutoMaintenance.Agent.AutoStartCollection.MaxRetries	5		Maximum number of times to try Starting data collection on an agent.
Obsolete			
PSO.AutoMaintenance.Agent.Obsolete.AutoDelete	false		True to automatically delete Obsolete agents, false otherwise. Obsolete agents are agents that have an Agent Topology.
PSO.AutoMaintenance.Agent.Obsolete.AutoDelete.DuplicateRemoteClients	true		True to automatically delete duplicate Remote Clients, false otherwise. A remote client represents an agent manager.
PSO.AutoMaintenance.Agent.Obsolete.AutoDelete.MaxRetries	5		Maximum number of times to try deleting an obsolete agent.
Stale			
PSO.AutoMaintenance.Agent.Stale.GracePeriod	5		Time in minutes an active agent collecting data can go on without sending any data to FMS before it is marked as stale.
Zombie			
PSO.AutoMaintenance.Agent.Zombie.AutoDelete	false		True to automatically delete Zombie agents, false otherwise. Zombie agents are agents that appear in the agent Status as Stale.
PSO.AutoMaintenance.Agent.Zombie.AutoDelete.MaxRetries	5		Maximum number of times to try deleting an zombie agent.
PSO.AutoMaintenance.Agent.Zombie.AutoDelete.TimeToDelete	120		Time in minutes that an agent can go on without having ever collected data before it is deleted.
PSO.AutoMaintenance.Agent.Zombie.ExcludeTypes	JavaIntegrator,JMXDiscoveryAgent,DB_...		Comma separated list of agent types that never collect data making them prone to be considered Zombies.
Agent Manager Log Analysis			
PSO.AutoMaintenance.FGLAM.LogAnalysis.IgnoreAgentLogs	true		Should the analyzer ignore Agent Specific Log files and only analyze the Agent Manager's files.
PSO.AutoMaintenance.FGLAM.LogAnalysis.Period	7		Period in days to analyze from the logs. Minimum is 7 days and maximum is 28 days.
PSO.AutoMaintenance.FGLAM.LogAnalysis.ScanGZFiles	true		Should the analyzer scan compressed log files (.gz)
PSO.AutoMaintenance.FGLAM.LogAnalysis.TypesToAnalyze	WARN,ERROR,FATAL		Which entries to analyze in the Log Files. Possible Combinations: WARN,ERROR,FATAL or ERROR,FATAL or FATAL.

- Remote Administration of the solution across servers

Rule Management

The screenshot displays the 'Auto Maintenance Rule Management' interface. On the left, a sidebar contains navigation links: Bookmarks, Homes, Dashboards, Administration, Alarms, Databases, Development Tools, Hosts, Infrastructure, Management Server, PSO Admin Pack, PSO Fiserv, Reports, Services, Synthetic Monitor for Internet, and Configuration. Below these is a 'Foglight Servers' section with a search bar and a list of servers: fms2 (green up arrow), fms3 (red down arrow), fms4 (red down arrow), fms5 (red down arrow), and fms6 (red down arrow).

The main panel shows a table of rules under the heading 'Auto Maintenance Rule Management - http://fms2:8080'. The table has columns for Category / Title, Enabled, and Description. The rules are categorized into Alerting, Agent, Alarms, FGLAM, Topology, and Automation.

A modal dialog titled 'Define Settings for Rule "PSO - Auto Maintenance Clear Alarms Failure"' is open, showing configuration options for the selected rule. The dialog includes fields for 'Generate Alarm' (checked), 'Alarm Severity' (Warning), 'Threshold' (3.0), 'Generate Email' (checked), and 'Email Recipient' (alainas@fms.com). It also includes checkboxes for enabling alarm and email generation, and a text area for the email recipient list.

Category / Title	Enabled	Description
Alerting		
Agent		
Activate Failure		Generates alarms for agents whose activation failed after a specified number of times.
Delete Obsolete Failure		Generates alarms for obsolete agents that failed to be deleted after a specified number of times.
Delete Zombie Failure		Generates alarms for zombie agents that failed to be deleted after a specified number of times.
Stale		Generates alarms for agents that at one point where sending data to Foglight but are no longer doing so.
Start Data Collection Failure		Generates alarms for agents that failed to start data collection after a specified number of times.
Zombie		Generates alarms for agents that never sent data to Foglight.
Alarms		
Clear Failure		
Purge Failure		
FGLAM		
HA Error		
Topology		
Delete Stale Objects Failure		
Limit Reached		
Recent Changes Churn Detected		
Remove Dangling References Failure		
Versions Churn Detected		
Automation		
Agent Tasks		
Alarms		
Clear		
Purge		
Remove Time Slices		
Topology		
Delete Stale Objects		
Limit		

Define Settings for Rule "PSO - Auto Maintenance Clear Alarms Failure"

Generates an alarm if the auto clear engine fails to restore the active alarm count to the set Max Active Alarms within the set maximum retries.

Check the box to enable alarm generation, uncheck to disable.

Generate Alarm: ☒

When an alarm is generated what severity should the alarm represent.

Alarm Severity: ☒ Warning

Number of consecutive times Auto Clearing alarms can fail at reaching the defined Max Active Alarms. Should be <= PSO.AutoMaintenance Retries.

Threshold:

Check the box to enable email generation, uncheck to disable. Please note that an email is not generated if "Generate Alarm" is disabled.

Generate Email: ☒

Comma separated list of email addresses.

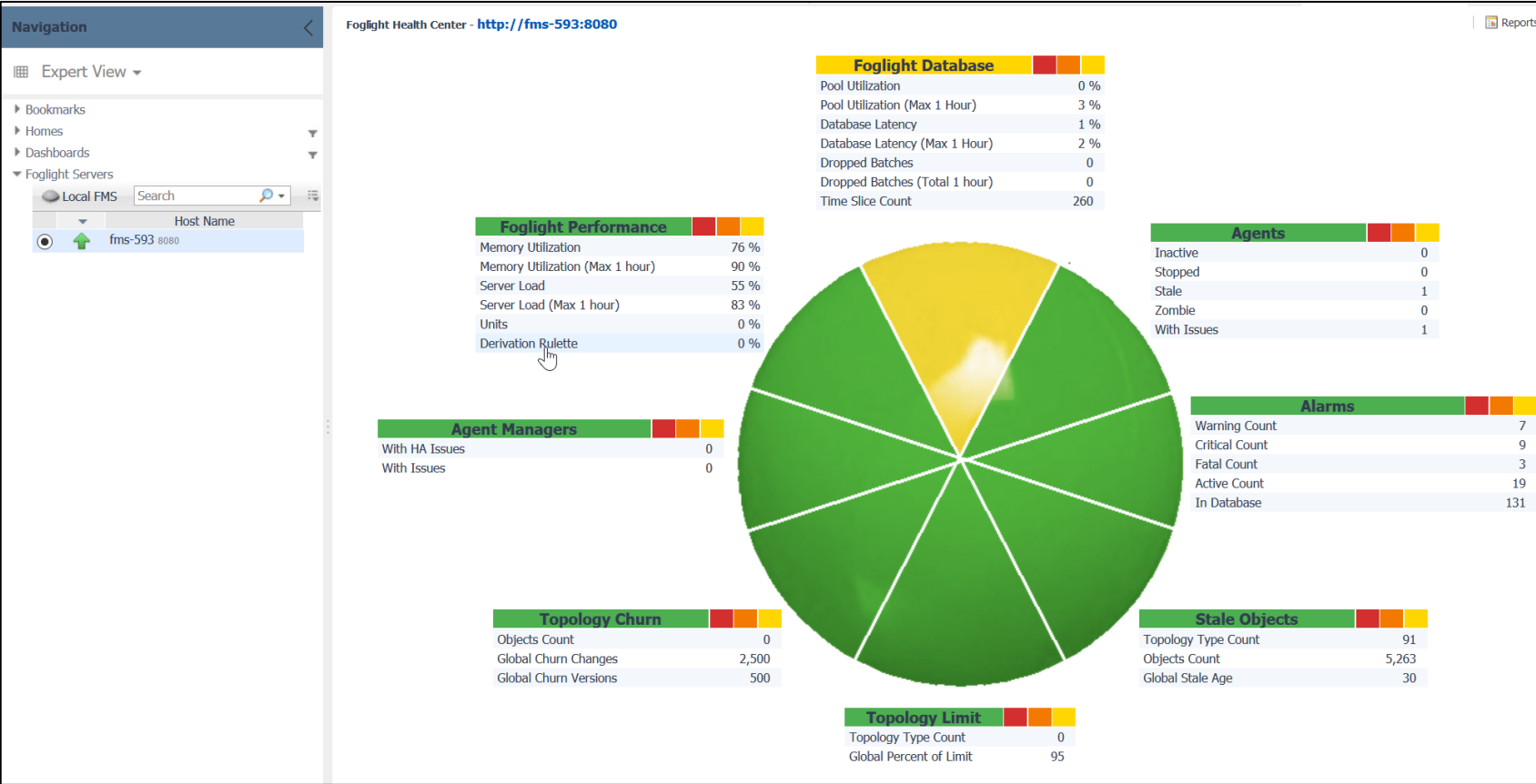
Email Recipient:

Apply Cancel

- Remote Administration of the solution across servers

Auto Maintenance – Health Center

- Remote Monitoring of Foglight servers.



Agent Information

- Remote Monitoring of Agents.

Navigation

Expert View

Bookmarks
There are no bookmarks

Homes

Dashboards

Foglight Servers

Local FMS

Host Name

fms-593 8080

Auto Maintenance Agent Information - <http://fms-593:8080>

Edit Registry

Edit Rules

Search

Agent Name	Agent Manager	FMS Agent States			Automation Agent State			Automation Engine Status		Statistics (Total Times)		
		Blacked Out	Active	Collecting Data	Problem State	Problem Period (dd::hh:mm:ss)	Attempts (To Remedy Problem)	Auto Activate	Auto Start	Became Inactive	Stopped Data Collection	Flagged as stale
DBSS-Installer-fglams-ha-1	fglams-ha-1	0	1	0	Obsolete		Deletion: 0	0	0	0	0	0
Windows@db-mssql	fglams-ha-1	0	0	0	Obsolete		Deletion: 0	0	0	0	0	0
Windows@WIN2012SQL1	fglams-ha-1	0	1	1				1	0	1	0	1
SQL2012@WIN2012SQL1	fglams-ha-1	0	1	1				1	0	1	0	1
WebMonitor@fglams-ha-1	fglams-ha-1	0	1	1				1	0	1	0	1
Windows@db-oracle	fglams-ha-1	0	0	0	Obsolete		Deletion: 0	0	0	0	0	0

0 0 14 0 6 0 8 0 6 0 8 0 8 5 1 7 0

Agent Inventory (Non Obsolete)

Agent Type	Count	Versions
DB_Oracle_Installer	1	5.9.3.20
DB_SQL_Server	1	5.9.3.20
DB_SQL_Server_Installer	1	5.9.3.20
NetMonitorAgent	1	5.9.4
WebMonitorAgent	1	5.9.3
WindowsAgent	1	5.9.4
	6	

Automation Engine Information

Auto Activate

Enabled: 0

Maximum Attempts: 5

Start Time: n/a

Last Completed Run: n/a

Total Runs: 0

Is Task Processing: 0

Total Activate Calls: 0

Auto Start Data Collection

Enabled: 0

Maximum Attempts: 5

Start Time: n/a

Last Completed Run: n/a

Total Runs: 0

Is Task Processing: 0

Total Start Data Calls: 0

Auto Delete Obsolete

Enabled: 0

Maximum Attempts: 5

Start Time: n/a

Last Completed Run: n/a

Total Runs: 0

Is Task Processing: 0

Total Deleted Objects: 0

Auto Delete Zombie

Enabled: 0

Time To Deletion (min.): 120

Maximum Attempts: 5

Start Time: n/a

Last Completed Run: n/a

Total Runs: 0

Is Task Processing: 0

Total Deleted Agents: 0

Agent Managers HA Information

- Remote Monitoring of Agent Managers.

Navigation

Expert View

Bookmarks
There are no bookmarks

Homes

Dashboards

Foglight Servers

Local FMS

Search

Host Name

fms-593 8080

Auto Maintenance Agent Managers HA Information - <http://fms-593:8080>

Name (Partition/FGLAM)		
No Partition	✓	
fglams-ha-1	✓	STANDALONE

Agent Managers Log Analysis

- Remote Log Analysis of Agent Managers.

Navigation

Expert View

Bookmarks
There are no bookmarks

Homes

Dashboards

Foglight Servers

Local FMS

Host Name

fms-593 8080

Auto Maintenance Agent Managers Log Analysis - <http://fms-593:8080>

Report

Search

Name

fglams-ha-1

Log Analysis for FGLAM fglams-ha-1#a4f97a22-e976-4e28-9c8a-5510137a5d7c

Search

Type	First Encountered Entry	Message	Last 24 Hours	X Hours Ago		X Days Ago						
				24 to 48	48 to 72	3 to 5	5 to 7	7 to 14	14 to 21	21 to 28		
WARN	22/07/19 7:35 AM	Authentication failed: unable to log in to http://win2012sql1:5985 (ICMP Port Unreachable)	3	.	.	.	.	.	.	.	.	.
WARN	22/07/19 7:35 AM	Authentication failed: unable to log in to http://WIN2012SQL1:5985 (ICMP Port Unreachable)	3	.	.	.	.	.	.	.	.	.
WARN	22/07/19 7:31 AM	Authentication failed: unable to log in to http://db-mssql:5985 (KrbException: Cannot locate default realm)	2	.	.	.	.	.	.	.	.	.
WARN	22/07/19 7:30 AM	Authentication failed: unable to log in to http://db-oracle:5985 (KrbException: Cannot locate default realm)	2	.	.	.	.	.	.	.	.	.
WARN	22/07/19 7:32 AM	No secure launcher was configured so the native ICMP helper application will run without elevated privileges.	2	.	.	.	.	.	.	.	.	.
WARN	22/07/19 7:32 AM	Thread group ICMP-Process could not be destroyed as there are approximately 1 threads still active in it.	1	.	.	.	.	.	.	.	.	.
WARN	22/07/19 1:47 PM	Could not queue/transmit orderly shutdown notification to the upstream server.	1	.	.	.	.	.	.	.	.	.
ERROR	22/07/19 1:47 PM	Could not send upstream request to http://fms-593:8080/catalyst-glue-service/message/secure. Received response code 403....	1	.	.	.	.	.	.	.	.	.
WARN	22/07/19 1:47 PM	Could not close data stream java.net.SocketException: Software caused connection abort: socket write error at java.net.Sock...	1	.	.	.	.	.	.	.	.	.

Alarms Information

Alarm Count Information	
Warning Count:	395
Critical Count:	2
Fatal Count:	0
Total:	397
Total Persisted:	822

Auto Clear Engine ⚠	
Enabled:	🔌
Maximum Active Alarms Allowed:	10,000
Maximum Retries:	5
Start Time:	n/a
Last Completed Run:	n/a
Total Runs:	0
Is Task Processing:	🕒
Warning Processed:	0
Critical Processed:	0
Fatal Processed:	0
Other Processed:	0
Total:	0
Total Attempts:	0

Auto Purge Engine ⚠	
Enabled:	🔌
Maximum Persisted Alarms Allowed:	100,000
Maximum Retries:	5
Start Time:	n/a
Last Completed Run:	n/a
Total Runs:	0
Is Task Processing:	🕒
Warning Processed:	0
Critical Processed:	0
Fatal Processed:	0
Other Processed:	0
Total:	0
Total Attempts:	0

Admin Information

Items UsingItems Used By

Items to explore: RulesDerived MetricsRegistry VariablesThresholdsBlackoutsReportsAgents

Remove All Whose Cartridge Is Not EnabledRemove All With Invalid Scope

Search

Name	Scope		Valid	Has Objects
	Topology Type			
Additional Process Pool Utilization	PowerVMAdditionalProcPool			
Agent Health State	Agent			
Agent Manager Error Message Alarm	FglamClientInstance			
Available Paging Space	Host			
BindUpTimeToHostBootTime	ScSystemInfo			
Catalyst Agent Type License Checker	AgentTypeLicense			
Catalyst Available Database Connections Check	CatalystJBossManagedConnectionPool			
Catalyst Credential Check	CatalystServer			
Catalyst Database Latency Check	CatalystDatabaseStatus			
Catalyst Database Maintenance Check	CatalystDatabaseMaintenanceController			
Catalyst Database Query Execution Time Check	CatalystSampleBatchQueryExecutionTimeMonitor			
Catalyst Database Space Checking	CatalystDatabase			
Catalyst Data Service Discarding Data	CatalystDataService			
Catalyst Free Database Space Checking	CatalystTablespace			

Rule Using:

MetricsRegistry VariablesThresholdsSchedules

Search

Name	Valid	Used By					Global Variables
		Fire					
utilization							

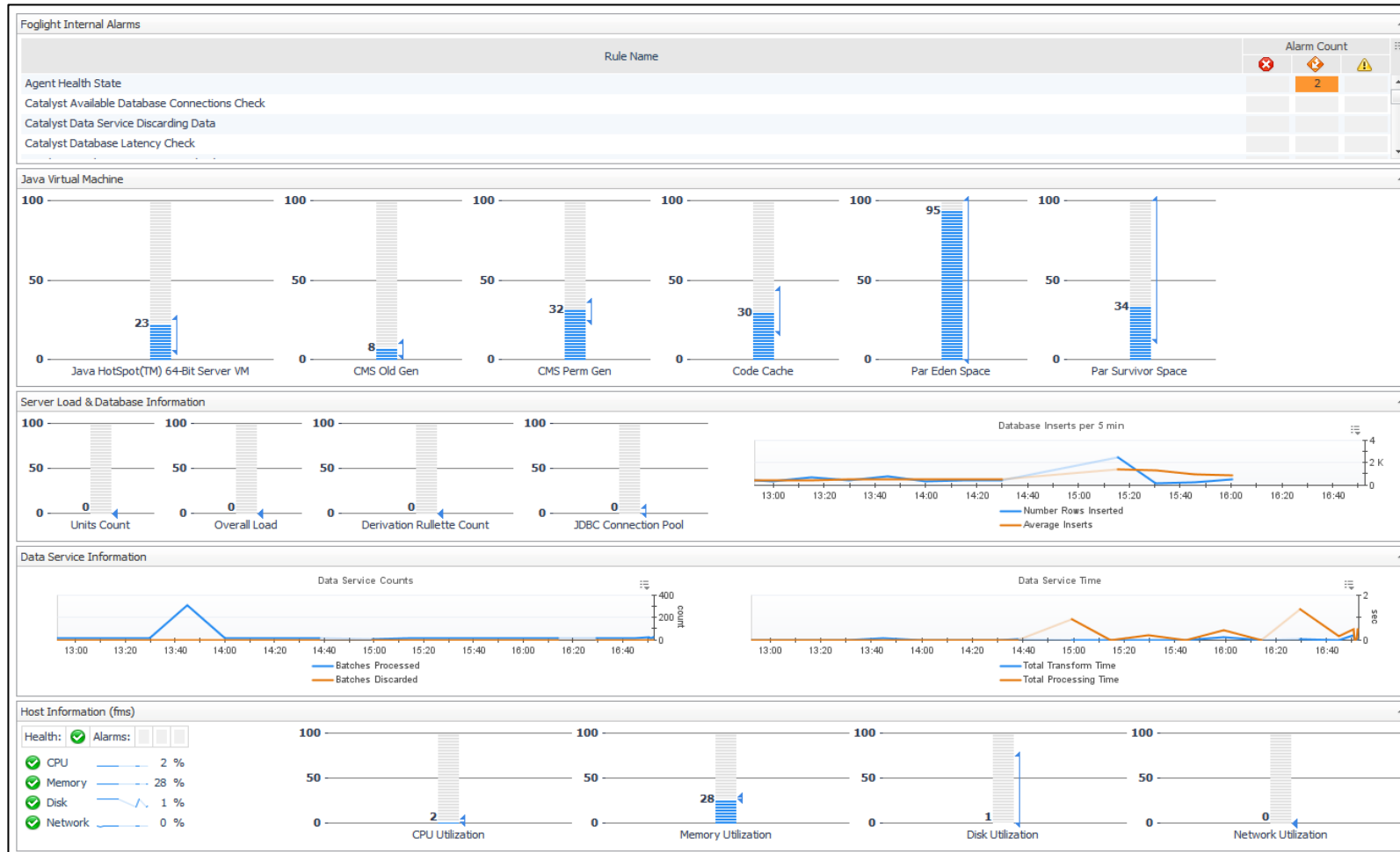
Credential Information

Remove All With No Hits | Reload

Search

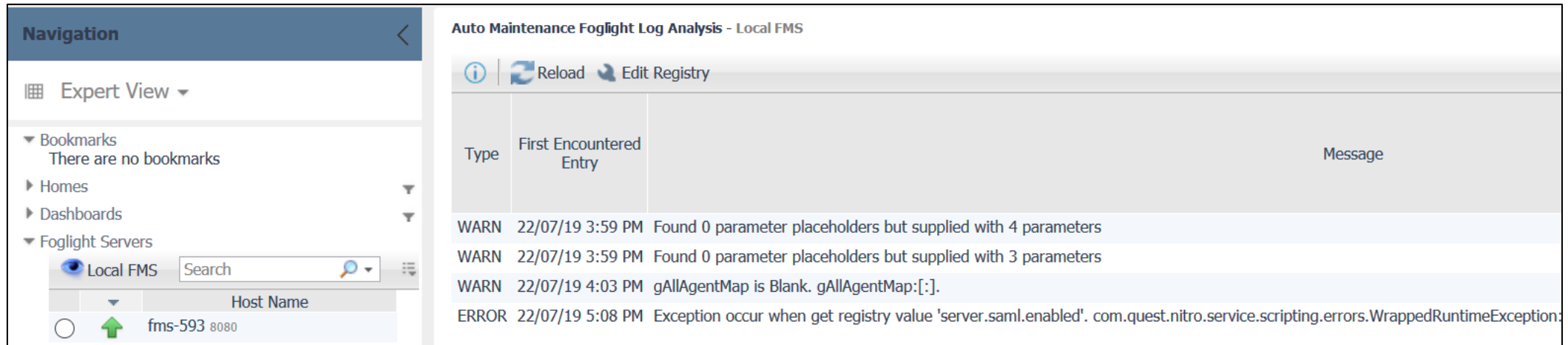
Name (Lockbox/Credential/Type/Condition)	Record Has Hit	
DB-Agent Lockbox		
DBAccount		
JMX		
URL equals 'jmxhost.com'		
UnixDB		
Target Host Name is domain name 'mydbhost.com'		
System		
Demo		
WindowsOS		
Target Host Name is domain name 'demo.com' or 'production.ca'		

Internal Information



Foglight Log Analysis

- Remote Log Analysis of Foglight Servers



The screenshot displays the Foglight Log Analysis interface. On the left is a navigation pane with a 'Navigation' header and a back arrow. Below it, the 'Expert View' is selected. The navigation menu includes 'Bookmarks' (with a note 'There are no bookmarks'), 'Homes', 'Dashboards', and 'Foglight Servers'. Under 'Foglight Servers', 'Local FMS' is selected, and a search bar is visible. Below the search bar, a table lists servers with columns for a status icon, a green up arrow, and the 'Host Name'. The host 'fms-593 8080' is listed. The main panel is titled 'Auto Maintenance Foglight Log Analysis - Local FMS'. It features a toolbar with an information icon, a 'Reload' button, and an 'Edit Registry' button. Below the toolbar is a table with three columns: 'Type', 'First Encountered Entry', and 'Message'. The table contains four log entries:

Type	First Encountered Entry	Message
WARN	22/07/19 3:59 PM	Found 0 parameter placeholders but supplied with 4 parameters
WARN	22/07/19 3:59 PM	Found 0 parameter placeholders but supplied with 3 parameters
WARN	22/07/19 4:03 PM	gAllAgentMap is Blank. gAllAgentMap[:].
ERROR	22/07/19 5:08 PM	Exception occur when get registry value 'server.saml.enabled'. com.quest.nitro.service.scripting.errors.WrappedRuntimeException:

Named Scripts

Auto Maintenance Foglight Named Scripts

Search

Script name	Cartridge Name	Potentially modified
adjustFileLogMonitorFileGroupRegExMatchPattern	Infrastructure	Potentially modified
adjustHostName		Potentially modified
adjustICAgentName	Infrastructure	Potentially modified
alarmCount		Get the number of
applicationRootAnnotationTypeCacheRegistrationHelper	Application-Root-Base	Application Root
avg		Implementation of
changeBooleanValue		Returns a boolean
changeCount		Get the number of
changeSummary		Returns the list of
checkCredentialExpire		Check whether cr
checkObservationAlarms		Script that deter
checkUserPermission		Returns a flag inc
clearOldAlarms	Integration	Clear integration
commitChanges	Core-Administration	Commit changes
convertObservation		
count		Implementation of
countInTimeRange	WebMonitor-UI	Count the Metric
createCarExporter	Cart-Builder-Export	Creates a Cartridge
createFileItem	Cart-Builder-Export	Creates a FileItem
createNewEditableObject	Core-Administration	Create a new Adr
createObservationAlarms		Script that create
createServicePerspective	Core-ServiceModel-Extensions	Creates a new ins
createSupportBundle		

Arguments for alarmCount

Search

Order	Argument	Type	Description
1			topology object
2			the requested severity

// If an alarm severity is specified, only count alarms with that severity

if (args.size() > 2) {
 int severity = args[2];

 // TODO: get number of alarms
 return server.get("AlarmService").getAlarmCount(args[1].getUniqueId(), severity);
} else {

 // Return the total number of alarms on the object
 return server.get("AlarmService").getAlarmCount(args[1].getUniqueId(), 2) +
 server.get("AlarmService").getAlarmCount(args[1].getUniqueId(), 3) +
 server.get("AlarmService").getAlarmCount(args[1].getUniqueId(), 4);
}

Time Slices

Auto Maintenance Time Slices Information

Reports

Info

Time Slice Count Information

String Storage Count:	70
Binary Storage Count:	70
Metric Storage Count:	140
Total:	280

Auto Remove Engine

Enabled:	
String Storage Retention Days:	62
Binary Storage Retention Days:	62
Metric Storage Retention Days:	62
Start Time:	n/a
Last Completed Run:	n/a
Total Runs:	0
Is Task Processing:	
String Storage Processed:	0
Binary Storage Processed:	0
Metric Storage Processed:	0
Total:	0

Auto Maintenance – Topology Churn

Search				
	Name	Recent Changes	Versions	
✓	auto-deploy-1 (Host)	101	668	
Details for churn on Object: auto-deploy-1 (Host)				
Most volatile object: auto-deploy-1 (Host)				
Object uniqueId: bd5c34ff-0172-4efd-9292-dd727ee50cf9				
Current version: 692				
Number of object updates in period: 669				
Number of versions in period: 668				
Number of recent changes: 101				
Num changes by property:				
name: 101				
Details of recent changes:				
+-----+-----+-----+-----+-----+				
| Timestamp | Property | Change Type | Old Value | New Value |				
+-----+-----+-----+-----+-----+				
| 2016-05-11 05:42:31.494 | name | Value Change | fms | auto-deploy-1 |				
| 2016-05-11 05:42:19.294 | name | Value Change | auto-deploy-2 | fms |				
| 2016-05-11 05:41:59.278 | name | Value Change | fms | auto-deploy-2 |				
| 2016-05-11 05:41:59.06 | name | Value Change | auto-deploy-1 | fms |				
| 2016-05-11 05:37:34.714 | name | Value Change | fms | auto-deploy-1 |				
| 2016-05-11 05:37:22.546 | name | Value Change | auto-deploy-2 | fms |				
| 2016-05-11 05:37:22.515 | name | Value Change | fms | auto-deploy-2 |				
| 2016-05-11 05:36:57.495 | name | Value Change | auto-deploy-2 | fms |				
| 2016-05-11 05:36:57.261 | name | Value Change | auto-deploy-1 | auto-deploy-2 |				
| 2016-05-11 05:32:32.903 | name | Value Change | fms | auto-deploy-1 |				
| 2016-05-11 05:32:20.674 | name | Value Change | auto-deploy-2 | fms |				
| 2016-05-11 05:32:20.658 | name | Value Change | fms | auto-deploy-2 |				
| 2016-05-11 05:32:20.611 | name | Value Change | auto-deploy-2 | fms |				
| 2016-05-11 05:32:00.661 | name | Value Change | fms | auto-deploy-2 |				
| 2016-05-11 05:32:00.442 | name | Value Change | auto-deploy-1 | fms |				
| 2016-05-11 05:27:31.152 | name | Value Change | fms | auto-deploy-1 |				
| 2016-05-11 05:27:23.773 | name | Value Change | auto-deploy-2 | fms |				
| 2016-05-11 05:27:23.757 | name | Value Change | fms | auto-deploy-2 |				
| 2016-05-11 05:26:58.704 | name | Value Change | auto-deploy-2 | fms |				
| 2016-05-11 05:26:58.486 | name | Value Change | auto-deploy-1 | auto-deploy-2 |				
| 2016-05-11 05:22:34.268 | name | Value Change | fms | auto-deploy-1 |				
| 2016-05-11 05:22:22.006 | name | Value Change | auto-deploy-2 | fms |				
| 2016-05-11 05:22:21.943 | name | Value Change | fms | auto-deploy-2 |				

Auto Maintenance – Dangling References

Search				
	Name	Property Name	Total Invalid References	Automation Retries
✓	Demo Application	definition	1	1
✓	Demo Application	serviceLevelPolicies	1	1
Auto Remove Engine Information				
Start Time:	5/25/16 4:31 PM			
Last Completed Run:	5/25/16 4:31 PM			
Total Runs:	1			
Is Task Processing:	ⓘ			
Total Impacted Objects:	1			
Total Removed References:	2			

Topology Limit

Search							
	Topology Type	Total Instances ▼	Current Limit	Automation Settings			
				Enabled	Max Allowed	Increment %	Trigger %
✓	CatalystTable	472	50,000	⏻	1	10	0
✓	CatalystScript	184	50,000	⏻	1	10	0
✓	CanonicalData Transform	110	50,000	⏻	1	10	0
✓	EglamMessageType	93	50,000	⏻	1	10	0
✓	FSMObjectSubGroup	63	50,000	⏻	1	10	0
✓	FSMDynamicManagedComponent	48	50,000	⏻	1	10	0
✓	HostProcess	27	50,000	⏻	1	10	0
✓	FSMSystemService	22	50,000	⏻	1	10	0
✓	Sybase_MDA_DatabaseSegmentSpace	16	50,000	⏻	1	10	0
✓
Auto Manage Engine Information							
Enabled:	⏻						
% of Limit:	0						
Increment %:	10						
Maximum Allowed:	1						
Start Time:	n/a						
Last Completed Run:	n/a						
Total Runs:	0						
Is Task Processing:	⌚						
Total Changes:	0						

Stale Objects

Search						
	Topology Type	Total Stale Objects	Automation Attempts	Automation Settings		
				Enabled	Age (Days)	% of Limit
✓	HostProcess	27	0	⏻	0	90
✓	HostNetwork	1	0	⏻	0	90
✓	Sybase_MDA_ParallelQuery	1	0	⏻	0	90
✓	Sybase_MDA_DatabaseSpace	8	0	⏻	0	90
✓	PhysicalDisk	1	0	⏻	0	90
✓	HostCPUs	1	0	⏻	0	90
✓	Sybase_MDA_DatabaseTransLogSpace	8	0	⏻	0	90
✓	Sybase_MDA_ProcessWaitEvents	1	0	⏻	0	90
✓	Sybase_MDA_Locks	1	0	⏻	0	90
✓	Sybase_MDA_F...	...	...	⏻	...	...
Auto Delete Engine Information						
Enabled:	⏻					
Minimum Age (Days):	0					
% of Limit:	Not Enabled					
Maximum Attempts:	5					
Start Time:	n/a					
Last Completed Run:	n/a					
Total Runs:	0					
Is Task Processing:	ⓘ					
Total Deleted Objects:	0					

Auto Maintenance – System Requirements

- **Minimum required FMS version**

5.9.3

- **Supported Databases**

Microsoft SQL

Oracle

MySQL

PostgreSQL

Minimum Version

2008 (version 10.0.1600 or later)

9i R2

5.1.45

9.4.0