



SNMP Integration



- LightSpeed PM – A Certified Quest Partner

Quest™

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Foglight Integrations – Current OOTB Status

- Foglight's current solution for SNMP Event Driven Rules has very basic functionality and take substantial effort to use.
 - Limited to forwarding SNMP traps based on custom implemented logic.
 - Very cumbersome to define and enforce total and precise control.
 - Lots of groovy scripting required if any level of control is needed.
 - Hard to implement using one rule.

SNMP Integration – Highlights

- Our Custom SNMP Integration simplifies managing SNMP Trap dispatching within Foglight:
 - Advanced Rich UI for all functionalities
 - Leverages the same SNMP Action as used by Foglight Rules.
 - **Remote Administration** of solution across servers
 - Decision engine for total and precise control
 - 20 Levels of granularity
 - Severity Level control

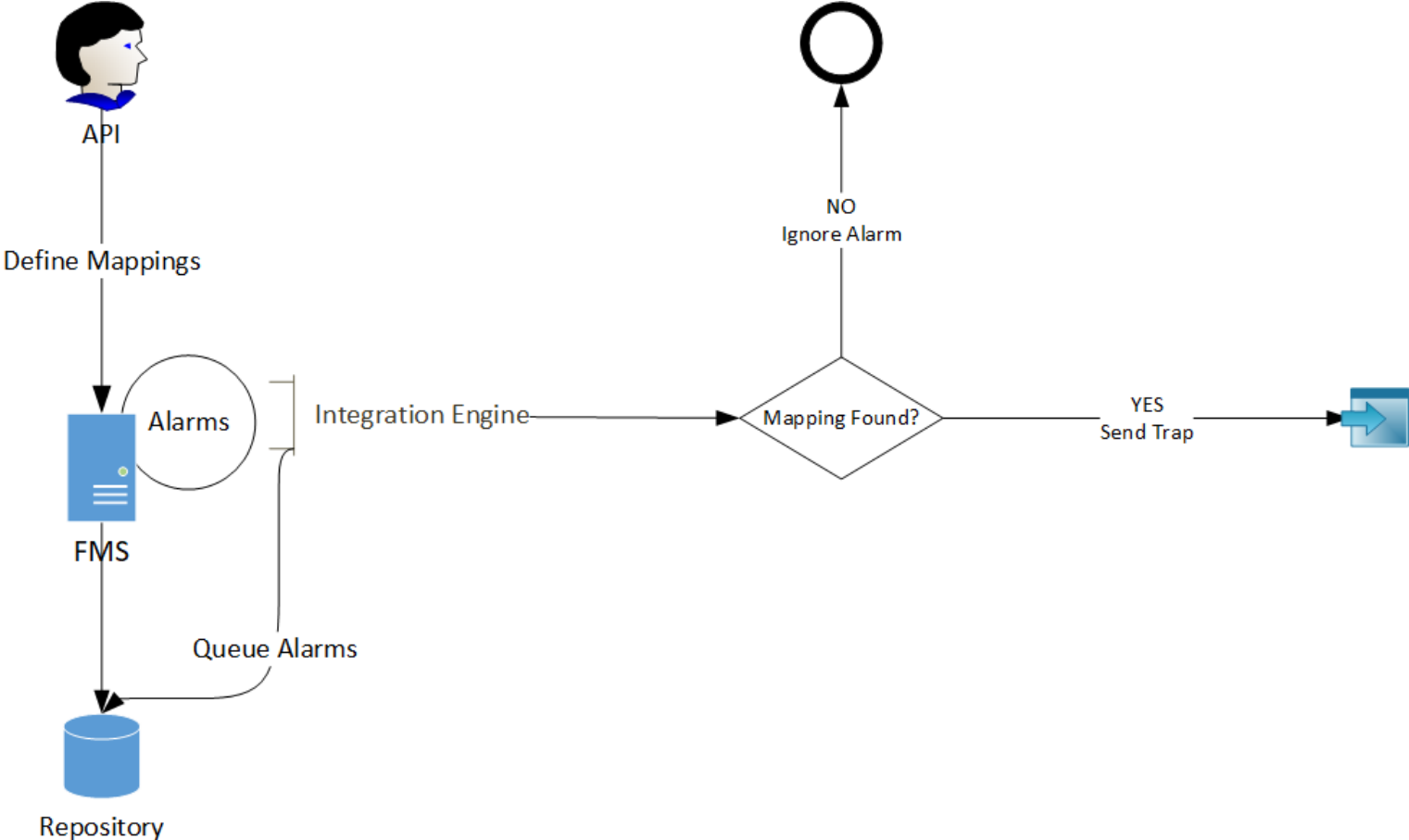
SNMP Integration – Highlights

- Pattern editor to easily access many of the information related to the alarm. (No groovy required)
 - Access to dozens of fields to easily provide values to parameters
 - A dozen common operators available to easily avoid any coding
- Use of groovy scripts for power users
 - Use of groovy scripting with complete injected flow context
 - Ability to reject/delay ticket generation
- Persisted Queue so no events are lost
 - Guaranteed delivery
 - Keep history for rejected, failed and successful operations for total control
 - Pause or delay control
 - Consumer Thread settings/control as to manage concurrency and volume.

SNMP Integration – Highlights

- Alarm Transition Support
 - Can be turned ON or OFF
 - Update tickets when alarm is transitioning from one severity to another.
 - Can be either to higher severity only or any transition
 - Close ticket only when the last alarm in the transition has been cleared
 - All transition information is accessible from the Pattern Editor
- Alarm Flood Prevention
- Auto Acknowledge Alarms

SNMP Integration –Flow



SNMP Integration – Decision Engine

- The decision engine is based on various mappings defined within the solution. A very rich UI is provided to create the mappings.

- Low Priority

	Service	Host	Agent Type	Agent	Topology Object	Rule
0						
1		x				
2			x			
3				x		
4						x
5					x	
6		x				x
7			x			x
8				x		x
9					x	x
10	x					
11	x	x				
12	x		x			
13	x			x		
14	x					x
15	x				x	
16	x	x				x
17	x		x			x
18	x			x		x
19	x				x	x

No Service

With Service

- High Priority

SNMP Integration – Changing Settings

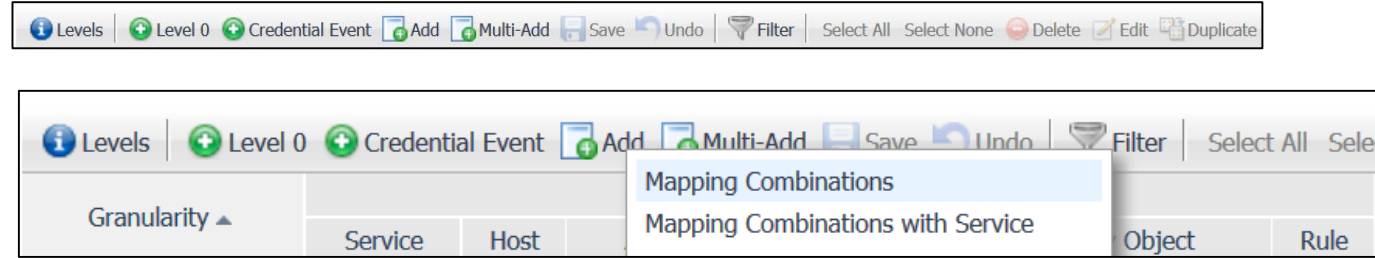
Integration Pack Registry Settings - Local FMS

Save | Undo | Filter

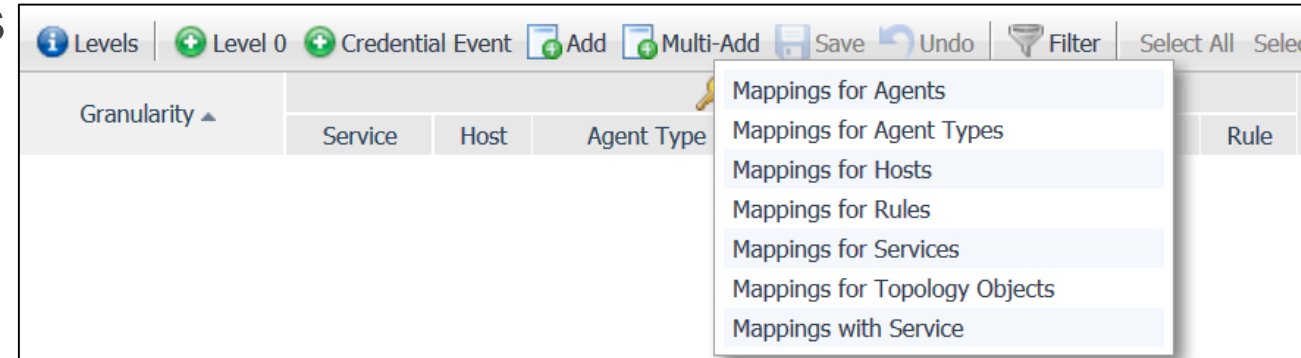
Name	Value	Scoping	
SNMP Integration			
Open Ticket			
PSO.SNMPIntegration.OpenTicket.NoEmptyValue	false		If true any tag that returns a null will be replaced by a space. If false null values are simply not outputted.
PSO.SNMPIntegration.OpenTicket.TimeZone	GMT		Defines the time zone to use when outputting date and time in the Command.
PSO.SNMPIntegration.OpenTicket.DateTimeFormat	dd/MM/yyyy:HH:mm:ss		Defines the format for the date and time to use when outputting date and time in the Command.
Queue			
Ignore			
PSO.SNMPIntegration.Queue.Ignore.Normal	true		Should cleared alarms be ignored by the queuing engine? Ignored alarms are not queued thus reducing the overall load on the system
PSO.SNMPIntegration.Queue.Ignore.Warning	false		Should Warning alarms be ignored by the queuing engine? Ignored alarms are not queued thus reducing the overall load on the system
PSO.SNMPIntegration.Queue.Ignore.Critical	false		Should Critical alarms be ignored by the queuing engine? Ignored alarms are not queued thus reducing the overall load on the system
PSO.SNMPIntegration.Queue.Ignore.Fatal	false		Should Fatal alarms be ignored by the queuing engine? Ignored alarms are not queued thus reducing the overall load on the system
PSO.SNMPIntegration.Queue.Ignore.Rules			A list of comma separated rule names that the queue should ignore. Alarms generated by ignored rules are not queued thus reducing
Delay			
PSO.SNMPIntegration.Queue.Alarm.DelayPeriod.Warning	0		Time in minutes a warning alarm should be delayed in the queue before being forwarded to the target system if still active (not cleared)
PSO.SNMPIntegration.Queue.Alarm.DelayPeriod.Critical	0		Time in minutes a critical alarm should be delayed in the queue before being forwarded to the target system if still active (not cleared)
PSO.SNMPIntegration.Queue.Alarm.DelayPeriod.Fatal	0		Time in minutes a fatal alarm should be delayed in the queue before being forwarded to the target system if still active (not cleared)
PSO.SNMPIntegration.Queue.AlarmTransition.Enable	false		Should alarm transition be supported. If enabled the integration will update a ticket vs creating a new one when an alarm goes from s
PSO.SNMPIntegration.Queue.Alarm.AcknowledgeUponSuccess	false		Should the alarm be acknowledged when the alarm has been successfully processed.
PSO.SNMPIntegration.Queue.Alarm.EnforceServiceFilter	false		When an alarm is being processed enforce the filters applied to the service. If true a service is not considered to be a hit (mapping w
PSO.SNMPIntegration.Queue.PausePeriod	0		Time in minutes no alarms should be forwarded to the target system. This is useful when the target system is unavailable due to ma
Trap			
PSO.SNMPIntegration.Trap.CommunityString	public		The community string to use when sending the SNMP trap.
PSO.SNMPIntegration.Trap.TargetPort	162		The port the SNMP Trap receiver is listening on.
PSO.SNMPIntegration.Trap.TargetHost	localhost		The target host that is to receive the SNMP Trap.
PSO.SNMPIntegration.Trap.Version	1		The SNMP version being used.

SNMP Integration – Mappings Editor

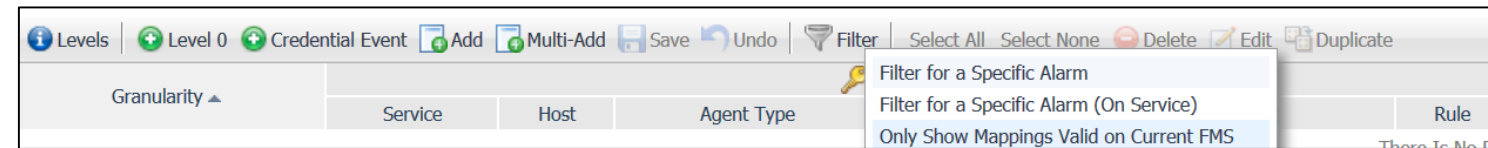
- Combinations



- Multiple Mappings



- Filtering



- . . .

SNMP Integration – Field Editor

Agent UID	: @AGENT_UID			
Agent Name	: @AGENT_NAME			
Agent Type	: @AGENT_TYPE			
Alarm Message	: @ALARM_MESSAGE			
DateTime	: @ALARM_IS_CLEARED?[@ALARM_CLEARED_TIME]:[@ALARM_CR...			
Host IP	: @HOSTNAME![[def host = PSO_AdminUtil_GetTopology...			
Host MAC	:			
Hostname	: @HOSTNAME			
Rule ID	: @RULE_UID			
Rule Name	: @RULE_NAME			
Severity	: @ALARM_SEVERITY_NAME_NORMAL			
TopologyObject UID	: @TOP_OBJECT_UID			
TopologyObject Name	: @TOP_OBJECT_NAME			
URL	: @ALARM_LINK			
Agent UID OID	: 1.3.6.1.4.1.7572.1.4.3			
Agent Name OID	: 1.3.6.1.4.1.7572.1.4.4			
Agent Type OID	: 1.3.6.1.4.1.7572.1.4.2			
Alarm Message OID	: 1.3.6.1.4.1.7572.1.4.1			
DateTime OID	: 1.3.6.1.4.1.7572.1.4.14			
Host IP OID	: 1.3.6.1.4.1.7572.1.4.11			
Host MAC OID	: 1.3.6.1.4.1.7572.1.4.12			
Hostname OID	: 1.3.6.1.4.1.7572.1.4.10			
Rule ID OID	: 1.3.6.1.4.1.7572.1.4.5			
Rule Name OID	: 1.3.6.1.4.1.7572.1.4.6			
Severity OID	: 1.3.6.1.4.1.7572.1.4.9			
TopologyObject UID OID	: 1.3.6.1.4.1.7572.1.4.7			
TopologyObject Name OID	: 1.3.6.1.4.1.7572.1.4.8			
URL OID	: 1.3.6.1.4.1.7572.1.4.13			

Update Reset Clear

SNMP Integration – Pattern Editor

The screenshot displays the Pattern Editor interface. On the left, a 'Date/Time Elements' panel shows a list of 'Pattern Element's with one element selected: '@ALARM_IS_CLEARED?[@ALARM_CLEARED_TIME]:[@ALARM_...'. The main area contains a message 'Please select a Pattern Element' and an 'Apply' button. Below this are two panels: 'TAGS' and 'OPERATORS'.

TAGS

Tag	Caption
AGENT_NAME	Agent Name
AGENT_TYPE	Agent Type
AGENT_UID	Agent UID
ALARM_ACKNOWLEDGED_BY	Alarm Acknowledged By
ALARM_ACKNOWLEDGED_TIME	Alarm Acknowledged Time
ALARM_CLEARED_BY	Alarm Cleared By
ALARM_CLEARED_TIME	Alarm Cleared Time
ALARM_CREATED_TIME	Alarm Created Time
ALARM_ID	Alarm ID
ALARM_IS_ACKNOWLEDGED	Is Alarm Acknowledged
ALARM_IS_CLEARED	Is Alarm Cleared
ALARM_LINK	Alarm Link
ALARM_MESSAGE	Alarm Message
ALARM_MESSAGE_CLEAN	Alarm Message Clean
ALARM_SEVERITY	Alarm Severity
ALARM_SEVERITY_NAME	Alarm Severity Name

OPERATORS

Operator	Short Description
?[]	If tag has a value.
:[]	If tag does not have a value.
?[]:[]	If tag has a value else.
^{}{}	Replace string with another.
=()	Equality
=()?[]:[]	If equal else
![[]]	Groovy Script
^U	Uppercase
^L	Lowercase
^T	Trim
^N	New Line Output
^R	Return

SNMP Integration – 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