

Throughput Quota Policy Usage Scenarios for Policy Manager

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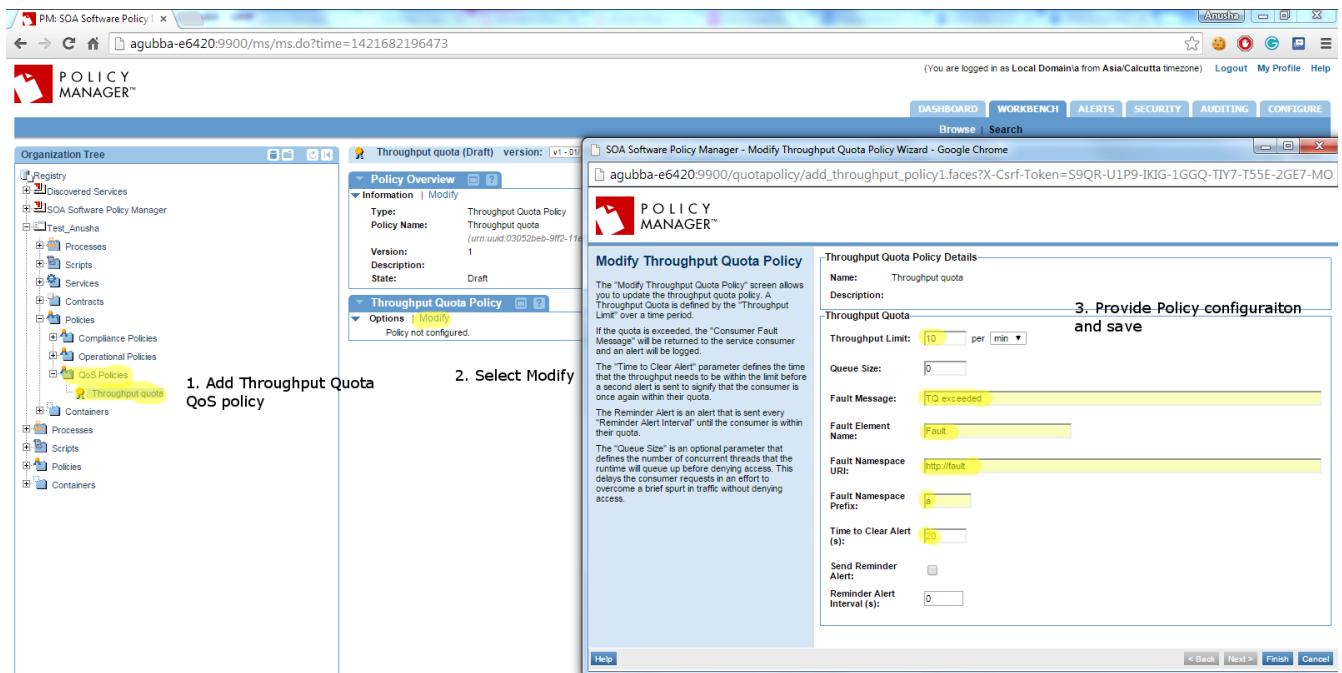
Throughput Quota Policy Usage Scenarios (Policy Manager-specific)

This document provides a list of Policy Manager-specific usage scenarios for the *Throughput Quota Policy*.

Generate Alert When Throughput Exceeds Limit

Generate an alert and trigger an email to the administrator(s) when throughput has crossed the 10 per minute limit

- 1 Create a physical service in *Policy Manager Management Console* using **Create Physical Service**.
- 2 Provide service details and **Finish** the wizard.
- 3 Using **Virtualize Service**, virtualize and host the physical service on Network Director (**ND1**), and assign a name (e.g., **Vs1**).
- 4 Navigate to *Organization > Policies > QoS Policies* and use **Add Policy** to create a *Throughput Quota Policy*.
- 5 Configure the *Throughput Quota Policy* as per the use case with 10 Throughput Limit per minute and a custom Fault message.



- 6 Activate the policy in the *Policy Workflow* portlet (PM72 and above), and attach it to the **Vs1** service in the *Service Details > Policy Attachments > QoS* section.

- 7 Send 20 requests from application/client to **Vs1** service in a minute.
 - a) When the Throughput limit has exceeded, the Fault Message will be returned to the service consumer and an alert will be logged at service level.
 - b) The subsequent requests will fail after the throughput has exceeded.
 - c) The usage logs' details show the error being displayed as configured in the policy.

The screenshot shows the Policy Manager interface for 'Rest_Service_vs1'. The 'Usage Logs' tab is selected, displaying a table of requests. The table has the following columns: Request Date/Time, Operation, Response Time, Contract Name, and Errors.

Request Date/Time	Operation	Response Time	Contract Name	Errors
01/19/2015 21:36:29.0	GET //({domainid})/entry/(entryids)	3 ms		TO exceeded
01/19/2015 21:36:29.0	GET //({domainid})/entry/(entryids)	10 ms		TO exceeded
01/19/2015 21:36:29.0	GET //({domainid})/entry/(entryids)	9 ms		TO exceeded
01/19/2015 21:36:29.0	GET //({domainid})/entry/(entryids)	10 ms		TO exceeded
01/19/2015 21:36:29.0	GET //({domainid})/entry/(entryids)	10 ms		TO exceeded
01/19/2015 21:36:28.0	GET //({domainid})/entry/(entryids)	9 ms		TO exceeded
01/19/2015 21:36:28.0	GET //({domainid})/entry/(entryids)	9 ms		TO exceeded
01/19/2015 21:36:28.0	GET //({domainid})/entry/(entryids)	31 ms		TO exceeded
01/19/2015 21:36:28.0	GET //({domainid})/entry/(entryids)	9 ms		TO exceeded
01/19/2015 21:36:28.0	GET //({domainid})/entry/(entryids)	10 ms		TO exceeded
01/19/2015 21:36:27.0	GET //({domainid})/entry/(entryids)	290 ms	sdijn	None
01/19/2015 21:36:27.0	GET //({domainid})/entry/(entryids)	286 ms	sdijn	None
01/19/2015 21:36:27.0	GET //({domainid})/entry/(entryids)	284 ms	sdijn	None
01/19/2015 21:36:27.0	GET //({domainid})/entry/(entryids)	284 ms	sdijn	None

Annotations on the right side of the table:

- Requests failed after crossing 10 Throughput per minute** (pointing to the first 10 'TO exceeded' entries)
- Successful requests** (pointing to the last 4 'None' entries)

- 8 In the alert code, an email must be configured that will be sent to the administrator(s) as illustrated below.

Del	Obs	Res	Code	Received	Severity	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	90201	01/19/2015 21:29:33	Major	Throughput Limit Quota Policy exceeded
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3210	01/19/2015 21:27:13	Normal	Authorization error: User is not authorized to invoke the operation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3210	01/19/2015 21:27:12	Normal	Authorization error: User is not authorized to invoke the operation

Alert Code with Email configured

Email Group

Email to the recipient configured in the email group

Generate Reminder Alert When Throughput Exceeded

Generate a reminder alert and run a management script when throughput has crossed the 5 per second limit.

- 1 Create a physical service in *Policy Manager Management Console* using **Create Physical Service**.

- 2 Provide service details and **Finish** the wizard.
- 3 Using **Virtualize Service**, virtualize and host the physical service on Network Director (**ND1**), and assign a name (e.g., **Vs1**).
- 4 Navigate to *Organization > Policies > QOS Policies* and use **Add Policy** to create a *Throughput Quota Policy*.
- 5 Configure the *Throughput Quota Policy* as per the use case with 5 Throughput Limit per second and a custom Fault message and reminder time interval.

Modify Throughput Quota Policy

The "Modify Throughput Quota Policy" screen allows you to update the throughput quota policy. A Throughput Quota is defined by the "Throughput Limit" over a time period.

If the quota is exceeded, the "Consumer Fault Message" will be returned to the service consumer and an alert will be logged.

The "Time to Clear Alert" parameter defines the time that the throughput needs to be within the limit before a second alert is sent to signify that the consumer is once again within their quota.

The Reminder Alert is an alert that is sent every "Reminder Alert Interval" until the consumer is within their quota.

The "Queue Size" is an optional parameter that defines the number of concurrent threads that the runtime will queue up before denying access. This delays the consumer requests in an effort to overcome a brief spurt in traffic without denying access.

Throughput Quota Policy Details

Name: Throughput quota

Description:

Throughput Quota

Throughput Limit: 10 per min

Queue Size: 0

Fault Message: TQ exceeded

Fault Element Name: Fault

Fault Namespace URI: http://fault

Fault Namespace Prefix: a

Time to Clear Alert (s): 20

Send Reminder Alert: ☒

Reminder Alert Interval (s): 5

Help < Back Next > Finish Cancel

- 6 Activate the policy in the *Policy Workflow* portlet (PM72 and above), and attach it to the **Vs1** service in the *Service Details > Policy Attachments > QoS* section.
- 7 Send 10 requests from application/client to the **Vs1** service in a second.
 - a) When the Throughput limit has exceeded, the Fault Message will be returned to the service consumer and an alert will be logged at service level.
 - b) The subsequent requests will fail after the throughput has exceeded.
 - c) The usage logs' details show the error being displayed as configured in the policy.
 - d) If the limit still exceeds during Reminder Alert Interval (s), a remainder alert is generated.

Organization Tree

- Registry
- Discovered Services
- SOA Software Policy Manager
 - Test_Anusha
 - Processes
 - Scripts
 - Services
 - Rest_Service_vst1
 - Contracts
 - Policies
 - Compliance Policies
 - Operational Policies
 - QoS Policies
 - Throughput quota
 - Containers

Rest_Service_vst1

Details Operations Bindings Access Points Categories Rules Monitoring

Alerts Logs Real-Time Charts Historical Charts Dependencies

ID Filter: Id: Code: Time Range Filter: Start Date: 01/18/2015 Start Time: 22:41:51 End Date: 01/19/2015 End Time: 22:41:51 Period: Last hour Severity Filter: Critical Major Minor Normal Clear State Filter: All Unobserved Observed By: All Resolved By: All Search

Del	Obs	Res	Code	Received	Severity	Description
			90203	01/19/2015 22:41:51	Minor	Throughput Limit Quota Policy is still being exceeded.
			90203	01/19/2015 22:41:45	Minor	Throughput Limit Quota Policy is still being exceeded.
			90201	01/19/2015 22:41:38	Major	Throughput Limit Quota Policy exceeded.
			90202	01/19/2015 22:41:06	Clear	Throughput Limit Quota Policy no longer exceeded.
			90201	01/19/2015 22:40:05	Major	Throughput Limit Quota Policy exceeded.
			90202	01/19/2015 22:39:59	Clear	Throughput Limit Quota Policy no longer exceeded.
			90201	01/19/2015 22:39:22	Major	Throughput Limit Quota Policy exceeded.
			90202	01/19/2015 22:38:18	Clear	Throughput Limit Quota Policy no longer exceeded.
			90201	01/19/2015 22:38:48	Major	Throughput Limit Quota Policy exceeded.
			90202	01/19/2015 22:03:07	Clear	Throughput Limit Quota Policy no longer exceeded.
			90201	01/19/2015 22:02:45	Major	Throughput Limit Quota Policy exceeded.
			90202	01/19/2015 22:02:42	Clear	Throughput Limit Quota Policy no longer exceeded.
			90201	01/19/2015 22:02:20	Major	Throughput Limit Quota Policy exceeded.
			80101	01/19/2015 21:50:59	Critical	Internal system error.

- 8 In the reminder alert code, management script has to be configured to run (e.g., to store information related to the alert as illustrated below).

PM: SOA Software Policy | x

agubba-e6420:9900/ms/ms.do?time=1421682196473

(You are logged in as Local Domain\ia from Asia/Calcutta timezone)

DASHBOARD WORKBENCH ALERTS SECURITY

Alerts

Alert Summary Alert Monitoring Alert Codes Management Scripts

A Management Script is a external script that can be run on receipt of an alert code.

Name	Description
None Found.	

Add Management Script

A Management Script is a external script that can be run on receipt of an alert code.

Details

Name: script

Description: ds

Script Filename: C:\TestData\Script

Parameters: Please select

Parameter List: \$AlertDescription \$AlertCode

Final Script: "C:\TestData\Script" \$AlertDescription \$AlertCode

Example Script: logfile.exe \$AlertId \$AlertDescription \$Customparameter

Help Cancel Apply

SOA Software Policy Manager - Modify Alert Code - Google Chrome

agubba-e6420:9900/am/modifyAlertCodeWin.do?X-Csrf-Token=

Modify Alert Code

An Alert Code is a definition of a Alert. It describes in detail the purpose of the Alert and where it originated.

Details

Alert Code: 90203
 Component: Policy Manager
 Subsystem: Quota Policy

Description: Throughput Limit Quota Policy is still being exceeded.

Additional Info:

Severity: Minor
 Management Script: None
 Log Alert: None
 Send SNMP Message: ☐

Email Groups

<input type="checkbox"/> Name	Description
<input checked="" type="checkbox"/> Email_Group	Email_Group

Help Cancel Apply

Generate Clear Alert When Throughput Stops Crossing Limit

Generate a clear alert and trigger an email to the administrator(s) when throughput has stopped crossing the 15 requests per second limit.

- 1 Create a physical service in *Policy Manager Management Console* using **Create Physical Service**.
- 2 Provide service details and **Finish** the wizard.
- 3 Using **Virtualize Service**, virtualize and host the physical service on Network Director (**ND1**), and assign a name (e.g., **Vs1**).

- 4 Navigate to *Organization > Policies > QOS Policies* and use **Add Policy** to create a *Throughput Quota Policy*.
- 5 Configure the Throughput Quota Policy as per the use case with 15 Throughput Limit per second and a custom Fault message.
- 6 Activate the policy in the *Policy Workflow* portlet (PM72 and above), and attach it to the **Vs1** service in the *Service Details > Policy Attachments > QoS* section.
- 7 Send 20 requests from application/client to the **Vs1** service in a second.
 - a) When the Throughput limit has exceeded, the Fault Message will be returned to the service consumer and an alert will be logged at service level.
 - b) The subsequent requests will fail after the throughput has exceeded.
 - c) The usage logs' details show the error being displayed as configured in the policy.
 - d) After the time to clear, a clear alert is generated and the subsequent requests will be successful until Throughput quota is not violated.

The screenshot shows the SOA Software Policy Manager interface. The left pane displays the Organization Tree with the path: Registry > SOA Software Policy Manager > Rest_Anusha > Processes > Scripts > Services > Rest_Service > Rest_Service_vs1. The right pane shows the details for Rest_Service_vs1, including filters and a table of alerts.

Filters:

- ID Filter:** Id: [], Code: []
- Time Range Filter:** Start Date: 01/18/2015, Start Time: 21:50:35, End Date: 01/19/2015, End Time: 21:50:35, Period: Last hour
- Severity Filter:** ☒ Critical ☒ Major ☒ Minor ☒ Normal ☒ Clear
- State Filter:** ☒ All Unobserved ☒ Observed By: All, Resolved By: All

Alerts Table:

Del	Obs	Res	Code	Received	Severity	Description
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	90202	01/19/2015 21:36:51	Clear	Throughput Limit Quota Policy no longer exceeded.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	90201	01/19/2015 21:36:28	Major	Throughput Limit Quota Policy exceeded.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	90202	01/19/2015 21:34:30	Clear	Throughput Limit Quota Policy no longer exceeded.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	90201	01/19/2015 21:34:05	Major	Throughput Limit Quota Policy exceeded.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	90202	01/19/2015 21:29:57	Clear	Throughput Limit Quota Policy no longer exceeded.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	90201	01/19/2015 21:29:33	Major	Throughput Limit Quota Policy exceeded.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3210	01/19/2015 21:27:13	Normal	Authorization error: User is not authorized to invoke the operation
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3210	01/19/2015 21:27:12	Normal	Authorization error: User is not authorized to invoke the operation

At the bottom of the interface, there are buttons: View Alert, Print Alert, Add Comment, Export Alerts, Manage Exports, Apply, and a page indicator 1-8.

Rest_Service_vs1

Time Range Filter: Start Date: 01/18/2015, Start Time: 22:03:21, End Date: 01/19/2015, End Time: 22:03:21

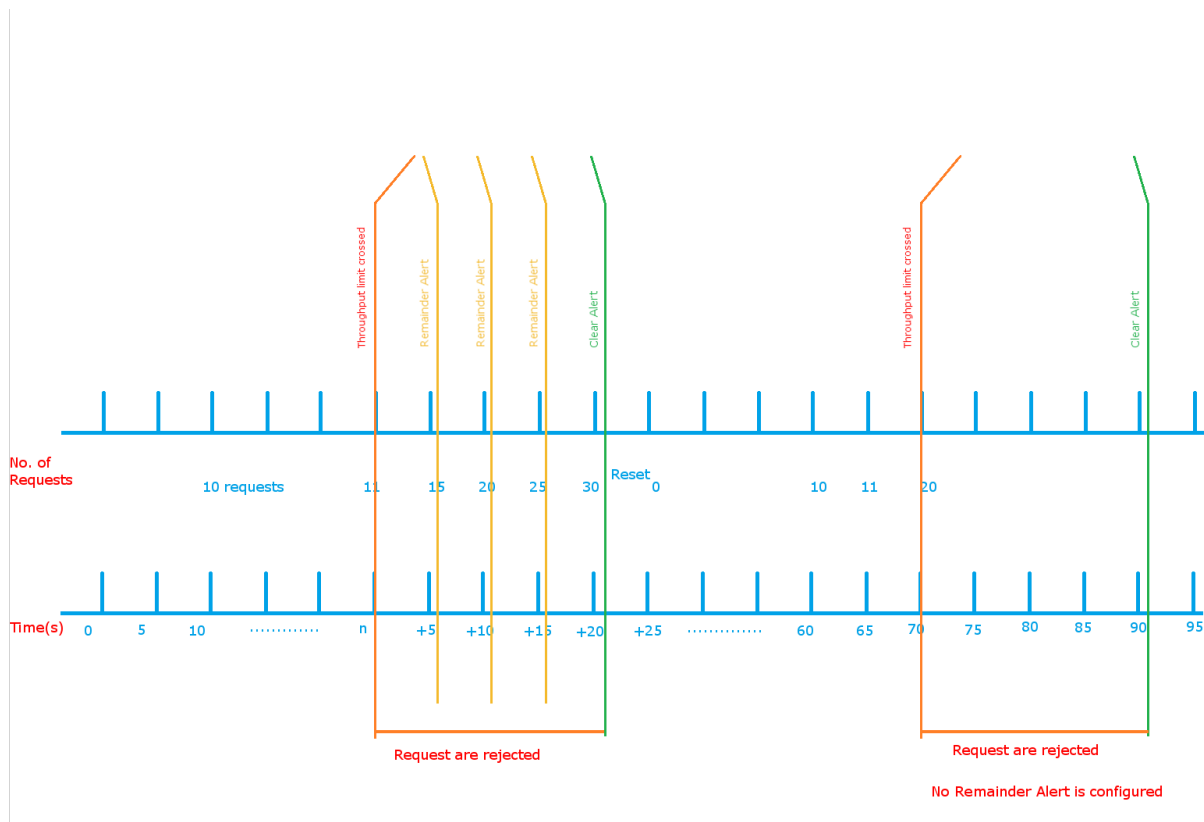
Content Filter: User Id: , Consumer Id: , Contract Key: , Client IP: , Operation: All

Transaction Filter: Errors: Transactions (All)

Request Date/Time	Operation	Response Time	Contract Name	Errors
01/19/2015 22:03:16.0	GET //({domainid})/entry/{entryids}	548 ms	sdijn	None
01/19/2015 22:03:16.0	GET //({domainid})/entry/{entryids}	550 ms	sdijn	None
01/19/2015 22:03:15.0	GET //({domainid})/entry/{entryids}	572 ms	sdijn	None
01/19/2015 22:03:15.0	GET //({domainid})/entry/{entryids}	541 ms	sdijn	None
01/19/2015 22:03:15.0	GET //({domainid})/entry/{entryids}	537 ms	sdijn	None
01/19/2015 22:02:45.0	GET //({domainid})/entry/{entryids}	5 ms		TQ exceeded
01/19/2015 22:02:45.0	GET //({domainid})/entry/{entryids}	10 ms		TQ exceeded
01/19/2015 22:02:45.0	GET //({domainid})/entry/{entryids}	10 ms		TQ exceeded
01/19/2015 22:02:45.0	GET //({domainid})/entry/{entryids}	12 ms		TQ exceeded
01/19/2015 22:02:20.0	GET //({domainid})/entry/{entryids}	9 ms		TQ exceeded
01/19/2015 22:02:20.0	GET //({domainid})/entry/{entryids}	10 ms		TQ exceeded
01/19/2015 22:02:20.0	GET //({domainid})/entry/{entryids}	9 ms		TQ exceeded
01/19/2015 22:02:20.0	GET //({domainid})/entry/{entryids}	8 ms		TQ exceeded

- 8 In the clear alert code, an email must be configured that will be sent to the administrator(s) as illustrated below:

Timeline view:



After 60 seconds, in the new UNIX time minute, requests count from 1 (not 11).