

## Chapter 28

# Monitoring Service Manager

This chapter describes how to monitor the Service Manager application. This chapter discusses the following topics:

- Setting a Baseline for HTTP Local Server Statistics on page 599
- Monitoring the Connections to the HTTP Local Server on page 600
- Monitoring the Configuration of the HTTP Local Server on page 601
- Monitoring Statistics for Connections to the HTTP Local Server on page 601
- Monitoring Profiles for the HTTP Local Server on page 602
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### Setting a Baseline for HTTP Local Server Statistics

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You can set a baseline for HTTP server statistics.

The system implements the baseline by reading and storing the statistics at the time the baseline is set and then subtracting this baseline whenever baseline-relative statistics are retrieved.

To set a baseline:

- Include the **baseline ip http** command at the User Exec or Privilege Exec level:

```
host1#baseline ip http
```

There is no **no** version.

## Related Topics

- Monitoring Statistics for Connections to the HTTP Local Server on page 601
- **baseline ip http** command

## Monitoring the Connections to the HTTP Local Server

**Purpose** Display information about the connections to the HTTP local server.

**Action** To display information about the HTTP local server:

```
host1#show ip http scalar
Maximum connection length: 1000 seconds
Current number of http servers: 5
Number of enabled http servers: 2
Current number of http connections: 15
Peak number of http connections: 125
Maximum number of http connections: 1000
```

**Meaning** Table 144 lists the **show ip http scalar** command output fields.

**Table 144: show ip http scalar Output Fields**

Field Name	Field Description
Maximum connection length	Maximum time that the HTTP local server maintains an inactive connection, in seconds
Current number of http servers	Number of configured Web servers
Number of enabled http servers	Number of Web servers enabled
Current number of http connections	Number of connections from subscribers to HTTP local servers
Peak number of http connections	Highest number of connections from subscribers to HTTP local servers
Maximum number of http connections	Maximum number of connections allowed from subscribers to HTTP local servers

## Related Topics

- **show ip http scalar** command

## Monitoring the Configuration of the HTTP Local Server

**Purpose** Display information about the configuration of the HTTP local server.

**Action** To display information about the HTTP local server:

```
host1#show ip http server
Admin status: enabled
Access class: not defined
Listening port: 80
Same host limit: 3
```

**Meaning** Table 145 lists the **show ip http server** command output fields.

**Table 145: show ip http server Output Fields**

Field Name	Field Description
Admin status	Status of the HTTP local server in the software: enabled or disabled
Access class	Name of a standard IP access list that determines which hosts can log on to the HTTP local server
Listening port	Port that the HTTP local server uses to track requests for connection
Same host limit	Maximum number of connections allowed between one IP address and the DHCP local server

### Related Topics

- **show ip http server** command

## Monitoring Statistics for Connections to the HTTP Local Server

**Purpose** Display statistics about the connections to the HTTP local server.

**Action** To display statistics about HTTP local server with the baseline values subtracted:

```
host1#show ip http statistics delta
Server enable count: 1
Server disable count: 0
Same host enforced: 0
Access class denies: 0
No resource failures: 0
Http connections created: 2
Http connections terminated: 2
Http connections aged out: 1
Urls successfully served: 0
Malformed http requests: 0
Urls not found: 0
```

**Meaning** Table 146 lists the **show ip http statistics** command output fields.

**Table 146: show ip http statistics Output Fields**

Field Name	Field Description
Server enable count	Total number of enabled HTTP local servers
Server disable count	Total number of disabled HTTP local servers
Same host enforced	Number of connections dropped because the limit for connections from one IP address to the HTTP local server was exceeded
Access class denies	Number of connections dropped because of a problem with the standard IP access list that defines the hosts that can access the HTTP local server
No resource failures	Number of connections dropped because of system memory limitations
Http connections created	Total number of HTTP connections established
Http connections terminated	Total number of HTTP connections ended
Http connections aged out	Total number of HTTP connections that expired because they exceeded the maximum allowed connection time
Urls successfully served	Total number of Web pages displayed
Malformed http requests	Number of HTTP requests that failed because the format was incorrect
Urls not found	Number of Web pages not found

## Related Topics

- **show ip http statistics** command

## Monitoring Profiles for the HTTP Local Server

**Purpose** Display information about the redirect URL used for guided entrance services.

**Action** To display information about the redirect URL used by the HTTP local server:

```

host1#show profile name guidedProfile2
Profile                               : guidedProfile2
.
.
.
Auto Detect                          : Disabled
Auto Configure                       : Disabled
IP FlowStats                         : Disabled

Ip http redirect Url : myredirect.html

```

**Meaning** Table 147 lists the **show profile** command output fields.

**Table 147: show profile Output Fields**

Field Name	Field Description
Ip http redirect Url	URL of the Web page used for Service Manager guided entrance services

### Related Topics

- **show profile** command

## Monitoring the Default Interval for Interim Accounting of Services

**Purpose** Display the default interval used for interim accounting for services associated with users on the virtual router. An entry of 0 indicates that the feature is disabled.

**Action** To display the default interval used for interim accounting:

```
host1:vrXyz7#show aaa service accounting interval
service-acct-interval 60
```

**Meaning** Table 148 lists the **show aaa service accounting interval** command output fields.

**Table 148: show aaa service accounting interval Output Fields**

Field Name	Field Description
service-acct-interval	Value of the default interval

### Related Topics

- **show aaa service accounting interval** command

## Monitoring the Status of the Service Manager License

**Purpose** Display the status of the Service Manager license.

**Action** To display the status of the Service Manager license:

```
host1#show license service-management
service management license is set
```

**Meaning** Table 149 lists the **show license service-management** command output fields.

**Table 149: show license service-management Output Fields**

Field Name	Field Description
service management license	Status of the license: set (enabled) or not set (disabled)

### Related Topics

- **show license service-management** command

## Monitoring Profiles for Service Manager

**Purpose** Display information about the policies and QoS configurations referenced in profiles.

**Action** To display information about a specific profile:

```
host1#show profile name video
IP Output Policy      : video statistics disabled
IP Secondary Input Policy : video statistics disabled
qos-parameter vidburst 1000
qos-parameter vidrate 500000
qos-profile vid512k

host1#show profile name foo

IP Policy Parameter foo : 100000 increase, reference rate
IP Input Policy         : p1 statistics disabled

ERX-00-16-c2#show profile name p2

IP Policy Parameter foo : 100000, reference rate
IP Input Policy         : p1 statistics disabled
```

To display a list of profiles configured on the router:

```
host1#show profile brief
```

**Meaning** Table 150 lists the **show profile** command output fields.

**Table 150: show profile Output Fields**

Field Name	Field Description
Input Policy	Name of input policy and whether statistics are enabled or disabled
Output Policy	Name of output policy and whether statistics are enabled or disabled
qos-parameter	Name and value of the QoS parameter assigned to the profile
qos-profile	Name of the QoS profile assigned to the profile

### Related Topics

- **show profile** command

## Monitoring QoS Parameters for Service Manager

**Purpose** Display the Service Manager references for parameters for QoS clients.

**Action** To display information in expanded format, including Service Manager references:

```
host1#show qos-parameter video references full
           service
           manager
interface  parameter  value  source  refs  persistence
-----
GigabitEthernet6/0  video      50    default  none    persistent

Global parameter instances:  0
Parameter instances reported: 1
```

**Meaning** Table 151 lists the **show qos-parameter** command output fields.

**Table 151: show qos-parameter Output Fields**

Field Name	Field Description
interface	Location of the interface to which the parameter instance is assigned; global indicates that the parameter is assigned to the chassis
parameter name	Name of the parameter instance
value	Value assigned to the parameter instance
source	Source of the parameter instance: dcm—Parameter instance was created in a profile radius—Parameter instance was created through RADIUS service manager—Parameter instance was created through Service Manager default—Parameter instance was created through the CLI or SNMP
service manager refs	Number of references of this parameter instance created through Service Manager
persistence	Status of the persistence of a parameter instance in the system:persistent—Parameter instance is stored in NVS and is restored after a chassis reset non-persistent—Parameter instance is not stored in NVS and are deleted after a chassis reset
Global parameter instances	Number of parameter instances assigned to the chassis
Parameter instances reported	Total number of parameter instances assigned
Explicit parameter instances	Total number of explicit parameter instances assigned
Hierarchical parameter instances	Total number of hierarchical parameter instances assigned
IP multicast parameter instances	Total number of parameter instances associated with the IP multicast bandwidth adjustment application

## Related Topics

- `show qos-parameter` command

## Monitoring Service Definitions

**Purpose** Display information about the service definitions configured on your router.

**Action** To display information for the particular service definition, specify the name of a service definition macro file, including the .mac extension:

```
host1#show service-management service-definition tiered.mac
tiered.mac - WED DEC 14 14:41:20 2005
Installed: True
Service: tiered(inputbw, outputbw)
Reference Count: 0
```

To display summary information for all service definitions:

```
host1#show service-management service-definition brief
Service Definitions
-----
```

Filename	Service	Installed	Reference Count
video.mac	video(inputbw, outputbw)	True	0
tiered.mac	tiered(inputbw, outputbw)	True	0

  

```

Filename      Timestamp
-----
video.mac     TUE NOV 15 15:22:00 2005
tiered.mac    WED DEC 14 14:41:20 2005
```

**Meaning** Table 152 lists the `show service-management service-definition` command output fields.

**Table 152: show service-management service-definition Output Fields**

Field Name	Field Description
Filename	Name of the service definition macro file
Service	Name of the service, with the parameter specifications in parentheses
Installed	Status of definition: <ul style="list-style-type: none"> <li>■ True—installed</li> <li>■ False—not installed</li> </ul>
Reference Count	Number of times the service definition has been used to instantiate a unique service instance (which identifies the policy, QoS, and profile objects for a service). For example, if one service session—such as, tiered(40000,40000)—is activated by multiple subscribers, the reference count is 1. However, if one subscriber activates tiered(40000,40000) and another subscriber activates tiered(75000,75000)—the reference count is 2.
Timestamp	Day, date, and time the service definition was copied to NVS.



## Related Topics

- `show service-management service-definition` command

## Monitoring Service Session Profiles

**Purpose** Display information about service session profiles configured on your router.

**Action** To display summary information for all service session profiles:

```
host1#show service-management service-session-profile brief
Service Session Profiles
-----
Name      Volume  Time   Statistics
-----
tiered1   20000   1000   Volume-Time
tiered2   20000   1000   Time
video1    15000   1000   Volume-Time
video4     0       0      Disabled
```

To display information for a particular service session profile:

```
host1#show service-management service-session-profile tiered1
tiered1
Time      : 1000
Volume    : 20000
Statistics : Time and Volume
```

**Meaning** Table 153 lists the `show service-management service-session-profile` command output fields.

**Table 153: show service-management service-session-profile Output Fields**

Field Name	Field Description
Name	Name of the service session profile
Volume	Volume threshold, in MB, for the service session
Time	Time threshold, in seconds, for the service session
Statistics	Type of statistics that are captured: <ul style="list-style-type: none"> <li>■ Disabled (none)</li> <li>■ Time</li> <li>■ Volume-Time</li> <li>■ Time and Volume</li> </ul>

## Related Topics

- `show service-management service-session-profile` command

## Monitoring Active Owner Sessions with Service Manager

**Purpose** Display information about active subscriber sessions, by owner.

**Action** To display summary information for all active owner sessions:

```
host1#show service-management owner-session brief
Subscriber Sessions
```

Name	Interface	Id	Owner/Id	State	Non-volatile	Service Sessions
CLIENT1@ISP.COM	ip192.168.0.3	1	AAA 4194326	Active	False	1
CLIENT2@ISP.COM	ip192.168.0.7	2	AAA 4194327	Active	False	1
CLIENT3@ISP.COM	ip192.168.0.4	3	AAA 4194328	Active	False	1
CLIENT4@ISP.COM	ip192.168.0.5	4	AAA 4194329	Active	False	1
CLIENT5@ISP.COM	ip192.168.0.6	5	AAA 4194330	Active	False	1
CLIENT6@ISP.COM	ip192.168.0.8	6	AAA 4194331	Active	False	1
CLIENT7@ISP.COM	ip192.168.0.1	7	AAA 4194332	Active	False	1
CLIENT8@ISP.COM	ip192.168.0.9	8	AAA 4194333	Active	False	1

To display information for a particular owner:

```
host1#show service-management owner-session aaa 4194326
User Name: CLIENT1@ISP.COM, Interface: ip 192.168.0.1
Owner/Id: AAA/4194326
Non-volatile: False
State: Active
ServiceSessions:
      Name                Owner/ID      State                Operation
-----
tiered(2000000,3000000)  AAA 4194326  Config ApplySuccess  Activate
      Name                Non-volatile
-----
tiered(2000000,3000000)  False
```

To display information for a particular owner with service session information:

```
host1#show service-management owner-session aaa 4194326 service-session
User Name: client1@isp.COM, Interface: ip192.168.0.1
Service : tiered(2000000,3000000)
Non-volatile : False
Owner : AAA 4194326
State : Config ApplySuccess
Activate : True
Statistics Type : time-based and volume-based
Statistics Complete : False
Poll Interval : 0
Poll Expire : 0
Activate Time : THU MAR 02 01:21:26 2006
Time : 0
Time Expire : 0
Volume MBytes: 2
Volume Expire MBytes : 1
Input Bytes : 594
Output Bytes : 1196
Input Packets : 1
Output Packets : 2
```

**Meaning** Table 154 lists the **show service-management owner-session** command output fields.

**Table 154: show service-management owner-session Output Fields**

Field Name	Field Description
Name	Name of the subscriber or name of the service session
Interface	Type and IP address of the subscriber's interface
Owner/Id	Method used to activate the subscriber session (CLI, AAA) and ID number generated by the owner
State	Status of the subscriber session (active or inactive), or status of the service session
Non-volatile	Indicates whether the service session is stored in NVS; RADIUS-based service sessions are not stored in NVS
Service Sessions	Number of service sessions currently active for this subscriber
Operation	Last operation that Service Manager performed
Service	Name of the service, with parameter values in parentheses
Activate	Indicates whether the last operation was activate (True) or deactivate (False)
Statistics Type	Type of statistics collected; none, time, or volume-time
Statistics Complete	Whether statistics have been successfully collected; True or False
Poll Interval	Interval, in seconds, that interim statistics reports are sent
Poll Expire	Number of seconds until the next statistics report is sent
Activate Time	Day, date, and time when the service session was activated
Time	Time threshold value set by service session profile or RADIUS VSA
Time Expire	Time left until the threshold expires; this value starts as the time threshold value and is decremented as time passes
Volume	Volume threshold value set by service session profile or RADIUS VSA
Volume Expire	Volume left until the threshold is exceeded; this value starts as the volume threshold value and is decremented as the service statistics measure volume
Input Bytes	Current value of input bytes that the statistics configuration is measuring

**Table 154: show service-management owner-session Output Fields (continued)**

Field Name	Field Description
Output Bytes	Current value of output bytes that the statistics configuration is measuring
Input Packets	Current value of input packets that the statistics configuration is measuring
Output Packets	Current value of output packets that the statistics configuration is measuring

## Related Topics

- `show service-management owner-session` command

## Monitoring Active Subscriber Sessions with Service Manager

**Purpose** Display information about active subscriber sessions on your router.

**Action** To display summary information for all active subscriber sessions:

```
host1#show service-management subscriber-session brief
Subscriber Sessions
```

Name	Interface	Id	Owner/Id	State	Non-volatile	Service Sessions
CLIENT1@ISP.COM	ip192.168.0.3	1	AAA 4194326	Active	False	1
CLIENT2@ISP.COM	ip192.168.0.7	2	AAA 4194327	Active	False	1
CLIENT3@ISP.COM	ip192.168.0.4	3	AAA 4194328	Active	False	1
CLIENT4@ISP.COM	ip192.168.0.5	4	AAA 4194329	Active	False	1
CLIENT5@ISP.COM	ip192.168.0.6	5	AAA 4194330	Active	False	1
CLIENT6@ISP.COM	ip192.168.0.8	6	AAA 4194331	Active	False	1
CLIENT7@ISP.COM	ip192.168.0.1	7	AAA 4194332	Active	False	1
CLIENT8@ISP.COM	ip192.168.0.9	8	AAA 4194333	Active	False	1
CLIENT9@ISP.COM	ip192.168.0.2	9	AAA 4194334	Active	False	1
CLIENT10@ISP.COM	ip192.168.0.10	10	AAA 4194335	Active	False	1

To display information for that particular subscriber with the subscriber name:

```
host1#show service-management subscriber-session client1@isp.com interface ip 192.168.0.1
```

```
User Name: CLIENT1@ISP.COM, Interface: ip 192.168.0.1
```

```
Id: 1
```

```
Owner: AAA 4194326
```

```
Non-volatile: False
```

```
State: Active
```

```
ServiceSessions:
```

Name	mutex	Owner/Id	State	Operation
tiered(2000000,3000000)		AAA 4194326	ConfigApplySuccess	Activate
Name	Non-volatile			
tiered(2000000,3000000)	False			

To display information for that particular subscriber with the service session:

```
host1#show service-management subscriber-session client1@isp.COM interface ip
192.168.0.1 service-session tiered
User Name: client1@isp.COM, Interface: ip192.168.0.1
Service : tiered(2000000,3000000)
Non-volatile : False
Owner : AAA 41943236
State : Config ApplySuccess
Activate : True
Statistics Type : time-based and volume-based
Statistics Complete : False
Poll Interval : 0
Poll Expire : 0
Activate Time : THU MAR 02 01:21:26 2006
Time : 0
Time Expire : 0
Volume MBytes: 2
Volume Expire MBytes : 1
Input Bytes : 594
Output Bytes : 1196
Input Packets : 1
Output Packets : 2
```

To display information for a particular subscriber using the subscriber ID:

```
host1#show service-management subscriber-session 20

User Name: CLIENT50@ISP.COM, Interface: ip192.168.100.33
Id: 20
Owner/Id: CLI
Non-volatile: True
State: Active
ServiceSessions:
  Name          mutex  Owner  State          Operation
  -----
internet(5000,8000)  12    CLI    Config ApplySuccess  Activate

  Name          Non-volatile
  -----
internet(5000,8000)  True
```

**Meaning** Table 155 lists the **show service-management subscriber-session** command output fields.

**Table 155: show service-management subscriber-session Output Fields**

Field Name	Field Description
Name	Name of the subscriber or name of the service session
Interface	Type and IP address of the subscriber's interface
Id	ID number of the subscriber session
mutex	Index number of the mutex group to which the service session belongs
Owner/Id	Method used to activate the subscriber session (CLI, AAA) and ID number generated by the owner (Acct-Session-ID for AAA)

**Table 155: show service-management subscriber-session Output Fields (continued)**

Field Name	Field Description
State	Status of the subscriber session (active or inactive), or status of the service session
Non-volatile	Indicates whether the service session is stored in NVS; RADIUS-based service sessions are not stored in NVS
Service Sessions	Number of service sessions currently active for this subscriber
Operation	Last operation that Service Manager performed
Service	Name of the service, with parameter values in parentheses
Activate	Indicates whether the last operation was activate (True) or deactivate (False)
Statistics Type	Type of statistics collected; none, time, or volume-time
Statistics Complete	Whether statistics have been successfully collected; True or False
Poll Interval	Interval, in seconds, that interim statistics reports are sent
Poll Expire	Number of seconds until the next statistics report is sent
Activate Time	Day, date, and time when the service session was activated
Time	Time threshold value set by service session profile or RADIUS VSA
Time Expire	Time left until the threshold expires; this value starts as the time threshold value and is decremented as time passes
Volume	Volume threshold value set by service session profile or RADIUS VSA
Volume Expire	Volume left until the threshold is exceeded; this value starts as the volume threshold value and is decremented as the service statistics measure volume
Input Bytes	Current value of input bytes that the statistics configuration is measuring
Output Bytes	Current value of output bytes that the statistics configuration is measuring
Input Packets	Current value of input packets that the statistics configuration is measuring
Output Packets	Current value of output packets that the statistics configuration is measuring

**Related Topics**

- **show service-management subscriber-session** command

## Monitoring the Number of Active Subscriber and Service Sessions with Service Manager

---

**Purpose** Display the total number of active subscriber and service sessions configured on your router.

**Action** To display the total number of active subscriber and service sessions:

```
host1#show service-management summary
```

```
Total Subscriber Sessions : 10
```

```
Total Service Sessions : 10
```

**Meaning** Table 156 lists the **show service-management subscriber-session** command output fields.

**Table 156: show service-management subscriber-session Output Fields**

Field Name	Field Description
Total Subscriber Sessions	Number of active subscriber sessions on the router
Total Service Sessions	Number of active service sessions on the router

### Related Topics

- **show service-management summary** command

