# Solución de problemas de un escenario relacionado con esquemas de Bulkstats y soluciones recomendadas en StarOS

## Contenido

## Introducción

Este documento describe un escenario relacionado con la adición y eliminación de esquemas de bulkstat en StarOS junto con problemas y soluciones recomendadas para estos problemas.

## Prerequisites

### Requirements

Cisco recomienda que tenga conocimiento sobre estos temas:

- Linux
- StarOS

Cisco recomienda que tenga acceso privilegiado:

- modo oculto para ejecutar el comando **debug shell** para acceder al símbolo del sistema del shell de linux
- Acceso de protocolo seguro de transferencia de archivos (SFTP) al nodo StarOS

### Componentes Utilizados

La información en este documento se basa en la versión de StarOS-21.16.6.77063.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. Si tiene una red en vivo, asegúrese de entender el posible impacto de cualquier comando.

## Antecedentes

1. Para configurar un archivo config para almacenar las configuraciones relacionadas con los bulkstats.
2. El formato del comando es:

```
configure

      [no] bulkstats config [ schema | supplement ] <url>

    end
```
Where:

- La palabra clave opcional **Schema** permite reemplazar sólo el esquema utilizando el archivo proporcionado y conservar la configuración del servidor.
- La palabra clave opcional **Supplement** permite complementar la configuración de bulkstats en ejecución con el contenido del archivo de configuración proporcionado. Estas palabras clave solo funcionan en los archivos existentes.
- URL especifica la ubicación del archivo de configuración de bulkstats.

## Problema

No se pueden agregar nuevos esquemas o volver a agregar el esquema actual (si se elimina) mediante el símbolo del sistema de CLI.

## Escenarios de prueba

1. Enfrentó este problema debido al uso del **esquema de configuración cli bulkstat <URL>**.
2. Es un resultado esperado por diseño cuando se utiliza un **esquema** de palabras clave opcional.
3. El mismo escenario se probó en el laboratorio. Estos son los resultados:
   Situación A. Inicialmente se **configuró el cli de configuración de bulkstat <url>**.

```
[local]MME# show configuration bulkstats

config

 bulkstats collection

 bulkstats historical collection

 bulkstats config /hd-raid/file1

 bulkstats mode

   file 1

     header format Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

     footer format EndOfFile
```

```
     card schema cardSch1 format
PPM,card,cardSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%cpubusy%,%cpuidle%,%numpr
oc%,%memused%,%memtotal%,%numcpu%,%cpu0-cpubusy%,%cpu0-cpuidle%,%cpu0-numproc%,%cpu0-
memused%,%cpu0-memtotal%,%cpu0-name%,%cpu0-cpuused-user%,%cpu0-cpuused-sys%,%cpu0-cpuused-
io%,%cpu0-cpuused-irq%,%cpu0-cpuused-idle%,%cpu1-cpubusy%,%cpu1-cpuidle%,%cpu1-numproc%,

     card schema cardSch2 format
PPM,card,cardSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%cpu1-memused%,%cpu1-
memtotal%,%cpu1-name%,%cpu1-cpuused-user%,%cpu1-cpuused-sys%,%cpu1-cpuused-io%,%cpu1-cpuused-
irq%,%cpu1-cpuused-idle%,%cpu2-cpubusy%,%cpu2-cpuidle%,%cpu2-numproc%,%cpu2-memused%,%cpu2-
memtotal%,%cpu2-name%,%cpu2-cpuused-user%,%cpu2-cpuused-sys%,%cpu2-cpuused-io%,%cpu2-cpuused-
irq%,%cpu2-cpuused-idle%,%cpu3-cpubusy%,%cpu3-cpuidle%,

     card schema cardSch3 format
PPM,card,cardSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%cpu3-numproc%,%cpu3-
memused%,%cpu3-memtotal%,%cpu3-name%,%cpu3-cpuused-user%,%cpu3-cpuused-sys%,%cpu3-cpuused-
io%,%cpu3-cpuused-irq%,%cpu3-cpuused-idle%,%15avg-cpubusy%,%15peak-cpubusy%,%5avg-
cpubusy%,%5peak-cpubusy%,%1avg-cpubusy%,%15avg-memused%,%15peak-memused%,%5avg-memused%,%5peak-
memused%,%1avg-memused%,%cpu0-15avg-cpubusy%,%cpu0-15peak-cpubusy%,

     port schema portSch1 format
PPM,port,portSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%port%,%maxrate%,%rxbytes%
,%txbytes%,%ucast_inpackets%,%ucast_outpackets%,%mcast_inpackets%,%mcast_outpackets%,%bcast_inpa
ckets%,%bcast_outpackets%,%rxpackets%,%txpackets%,%rxdiscbytes%,%rxdiscpackets%,%txdiscbytes%,%t
xdiscpackets%,%rxerrorbytes%,%rxerrorpackets%,%txerrorbytes%,%txerrorpackets%,

     port schema portSch2 format
PPM,port,portSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%port%,%frag-rcvd%,%pkt-
reassembled%,%frag-tokernel%,%util-rx-curr%,%util-tx-curr%,%util-rx-5min%,%util-tx-5min%,%util-
rx-15min%,%util-tx-15min%,%port-5peak-rx-util%,%port-5peak-tx-util%,%port-15peak-rx-util%,%port-
15peak-tx-util%,

   apn-expansion schema apn1 format PPM,apn-expansion,%epochtime%,%localdate%,%localtime%,

   apn-expansion schema apn2 format PPM,apn-expansion,%epochtime%,%localdate%,%localtime%,

   apn-expansion schema apn3 format PPM,apn-expansion,%epochtime%,%localdate%,%localtime%,

  #exit

 #exit

end


[local]MME# show bulkstats schemas

Bulk Statistics Server Configuration:

 Server State:              Enabled

 File Limit:                7500 KB

 Sample Interval:           15 minutes (0D 0H 15M)

 Transfer Interval:         480 minutes (0D 8H 0M)

 Receiver Mode:             Secondary-on-failure

 Historical Data Collection:   Enabled (15 samples stored)
```

```
Bulk Statistics Server Statistics:

 Records awaiting transmission: 0

 Bytes awaiting transmission:   0

 Total records collected:       0

 Total bytes collected:         0

 Total records transmitted:     0

 Total bytes transmitted:       0

 Total records discarded:       0

 Total bytes discarded:         0

 Last collection time required: 0 second(s)

 Last transfer time required:   0 second(s)

 No successful data transfers

 No attempted data transfers




 File 1

    Remote File Format:            %date%-%time%

    File Header:                   Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

    File Footer:                   EndOfFile

    No bulkstats receivers

    File Statistics:

       Records awaiting transmission: 0

       Bytes awaiting transmission:   0

       Total records collected:       0

       Total bytes collected:         0

       Total records transmitted:     0

       Total bytes transmitted:       0

       Total records discarded:       0

       Total bytes discarded:         0

       Last transfer time required:   0 second(s)

       No successful data transfers

       No attempted data transfers
```

```
File 2 not configured



File 3 not configured



File 4 not configured




------------------ Schemas for File 1------------------------------------

Type          Name                      Active-Only Format

------------ ---------------------- ---------- --------------------------------------

card          cardSch1                  No
PPM,card,cardSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%cpubusy%,%cpuidle%,%numpr
oc%,%memused%,%memtotal%,%numcpu%,%cpu0-cpubusy%,%cpu0-cpuidle%,%cpu0-numproc%,%cpu0-
memused%,%cpu0-memtotal%,%cpu0-name%,%cpu0-cpuused-user%,%cpu0-cpuused-sys%,%cpu0-cpuused-
io%,%cpu0-cpuused-irq%,%cpu0-cpuused-idle%,%cpu1-cpubusy%,%cpu1-cpuidle%,%cpu1-numproc%,

card          cardSch2                  No
PPM,card,cardSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%cpu1-memused%,%cpu1-
memtotal%,%cpu1-name%,%cpu1-cpuused-user%,%cpu1-cpuused-sys%,%cpu1-cpuused-io%,%cpu1-cpuused-
irq%,%cpu1-cpuused-idle%,%cpu2-cpubusy%,%cpu2-cpuidle%,%cpu2-numproc%,%cpu2-memused%,%cpu2-
memtotal%,%cpu2-name%,%cpu2-cpuused-user%,%cpu2-cpuused-sys%,%cpu2-cpuused-io%,%cpu2-cpuused-
irq%,%cpu2-cpuused-idle%,%cpu3-cpubusy%,%cpu3-cpuidle%,

card          cardSch3                  No
PPM,card,cardSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%cpu3-numproc%,%cpu3-
memused%,%cpu3-memtotal%,%cpu3-name%,%cpu3-cpuused-user%,%cpu3-cpuused-sys%,%cpu3-cpuused-
io%,%cpu3-cpuused-irq%,%cpu3-cpuused-idle%,%15avg-cpubusy%,%15peak-cpubusy%,%5avg-
cpubusy%,%5peak-cpubusy%,%1avg-cpubusy%,%15avg-memused%,%15peak-memused%,%5avg-memused%,%5peak-
memused%,%1avg-memused%,%cpu0-15avg-cpubusy%,%cpu0-15peak-cpubusy%,

port          portSch1                  No
PPM,port,portSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%port%,%maxrate%,%rxbytes%
,%txbytes%,%ucast_inpackets%,%ucast_outpackets%,%mcast_inpackets%,%mcast_outpackets%,%bcast_inpa
ckets%,%bcast_outpackets%,%rxpackets%,%txpackets%,%rxdiscbytes%,%rxdiscpackets%,%txdiscbytes%,%t
xdiscpackets%,%rxerrorbytes%,%rxerrorpackets%,%txerrorbytes%,%txerrorpackets%,

port          portSch2                  No
PPM,port,portSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%port%,%frag-rcvd%,%pkt-
reassembled%,%frag-tokernel%,%util-rx-curr%,%util-tx-curr%,%util-rx-5min%,%util-tx-5min%,%util-
rx-15min%,%util-tx-15min%,%port-5peak-rx-util%,%port-5peak-tx-util%,%port-15peak-rx-util%,%port-
15peak-tx-util%,

apn-expansion apn1                      No          PPM,apn-
expansion,%epochtime%,%localdate%,%localtime%,

apn-expansion apn2                      No          PPM,apn-
expansion,%epochtime%,%localdate%,%localtime%,

apn-expansion apn3                      No          PPM,apn-
expansion,%epochtime%,%localdate%,%localtime%,
```

```
mon-di-net   mdn1                    No          PPM,%epochtime%,%localdate%,%localtime%,

[local]MME#
```

Situación B. Para agregar el **esquema** de palabra clave opcional, primero debe quitar la cli de bulkstat **sin configuración de bulkstats**. En el momento en que ejecute **no bulkstats config**, se eliminarán todos los esquemas actuales del nodo.

```
[local]MME#

[local]MME# configure

[local]MME(config)# bulkstats collection

[local]MME(config)# no bulkstats config

<cr>                  - newline

[local]MME(config)# no bulkstats config

[local]MME(config)# end

[local]MME# show configuration bulkstats

config

 bulkstats collection

 bulkstats historical collection

 bulkstats mode

   file 1

     header format Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

     footer format EndOfFile

   #exit

 #exit

end

[local]MME# show bulkstats schemas

Bulk Statistics Server Configuration:

 Server State:              Enabled

 File Limit:                7500 KB

 Sample Interval:           15 minutes (0D 0H 15M)

 Transfer Interval:         480 minutes (0D 8H 0M)

 Receiver Mode:             Secondary-on-failure

 Historical Data Collection: Enabled (15 samples stored)
```

```
Bulk Statistics Server Statistics:

 Records awaiting transmission: 0

 Bytes awaiting transmission:   0

 Total records collected:       0

 Total bytes collected:         0

 Total records transmitted:     0

 Total bytes transmitted:       0

 Total records discarded:       0

 Total bytes discarded:         0

 Last collection time required: 0 second(s)

 Last transfer time required:   0 second(s)

 No successful data transfers

 No attempted data transfers




 File 1

    Remote File Format:           %date%-%time%

    File Header:                  Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

    File Footer:                  EndOfFile

    No bulkstats receivers

    File Statistics:

      Records awaiting transmission: 0

      Bytes awaiting transmission:   0

      Total records collected:       0

      Total bytes collected:         0

      Total records transmitted:     0

      Total bytes transmitted:       0

      Total records discarded:       0

      Total bytes discarded:         0

      Last transfer time required:   0 second(s)

      No successful data transfers
```

```
     No attempted data transfers




 File 2 not configured




 File 3 not configured




 File 4 not configured

[local]MME#
```

```
[local]MME#
```
Situación C. Luego el cli **Bulkstat config Schema <url>** está configurado. Todas las configuraciones y esquemas presentes en el archivo de configuración se agregan al nodo.

```
[local]MME# configure

[local]MME(config)# bulkstats collection

[local]MME(config)# bulkstats config schema /hd-raid/file2

Info: config

Info: bulkstats mode

Info: file 2

Info: header format Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

Info: footer format EndOfFile

Info: diameter-auth schema diameter-authSch1 format PPM,diameter-auth,diameter-
authSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%servert
ype%,%group%,%der-req-id-sent%,%der-req-aka-chal-sent%,%der-req-retried%,%dea-chal-rcvd%,%dea-
acpt-rcvd%,%dea-timeout%,%dea-badauth%,%dea-malformed%,%dea-malformed-avp%,%dea-dropped%,%rar-
req-rcvd%,%raa-ans-accpt-sent%,%aar-req-sent%,%str-req-sent%,%str-req-retried%,

Info: diameter-auth schema diameter-authSch2 format PPM,diameter-auth,diameter-
authSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%sta-
ans-accpt-rcvd%,%asr-req-rcvd%,%asa-rsp-accpt-sent%,%asa-rsp-rej-sent%,%req-sock-write-
err%,%rsp-sock-write-err%,%any-sock-read-err%,%rem-disconnect%,%loc-disconnect%,

Info: diameter-auth schema diameter-authSch3 format PPM,diameter-auth,diameter-
authSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%peer%,%
diameter-auth-msg-multiround%,%diameter-auth-msg-success%,%diameter-auth-msg-err-
protocol%,%diameter-auth-msg-err-transient%,%diameter-auth-msg-err-permanent%,%diameter-auth-
msg-err-other%,%aaa-req-received%,%aaa-req-timeouts%,%aaa-req-dropped%,

Info: schema systemSch1 format
PPM,system,systemSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%sess-ttlarrived%,%sess-
ttlrejected%,%sess-ttlconnected%,%sess-ttlfailed%,%sess-ttldisconn%,%sess-ttlhandoff%,%sess-
ttlrenewal%,%sess-ttlcallop%,%sess-ttlauthsucc%,%sess-ttlauthfail%,%sess-curaaaactive%,%sess-
curaaadeleting%,%sess-curaaaacctpending%,%sess-curaaaacctitemsused%,%sess-
```

curaaaacctitemsmax%,%sess-curaaabuffused%,%sess-curaaabuffmax%,%sess-ttlaaacancauth%,%sess-
ttlaaaacctpurged%,%sess-ttlradacctpurged%,%sess-ttllcpup%,

Info: schema systemSch10 format
PPM,system,systemSch10,%epochtime%,%localdate%,%localtime%,%uptime%,%aaa-ttlpseudoauthreq%,%aaa-
curpseudoauthreq%,%aaa-ttlauthnulluser%,%aaa-ttlacctsucc%,%aaa-ttlacctpurged%,%aaa-
ttlacctcancelled%,%aaa-ttlacctkeepalivesuccess%,%aaa-ttlacctkeepalivetimeout%,%aaa-
ttlacctkeepalivepurged%,%aaa-ttlradacctreq%,%aaa-ttlradacctcancelled%,%aaa-
ttlradacctpurged%,%aaa-ttlradacctreqretried%,%aaa-ttlradacctrspdropped%,%aaa-
ttlmgrpurgedrequests%,%diamauth-msg-mareq%,%diamauth-msg-maans%,%diamauth-msg-
marretry%,%diamauth-msg-maatimeout%,%diamauth-msg-maadropped%,%diamauth-msg-sareq%,

Info: schema systemSch100 format
PPM,system,systemSch100,%epochtime%,%localdate%,%localtime%,%uptime%,%sess-bearerdur-24hr-
qci6%,%sess-bearerdur-over24hr-qci6%,%sess-bearerdur-2day-qci6%,%sess-bearerdur-4day-
qci6%,%sess-bearerdur-5day-qci6%,%sess-bearerdur-5sec-qci7%,%sess-bearerdur-10sec-qci7%,%sess-
bearerdur-30sec-qci7%,%sess-bearerdur-1min-qci7%,%sess-bearerdur-2min-qci7%,%sess-bearerdur-
5min-qci7%,%sess-bearerdur-15min-qci7%,%sess-bearerdur-30min-qci7%,%sess-bearerdur-1hr-
qci7%,%sess-bearerdur-4hr-qci7%,%sess-bearerdur-12hr-qci7%,%sess-bearerdur-24hr-qci7%,%sess-
bearerdur-over24hr-qci7%,%sess-bearerdur-2day-qci7%,%sess-bearerdur-4day-qci7%,%sess-bearerdur-
5day-qci7%,

Info: sgs schema sgsSch1 format
PPM,sgs,sgsSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%pag-req-tx%,%pag-req-retx%,%pag-req-rx%,%pag-rej-tx%,%pag-rej-retx%,%pag-rej-rx%,%service-
req-tx%,%service-req-retx%,%service-req-rx%,%dl-ud-tx%,%dl-ud-retx%,%dl-ud-rx%,%ul-ud-tx%,%ul-
ud-retx%,%ul-ud-rx%,%localupd-req-tx%,%localupd-req-retx%,

Info: sgs schema sgsSch2 format
PPM,sgs,sgsSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%localupd-req-rx%,%localupd-accept-tx%,%localupd-accept-retx%,%localupd-accept-rx%,%localupd-
rej-tx%,%localupd-rej-retx%,%localupd-rej-rx%,%tmsi-reloc-tx%,%tmsi-reloc-retx%,%tmsi-reloc-
rx%,%alert-req-tx%,%alert-req-retx%,%alert-req-rx%,%alert-ack-tx%,%alert-ack-retx%,%alert-ack-
rx%,%alert-rej-tx%,%alert-rej-retx%,%alert-rej-rx%,%ue-actind-tx%,%ue-actind-retx%,

Info: sgs schema sgsSch3 format
PPM,sgs,sgsSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%ue-actind-rx%,%eps-detind-tx%,%eps-detind-retx%,%eps-detind-rx%,%eps-detack-tx%,%eps-detack-
retx%,%eps-detack-rx%,%imsi-detind-tx%,%imsi-detind-retx%,%imsi-detind-rx%,%imsi-detack-
tx%,%imsi-detack-retx%,%imsi-detack-rx%,,,,,,,%mm-inforeq-tx%,%mm-inforeq-retx%,

Info: exit

[local]MME(config)# end

[local]MME#

[local]MME# show configuration bulkstats

config

 bulkstats collection

 bulkstats historical collection

 bulkstats config schema /hd-raid/file2

 bulkstats mode

    file 1

      header format Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

```
    footer format EndOfFile

  #exit

  file 2

    header format Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

    footer format EndOfFile

    schema systemSch1 format
PPM,system,systemSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%sess-ttlarrived%,%sess-
ttlrejected%,%sess-ttlconnected%,%sess-ttlfailed%,%sess-ttldisconn%,%sess-ttlhandoff%,%sess-
ttlrenewal%,%sess-ttlcallop%,%sess-ttlauthsucc%,%sess-ttlauthfail%,%sess-curaaaactive%,%sess-
curaaadeleting%,%sess-curaaaacctpending%,%sess-curaaaacctitemsused%,%sess-
curaaaacctitemsmax%,%sess-curaaabuffused%,%sess-curaaabuffmax%,%sess-ttlaaacancauth%,%sess-
ttlaaaacctpurged%,%sess-ttlradacctpurged%,%sess-ttllcpup%,

    schema systemSch10 format
PPM,system,systemSch10,%epochtime%,%localdate%,%localtime%,%uptime%,%aaa-ttlpseudoauthreq%,%aaa-
curpseudoauthreq%,%aaa-ttlauthnulluser%,%aaa-ttlacctsucc%,%aaa-ttlacctpurged%,%aaa-
ttlacctcancelled%,%aaa-ttlacctkeepalivesuccess%,%aaa-ttlacctkeepalivetimeout%,%aaa-
ttlacctkeepalivepurged%,%aaa-ttlradacctreq%,%aaa-ttlradacctcancelled%,%aaa-
ttlradacctpurged%,%aaa-ttlradacctreqretried%,%aaa-ttlradacctrspdropped%,%aaa-
ttlmgrpurgedrequests%,%diamauth-msg-mareq%,%diamauth-msg-maans%,%diamauth-msg-
marretry%,%diamauth-msg-maatimeout%,%diamauth-msg-maadropped%,%diamauth-msg-sareq%,

    schema systemSch100 format
PPM,system,systemSch100,%epochtime%,%localdate%,%localtime%,%uptime%,%sess-bearerdur-24hr-
qci6%,%sess-bearerdur-over24hr-qci6%,%sess-bearerdur-2day-qci6%,%sess-bearerdur-4day-
qci6%,%sess-bearerdur-5day-qci6%,%sess-bearerdur-5sec-qci7%,%sess-bearerdur-10sec-qci7%,%sess-
bearerdur-30sec-qci7%,%sess-bearerdur-1min-qci7%,%sess-bearerdur-2min-qci7%,%sess-bearerdur-
5min-qci7%,%sess-bearerdur-15min-qci7%,%sess-bearerdur-30min-qci7%,%sess-bearerdur-1hr-
qci7%,%sess-bearerdur-4hr-qci7%,%sess-bearerdur-12hr-qci7%,%sess-bearerdur-24hr-qci7%,%sess-
bearerdur-over24hr-qci7%,%sess-bearerdur-2day-qci7%,%sess-bearerdur-4day-qci7%,%sess-bearerdur-
5day-qci7%,

    diameter-auth schema diameter-authSch1 format PPM,diameter-auth,diameter-
authSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%servert
ype%,%group%,%der-req-id-sent%,%der-req-aka-chal-sent%,%der-req-retried%,%dea-chal-rcvd%,%dea-
acpt-rcvd%,%dea-timeout%,%dea-badauth%,%dea-malformed%,%dea-malformed-avp%,%dea-dropped%,%rar-
req-rcvd%,%raa-ans-accpt-sent%,%aar-req-sent%,%str-req-sent%,%str-req-retried%,

    diameter-auth schema diameter-authSch2 format PPM,diameter-auth,diameter-
authSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%sta-
ans-accpt-rcvd%,%asr-req-rcvd%,%asa-rsp-accpt-sent%,%asa-rsp-rej-sent%,%req-sock-write-
err%,%rsp-sock-write-err%,%any-sock-read-err%,%rem-disconnect%,%loc-disconnect%,

    diameter-auth schema diameter-authSch3 format PPM,diameter-auth,diameter-
authSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%peer%,%
diameter-auth-msg-multiround%,%diameter-auth-msg-success%,%diameter-auth-msg-err-
protocol%,%diameter-auth-msg-err-transient%,%diameter-auth-msg-err-permanent%,%diameter-auth-
msg-err-other%,%aaa-req-received%,%aaa-req-timeouts%,%aaa-req-dropped%,

    sgs schema sgsSch1 format
PPM,sgs,sgsSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%pag-req-tx%,%pag-req-retx%,%pag-req-rx%,%pag-rej-tx%,%pag-rej-retx%,%pag-rej-rx%,%service-
req-tx%,%service-req-retx%,%service-req-rx%,%dl-ud-tx%,%dl-ud-retx%,%dl-ud-rx%,%ul-ud-tx%,%ul-
ud-retx%,%ul-ud-rx%,%localupd-req-tx%,%localupd-req-retx%,

    sgs schema sgsSch2 format
PPM,sgs,sgsSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%localupd-req-rx%,%localupd-accept-tx%,%localupd-accept-retx%,%localupd-accept-rx%,%localupd-
```

```
rej-tx%,%localupd-rej-retx%,%localupd-rej-rx%,%tmsi-reloc-tx%,%tmsi-reloc-retx%,%tmsi-reloc-
rx%,%alert-req-tx%,%alert-req-retx%,%alert-req-rx%,%alert-ack-tx%,%alert-ack-retx%,%alert-ack-
rx%,%alert-rej-tx%,%alert-rej-retx%,%alert-rej-rx%,%ue-actind-tx%,%ue-actind-retx%,

    sgs schema sgsSch3 format
PPM,sgs,sgsSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%ue-actind-rx%,%eps-detind-tx%,%eps-detind-retx%,%eps-detind-rx%,%eps-detack-tx%,%eps-detack-
retx%,%eps-detack-rx%,%imsi-detind-tx%,%imsi-detind-retx%,%imsi-detind-rx%,%imsi-detack-
tx%,%imsi-detack-retx%,%imsi-detack-rx%,,,,,,%mm-inforeq-tx%,%mm-inforeq-retx%,

    #exit

  #exit

end

[local]MME#
```

Situación D. Después de eso, no es posible agregar nuevos esquemas. Cuando intenta quitar un esquema actual y volver a agregarlo, el esquema se elimina, pero no podrá volver a agregarlo. Sin embargo, el esquema actual seguía presente en el archivo de configuración (archivo de configuración presente en la URL).

```
[local]MME# configure

[local]MME(config)# bulkstats mode
```

```
mode                    - Enters bulk statistics configuration mode, where you can define what
statistics to collect
```

```
[local]MME(config)# bulkstats mode

[local]MME(config-bulkstats)# file 1

[local]MME(config-bulkstats-file-1)# mon-di-net schema mdn1 format PPM,%epochti

me%,%localdate%,%localtime%,

[local]MME(config-bulkstats-file-1)# exit

[local]MME(config-bulkstats)# file 2

[local]MME(config-bulkstats-file-2)# mon-di-net schema mdn2 format PPM,%epochti

me%,

[local]MME(config-bulkstats-file-2)# end

[local]MME# show bulkstats schemas

Bulk Statistics Server Configuration:

 Server State:              Enabled

 File Limit:                7500 KB

 Sample Interval:           15 minutes (0D 0H 15M)

 Transfer Interval:         480 minutes (0D 8H 0M)
```

```
   Receiver Mode:                 Secondary-on-failure

   Historical Data Collection:    Enabled (15 samples stored)



Bulk Statistics Server Statistics:

 Records awaiting transmission: 0

 Bytes awaiting transmission:   0

 Total records collected:       0

 Total bytes collected:         0

 Total records transmitted:     0

 Total bytes transmitted:       0

 Total records discarded:       0

 Total bytes discarded:         0

 Last collection time required: 0 second(s)

 Last transfer time required:   0 second(s)

 No successful data transfers

 No attempted data transfers



  File 1

    Remote File Format:          %date%-%time%

    File Header:                 Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

    File Footer:                 EndOfFile

    No bulkstats receivers

    File Statistics:

      Records awaiting transmission: 0

      Bytes awaiting transmission:   0

      Total records collected:       0

      Total bytes collected:         0

      Total records transmitted:     0

      Total bytes transmitted:       0

      Total records discarded:       0
```

```
      Total bytes discarded:        0

      Last transfer time required:  0 second(s)

      No successful data transfers

      No attempted data transfers




 File 2

   Remote File Format:           %date%-%time%

   File Header:                  Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

   File Footer:                  EndOfFile

   No bulkstats receivers

   File Statistics:

      Records awaiting transmission: 0

      Bytes awaiting transmission:   0

      Total records collected:       0

      Total bytes collected:         0

      Total records transmitted:     0

      Total bytes transmitted:       0

      Total records discarded:       0

      Total bytes discarded:         0

      Last transfer time required:   0 second(s)

      No successful data transfers

      No attempted data transfers




 File 3 not configured




 File 4 not configured




------------------- Schemas for File 2----------------------------------------

Type         Name                    Active-Only Format

------------ ----------------------- ----------- ----------------------------------------
```

```
system          systemSch1                  No
PPM,system,systemSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%sess-ttlarrived%,%sess-
ttlrejected%,%sess-ttlconnected%,%sess-ttlfailed%,%sess-ttldisconn%,%sess-ttlhandoff%,%sess-
ttlrenewal%,%sess-ttlcallop%,%sess-ttlauthsucc%,%sess-ttlauthfail%,%sess-curaaaactive%,%sess-
curaaadeleting%,%sess-curaaaacctpending%,%sess-curaaaacctitemsused%,%sess-
curaaaacctitemsmax%,%sess-curaaabuffused%,%sess-curaaabuffmax%,%sess-ttlaaacancauth%,%sess-
ttlaaaacctpurged%,%sess-ttlradacctpurged%,%sess-ttllcpup%,

system          systemSch10                 No
PPM,system,systemSch10,%epochtime%,%localdate%,%localtime%,%uptime%,%aaa-ttlpseudoauthreq%,%aaa-
curpseudoauthreq%,%aaa-ttlauthnulluser%,%aaa-ttlacctsucc%,%aaa-ttlacctpurged%,%aaa-
ttlacctcancelled%,%aaa-ttlacctkeepalivesuccess%,%aaa-ttlacctkeepalivetimeout%,%aaa-
ttlacctkeepalivepurged%,%aaa-ttlradacctreq%,%aaa-ttlradacctcancelled%,%aaa-
ttlradacctpurged%,%aaa-ttlradacctreqretried%,%aaa-ttlradacctrspdropped%,%aaa-
ttlmgrpurgedrequests%,%diamauth-msg-mareq%,%diamauth-msg-maans%,%diamauth-msg-
marretry%,%diamauth-msg-maatimeout%,%diamauth-msg-maadropped%,%diamauth-msg-sareq%,

system          systemSch100                No
PPM,system,systemSch100,%epochtime%,%localdate%,%localtime%,%uptime%,%sess-bearerdur-24hr-
qci6%,%sess-bearerdur-over24hr-qci6%,%sess-bearerdur-2day-qci6%,%sess-bearerdur-4day-
qci6%,%sess-bearerdur-5day-qci6%,%sess-bearerdur-5sec-qci7%,%sess-bearerdur-10sec-qci7%,%sess-
bearerdur-30sec-qci7%,%sess-bearerdur-1min-qci7%,%sess-bearerdur-2min-qci7%,%sess-bearerdur-
5min-qci7%,%sess-bearerdur-15min-qci7%,%sess-bearerdur-30min-qci7%,%sess-bearerdur-1hr-
qci7%,%sess-bearerdur-4hr-qci7%,%sess-bearerdur-12hr-qci7%,%sess-bearerdur-24hr-qci7%,%sess-
bearerdur-over24hr-qci7%,%sess-bearerdur-2day-qci7%,%sess-bearerdur-4day-qci7%,%sess-bearerdur-
5day-qci7%,

diameter-auth diameter-authSch1              No          PPM,diameter-auth,diameter-
authSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%servert
ype%,%group%,%der-req-id-sent%,%der-req-aka-chal-sent%,%der-req-retried%,%dea-chal-rcvd%,%dea-
acpt-rcvd%,%dea-timeout%,%dea-badauth%,%dea-malformed%,%dea-malformed-avp%,%dea-dropped%,%rar-
req-rcvd%,%raa-ans-accpt-sent%,%aar-req-sent%,%str-req-sent%,%str-req-retried%,

diameter-auth diameter-authSch2              No          PPM,diameter-auth,diameter-
authSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%sta-
ans-accpt-rcvd%,%asr-req-rcvd%,%asa-rsp-accpt-sent%,%asa-rsp-rej-sent%,%req-sock-write-
err%,%rsp-sock-write-err%,%any-sock-read-err%,%rem-disconnect%,%loc-disconnect%,

diameter-auth diameter-authSch3              No          PPM,diameter-auth,diameter-
authSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%peer%,%
diameter-auth-msg-multiround%,%diameter-auth-msg-success%,%diameter-auth-msg-err-
protocol%,%diameter-auth-msg-err-transient%,%diameter-auth-msg-err-permanent%,%diameter-auth-
msg-err-other%,%aaa-req-received%,%aaa-req-timeouts%,%aaa-req-dropped%,

sgs             sgsSch1                     No
PPM,sgs,sgsSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%pag-req-tx%,%pag-req-retx%,%pag-req-rx%,%pag-rej-tx%,%pag-rej-retx%,%pag-rej-rx%,%service-
req-tx%,%service-req-retx%,%service-req-rx%,%dl-ud-tx%,%dl-ud-retx%,%dl-ud-rx%,%ul-ud-tx%,%ul-
ud-retx%,%ul-ud-rx%,%localupd-req-tx%,%localupd-req-retx%,

sgs             sgsSch2                     No
PPM,sgs,sgsSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%localupd-req-rx%,%localupd-accept-tx%,%localupd-accept-retx%,%localupd-accept-rx%,%localupd-
rej-tx%,%localupd-rej-retx%,%localupd-rej-rx%,%tmsi-reloc-tx%,%tmsi-reloc-retx%,%tmsi-reloc-
rx%,%alert-req-tx%,%alert-req-retx%,%alert-req-rx%,%alert-ack-tx%,%alert-ack-retx%,%alert-ack-
rx%,%alert-rej-tx%,%alert-rej-retx%,%alert-rej-rx%,%ue-actind-tx%,%ue-actind-retx%,

sgs             sgsSch3                     No
PPM,sgs,sgsSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%ue-actind-rx%,%eps-detind-tx%,%eps-detind-retx%,%eps-detind-rx%,%eps-detack-tx%,%eps-detack-
retx%,%eps-detack-rx%,%imsi-detind-tx%,%imsi-detind-retx%,%imsi-detind-rx%,%imsi-detack-
tx%,%imsi-detack-retx%,%imsi-detack-rx%,,,,,,,,%mm-inforeq-tx%,%mm-inforeq-retx%,
```

```
[local]MME# configure

[local]MME(config)# bulkstats mode

[local]MME(config-bulkstats)# file 2

[local]MME(config-bulkstats-file-2)# no sgs

sgs                  - Removes sgs bulk statistics schema

[local]MME(config-bulkstats-file-2)# no sgs schema sgsSch1

[local]MME(config-bulkstats-file-2)# end

[local]MME# show bulkstats schemas

Bulk Statistics Server Configuration:

 Server State:              Enabled

 File Limit:                7500 KB

 Sample Interval:           15 minutes (0D 0H 15M)

 Transfer Interval:         480 minutes (0D 8H 0M)

 Receiver Mode:             Secondary-on-failure

 Historical Data Collection:  Enabled (15 samples stored)


Bulk Statistics Server Statistics:

 Records awaiting transmission: 0

 Bytes awaiting transmission:   0

 Total records collected:       0

 Total bytes collected:         0

 Total records transmitted:     0

 Total bytes transmitted:       0

 Total records discarded:       0

 Total bytes discarded:         0

 Last collection time required: 0 second(s)

 Last transfer time required:   0 second(s)

 No successful data transfers

 No attempted data transfers


 File 1
```

```
   Remote File Format:            %date%-%time%

   File Header:                   Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

   File Footer:                   EndOfFile

   No bulkstats receivers

   File Statistics:

     Records awaiting transmission: 0

     Bytes awaiting transmission:   0

     Total records collected:       0

     Total bytes collected:         0

     Total records transmitted:     0

     Total bytes transmitted:       0

     Total records discarded:       0

     Total bytes discarded:         0

     Last transfer time required:   0 second(s)

     No successful data transfers

     No attempted data transfers



 File 2

   Remote File Format:            %date%-%time%

   File Header:                   Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

   File Footer:                   EndOfFile

   No bulkstats receivers

   File Statistics:

     Records awaiting transmission: 0

     Bytes awaiting transmission:   0

     Total records collected:       0

     Total bytes collected:         0

     Total records transmitted:     0

     Total bytes transmitted:       0

     Total records discarded:       0

     Total bytes discarded:         0
```

Last transfer time required:    0 second(s)

        No successful data transfers

        No attempted data transfers



    File 3 not configured



    File 4 not configured



------------------ Schemas for File 2--------------------------------------

Type           Name                    Active-Only Format

------------   ---------------------   ----------   ---------------------------------------

system      systemSch1              No
PPM,system,systemSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%sess-ttlarrived%,%sess-
ttlrejected%,%sess-ttlconnected%,%sess-ttlfailed%,%sess-ttldisconn%,%sess-ttlhandoff%,%sess-
ttlrenewal%,%sess-ttlcallop%,%sess-ttlauthsucc%,%sess-ttlauthfail%,%sess-curaaaactive%,%sess-
curaaadeleting%,%sess-curaaaacctpending%,%sess-curaaaacctitemsused%,%sess-
curaaaacctitemsmax%,%sess-curaaabuffused%,%sess-curaaabuffmax%,%sess-ttlaaacancauth%,%sess-
ttlaaaacctpurged%,%sess-ttlradacctpurged%,%sess-ttllcpup%,

system      systemSch10             No
PPM,system,systemSch10,%epochtime%,%localdate%,%localtime%,%uptime%,%aaa-ttlpseudoauthreq%,%aaa-
curpseudoauthreq%,%aaa-ttlauthnulluser%,%aaa-ttlacctsucc%,%aaa-ttlacctpurged%,%aaa-
ttlacctcancelled%,%aaa-ttlacctkeepalivesuccess%,%aaa-ttlacctkeepalivetimeout%,%aaa-
ttlacctkeepalivepurged%,%aaa-ttlradacctreq%,%aaa-ttlradacctcancelled%,%aaa-
ttlradacctpurged%,%aaa-ttlradacctreqretried%,%aaa-ttlradacctrspdropped%,%aaa-
ttlmgrpurgedrequests%,%diamauth-msg-mareq%,%diamauth-msg-maans%,%diamauth-msg-
marretry%,%diamauth-msg-maatimeout%,%diamauth-msg-maadropped%,%diamauth-msg-sareq%,

system      systemSch100            No
PPM,system,systemSch100,%epochtime%,%localdate%,%localtime%,%uptime%,%sess-bearerdur-24hr-
qci6%,%sess-bearerdur-over24hr-qci6%,%sess-bearerdur-2day-qci6%,%sess-bearerdur-4day-
qci6%,%sess-bearerdur-5day-qci6%,%sess-bearerdur-5sec-qci7%,%sess-bearerdur-10sec-qci7%,%sess-
bearerdur-30sec-qci7%,%sess-bearerdur-1min-qci7%,%sess-bearerdur-2min-qci7%,%sess-bearerdur-
5min-qci7%,%sess-bearerdur-15min-qci7%,%sess-bearerdur-30min-qci7%,%sess-bearerdur-1hr-
qci7%,%sess-bearerdur-4hr-qci7%,%sess-bearerdur-12hr-qci7%,%sess-bearerdur-24hr-qci7%,%sess-
bearerdur-over24hr-qci7%,%sess-bearerdur-2day-qci7%,%sess-bearerdur-4day-qci7%,%sess-bearerdur-
5day-qci7%,

diameter-auth diameter-authSch1        No          PPM,diameter-auth,diameter-
authSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%servert
ype%,%group%,%der-req-id-sent%,%der-req-aka-chal-sent%,%der-req-retried%,%dea-chal-rcvd%,%dea-
acpt-rcvd%,%dea-timeout%,%dea-badauth%,%dea-malformed%,%dea-malformed-avp%,%dea-dropped%,%rar-
req-rcvd%,%raa-ans-accpt-sent%,%aar-req-sent%,%str-req-sent%,%str-req-retried%,

diameter-auth diameter-authSch2        No          PPM,diameter-auth,diameter-
authSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%sta-
ans-accpt-rcvd%,%asr-req-rcvd%,%asa-rsp-accpt-sent%,%asa-rsp-rej-sent%,%req-sock-write-
err%,%rsp-sock-write-err%,%any-sock-read-err%,%rem-disconnect%,%loc-disconnect%,

```
diameter-auth diameter-authSch3        No            PPM,diameter-auth,diameter-
authSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%peer%,%
diameter-auth-msg-multiround%,%diameter-auth-msg-success%,%diameter-auth-msg-err-
protocol%,%diameter-auth-msg-err-transient%,%diameter-auth-msg-err-permanent%,%diameter-auth-
msg-err-other%,%aaa-req-received%,%aaa-req-timeouts%,%aaa-req-dropped%,

sgs          sgsSch2             No
PPM,sgs,sgsSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%localupd-req-rx%,%localupd-accept-tx%,%localupd-accept-retx%,%localupd-accept-rx%,%localupd-
rej-tx%,%localupd-rej-retx%,%localupd-rej-rx%,%tmsi-reloc-tx%,%tmsi-reloc-retx%,%tmsi-reloc-
rx%,%alert-req-tx%,%alert-req-retx%,%alert-req-rx%,%alert-ack-tx%,%alert-ack-retx%,%alert-ack-
rx%,%alert-rej-tx%,%alert-rej-retx%,%alert-rej-rx%,%ue-actind-tx%,%ue-actind-retx%,

sgs          sgsSch3             No
PPM,sgs,sgsSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%ue-actind-rx%,%eps-detind-tx%,%eps-detind-retx%,%eps-detind-rx%,%eps-detack-tx%,%eps-detack-
retx%,%eps-detack-rx%,%imsi-detind-tx%,%imsi-detind-retx%,%imsi-detind-rx%,%imsi-detack-
tx%,%imsi-detack-retx%,%imsi-detack-rx%,,,,,,,,%mm-inforeq-tx%,%mm-inforeq-retx%,
```

[local]MME# configure

[local]MME(config)# bulkstats mode

[local]MME(config-bulkstats)# file 2

[local]MME(config-bulkstats-file-2)# sgs schema sgsSch1 format PPM,sgs,sgsSch1,

%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%serv

id%,%pag-req-tx%,%pag-req-retx%,%pag-req-rx%,%pag-rej-tx%,%pag-rej-retx%,%pag-r

ej-rx%,%service-req-tx%,%service-req-retx%,%service-req-rx%,%dl-ud-tx%,%dl-ud-r

etx%,%dl-ud-rx%,%ul-ud-tx%,%ul-ud-retx%,%ul-ud-rx%,%localupd-req-tx%,%localupd-

req-retx%,

[local]MME(config-bulkstats-file-2)# end

[local]MME# show bulkstats schemas

Bulk Statistics Server Configuration:

 Server State:               Enabled

  File Limit:                 7500 KB

 Sample Interval:            15 minutes (0D 0H 15M)

 Transfer Interval:          480 minutes (0D 8H 0M)

 Receiver Mode:              Secondary-on-failure

 Historical Data Collection:  Enabled (15 samples stored)



Bulk Statistics Server Statistics:

 Records awaiting transmission: 0

 Bytes awaiting transmission:   0

```
Total records collected:        0

Total bytes collected:          0

Total records transmitted:      0

Total bytes transmitted:        0

Total records discarded:        0

Total bytes discarded:          0

Last collection time required: 0 second(s)

Last transfer time required:   0 second(s)

No successful data transfers

No attempted data transfers




 File 1

   Remote File Format:            %date%-%time%

   File Header:                   Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

   File Footer:                   EndOfFile

   No bulkstats receivers

   File Statistics:

     Records awaiting transmission: 0

     Bytes awaiting transmission:   0

     Total records collected:       0

     Total bytes collected:         0

     Total records transmitted:     0

     Total bytes transmitted:       0

     Total records discarded:       0

     Total bytes discarded:         0

     Last transfer time required:   0 second(s)

     No successful data transfers

     No attempted data transfers




 File 2

   Remote File Format:            %date%-%time%
```

File Header:                    Version-20.0,%ipaddr%,%date%-%time%,%localdate%-
%localtime%,%localtz%,%localtzoffset%,%localdate3%-%localtime3%,%swbuild%

File Footer:                    EndOfFile

No bulkstats receivers

File Statistics:

    Records awaiting transmission: 0

    Bytes awaiting transmission:   0

    Total records collected:       0

    Total bytes collected:         0

    Total records transmitted:     0

    Total bytes transmitted:       0

    Total records discarded:       0

    Total bytes discarded:         0

    Last transfer time required:   0 second(s)

    No successful data transfers

    No attempted data transfers



 File 3 not configured



 File 4 not configured



------------------ Schemas for File 2---------------------------------------

Type          Name                    Active-Only Format

------------ ----------------------- ---------- --------------------------------------

system       systemSch1              No
PPM,system,systemSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%sess-ttlarrived%,%sess-
ttlrejected%,%sess-ttlconnected%,%sess-ttlfailed%,%sess-ttldisconn%,%sess-ttlhandoff%,%sess-
ttlrenewal%,%sess-ttlcallop%,%sess-ttlauthsucc%,%sess-ttlauthfail%,%sess-curaaaactive%,%sess-
curaaadeleting%,%sess-curaaaacctpending%,%sess-curaaaacctitemsused%,%sess-
curaaaacctitemsmax%,%sess-curaaabuffused%,%sess-curaaabuffmax%,%sess-ttlaaacancauth%,%sess-
ttlaaaacctpurged%,%sess-ttlradacctpurged%,%sess-ttllcpup%,

system       systemSch10             No
PPM,system,systemSch10,%epochtime%,%localdate%,%localtime%,%uptime%,%aaa-ttlpseudoauthreq%,%aaa-
curpseudoauthreq%,%aaa-ttlauthnulluser%,%aaa-ttlacctsucc%,%aaa-ttlacctpurged%,%aaa-
ttlacctcancelled%,%aaa-ttlacctkeepalivesuccess%,%aaa-ttlacctkeepalivetimeout%,%aaa-
ttlacctkeepalivepurged%,%aaa-ttlradacctreq%,%aaa-ttlradacctcancelled%,%aaa-

```
ttlradacctpurged%,%aaa-ttlradacctreqretried%,%aaa-ttlradacctrspdropped%,%aaa-
ttlmgrpurgedrequests%,%diamauth-msg-mareq%,%diamauth-msg-maans%,%diamauth-msg-
marretry%,%diamauth-msg-maatimeout%,%diamauth-msg-maadropped%,%diamauth-msg-sareq%,

system         systemSch100              No
PPM,system,systemSch100,%epochtime%,%localdate%,%localtime%,%uptime%,%sess-bearerdur-24hr-
qci6%,%sess-bearerdur-over24hr-qci6%,%sess-bearerdur-2day-qci6%,%sess-bearerdur-4day-
qci6%,%sess-bearerdur-5day-qci6%,%sess-bearerdur-5sec-qci7%,%sess-bearerdur-10sec-qci7%,%sess-
bearerdur-30sec-qci7%,%sess-bearerdur-1min-qci7%,%sess-bearerdur-2min-qci7%,%sess-bearerdur-
5min-qci7%,%sess-bearerdur-15min-qci7%,%sess-bearerdur-30min-qci7%,%sess-bearerdur-1hr-
qci7%,%sess-bearerdur-4hr-qci7%,%sess-bearerdur-12hr-qci7%,%sess-bearerdur-24hr-qci7%,%sess-
bearerdur-over24hr-qci7%,%sess-bearerdur-2day-qci7%,%sess-bearerdur-4day-qci7%,%sess-bearerdur-
5day-qci7%,

diameter-auth diameter-authSch1          No           PPM,diameter-auth,diameter-
authSch1,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%servert
ype%,%group%,%der-req-id-sent%,%der-req-aka-chal-sent%,%der-req-retried%,%dea-chal-rcvd%,%dea-
acpt-rcvd%,%dea-timeout%,%dea-badauth%,%dea-malformed%,%dea-malformed-avp%,%dea-dropped%,%rar-
req-rcvd%,%raa-ans-accept-sent%,%aar-req-sent%,%str-req-sent%,%str-req-retried%,

diameter-auth diameter-authSch2          No           PPM,diameter-auth,diameter-
authSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%sta-
ans-accpt-rcvd%,%asr-req-rcvd%,%asa-rsp-accept-sent%,%asa-rsp-rej-sent%,%req-sock-write-
err%,%rsp-sock-write-err%,%any-sock-read-err%,%rem-disconnect%,%loc-disconnect%,

diameter-auth diameter-authSch3          No           PPM,diameter-auth,diameter-
authSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnid%,%vpnname%,%ipaddr%,%port%,%peer%,%
diameter-auth-msg-multiround%,%diameter-auth-msg-success%,%diameter-auth-msg-err-
protocol%,%diameter-auth-msg-err-transient%,%diameter-auth-msg-err-permanent%,%diameter-auth-
msg-err-other%,%aaa-req-received%,%aaa-req-timeouts%,%aaa-req-dropped%,

sgs         sgsSch2                   No
PPM,sgs,sgsSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%localupd-req-rx%,%localupd-accept-tx%,%localupd-accept-retx%,%localupd-accept-rx%,%localupd-
rej-tx%,%localupd-rej-retx%,%localupd-rej-rx%,%tmsi-reloc-tx%,%tmsi-reloc-retx%,%tmsi-reloc-
rx%,%alert-req-tx%,%alert-req-retx%,%alert-req-rx%,%alert-ack-tx%,%alert-ack-retx%,%alert-ack-
rx%,%alert-rej-tx%,%alert-rej-retx%,%alert-rej-rx%,%ue-actind-tx%,%ue-actind-retx%,

sgs         sgsSch3                   No
PPM,sgs,sgsSch3,%epochtime%,%localdate%,%localtime%,%uptime%,%vpnname%,%vpnid%,%servname%,%servi
d%,%ue-actind-rx%,%eps-detind-tx%,%eps-detind-retx%,%eps-detind-rx%,%eps-detack-tx%,%eps-detack-
retx%,%eps-detack-rx%,%imsi-detind-tx%,%imsi-detind-retx%,%imsi-detind-rx%,%imsi-detack-
tx%,%imsi-detack-retx%,%imsi-detack-rx%,,,,,,,,%mm-inforeq-tx%,%mm-inforeq-retx%,

[local]MME#
```

Situación E. Por lo tanto, el resultado es cada vez que se utiliza la palabra clave opcional **esquema**, no puede agregar ningún esquema nuevo. Puede eliminar cualquier esquema actual (del nodo) pero no puede volver a agregarlo. Sin embargo, los esquemas actuales presentes en el archivo de configuración (que está presente en <url>, no se ven afectados por los cambios realizados en el nodo).

# Solución

1. Se **utiliza el esquema de configuración cli bulkstat <url>**, debido a lo cual se enfrentaron a este problema.
2. Se trata de un resultado esperado por diseño, que se obtiene si se utiliza un **esquema** de palabras clave opcional.
3. Hay tres soluciones para este caso, a saber:

A. Para quitar el **esquema de configuración cli bulkstat <url>** y controlar la adición/eliminación de

esquemas mediante cli/símbolo del sistema manual.

B Para utilizar el **suplemento** de palabra clave opcional en el cli de configuración de bulkstat. Con el **suplemento de configuración cli bulkstat <url>** puede agregar los esquemas presentes en el archivo de configuración a los esquemas del nodo actual. También puede agregar/eliminar esquemas nuevos y esquemas actuales que se pueden eliminar/agregar de nuevo a través del símbolo del sistema de CLI.

C. Para agregar/eliminar los esquemas requeridos directamente en el archivo de configuración y después volver a cargar las configuraciones con el archivo de configuración (primero elimine el cli **sin la configuración de bulkstat**, agregue los esquemas en el archivo de configuración y después agréguelos de nuevo mediante el **esquema de configuración de bulkstats <url>**). Para agregar los esquemas en el archivo de configuración, puede hacerlo con el editor vi o mediante SFTP el archivo

Con el editor vi:

```
[local]MME-01# cli test-commands password <pswd>
Warning: Test commands enables internal testing and debugging commands
USE OF THIS MODE MAY CAUSE SIGNIFICANT SERVICE INTERRUPTION

[local]MME-01# debug shell
Last log in: Wed Dec 22 15:05:12 +0530 2021 on pts/3 from 10.227.224.108.
MME-01:card1-cpu0# ls -lrtha

total 16
-r--r--r-- 1 root root 952 Dec 15 23:30 .rhosts
-r--r--r-- 1 root root 1.7K Dec 15 23:30 .gdbinit
drwx------ 2 root root 100 Dec 15 23:30 .ssh
drwxr-xr-x 24 root root 500 Dec 15 23:30 ..
-rw------- 1 root root 118 Dec 21 14:48 .bash_history
-rw-r--r-- 1 root root 1 Dec 22 15:05 file
drwxr-xr-x 3 root root 140 Dec 22 15:05 .

MME-01:card1-cpu0# vi file
```

Envíe por FTP el archivo de configuración de <url> a la unidad local, edítelo y vuelva a enviarlo por SFTP a <url>.