

排除与StarOS中批量统计数据方案和推荐解决方法相关的场景故障

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[背景信息](#)

[问题](#)

[测试方案](#)

[解决方案](#)

简介

本文档介绍与在StarOS中添加和删除批量统计数据方案相关的场景以及这些问题以及推荐的解决方法。

先决条件

要求

Cisco 建议您了解以下主题：

- Linux
- StarOS

思科建议您必须具有权限访问：

- 用于执行**debug shell**以访问linux shell命令提示符的隐藏模式
- 安全文件传输协议(SFTP)访问StarOS节点

使用的组件

本文档中的信息基于StarOS版本21.16.6.77063。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您的网络处于活动状态，请确保您了解所有命令的潜在影响。

背景信息

1. 配置配置文件以存储与批量统计数据相关的配置。
2. 用于标识网络地址的命令如下：

```
configure
```

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

```
end
```

其中：

- 可选**schema**关键字允许您仅使用提供的文件替换模式并保留服务器配置。
- 可选的**supplement**关键字允许您使用所提供的配置文件的内容来补充运行批量统计数据配置。这些关键字仅适用于现有文件。
- URL指定批量统计数据配置文件的位置。

问题

无法通过CLI命令提示符添加新架构/重新添加当前架构（如果已删除）。

测试方案

1. 由于使用cli bulkstat config schema <URL>,因此面临此问题。
2. 使用可选关键字架构时，这是每个设计的预期结果。
3. 实验中测试了相同的场景。结果如下：
场景A.最初配置了**批量**统计数据配置。

```
[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%,%localtzooffset%,%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-tokenel%,%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%,%numproc%,%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_inpackets%,%bcast_outpackets%,%rxpackets%,%txpackets%,%rxdiscbytes%,%rxdiscpackets%,%txdiscbytes%,%txdiscpackets%,%rxerrorbytes%,%rxerrorpackets%,%txerrorbytes%,%txerrorpackets%,
port          portSch2          No
PPM,port,portSch2,%epochtime%,%localdate%,%localtime%,%uptime%,%card%,%port%,%frag-rcvd%,%pkt-reassembled%,%frag-tokenel%,%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#

场景B。要添加可选关键字架构，您需要首先通过no bulkstats config删除bulkstat cli。执行no bulkstats config时，节点中的所有当前架构都将被删除。

[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#

场景C.然后是cli **bulkstat config schema <url>** 配置。配置文件中的所有配置和方案都会添加到节点

o

[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-
acct-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-
curaaaadeleting%,%sess-curaaaacctpending%,%sess-curaaaacctitemsused%,%sess-
curaaaacctitemsmax%,%sess-curaaaabuffused%,%sess-curaaaabuffmax%,%sess-ttlaaacanauth%,%sess-
ttlaaaaacctpurged%,%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-maamtimeout%,%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%,%servid%,%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%,%servid%,%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%,%servid%,%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-curaaaadeleting%,%sess-curaaaacctpending%,%sess-curaaaacctitemsused%,%sess-curaaaacctitemsmax%,%sess-curaaaabuffused%,%sess-curaaaabuffmax%,%sess-ttlaaacanauth%,%sess-ttlaaacctpurged%,%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-maamtimeout%,%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%,%servertype%,%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-acpt-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%,%staans-acpt-rcvd%,%asr-req-rcvd%,%asa-rsp-acpt-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%,%servid%,%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%,%servid%,%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%,%servid%,%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-infreq-tx%,%mm-infreq-retx%,

#exit

#exit

end

[local]MME#

场景D。之后，将无法添加任何新架构。当您尝试删除当前架构并重新添加它时，该架构将被删除，但您将无法重新添加。但是，当前架构仍存在于配置文件（URL中的配置文件）中。

[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,%epochtime%,%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,%epochtime%,

[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-ttldisconnect%,%sess-ttlhandoff%,%sess-ttlrenewal%,%sess-ttlcallop%,%sess-ttlauthsucc%,%sess-ttlauthfail%,%sess-curaaaactive%,%sess-curaaaadeleting%,%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-
acct-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-infreq-tx%,%mm-infreq-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-ttldisconnect%,%sess-ttlhandoff%,%sess-ttlrenewal%,%sess-ttlcallop%,%sess-ttlauthsucc%,%sess-ttlauthfail%,%sess-curaaaactive%,%sess-curaaaadeleting%,%sess-curaaaacctpending%,%sess-curaaaacctitemsused%,%sess-curaaaacctitemsmax%,%sess-curaaabuffused%,%sess-curaaabuffmax%,%sess-ttlaaacanauth%,%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-matimeout%,%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%,%servertype%,%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%,%staans-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%,%servid%,%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%,%servid%,%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-ttldisconnect%,%sess-ttlhandoff%,%sess-ttlrenewal%,%sess-ttlcallop%,%sess-ttlauthsucc%,%sess-ttlauthfail%,%sess-curaaaactive%,%sess-curaaaadeleting%,%sess-curaaaacctpending%,%sess-curaaaacctitemsused%,%sess-curaaaacctitemsmax%,%sess-curaaaabuffused%,%sess-curaaaabuffmax%,%sess-ttlaaacancauth%,%sess-ttlaaaaacctpurged%,%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-ttlradaccreq%,%aaa-ttlradacctcancelled%,%aaa-ttlradacctpurged%,%aaa-ttlradaccreqretried%,%aaa-ttlradacctrspdropped%,%aaa-ttlmgrpurgedrequests%,%diamauth-msg-mareq%,%diamauth-msg-maans%,%diamauth-msg-marretry%,%diamauth-msg-maamtimeout%,%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%,%servertype%,%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#
```

场景E。因此，无论何时使用可选关键字，**架构**，不能添加任何新架构。您可以删除任何当前方案（从节点），但无法将其重新添加。但是，配置文件中存在的当前方案（存在于<url>中）不会受节点中所做的更改的影响。

解决方案

1. 使用cli **bulkstat config schema <url>**，因此他们面临此问题。
2. 这是每个设计的预期结果，如果使用可选关键字架构，**将获得此结果**。
3. 此案例有三种解决方案：

答：要删除cli **bulkstat config schema <url>**并通过手动cli/命令提示符控制架构的添加/删除。

B.在bulkstat config cli中使用可选关键字补充。使用cli **bulkstat配置补充<url>**,您可以将配置文件中存在的方案添加到当前节点的方案。您可以添加/删除新架构，也可以通过CLI命令提示符删除/添加当前架构。

C.要直接在配置文件中添加/删除所需的方案，然后使用配置文件重新加载配置(首先通过**no bulkstat config**删除cli，然后在配置文件中添加方案，然后通过**bulkstats config schema <url>**重新添加)。要在配置文件中添加方案，可以使用vi编辑器或通过SFTP将文件添加到配置文件中

使用vi编辑器：

```
[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
```

将配置文件从<url>SFTP传输到本地驱动器，对其进行编辑，然后将其SFTP返回到<url>。