



## Sample SMF Configuration

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### Sample Configuration

The following is only a sample configuration file provided solely for your reference. You must create and modify your own configuration file according to the specific needs of your deployment.

```
profile compliance compl
service nsmf-pdusession
  version uri v1
  version full 1.0.2
  version spec 15.4.0
exit
service namf-comm
  version uri v1
  version full 1.0.2
  version spec 15.4.0
exit
service n1
  version uri v1
  version full 1.0.0
  version spec 15.4.0
exit
service n2
  version uri v1
  version full 1.0.0
  version spec 15.4.0
exit
service nudm-sdm
  version uri v2
  version full 2.0.1
  version spec 15.4.0
exit
service nudm-uecm
  version uri v1
  version full 1.0.2
  version spec 15.4.0
exit
service nnrf-disc
  version uri v1
  version full 1.0.2
  version spec 15.4.0
exit
```

```

service nrf-nfm
  version uri v1
  version full 1.0.2
  version spec 15.4.0
exit
service npcf-smpolicycontrol
  version uri v1
  version full 1.0.2
  version spec 15.4.0
exit
service nchf-convergedcharging
  version uri v2
  version full 2.0.1
  version spec 15.3.0
exit
exit
profile network-element amf amf1
  nf-client-profile AP1
  failure-handling-profile FH3
  query-params [ dnn target-nf-instance-id ]
exit
profile network-element udm udm1
  nf-client-profile UP1
  failure-handling-profile FH1
  query-params [ target-plmn target-nf-instance-id ]
  query-target-plmn primary
exit
profile network-element pcf pcf1
  nf-client-profile PP1
  failure-handling-profile FH1
  query-params [ dnn target-plmn target-nf-instance-id requester-snsais ]
  rulebase-prefix cbn#
  predefined-rule-prefix crn#
  use-amf-provided-pcf true
exit
profile network-element chf chf1
  nf-client-profile CP1
  failure-handling-profile FH2
  query-params [ dnn target-plmn chf-supported-plmn ]
  query-target-plmn primary
  nf-client-profile-offline CP2
  failure-handling-profile-offline FH2
exit
profile network-element chf chgser1
exit
profile network-element sepp sepp1
  nf-client-profile hsepp
exit
profile network-element upf upf1
  n4-peer-address ipv4 198.18.1.3
  n4-peer-port 8805
  upf-group-profile upfGroup1
  dnn-list [ cisco intershat starent ]
  capacity 65535
  priority 1
exit
profile network-element upf upf2
  n4-peer-address ipv4 198.18.1.20
  n4-peer-port 8805
  dnn-list [ cisco intershat starent ]
  capacity 65535
  priority 2
exit
profile network-element upf upf3

```

```
node-id      toolsUPF
n4-peer-address ipv4 198.18.1.22
n4-peer-port 8805
dnn-list     [ cisco intershat starent ]
capacity     32768
priority     10
exit
profile upf-group upfGroup1
heartbeat
  interval           63
  retransmission-timeout 3
  max-retransmissions 5
exit
supported-features [ secondary-pdr ]
exit
profile wps wps1
arp            1-15
dscp n3 0x14
dscp sxa 0x22
dscp s5e 0x24
dscp s11 0x26
message-priority [ pfcpc gtpc ]
exit
profile wps wps_F5972
arp            1-4,14
dscp n3 0x0F
message-priority [ pfcpc gtpc ]
exit
profile pcscf pcscf1
v4-list
  precedence 3
  primary 3.3.3.1
  secondary 3.3.3.2
exit
v6-list
  precedence 3
  primary 33:33::1
  secondary 33:33::2
exit
v4v6-list
  precedence 3
  primary ipv4 46.46.33.1
  primary ipv6 fd01:976a:c305:9::5
  secondary ipv4 46.46.33.2
  secondary ipv6 46:46:33::2
exit
exit
profile icmpv6 icmpprf1
options virtual-mac b6:6d:57:45:45:45
exit
profile charging chgprf1
method          [ offline ]
limit volume 10000000
limit duration 7200
accounting limit volume downlink 100000 total 100000 uplink 100000
accounting triggers [ qos-change rat-change serv-node-change ambr-change ue-time-change
plmn-change user-loc-change ]
tight-interworking-mode true
quota request always
quota suppress triggers [ qht ]
reporting-level online rating-group
```

```

    reporting-level offline service-id
exit
profile charging chgprf2
    method [ offline ]
    accounting limit volume downlink 100000 total 100000 uplink 100000
    accounting triggers [ qos-change rat-change serv-node-change ambr-change ue-time-change
plmn-change user-loc-change ]
    tight-interworking-mode true
    quota request always
    quota suppress triggers [ qht ]
    reporting-level online rating-group
    reporting-level offline service-id
exit
profile charging chgprf3_roaming
    method [ offline ]
exit
profile charging-characteristics 1
    charging-profile chgprf2
    charging-qbc-profile qbc_general
exit
profile charging-qbc qbc_general
    limit volume 20500
    limit duration 70
    max-charging-condition 1
    max-deferred-urr 2
    triggers [ ambr-change qos-change user-loc-change ]
exit
profile charging-qbc qbc_hsmf1
    limit volume 40500
    limit duration 140
    triggers [ ambr-change qos-change serv-node-change user-loc-change ]
exit
profile failure-handling FH1
    interface pfcpc
        message N4SessionEstablishmentReq
            cause-code pfcpc-entity-in-congestion action retry-terminate max-retry 2
            cause-code system-failure action terminate
            cause-code service-not-supported action terminate
            cause-code no-resource-available action retry-terminate max-retry 3
            cause-code no-response-received action retry-terminate max-retry 1
            cause-code reject action terminate
        exit
        message N4SessionModificationReq
            cause-code mandatory-ie-incorrect action terminate
            cause-code session-ctx-not-found action terminate
            cause-code reject action terminate
        exit
    exit
    interface sxa
        message SessionEstablishmentReq
            cause-code 2-255 action retry-terminate max-retry 4
        exit
    exit
exit
profile failure-handling gtp1
    interface gtpc message S5S8CreateBearerReq
        cause-code temp-fail
        action retry timeout 1000 max-retry 2
    exit
    exit
    interface gtpc message S5S8UpdateBearerReq
        cause-code temp-fail
        action retry timeout 1000 max-retry 2
    exit

```

```
exit
interface gtpc message S588DeleteBearerReq
  cause-code temp-fail
  action retry timeout 1000 max-retry 2
  exit
exit
exit
profile access access1
  n26 idft enable timeout 15
  n2 idft enable timeout 15
  gtpc gtpc-failure-profile gtp1
  erir delay 1
  eps-fallback cbr delay 3000 max-retry 1 timeout 1
exit
profile access idft
  n1 t3591-pdu-mod-cmd timeout 2 max-retry 1
  n1 t3592-pdu-rel-cmd timeout 2 max-retry 1
  n26 idft enable timeout 15
  n2 idft enable timeout 15
  erir delay 2000
exit
profile tai-group TA1
  mcc 123 mnc 456
  tac list [ 00092a 2346 2356 ]
  exit
  mcc 310 mnc 260
  tac list [ 00092a 2346 2356 ]
  tac range start 1234 end 7890
  exit
  exit
  mcc 310 mnc 310
  tac list [ 2346 2356 2378 ]
  tac range start 5676 end 5767
  exit
  exit
exit
profile tai-group TA2
  mcc 310 mnc 260
  tac list [ 2346 5676 ]
  exit
exit
profile tai-group tgp2
  mcc 091 mnc 05
  exit
exit
profile ecgi-group ECGI1
  mcc 122 mnc 234
  ecgi range start 1234567 end 1234577
  exit
  exit
  mcc 123 mnc 456
  ecgi range start 1234567 end 1234577
  exit
  exit
  mcc 310 mnc 260
  ecgi range start 1234567 end 1234577
  exit
  exit
  mcc 310 mnc 310
  exit
exit
profile ecgi-group ECGI2
  exit
profile ncgi-group NCGI1
```

```

mcc 123 mnc 456
  ncgi range start 123456788 end 133456789
  exit
exit
mcc 310 mnc 260
  ncgi list [ 123456789 ]
  ncgi range start 123456788 end 234567891
  exit
exit
mcc 310 mnc 310
  ncgi list [ 123456789 133456789 ]
  ncgi range start 234567891 end 244567891
  exit
exit
exit
profile ncgi-group NCGI2
  mcc 123 mnc 456
    ncgi range start 123456789 end 133456789
    exit
    ncgi range start 234567891 end 244567891
    exit
  exit
  mcc 310 mnc 260
    ncgi range start 123456789 end 133456789
    exit
  exit
exit
profile location-area-group loc1
  tai-group TA1
  ecgi-group ECGI1
  ncgi-group NCGI1
  exit
profile location-area-group loc2
  tai-group TA2
  ncgi-group NCGI1
  exit
profile radius
  deadtime 2
  detect-dead-server response-timeout 2
  max-retry 2
  timeout 2
  enable-packet-dump
  server 10.1.8.60 1812
    type auth
    secret $8$j1Tgf1IvRvdywBgDZsP7q7FPzo87+/c1QV99bLxz6AY=
    priority 1
  exit
  server 10.1.8.60 1813
    type acct
    secret $8$bANgMCn/x7CspByC/q5Jm1sMo5d9TZMKdTbEq7543wc=
    priority 10
  exit
  attribute
    nas-identifier CISCO-SMF
  exit
  accounting
    algorithm first-server
    max-retry 3
    timeout 1
  attribute
    nas-identifier CISCO-ACCT-SMF
  exit
exit
server-group sgl

```

```

server auth 10.1.8.60 1812
exit
server acct 10.1.8.60 1813
exit
attribute
  nas-ip 10.1.8.55
exit
accounting
  attribute
    nas-ip 10.1.8.55
  exit
exit
exit
profile radius-dynamic-author
  client 10.1.8.60
  secret $8$G7fLQoqcBFFPpZNstAQUT/VtoxHqGqwPdLNB1PliHOI=
exit
profile dnn cisco
  dns primary ipv4 10.168.220.239
  dns primary ipv6 2001:4870:e00b:1a::3
  dns secondary ipv6 2001:4870:e00b:1a::5
  network-element-profiles chf chf1
  network-element-profiles amf amf1
  network-element-profiles pcf pcf1
  network-element-profiles udm udm1
  network-element-profiles sepp sepp1
  dnn cisco network-function-list [ upf upf2 ]
  dnn rmgr cisco
  timeout absolute 360000 up-idle 900 cp-idle 1500
  charging-profile          chgprf1
  charging-qbc-profile      qbc_hsmf1
  virtual-mac               b6:6d:47:47:47:47
  pcscf-profile             pcscf1
  wps-profile                wps1
  ssc-mode 1 allowed [ 3 ]
  session type IPV4 allowed [ IPV6 IPV4V6 ]
  upf apn cisco
  qos-profile                qos_nonStdQci
  authentication secondary radius group sgl
  authentication algorithm pap 1 password-use-pco chap 2 convert-to-mschap mschap 3
  always-on                  false
  userplane-inactivity-timer 300
  only-nr-capable-ue         true
exit
profile dnn intershat
  dns primary ipv4 10.168.220.239
  dns primary ipv6 2001:4870:e00b:1a::3
  dns secondary ipv6 2001:4870:e00b:1a::5
  network-element-profiles chf chf1
  network-element-profiles amf amf1
  network-element-profiles pcf pcf1
  network-element-profiles udm udm1
  network-element-profiles sepp sepp1
  timeout absolute 360000 up-idle 900 cp-idle 1500
  charging-profile          chgprf1
  charging-qbc-profile      qbc_hsmf1
  virtual-mac               b6:6d:47:47:47:47
  nexthop-forwarding-address ipv4 84.54.84.64
  nexthop-forwarding-address ipv6 8454:8454::8454
  pcscf-profile             pcscf1
  wps-profile                wps1
  ssc-mode 1

```

```

session type IPV4 allowed [ IPV6 IPV4V6 ]
qos-profile qos_nonStdQci
authentication secondary radius group sgl
authentication algorithm pap 1 password-use-pco chap 2 convert-to-mschap mschap 3
always-on false
dcnr true
userplane-inactivity-timer 1800
only-nr-capable-ue true
emergency false
exit
profile dnn sos
network-element-profiles chf chf1
network-element-profiles amf amf1
network-element-profiles pcf pcf1
network-element-profiles udm udml
virtual-mac b6:6d:47:47:47:47
ssc-mode 1
session type IPV4 allowed [ IPV6 IPV4V6 ]
authorization local
emergency true
exit
profile dnn starent
dns primary ipv4 10.168.220.239
dns primary ipv6 2001:4870:e00b:1a::3
dns secondary ipv6 2001:4870:e00b:1a::5
network-element-profiles chf chf1
network-element-profiles amf amf1
network-element-profiles pcf pcf1
network-element-profiles udm udml
dnn cisco network-function-list [ upf upf2 ]
timeout absolute 360000 up-idle 60 cp-idle 600
charging-profile chgprfl
virtual-mac b6:6d:47:47:47:47
pcscf-profile pcscf1
wps-profile wps2
ssc-mode 1
session type IPV4 allowed [ IPV6 IPV4V6 ]
upf apn intershat
qos-profile qos_F5972
always-on false
userplane-inactivity-timer 300
only-nr-capable-ue true
emergency false
exit
profile sgw-qos-profile sgw-non-standardqci
dscp-map operator-defined-qci 128 non-gbr arp-priority-level 5 uplink user-datagram
dscp-marking 0x1e
dscp-map operator-defined-qci 128 non-gbr arp-priority-level 5 downlink user-datagram
dscp-marking 0x22 encaps-header copy-inner
exit
profile qos 5qi-to-dscp-mapping-table
dscp-map qi5 1 uplink user-datagram dscp-marking 0x2D
dscp-map qi5 1 downlink encsp-header dscp-marking 0x2F
dscp-map qi5 3 uplink user-datagram dscp-marking 0x0c
dscp-map qi5 3 downlink encsp-header dscp-marking 0x0c
dscp-map qi5 5 uplink user-datagram dscp-marking 0x3D
dscp-map qi5 5 downlink encsp-header dscp-marking 0x3F
dscp-map qi5 6 uplink user-datagram dscp-marking 0x0c
dscp-map qi5 6 downlink encsp-header dscp-marking 0x0c
dscp-map qi5 7 uplink user-datagram dscp-marking 0x0e
dscp-map qi5 7 downlink encsp-header dscp-marking 0x0e
dscp-map qi5 8 uplink user-datagram dscp-marking 0x0e
dscp-map qi5 8 downlink encsp-header dscp-marking 0x0e
dscp-map qi5 9 uplink user-datagram dscp-marking 0x0a

```



```

dscp-map qi5 9 downlink encsp-header dscp-marking 0x0a
dscp-map qi5 43 uplink user-datagram dscp-marking 0x1D
dscp-map qi5 43 downlink encsp-header dscp-marking 0x1F
exit
profile qos abc
  ambr ul "250 Kbps"
  ambr dl "500 Kbps"
  qi5 7
  arp priority-level 14
  arp preempt-cap NOT_PREEMPT
  arp preempt-vuln PREEMPTABLE
  priority 120
  max data-burst 2000
  dscp-map qi5 1 arp-priority-level 12 uplink user-datagram dscp-marking 0x2e
  dscp-map qi5 1 arp-priority-level 12 downlink user-datagram dscp-marking 0x12 encsp-header
  copy-inner
  dscp-map qi5 1 uplink user-datagram dscp-marking 0x2e
  dscp-map qi5 1 downlink user-datagram dscp-marking 0x12 encsp-header copy-inner
  dscp-map qi5 2 uplink user-datagram dscp-marking 0x3f
  dscp-map qi5 2 downlink user-datagram dscp-marking 0x2a encsp-header dscp-marking 0x0a
  dscp-map qi5 3 uplink user-datagram dscp-marking 0x2e
  dscp-map qi5 3 downlink user-datagram dscp-marking 0x12 encsp-header copy-inner
  dscp-map qi5 4 uplink user-datagram dscp-marking 0x3f
  dscp-map qi5 4 downlink user-datagram dscp-marking 0x2a encsp-header dscp-marking 0x0a
  dscp-map qi5 5 uplink user-datagram dscp-marking 0x2e
  dscp-map qi5 5 downlink user-datagram dscp-marking 0x12 encsp-header copy-inner
  dscp-map qi5 6 uplink user-datagram dscp-marking 0x3f
  dscp-map qi5 6 downlink user-datagram dscp-marking 0x2a encsp-header dscp-marking 0x0a
  dscp-map qi5 7 uplink user-datagram dscp-marking 0x3f
  dscp-map qi5 7 downlink user-datagram dscp-marking 0x2a encsp-header dscp-marking 0x0a
  dscp-map qi5 8 uplink user-datagram dscp-marking 0x2e
  dscp-map qi5 8 downlink user-datagram dscp-marking 0x12 encsp-header copy-inner
  dscp-map qi5 9 uplink user-datagram dscp-marking 0x3f
  dscp-map qi5 9 downlink user-datagram dscp-marking 0x2a encsp-header dscp-marking 0x0a
  dscp-map qi5 65 uplink user-datagram dscp-marking 0x2e
  dscp-map qi5 65 downlink user-datagram dscp-marking 0x12 encsp-header copy-inner
  dscp-map qi5 66 uplink user-datagram dscp-marking 0x3f
  dscp-map qi5 66 downlink user-datagram dscp-marking 0x2a encsp-header dscp-marking 0x0a
  dscp-map qi5 69 uplink user-datagram dscp-marking 0x2e
  dscp-map qi5 69 downlink user-datagram dscp-marking 0x12 encsp-header copy-inner
  dscp-map qi5 70 uplink user-datagram dscp-marking 0x3f
  dscp-map qi5 70 downlink user-datagram dscp-marking 0x2a encsp-header dscp-marking 0x0a
  dscp-map qi5 80 uplink user-datagram dscp-marking 0x2e
  dscp-map qi5 80 downlink user-datagram dscp-marking 0x12 encsp-header copy-inner
  dscp-map qi5 82 uplink user-datagram dscp-marking 0x3f
  dscp-map qi5 82 downlink user-datagram dscp-marking 0x2a encsp-header dscp-marking 0x0a
  dscp-map qi5 83 uplink user-datagram dscp-marking 0x3f
  dscp-map qi5 83 downlink user-datagram dscp-marking 0x2a encsp-header dscp-marking 0x0a
exit
profile qos qos1
  qi5 128
  arp priority-level 8
  arp preempt-cap NOT_PREEMPT
  arp preempt-vuln NOT_PREEMPTABLE
  priority 9
  max data-burst 2048
exit
profile qos qos_F5972
  dscp-map qi5 1 arp-priority-level 5 uplink user-datagram dscp-marking 0x1e
  dscp-map qi5 1 arp-priority-level 5 downlink user-datagram dscp-marking 0x22 encsp-header
  copy-inner
exit
profile qos qos_nonStdQci
  ambr ul "250 Kbps"

```

```

ambr dl "500 Kbps"
qi5 128
arp priority-level 12
arp preempt-cap NOT_PREEMPT
arp preempt-vuln PREEMPTABLE
dscp-map qi5 1 arp-priority-level 5 uplink user-datagram dscp-marking 0x1e
dscp-map qi5 1 arp-priority-level 5 downlink user-datagram dscp-marking 0x22 encsp-header
copy-inner
dscp-map qi5 2 arp-priority-level 6 uplink user-datagram dscp-marking 0x3e
dscp-map qi5 2 arp-priority-level 6 downlink user-datagram dscp-marking 0x23 encsp-header
copy-inner
dscp-map qi5 3 arp-priority-level 12 uplink user-datagram dscp-marking 0x2f
dscp-map qi5 3 arp-priority-level 12 downlink user-datagram dscp-marking 0x14 encsp-header
copy-inner
dscp-map qi5 6 downlink encsp-header copy-inner
dscp-map qi5 7 downlink encsp-header dscp-marking 0x01
dscp-map qi5 15 arp-priority-level 12 uplink user-datagram dscp-marking 0x2f
dscp-map qi5 15 arp-priority-level 12 downlink user-datagram dscp-marking 0x14 encsp-header
copy-inner
dscp-map qi5 65 arp-priority-level 5 uplink user-datagram dscp-marking 0x1e
dscp-map qi5 65 arp-priority-level 5 downlink user-datagram dscp-marking 0x22 encsp-header
copy-inner
dscp-map qi5 70 arp-priority-level 12 uplink user-datagram dscp-marking 0x2f
dscp-map qi5 70 arp-priority-level 12 downlink user-datagram dscp-marking 0x14 encsp-header
copy-inner
dscp-map qi5 80 downlink encsp-header copy-inner
dscp-map qi5 81 downlink encsp-header copy-inner
dscp-map qi5 83 arp-priority-level 6 uplink user-datagram dscp-marking 0x3e
dscp-map qi5 83 arp-priority-level 6 downlink user-datagram dscp-marking 0x23 encsp-header
copy-inner
dscp-map qi5 85 downlink encsp-header dscp-marking 0x01
dscp-map qi5 128 arp-priority-level 5 uplink user-datagram dscp-marking 0x1e
dscp-map qi5 128 arp-priority-level 5 downlink user-datagram dscp-marking 0x22 encsp-header
copy-inner
dscp-map qi5 230 arp-priority-level 6 uplink user-datagram dscp-marking 0x3e
dscp-map qi5 230 arp-priority-level 6 downlink user-datagram dscp-marking 0x23 encsp-header
copy-inner
dscp-map qi5 254 downlink encsp-header dscp-marking 0x01
exit
profile ppd ppdl
fqi 1,10-15,43,65
dscp 0 ppi 3
dscp 1 ppi 2
dscp 43 ppi 3
exit
profile nf-client nf-type udm
udm-profile UP1
locality LOC1
priority 30
service name type nudm-sdm
endpoint-profile EP1
capacity 30
uri-scheme http
version
uri-version v2
exit
exit
endpoint-name EP1
primary ip-address ipv4 10.1.8.60
primary ip-address port 9001
exit
exit
service name type nudm-uecm

```

```
endpoint-profile EP1
  capacity 30
  uri-scheme http
  endpoint-name EP1
    primary ip-address ipv4 10.1.8.60
    primary ip-address port 9001
  exit
exit
exit
service name type nudm-ee
endpoint-profile EP1
  capacity 30
  api-uri-prefix PREFIX
  api-root ROOT
  uri-scheme http
  endpoint-name EP1
    priority 56
    primary ip-address ipv4 10.1.8.60
    primary ip-address port 9001
  exit
exit
exit
exit
exit
profile nf-client nf-type pcf
pcf-profile PP1
  locality LOC1
  priority 30
  service name type npcfsmpolicycontrol
  endpoint-profile EP1
    capacity 30
    uri-scheme http
    endpoint-name EP1
      priority 100
      primary ip-address ipv4 10.1.8.60
      primary ip-address port 9003
    exit
  endpoint-name realPCF
    priority 50
    primary ip-address ipv4 10.1.2.138
    primary ip-address port 9082
  exit
exit
exit
exit
exit
profile nf-client nf-type amf
amf-profile AP1
  locality LOC1
  priority 30
  service name type namf-comm
  endpoint-profile EP2
    capacity 30
    uri-scheme http
    endpoint-name EP1
      priority 56
      primary ip-address ipv4 10.1.8.60
      primary ip-address port 9002
    exit
  endpoint-name realAMF
    priority 100
    primary ip-address ipv4 10.84.115.38
```

```

        primary ip-address port 8090
    exit
    exit
    exit
    exit
    exit
    exit
profile nf-client nf-type chf
chf-profile CP1
locality LOC1
priority 30
service name type nchf-convergedcharging
endpoint-profile EP1
capacity 30
uri-scheme http
version
    uri-version v2
    exit
    exit
    endpoint-name EP1
    priority 100
    primary ip-address ipv4 10.1.8.60
    primary ip-address port 9004
    exit
    exit
    exit
    exit
chf-profile CP2
locality LOC1
priority 31
service name type nchf-convergedcharging
endpoint-profile EP1
capacity 30
uri-scheme http
version
    uri-version v2
    exit
    exit
    endpoint-name EP1
    priority 56
    primary ip-address ipv4 10.1.8.60
    primary ip-address port 9005
    exit
    exit
    exit
    exit
exit
profile nf-client nf-type sepp
sepp-profile hsepp
locality LOC1
priority 30
service name type nsmf-pdusession
endpoint-profile EP1
capacity 30
uri-scheme http
endpoint-name EP1
priority 56
primary ip-address ipv4 10.1.8.51
primary ip-address port 8090
exit
endpoint-name lfs-hsepp
priority 10

```

```
        primary ip-address ipv4 10.1.8.60
        primary ip-address port 8888
        secondary ip-address ipv4 10.2.8.60
        secondary ip-address port 8889
    exit
exit
exit
exit
exit
exit
profile nf-pair nf-type UDM
    nrf-discovery-group DISC1
    locality client LOC1
    locality preferred-server LOC1
    locality geo-server GEO
    cache invalidation true timeout 20000
exit
profile nf-pair nf-type AMF
    nrf-discovery-group DISC1
    locality client LOC1
    locality preferred-server LOC1
    locality geo-server GEO
exit
profile nf-pair nf-type PCF
    nrf-discovery-group DISC1
    locality client LOC1
    locality preferred-server LOC1
    locality geo-server GEO
exit
profile nf-pair nf-type SEPP
    nrf-discovery-group DISC1
    locality client LOC1
    locality preferred-server LOC1
    locality geo-server GEO
exit
profile nf-pair nf-type UPF
    nrf-discovery-group DISC1
    locality client LOC1
    locality preferred-server LOC1
    locality geo-server GEO
exit
profile nf-pair nf-type CHF
    nrf-discovery-group DISC1
    locality client LOC1
    locality preferred-server LOC1
    locality geo-server GEO
    cache invalidation true timeout 20000
exit
profile nf-client-failure nf-type udm
profile failure-handling FH1
    service name type nudm-sdm
    message type UdmSdmGetUESMSSubscriptionData
        status-code httpv2 504
        retry 1
        action continue
    exit
    message type UdmSdmSubscribeToNotification
        status-code httpv2 504
        retry 1
        action continue
    exit
    message type UdmSubscriptionReq
```

```

    status-code httpv2 504
    retry 1
    action continue
  exit
exit
exit
service name type nudm-uecm
message type UdmUecmRegisterSMF
  status-code httpv2 504
  retry 1
  action continue
  exit
exit
message type UdmUecmUnregisterSMF
  status-code httpv2 504
  action continue
  exit
exit
message type UdmRegistrationReq
  status-code httpv2 504
  action continue
  exit
exit
exit
profile nf-client-failure nf-type pcf
profile failure-handling FH1
service name type npcfsmpolicycontrol
responsetimeout 4000
message type PcfSmpolicycontrolCreate
  status-code httpv2 0,403
  action retry-and-ignore
  exit
  status-code httpv2 400,504
  action continue
  exit
  status-code httpv2 404
  action terminate
  exit
  status-code httpv2 500
  retry 2
  action retry-and-ignore
  exit
  status-code httpv2 503
  retry 2
  action retry-and-continue
  exit
exit
message type PcfSmpolicycontrolUpdate
  status-code httpv2 0,403
  action retry-and-ignore
  exit
  status-code httpv2 400,504
  action continue
  exit
  status-code httpv2 404
  action terminate
  exit
  status-code httpv2 500
  retry 2
  action retry-and-ignore
  exit
  status-code httpv2 503

```

```
        retry 2
        action retry-and-continue
    exit
exit
message type PcfSmpolicycontrolDelete
    status-code httpv2 0,403
    action retry-and-ignore
    exit
    status-code httpv2 400
    action continue
    exit
    status-code httpv2 404
    action terminate
    exit
    status-code httpv2 500
    retry 2
    action retry-and-ignore
    exit
    status-code httpv2 503
    retry 2
    action retry-and-continue
    exit
exit
exit
exit
exit
profile nf-client-failure nf-type chf
profile failure-handling FH2
service name type nchf-convergedcharging
message type ChfConvergedchargingCreate
    status-code httpv2 0,500,504
    action continue
    exit
    status-code httpv2 400,404
    retry 3
    action retry-and-terminate
    exit
    status-code httpv2 403
    retry 3
    action retry-and-ignore
    exit
    status-code httpv2 503
    action terminate
    exit
exit
message type ChfConvergedchargingUpdate
    status-code httpv2 0,500,504
    action continue
    exit
    status-code httpv2 400,404
    retry 3
    action retry-and-terminate
    exit
    status-code httpv2 403
    retry 3
    action retry-and-ignore
    exit
    status-code httpv2 503
    action terminate
    exit
exit
message type ChfConvergedchargingDelete
    status-code httpv2 0,500,504
    action continue
```

```

exit
status-code httpv2 400,404
  retry 3
  action retry-and-terminate
exit
status-code httpv2 403
  retry 3
  action retry-and-ignore
exit
status-code httpv2 503
  action terminate
exit
exit
exit
exit
profile nf-client-failure nf-type sepp
profile failure-handling sepp
service name type nsmf-pduseession
responsetimeout 4000
message type VsmfPduSessionCreate
  status-code httpv2 0
  retry 5
  action retry-and-terminate
exit
status-code httpv2 504
  retry 3
  action retry-and-terminate
exit
exit
message type VsmfPduSessionUpdate
  status-code httpv2 0,401,404,503-504
  action retry-and-continue
exit
status-code httpv2 400
  action terminate
exit
exit
message type VsmfPduSessionRelease
  status-code httpv2 0,504
  action retry-and-terminate
exit
exit
exit
exit
profile smf smf1
locality LOC1
allowed-nssai [ slice1 slice2 ]
load-profile gtp-load1
instances 1 fqdn 5gc.mnc456.mcc123.3gppnetwork.org
instances 1 inter-plmn-fqdn 5gc.mnc210.mcc310.3gppnetwork.org
instances 1 supported-features [ vsmf ]
plmn-list mcc 123 mnc 456
exit
plmn-list mcc 310 mnc 310
exit
service name nsmf-pdu
type pdu-session
schema http
service-id 1
version 1.Rn.0.0
http-endpoint base-url http://smf-service
icmpv6-profile icmpprf1

```



```
    compliance-profile compl
    access-profile access1
    subscriber-policy polSub
  exit
exit
profile sgw sgw1
  locality LOC1
  fqdn cisco.com.apn.epc.mnc456.mcc123
  subscriber-policy polSub
  ddn failure-action-drop-timer 60
  ddn no-user-connect-retry-timer 60
  qci-qos-profile sgw-non-standardqci
  wps-profile wps1
  plmn-list mcc 123 mnc 456
  exit
  plmn-list mcc 310 mnc 260
  exit
exit
profile sgw-charging-threshold thre1
  cc profile value 1
    volume total 100000
    buckets 2
    duration 180
  exit
  cc profile value 2
    volume uplink 100000
    volume downlink 100000
    buckets 4
    duration 120
  exit
  cc profile value 4
    volume total 10000000
    buckets 4
    duration 300
  exit
  cc profile value 8
    volume total 100000
    buckets 2
    duration 3000
  exit
exit
profile overload gtp-overload1
  overload-exclude-profile self-protection gtp-overloadExclude1
  node-level
    tolerance minimum 15
    tolerance maximum 35
    reduction-metric minimum 20
    reduction-metric maximum 90
  advertise
    interval 300
    change-factor 15
    validity-period 60
  exit
  interface gtpc
    overloaded-action [ advertise ]
  exit
exit
profile overload-exclude gtp-overloadExclude1
  dnn-list [ sos ]
  arp-list [ 1 2 3 ]
  procedure-list [ session-delete ]
  message-priority s5
  upto 0
```

```

exit
exit
profile load gtp-load1
load-calc-frequency 30
load-fetch-frequency 15
advertise
interval 30
change-factor 5
exit
interface gtpc
action advertise
exit
exit
profile gtp-profile pf1 gtp
local-storage
file
rotation
volume 5
cdr-count 1000
time-interval 60
exit
name
prefix hSMF-cnsgw1
format .%Y-%m-%d%H-%M-%S.%4Q
max-file-seq-num 9
start-file-seq-num 1
recover-file-seq-num true
exit
format custom1
exit
dictionary custom24
exit
profile gtp-profile pf2 gtp
local-storage
file
rotation
volume 5
cdr-count 1000
time-interval 60
exit
name
prefix hSMF-cnsgw1
format .%Y-%m-%d%H-%M-%S.%4Q
max-file-seq-num 9
start-file-seq-num 1
recover-file-seq-num true
exit
format custom1
exit
dictionary custom24
exit
profile gtp-profile pf4 gtp
local-storage
file
rotation
volume 5
cdr-count 1000
time-interval 60
exit
name
prefix hSMF-cnsgw1
format .%Y-%m-%d%H-%M-%S.%4Q

```

```
        max-file-seq-num      9
        start-file-seq-num    1
        recover-file-seq-num  true
    exit
    format custom1
    exit
    exit
    dictionary custom24
    exit
profile dns-proxy
    timeout          6000
    round-robin-answers
    servers serv1
        ip          10.174.59.43
        port        53
        protocol    tcp
    exit
    servers serv2
        ip          1.1.1.1
        port        53
        protocol    tcp
    exit
    exit
profile converged-core ccl
    max-upf-index 150
    exit
nf-tls certificates cert1
    cert-data abc
    private_key k1
    exit
active-charging service acs1
    bandwidth-policy BWP
        flow limit-for-bandwidth id 1 group-id 2
        flow limit-for-bandwidth id 2 group-id 3
        flow limit-for-bandwidth id 3 group-id 4
        group-id 2 direction uplink peak-data-rate 64000 peak-burst-size 8000 violate-action
        discard
        group-id 2 direction downlink peak-data-rate 64000 peak-burst-size 8000 violate-action
        discard
        group-id 3 direction uplink peak-data-rate 128000 peak-burst-size 12000 violate-action
        discard
        group-id 3 direction downlink peak-data-rate 128000 peak-burst-size 12000 violate-action
        discard
        group-id 4 direction uplink peak-data-rate 3000000000 peak-burst-size 100 violate-action
        discard
        group-id 4 direction downlink peak-data-rate 3000000000 peak-burst-size 100 violate-action
        discard
    exit
packet-filter pkt1
    ip local-port range 2 to 23
    ip protocol = 23
    ip remote-address = 10.10.10.0/24
    ip remote-port range 12 to 34
    ip tos-traffic-class = 23 mask = 23
    priority 23
    exit
charging-action cal
    billing-action egcdr
    content-id          51
    flow action redirect-url http://www.google.com
    flow limit-for-bandwidth id 1
    service-identifier 6000
    tft-notify-ue
    tos af11
```

```

tft packet-filter pkt1
exit
charging-action caStaticOfflineOnline
billing-action egcdr
cca charging credit
content-id 30
flow limit-for-bandwidth direction uplink peak-data-rate 1000000000 peak-burst-size 100
violate-action discard committedDataRate 1000000000 committed-burst-size 100 exceed-action
discard
flow limit-for-bandwidth direction downlink peak-data-rate 1000000000 peak-burst-size 100
violate-action discard committedDataRate 1000000000 committed-burst-size 100 exceed-action
discard
service-identifier 60
tft-notify-ue
tos af11
tft packet-filter pkt1
exit
rulebase cisco
billing-records egcdr
edr transaction-complete http charging-edr http-edr
dynamic-rule order first-if-tied
egcdr threshold interval 1000
action priority 1 ruledef ip-any-rule charging-action cisco
route priority 1000 ruledef http-port-route analyzer http
exit
rulebase rbal
action priority 1 dynamic-only ruledef rdal charging-action cal description myrule1
action priority 10 ruledef rdal charging-action cal
exit
urr-list urr_smf
rating-group 10 urr-id 1
rating-group 10 service-identifier 20 urr-id 2
rating-group 10 service-identifier 21 urr-id 50
rating-group 11 urr-id 3
rating-group 11 service-identifier 21 urr-id 4
rating-group 11 service-identifier 201 urr-id 11
rating-group 12 urr-id 5
rating-group 12 service-identifier 22 urr-id 6
rating-group 13 urr-id 7
rating-group 13 service-identifier 23 urr-id 8
rating-group 30 urr-id 17
rating-group 30 service-identifier 60 urr-id 18
rating-group 30 service-identifier 61 urr-id 19
rating-group 31 urr-id 20
rating-group 31 service-identifier 61 urr-id 21
rating-group 31 service-identifier 62 urr-id 22
rating-group 32 urr-id 23
rating-group 40 urr-id 24
rating-group 51 service-identifier 6000 urr-id 32
rating-group 100 urr-id 9
rating-group 100 service-identifier 200 urr-id 10
rating-group 100 service-identifier 201 urr-id 51
rating-group 101 urr-id 11
rating-group 101 service-identifier 201 urr-id 12
rating-group 102 urr-id 13
rating-group 102 service-identifier 202 urr-id 14
rating-group 103 urr-id 15
rating-group 103 service-identifier 203 urr-id 16
rating-group 110 urr-id 25
rating-group 199 urr-id 199
exit
ruledef adc_Youtube
multi-line-or all-lines
exit

```

```
credit-control group onlineoffline
  diameter ignore-service-id true
exit
group-of-ruledefs adc_specific
  add-ruledef priority 1 ruledef adc_google
  add-ruledef priority 2 ruledef adc_facebook_https
  add-ruledef priority 3 ruledef adc_sni
exit
gtpv group group1
  gtpv egcdr service-data-flow threshold interval 60
  gtpv egcdr service-data-flow threshold volume downlink 100000 uplink 100000 total 200000
exit
apn cisco
  gtpv group group1
  active-charging rulebase rba1
exit
apn intershat
  gtpv group group1
  active-charging rulebase rba1
exit
policy subscriber polSub
  precedence 1
    sst          22
    sdt          Abf123
    serving-plmn mcc 123
    serving-plmn mnc 456
    supi-start-range 1000000000000001
    supi-stop-range 2999999999999999
    gpsi-start-range 1000000000
    gpsi-stop-range 9999999999
    operator-policy opPol1
  exit
  precedence 511
    operator-policy defOprPol1
  exit
exit
policy upf-selection up-policy1
  precedence 1
    [ dnn slice ]
  exit
  precedence 2
    [ dnn location ]
  exit
  precedence 3
    [ dnn pdn-type-session ]
  exit
  precedence 4
    [ dnn ]
  exit
exit
policy operator defOprPol1
  policy dnn          defPolDnn
  policy network-capability ncl
exit
policy operator opPol1
  policy dnn          polDnn
  policy network-capability ncl
exit
policy operator opPol2
  policy dnn          polDnn
  policy network-capability ncl
exit
policy dnn defPolDnn
  profile default-profile
```

```

dnn cisco profile cisco
dnn dnn2 profile profile2
dnn intershat profile intershat
dnn sos profile sos
dnn starent profile abc.com
exit
policy dnn dnnPol1
  profile default
  dnn starent profile abc.com
exit
policy dnn polDnn
  profile default-profile
  dnn cisco profile cisco
  dnn dnn2 profile profile2
  dnn intershat profile intershat
  exit
policy network-capability nc1
  nw-support-local-address-tft true
exit
nssai name slice1
  sst 1
  dnn [ cisco intershat sos starent ]
exit
nssai name slice2
  sst 2
  sdt abf123
  dnn [ cisco intershat sos starent ]
exit
system-diagnostics session-consistency action monitor
ipam
  instance 1
  source local
  address-pool v4pool1
  vrf-name ISP
  tags
    dnn intershat
  exit
  ipv4
  split-size
    per-cache 65536
    per-dp 65536
  exit
  address-range 12.248.0.1 12.255.255.254
  exit
  exit
  exit
  exit
group nf-mgmt NFMGMT1
  nrf-mgmt-group MGMT
  locality LOC1
exit
group nrf discovery DISC1
  nrf-type PLMN
  service type nrf nrf-disc
  endpoint-profile
    name EP1
    uri-scheme http
    version
    uri-version v1
    full-version 1.1.1.[24]
  exit
  exit
  endpoint-name sauNRF
  priority 80

```

```
        capacity 56
        primary ip-address ipv4 10.1.24.4
        primary ip-address port 8095
    exit
    exit
    exit
exit
cdl system-id          2
cdl enable-geo-replication true
cdl zookeeper replica 1
cdl remote-site 1
    db-endpoint host 10.1.8.54
    db-endpoint port 8882
    kafka-server 10.1.8.54 10092
    exit
exit
cdl label-config session
    endpoint key smi.cisco.com/node-type
    endpoint value smf-cdl
    slot map 1
        key smi.cisco.com/node-type
        value smf-cdl
    exit
    slot map 2
        key smi.cisco.com/node-type
        value smf-cdl-1
    exit
    index map 1
        key smi.cisco.com/node-type
        value smf-cdl-1
    exit
exit
cdl logging default-log-level error
cdl logging logger datastore.ep.session
    level debug
exit
cdl logging logger datastore.index.session
    level debug
exit
cdl logging logger datastore.slot.session
    level debug
exit
cdl datastore session
    label-config session
    geo-remote-site [ 1 ]
    slice-names [ 1 2 ]
    endpoint replica 1
    endpoint external-ip 10.1.8.58
    endpoint external-port 8882
    index replica 1
    index map 1
    index write-factor 1
    slot replica 1
    slot map 2
    slot write-factor 1
exit
cdl kafka replica 1
cdl kafka ssl-settings enable-ssl false
cdl kafka label-config key smi.cisco.com/pod-type
cdl kafka label-config value cdl-kafka-1
cdl kafka external-ip 10.1.8.58 10092
exit
etcd replicas 1
edr reporting enable
```

```
edr subscribers [ 112233445566776 112233445566777 112233445566778 imsi-123456789012345
imsi-123456789012346 imsi-310310789012345 ]
edr file transaction
  reporting enable
exit
edr file transaction-collision
  reporting enable
exit
instance instance-id 1
  endpoint li
    replicas 1
    nodes 1
    vip-ip 30.30.30.3
  exit
  endpoint nodemgr
    replicas 1
    nodes 2
  exit
  endpoint gtp
    replicas 1
    nodes 1
    vip-ip 198.15.1.4
    interface s5
      vip-ip 198.15.1.4
    exit
    interface s5e
      vip-ip 198.15.1.132
    exit
    interface s11
      vip-ip 198.16.1.234
    exit
  exit
  endpoint pfcsp
    replicas 1
    nodes 2
    interface n4
      heartbeat
        interval 0
        retransmission-timeout 3
        max-retransmissions 5
    exit
  exit
  endpoint service
    replicas 1
    nodes 1
  exit
  endpoint protocol
    replicas 1
    nodes 2
    vip-ip 198.18.1.15
    interface sxa
      vip-ip 198.18.1.132
    exit
    interface n4
      vip-ip 198.18.1.15
    exit
  exit
  endpoint radius
    replicas 1
    nodes 1
    vip-ip 10.1.8.55
    interface coa-nas
      vip-ip 10.1.8.55 vip-port 3799
```



```

    exit
  endpoint sgw-service
    replicas 1
    nodes 1
  exit
  endpoint dns-proxy
    replicas 1
  exit
  endpoint sbi
    replicas 1
    nodes 1
    vip-ip 10.1.8.55
    interface nrf
      vip-ip 10.1.8.55
  exit
exit
logging transaction message enable
logging transaction duplicate enable
logging level application trace
logging level transaction trace
logging level tracing debug
logging name infra.application.core level application warn
logging name infra.application.core level tracing warn
logging name infra.config.core level application trace
logging name infra.config.core level transaction trace
logging name infra.config.core level tracing off
logging name infra.dispatcher.core level application warn
logging name infra.dispatcher.core level transaction warn
logging name infra.dispatcher.core level tracing warn
logging name infra.heap_dump.core level application warn
logging name infra.ipcstream.core level application error
logging name infra.ipcstream.core level transaction warn
logging name infra.ipcstream.core level tracing warn
logging name infra.memory_cache.core level application error
logging name infra.memory_cache.core level transaction error
logging name infra.message_log.core level transaction trace
logging name infra.resource_monitor.core level application warn
logging name infra.resource_monitor.core level transaction warn
logging name infra.rest_server.core level application error
logging name infra.rest_server.core level tracing off
logging name infra.topology.core level application off
logging name infra.topology.core level transaction off
logging name infra.topology.core level tracing off
deployment
  app-name          cmsgw-smf-1
  cluster-name      Local
  dc-name           DC
  model             small
  logical-nf-instance-id 1
exit
k8 label protocol-layer key smi.cisco.com/vm-type value smf-proto-1
exit
k8 label cdl-layer key smi.cisco.com/node-type value smf-cdl-1
exit
k8 label oam-layer key smi.cisco.com/node-type value oam
exit
instances instance 1
  system-id smf
  cluster-id smf
  slice-name 1
exit
local-instance instance 1

```

```

system mode running
helm default-repository roaming-ph2
helm repository cmsgw-1
  access-token
dev-deployer.gen:AKCp5ekcXA7TknM9DbLASNBw4jwVEsx9Z9WpQwEvCvCQ2mJhLymcz6BfbH38YJiWC6fn1cKmw
url
https://engci-maven-master.cisco.com/artifactory/smi-fuse-internal-snapshot/mobile-cn-at-cn/cn-products/master/
exit
helm repository roaming-cx
  access-token
dev-deployer.gen:AKCp5ekcXA7TknM9DbLASNBw4jwVEsx9Z9WpQwEvCvCQ2mJhLymcz6BfbH38YJiWC6fn1cKmw
url
https://engci-maven-master.cisco.com/artifactory/mobile-cn-at-cn-release/release-builds/2021.03.r0.d4.0/cg/2021.03.r0.d4.0.i77/cg.2021.03.r0.d4.0.i77/
exit
helm repository roaming-ph2
  access-token
dev-deployer.gen:AKCp5ekcXA7TknM9DbLASNBw4jwVEsx9Z9WpQwEvCvCQ2mJhLymcz6BfbH38YJiWC6fn1cKmw
url
https://engci-maven-master.cisco.com/artifactory/smi-fuse-internal-snapshot/mobile-cn-at-cn/cn-products/dev-smf-amigos/
exit
k8s name          cmsgw-smf-1
k8s namespace     cmsgw-1
k8s nf-name       smf
k8s registry      dockerhub.cisco.com/smi-fuse-docker-internal
k8s single-node   true
k8s use-volume-claims false
k8s ingress-host-name 10.84.105.104.nip.io
aaa authentication users user admin
  uid          117
  gid          117
  password     $1$bQRuPxWc$ESF/KLDQBkmdQNtrReTJN1
  ssh_keydir   /tmp/admin/.ssh
  homedir      /tmp/admin
exit
aaa authentication users user liadmin
  uid          201
  gid          2011
  password     $1$LugH/seF$hi4y0QnpOZoEiJDqGLd0L.
  ssh_keydir   /tmp/liadmin/.ssh
  homedir      /tmp/liadmin
exit
aaa authentication users user liadmin2
  uid          202
  gid          2021
  password     $1$HBRlXp0W$pmaMFhDV9QIayXTxEZtxc0
  ssh_keydir   /tmp/liadmin2/.ssh
  homedir      /tmp/liadmin2
exit
aaa authentication users user liadmin3
  uid          203
  gid          2031
  password     $1$kE6v4ZBD$sv970lhMCMttjm7Q35Esq1
  ssh_keydir   /tmp/liadmin3/.ssh
  homedir      /tmp/liadmin3
exit
aaa ios level 0
  prompt "\h> "
exit
aaa ios level 15
  prompt "\h# "
exit
aaa ios privilege exec
  level 0
  command action

```

```
exit
command autowizard
exit
command enable
exit
command exit
exit
command help
exit
command startup
exit
exit
level 15
command configure
exit
exit
exit
nacm write-default deny
nacm groups group LI
  user-name [ liadmin ]
exit
nacm groups group LI2
  user-name [ liadmin2 ]
exit
nacm groups group LI3
  user-name [ liadmin3 ]
exit
nacm groups group admin
  user-name [ admin ]
exit
nacm rule-list admin
  group [ admin ]
  rule li-deny-tap
    module-name      lawful-intercept
    path             /lawful-intercept
    access-operations *
    action           deny
  exit
  rule li-deny-clear
    module-name      tailf-mobile-smf
    path             /clear/lawful-intercept
    access-operations *
    action           deny
  exit
  rule any-access
    action permit
  exit
exit
nacm rule-list confd-api-manager
  group [ confd-api-manager ]
  rule any-access
    action permit
  exit
exit
nacm rule-list ops-center-security
  group [ * ]
  rule change-self-password
    module-name      ops-center-security
    path             /smiuser/change-self-password
    access-operations exec
    action           permit
  exit
  rule smiuser
    module-name      ops-center-security
```

```
    path          /smiuser
    access-operations exec
    action        deny
  exit
exit
nacm rule-list lawful-intercept
group [ LI LI2 LI3 ]
rule li-accept-tap
  module-name    lawful-intercept
  path          /lawful-intercept
  access-operations *
  action        permit
  exit
rule li-accept-clear
  module-name    tailf-mobile-smf
  path          /clear/lawful-intercept
  access-operations *
  action        permit
  exit
exit
```