Configuration Note

Multi-Service Business Routers (MSBR) Product Series

Mediant™ 800 Universal CPE

Network Configuration

Version 7.2

audiocodes

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Document Revision Record

LTRT	Description
23610	Initial document release.
23611	Mediant 800C-i MSBR added

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1 Introduction

AudioCodes Mediant 800 Universal Customer Premises Equipment (uCPE) is an ideal platform for UCaaS providers looking to reap the benefits of Network Function Virtualization. The platform integrates an Intel server module that can host SD-WAN or other third-party applications. These devices include branch routers, VoIP SBC and media gateways for SIP interoperability, connectivity, security and resiliency, allowing the customer to have real all-in-one device for SD-WAN or other NFV application.

This document includes the following example scenarios:

- **Mediant 800C:**
  - Mediant 800C uCPE with SBC Application (Only OSN Used)
  - Mediant 800C uCPE with SBC Application (Switch and WAN Module Used)
- **Mediant 800C-i:**
  - Mediant 800C-i uCPE with SBC Application (Only OSN Used)
  - Mediant 800C-i uCPE with SBC Application (Switch and WAN Module Used)

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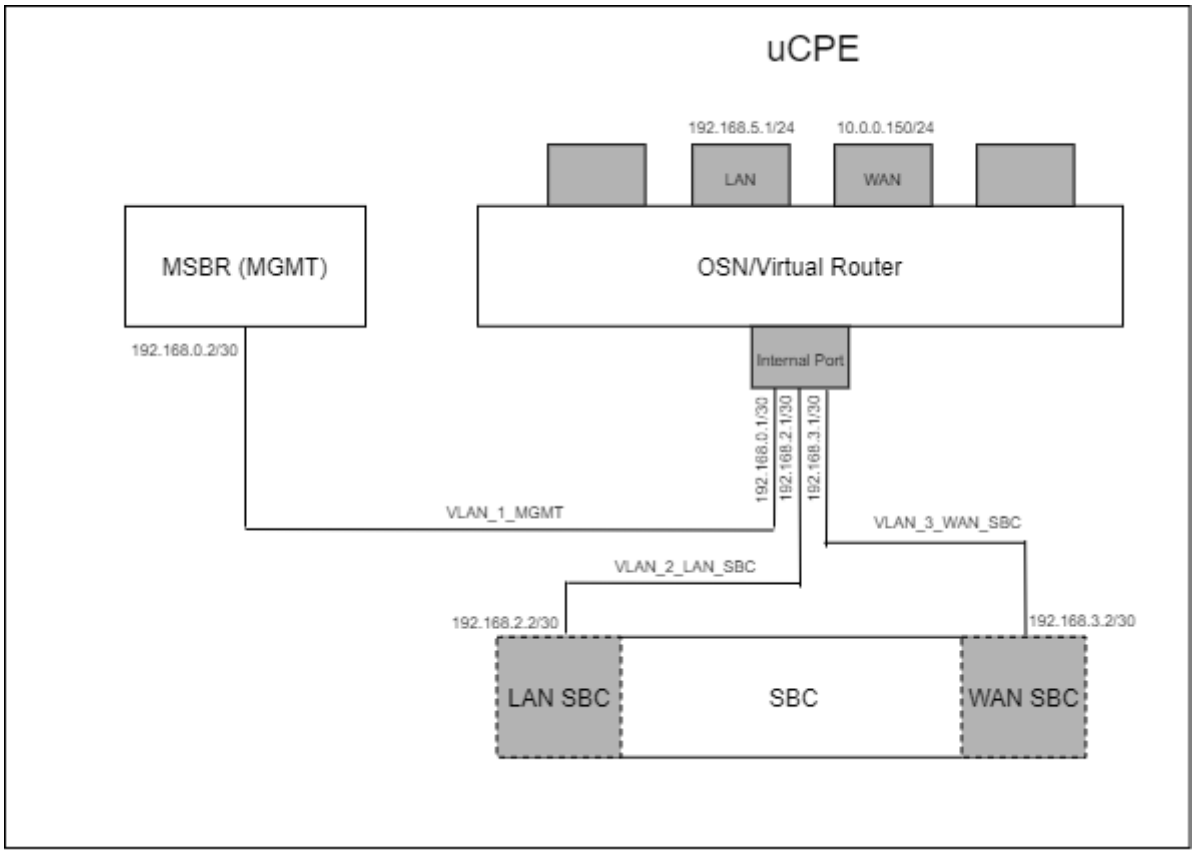
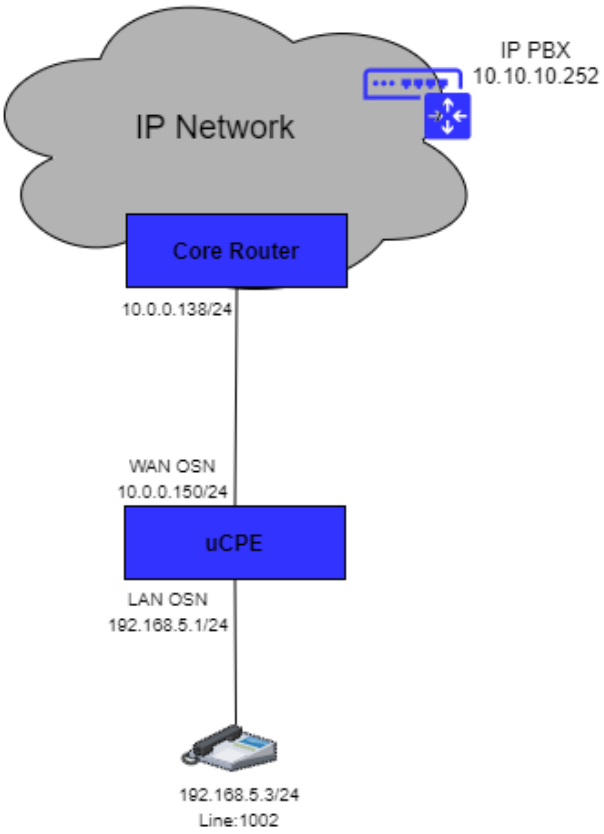
2 Mediant 800C uCPE with SBC Application (Only OSN Used)

This example scenario shows a virtual router (installed on the OSN) connected to the SBC application.

The virtual router uses the LAN and WAN interface of the OSN . The internal interface connects between the virtual router and SBC through the internal switch.





2.1 Switch System Configuration (Entire Configuration)

2.1.1 Adding VLANs to OSN Interface

```
interface osn
     switchport mode trunk
     switchport trunk native vlan 1
     switchport trunk allowed vlan add 1
     switchport trunk allowed vlan add 2
     switchport trunk allowed vlan add 3
     no shutdown
    exit
```

2.1.2 Configuring IP Network Interface for Management

```
interface VLAN 1
    ip address 192.168.0.2 255.255.255.252
    no shutdown
   exit
ip route 10.0.0.0 255.255.255.0 192.168.0.1 VLAN 1 1
```

2.2 SBC Voice Configuration (Entire Configuration)

This section describes the voice configuration.

2.2.1 Configuring Underlying Ethernet Device for LAN SBC

```
configure network
  network-dev 1
   vlan-id 2
   name "VLAN2"
   activate
  exit
```

2.2.2 Configuring IP Network Interface for LAN SBC

```
configure network
  interface network-if 0
   application-type oamp-media-control
   ip-address 192.168.2.2
   prefix-length 30
   gateway 192.168.2.1
   name "LAN_SBC"
   underlying-dev "VLAN2"
   activate
  exit
```

2.2.3 Configuring Underlying Ethernet Device for WAN SBC

```
configure network
  network-dev 2
   vlan-id 3
   name "VLAN3"
   activate
  exit
```

2.2.4 Configuring IP Network Interface for WAN SBC

```
configure network
  interface network-if 1
   application-type media-control
   ip-address 192.168.3.2
   prefix-length 30
   gateway 192.168.3.1
   name "WAN_SBC"
   underlying-dev "VLAN3"
   activate
  exit
```

2.2.5 Setting Voice Coders

```
configure voip
  coders-and-profiles audio-coders-groups 0
   coders-group-name "AudioCodersGroups_0"
   activate
   audio-coders 0
    name g711-alaw
    p-time 20
    rate 64
    activate
   exit
  exit
```

2.2.6 Creating LAN Media Realm and Assigning to Interface LAN_SBC

```
realm 1
   name "MR_LAN"
   ipv4if "LAN_SBC"
   udp-port-range-start 6000
   session-leg 10
   activate
  exit
```

2.2.7 Creating WAN Media Realm and Assigning to Interface WAN_SBC

```
realm 2
   name "MR_WAN"
   ipv4if "WAN_SBC"
   udp-port-range-start 6000
   session-leg 10
   activate
  exit
```

2.2.8 Creating LAN SIP Interface

```
sip-interface 1
   interface-name "SIP_LAN"
   network-interface "LAN_SBC"
   application-type sbc
   tcp-port 0
   tls-port 0
   media-realm-name "MR_LAN"
   activate
  exit
```

2.2.9 Creating WAN SIP Interface

```
sip-interface 2
   interface-name "SIP_WAN"
   network-interface "WAN_VOICE"
   application-type sbc
   tcp-port 0
   tls-port 0
   media-realm-name "MR_WAN"
   activate
  exit
```

2.2.10 Setting Proxy Server (IP or Hostname)

```
proxy-set 1
   proxy-name "PBX"
   proxy-enable-keep-alive using-options
   sbcipv4-sip-int-name "SIP_WAN"
   activate
   proxy-ip 1
    proxy-address "10.10.10.252"
    activate
   exit
  exit
```

2.2.11 Creating IP Group for LAN Side

```
ip-group 1
   type user
   name "IPP_GROUP"
   media-realm-name "MR_LAN"
   classify-by-proxy-set disable
   activate
  exit
```

2.2.12 Creating IP Group for WAN Side

```
ip-group 2
   name "PBX_GROUP"
   proxy-set-name "PBX"
   media-realm-name "MR_WAN"
   activate
  exit
```

2.2.13 Creating SBC IP-to-IP Routing Rules

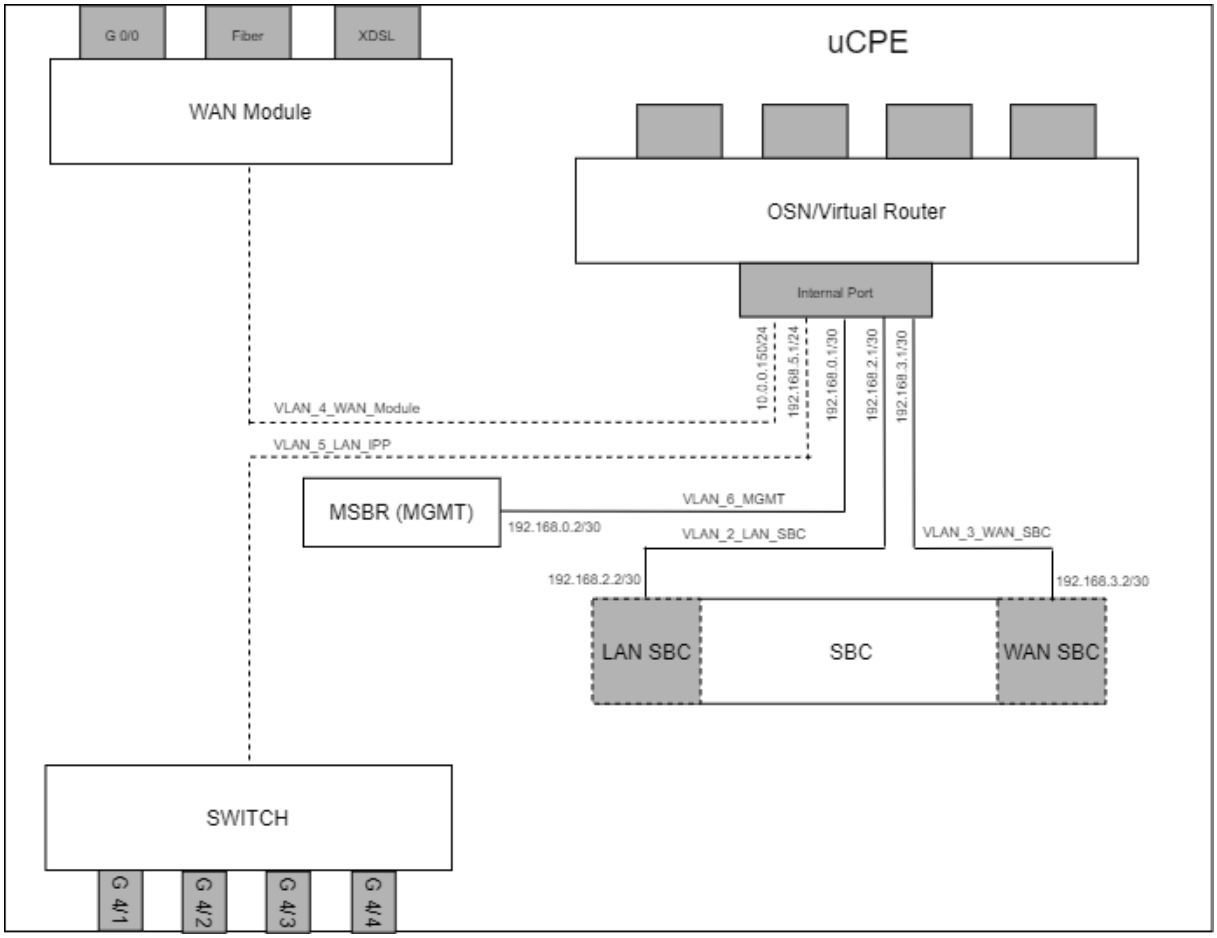
```
sbc routing ip2ip-routing 0
   route-name "Options Termination"
   request-type options
   dst-type dst-address
   dst-address "internal"
   activate
  exit
  sbc routing ip2ip-routing 1
   route-name "IPP TO PBX"
   src-ip-group-name "IPP_GROUP"
   dst-ip-group-name "PBX_GROUP"
   activate
  exit
  sbc routing ip2ip-routing 2
   route-name "PBX TO IPP"
   src-ip-group-name "PBX_GROUP"
   dst-ip-group-name "IPP_GROUP"
   activate
  exit
  sbc classification 0
   classification-name "IP_PHONE"
   src-sip-interface-name "SIP_LAN"
   src-ip-group-name "IPP_GROUP"
   activate
  exit
 exit
```

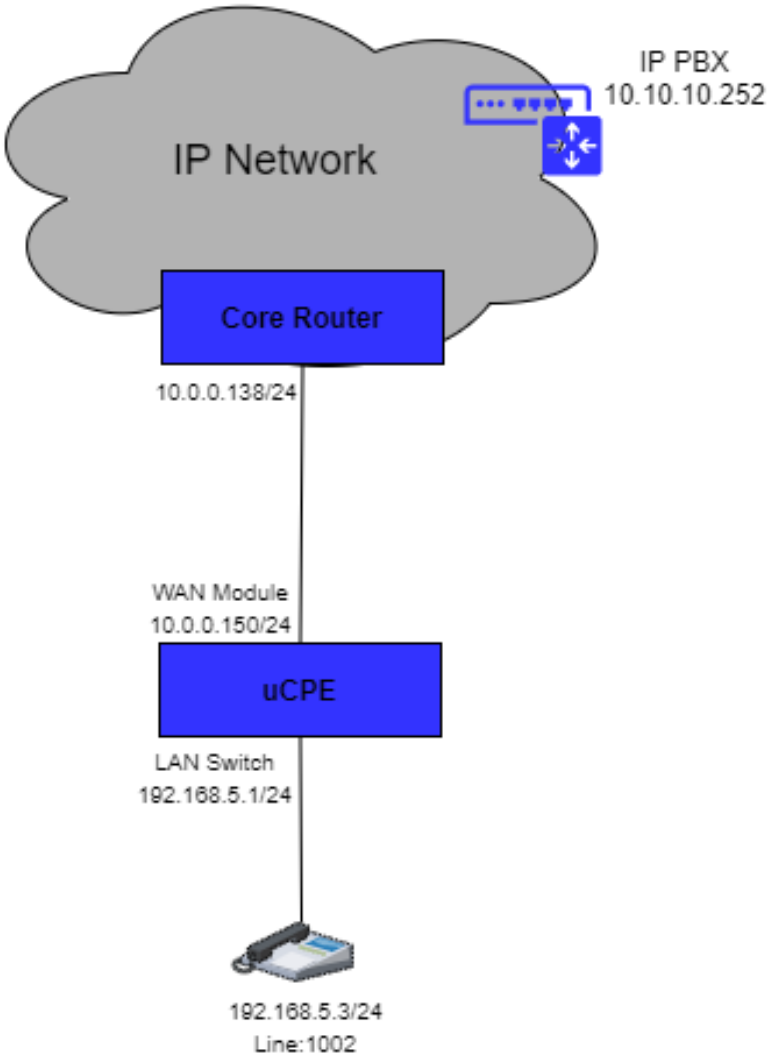
3 Mediant 800C uCPE with SBC Application (Switch and WAN Module Used)

This example scenario shows a virtual router (installed on the OSN) connected to the SBC application.

The virtual router uses the LAN switch and WAN module interface as its components.

The internal interface connects between the virtual router, LAN switch, WAN module and SBC through the internal switch.





3.1 Switch System Configuration (Entire Configuration)

3.1.1 Enabling OSN as Router Mode

```
configure system
  osn router mode enable
 exit

OSN as Router Mode is Enabled!!
This is is offline parameter,Please burn and reset the unit!!
```

3.1.2 Adding VLANs to OSN Interface

```
configure data
 interface osn
     switchport mode trunk
     switchport trunk native vlan 1
     switchport trunk allowed vlan add 1 wan
     switchport trunk allowed vlan add 2
     switchport trunk allowed vlan add 3
     switchport trunk allowed vlan add 4 wan
     switchport trunk allowed vlan add 5
     no shutdown
    exit
```

3.1.3 Configuring IP Network Interface for Management

```
interface VLAN 1
   ip address 192.168.0.2 255.255.255.252
   no shutdown
  exit
ip route 10.0.0.0 255.255.255.255 192.168.0.1 VLAN 1 1
```

3.1.4 Setting Physical LAN Ethernet 4/1 Assign to VLAN 5

```
interface GigabitEthernet 4/1
    speed auto
    duplex auto
    switchport mode trunk
    switchport trunk native vlan 5
    no shutdown
   exit
```

3.1.5 Creating Interface BVI for Setting Physical LAN Ethernet 4/1 Assigning to VLAN 5

```
interface BVI 4
    no ip address
    no shutdown
   exit
```

3.1.6 Setting Logical Interface VLAN 4 and Assigning to BVI 4

```
interface VLAN 4
    no ip address
    bridge-group 4
    desc "VLAN4_External_WAN"
    no shutdown
   exit
```

3.1.7 Setting Physical Interface Giga 0/0 and Assigning to BVI 4

```
interface GigabitEthernet 0/0
    no ip address
    bridge-group 4
    desc "WAN Ethernet"
    no shutdown
   exit
```

3.2 SBC Voice Configuration (Entire Configuration)

This section describes the voice configuration.

3.2.1 Configuring Underlying Ethernet Device for LAN SBC

```
configure network
  network-dev 1
   vlan-id 2
   name "VLAN2"
   activate
  exit
```

3.2.2 Configuring IP Network Interface for LAN SBC

```
configure network
  interface network-if 0
   application-type media-control
   ip-address 192.168.2.2
   prefix-length 30
   gateway 192.168.2.1
   name "LAN_SBC"
   underlying-dev "VLAN2"
   activate
  exit
```

3.2.3 Configuring Underlying Ethernet Device for WAN SBC

```
configure network
  network-dev 2
   vlan-id 3
   name "VLAN3"
   activate
  exit
```

3.2.4 Configuring IP Network Interface for WAN SBC

```
configure network
  interface network-if 1
   application-type media-control
   ip-address 192.168.3.2
   prefix-length 30
   gateway 192.168.3.1
   name "WAN_SBC"
   underlying-dev "VLAN3"
   activate
  exit
```

3.2.5 Setting Voice Coders

```
configure voip
  coders-and-profiles audio-coders-groups 0
   coders-group-name "AudioCodersGroups_0"
   activate
   audio-coders 0
    name g711-alaw
    p-time 20
    rate 64
    activate
   exit
  exit
```

3.2.6 Creating LAN Media Realm and Assigning to Interface LAN_SBC

```
realm 1
   name "MR_LAN"
   ipv4if "LAN_SBC"
   udp-port-range-start 6000
   session-leg 10
   activate
  exit
```

3.2.7 Creating WAN Media Realm and Assigning to Interface WAN_SBC

```
realm 2
   name "MR_WAN"
   ipv4if "WAN_SBC"
   udp-port-range-start 6000
   session-leg 10
   activate
  exit
```

3.2.8 Creating LAN SIP Interface

```
sip-interface 1
   interface-name "SIP_LAN"
   network-interface "LAN_SBC"
   application-type sbc
   tcp-port 0
   tls-port 0
   media-realm-name "MR_LAN"
   activate
  exit
```

3.2.9 Creating WAN SIP Interface

```
sip-interface 2
   interface-name "SIP_WAN"
   network-interface "WAN_VOICE"
   application-type sbc
   tcp-port 0
   tls-port 0
   media-realm-name "MR_WAN"
   activate
  exit
```

3.2.10 Setting Proxy Server (IP or Hostname)

```
proxy-set 1
   proxy-name "PBX"
   proxy-enable-keep-alive using-options
   sbcipv4-sip-int-name "SIP_WAN"
   activate
   proxy-ip 1
    proxy-address "10.10.10.252"
    activate
   exit
  exit
```

3.2.11 Creating IP Group for LAN Side

```
ip-group 1
   type user
   name "IPP_GROUP"
   media-realm-name "MR_LAN"
   classify-by-proxy-set disable
   activate
  exit
```

3.2.12 Creating IP Group for WAN Side

```
ip-group 2
   name "PBX_GROUP"
   proxy-set-name "PBX"
   media-realm-name "MR_WAN"
   activate
  exit
```

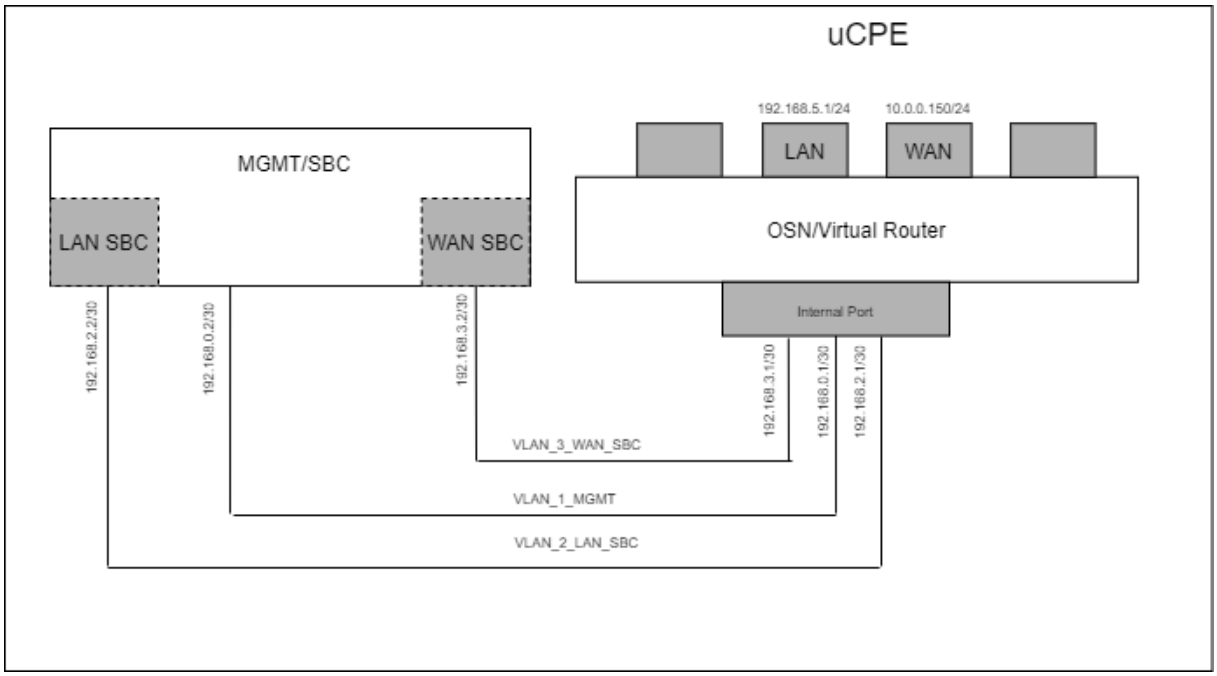
3.2.13 Creating SBC IP-to-IP Routing Rules

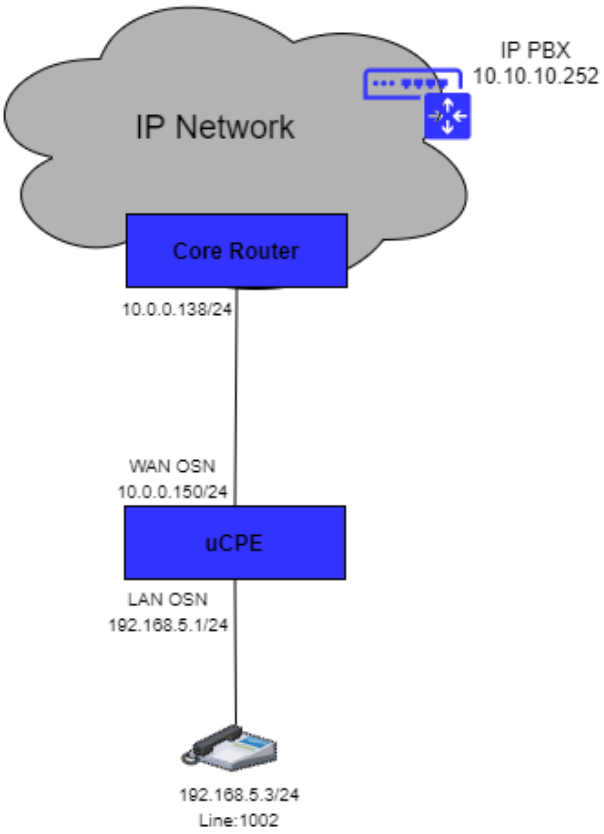
```
sbc routing ip2ip-routing 0
   route-name "Options Termination"
   request-type options
   dst-type dst-address
   dst-address "internal"
   activate
  exit
  sbc routing ip2ip-routing 1
   route-name "IPP TO PBX"
   src-ip-group-name "IPP_GROUP"
   dst-ip-group-name "PBX_GROUP"
   activate
  exit
  sbc routing ip2ip-routing 2
   route-name "PBX TO IPP"
   src-ip-group-name "PBX_GROUP"
   dst-ip-group-name "IPP_GROUP"
   activate
  exit
  sbc classification 0
   classification-name "IP_PHONE"
   src-sip-interface-name "SIP_LAN"
   src-ip-group-name "IPP_GROUP"
   activate
  exit
 exit
```

4 Mediant 800C-i uCPE with SBC Application (Only OSN Used)

This example scenario shows a virtual router (installed on the OSN) connected to the SBC application.

The virtual router uses the LAN and WAN interface of the OSN. The internal interface connects between the virtual router and SBC through the internal switch.





4.1 Switch System Configuration (Entire Configuration)

4.1.1 Adding VLANs to OSN Interface

```
interface osn
     switchport mode trunk
     switchport trunk native vlan 1
     switchport trunk allowed vlan add 1
     switchport trunk allowed vlan add 2
     switchport trunk allowed vlan add 3
     no shutdown
    exit
```

4.1.2 Configuring IP Network Interface for Management

```
interface VLAN 1
    ip address 192.168.0.2 255.255.255.252
    no shutdown
   exit
```

4.1.3 Configuring IP Network Interface for LAN SBC

```
interface VLAN 2
   ip address 192.168.2.2 255.255.255.252 alias "LAN_SBC"
   no shutdown
  exit
```

4.1.4 Configuring IP Network Interface for WAN SBC

```
interface VLAN 3
    ip address 192.168.3.2 255.255.255.252 alias "WAN_SBC"
    no shutdown
   exit
```

4.1.5 Configuring Static Route

```
ip route 10.0.0.0 255.255.255.0 192.168.0.1 VLAN 1 1
ip route 192.168.5.0 255.255.255.0 192.168.2.1 VLAN 2 1
ip route 10.0.0.252 255.255.255.255 192.168.3.1 VLAN 3 1
```

4.2 SBC Voice Configuration (Entire Configuration)

This section describes the voice configuration.

4.2.1 Setting Voice Coders

```
configure voip
  coders-and-profiles audio-coders-groups 0
   coders-group-name "AudioCodersGroups_0"
   activate
   audio-coders 0
    name g711-alaw
    p-time 20
    rate 64
    activate
   exit
  exit
```

4.2.2 Creating LAN Media Realm and Assigning to Interface LAN_SBC

```
realm 1
   name "MR_LAN"
   network-source-ipv4 "LAN_SBC"
   udp-port-range-start 6000
   session-leg 20
   activate
  exit
```

4.2.3 Creating WAN Media Realm and Assigning to Interface WAN_SBC

```
realm 2
   name "MR_WAN"
   network-source-ipv4 "WAN_SBC"
   udp-port-range-start 6000
   session-leg 20
   activate
  exit
```

4.2.4 Creating LAN SIP Interface

```
sip-interface 1
   interface-name "SIP_LAN"
   network-source "LAN_SBC"
   application-type sbc
   tcp-port 0
   tls-port 0
   media-realm-name "MR_LAN"
   activate
  exit
```

4.2.5 Creating WAN SIP Interface

```
sip-interface 2
   interface-name "SIP_WAN"
   network-source "WAN_SBC"
   application-type sbc
   tcp-port 0
   tls-port 0
   media-realm-name "MR_WAN"
   activate
  exit
```

4.2.6 Setting Proxy Server (IP or Hostname)

```
proxy-set 1
   proxy-name "PBX"
   proxy-enable-keep-alive using-options
   sbcipv4-sip-int-name "SIP_WAN"
   activate
   proxy-ip 1
    proxy-address "10.0.0.252"
    activate
   exit
  exit
```

4.2.7 Creating IP Group for LAN Side

```
ip-group 1
   type user
   name "IPP_GROUP"
   media-realm-name "MR_LAN"
   classify-by-proxy-set disable
   activate
  exit
```

4.2.8 Creating IP Group for WAN Side

```
ip-group 2
   name "PBX_GROUP"
   proxy-set-name "PBX"
   media-realm-name "MR_WAN"
   activate
  exit
```

4.2.9 Creating SBC IP-to-IP Routing Rules

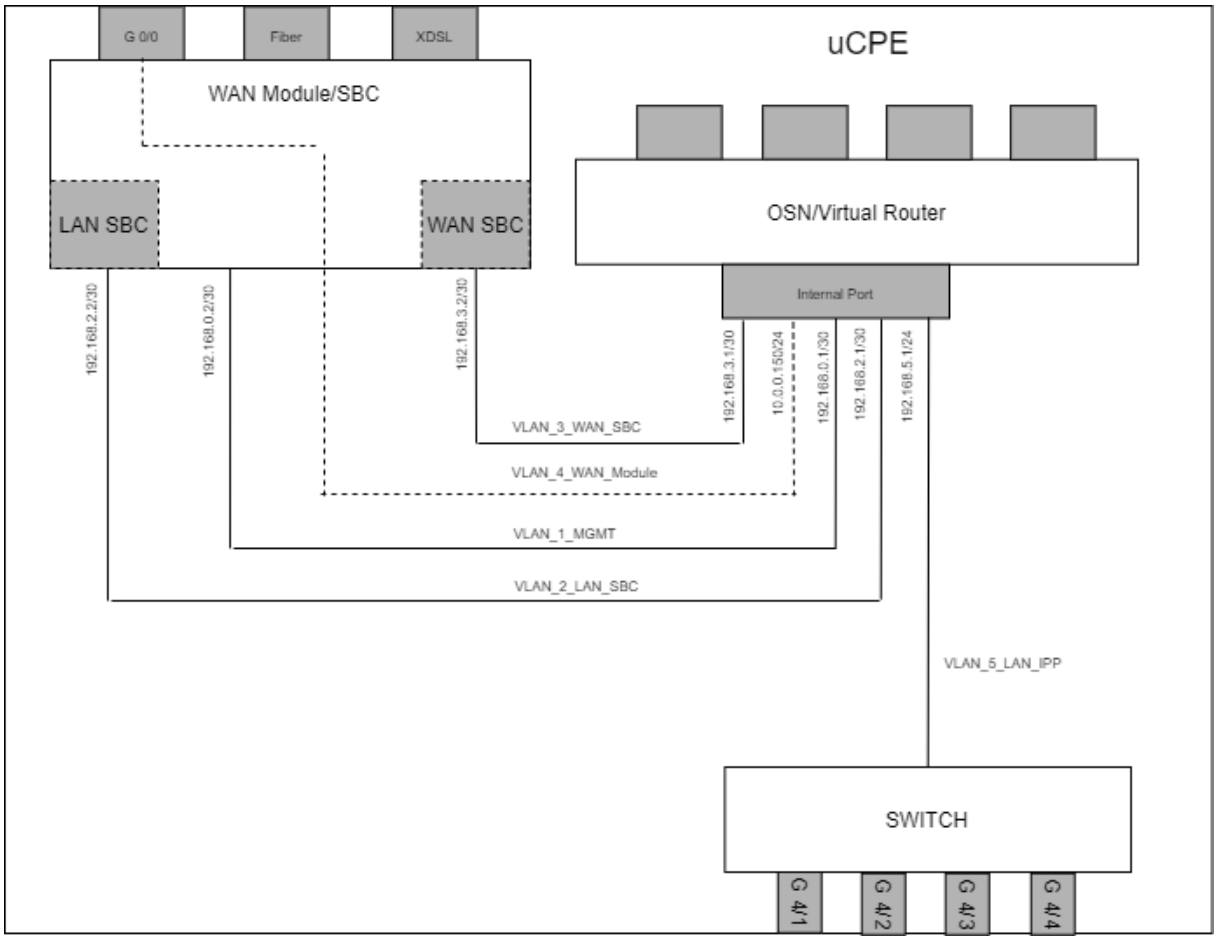
```
sbc routing ip2ip-routing 0
   route-name "Options Termination"
   request-type options
   dst-type dst-address
   dst-address "internal"
   activate
  exit
  sbc routing ip2ip-routing 1
   route-name "IPP TO PBX"
   src-ip-group-name "IPP_GROUP"
   dst-ip-group-name "PBX_GROUP"
   activate
  exit
  sbc routing ip2ip-routing 2
   route-name "PBX TO IPP"
   src-ip-group-name "PBX_GROUP"
   dst-ip-group-name "IPP_GROUP"
   activate
  exit
  sbc classification 0
   classification-name "IP_PHONE"
   src-sip-interface-name "SIP_LAN"
   src-ip-group-name "IPP_GROUP"
   activate
  exit
 exit
```

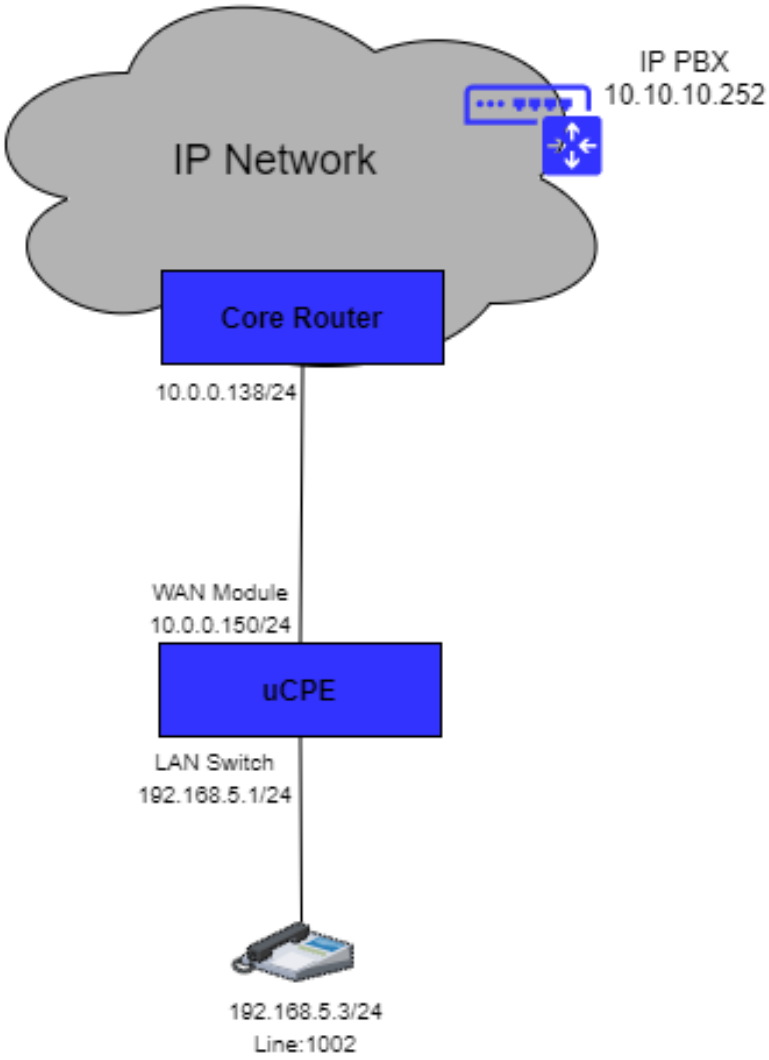
5 Mediant 800C-i uCPE with SBC Application (Switch and WAN Module Used)

This example scenario shows a virtual router (installed on the OSN) connected to the SBC application.

The virtual router uses the LAN switch and WAN module interface as its components.

The internal interface connects between the virtual router, LAN switch, WAN module and SBC through the internal switch.





5.1 Switch System Configuration (Entire Configuration)

5.1.1 Enabling OSN as Router Mode

```
configure system
  osn router mode enable
 exit

OSN as Router Mode is Enabled!!
This is is offline parameter,Please burn and reset the unit!!
```

5.1.2 Adding VLANs to OSN Interface

```
configure data
 interface osn
     switchport mode trunk
     switchport trunk native vlan 1
     switchport trunk allowed vlan add 1 wan
     switchport trunk allowed vlan add 2 wan
     switchport trunk allowed vlan add 3 wan
     switchport trunk allowed vlan add 4 wan
     switchport trunk allowed vlan add 5
     no shutdown
    exit
```

Note: VLANs not for LAN must use the hardcoded string “wan” (e.g., for WAN, SBC/Gateway, and Management interfaces).

5.1.3 Configuring IP Network Interface for Management

```
interface VLAN 1
   ip address 192.168.0.2 255.255.255.252
   no shutdown
  exit
```

5.1.4 Setting Physical LAN Ethernet 1/1 Assigning to VLAN 5

```
interface GigabitEthernet 1/1
    speed auto
    duplex auto
    switchport mode trunk
    switchport trunk native vlan 5
    no shutdown
   exit
```

5.1.5 Creating Interface BVI for Setting Physical LAN Ethernet 1/1 Assigning to VLAN 5

```
interface BVI 4
    no ip address
    no shutdown
   exit
```

5.1.6 Setting Logical Interface VLAN 4 and Assigning to BVI 4

```
interface VLAN 4
    no ip address
    bridge-group 4
    desc "VLAN4_External_WAN"
    no shutdown
   exit
```

5.1.7 Setting Physical Interface Giga 0/0 and Assigning to BVI 4

```
interface GigabitEthernet 0/0
    no ip address
    bridge-group 4
    desc "WAN Ethernet"
    no shutdown
   exit
```

5.1.8 Configuring IP Network Interface for LAN SBC

```
interface VLAN 2
    ip address 192.168.2.2 255.255.255.252 alias "LAN_SBC"
    desc "LAN switch vlan 2"
    no shutdown
   exit
```

5.1.9 Configuring IP Network Interface for WAN SBC

```
interface VLAN 3
    ip address 192.168.3.2 255.255.255.252 alias "WAN_SBC"
    desc "LAN switch vlan 3"
    no shutdown
   exit
```

5.1.10 Configuring Static Route

```
ip route 10.0.0.0 255.255.255.0 192.168.0.1 VLAN 1 1
ip route 192.168.5.0 255.255.255.0 192.168.2.1 VLAN 2 1
ip route 10.0.0.252 255.255.255.255 192.168.3.1 VLAN 3 1
```

5.2 SBC Voice Configuration (Entire Configuration)

This section describes the voice configuration.

5.2.1 Setting Voice Coders

```
configure voip
  coders-and-profiles audio-coders-groups 0
   coders-group-name "AudioCodersGroups_0"
   activate
   audio-coders 0
    name g711-alaw
    p-time 20
    rate 64
    activate
   exit
  exit
```

5.2.2 Creating LAN Media Realm and Assigning to Interface LAN_SBC

```
realm 1
   name "MR_LAN"
   network-source-ipv4 "LAN_SBC"
   udp-port-range-start 6000
   session-leg 20
   activate
  exit
```

5.2.3 Creating WAN Media Realm and Assigning to Interface WAN_SBC

```
realm 2
   name "MR_WAN"
   network-source-ipv4 "WAN_SBC"
   udp-port-range-start 6000
   session-leg 20
   activate
  exit
```

5.2.4 Creating LAN SIP Interface

```
sip-interface 1
   interface-name "SIP_LAN"
   network-source "LAN_SBC"
   application-type sbc
   tcp-port 0
   tls-port 0
   media-realm-name "MR_LAN"
   activate
  exit
```

5.2.5 Creating WAN SIP Interface

```
sip-interface 2
   interface-name "SIP_WAN"
   network-source "WAN_SBC"
   application-type sbc
   tcp-port 0
   tls-port 0
   media-realm-name "MR_WAN"
   activate
  exit
```

5.2.6 Setting Proxy Server (IP or Hostname)

```
proxy-set 1
   proxy-name "PBX"
   proxy-enable-keep-alive using-options
   sbcipv4-sip-int-name "SIP_WAN"
   activate
   proxy-ip 1
    proxy-address "10.0.0.252"
    activate
   exit
  exit
```

5.2.7 Creating IP Group for LAN Side

```
ip-group 1
   type user
   name "IPP_GROUP"
   media-realm-name "MR_LAN"
   classify-by-proxy-set disable
   activate
  exit
```

5.2.8 Creating IP Group for WAN Side

```
ip-group 2
   name "PBX_GROUP"
   proxy-set-name "PBX"
   media-realm-name "MR_WAN"
   activate
  exit
```

5.2.9 Creating SBC IP-to-IP Routing Rules

```
sbc routing ip2ip-routing 0
   route-name "Options Termination"
   request-type options
   dst-type dst-address
   dst-address "internal"
   activate
  exit
  sbc routing ip2ip-routing 1
   route-name "IPP TO PBX"
   src-ip-group-name "IPP_GROUP"
   dst-ip-group-name "PBX_GROUP"
   activate
  exit
  sbc routing ip2ip-routing 2
   route-name "PBX TO IPP"
   src-ip-group-name "PBX_GROUP"
   dst-ip-group-name "IPP_GROUP"
   activate
  exit
  sbc classification 0
   classification-name "IP_PHONE"
   src-sip-interface-name "SIP_LAN"
   src-ip-group-name "IPP_GROUP"
   activate
  exit
 exit
```

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