

Configuration example



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Description

The main scenario for organizing the connection with mobile objects is the following (see Figure 1):

- The base stations BS1, BS2 and BS3 are installed along the area perimeter, forming the backhaul radio network. Single-sector base station configurations are used, i.e. each BS has one sector. Non-overlapping frequency channels are configured on the base station sectors.
- A mobile object moves within the backhaul radio network from point A to point B. A subscriber terminal, CPE1, is installed on the mobile object. Depending on the requirements for the connection reliability, there are two implementation options: the installation of one subscriber with an antenna having a circular radiation pattern, or the installation of two subscribers on each moving object. During the motion, CPE1 can establish a radio link with the devices of the backhaul radio network - BS1, BS2 and BS3.
- The aggregation node is located near BS2, where the InfiMUX is installed. All BSs sectors are connected to the InfiMUX, which joins the radio backhaul network devices into a single MINT area.
- The aggregation node and the enterprise LAN are connected via the Master-Slave backbone link.
- The Global function is enabled on CPE1 and on the InfiMUX.
- "Mode nomadic" is set on the backhaul radio network devices and on CPE1, "mode fixed" - on the Master and Slave devices. Depending on the project specifics, other mode values may be set.
- For device management, VLAN 100 is reserved, which is associated with the 192.168.100.0/24 subnet.
- VLAN 200 is used for the data transmission service.

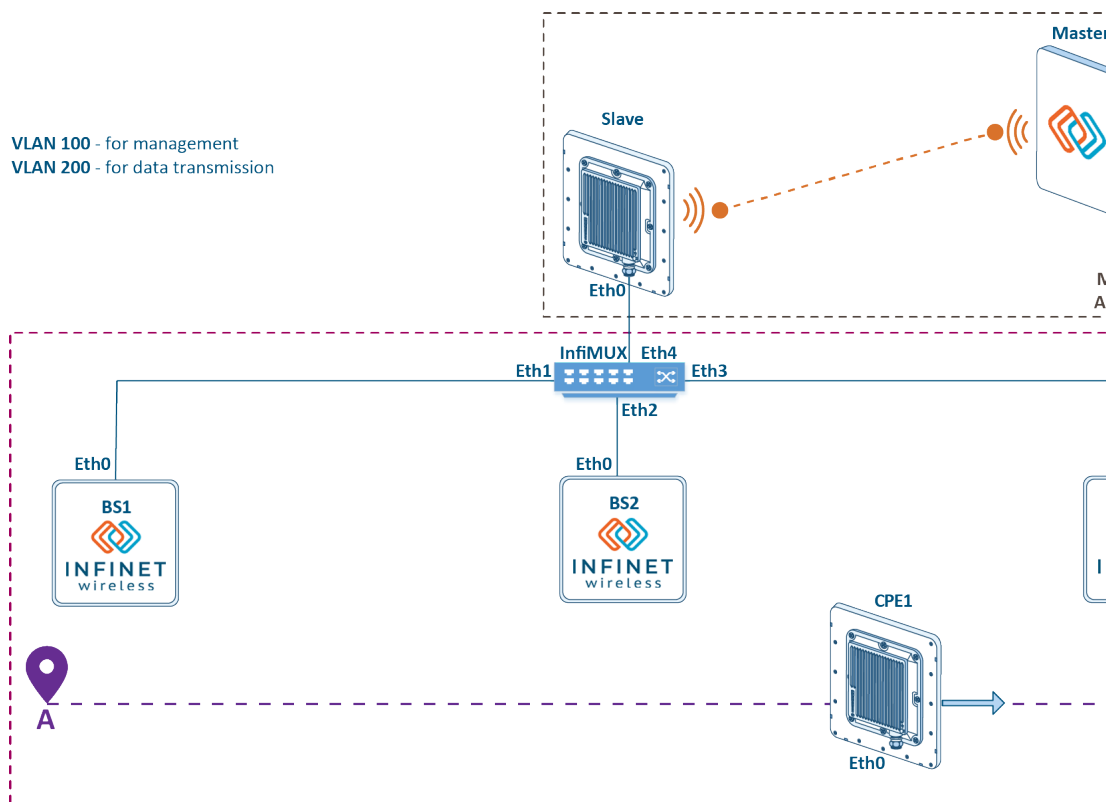


Figure 1 - Example of a project with mobile objects

Planning

Radio and data settings are in table below:

Table 1 - Radio settings for a project with mobile objects

Device name	Center frequency	Channel width	Role
Master	5000	20	master
Slave	5000	20	slave
BS1	5100	20	master
BS2	5200	20	master
BS3	5300	20	master
CPE1	5100	20	slave
	5200	20	slave
	5300	20	slave

Table 2 - data transfer settings for project with mobile objects

Device name	SVI interface IP address	VLAN	Switch groups	Global	Mode
Master	192.168.100.201/24	100,200	100,200	no	fixed
Slave	192.168.100.202/24	100,200	100,200	no	fixed
InfiMUX	192.168.100.200/24	100,200	100,200	yes	nomadic
BS1	192.168.100.1/24	100,200	100	no	nomadic
BS2	192.168.100.2/24	100,200	100	no	nomadic
BS3	192.168.100.3/24	100,200	100	no	nomadic
CPE1	192.168.100.101/24	100,200	100,200	yes	nomadic

Configuration

Devices configuration via CLI:

- configure the radio parameters:

Master device radio configuration example

```
#Radio module parameters
rf rf5.0 band 20
rf rf5.0 mimo
rf rf5.0 freq 5000 bitr auto sid 10101010 burst
rf rf5.0 txpwr max pwrctl distance auto

#MINT configuration
mint rf5.0 -name "Master"
mint rf5.0 -type master
mint rf5.0 -mode fixed
mint rf5.0 start
```

Slave device radio configuration example

```
#MINT configuration
mint rf5.0 -name "Slave"
mint rf5.0 -type slave
mint rf5.0 -mode fixed
mint rf5.0 prof 1 -band 20 -freq 5000 -sid 10101010 -type slave -autobitrate -mimo
mint rf5.0 start
```

BS1 device radio configuration example

```
#Radio module parameters
rf rf5.0 band 20
rf rf5.0 mimo
rf rf5.0 freq 5100 bitr auto sid 10101010 burst
rf rf5.0 txpwr max pwrctl distance auto

#MINT configuration
mint rf5.0 -name "BS1"
mint rf5.0 -type master
mint rf5.0 -mode nomadic
mint rf5.0 start
```

BS2 device radio configuration example

```
#Radio module parameters
rf rf5.0 band 20
rf rf5.0 mimo
rf rf5.0 freq 5200 bitr auto sid 10101010 burst
rf rf5.0 txpwr max pwrctl distance auto

#MINT configuration
mint rf5.0 -name "BS2"
mint rf5.0 -type master
mint rf5.0 -mode nomadic
mint rf5.0 start
```

BS3 device radio configuration example

```
#Radio module parameters
rf rf5.0 band 20
rf rf5.0 mimo
rf rf5.0 freq 5300 bitr auto sid 10101010 burst
rf rf5.0 txpwr max pwrctl distance auto

#MINT configuration
mint rf5.0 -name "BS3"
mint rf5.0 -type master
mint rf5.0 -mode nomadic
mint rf5.0 start
```

CPE1 device radio configuration example

```
#MINT configuration
mint rf5.0 -name "AS1"
mint rf5.0 -type slave
mint rf5.0 -mode nomadic
mint rf5.0 prof 1 -band 20 -freq 5100 -sid 10101010 -type slave -autobitrate -mimo
mint rf5.0 prof 2 -band 20 -freq 5200 -sid 10101010 -type slave -autobitrate -mimo
mint rf5.0 prof 3 -band 20 -freq 5300 -sid 10101010 -type slave -autobitrate -mimo
mint rf5.0 start
```

- join the backhaul radio network devices into a single MINT area:

BS1 configuration example

```
#Interfaces parameters
ifc prf0 up

#Pseudo-RF parameters
prf 0 parent eth0

#MINT configuration
mint prf0 -name "BS1_prf_eth0"
mint prf0 -type master
mint prf0 -mode nomadic
mint prf0 start
mint join rf5.0 prf0
```

BS2 configuration example

```
#Interfaces parameters
ifc prf0 up

#Pseudo-RF parameters
prf 0 parent eth0

#MINT configuration
mint prf0 -name "BS2_prf_eth0"
mint prf0 -type master
mint prf0 -mode nomadic
mint prf0 start
mint join rf5.0 prf0
```

BS3 configuration example

```
#Interfaces parameters
ifc prf0 up

#Pseudo-RF parameters
prf 0 parent eth0

#MINT configuration
mint prf0 -name "BS3_prf_eth0"
mint prf0 -type master
mint prf0 -mode nomadic
mint prf0 start
mint join rf5.0 prf0
```

InfiMUX configuration example

```
#Interfaces parameters
ifc prf1 up
ifc prf2 up
ifc prf3 up

#Pseudo-RF parameters
prf 1 parent eth1
prf 2 parent eth2
prf 3 parent eth3

#MINT configuration
mint prf1 -name "InfiMUX_prf_eth1"
mint prf1 -type master
mint prf1 -mode nomadic
mint prf1 start
mint prf2 -name "InfiMUX_prf_eth2"
mint prf2 -type master
mint prf2 -mode nomadic
mint prf2 start
mint prf3 -name "InfiMUX_prf_eth3"
mint prf3 -type master
mint prf3 -mode nomadic
mint prf3 start
mint join prf1 prf2 prf3
```

- enable the Global function:

Global function configuration on CPE1

```
#MINT configuration
mint rf5.0 roaming enable global
```

Global function configuration on InfiMUX

```
#MINT configuration
mint prf0 roaming enable global
```

- configure the management:

Management configuration on Master

```
#Interfaces parameters
ifc vlan100 vlan 100 vlandev eth0 up
ifc svi100 up
ifc svi100 192.168.100.201/24

#MAC Switch config
switch group 100 add vlan100 rf5.0
switch group 100 order 1
switch group 100 start

#Switch Virtual Interface config
svi 100 group 100
```

Management configuration on Slave

```
#Interfaces parameters
ifc vlan100 vlan 100 vlandev eth0 up
ifc svi100 up
ifc svi100 192.168.100.202/24

#MAC Switch config
switch group 100 add vlan100 rf5.0
switch group 100 order 1
switch group 100 start

#Switch Virtual Interface config
svi 100 group 100
```

Management configuration on BS1

```
#Interfaces parameters
ifc svi100 up
ifc svi100 192.168.100.1/24

#MAC Switch config
switch group 100 add prf0
switch group 100 order 1
switch group 100 start

#Switch Virtual Interface config
svi 100 group 100
```

Management configuration on BS2

```
#Interfaces parameters
ifc svi100 up
ifc svi100 192.168.100.2/24

#MAC Switch config
switch group 100 add prf0
switch group 100 order 1
switch group 100 start

#Switch Virtual Interface config
svi 100 group 100
```

Management configuration on BS3

```
#Interfaces parameters
ifc svi100 up
ifc svi100 192.168.100.3/24

#MAC Switch config
switch group 100 add prf0
switch group 100 order 1
switch group 100 start

#Switch Virtual Interface config
svi 100 group 100
```

Management configuration on CPE1

```
#Interfaces parameters
ifc svi100 up
ifc svi100 192.168.100.101/24

#MAC Switch config
switch group 100 add rf5.0
switch group 100 order 1
switch group 100 start

#Switch Virtual Interface config
svi 100 group 100
```

Management configuration on InfiMUX

```
#Interfaces parameters
ifc vlan100 vlan 100 vlandev eth4 up
ifc svi100 up
ifc svi100 192.168.100.200/24

#MAC Switch config
switch group 100 add vlan100 prf1
switch group 100 order 1
switch group 100 start

#Switch Virtual Interface config
svi 100 group 100
```

- configure the service traffic transmission:

Master configuration example

```
#Interfaces parameters
ifc vlan200 vlan 200 vlandev eth0 up

#MAC Switch config
switch group 200 add vlan200 rf5.0
switch group 200 start
```

Slave configuration example

```
#Interfaces parameters
ifc vlan200 vlan 200 vlandev eth0 up

#MAC Switch config
switch group 200 add vlan200 rf5.0
switch group 200 start
```

CPE1 Master configuration example

```
#Interfaces parameters
ifc vlan200 vlan 200 vlandev eth0 up

#MAC Switch config
switch group 200 add vlan200 rf5.0
switch group 200 start
```

InfiMUX configuration example

```
#Interfaces parameters
ifc vlan200 vlan 200 vlandev eth4 up

#MAC Switch config
switch group 200 add vlan200 prf1
switch group 200 start
```