Redundancy based on LACP

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To the certification exam

- Description
- Configuration Example
- Management in LAG
  - InfiMUX configuration
  - Wireless devices configuration

CAUTION

Configurations from the scenarios below are examples that demonstrate the potential capabilities of the InfiNet Wireless devices. The configurations may vary depending on the model and firmware version. We do not recommend copying this solutions to the hardware without checking.

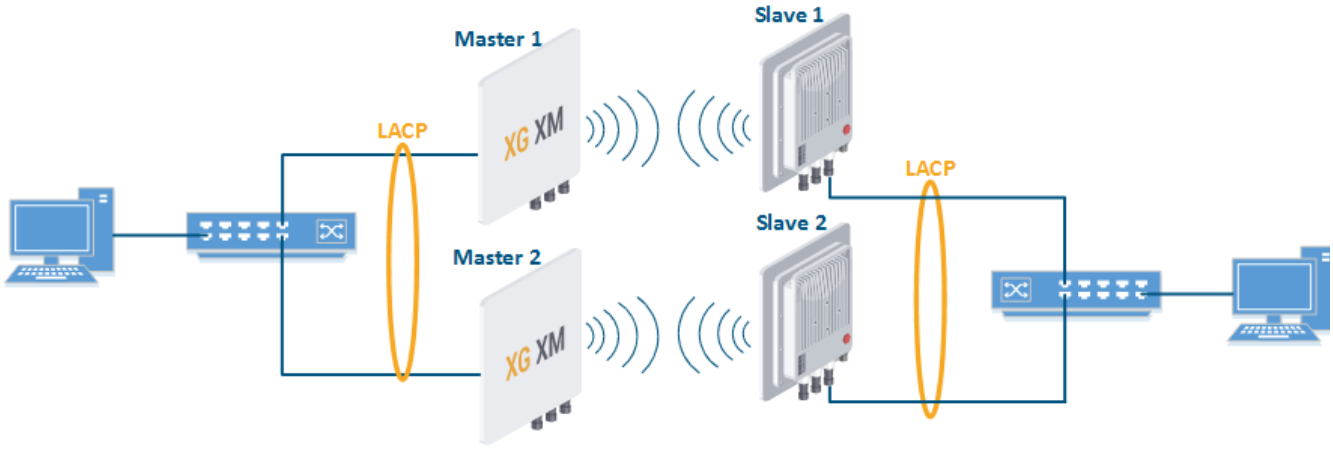
Description

InfiLINK XG/InfiLINK XG 1000 devices do not have software functionality for redundant links. However, you can create two redundant links on them with using third-party devices based on public technologies.
The simplest scheme will be the organization of two links established at the 2 level of OSI via two InfiLINK XG/InfiLINK XG 1000 devices. LACP protocol excludes loops and allows to increase throughput.

NOTE

The wireless devices management and monitoring are possible in the described configuration using the second Ethernet port. In order to retain the ability to manage devices using a single wired port, use the configuration method described in the "Management in LAG" section.

Unfortunately, in this case, the use of one frequency for two pairs of devices is not desirable.



Configuration Example

- Configure Master 1 and Slave 1 as the main link.

Master 1

```
xg -type master
xg -tdd-sync-src freerun
xg -cell-id 1
xg -channel-width 40
xg -freq-dl 5000
xg -freq-ul 5000
xg -short-cp 1
xg -freq-auto 0
xg -max-distance 1
xg -sframelen 5
xg -tdd-profile-auto-switching 1
xg -txpwr 0
xg -ctrl-block-boost 1
xg -atpc-master-enable 1
xg -atpc-target-rssi -55
xg -atpc-rssi-threshold 1
```

Slave 1

```
xg -type slave
xg -tdd-sync-src freerun
xg -cell-id 1
xg -channel-width 40
xg -freq-dl 5000
xg -freq-ul 5000
xg -short-cp 1
xg -freq-auto 0
xg -max-distance 1
xg -sframelen 5
xg -tdd-profile-auto-switching 1
xg -txpwr 0
xg -ctrl-block-boost 1
xg -atpc-master-enable 1
xg -atpc-target-rssi -55
xg -atpc-rssi-threshold 1
```

- Configure Master 2 and SLave 2 as a backup link.

Master 2

```
xg -type master
xg -tdd-sync-src freerun
xg -cell-id 2
xg -channel-width 40
xg -freq-dl 5100
xg -freq-ul 5100
xg -short-cp 1
xg -freq-auto 0
xg -max-distance 1
xg -sframelen 5
xg -tdd-profile-auto-switching 1
xg -txpwr 0
xg -ctrl-block-boost 1
xg -atpc-master-enable 1
xg -atpc-target-rssi -55
xg -atpc-rssi-threshold 1
```

Slave 2

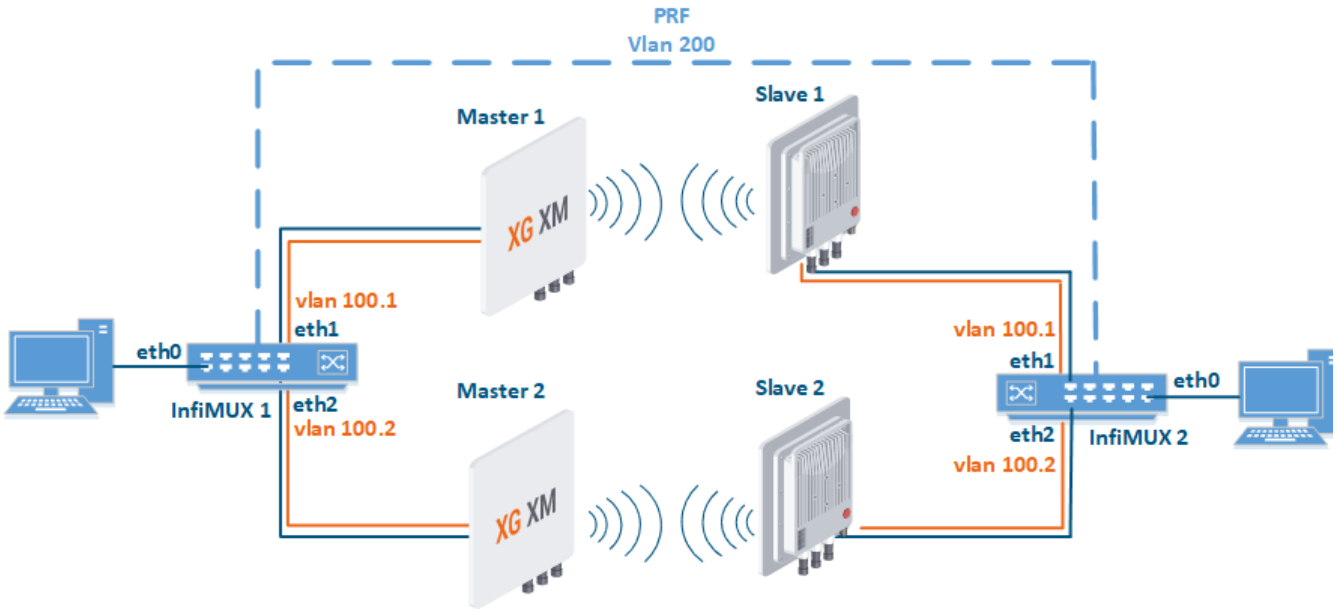
```
xg -type slave
xg -tdd-sync-src freerun
xg -cell-id 2
xg -channel-width 40
xg -freq-dl 5100
xg -freq-ul 5100
xg -short-cp 1
xg -freq-auto 0
xg -max-distance 1
xg -sframelen 5
xg -tdd-profile-auto-switching 1
xg -txpwr 0
xg -ctrl-block-boost 1
xg -atpc-master-enable 1
xg -atpc-target-rssi -55
xg -atpc-rssi-threshold 1
```

- Configure LACP (not included in the example).

Management in LAG

> **NOTE**
>
> This scheme can be implemented only when using InfiMUX switches, the configuration can not be applied for third-party switches.

- VLAN 100 is allocated for device management.
- VLAN 200 is allocated for the traffic transmission. All data traffic will be encapsulated in PRF (including VLAN 100) and forwarded unchanged in VLAN 200 from InfiMUX 1 to InfiMUX 2. VLAN 200 is used only on the network part between InfiMUX 1 and InfiMUX 2, its use in the rest of the network is not prohibited.
- To prevent a loop VLAN 100 transmission over the radio must be disabled.



InfiMUX configuration

- **Step 1**: To transmit VLAN 100, create the vlan100.1 interface over the eth1 physical interface (toward the device of the first radio link), the vlan100.2 interface over the eth2 physical interface (toward the device of the second radio link).

```
ifc eth1  info "Link 1"
ifc eth2  info "Link 2"
ifc vlan100.1 up
ifc vlan100.1 vlan 100 parent eth1
ifc vlan100.2 up
ifc vlan100.2 vlan 100 parent eth2
```

- **Step 2**: To transmit VLAN 200, create the vlan200.1 interface over the eth1 physical interface, the vlan200.2 interface over the eth2 physical interface.

```
ifc vlan200.1 up
ifc vlan200.1 vlan 200 parent eth1
ifc vlan200.2 up
ifc vlan200.2 vlan 200 parent eth2
```

- **Step 3**: Join the vlan200.1 and vlan200.2 interfaces using the LACP protocol.

```
ifc lag0  up
lag 0 mode fast balance-pp port vlan200.1 vlan200.2
```

- **Step 4**: Create the PRF interface over the lag0 parent interface.

```
ifc prf0  up
prf 0 parent lag0
mint prf0 -name "MUX-1"
mint prf0 -type master
mint prf0 -mode fixed
mint prf0 start
```

- **Step 5**: Create a switch group 100, add the eth0 interface, the prf interface to transfer data traffic, and the vlan100.1 and vlan100.2 interfaces to manage radio devices. Create an svi100 interface to manage the InfiMUX switch, assign it an IP-address allocated for management.

```
switch group 100 add 1 eth0 prf0 vlan100.1 vlan100.2
switch group 100 start
ifc svi100 up
ifc svi100 192.168.100.1/24
svi 100 group 100
```

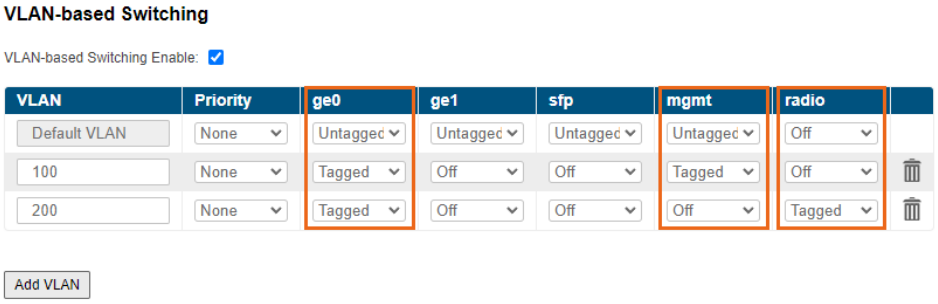
- **Step 6**: Configure the second InfiMUX switch in the same way.

Wireless devices configuration

- **Step 1**: Set wireless links between Master 1 - Slave 1 and Master 2 - Slave 2 devices.
- **Step 2**: At the "Network access" set the IP address allocated for the device, associate VLAN 100 with it.



- **Step 3**: In the "Switch" section, allow VLAN 200 transmission between the ge0 and radio interfaces. Allow management in VLAN 100 for interface ge0. Note that transmissionover the radion of VLAN 100 and the default VLAN used for local configuration must be disabled. Management in VLAN 200 must be disabled also.



- **Step 4**: Configure all radio devices in the same way.