


# Redistribution to the RIP protocol

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## Route redistribution from ODR to RIP

Let's look at an example of routing information redistribution from the ODR protocol to the RIP protocol using the scheme described in the [main document](#) (Figure 1).

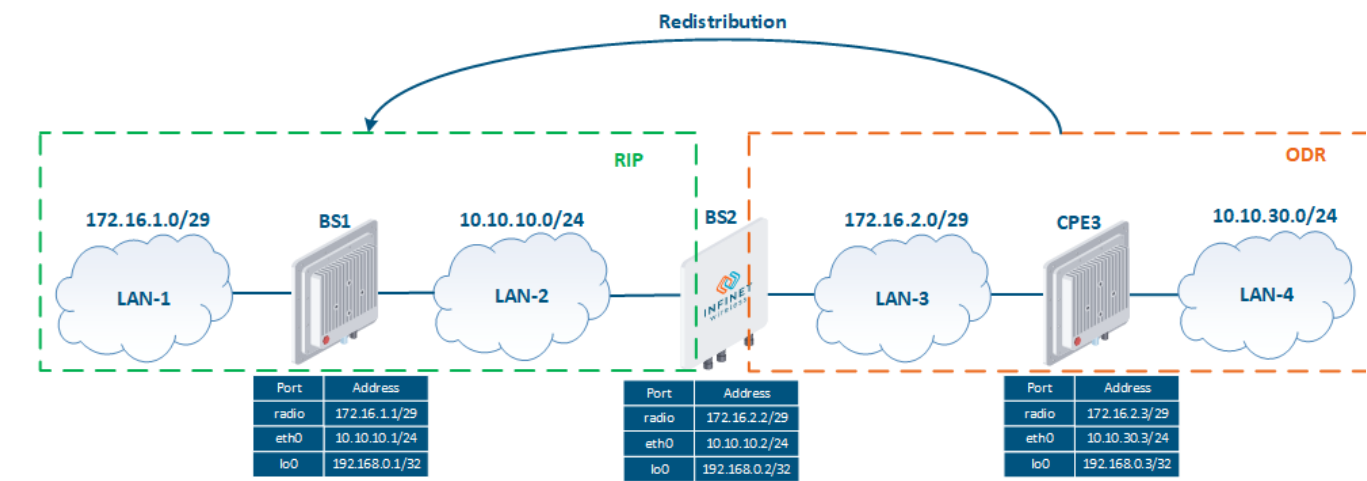


Figure 1 - Route redistribution from ODR to RIP

## Pre-configuration

Description	<div>Perform a preliminary configuration of the devices consisting of the following steps:<ul style="list-style-type: none"><li>• Configure the device IDs.</li><li>• Remove the svi1 interface.</li><li>• Assign IP addresses to the network interfaces, according to the scheme.</li><li>• Disable switching.</li><li>• Establish the wireless links.</li></ul></div>
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BS1	<pre> Set the device ID system prompt BS_1  Remove the svil interface ifc svil destroy  Assign IP addresses ifc eth0 10.10.10.1/24 ifc rf5.0 172.16.1.1/29 ifc lo0 192.168.0.1/32  Disable switching switch stop  Establish the radio link rf rf5.0 band 20 rf rf5.0 freq 5100  mint rf5.0 -name "BS_1" mint rf5.0 -type master </pre>
BS2	<pre> Set the device ID system prompt BS_2  Remove the svil interface ifc svil destroy  Assign IP addresses ifc eth0 10.10.10.2/24 ifc rf5.0 172.16.2.2/29 ifc lo0 192.168.0.2/32  Disable switching switch stop  Establish the radio link rf rf5.0 band 20 rf rf5.0 freq 5000  mint rf5.0 -name "BS_2" mint rf5.0 -type master </pre>
CPE3	<pre> Set the device ID system prompt CPE_3  Remove the svil interface ifc svil destroy  Assign IP addresses ifc eth0 10.10.30.3/24 ifc rf5.0 172.16.2.3/29 ifc lo0 192.168.0.3/32  Disable switching switch stop  Establish the radio link mint rf5.0 -name "CPE_3" mint rf5.0 -type slave mint rf5.0 prof 1 -band 20 -freq 5000 -type slave </pre>

### ODR configuration

<b>Description</b>	<p>Configure ODR:</p> <p><b>Step 1:</b> launch the ODR protocol on the radio interfaces of the BS2 and CPE3 routers. BS2 will be configured as hub, CPE3 - as a spoke.</p> <p><b>Step 2:</b> advertise the directly connected networks on the CPE3 router.</p>
<b>BS1</b>	No changes are required.
<b>BS2</b>	<pre>Start ODR: mint rf5.0 -odr hub</pre>
<b>CPE3</b>	<pre>Start ODR: mint rf5.0 -odr spoke  Advertise the directly connected networks: mint rf5.0 -odr spoke connected</pre>

### RIP configuration

<b>Description</b>	<p>Configure the RIP protocol:</p> <p><b>Step 1:</b> start the RIP daemon on the BS1 and BS2 routers.</p> <p><b>Step 2:</b> define the interfaces where OSPF should be started.</p> <p><b>Step 3:</b> redistribute the routes from the ODR protocol. Such routes have a "kernel" type.</p> <p><b>Step 4:</b> redistribute the directly connected networks on the BS2 router. It is necessary to announce at the BS1 router the route towards the loopback interface of the BS2 router.</p>
<b>BS1</b>	<pre>Start RIP: arip start  Start RIP on the interfaces: arip config router network 172.16.1.0/29 network 192.168.0.1/32 network 10.10.10.0/24</pre>

<b>BS2</b>	<pre> Start RIP: arip start  Start RIP on the interfaces: arip config router network 10.10.10.0/24  Route redistribution from ODR: arip config router redistribute kernel  Advertise the directly connected networks: arip config router redistribute connected </pre>
<b>CPE3</b>	No changes are required.

### Command output analysis

#### Routing table

<b>Description</b>	<p>Analyze the routing table on each device.</p> <p>The routing tables of the BS1 and BS2 devices are synchronized and contain entries about each subnet shown in the scheme. This means that the route redistribution from ODR to RIP was performed successfully.</p> <p>CPE3's routing table consists of routes towards the directly connected networks and a default route. This confirms the statement about the unidirectional redistribution.</p>
<b>BS1</b>	<pre> BS_1#1&gt; netstat -r Routing tables Destination      Gateway         Flags      Refs      Use  Interface 10.10.10.0/24    link#2         UC         0          0   eth0 10.10.30.0/24    10.10.10.2     UG3        0          0   eth0 127.0.0.1        127.0.0.1      UH         3         66   lo0 172.16.1.0/29    link#3         UC         0          0   rf5.0 172.16.2.0/29    10.10.10.2     UG3        0          0   eth0 192.168.0.1      192.168.0.1    UH         0          0   lo0 192.168.0.2      10.10.10.2     UGH3       0          0   eth0 192.168.0.3      10.10.10.2     UGH3       0          0   eth0 224.0.0.0/8      127.0.0.1      UGS        0        1269   lo </pre>

BS2	<pre>BS_2#1&gt; netstat -r Routing tables Destination          Gateway              Flags      Refs      Use  Interface 10.10.10.0/24        link#2               UC         0         0    eth0 10.10.30.0/24        00:04:35:13:5e:4e   ULO        0         0    rf5.0 127.0.0.1            127.0.0.1           UH         3        107    lo0 172.16.1.0/29        10.10.10.1          UG3        0         0    eth0 172.16.2.0/29        link#3               UC         0         0    rf5.0 192.168.0.1          10.10.10.1          UGH3       0         0    eth0 192.168.0.2          192.168.0.2         UH         0         0    lo0 192.168.0.3          00:04:35:13:5e:4e   UHLO       0         0    rf5.0 224.0.0.0/8          127.0.0.1           UGS        0        658    lo</pre>
CPE3	<pre>CPE_3#1&gt; netstat -r Routing tables Destination          Gateway              Flags      Refs      Use  Interface mintGateway          BS_2                rf5.0 10.10.30.0/24        link#2               UC         0         0    eth0 127.0.0.1            127.0.0.1           UH         1         64    lo0 172.16.2.0/29        link#3               UC         0         0    rf5.0 192.168.0.3          192.168.0.3         UH         0         0    lo0 224.0.0.0/8          127.0.0.1           UGS        0        187    lo</pre>

Route redistribution from OSPF to RIP

Let's look at an example of routing information redistribution from OSPF to RIP using the scheme described in the [main document](#) (Figure 2).

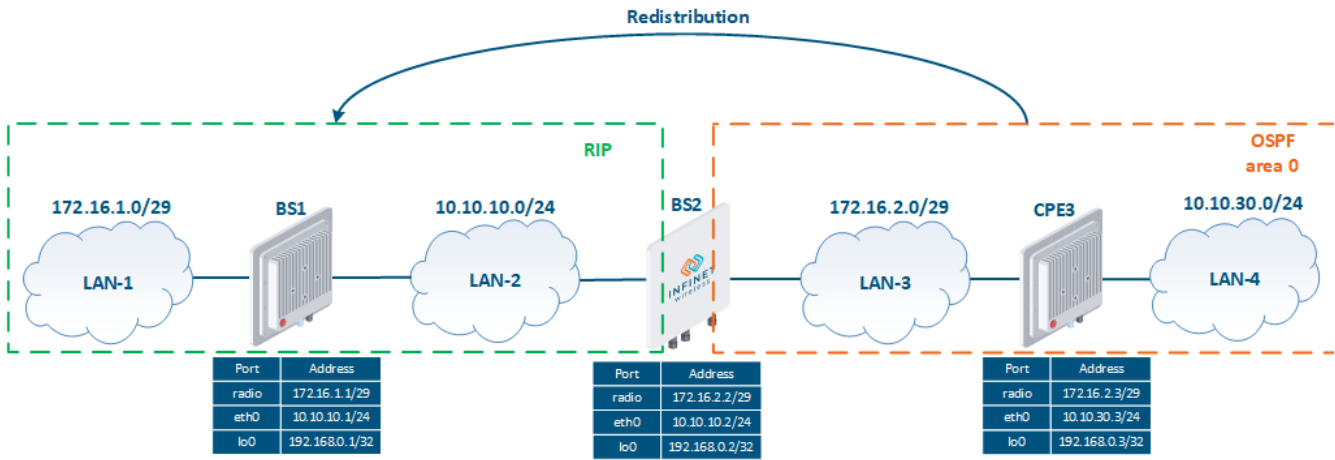


Figure 2 - Route redistribution from OSPF to RIP

Pre-configuration

Description	<p>Perform a preliminary configuration of the devices, consisting of the following steps:</p> <ul style="list-style-type: none"><li>• Configure the device IDs.</li><li>• Remove the svi1 interface.</li><li>• Assign IP addresses to the network interfaces, according to the scheme.</li><li>• Disable switching.</li><li>• Establish the wireless links.</li></ul>
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<b>BS1</b>	<pre>Set the device ID system prompt BS_1  Remove the svil interface ifc svil destroy  Assign IP addresses ifc eth0 10.10.10.1/24 ifc rf5.0 172.16.1.1/29 ifc lo0 192.168.0.1/32  Disable switching switch stop  Establish the radio link rf rf5.0 band 20 rf rf5.0 freq 5100  mint rf5.0 -name "BS_1" mint rf5.0 -type master</pre>
<b>BS2</b>	<pre>Set the device ID system prompt BS_2  Remove the svil interface ifc svil destroy  Assign IP addresses ifc eth0 10.10.10.2/24 ifc rf5.0 172.16.2.2/29 ifc lo0 192.168.0.2/32  Disable switching switch stop  Establish the radio link rf rf5.0 band 20 rf rf5.0 freq 5000  mint rf5.0 -name "BS_2" mint rf5.0 -type master</pre>
<b>CPE3</b>	<pre>Set the device ID system prompt CPE_3  Remove the svil interface ifc svil destroy  Assign IP addresses ifc eth0 10.10.30.3/24 ifc rf5.0 172.16.2.3/29 ifc lo0 192.168.0.3/32  Disable switching switch stop  Establish the radio link mint rf5.0 -name "CPE_3" mint rf5.0 -type slave mint rf5.0 prof 1 -band 20 -freq 5000 -type slave</pre>

## OSPF configuration

<b>Description</b>	<p>Configure the OSPF protocol:</p> <p><b>Step 1:</b> start the OSPF daemon on the BS1 and BS2 routers.</p> <p><b>Step 2:</b> set the routers IDs. The identifiers will be equal to the IP addresses assigned to the loopback interface.</p> <p><b>Step 3:</b> define the interfaces where OSPF should be started.</p>
<b>BS1</b>	No changes are required.
<b>BS2</b>	<pre> Start OSPF: ospf start  Set the router-id: ospf config router router-id 192.168.0.2  Start OSPF on the interfaces: ospf config router network 172.16.2.0/29 area 0.0.0.0 </pre>
<b>CPE3</b>	<pre> Start OSPF: ospf start  Set the router-id: ospf config router router-id 192.168.0.3  Start OSPF on the interfaces: ospf config router network 172.16.2.0/29 area 0.0.0.0 network 192.168.0.3/32 area 0.0.0.0 network 10.10.30.0/24 area 0.0.0.0 </pre>

## RIP configuration

<b>Description</b>	<p>Configure RIP on the BS1 and BS2 devices:</p> <p><b>Step 1:</b> Start RIP on the routers.</p> <p><b>Step 2:</b> define the interfaces through which routing information should be exchanged.</p> <p><b>Step 4:</b> redistribute the routes from the OSPF protocol on BS2. Such routes have an "ospf" type.</p> <p><b>Step 4:</b> redistribute the directly connected networks on the BS2 router. It is necessary to announce at the BS1 router the route towards the loopback interface of the BS2 router.</p>
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<b>BS1</b>	<pre> Start RIP: arip start  Start RIP on the interfaces: arip config router network 172.16.1.0/29 network 192.168.0.1/32 network 10.10.10.0/24 </pre>
<b>BS2</b>	<pre> Start RIP: arip start  Start RIP on the interfaces: arip config router network 10.10.10.0/24  Route redistribution from ODR: arip config router redistribute ospf  Advertise the directly connected networks: arip config router redistribute connected </pre>
<b>CPE3</b>	No changes are required.

### Command output analysis

#### Routing table

<b>Description</b>	<p>Analyze the routing table on each device.</p> <p>The routing tables of the BS1 and BS2 devices are synchronized and contain entries about each subnet shown in the scheme. This means that the route redistribution from OSPF to RIP was performed successfully.</p> <p>CPE3's routing table consists of routes to the directly connected networks and a default route. This confirms the statement about the unidirectional redistribution.</p>
<b>BS1</b>	<pre> BS_1#1&gt; netstat -r Routing tables Destination      Gateway         Flags    Refs    Use  Interface 10.10.10.0/24    link#2         UC        0        0   eth0 10.10.30.0/24    10.10.10.2     UG3       0        0   eth0 127.0.0.1        127.0.0.1      UH        3       82   lo0 172.16.1.0/29    link#3         UC        0        0   rf5.0 172.16.2.0/29    10.10.10.2     UG3       0        0   eth0 192.168.0.1      192.168.0.1    UH        0        0   lo0 192.168.0.2      10.10.10.2     UGH3      0        0   eth0 192.168.0.3      10.10.10.2     UGH3      0        0   eth0 224.0.0.0/8      127.0.0.1      UGS       0     1340   lo </pre>



BS2	<pre>BS_2#1&gt; netstat -r Routing tables Destination      Gateway          Flags    Refs      Use  Interface 10.10.10.0/24     link#2           UC        0         0   eth0 10.10.30.0/24     172.16.2.3      UG3       0         0  rf5.0 127.0.0.1         127.0.0.1       UH        5        130   lo0 172.16.1.0/29     10.10.10.1      UG3       0         0   eth0 172.16.2.0/29     link#3           UC        0         0  rf5.0 192.168.0.1       10.10.10.1      UGH3      0         0   eth0 192.168.0.2       192.168.0.2     UH        0         0   lo0 192.168.0.3       172.16.2.3      UGH3      0         0  rf5.0 224.0.0.0/8       127.0.0.1       UGS       1        751   lo</pre>
CPE3	<pre>CPE_3#1&gt; netstat -r Routing tables Destination      Gateway          Flags    Refs      Use  Interface 10.10.30.0/24     link#2           UC        0         0   eth0 127.0.0.1         127.0.0.1       UH        3         75   lo0 172.16.2.0/29     link#3           UC        0         0  rf5.0 192.168.0.3       192.168.0.3     UH        0         0   lo0 224.0.0.0/8       127.0.0.1       UGS       1        299   lo</pre>

## Additional materials

### Webinars

1. [Typical scenario of routing setting using Infinet Wireless devices. Part I.](#)
2. [Typical scenario of routing setting using Infinet Wireless devices. Part II](#)

### Other

1. [Ifconfig command \(interfaces configuration\)](#)
2. [mint command \(MINT version\)](#)
3. [mint command \(TDMA version\)](#)
4. [ARDA \(Aqua Router Daemon\)](#)
5. [OSPF command](#)
6. [arip command](#)