



HiOS: HTML - Rail Data Diode (RDD) Configuration

John M - 2020-05-18 - HiOS

This guide is designed to step you through the configuration of the RDD Hirschmann product. The RDD consists of 2 routers in the same enclosure, with traffic only being allowed from the IN router to the OUT, so UDP is the only protocol that is permitted.

HiView/HiDiscovery will be needed to follow this guide along with 2 computers.

Configuring the IN Router

1. Give the IN side of the RDD an IP address with HiDiscovery.

Signals

Configure...

Password...

Signal	Configure...	Password...	MAC Address	PkId Address (Link local)	IP Address	Network	Gateway	Type	Product
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	64:03:38:47:82:00	-	192.168.1.244	255.255.255.0	192.168.1.1	mgmt	RED020-1402A-SL0V99H4EJ35
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EC:45:55:6A:08:00	-	192.168.1.90	255.255.255.0	0.0.0.0	mgmt	EAGLE04-04009997TP99C3E3H3E1F
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EC:45:55:6A:09:00	-	192.168.1.81	255.255.255.0	0.0.0.0	mgmt	RED020-1402A-SL0V99H4EJ35
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EC:45:55:6A:09:30	-	192.168.1.12	255.255.255.0	0.0.0.0	mgmt	RED020-1402H1T1-SC0V9H8Z5
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EC:45:55:6A:0F:0E	-	192.168.1.11	255.255.255.0	192.168.1.1	mgmt	RED020-11002Z1T1-SC0V9H8Z5
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EC:45:55:6B:70:08	-	10.10.10.3	255.255.255.0	10.10.10.1	mgmt	RED020-1009M42M20DAE4H

HWInfo - Configure

×

MAC address

64:03:38:47:82:00

Name

FC02-640038478200

PkId Address (Link local)

IP address

192.168.1.144

Network

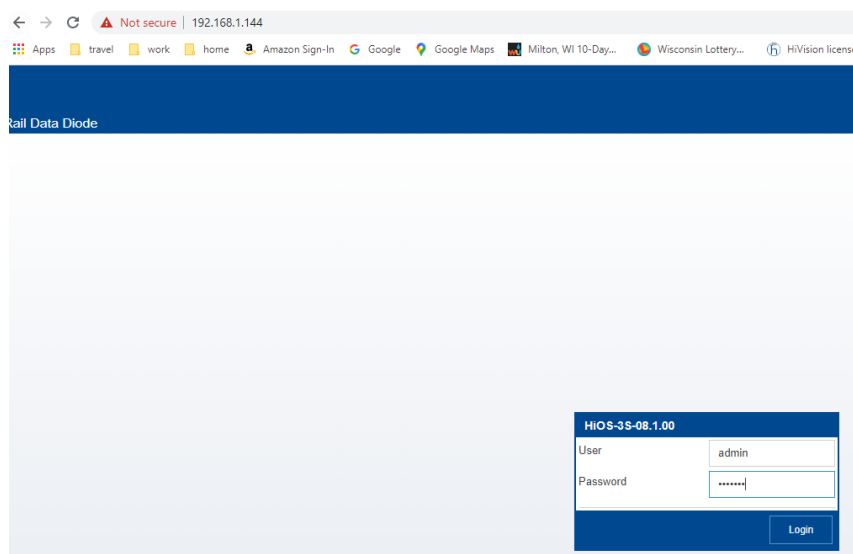
255.255.255.0

Gateway

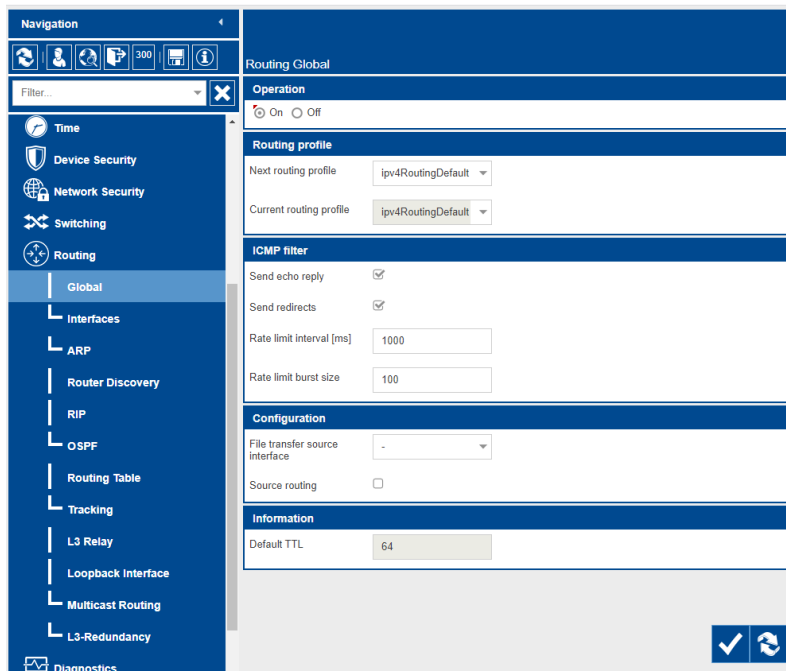
OK

Cancel

2. Login to the GUI of the switch.



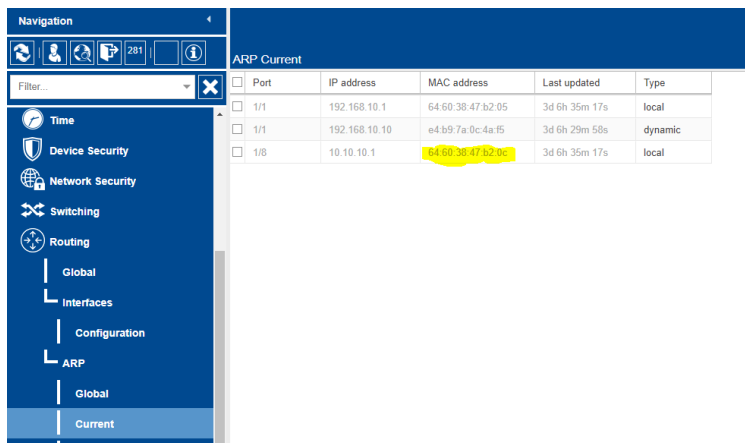
3. Go to Routing/global and turn on routing then click the write button.



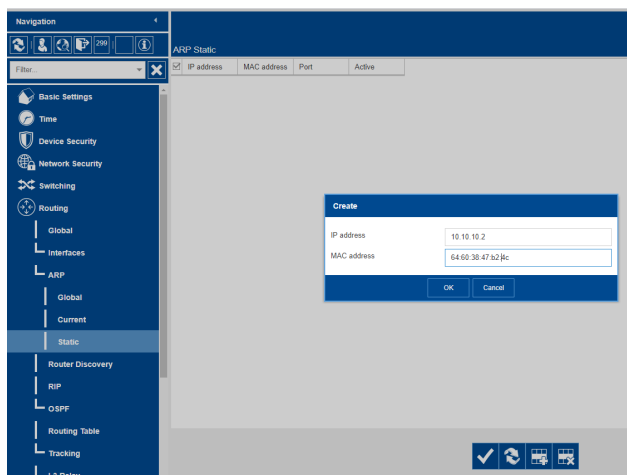
4. Go to routing/interfaces/configuration and assign the IP addresses to the interfaces used and click write. Refresh to make sure the settings are correct. If an IP address was assigned to the port currently used to communicate to the switch the computer IP will have to be changed to the same subnet of the IP that was assigned. This will also be the new IP address to login to the switch and the gateway IP of the computer. Note: Use the wizard to configure virtual interfaces/VLANs.

Port	Name	Port on	Port status	IP address	Network	Routing	Proxy ARP	Multicast floodable	MTU value	ICMP unreachable	ICMP redirects
1/1		GE	up	192.168.10.1	255.255.255.0	GE	<input type="checkbox"/>	<input type="checkbox"/>	1,500	GE	GE
1/2		GE	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,500	GE	GE
1/3		GE	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,500	GE	GE
1/4		GE	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,500	GE	GE
1/5		GE	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,500	GE	GE
1/6		GE	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,500	GE	GE
1/7		GE	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,500	GE	GE
1/8		GE	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,500	GE	GE
1/9		GE	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,500	GE	GE
1/10		GE	up	10.10.10.1	255.255.255.0	GE	<input type="checkbox"/>	<input type="checkbox"/>	1,500	GE	GE

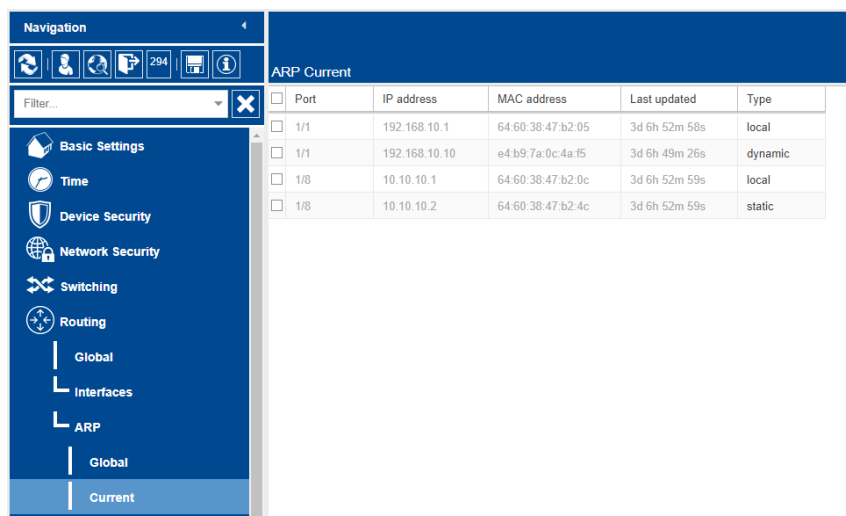
5. Go to Routing/ARP/current and write down the MAC for the IP address that will connect the 2 Routers in the RDD, this will be needed when configuring the out Router .



6. Go to Router/ARP/Static and add an entry click active and write. This step will have to be done after the MAC of the OUT interface connecting to routers is known.

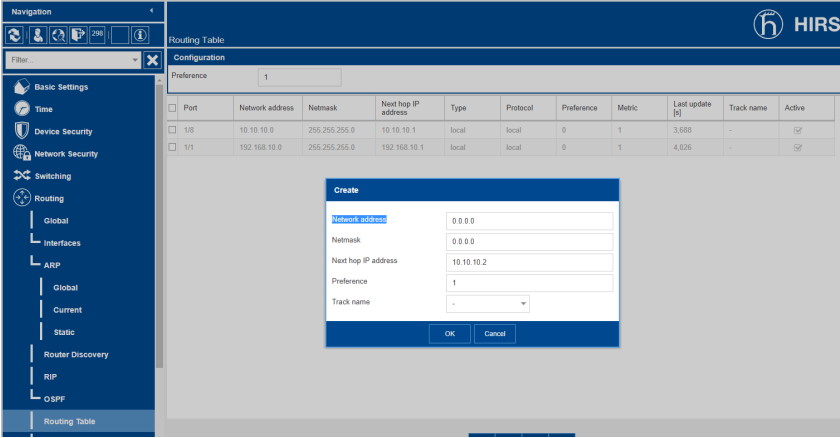


7. Make sure the new route shows up in the current tab which may need to be refreshed.



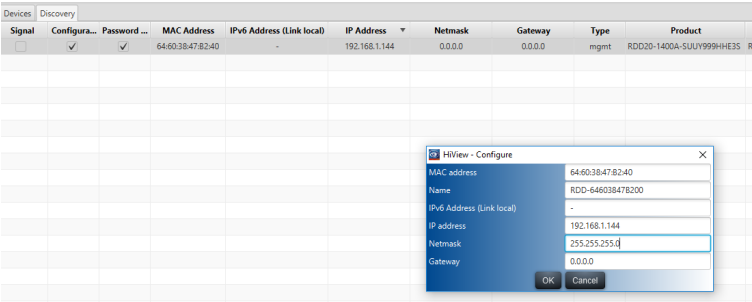
8. Add a static route 0.0.0.0/0 with the next hop IP of the OUT connecting interface click ok,

make sure it is active and click the write button.

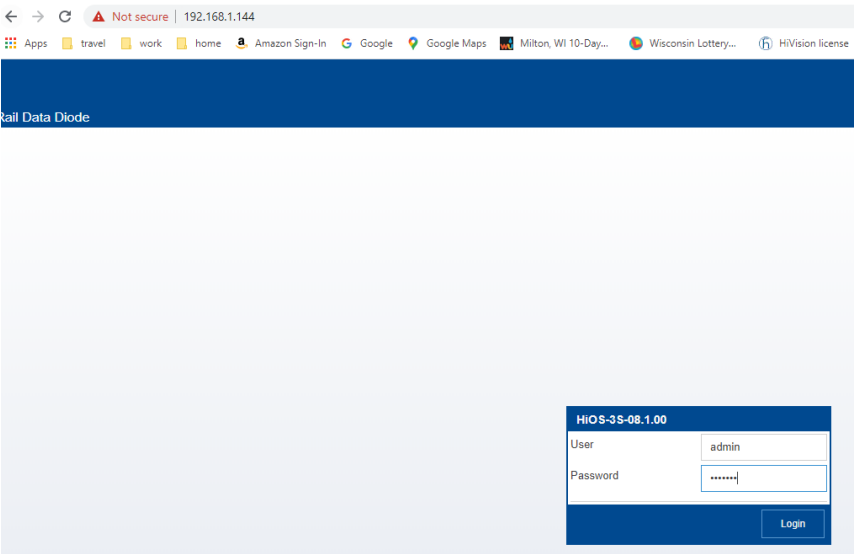


Configuring the OUT Router

1. Give the OUT side of the RDD an IP address with HiDiscovery.



2. Login to the GUI of the switch.



3. Go to Routing/global and turn on routing then click the write button.

Navigation

Filter...

- Time
- Device Security
- Network Security
- Switching
- Routing
 - Global
 - Interfaces
 - ARP
 - Router Discovery
 - RIP
 - OSPF
 - Routing Table
 - Tracking
 - L3 Relay
 - Loopback Interface
 - Multicast Routing
 - L3-Redundancy
- Diagnostics

Routing Global

Operation

On Off

Routing profile

Next routing profile: ipv4RoutingDefault

Current routing profile: ipv4RoutingDefault

ICMP filter

Send echo reply: ☒

Send redirects: ☒

Rate limit interval [ms]: 1000

Rate limit burst size: 100

Configuration

File transfer source interface: -

Source routing: ☐

Information

Default TTL: 64

✓ ↺

4. Go to routing/interfaces/configuration and assign the IP addresses to the interfaces used and click write. Refresh to make sure the settings are correct.

Navigation

Filter...

- Restart
- Time
- Device Security
- Network Security
- Switching
- Routing
 - Global
 - Interfaces
 - Configuration

Routing Interfaces Configuration

Port	Name	Port on	Port status	IP address	Netmask	Routing	Proxy ARP	Netdirected broadcasts	MTU value	ICMP unreachable	ICMP redirects
<input type="checkbox"/> 1/1		<input checked="" type="checkbox"/>	up	192.168.20.1	255.255.255.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 1/2		<input checked="" type="checkbox"/>	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 1/3		<input checked="" type="checkbox"/>	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 1/4		<input checked="" type="checkbox"/>	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 1/5		<input checked="" type="checkbox"/>	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 1/6		<input checked="" type="checkbox"/>	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 1/7		<input checked="" type="checkbox"/>	down	0.0.0.0	0.0.0.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> 1/8		<input checked="" type="checkbox"/>	up	10.10.10.2	255.255.255.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

5. Go to Routing/ARP/current and write down the MAC for the IP address that will connect the 2 Routers in the RDD, this will be needed when configuring the IN Router.

