Industrial Automation
Tech Note 21   Multiple Network Interfaces

Abstract:

Devices programmed by Crimson® can be configured with multiple network interfaces. This document describes the 'rules' to be followed to allow for all of the ports to function together, as well as how they interact with one another.

Products:

G3 Series HMI / G3 Kadet HMI / Graphite® HMI / Modular Controller / Data Station Plus / ProducTVity Station

Use: Multiple Network Interfaces

Incorrect settings for one port can affect the other ports; following these rules will avoid these problems.

**Required Software:**

Crimson® 3.0

Interfaces
- Ethernet 1
- Ethernet 2
- Modem (cellular or dial up) connection

Unique Subnets
- All interfaces must be in unique subnets.

Gateways
- Only one interface may have a (default) Gateway assigned to it.
  - This is typically the interface with access to the Internet.
  - This includes the PPP Client driver with its IP Configuration-Route Type set to Default Gateway.
- In the rare instance that more than one interface requires a gateway to access other subnets; the Routing Table can be used.
  - The Crimson 3.0 routing table functions similarly to a Window's PC routing table, a target subnet, mask, and gateway are defined to route the traffic through the correct gateway.
  - In the case of the PPP Client driver, the IP Configuration-Route Type can be set to Specific Network.
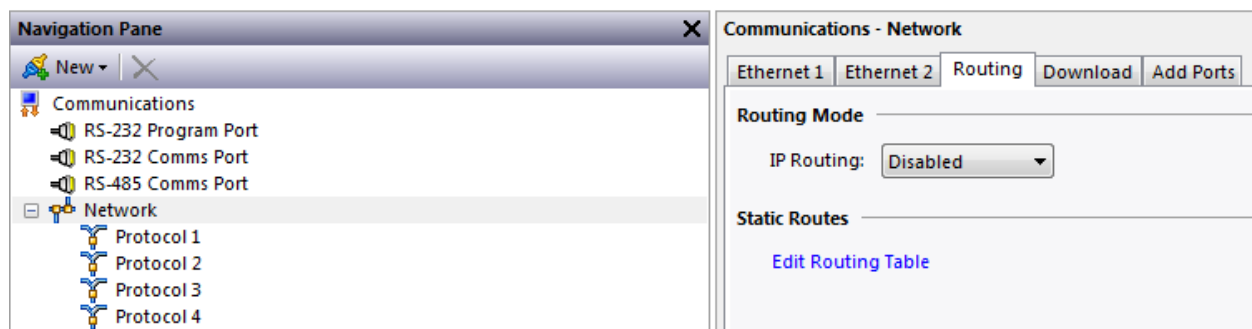
Communication Devices and Services
- Traffic for communication devices and the communication services will use the interface that will get the data to its destination.
  - This is why the gateway configuration is very important, with that configured incorrectly; the data may be routed through the wrong interface.
- Multiple devices under a single protocol may all be on different subnets, even if they use different interfaces to get to their destination.
- Client devices from multiple subnets can simultaneously access the server services running in the Red Lion® unit.

Routing

- Routing can be used to seamlessly pass data between two of the unit's interfaces.
- Beyond properly configuring gateways and static routes, the only setting needed in Crimson is enabling routing. This setting can be found on the Routing tab while Network is selected in the Navigation Pane of Crimson 3.0, or at the bottom of the Ethernet Port Settings in the Communication section of Crimson 2.0.
- Much like the Red Lion unit, PCs can only have a single default gateway, but have a routing table to handle more complex routing needs.

  ⚠ **Caution:** Refer to your Information Technology/Systems Department before making any changes to your networked PC, Red Lion Controls is not responsible for any issues that may arise from an improper network configuration.

- A route can be added to a PC by using the ROUTE ADD command from a command line interface.

  o The command line example of: > *route ADD 157.0.0.0 MASK 255.0.0.0 157.55.80.1* will tell the PC to go through the device with an IP address of 157.55.80.1 to get to any IP address that has a first octet of 157.

For more information: http://www.redlion.net/support/policies-statements/warranty-statement

red lion®