



HERA600 Series Serial Port Configuration Guide

Document Reference: 8293

4/22/2015
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1 Getting started

Connect to the Hera Router using an Ethernet cable, WiFi or Cellular connection (if active) and open an ssh session by using appropriate software e.g. Putty ¹

Log in at the prompt with the username 'admin' and password 'admin'

This gives command line access to the advanced features of the router.

2 Serial2ip module setup

To enable the serial feature on ports 1 and / or 2, type the appropriate commands from the list :

- feature serial2ip add port 1
- feature serial2ip add port 2

These commands will add the ports to the configuration. It is next necessary to configure the baudrate and number of bits for each port.

- feature serial2ip set port *portno* baud *_baud_*

This command is used to set the baud rate of the port specified by the *portno*. e.g.

- feature serial2ip set port *_portno_* databits 5

¹ <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

- feature serial2ip set port *_portno_* databits 6
- feature serial2ip set port *_portno_* databits 7
- feature serial2ip set port *_portno_* databits 8

These commands are used to set the databits of the port specified by *portno*.

- feature serial2ip set port *_portno_* parity *_parity_*

This command will set the parity of the port *portno*.

- feature serial2ip set port *_portno_* stopbits *_stopbits_*

This command is used to set the stopbits for the port *portno*.

- feature serial2ip set port *_portno_* server *_server_*

This command is used to specify the url of the destination in the form of *ipaddress:port* you want to send the uart's data.

- feature serial2ip set port *_portno_* listenport *_listenport_*

This command is used to set the portno for the listener/server and also start the server on that port. **This is the mandatory field** (By default set to 0).

- feature serial2ip set port *_portno_* listener disable

This command is used to stop the listener/server.

- `feature serial2ip set port _portno_ protocol _tcpudp_`

This command is used to configure the mode you want to use to connect to the other end i.e tcp or udp.

- `feature serial2ip set port _portno_ enabled true`
- `feature serial2ip set port _portno_ enabled false`

Enabled – Enabled command is used to register the uart specified by *portno* to receive the uart data.

When configured for udp this command also binds the udp socket and when configured for tcp this command will set a flag for tcp connection so that when data is received from the uart, then tcp will send the connect to the server.

Disabled – Disable command is used to release the uart and close the tcp client and udp sockets.

- `feature serial2ip show configuration`

This command will display the options configured for the ports.

- `feature serial2ip show status`

This command will show on which ports serial2ip is running i.e. Port 1 or port 2 or both.

3 UDP Connection

To establish a udp connection, you need to configure the following options:-

3.1 IAD 1 – 192.168.1.2

- feature serial2ip add port 1
- feature serial2ip set port 1 server *192.168.1.10:6789*
- feature serial2ip set port 1 protocol udp
- feature serial2ip set port 1 listenport 6789
- feature serial2ip set port 1 enabled true

3.2 IAD 2 - 192.168.1.10

- feature serial2ip add port 1
- feature serial2ip set port 1 server *192.168.1.2:6789*
- feature serial2ip set port 1 protocol udp
- feature serial2ip set port 1 listenport 6789
- feature serial2ip set port 1 enabled true

4 TCP Connection

To establish a tcp connection, you need to configure the following options :-

4.1 IAD 1 – 192.168.1.2

- feature serial2ip add port 2

If port already exist then you can change its configuration.

- feature serial2ip set port 2 server *192.168.1.10:49200*
- feature serial2ip set port 2 protocol tcp
- feature serial2ip set port 2 listenport *49200*
- feature serial2ip set port 2 enabled true

4.2 IAD 2 - 192.168.1.10

- feature serial2 to ip add port 2
- feature serial2ip set port 2 server *192.168.1.2:49200*
- feature serial2ip set port 2 protocol tcp
- feature serial2ip set port 2 listenport *49200*
- feature serial2ip set port 2 enabled true

Note :- Whenever the configuration is changed, you need to execute the “feature serial2ip set port _portno_ enabled false” then “feature serial2ip set port _portno_ enabled true” to allow the changes to take affect.

The tcpclient will try to connect to the server whenever the data is received from the uart until the connection is established.

5 Additional commands/options

5.1 feature serial2ip set port 1 disconnecttimeout 1

It is the idle disconnect timeout in seconds. Maximum value is 3600 seconds(1 hour).

After the timer expires, the whole ip connection closes.

Can disable the timer by setting it to 0.

5.2 feature serial2ip set port 1 idletime 1

It is the idle timeout in milliseconds, after which the data will be sent.

Maximum value is 3600000 milliseconds(1 hour).

Can disable the timer by setting it to 0.

5.3 feature serial2ip set port 1 matchcharacter 65

It is the ascii value corresponding to the character that needs to be matched. In this case,

we are matching 'A' character against the data. If the match is successful, all the data before the matched character and including the matched character will be sent to ip connection.

Valid values: -1 for disable; 0 to 255 (Ascii values)

5.4 feature serial2ip set port 1 matchstring "testing"

It matches the string against the data and sends the data until the matched string or upto the matched string and including it, depending upon the configured value of **deletematchstring**.

If the match is not successful, it looks for a partial match against the data, and if successful, then the data is sent upto and excluding the partial matched characters.

Max length: **256**

Disable matchstring value: ""

example--> **feature serial2ip set port 1 matchstring ""**

5.5 feature serial2ip set port 1 deletematchstring true

In this case , the data will be sent upto and excluding the matched string

5.6 feature serial2ip set port 1 deletematchstring false

In this case , the data will be sent upto and including the matched string.

5.7 feature serial2ip set port 1 maxbytes 100

It is the maxbytes that can be handled by the buffer before the data is sent.

Valid values:0 for disabled; Max value is 2048 bytes.

Examples:

5.8 --> feature serial2ip show status

Serial2IP status:

Port 1 : Disconnected

5.9 --> feature serial2ip show configuration

UART 1 serial2ip State = Idle

Serial2ip listener disabled

Baud rate 9600

Data bits 8

Parity N

Stop bits 1

Send to URL (null)

Send to port 0

Protocol (null)

Listen port 0

Disconnect timeout in seconds 0

Idle timeout in milliseconds 0

Max byte after which data is sent 0

Match string " akshay"

Delete Match string option disabled

Match character disabled(-1)

NOTE: By default, all the additional options are disabled. Regardless of the options configured, there is always a check for 2048 bytes in the buffer. If rule passes, the data is sent upto 2048 bytes.

6 The order of priority for checking the rules

Step 1: Checks match character rule until fails and then proceeds with next step.

Step 2: checks match string rule until fails and then proceeds with next step.

Step 3: Checks maxbytes configured and sends the data if it exceeds the configured maxbytes value.

Step 4: Checks BUFFER FULL 2048 bytes rule and sends the data if rule is matched.

Step 5: Restarts the timer (idletimer and disconnect timer).

The above checks loop from step1 to step 5 whenever the new data arrives on the uart port.