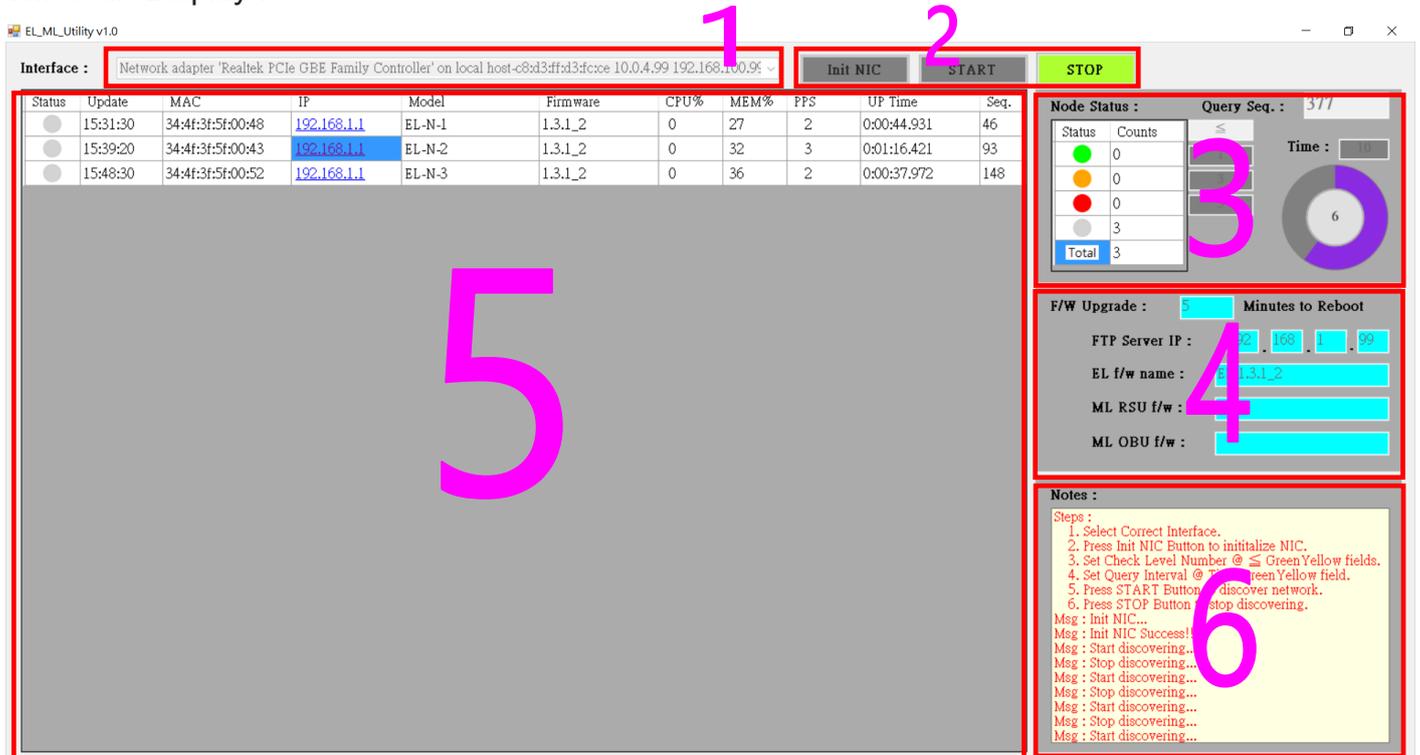


EL-N & ML-N Series Utility Simple Network Management Manual

- I. Version : 1.1
- II. Date : 2017/05/23
- III. Operating System : Windows
- IV. Applicable Equipment Model : EL-N-1 / EL-N-2 / EL-N-3
 ML-N-1 RSU / ML-N-2 RSU / ML-N-3 RSU
 ML-N-1 OBU / ML-N-2 OBU / ML-N-3 OBU
- V. Device Version: 1.3.0 or Later
- VI. Install the implementation: **Be sure to update the Microsoft 64-bit "vc_redist.x64" software (within the folder) and start the EL_ML_Utility_x64.exe in the folder to work properly.**
 ((32-bit system, please update "vc_redist.x86" and start the "EL_ML_Utility_x86.exe" software)

Special reminder1: Please MUST to stop firewall and anti-virus software first, and then install the job.

VII. Start Display :



The screenshot shows the EL_ML_Utility v1.0 interface. A red box highlights the 'Interface' dropdown menu (1) and the 'Init NIC', 'START', and 'STOP' buttons (2). A table displays network interface data. A 'Node Status' panel (3) shows counts for various statuses and a gauge. An 'F/W Upgrade' panel (4) includes fields for FTP Server IP, EL f/w name, ML RSU f/w, and ML OBU f/w. A 'Notes' panel (6) lists steps for using the software. A large number 5 is overlaid on the main table area.

| Status | Update | MAC | IP | Model | Firmware | CPU% | MEM% | PPS | UP Time | Seq. |
|--------|----------|-------------------|-------------|--------|----------|------|------|-----|-------------|------|
| ● | 15:31:30 | 34:4f:3f:5f:00:48 | 192.168.1.1 | EL-N-1 | 1.3.1_2 | 0 | 27 | 2 | 0:00:44.931 | 46 |
| ● | 15:39:20 | 34:4f:3f:5f:00:43 | 192.168.1.1 | EL-N-2 | 1.3.1_2 | 0 | 32 | 3 | 0:01:16.421 | 93 |
| ● | 15:48:30 | 34:4f:3f:5f:00:52 | 192.168.1.1 | EL-N-3 | 1.3.1_2 | 0 | 36 | 2 | 0:00:37.972 | 148 |

1. Computer interface card menu:

- Select the network interface card that can be connected to the device. Select the software will lock the card to perform this software, to change the other network interface card to scan, you need to restart the Utility software



Interface : Network adapter 'Realtek PCIe GBE Family Controller' on local host-c8:d3:ff:d3:fc:ce 10.0.4.99 192.168.100.9%
 Init NIC START STOP

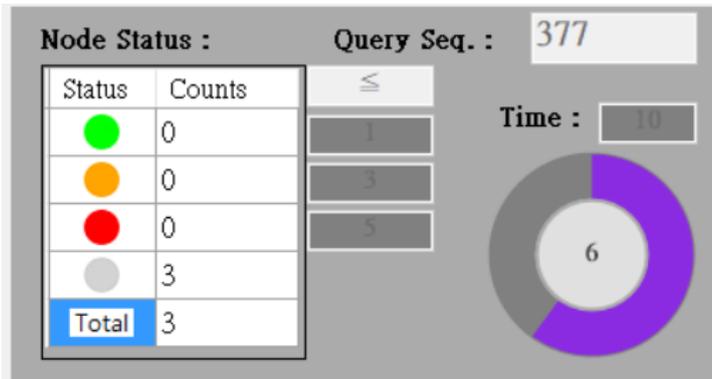
2. Action button

Init NIC Will be selected interface card initialization, after the implementation of initialization, you will not change the interface card, if you want to change the interface card, please end the program re-implementation.

START Start this Utility tool to get information.

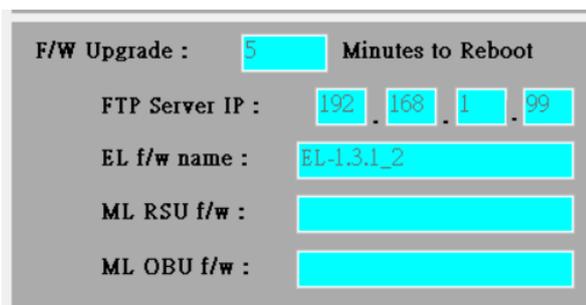
STOP Stop this Utility tool to get information.

3. Operating Parameters



- Time: Set the query device time, the default for a minimum of 10 seconds query once, you can also set the scan detection once per minute, the equivalent of quarantine detection network management functions.
- ≤: Set the device does not respond to the number of times the signal can be a long time through the scan signal and record the number of records to determine the wireless link connection and transmission stability.
- Query Seq.: The packet number sent to the device is calculated after each start of Start, and the packet number of the successful scan will be seen in the fifth block.

4. Device Software Update Parameters:



The screenshot shows the 'Device Software Update Parameters' interface. It features several input fields: 'F/W Upgrade : 5 Minutes to Reboot', 'FTP Server IP : 192 . 168 . 1 . 99', 'EL f/w name : EL-1.3.1_2', 'ML RSU f/w :', and 'ML OBU f/w :'. Each field is highlighted with a red box.

- Minutes to Reboot: After the device is touched by the software update, restart after x minutes, and the default is 5 minutes.
- FTP Server IP: Set the FTP server IP address, please use the Internet, download and install FTP Server software.
- EL f / w name or ML RSU f / w or ML OBU f / w: Set the software file name on FTP

<< Description: a. The software file name must last be "Software version number .img", for example: EL-en-1.3.0_2.img, where 1.3.0_2 is the software version number!

The device determines whether or not to update the software according to this version number. If the version number is consistent with the device version, no software update will be performed.

B. If the device determines that the software version is different, the device restarts after x minutes, regardless of whether the update is successful, so the device will restart, if the error is caused to cause the device to fail every time the update is completed. >>

5. Device Information List:

EL_ML_Utility v1.0

Interface : Network adapter 'Realtek PCIe GBE Family Controller' on local host-c8:d3:ff:d3:fc:ce 10.0.4.99 192.168.100.99 Init NIC START

| Status | Update | MAC | IP | Model | Firmware | CPU% | MEM% | PPS | UP Time | Seq. |
|--------|----------|-------------------|-----------------------------|--------|----------|------|------|-----|-------------|------|
| ● | 15:31:30 | 34:4f:3f:5f:00:48 | 192.168.1.1 | EL-N-1 | 1.3.1_2 | 0 | 27 | 2 | 0:00:44.931 | 46 |
| ● | 15:39:20 | 34:4f:3f:5f:00:43 | 192.168.1.1 | EL-N-2 | 1.3.1_2 | 0 | 32 | 3 | 0:01:16.421 | 93 |
| ● | 15:48:30 | 34:4f:3f:5f:00:52 | 192.168.1.1 | EL-N-3 | 1.3.1_2 | 0 | 36 | 2 | 0:00:37.972 | 148 |

- Status: Include device response light (green / orange / red / gray)
- Update: Last response time
- MAC address
- IP address
- Equipment model
- Firmware version
- CPU %: CPU usage
- MEM %: MEM memory usage
- PPS: Counts the number of packets per second
- UP Time: Operation time of the device (calculated from the last change after setting up)
- Seq: Packet number of Seq device response

6. Notes (Message):

Notes :

Steps :

1. Select Correct Interface.
2. Press Init NIC Button to initialize NIC.
3. Set Check Level Number @ ≤ GreenYellow fields.
4. Set Query Interval @ Time GreenYellow field.
5. Press START Button to discover network.
6. Press STOP Button to stop discovering.

Msg : Init NIC...
Msg : Init NIC Success!!
Msg : Start discovering...
Msg : Stop discovering...
Msg : Start discovering...
Msg : Stop discovering...
Msg : Start discovering...
Msg : Stop discovering...
Msg : Start discovering...
Msg : Stop discovering...

- Message status list.