TrangoLINK Apex

Software v2.0 Release Notes

Released: 29 August 2011
Revised: 1 September 2011

TrangoLINK Apex v2.0 Release

The release consists of the following software images:

FPGA version:	**0014060B**
OS version:	**2p6r22b0D082911**
FW version:	**2p0r0D082911**
PIC version:	217
Modem version:	40
RFM version:	28

The images highlighted in bold are new for this release.
Modem image is upgraded directly by the main FW image.

New features and Enhancements
1. Web interface improvements. Now looks and feels like Plus & Pro products. Added notes for FAQ on some settings.
2. Egress rate based upon configured speed for bandwidth management/QoS implementation from internal switch-port to modem.
3. Egress margin to configure the overhead to allow above the set speed for QoS. Defaults to 10, but can be increased to handle greater numbers of smaller packets or decreased for enhanced ban dwidth management.
4. New messaging feature for RPS to more reliably bring ports back on after rps off.
5. New SNMP OIDs for egress rate, ACM profiles, RF in/out port rate, standby status, etc.
6. Apex Plus compatible speed binaries so Apex and Apex Plus may be used interchangeably for Ethernet only links.
7. Route, tg_reboot & powercycle added to debug mode.
8. Validate IP address fields to prevent against invalid entry.
9. Syslog filtering to display only a subset of the stored data.
10. IBM info added to sysinfo for easier viewing and saving of configuration.

Bug Fixes
1. Config import caused ACM to not function properly.
2. Web interface password can now be changed if the old one contains special characters.
3. Siglevel improvements, including showing power set by ATPC.

Known Limitations
1. Web Interface supports only single level access.
2. Loopback Mode - rf_refl is not supported in this release.
3. BER is only available for internal data pattern with QAM256 not for live link.

Software Image Upgrade Procedure

Please review these instructions before starting to ensure that you have adequate time scheduled to perform the upgrade as well as fully understand the implications of the process. While all software is tested by Trango Systems on current hardware before being released, it is strongly suggested that you initially perform this upgrade on your lab or spare equipment and not initially in a production environment so you may test for any and all needed functionality before deploying.

1.   Start a SSH or Telnet session and enter config mode.
      Save config if not already done.
           Trango System: TrangoLINK Apex Command Line Interface v1.3.1

           (CLI-view)# config
           Password: trango
           (CLI-config)# save
           New configuration saved

           SUCCESS

2.   Turn TFTPd service on the Radio ON with commands:
           (cli-config)tftpd on

3.   Send New Firmware Image to target Radio.
      In DOS window, type command:
           dos> tftp –i [ip address] put sys_fpga_v20.40D73F6E
           ip address   IP Address of the Radio.
      In Mac/Linux window, type commands:
           # tftp
           tftp> mode binary
           tftp> connect [radio ip address]
           tftp> put sys_fpga_v20.40D73F6E
           tftp> quit

4.   After the files are transferred on the Radio. Use the "bootimage upgrade" command from the config mode on the radio.
      The command prompt will return with SUCCESS/ERROR once the image is copied to flash.
           (cli-config) bootimage upgrade 0   // for FPGA image
      The new image will take effect once the radio is rebooted.

5.   Reboot the radio:
           (cli-config) reboot

6.   After the radio reboots, enter CLI config node and turn TFTPd service on the Radio ON with commands:

> *Trango System: TrangoLINK Apex Command Line Interface v1.3.1*
>
> *(cli-view)# config*
> *Password: trango*
> *(cli-config)# tftpd on*

7.   Send New Firmware Image to target Radio.
        In DOS window, type command:
>   *dos> tftp –i [ip address] put sys_fw_v20.3CDFBB91*
>   *dos> tftp –i [ip address] put sys_os_v20.415175F0*
>   *dos> tftp –i [ip address] put sys_pic_v131.6E2057B1* // only needed if pic is not 217
>   ip address   IP Address of the Radio.

        In Mac/Linux window, type commands:
>   *# tftp*
>   *tftp> mode binary*
>   *tftp> connect [radio ip address]*
>   *tftp> put sys_fw_v20.3CDFBB91*
>   *tftp> put sys_os_v20.415175F0*
>   *tftp> put sys_pic_v131.6E2057B1*   // only needed if pic is not 217
>   *tftp> quit*

8.   After the files are transferred on the Radio. Use the "bootimage upgrade"
        command from the config mode on the radio.
        The command prompt will return with SUCCESS/ERROR once the image is
        copied to flash.
>   *(cli-config) bootimage upgrade 1*   // for OS image
>   *(cli-config) bootimage upgrade 2*   // for FW image
>   *(cli-config) bootimage upgrade 3*   // for PIC image – if prior to 217 (1.1.1)
        The new image will take effect once the radio is rebooted.

9.   Reboot the radio:
>   *(cli-config) reboot*

10.   After the radio reboots, enter CLI config node and check the new version on
        the system with CLI command "version". It should match with the versions
        listed below.
>   *Trango System: TrangoLINK Apex Command Line Interface v2.0.0*
>
>   *(cli-view)# version*
>   FPGA version: **0014060B**
>   OS version: **2p6r22b0D082911**
>   FW version: **2p0r0D082911**
>   PIC version: 217 (216 ok)
>   Modem version: 40
>   RFM version: 28
>   ✓ ==**If RFM does not match (i.e. you are coming from a version prior to
>   1.2.3) please proceed with the remaining steps of the upgrade.**==

> ✓ **If RFM matches and any of the other images do not match at this** ==**point, please perform the upgrade again from the corresponding step.**==
> ✓ **If all images match, your upgrade is complete.**

11.   After the radio reboots, enter CLI config node and turn TFTPd service on the Radio ON with commands:

> *Trango System: TrangoLINK Apex Command Line Interface v2.0.0*
>
> *(cli-view)# config*
> *Password: trango*
> *(cli-config)# tftpd on*

12.   Send New Firmware Image to target Radio.
       In DOS window, type command:

> *dos> tftp –i [ip address] put sys_rfm_v131.F915283E*
> ip address   IP Address of the Radio.

       In Mac/Linux window, type commands:

> *# tftp*
> *tftp> mode binary*
> *tftp> connect [radio ip address]*
> *tftp> put sys_rfm_v131.F915283E*
> *tftp> quit*

13.   After the files are transferred on the Radio. Use the "bootimage upgrade" command from the config mode on the radio.

<p style="text-align:center;color:red;font-weight:bold;">Image upgrade for RFM will cause a link loss since it needs
to be power cycled during the image upgrade process!</p>

       The command prompt will return with SUCCESS/ERROR once the image is copied to flash.

> *(cli-config) bootimage upgrade 4*   // for RFM image – if prior to 28 (1.2.3)

14.   Reboot the radio:

> *(cli-config) reboot*

15.   After the radio reboots, enter CLI config node and check the new version on the system with CLI command "version". It should match with the versions listed below.

> *Trango System: TrangoLINK Apex Command Line Interface v2.0.0*
>
> *(cli-config)# version*
> FPGA version: **0014060B**
> OS version: **2p6r22b0D082911**
> FW version: **2p0r0D082911**
> PIC version: 217 (216 ok)
> Modem version: 40
> RFM version: 28

If any of the images do not match at this point, please perform the upgrade again for that step.

Please follow all the instructions as listed above in the upgrade instructions. In the case of version mismatch on the system (local/remote/system) the system is NOT guaranteed to work. In the event of a power failure during the upgrade process or any mismatch conflict, please contact technical support <techsupport@trangosys.com> for further assistance. Serial console remote access to the OMUs might be required in the event of such failure. It is suggested that all customers have at least one serial/console cable available at each site.

Please don't make any implicit assumptions.
In case of any doubt please contact technical support for clarification.

Apex Software Change History

Firmware Version 1.3.1

FPGA version: 0015070A
OS version: **2p6r14b0D111910**
FW version: **1p3r1D111910**
PIC version: 217
Modem version: 40
RFM version: 28

New feature
1. Addition of 15 GHz frequency support.

Bug Fixes
1. Speed settings and license key mismatch.
2. Web interface was not displaying the correct speed modulation. The mapping of the profile to modulation was incorrect on web interface.
3. Ethernet port status displayed incorrect port status when RPS feature is enabled. Instead of OFF, it was always display RPS-off when the ports are off.

Firmware Version 1.3

FPGA version: **0015070A**
OS version: **2p6r14b3D09071001**
FW version: **1p3r0D090710**
PIC version: 217
Modem version: **40**
RFM version: 28

New features

1. Improve robustness of the firmware image upgrade:
   The addition of a file checksum value to the end of each file's name will ensure the integrity of the upgrade images before activating the files and prevent firmware error loads.
2. Port Utilization update interval changed from 1min to 20 seconds:
   The *status port* command will show changes to the ort utilization number every 20 seconds versus the previous 1 minute. This allows a more current snapshot of the actual capacity being used to be seen.
3. New debug CLI command "siglevel" and "link_history".
   These commands will assist to troubleshoot issues with transmit power or MSE fluctuations when talking to Trango Technical Support personnel.

Bug fixes
1. Fixed the problem where the packet and octet counters under the *status port* command will increase without any real traffic passing through the link when the link is in an unlocked state. The symptom is that traffic will not pass until the speed is

reloaded. The symptom only shows up after the link is degraded to a marginal MSE using non ACM speeds.

2. Fixed the problem where some packets can be dropped by the radio without the counters accounting for the drop during heavy bidirectional traffic.
3. Fixed the problem where the In-Band Management (IBM) will become unresponsive from outside the subnet even if the gateway has been configured according to instructions. This would happen after a reconfiguration of the out of band management IP and reboot of the unit.
4. Fixed the problem where turning ATPC "ON" will change the radios transmit power to 0dBm after a reboot. The power will start at the set power after the reboot now.
5. Fixed RPS port re-enable mechanism; whenever the link is broken, RPS will shut down the Ethernet port. After the link recovers, RPS will enable the Ethernet even if the link has not lock at both sides. This can result in improper enabling traffic flow on the network.
6. Fixed the problem where the SNMP agent will become unresponsive if the unit receives a poll from an SNMP manager requesting a non-supported object from the MIB II. A reboot to the unit or manually stopping and restarting the engine was previously required to resolve the issue.

Notes
1. Before upgrading the RFM Image, the firmware and OS files have to be upgraded and running in the unit.
2. To downgrade from version 1.3 to any of the previous versions, the file checksum value for each firmware upgrade file has to be requested from Trango Technical Support. The value will have to be added to the end of each file's name before downgrading the unit.

Firmware Version 1.2.4

FPGA version: 00151209
OS version: **2p6r14b3D04291001**
FW version: **1p2r4D042910**
PIC version: 217
Modem version: 38
RFM version: 28

New feature
1. 56 Mhz channel support for 11G. (Unblocking all speed limitations)

Bugs fixed
1. MIB OID fix for InPortUtilization. (left out from the last release)
2. 18G high end frequency (boundary) fix (remove special settings)

Firmware Version 1.2.3

FPGA version: **00151209**
OS version: **2p6r14b3D02261001**
FW version: **1p2r3D022610**
PIC version: 217
Modem version: 38
RFM version: **28**

New feature
>1.   Support for Apex15E implemented in this release including 56Mhz channel width.

Bugs fixed
>1.   FPGA timing related fix at cold temperature.
>2.   IBM gateway fix: Gateway setting done after IP configuration.
>3.   RSSI display issue fix fixed [-20 HI issue]

Firmware Version 1.2.2

FPGA version: **00080809**
OS version: **2p6r14b3D08200901**
FW version: **1p2r2D082009**
PIC version: 217
Modem version: **38**
RFM version: **27**

New features
>1.   Support for 14 Mhz channel width for Apex-18E. (speed 6)
>2.   New state INPROGRESS added to SNMP ImageUpgradeStatus
>3.   Non volatile memory erase protection added.

Bugs fixed
>1.   RF IN/OUT counter fix
>2.   Ip format OID fix in SNMP
>3.   IBM netmask and fiber port fix
>4.   Speed validation fix for 11 GHz Speed 1 QAM128

Firmware Version 1.2.1

FPGA version: **00180609**
OS version: **2p6r14b3D06250902**
FW version: **1p2r1D062509**
PIC version: 217
Modem version: 36
RFM version: **23**

Changes and Enhancements
1. Apex-18E new 28Mhz filter support (Apex18E revision
2. Speed 2 Qam32 added to base package
3. New/updated CLI:
   - ibm ip [IP] [NETMASK]
   - Added ibm_netmask in config_export, config_import and diagnostic
4. SNMP:
   - SysDiagnostic fix: return right away and adding a diagnostic status checking.
   - SysConfigExport fix: no view required.
   - New SysDiagnosticStatus OID added.
   - New gigeIBMNetmask OID added

Firmware Version 1.2

FPGA version: **00100309**
OS version: **2p6r14b3D05230901**
FW version: **1p2r0D052309**
PIC version: 217
Modem version: 36
RFM version: **20**

Changes and Enhancements
1. New model support added for   Apex-18E, Apex-11E, Apex-23 models
2. New SNMP OIDs added:
   a. sysConfigOption
   b. sysSyslogExport
   c. sysSyslogLevel
   d. sysDiagnostic
   e. sysLicense1Enable (RW)
   f. sysLicense2Enable (RW)
   g. sysClearCounter
   h. trapRPSPortUp
3. Fix FER/BER display limitation
4. SystemTime OID fix
5. Web interface:
   a. Adding LicenseEnable in sysinfo
   b. Setting License Key in the diagnostic page.
   c. Display rps-off if the ports are off due to rapid port shutdown shutting the port down automatically.

6. ACM threshold setting update.
7. New feature: If RPS performed, bring back the ports after link is steady for two minutes.
8. Power level reflect the ATPC power during ATPC enabled (snmp/web)

Firmware Version 1.1.1

FPGA version: **00261108**
OS version: 2p6r14b3D02260901
FW version: **1p1r1D031109**
PIC version: **217**
Modem version: 35
RFM version: **1E**

Changes and Enhancements
    1. Web interface fix for the setting page.

Firmware Version 1.0 – Initial Production Release

FPGA version: 02150708
OS version: 2p6r14b3D07250801
FW version: 1p0r0D072508
PIC version: 215
Modem version: 35
RFM version: 1D

Known Limitations with V1.0

1. Web Interface- This release supports only single level access for the Web Interface
2. Loopback Mode - Rf_gen and rf_refl loopback is not supported in the current release
3. BER is only available for internal data pattern not for live link in this release.
4. ACM (Hitless Rate Shifting): All related settings except On/Off are preconfigured and should not be modified by customers. Please refer to the CLI manual for the default threshold value for MSE improve / degrade
5. Date Setting: A reboot is required after date setting.