Apex Orion

Software v2.0.4
Release Notes &
Upgrade Instructions

March 18, 2016

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Apex Orion v2.0.4 Release

The release consists of the following software images

Current Image	Version
FPGA version	0123100E
OS version	2p6r22b0D031716
FW version	2p0r4D031716
Modem Version	6201.6.47

Supported Modulation/Symbol rate combination in this release 64 byte packets

BW(MHz)	QPSK	8PSK	16 QAM	32 QAM	64 QAM	128 QAM	256 QAM	512 QAM	1024 QAM
3.5	8.7	13.2	17.8	22.0	26.8	31.4	35.8	40.4	43.9
3.75	9.5	14.4	19.3	23.8	29.1	34.0	38.9	43.8	47.5
5	12.7	19.1	25.6	31.6	38.6	45.0	51.5	58.0	63.0
7	16.6	24.9	33.4	41.2	50.3	58.7	67.8	75.6	82.1
8.33	21.4	32.1	43.1	53.1	64.7	75.6	86.4	97.3	105.6
10	24.7	37.1	49.8	61.3	74.8	87.4	99.9	112.4	122.1
12.5	32.0	48.3	64.7	79.7	97.2	113.5	129.7	146.0	158.6
14	36	54	73	90	109	128	146	165	179
20	52	78	105	129	147	184	210	236	257
25	65	97	130	161	196	229	262	295	320
28/30	77	116	156	196	234	273	312	351	382
40	104	157	210	258	315	368	420	473	514
50	119	189	258	318	387	452	517	582	632
55/56/60	155	233	312	384	469	547	625	704	761

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Features

1. Added 1+1 HSB support for IRFU

Known Limitations

1. Ethernet ports half- duplex setting is not supported.
2. On the web interface the user will be allowed to enter a value out of the assigned range for the TX power. The interface will display an error however the incorrect value will still be displayed until the web interface is refreshed.
3. VLAN clear may cause the radio to temporarily lose management for 15 seconds. Because all VLAN IDs will be removed and default VLAN IDs will be added again.
4. VLAN and DSCP QOS cannot be enabled at the same time.
5. ODU upgrades are only supported for HP2 ODUs.
6. VLAN priority settings will be removed if DSCP is enabled.
7. General system time will display correctly after time zone is set and reboot is performed, when NTP is enabled.
8. Import and export feature from the web interface is only available for configuration files.

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 equipment and not initially in a production environment and test for any and all needed functionality before deploying.

Image upgrade for OMU will be copied to flash during image upgrade (bootimage upgrade OMU) and will not affect the working link until the system is rebooted / power cycled.

Trango recommends FTP be used for all firmware upgrades

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If you prefer to use the TFTP method, instructions can be found in the user's manual. TFTP should only be used for low latency networks (i.e. LANs) since data transfer may not be reliable over WANs.

To perform the firmware upgrade using FTP, use the *ftp* command on live networks to load the images into memory, then the *bootimage upgrade* commands. The FTP method is much faster and has built in error checking than TFTP.

All that is needed is the IP address of the ftp server, a username/password, and the filename to be uploaded. The new file to be uploaded should be placed on the server. The ftp server will prompt for the password before allowing access.

If the radio is configured with a route to the Internet, you can even pull the new software images directly from our ftp server. If you would rather load them into a local server, please change the IP addresses and directory structure in the examples below as needed. You will need an appropriate default gateway setup in the radio as well as a route to the Internet through management or IBM. Trango suggests checking connectivity with ping from debug prompt before attempting the ftp upgrade. To do that, login to the CLI view node, then config node and then debug node. Ping 74.62.177.9 to test for connectivity to our FTP server.

1. Plan to use the file directly from Trango's FTP server or copy it to your own local FTP server. We recommend verifying the file name and path to ensure that nothing has changed since this document was prepared.

2. Note down the current version of the firmware loaded in the radio (CLI version).

3. Connect Management Ethernet port to PC.

4. Configure an IP address in unit if not already done.

5. Start a Telnet or SSH session. Log into the radio, go to config mode, and then debug mode to test connectivity to your ftp server.

   Debug> ping 74.62.177.9
   PING 74.62.177.9 (74.62.177.9): 56 data bytes
   64 bytes from 74.62.177.9: seq=0 ttl=127 time=0.965 ms
   64 bytes from 74.62.177.9: seq=1 ttl=127 time=10.009 ms

   Press ctrl+c to stop the ping.

   --- 74.62.177.9 ping statistics ---
   2 packets transmitted, 2 packets received, 0% packet loss
   round-trip min/avg/max = 0.965/5.487/10.009 ms

   If the ping test is not successful, check your IP address and default gateway to ensure that those are addresses that will reach the Internet through your firewall.

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6. After verifying connectivity, return to config mode and save your config if not already done so:

   Debug> cli

   Trango System: Apex Orion Command Line Interface v2.0.1

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

   SUCCESS

7. Run the *ftp* command from the command line as follows to open access to the server:

   (CLI-config)# ftp 74.62.177.9 giga
   password: giga4773

   If prompted for the password multiple times, check the connectivity to the server by pinging the FTP server IP address from the debug prompt. You may also test the ftp credentials from a laptop or other computer on the same network subnet.

8. Next, get the file from the FTP server by typing the get command from the ftp prompt.

   ftp> get TL-ApexOrion/ApexOrion _v2.0.4.tar.gz
   #

   Get operation successful with passive mode

9. Logout of the ftp session

   ftp> logout

10. Process the upgrade using the bootimage upgrade omu command.

    (CLI-config)# bootimage upgrade omu

    . . . . . .
    . . . . . .
    . . . . . .

    SUCCESS

11. After the process returns success, reboot the radio for the new image to be loaded into active memory.

    (CLI-config)# reboot

12. Check the new version on the system with CLI command “version”. It should match with the versions listed below. **In case of mismatch version, please perform the upgrade again from step 1.**

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Current Image	Version
FPGA version	0017090E
OS version	2p6r22b0D011216
FW version	2p0r2D011216
Modem Version	6201.6.47

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

Giga Orion Software Change History

Software Version 2.0.3

Current Image	Version
FPGA version	123100E
OS version	2p6r22b0D012616
FW version	2p0r3D012616
Modem Version	6201.6.47

New Features

1. In link setup page for GUI, the minimum and maximum modulations can now be set to the same value.

Bugs Fixed

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1. In CLI the PLA status under 'sysinfo' command now shows the correct information.

2. In GUI the minimum and maximum modulations can now be set to the same value.

Software Version 2.0.2

Current Image	Version
FPGA version	0017090E
OS version	2p6r22b0D011216
FW version	2p0r2D011216
Modem Version	6201.6.47

New Features

1. Port 2222 on the radio is now blocked, this may have caused loss of management.

2. RPS will not only shutdown the modem ports but also all the Ethernet ports for 30 seconds, to support faster network convergence.

Bugs Fixed

3. IRFU (HPC 1 Models) boot up sequence modification

4. Power vs modulation change on HP2 ODU.

Software Version 2.0.1

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Current Image	Version
FPGA version	0002040E
OS version	2p6r22b0D102914
FW version	2p0r1D102914
Modem Version	6201.6.47

New Features

1. Sync E is available for SFP to fiber ports.

Bugs Fixed

1. If header compression is disabled link lock will be re-established after system reboot.
2. Power and modulation settings will be set correctly in HP2 ODUs.
3. Improve communication stability between HP2 ODUs and OMUs.

Software Version 2.0.0

Current Image	Version
FPGA version	0002040E
OS version	**2p6r22b0D082614**
FW version	**2p0r0D082614**
Modem Version	6201.6.47

New Features

1. AES 256 Encryption feature is available with purchase of license. This can be enabled and disabled via the CLI interface and WEB interface. The user can enable encryption and use the default PSK key or change from default. Added commands to the CLI:
    - license_encryption
    - enc enable< on l off>
    - enc psk<string>
2. 1+1 Hot Standby feature is available. This feature will require the user to connect active and standby OMU units with a Sync cable CBLDATA-RIU3. This feature can only be enabled if XPIC or PLA are disabled, and only via the CLI interface. Added commands to the CLI:
    - hsb_type <active l standby>

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- hsb_switch <0: disarm, 1:arm with port on, 2:arm with port off,3:force>

Note. Manual switchover is only allowed on the active OMU. Standby unit cannot initiate the switchover.

Bugs Fixed

4. Syslog timestamp will be the same as NTP system time.

Software Version 1.2.3

Current Image	Version
FPGA version	0002040E
OS version	**2p6r22b0D052814**
FW version	**1p2r3D052814**
Modem Version	6201.5.36

New Features

1. Added new list of commands for IRFU (Giga Longhaul)support to the CLI interface. This will allow the user to enable and change multiple settings.

Bugs Fixed

1. When GPS coordinates are entered radio management will not be affected.
2. Bug fix implemented to resolve certain traffic or management stability issues.

Software Version 1.2.0

Current Image	Version
FPGA version	0002040E
OS version	**2p6r22b0D041514**
FW version	**1p2r0D041514**
Modem Version	6201.5.36

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Bugs Fixed

1. General enhancement to speed up response time from web interface and command line interface. This release will also improve overall management stability.
2. Reduced bootimage upgrade execution time. Effective in subsequent updates.
3. After bootimage process is finish “SUCCESS” message will be shown.

Software Version 1.1.0

Current Image	Version
FPGA version	0102120D
OS version	**2p6r22b0D013114**
FW version	**1p1r0D013114**
Modem Version	6201.5.36

Bugs Fixed

1. Increased threshold value of port utilization from 100 to 250 percent to prevent threshold violations for high traffic loads (over 500 Mbps). When implementing PLA, the throughput can exceed 200 percent of air capacity since Master and Slave capacities are added in the Master unit.
2. BER and FER errors will now display correctly on the web interface and CLI
3. When disabling IBM management feature any VLAN IDs on the Mgmt port will be erased to avoid any non-management traffic flowing to the CPU. If IBM is re-enabled VLAN IDs will need to be added back to the port.
4. Changing the green_buffer size under load will now only temporarily interrupt traffic. It is highly recommended to change the buffer size under no or minimal traffic load, save and reboot the system.
5. Delayed first access to web after a reboot resolved.
6. Adding VLANs to the Web and CLI reliability improved.
7. IBM VLAN ID will carry through a hard or soft reboot.
8. SNMP community string will be set correctly from the web interface.

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Software Version 1.0.3

Current Image	Version
FPGA version	0102120D
OS version	**2p6r22b0D121313**
FW version	**1p0r3D121013**
Modem Version	6201.5.36

Bug fixes

1. Modified passwords will carry through a hard or soft reboot.
2. Results for “diagnostics” command will display correct values.
3. Hardware ID will display correct value on the web interface.
4. Set date will carry through a hard or soft reboot.
5. In initial system boot up, VLAN ID programming from config file show as single entry in syslog instead of an entry for each VLAN, preserving syslog space.
6. In initial system boot up DSCP programming from config file show as single entry in syslog instead of an entry for each VLAN, preserving syslog space.
7. When IBM is enabled VLAN ID 1 is removed from MGMT port to prevent untagged traffic flowing over MGMT port.

Software Version 1.0.2

Current Image	Version
FPGA version	0102120D
OS version	**2p6r22b0D112713**
FW version	**1p0r2D112713**
Modem Version	6201.5.36

Bug fixes

1. If ATPC is enabled in the current configuration and saved. The ATPC settings will be present after a reboot.

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Software Version 1.0.1

Current Image	Version
FPGA version	0009090D
OS version	**2p6r22b0D101013**
FW version	**1p0r1D101013**
Modem Version	6201.5.36

Bug fixes

1. ATPC enable at system power up. ATPC enable ON was not executed at the system power up. Therefore, even thought the CLI showed “on”, the execution did not take place until user issue “ATPC enable OFF” and “ATPC enable ON” again.

Initial Release

Software Version 1.0.0

Current Image	Version
FPGA version	0009090D
OS version	**2p6r22b0D092613**
FW version	**1p0r0D092613**
Modem Version	6201.5.36

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