Apex Orion

Software v1.0.0
Release Notes &
Instructions

30 October 2013

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Apex Orion v1.0.0 Release

The release consists of the following software images

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

Supported Modulation/Symbol rate combination in this release

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

375 Mbps support available on speed 80 qam256 [Ethernet Only, Non-ACM Mode]

Key Features

1. Automatic Transmit Power Control
2. Hitless Adaptive Modulation for all modulations, with range from QAM 1024 to QPSK
3. Native Ethernet Support
4. Packet QoS based on 802.1p
5. GigE ports supports configurable Speed, Rate limiting and Jumbo packets
6. Rapid Port Shutdown
7. CLI access via Serial Console/SSH/Telnet
8. SNMPv2 support (Trango MIBS)
9. Web Access supports both secure (HTTPS) and regular (HTTP)
10. Threshold Monitoring

11. InBand Mangement with Tagging options.
12. Reliable image transfer using FTP, also support TFTP
13. XPIC feature
14. PLA – Packet Link Aggregation
15. Synchronization Support (Sync-E) for all ports on both ends of the link

Known Limitations

1. Ethernet duplex setting not supported
2. RF OUT counter may read too high in an overloaded condition
3. User is responsible for setting the port speed to match with the switch that connects to the radio. (100/1000) with default set to 1000
4. Web - Tx Power will display an attempted out of range power level even though it blocks the actual setting of the power the out of range number. Power display should be left as it was before.
5. Stats clear on the web interface takes a long time and by the time it comes back, it will already have some counters on it
6. Vlan_clear may temporarily lose the management connection for a short time since ALL vlan mapping are being cleared. Connection will be regained as soon as the default vlan mappings are added back. Maybe take up to 15 seconds.
7. No support for using VLAN priority and DSCP QoS at the same time.
8. ODU upgrade only supported for HP1 ODUs
9. Vlan priority field would get cleared on a DSCP enable mode.
10. When removing a vlan ID that exists in both port, it is required to add back the VLAN ID to the port that still requires the VLAN.

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.

To perform the firmware upgrade using FTP, use the *ftp* command 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. If you prefer to use the TFTP method, instructions can be found in the user's manual.

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 Apex Orion 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 Apex Orion 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 Apex Orion, go to config node, and then debug node 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.

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

   Debug> cli

   Trango System: TrangoLINK Apex Orion Command Line Interface v3.0.0

   (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/omu_ApexOrion_v1.0.0.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.**

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

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.