4Motion®

Product Release 2.5M2 GA Release Note

Table of Contents

1. General

This document details the main hardware elements, software features, and known limitations of 4Motion release 2.5M2 GA

The 4Motion release's main benefits are:

- Flexibility and Scalability:
  - Pay-as-you-grow design from single sector to multi sector
  - Various Diversity techniques from 2x2, 2x4 to 4x4
  - High throughput and coverage Macro BS, High MS count
  - Efficient network deployment configuration (N=1, 3, 1/3)
  - Scalable distributed ASN-GW as well as Centralized Architecture
- Efficiency and Performance:
  - MIMO B and Adaptive MIMO A/B switching for enhanced sector throughput
  - Optimized high performance scheduling, dynamic rate adaptation and diversity
  - Proportional Fair Scheduler Phase 1 for enhanced throughput for uncommitted downlink & uplink traffic
  - Coverage cost optimization radio heads with 4th order diversity (2x4 ODUs) - reducing the number of BS sites with extended range of up to 30 km.
  - Idle mode increasing sector users count, saving device power without overheads on the network
  - RET antenna for optimized installation and maintenance
- New RF bands enabling worldwide opportunities
  - 7MHz Channel Bandwidth
  - New bands in 2.3, 3.3a, 3.6-3.8

2. Released Products & Overview

4Motion release 2.5M2 is an e-certified release enabling advanced mobility technologies with enhanced capacity optimized performance such as MIMO B & Idle mode. The system operates in bands 2.3GHz, 2.5GHz, and 3.5GHz TDD (5 MHz, 7 MHz, and 10 MHz) and is intended for worldwide use. The product introduced in this release is designed with open architecture and interfaces complying with IEEE 802.16e and WiMAX Forum Technical Working Group (TWG) PHY/MAC Profiles and Networking Working Group (NWG) Profile C. It is designed to support both distributed and centralized topology approaches, thus providing operators with the flexibility to select the mobile WiMAX network topology that best suits their needs and existing network architecture.

The product is Alvarion's market-leading mobile WiMAX solution. Designed with open IP architecture and interfaces, 4Motion release 2.5M2 integrates the most advanced and adaptive radio management and control technologies to optimize operator spectrum and network resource usage.

Maintaining a host of radio and air interface, security, networking and management features, 4Motion release 2.5M2 also introduces seamless handover control and management as well as stringent QoS requirements for next-generation applications.

The product is an end-to-end solution comprising Base Transceiver Station (BTS) equipment, Access Service Network Gateway (ASN-GW), AAA servers, an Element Management System (EMS), and End User Devices.

Leveraging its leadership position in WiMAX and driven by BreezeMAX® and now 4Motion, Alvarion's release 2.5M2 is taking the market to the next level – mobile WiMAX.

3. About this Release

The following features & capabilities are **newly** supported in this release compared to former R2.5M1 (for a full list of support features, please refer to section 7).

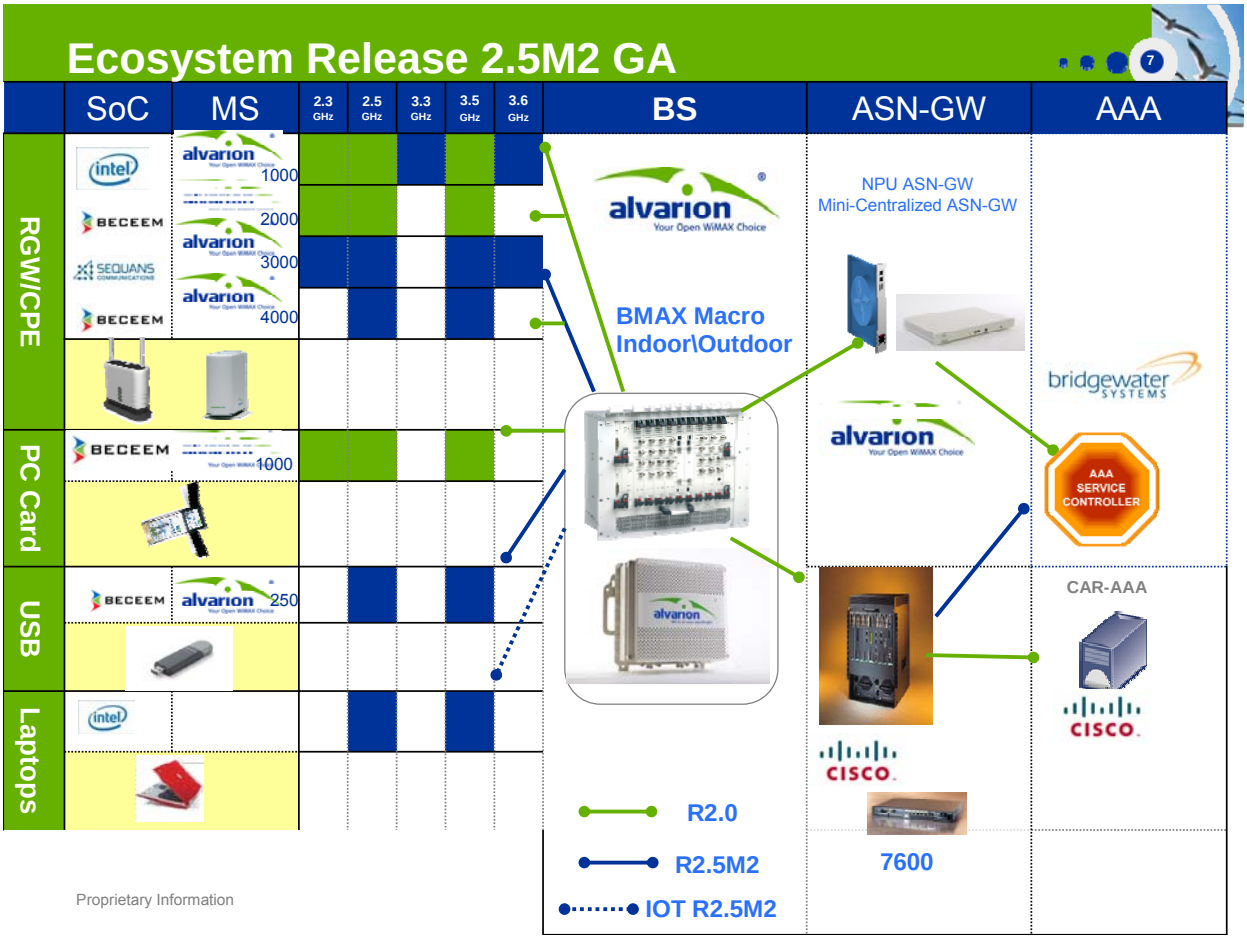
- BTS and Radio
  - 512 registered MS in a sector (10MHz)
  - BreezeMAX Macro Outdoor 2x2 Configuration: NAU, DAU, SAU
  - 2x2 Radio Heads 2.3/2.5/3.5 GHz
  - Reuse N=1 at 7MHz with FFR on Maps (not for 1000e MS types)
- Networking
  - 3rd Party ASN-GW IOT compatibility
  - Mini Centralized ASN-GW
- CPE Types:
  - Residential Gateway BreezeMAX Si 4000 at 2.5 GHz and 3.5 GHz
  - Residential Gateway BreezeMAX Si 3000 at 2.5 GHz
  - Outdoor CPE BreezeMAX Pro 3000 at 2.5 GHz and 3.5 GHz
  - CPE Modem BMAX 3000 at 2.5 GHz/3.5 GHz

This release is designed as an end-to-end solution based on the following system components:

- BTS equipment with localized integrated and distributed ASN-GW
- Centralized ASN-GW, which may be offered as part of an end-to-end solution
- AAA servers provided by Bridgewater Systems (with Alvarion ASN and with Cisco ASN specific customer setup) and Cisco (with Cisco ASN)
- Element Management System AlvariSTAR providing interfaces towards NMS/OSS systems
- End User Devices: Si Indoor and Outdoor CPEs and Dongles

4. End to End Configurations:

The following figure and table summarize the supported configurations from an end to end ecosystem perspective including, MS types, BS, ASN-GW and AAA Server with applicable channel bandwidths and RF Bands. For other ASN-GW and AAA configurations, please contact the PLM team.



#	Conf Code	MS Vendor - SoC Type	BS	ASN-GW	AAA	Channel BW and RF Bands	Notes
1	B1AB	AWB- 2000 ALVR-4000 (Beceem)	Macro	Alvarion NPU	Bridgewater	5/10MHz @ 2.3/2.5GHz 5/7/10MHz @ 3.5GHz	2.3GHz BMAX 2000 only
2	R1AB	ALV-RD2 (1000)	Macro	Alvarion NPU	Bridgewater	5/10MHz @ 2.3/2.5GHz 5/7/10MHz @ 3.3/3.5/3.6GHz	
12	R1CC	ALV-RD2 (1000)	Macro	Cisco	Cisco	5/10MHz @ 2.3/2.5GHz 5/7/10MHz @ 3.3/3.5/3.6GHz	
11	B1CC	AWB- 2000 ALVR-4000 (Beceem)	Macro	Cisco	Cisco	5/10MHz @ 2.3/2.5GHz 5/7/10MHz @ 3.5GHz	2.3GHz BMAX 2000 only
13	X1CC	Montevino - KilmerPeak	Macro	Cisco	Cisco	5/10MHz @ 2.5GHz 5/7/10MHz @ 3.5GHz	Laptop by 3rd party
6	B1CB	AWB- 2000 ALVR-4000 (Beceem)	Macro	Cisco	Bridgewater	5/10MHz @ 2.3/2.5GHz 5/7/10MHz @ 3.5GHz	2.3GHz BMAX 2000 only
7	R1CB	ALV-RD2 (1000)	Macro	Cisco	Bridgewater	5/10MHz @ 2.3/2.5GHz 5/7/10MHz @ 3.3/3.5/3.6GHz	
8	X1CB	Montevino - KilmerPeak	Macro	Cisco	Bridgewater	5/10MHz @ 2.5GHz 5/7/10MHz @ 3.5GHz	Laptop by 3rd party
4	S1AB	ALV-3000 (Sequans)	Macro	Alvarion NPU	Bridgewater	5/10MHz @ 2.3/2.5GHz 5/7/10MHz @ 3.5/3.6GHz	2.3/3.6GHz Late MS GA
14	S1CC	ALV-3000 (Sequans)	Macro	Cisco	Cisco	5/10MHz @ 2.3/2.5GHz 5/7/10MHz @ 3.5/3.6GHz	2.3/3.6GHz Late MS GA
9	S1CB	ALV-3000 (Sequans)	Macro	Cisco	Bridgewater	5/10MHz @ 2.3/2.5GHz 5/7/10MHz @ 3.5/3.6GHz	2.3/3.6GHz Late MS GA

5. Supported Hardware Elements

The release supports the following main hardware elements:
(A detailed description is available on relevant products release notes of MS, BMAX Macro Outdoor and Management)

- BreezeMAX Macro Indoor - Indoor Unit Chassi - IDU:
  - Baseband Card AU IDU:
    4-channels card (up to 6 per chassis)
  - Network & Management Card – NPU:
    1 GB data interface (1 per chassis)

- BreezeMAX Macro Outdoor (2 or 4 channels)
  - NAU – Network Access Unit
  - DAU – Dual AU
  - SAU – Single AU

- ODU – Radio Heads:
  - 2x2 ODU in 2.3/2.5GHz (38dBm) and 3.5 GHz (37dBm)
  - 2x4 ODU in 2.5GHz and 3.5/3.6 GHz bands
    (38/37 dBm respectively)
  - 1x1 ODU in 2.5GHz and 3.3/3.5 GHz Bands (36/34dBm respectively)
  - 1x1 ODU in 2.3G Hz (36 dBm)
  - ODU 137 support

- Mini Centralized ASN-GW
  - Alvarion Mini Centralized ASN-GW

- Antennas:
  - Mechanical Tilt 65/90º Dual Slant in 2.3-2.7/3.3-3.8GHz by PCTEL/Telsa
  - Omni antenna in 2.3-2.7 GHz by MTI
  - Electrical Down Tilt (EDT), Remote Electrical Tilt (RET) 65º Dual Slant in 3-2.7/3.3-3.8GHz by Argus
  - Electrical Down Tilt (EDT), Remote Electrical Tilt (RET) 65º Dual Dual Slant in 2.3-2.7/3.3-3.8GHz by Argus

  * For best performance it is recommended using EDT (Electrical Down Tilt) antennas
- Applicable GPS products and modules
  - Base Station clocks synchronization by GPS; GPS cable adaptor
  - Trimble - Acutime Gold, & Acutime 2000

- MS Types:
  - Residential Gateways (RGW) Si 1000/2000e in 2.3/2.5/3.5GHz
  - Residential Gateways (RGW) Si 4000 in 2.5/3.5GHz
  - Outdoor Pro 1000e/2000e in 2.3/2.5/3.5GHz
  - Outdoor Pro 3000e in 2.5/3.5GHz
  - CPE Modem BMAX 3000 in 2.5/3.5GHz
  - PC Card in 2.3/2.5/3.5GHz
  - USB Dongles in 2.3/2.5/3.5GHz
  - Intel Based Laptops in 2.5/3.5GHz (IOT provided by 3rd party)

- Star Management Suite – EMS:
  - Server HW Spec - Sun Fire x4150: 2 CPU with 4 Core each 3.16 GHz, 8 GB RAM, 4 x 146 GB disk
  - The Sun x4150 model can be used for AlvariSTAR, StarACS, StarQuality and StarReport
  - For more information on capacity and scalability configuration, please refer to the relevant Star application Release Notes.
- AlvariSTAR
  - AlvariSTAR carrier-class management system manages and controls the 4Motion v2.5 Macro sites.
  - For more information, please refer to AlvariSTAR Release Notes.
- StarACS
  - StarACS carrier-class ACS (Auto Configuration System) manages TR-069 based CPEs.
  - For more information, please refer to StarACS Release Notes.
- Cisco ASN-GW, AAA and DHCP Servers
  - CISCO ASNGW Router 7600
  - AAA Server (CAR) - x1 Sun T1000
  - DHCP Server (CNR) – x1 Processor Dual Pentium 4 2.4 GHz and above with Hyper Threading RAM & Hard Disk 2 GB, SATA or SCSI hard disk 40 GB
- BWS AAA
  - AAA - x1 Sun T1000/T2000

6. Software Used per Product Type

The following are the software versions introduced in this release (for latest CPE version please refer to CPE release notes)

Product Type	Product Vendor	Product P/N	Release	Comments
DHCP Server	Cisco	CNR	6.2.3.2	
AAA Server	Bridgewater	T1000/T2000	8.2.C.4	8.3 patch
	Cisco	CAR	4.1.5/4.2.2	
ASN-GW	Alvarion	NPU	2.5.213.32	
	Cisco	7600 IOS	2.0/2.1	1.2++
BS	Alvarion	AU	2.5.6.41	
MS	Alvarion	Indoor RGW Si 1000e	2.5.1.1060	WCS, 2.3/2.5/3.3/3.5/3.7
	Alvarion	Outdoor Pro 1000e	2.5.1.1060	WCS, (No 2.34-2.4) 2.3/2.5/3.3/3.5/3.7
	Alvarion (AWB)	Indoor RGW Si 2000e	1.0.0.29	Beceem 5.2.6 2.3/2.5/3.5G
	Alvarion (AWB)	Outdoor Pro 2000e	1.0.0.29	Beceem 5.2.6 2.3/2.5/3.5G
	Alvarion (AWB)	PC Card	1.0.11.4 / 1.0.13.0	Idle disabled\enabled
	Alvarion	CPE Modem 3000	v5.7.32.1ALV	2.5/3.5GHz SEQ 4.6.0.3
	Alvarion	CPE Outdoor Modem 3000	v5.7.32.1ALV	2.5GHz SEQ 4.6.0.3
	Alvarion	Indoor RGW Si 4000	01.01.40.999	Beceem 5.2.6.8
	Quanta	USB Dongle	2.xG: 2.61.01.06 WCM-ALV-R2.61.01.06-082709 3.5G: LV-GEN-R4.1.50d.01-070909	Beceem 5.2.6 2.3/2.5/3.5GHz
	ASUS with Intel Kilmer-Peak laptops	By 3rd party	5.2.30	2.5/3.5GHz
EMS	Alvarion	Alvari* EMS DD	2.5.30.24	
	Alvarion	AlvariSTAR infra	4.5.0.46	
	Alvarion	Star Quality	2.5.4	
	Alvarion	StarACS	2.8.5.5	
	Alvarion	StarReport	2.5.3	
Home Agent	Cisco		5.1	

7. Detailed Supported Features

4Motion release 2.5M2 supports the following main features:

- **BreezeMAX Configuration**
  1. BMAX Macro Indoor up to 6 sectors configuration
  2. BMAX Macro Outdoor up to 6 sectors configuration
  3. BTS antenna – 2nd and 4th order diversity
  4. RF Bands:
     - WCS, 2.30-2.36/2.34-2.4/2.3-2.4 GHz
     - 2.485-2.690 / 2.496-2.602 / 2.590-2.690 GHz
     - 3.300-3.350 / 3.4-3.6 / 3.6-3.8 GHz
  5. Channel Bandwidths: 5MHz, 7MHz (in 3.x GHz) and 10MHz
- **Radio Features**
  6. Power Control
  7. UL and DL Rate Adaptation
  8. UL and DL HARQ
  9. MIMO (Matrix A, B) – STC and MIMO B
  10. 2 and 4 way UL diversity (MRRC)
  11. MS scanning and pre-defined best AU selection (MS configured)
  12. 64QAM Uplink
  13. Extended Range of 30 km
  14. Single Sector Idle Mode (not supported in MS type 1000)
  15. Proportional Fair Scheduler Phase 1 for enhanced throughput for uncommitted Best Effort downlink & uplink throughput traffic
  16. Reuse N=3 as well as enhanced data reuse N=1 with FFR 1/3 on Maps @ 7&10 MHz (not for 1000e MS types)

- **ASN Features**

17. Intra-BTS optimized Hard HO
18. Inter-BTS optimized Hard HO
19. R6 Profile C
20. Fast R8 for mobility control
21. ASN Diffserv, 802.1p marking policy
22. Distributed and Centralized ASN architectures
23. IPv4 CS
24. Multiple Hosts - with up to 3 autonomous users per MS/CPE
25. VLAN service interface
26. R3 IP over VLAN Tunnel
27. DHCP Options 43, 60, 82 & DHCP server name
28. QoS Types: UGS, BE, eRT, RT, nRT

- **Network Features**

29. Mobile services
30. Authentication: EAP-TTLS, EAP-TLS (Kilmer-peak Intel based laptops)
31. Unmanaged VoIP
32. Centralized ALVR ASN-GW with multiple BSs
33. Secondary DNS
34. IP anti-spoofing
35. Load Balancing with Cisco ASN-GW
36. Session-Redundancy with Cisco ASN-GW
37. Volume and Time based Accounting
38. Interim Accounting Messages supported
39. Hotlining and CoA (Cisco ASN-GW)

- **BreezeMAX ASN-GW Features**

40. Ethernet-CS for VLAN services (incl 802.1 q-q)
41. Three DHCP modes:
    - DHCP Relay
    - DHCP Server
    - DHCP proxy
42. Simple IP
43. R3 Radius: Authentication, Authorization, Accounting
44. Post Paid Accounting
45. IPoIP tunneling on R3 northbound
46. Disconnect Message

- **AlvariSTAR EMS Features**

47. Unified Management System for managing both 16e-ready, 16d and 16e WiMAX devices
48. Fault Management: Active Event Monitor and Event History
49. Configuration Management: Equipment Manager, Network Discovery and Device Synchronization
50. Security: User and permission management
51. Task Manager: Software Upgrade task and Configuration Backup task
52. SNMP Northbound Interface for forwarding Alarms to Higher level OSS systems
53. The following screens have been changed in order to simplify the system and reduce the number of parameters
    - Site: General Removed:
    - Shelf HW version
    - Site: Dry Contact

- Site: Time Removed: Clock source (external 1 PPS and external 16MHz clock)
- Management Added: new performance group activation
- Equipment: NPU Added: Reset with factory default with connectivity
- Equipment: AU Card Properties Added: AU maintenance. Removed:
- Ports and Bandwidth
- Equipment: ODU Removed: Heater Existence
- Equipment: GPS Removed: GPS adaptor required
- Equipment: Antenna
- ASNGW : AAA
- ASNGW: Service Interface Added: Subnet Mask
- ASNGW : APCEF
- ASNGW : Keep Alive
- BS Radio Basic: General, Air frame structure General, Air frame Structure Zone, Diversity, Mobility
- BS Radio Advanced: Feedback, Diversity, Channel Descriptors, Power Control, Rate Adaptation, mobility, Management, Definitions, Mapping
- Copy BS – enabling creation of a new BS based on the configuration of an existing BS.
- Offline Configuration Manager
- Configuration improvements and simplifications:
  - Antenna configuration
  - Some low-level MAC parameters are configured automatically

AlvariCRAFT Configuration Tool

54. AlvariCRAFT is designed for field technician, enabling Graphical LCT with FCPS functionality managing a single base transceiver station.

- **StarACS EMS Features**

55. Remote management of TR-69 based CPE devices
56. Quick Search and drill-down to device level
57. Device Configuration
58. Software/Firmware Management
59. Device Inventory Management
60. Real time performance monitoring

- **WiMAX Devices**
  - Residential Gateways (RGW) Si 1000/Si 2000e in 2.3/2.5/3.5 GHz
  - Outdoor Pro 1000e/2000e in 2.3/2.5/3.5 GHz
  - CPE Modem BMAX 3000 at 2.5GHz/3.5 GHz
  - CPE Modem BMAX 4000 at 2.5GHz/3.5 GHz
  - PC Card in 2.5, 3.5 GHz
  - USB Dongles in 2.5/3.5 GHz
  - Intel Based Laptops in 2.5/3.5 GHz (IOT provided by 3rd party)
- **Network Ecosystem**

61. ASN-GW:
    - Distributed ASN – BreezeMAX ASN-GW
    - Centralized ASN – Cisco ASN-GW 7600
62. AAA:
    - Bridgewater Systems for BreezeMAX ASN-GW
    - Cisco CAR for Cisco ASN-GW
    - Bridgewater Systems for Cisco ASN-GW

8. Documentation

- System Manual, comprising the following main chapters:
  1. System Description
  2. Commissioning
  3. Operation and Administration
- 4Motion Installation Manual (detailed step by step installation instructions)
- AlvariSTAR 4Motion Device Manager User Manual
- 4Motion End User Devices documentation:
  1. Product Manual
  2. Quick Start Guide

9. Known Limitations

(Please refer to CPE and Alvari Suit Releases note for updated information)

- NPU
    - VLAN CS transparent & mapped - user should define SVLAN in AAA.
    - Centralized NPU aggregated throughput for its served BS's, should not exceed 200Mbps (DL+UL) for all MS QoS types (accumulating BE, UGS, RT) as no traffic statistics nor shaping is performed no NPU side.
    - Several CLI commands from release 2.5 were modified according to the excel

CLIs

    - User should not perform configuration changes or write while performing SW download
    - NPU and AU versions should not be upgraded simultaneously
    - When changing ODU type, user should first remove the ODU configuration and then re-configure the new ODU
    - ASN-GW Keep Alive timer is default disabled in order to enable R2.0 to R2.5M2 migration co-existence. In R2.5M2 network it should be enabled (at both AU and ASN-GW) and the value should not be set more than 1 minute (as the default value).
    - Long INE with Cisco 1.4 (DHCP bug in Cisco) take 1 minute , fixed in Cisco 2.0.
    - STR21335: System is not working after powering off and on the power supply of the shelf.
    - STR21428: SA-ASN-GW reset - Segmentation fault in NonSig during HO scenario
    - STR20120: Access list with destination source "0.0.0.0" can't be configured via SNMP

- AU:
    - Idle mode is supported with CPE AWB RGW 1.0.0.21.3 only (other devices may have bugs)
    - Default value of Idle Traffic period set to 300m and according to our system should be configured to 5000msec
    - STR19316: wrong behavior with BE priority 1 and NRT priority 2. the priority in DL sometimes is not full priority – bandwidth is divided between connections with different priority.
    - STR19069: HOs stuck due to wrong CMAC. After 2000-3000 handovers the HO doesn't happen any more.
    - STR16956: BS doesn't allow CIR = 0 configuration in the service flow. If a service profile contains a configuration CIR = 0, MS which will try to connect with this service profile will not complete INE, as the BS will reject it.
    - A*/NPU don't prevent configuring same antenna more than one time (for example same V antenna may be configured on several AU channels. User should not configuring same antenna more than one time as it will create problems.
    - In 5MHz when upgrading from R2.0 to R2.5M2:
        - There is a need to update/verify major groups are configured correctly according to BW and to reuse. Otherwise AU might not start. Relevant for case of working in 5MHz BW, but configuration of major groups was done as if it is for 7/10MHz (this change can be done only from CLI instead of "majorgrps fc" set "majorgrps a8").
        - In R2.0 5MHz was configured with map repetition 6 on maps after migration AU will not boot up. Need to change MAP repetition to a lower value.
        - In 2.0 versions DL Basic rate is generic in all QoS (Management, BE…). After the upgrade to R2.5M2 Basic Rate for management remains the same, but Downlink Basic Rate (for data) has changed to default value QPSK1/2 rep 6.

- Upon upgrade to 2.5.M version, the C/N table will get the new default values. If the customer made modifications to the table before the upgrade, then he should do them again (if he wants) manually after the upgrade is completed.
- After upgrade from R2.0 the MIMO mode will be set automatically to Matrix A/B. A* window will be read-only (gray). In CLI it is possible to change this value.
- Before upgrade from R2.0 to R2.5M2, If ODU 3.5G type configured as 2x1 (in release 2.0) needs to be changed to 4x2. If this change will not be done ODU type will be changed to 2.3G. (Note: 1x2 configuration is illegal at any case)
- For Reuse 1 in 10MHz and 7MHz: allowed MAP repetitions values should be set to none or to repetition 2 (repetition 4 should not be used)
- When ODU is being replaced – it should be completely deleted from sector association and from ODUs list, and then to define again with the new NPU type
- Map repetition over maps in reuse1 scheme should not be used. Setting repetition on maps in reuse 1 will make amount of elements in map to be reduced dramatically, current system behavior is to handle UL elements in first priority, on extreme scenario's of massive BW request, DL frame might be empty
- When using BMAX3000 CPE: only 1 classifier per service flow is allowed
- The DREG counter is not accurate as its counts non target BS HO cancellation messages: Selected BS (SBS) sends HO confirmation cancel to all Target BS (TBS) that were not picked to do the HO to. The counter increased for each TBS that gets this message

- MS Si 1000e & Pro 1000e (RD2)
    - Reset Button doesn't work.
    - When working with BW scanning, main step must be 1M and the all the raster bitmap should be enable.
    - Upgrade only from version TDD version 4.5.
    - Only map repetition =1,2 is supported.
    - Only static permbase is supported.
    - Max DL/ UL throughput per MS is 3.2/3.2Mbps
    - Only Matrix A is supported (no support of MIMO B)
    - Reuse 1/3 MAP is not supported
    - Either eRT or UGS is supported.
    - Need to configure in A* power control policy thresholds for BS
    - The default gateway of the management IP (for the CPE) should be in the subnet in which the CPE is
    - Idle mode not supported
- MS PC Card (Beceem)
    - Reuse 1/3 MAP is not supported
    - Idle mode is limited supported.(Beceem Version 2.5.4 may halt)
- MS 2000\3000\4000 Series
    - Please refer to specific product release note
- Intel Based Laptops
    - No support in RT, nRT, eRT (UGS/BE should be used instead)
    - Configuration change issue: Intel remembers AU configuration between AU resets – in this case the laptop WiMAX connection should be repaired on the task bar

- GPS
    - In case no satellites are received and the BST is going into Holdover mode for period longer than its timeout, the BST is not starting to transmit again.

- AlvariSTAR
    - Performance Monitoring - Counters list on the left side tree is not refreshed automatically. For viewing newly added entities the screens should be reopened.
    - Configuration of local time & date - Upon configuration, the new value is not refreshed on the screen. Refresh from device should be performed
    - Offline configuration, restoring files in unified mode - Files can be restored only to NPUs running in a different mode then Unified
    - IP route configuration - Default routes related to directly connected interfaces are created automatically by the NPU and should not be deleted
    - Site sector association - Before making a site sector association the user needs to make sure that all the mandatory fields are completed for AU, BS, ODU and Antenna screens.
    - Network scan task - When using the network scan task on equipments that have the Site ID=0 the equipments will not be discovered and there will be no notification regarding this.
    - SW upgrade and Restore tasks - If the user modifies the IP address of the internal tFTP server of A* the saved SW upgrade and Restore tasks will keep the previous defined tFTP server IP address. New Tasks will come with the new IP address.
    - Neighboring Task Selector - The selector of the neighboring task will present the Operator ID and the BS ID as a concatenated column, but the filters work on them separately.
    - BS Creation - If BS entities are created on the same equipment from different places at the same time there is a chance that more than 6 BS entities (which is the maximum) will be created.
    - Connectivity Mode - Changes performed on the connectivity mode are visible for the user only after reset is performed.

- Service Profile creation - After the creation of a service profile with it's service flows, if you create a new service profile you need first to press the refresh button, in order to clean the screen.
- Configuration Application refresh popup - In rare cases it is possible that the refresh tree popup will appear more than one time in a very close interval.
- BS Services creation - The validation message for unique BS service name is not accurate.
- Site Duplicate, ASNGW screen - The application allows the configuration of the invalid IP address "0.0.0.0" for parameters "Ip Address Pool From" and "Ip Address Pool To"
- BS Advanced Diversity Screen - The following rules are validated only with the antenna associated on the first line in Site Sector Association:
  - 1. bsDiversityParametersAutomaticSelection=true(1) if antennaProductID ≠empty(0)
  - 2. bsRxEnabledParametersAutomaticSelection=true(1) if antennaProductID≠empty(0)
- For using the same value to the TOS range, first configure the range from zero to the wanted value, apply, then change the zero to the wanted value and apply again.

10. Bug Fixed – Solved from previous Release 2.5M1

- NPU
    - Malformed DHCP packets cause memory leak in the NPU
    - Changing ARP rate limit from 100 to 1000
    - DHCP: Return the found DHCP option when it is available in overloaded fields
    - DHCP: protect from invalid dhcp packets
    - 50364 Increase timeout for AU Mgr performance file upload
    - 50544 NPU shouldn't send DHCP-Nack when receiving DHCP-Request with incremented TID
    - Acct Stop/Start issue – When IP address was changes, need to get stop on previous IP and start on the new flow.
    - STR20641: GRE inconsistency causes loss of connectivity to the MS (HO after INE scenario)
    - Fix for AU/NPU Context mismatch by sending the correct MS ID in Delete Directive. When ASN-GW was trying to dereg an MS without datapath, Delete Directive command didn't contain the correct MS ID. In this situation MS Context were cleared only in GW.
    - Fix to reset due to hard limit exceeded by removing unnecessary DHCP parsing.

- AU
    - STR18758. AU freeze. Sometimes AU is stuck, especially under heavy DL load (pushing 70 Mbps).
    - STR19738: Command "de-reg ms all" cause au reset in version 2.5.5.16. If the user wishes to perform deregistration of MSs – he should either do it one at a time or perform AU reset .
    - Modem control – it's prohibited to use Networking (8) menus. The entry and exit of this menu might cause reset of AU

- Cell radius should be configured according to network design. The MS will not connect to BS if located far then cell radius configured (even this CPE have good signal) – Solved in 2.5M2 as this feature is disabled
- HO Process: in some cases MS stayed connected although it was not registered inactive
- Fix of some cases in which AU IP address was different than ASN-GW subnet mask an incorrect default IP gateway could be used instead of the correct default IP address.
- STR20782: MDT: Dynamic IP configuration for UDP collectors - Telnet to the AU stuck after download collectors
- STR21602 - NCO value is not correct after CC process
- STR21626 - Problem with connection 2 ODU 1x1 to 2 au-channels
- STR21632 - AU doesn't report ODU's parameters in port 3 (show odu-port @ NPU)
- Noisy MPDU cause an shift more than content size
- Integrate change list 87068 - disable abort when timing correction on CDMA on 2 channels is too large
- STR21977 -QoS marking rule is not functional
- STR22346: Problem with Network Entry on distance 30km (RGW, Gemtek and Pro-S), BW 5 and 10MHz

- Following limitations were solved in R2.5M2 compared to AU33 of R2.5M1 (Part of AU61):
  - Solves AU reset in case of round trip delays long delays (~100msec) in Backbone network:
    - Between BS and ASN over R6
    - Between BS to BS over R8
  - TFTP task fix for software upgrade stuck and/or StartQuality stuck
  - Idle mode period changed from 1.5sec to 5sec