

BreezeNET B

BreezeNET B Version 5.0

Release Notes

March 2008



1 Introduction

BreezeNET B version 5.0 introduces new features and support of new country codes.

For more details refer to the applicable sections in the System Manual and Country Codes documents.

2 Frequency bands

The currently supported frequency bands:

- 5.8 GHz Band: 5.725–5.875 GHz (Universal Country Code with HW Revision C) /5.725–5.850 GHz (all other Country Codes)
- 5.4 GHz Band: 5.470–5.725 GHz
- 5.2 GHz Band: 5.150–5.350 GHz
- 5.3 GHz Band: 5.250–5.350 GHz
- 2.4 GHz Band: 2.400-2.4835 GHz

3 Changes Related to Country Codes (Regulatory Domains)

Alvarion is taking the following actions in order to support its channel in inventory management. In future versions additional actions will be taken to ease the process and to allow reduced inventory levels. Alvarion is committed to support its unlicensed products lines and its unlicensed partners and distributors and will keep investing in this market moving forward.

3.1 New Country Codes

In addition to all regular country codes BreezeNET B SW version 5.0 complies with the regulatory requirements of the following new Country Codes for HW Revision C and higher:

- ETSI-F (France) 5.4 GHz
- Germany 5.8 GHz
- India 5.8 GHz

Note that a unit cannot be downgraded to a SW version that does not support the current Country Code used by the unit. To downgrade the SW version of such a unit, the Country Code must first be changed (see Country Code Selection below) to a Country Code that is supported by the lower SW version.



3.2 10 MHz Bandwidth Support

A new Sub Band (Sub Band 3) has been added to all Country Codes. This Sub Band is applicable for all units with HW Revision C and higher, providing 10 MHz channels with a frequency setting resolution of 5 MHz, the expected capacity is about half the throughput of 20MHz channel.

10MHz channel links will support twice the range of 20MHz links and as much as four times the range of 40MHz channel. This feature could be very useful for VERY long links above 54Km.

3.3 Country Code Selection

The new Country Code Selection feature enables changing the Country Code used by the unit to any of the Country Codes available for the unit's Radio Band. This feature allows distributors that are serving more than one country code territory to reduced their inventory level and ship to the user in these two different locations the same equipment. The user will then select the relevant country code to operate in their area.

4 New Management Tools

To allow more than configuration tool Alvarion is introducing new management tools for its unlicensed products. Alvarion listens to its customers' requests and is now offering many management capabilities that were requested over the time. With the new platform we hope to address most of the current requests and strive to assist our customers in managing their networks.

The following tools, designed to effectively manage all BreezeACCESS Family products (BreezeACCESS VL, BreezeACCESS 4900, BreezeNET B and AU-EZ), are available:

4.1 AlvariSTAR

AlvariSTAR provides all the network surveillance, monitoring and configuration capabilities that are require in order to effectively manage the wireless network while keeping the resources and expenses at a minimum. This comprehensive management system is supporting the following network management functionality:

- Device Discovery
- Device Inventory
- Topology
- Fault Management
- Configuration Management

- Data Collection
- Performance Monitoring
- Device embedded Software Upgrade
- Security Management
- Northbound interface to other Network Management Systems.

4.2 AlvariCRAFT

Designed for on-line management of system components, AlvariCRAFT simplifies the installation and maintenance of small size installations by easily enabling the change of settings or firmware upgrade for a single.

AlvariCRAFT allows accessing a wide array of monitoring and configuration options, including:

- Device Manager for the selected Unit
- Selected unit configuration modification
- Firmware upgrade
- On-line performance data monitoring
- Export of configuration details to a CSV file
- Support for Telnet cut-through to the managed devices and http cut-through to Gateways or Wi² APs behind RBs.

Note: Starting with SW version 5.0 BreezeCONFIG is no longer supported. BreezeConfig will be able to configure all parameters supported in version 4.5 or lower even if SW version on units is 5.0 or higher.

5 New Features and Improvements for Enhanced Management

The new management concept is based on getting the necessary information required for on-going monitoring of the system's status from the BU, including the necessary information related to the associated RB (the RB may still be managed directly if necessary).

To better support SNMP-based management, the following new features and improvements have been implemented:

5.1 New Association Data Base (ADB)

In addition to all the RB's parameters included in the older ADB (that is still supported for backward compatibility), the new ADB includes a multitude of new parameters to facilitate simpler and more efficient SNMP-based management of the RBs. A synchronization mechanism based on Association/Re-Association messages ensures accuracy and timely update of the ADB.

Note: The new ADB table includes the SNMP communities of the RB. In order to maintain proper security, when reading the table using the Read community of the BU, the Read community of the RB will be returned instead of its Read/Write community.

5.2 New SNMP Error Handling Mechanism

In various situations the SNMP agent in a managed device may return SNMP error as a response to a SET request. The new error handling mechanism generates an optional error code (pending on inclusion of a suitable error handling request with the SET request). The error code includes details on the parameter(s) related to the error. The error codes are stored in an Error Table and are available via SNMP to the management system that requested them.

5.3 Improved Trap Mechanism

All traps are sent by the BU, including traps related to events in the associated RB. Starting with SW version 5.0, RBs do not generate traps.

To increase reliability and support better tracking of traps a sequence number is included in each trap. The management system can request the sequence number of the last trap to verify that all traps were received properly. In addition, the traps history table in the BU stores the last traps (up to 1024), allowing the management system to get previously sent traps based on the trap's sequence number.

5.4 New Traps

- A new ParameterChange trap (replacing the previous ParameterChanged trap) informs the management system of any change in the BU's parameters, as well as changes in the RB's parameters included in the new ADB.
- A new RunTimeIPChange trap indicates any change in the IP address of the BU or the associated RB.

5.5 New Synchronization File Mechanism

To facilitate faster and more efficient synchronization of the management system's data base, a synchronization file can be downloaded from the BU using TFTP. The file contains all BU's parameters and RB's information kept in the ADB. The BU can support up to 5 concurrent TFTP sessions for synchronization file transfer.

The file is generated on the fly (upon request) and it contains also the sequence number of last generated trap. The parameters values are those that were in effect when the file transfer was initiated.

5.6 Additional Changes in MIB

5.6.1 Improved SNMP Tables

New SNMP tables, supporting standard management mechanisms (create/destroy row) were implemented (the older tables are still supported for backward compatibility). The changes that are applicable to BreezeNET B units include:

Old Table OID	New Table OID
mngIpFilterTable	newMngIpFilterTable
mngTrapTable	newMngTrapTable
brzaccVLMngIpRangesTable	brzaccVLNewMngIpRangesTable
brzaccVlVlanForwardingTable	brzaccVLNewVlanForwardingTable
brzaccVlIpFilterTable	brzaccVLNewIpFilterTable

5.6.2 Revised Implementation of brzaccVLSelectSubBandIndex

In RB, the selected sub band serves only for determining the frequency to be scanned during Spectrum analysis test. The frequency that is actually used for connectivity with the BU may belong to a different sub band. Therefore, the value returned for this parameter represents the configured sub-band rather than the actual band being used by the unit.

6 New License

The following new licenses are available:

- FIPS-197 Support for BU/RB-B14 (Applicable only for units with HW Revision C and higher)
- FIPS-197 Support for BU/RB-B28 (Applicable only for units with HW Revision C and higher)
- Upgrade BU/RB –B28 to BU/RB B100 (Applicable only for units with HW Revision C and higher), PN is 858588.

7 Other New Parameters and Improvements

7.1 Send Broadcasts/Multicasts as Unicasts option

Starting on SW Version 4.5, Broadcasts and Multicasts are sent by the BU as Unicasts, thus improving communication reliability (Unicasts are acknowledged by the receiving side). The Send Broadcasts/Multicasts as Unicasts option allows disabling or enabling this feature. The default is Enable.

7.2 MIR

All MIR parameters are updated in run-time (reset is not required)

8 Documentation

The information in the release notes is complementary to the product documentation, provided with the products. BreezeNET B documentation includes the System Manual for BreezeNET B version 5.0 and related documents, installation support documents, and release notes. All the documentation, including the latest release notes, is available in the customer service section of the Alvarion web site.

9 Compatibility and Interoperability

Version 5.0 is fully compatible with versions previous SW versions, except to support of new Country Codes. Nevertheless, it is recommended to always upgrade existing equipment to the latest version.

If an RB with SW version 5.0 is used with a BU running a lower SW version (or vice versa), the performance will be those available with the lower SW revision.

The SW package will be available in the customer service section of the Alvarion web site.

10 Important Notes

- Although minimum output power is defined as -10 dB when configuring the Tx Power manually, when ATPC is enabled the RB's output power may be less than this minimum.

- Extra care should be taken when configuring VLAN management and management IP filtering in order not to lose connectivity with unit. In case of connectivity loss, use the “restore default parameters” application to reset to factory values.
- Upon downgrade from version 5.0 to version 3.0 or lower, all the information in the new Network Management IP Address Ranges table will be lost. Hence, management access may be lost if the unit was managed from an IP address that is on a subnet defined in the new tables.
- When upgrading from version 3.0 or lower to version 5.0, the high/low packet classification settings according to the old VLAN Priority Threshold or IP Precedence Threshold parameters will be lost. The new parameters are forced to the default value of 7, meaning no prioritization.
- When Wireless Link Prioritization feature is activated in BreezeNET B100, the prevention of Low Priority Traffic Starvation is automatically disabled.
- Remote changes of the Maximum Modulation Level in an RB while Adaptive Modulation is disabled may lead to lose of connectivity with the unit. The recommended workaround is to enable Adaptive Modulation, reset the unit to apply the change, and then change the Maximum Modulation Level.
- Adaptive Modulation may not converge to best modulation in some setups with high variance in noise levels. In these cases better performances may be achieved with manual modulation settings (Adaptive Modulation Disabled).
- Upon upgrade to SW version 45.0 from a version 3.1 or lower the FTP Client IP Address and Subnet Mask no longer exist as configurable parameters and the unit's IP parameters are used instead. Upon downgrade from SW version 5.0 to version 3.1 or lower the FTP Client IP Address of the unit is automatically set to the same value as the IP Address of the device. In this case following warning message appears:

*** WARNING: Same 'Unit IP Address' and 'FTP Client IP Address'! ***

*** 'FTP Client IP Address' ignored until change and reset! ***

After downgrade it is recommended changing the FTP Client IP Address to 1.1.1.3 and the FTP Server IP Address to 1.1.1.4.

- Using FTP to put/get some files into/from the units might fail. However, the operation will succeed after several trials. In such cases it is recommended to use TFTP for the same file transfer.
- SNMP management was checked with SNMPC version 5.1.11e.
- Upon upgrading from SW version 3.x to version 5.0 and the ATPC is activated, the TX power of the RB will be modified to the maximum value allowed by HW version and regulatory domain used (Country Code)
- The operation of "Reset and boot from shadow" executed from SW version 5.0 and higher may take up to 2 seconds longer when the shadow version is lower than 5.0. This is happening because of clearing process of some extra files that are incompatible with previous SW versions.
- When upgrading to SW5.0 on a B100-BU, parameter HW_MAX_RATE will be set on 6.
- When using 40MHz channel the maximum range of the link can be 27Km.
- When using 20MHz channel the maximum range of the link can be 54Km.
- When using 10MHz channel the maximum range of the link can be 108Km.

11 Limitations & Known Issues

- Sensitivity may change slightly as a function of frequency (+/-2dB).
- Transmission power accuracy is +/-1dB above 8dBm @ antenna port (typical condition). At lower levels the accuracy is +/-3dBm, never contradicting regulations. At very low levels the use of ATPC may cause significant fluctuations in the power level of the transmitted signal. When operating at such low levels, it is recommended to disable the ATPC Option in the RB and to set the Transmit Power parameter to the average Tx Power level before the ATPC was disabled.
- For full compliance with FCC regulations, the following requirements should be followed in units using a 20 MHz bandwidth:
 - In units HW Revision B, if you wish to include frequency channel 5270 MHz in the set of frequencies to be used, then the Transmit Power parameter in the BU, and the Maximum

Tx Power parameter in the RB, should not be set to a value above “17-Antenna Gain”. If there is a need to use a higher value for these parameters, this frequency should not be used.

- In units with HW Revision C, if you wish to include one or more of frequency channels 5270, 5275 and 5330 MHz in the set of frequencies to be used, then the Transmit Power parameter in the BU, and the Maximum Tx Power parameter in the RB, should not be set to a value above “20-Antenna Gain”. If there is a need to use a higher value for these parameters, this frequency should not be used.
- For full compliance with FCC regulations, the following requirements should be followed in units using a 40 MHz bandwidth (Turbo Mode):
 - In units with HW Revision B, Frequency channels 5270 and 5280 MHz should not be used.
 - In units with HW rev C, if you wish to include frequency channel 5290 MHz in the set of frequencies to be used, then the Transmit Power parameter in the BU, and the Maximum Tx Power parameter in the RB, should not be set to a value above “25-Antenna Gain”. If there is a need to use a higher value for these parameters, this frequency should not be used.

If you wish to include frequency channel 5310 MHz in the set of frequencies to be used, then the Transmit Power parameter in the BU, and the Maximum Tx Power parameter in the RB, should not be set to a value above “29-Antenna Gain. If there is a need to use a higher value for these parameters, this frequency should not be used.
- For full compliance with FCC regulations for units using 10 MHz bandwidth, frequency 5265 MHz should not be used. For these units, the Transmit Power parameter in the BU, and the Maximum Tx Power parameter in the RB connected to this BU, should not be set to a value above “25-Antenna Gain”.
- The maximum Transmit Power (at antenna port) of units using FCC 5.3 GHz and FCC 5.4 GHz Country Codes is 9 dBm.
- In units with HW Revision B, Burst Mode cannot be activated when using WEP for data encryption. In units with HW Revision B, the Burst Mode option will be “blocked” upon trying to enable it when using WEP for data encryption. This limitation does not apply to units with HW Revision C. Note that the Burst Mode parameter may be wrongly displayed on HW Revision B

units as Enabled instead of Blocked, when DFS or data encryption is activated. However the behavior of the Burst Mode is as expected (blocked).

- The character “;” (semicolon) is a reserved character. It should not be used in defining any string parameters (unit name, ESSID, etc) since the string will be cut before the semicolon.
- If you are using the Feature Upgrade option in Telnet to enter a license string using copy and paste operation, check carefully that the string is copied properly. You may have to enter it manually due to potential problems in performing copy/paste in Telnet.
- When a RB running SW version lower than 5.0 is associated with a BU running SW version 5.0:
 - A special warning messages might be displayed in the log file:
WRN: Unknown vendor private element code: 15
WRN: Unknown vendor private element code: 16
WRN: Unknown vendor private element code: 17
 - Parameters that are not included in the old ADB table will be either not available (unknown) or with wrong values.
- When DFS is enabled, “Pulse sensitivity” parameter, although configurable, is not significant. An equivalent value of HIGH will be automatically assigned to this parameter by the running SW.
- It is recommended to use TFTP in all cases when files need to be transferred from/to the unit running SW version 5.0 instead of FTP. It is known that in certain conditions there is a high probability that FTP file transfers may fail.