

BreezeACCESS II

Software Version 4.5
Release Note

Official

June 2004, Revision 2.1

P/N: 213827

Introduction

BreezeACCESS software version 4.5 is officially released.

BreezeACCESS software version 4.5 provides enhancements to the existing product line, including:

- Hopping band/Standard auto-learning
- Adaptive modem thresholds
- Improved wireless media security
- Broadcast/multicast number of packets limitation
- Ethernet operational status
- MAC pinpoint table
- GPS status (Master/Slave) and GPS time indications
- BreezeACCESS Proxy Set IP

Software version 4.5 supports the following products:

- BreezeACCESS II – All product variants (excluding the GPS synchronization card, needed for BS-SH chassis only).

New Software Features

Software version 4.5 incorporates new features and improvements:

- Hopping sequence auto-learning – HDM (Hybrid Digital Modulation) mode
This feature enables the SU to learn the sequence of frequencies from the AU. The AU transmits this information in the beacon and the probe response frames. The HDM mode will act like flexible hopping mode and will enable the operator to configure specific frequencies in the AU. In crowded bands, like the unlicensed it is essential to enable the operator to configure the free channels in the AU only rather than in the whole network. The SU will automatically learn the configured frequencies sequence from the AU and configure it self in runtime to use them. In case the SU doesn't get any sequence from the AU, it will try to synchronize with the AU according to the hopping sequence that is configured in the unit.
HDM mode can be Enabled/Disabled by the operator in the AU. The SU starts scanning in the sub-band it has configured and if it receives the information from the AU that is in HDM mode it will automatically switch to HDM mode and adopt the sequence of frequencies advertised.
The HDM mode is supported for FCC standard only.
- Adaptive Modem thresholds
In order to achieve maximal interference rejection in the SU, the Noise Floor level, Carrier Sense level and the Minimum Response level will be dynamically changed according to the receiving signal level. As a result, the number of erroneously detected packets (actually a noise) will be reduced, on the reception route and a more accurate carrier sense will lower erroneous collision detection on the transmission route.
- Improved wireless media security
Currently, the data is scrambled by the modem using one polynom and one seed. From version 4.5, the operator will be able to choose a polynom out of a range allowable polynoms and a random seed. The length of the polynom and seed will be increased to 16 bits to increase security.
- Broadcast/multicast number of packets limitation
In order to prevent ARP flood attacks of the wireless network, this feature will enable the operator to limit the number of broadcast and/or multicast packets per second that are transmitted to the wireless port of the device.

- Ethernet operational status
This feature allows the operator to remotely check the status (Up, Down or Testing) of the Ethernet link through the monitor or the SNMP. Useful for troubleshooting customer problem.
- MAC pinpoint table
This feature is now available through SNMP in the AU. It allows the operator to find out the SU that is used by a certain Ethernet station to access to the wireless network. It presents a table that includes the MAC addresses of the PCs (Ethernet stations) behind the SUs used to access the wireless network.
- GPS status (Master/Slave) and GPS time indications
 - Indication about the status of the GPS unit, Master or Slave, will be available through monitor/Telnet and SNMP.
 - When UTC Time is available it will be indicated through SNMP (only). The time indication will replace the "UTS Time is available" message that was used till now.
- BreezeACCESS Proxy Set IP
If there are stolen SU (IP unknown, but the SU is associated with an AU) the administrator will be able to set a new IP scheme configuration (address, mask, gateway) for this station. It is now possible to use this feature behind router(s) as the message is generated by the AU.

Known limitations

- In networks with large number of frequencies, if passive scanning is used with Best AU and/or Preferred AU enabled, it may happen that the SU will receive only few AUs or will not receive the preferred AU. It is recommended to increase the number of Maximum scanning attempts in order to increase the chances of the SU to receive more AUs.
- AU alarms feature remains active after switching off the power to the outdoor unit.
- AU wireless Quality TRAP is triggered by 'Bad Fragments Received' and not by Retransmissions as appears in the MMI.
- AU that is configured to operate with both "Shared Key" and "Open System" algorithms and is downgraded to a lower version will operate with "Open System" algorithm and all SUs that are configured to operate with "Shared Key" algorithm will lose synchronization.
- AU that is configured to operate with both "Shared Key" and "Open System" algorithms will also accept a wrong WEP key of SU in Shared Key mode. In this case the AU does not send a reject message to the SU.
- When daisy-chaining GPS cards, the GPS card in slave mode will not switch automatically to master mode in case of a failure/switching off of the master GPS card.
- In case VLAN forwarding is used, it is needed to enter the VLAN management ID to the forwarding list of the AU before the upgrade. Otherwise, it will be impossible to manage the SUs until configured.
- Downgrade from 4.5 to version 3.x (except of special version 3.052.3) will have the following restrictions: If VLAN ID - Management (or VLAN ID Voice & Management) is equal to 65535, after the downgrade it will be automatically reverted to value of "1" and Management capabilities to the unit might be lost.
- GU-BS parameters return to default setting in case of software version downgrade.
- Voice configured with G.723 codec + VAD on + Fast start mode cannot operate with Cisco gateway, as this feature is not supported by the gateway.
- The ACSE protocol does not support the use of VAD.
- When the CIR/MIR algorithm is used, it effects the prioritization of packets more than other priority mechanisms such as ToS and/or VLAN priority.
- The configuration of frequency parameters using 1.75MHz channel spacing can only be done using the flexible hopping mechanism (fixed sub-bands selection cannot be used).

- Fatal error messages are not displayed on the monitor through Telnet but only sent to the event log.
- In cases where "DHCP only" is defined the SU doesn't send the correct IP address to the gatekeeper.

Compatibility and Interoperability

Version 4.5 is compatible with BreezeACCESS II hardware platforms (excluding the BS-SH chassis GPS card).

- In order to allow full interoperability in HDM mode, all AUs and SUs should be upgraded to version 4.5. SUs in previous versions will not be able to synchronize with AU with version 4.5 in HDM mode.

Monitor Changes

- The monitor has been adopted to support the new features detailed above.
- Software version 4.5 is indicated on the main menu.

Documentation update

- Manuals were updated to reflect the new features.