

ZyXEL VES-1012 firmware V3.41(DB.5)C0

Release Note /Manual Supplement

Date: Oct 18, 2004

Version:

F/W Version: V3.41(DB.5)C0 | 10/18/2004

Supported Platforms:

V3.41(DB.5)C0 supports models: VES-1012.

CAUTION:

Because a bug is found in version 3.40 or 3.30 when new firmware is updated, we need a patch file to be the medium when update version 3.41 firmware to 3.40 or 3.30. So, if the current version of firmware in the machine is version 3.40 or 3.30, please update 340DB1Patch.bin first. In this process, if current version is 3.30, configuration file 340DB1C0.rom must be updated simultaneously. If current version is 3.40, configuration file is no need to change. After system reboot, you need to update BIN and ROM files of version 3.41 immediately.

If you update version 3.41 directly but do not update 340DB1Patch.bin first, the original firmware will not be updated and system will be hanged. After reboot the system, the machine is worked well in firmware version 3.40 (original firmware in the machine will not be changed).

When firmware version 3.41 is in the machine, there is no need to update 340DB1Patch.bin first if you wanted to downgrade to be version 3.40 or 3.30.

In additional, configuration file must be updated when update to different version. For example, update from version 3.30 to 3.41, 3.40 to 3.41.

This version is based on 341DB4b0.

This version is based on 341DB4b1.

Know Issue:

1. When setting Broadcast Storm Control threshold=16,32,48,64 frame/s, receiving rate still keeps 1600~1800 frame/s.
2. After setting broadcast Strom Control, and transmit broadcast packets into uplink port and press "enter" in the CLI several times, Sometimes CLI will hang up, and ping will time out.
3. Configure new password in SMT, it could not access web page for new password.
4. Time zone(GMT:-04:00~GMT:-08:00) sometimes could not work correctly in NTP.

Bug Fixed:

Formal release based on 341DB5b1.

Change History:

V3.41(DB.5)b1 (2004/10/12)

Bug Fixed:

1. Add protection when set remote PHY MII register.

V3.41(DB.5)b0 (2004/10/08)

Bug Fixed:

1. Fix bug that vlan restore cause vlan setting set to default in loopback test.
2. Fix bug that pause time may overflow or invalid problem.
3. Add Ready Bit no response workaround.
4. Remove NT register periodical update.
5. Fix bug LT 22822 RX-FIFO TX-FIFO lock up.

V3.41(DB.4)b1 (2004/05/03)

Bug Fixed:

6. Fixed bug Time service function work well but show error message.
7. Fixed bug that "New Date" in "Time and Date Setting" can not input 31 for January, March, May, and July
8. Fixed bug that "New Date" in "Time and Date Setting" can input "0" in "month" cell.
9. Fixed bug that Month input error message should be 1 to 12, not 0 to 12
10. Add error message when day input is error. For example, 02/30.

V3.41(DB.4)b0 (2004/04/28)

Known Bug:

Because command "sw mac address" had a race condition problem when access learning mac table, we need to make a copy of learning mac table to be used by this command exclusively and add a semaphore to access learning mac table. For the reason that remaining system memory is not enough to allocate a fixed size memory for this copy (If doing this, remaining memory is not enough to do FTP of RAS code). This need to dynamically allocate a 192Kbytes large memory. When this command is finished, allocated memory must be freed and maintaining the enough memory for the system operation.

Problem happened between allocating and freeing this large memory. If some other memory allocating operations is executed before command "sw mac address" is finished, memory fragment happened.

Once memory fragment happened, FTP maybe failed. The only way to make a whole memory block is to reboot the system. This probability is very low and it is no dangerous for the system because when you wanted to FTP RAS code, system will reboot automatically.

In additional, FTP upload RAS code will fail if "sw mac address" command is executing. Waiting for the command finished and upload again.

Bug Fixed:

1. Fixed bug that 0 can not be set for aging time in Menu 2 and MIB browser.
2. Fixed bug that aging time setting has no effect after system reboot. It will use default setting 300.
3. Fixed bug that time zone in CGI can not be set for **Pacific Time**. If this value is set and saved, open Menu 24.10 will cause system to be crashed.
4. Fixed bug that command "sw mac address" will crash system sometimes. In additional, the "age" column of display of this command is changed to be real time, not the value directly reported by switch chip.

V3.41(DB.3)C0 (2003/03/09)

Formal release based on 341DB3b0.

V3.41(DB.3)b0 (2003/03/04)

Bug Fixed:

1. Fixed bug that log message "LT buff overflow (ifIndex=xx)" will be recorded twice if buffer overflow is happened in LT side only once
2. Fixed the bug that VLAN setup can not be finished completely if ping CPU continuously in Port-Based VLAN mode.

V3.41(DB.2)C0 (2003/02/10)

Formal release based on 341DB2b0.

V3.41(DB.2)b0 (2003/02/02)

Modified:

1. This firmware is based on 341DB1b0 (or 341DB1C0).
2. SW to VDSL (in LT) is forced to 100M Full Duplex, VDSL to ethernet PHY (in NT) and ethernet PHY to external device (in NT) are Autoneg with Full and Half Duplex support.
3. Change the value of register 0x8D47 to be 0xAD and 0xBF for LT and NT, respectively. This is caused by Full Duplex.

V3.41(DB.1)C0 (2003/01/30)

Based on V3.41(DB.1)b0, change to formal release.

V3.41(DB.1)b0 (2003/01/16)

Bug Fixed:

1. Remove all workaround method for buffer overflow done by Zyxel, and then apply all of suggestions made by Infineon.

Registers and values changed:

Register 0x2c, set to be 0x2.

Register 0x979B, set to be 0x1F.

2. Periodically monitoring register 0x9775, if it is different from zero, clear this register and then reset this channel.
3. Increase SNR for High QAM, thus VDSL speed 18/16 can be reached for short distance if Rate adaptation is enabled.

Change following registers in CPE:

Register 0xC82A replace value 0x21 with 0x42.

Register 0xC848 replace value 0x2A with 0x42.

Register 0xC866 replace value 0x35 with 0x42.

4. VES-1012 can support HALF duplex only, this is recommend by Infineon also.

V3.41(DB.0)C0 (2003/12/09)

Known Bug

For VES-1012, there is a bug that if connection setting is sending 42Mbits or larger of unicast packets both to VDSL modem and Ethernet ports. VDSL modem 1 to 6 are sending packets to Ethernet port 13, and all of the other VDSL ports are sending packets to Ethernet port 14. In this status, the traffic in upstream of VDSL modem will be hanged.

To do a workaround, we add a mechanism to monitor the Rx counter of VDSL modem every one minutes. If there are 15 times we detect continuously that this counter is not increased, we treat upstream of this VDSL modem is locked and no packet can be transmitted via upstream of VDSL modem, this VDSL line will be reset.

This workaround method maybe got a drawback if VDSL modem is connected but Ethernet of this modem is not connected to any personal computer. In this status, this VDSL modem will be reset every 15 minutes.

But in field application, this is never happened because the OS of personal computer will periodically send ARP packet to network to do something.

V3.41(DB.0)b10 (2003/12/09)

Bug Fixed

Fixed the bug that Ethernet of CPE will restart autoneg continuously.

V3.41(DB.0)b9 (2003/12/09)

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V3.41(DB.0)b8 (2003/12/05)

Bug Fixed

Fixed bug that system will crash if GVRP learnt 4094 VLAN and CI command "bridge vdb status" is executed continuously.

V3.41(DB.0)b7 (2003/12/04)

Modified:

Current version of VDSL driver is 0.73. It is backward to version 0.71 and adding some workaround method for problem that upstream can not transmit any packet even though downstream is OK.

Bug Fixed:

Fixed bug that function enable and disable and port number of Telnet setting in WEB will cause system crashed.

Fixed bug that Flow control cannot work between VDSL lines and Uplink port.

Adding workaround method for hang problem of upstream of CPE, if this is happened, system will reset VDSL channel after 15 minutes later.

Fixed bug that DUT crash after learning 4096 dynamic VLAN and modifying GVRP timer settng or displaying dynamic VLAN table.

Fixed bug that cannot login CGI after DUT leant 4094 VLAN entries.

Fixed bug that VDSL lines continuously link down/up in bi-directional unicast traffic.

Fixed bug that cannot access CGI after executing Ping with dash parameter in CGI.

V3.41(DB.0)b6 (2003/11/24)

Bug Fixed:

1. Fixed Bug that web can not login with empty password.
2. Fixed the bug that STPLastTopChangeTime (MIB) can not work.
3. Remove spReadL() in MENU 2 otherwise new setting stored in spSysParam will be overwritten by content of flash.
4. Fixed bug for dot1dtpportstatus.
5. Remove invalid entries in dot1dtpportport.
6. If STP is changed, flush arp table.
7. Add workaround to avoid PEF22822 in LT side dead.
8. If STP changed, arp will be flushed.

V3.41(DB.0)b5 (2003/11/07)

Modified:

1. Because currently used CPU is phase out, modified code to fit new CPU.
2. Current Version of HTP is 0.39

Bug_Fixed:

1. Fixed bug that system will be hanged after one day.
2. Fixed bug that Static VLAN of Q-MIB can not work finely.

V3.41(DB.0)b4 (2003/10/10)

Fixed the problem that CPE will be hanged after long term heavy traffic testing.

V3.41(DB.0)b3 (2003/10/07)

New Feature:

1. Adding Ether-Like MIB.
2. Adding RMON MIB.
3. Adding 802.1P MIB
4. Adding 802.1Q MIB.

Not Supported Entries of MIB:

Not Supported Entries of Ether-Like MIB:

Not supported entries	Reason
dot3StatsSQETestErrors	Chip not supported
dot3StatsDeferredTransmissions	Chip not supported
dot3StatsExcessiveCollisions	Chip not supported
dot3StatsInternalMacTransmitErrors	Chip not supported
dot3StatsCarrierSenseErrors	Chip not supported
dot3StatsInternalMacReceiveErrors	Chip not supported

Not Supported Entries of RMON MIB:

RMON MIB only support OID 1.3.6.1.2.1.16.1, 1.3.6.1.2.1.16.2, 1.3.6.1.2.1.16.3, and 1.3.6.1.2.1.16.9

V3.41(DB.0)b3_EBT0325 (2003/03/25)

Bug Fixed:

Fix the bug that CI command "vdsl status" inconsistent with Menu24.1.1. This bug is caused by using error frequency table.

Modified:

Remove interleave control for long loop (VDSL).

V3.41(DB.0)b2 (2003/03/11)**Bug Fixed:**

Fix the bug that users except administrator can not login after setup and login immediately.

V3.41(DB.0)b1 (2003/03/04)**New Feature:**

Total number of WEB Client increased to be 6.

Total number of SNMP Client increased to be 6.

Total number of Trap receiver increased to be 2.

V3.41(DB.0)b0 (2003/01/16)**New VDSL Rate Adaptation Algorithm**

In previous firmware, the VDSL rate adaptation algorithm is not good enough. We implement a binary search trial and error algorithm for rate adaptation. However, it is slow, and buggy.

Now, we implement a new rate adaptation algorithm, that can automatically probing the SNR of the line, and decide appropriate rates for upstream and downstream based on probed SNR within 1 minutes in most case.

Limiting Number of MAC Address

This feature allows network manager to limit number of MAC addresses on VDSL port. For example, if network manager set "Limiting Number of MAC Address" to 5 on VDSL port 2. system will only learned 5 MAC addresses from port 2, so only 5 PCs which connecting to port 2 can communicate with other port. If the 6th PC is trying to communicate with other port, it's not allowed. The 6th PC will be waiting still one of 5 MAC addresses aging timeout. The 6th PC's MAC address will be learned.

Due to hardware limitation, some packets come from 6th PC may be transmitted through switch. However, because most of packets from 6th PC is discarded, 6th PC can not make and keep any connection to any servers through this switch. But if user use packet generator (like SMARTBIT) to test this function, he will see some of leak packets. However, in real case, this user can not have any valid network access.

BroadCast Storm Control ---- Menu 2

This option allows the user to limit the number of broadcast frames into the switch. A threshold of number of broadcast frames can be set. When the number of cumulated non-unicast frames is over the programmed threshold, the broadcast frame is discarded.

Port Mirroring ---- Menu 2

This feature provides complete network monitoring capability at 100 Mbit/s. A copy of egress (TX) data and ingress (RX) data of the monitored port is sent to their snooping ports.

Edit Filter – Menu 6.1 and 6.13

This function allows user to set static MAC address into the system. If some static MAC address is set into system, this MAC is no more been aged out.

Default ROM Setting – CI Command (sys loadrom)

This feature provides users to restore default ROM setting to system.

MIB -- RFC2674, RFC1493

Those MIB is about the definitions of managed objects for bridge with traffic classes, multicast filtering and virtual LAN extensions.

VDSL mode per port -- Menu 6.1

This feature provides users to set VDSL mode and rate by port.

Add a Special Mode for VDSL mode setting – Menu 6.1

This mode can support 13 types of VDSL speed for both Upstream and Downstream.

MAC address process

Add a CI command to do flush all MAC entries stored, “sw mac flush”.

Add Port-Based VLAN setting into Menu 17

Now, user can do Port-Based VLAN setting via SMT.

Increase number of static tag VLAN to be 128.