

Release note for firmware 04_31

Introduction

This is the release note for the DKTCOMEGA CPE 796xx firmware. Special precaution must be taken into account when performing the upgrade, please refer to the instruction guide available on www.dktomega.com -> support -> firmware

Please contact jb@dktomega.com for questions or concerns.

Changes in firmware

 2015-06-11

DKT_BF_Firmware_v04_31

- Linux DHCP client:

After stopping DHCP and release has been issued, delete DHCP state, so we start with discover.

 2015-05-06

DKT_BF_Firmware_v04_30

- Linux DHCP client:

Include the MAC address to the seed for the DHCP XID "random" generator.

- Linux DHCP client:

During startup, be more patient when getting IP address the first time. Now wait for up to 2 minutes if we do not already have a saved configuration file. If the configuration has been saved to flash, then wait for up to 30 seconds.

 2014-10-27

DKT_BF_Firmware_v04_29

lldp:

- Added LLDP support

We use openlldp, <http://sourceforge.net/projects/openlldp/>

To start the LLDP daemon, run this command in the configuration script:

```
/etc/init.d/lldpd start
```

 2014-06-13

DKT_BF_Firmware_v04_28

System:

- Fix for VoIP problems with buffer underruns which resulted in dropouts of audio:
- Switched kernel preemption back to default - the preemptive made the system crash.
- Reordered kernel interrupt priorities for making VoIP high priority.
- Moved utility functions to internal SRAM for minimizing kernel latency.
- Run VoIP application with high priority.

 2014-05-01

DKT_BF_Firmware_v04_26

switch v. 2.10:

- Added `--enable-temp-sensor` and `--read-temp-sensor`

Returns the chip temperature in degrees C (steps of 5 degrees). The sensor is for indicative usage only.

Syntax is:

```
switch --read-temp-sensor=PORT
```

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Read the chip temperature. The returned value is given in steps of 5 degrees C. The sensor is not calibrated, accuracy is not defined. The temperature sensor is related to LAN ports, so the port must be enabled. Use switch --enable-temp-sensor=PORT:0 to disable the temperature sensor in order to save power. If the sensor is not enabled, then it will be enabled, and the first reading will be 0. PORT must be in the range 1..4

`switch --enable-temp-sensor=PORT:ENABLE`

Enable or disable the switch on-chip temperature sensor. The LAN port must be enabled in order to use this function. PORT must be in the range 1..4 ENABLE must be 0 or 1, 0=disable

netsnmp:

- Added support for temperature readout. The returned value is 0 at the first read due to automatically sensor power on. OID: .1.3.6.1.4.1.27304.14.1.11.0

switch:

- Fixed --enable-port-mirroring for 4-port devices to use the right ports.
- Added --enable-da-blocking, command is
`switch --enable-da-blocking=PORT:aa:bb:cc:dd:ee:ff`

Enable destination address filtering of a MAC address.
NOTE: All the filtered packets are redirected to the CPU port for handling, so be careful not to use this command for heavy data streams. This might overload the CPU.

Webconfig

- Fixed saving DNS if fixed-IP. This field was not saved correctly and was thus lost.

System

- Updated WAN speed auto detection, enabled next register in gigabit mode. Cleared the PHY next register in 100Mbit mode.

Linux PHY driver

- Fixed PHY driver for RJ45 WAN support

2014-02-28

DKT_BF_Firmware_v04_25

dkt_netman

- Get correct fiber link status from the network driver.

Switch

- Added --enable-sa-filtering
- Added new feature to enable source address filtering

2014-01-14

DKT_BF_Firmware_v04_24

System

- Fix route entries after link-local address.
If the DHCP server is missing, and link-local address is assigned, then route entries is not re-established correctly in some cases when DHCP server becomes available again.
- Restore password files from flashdisk if they were saved.
This was only performed when SSH also was enabled.

VoIP

- Fixed handling of gateway, related to fixed IP address.

A separate route entry is created for the VoIP's net.

- The command line has changed a bit for fixed IP, gateway is not required anymore; it's optional.

-v <VID> [-i <IP> [-m <Netmask>] [-g <Gateway IP>]]

Webconfig

- Added VoIP status page.
- Added VoIP network configuration page.

dst

- Version 1.4. Added -n option to calculate network from IP address and netmask.

2014-01-02
DKT_BF_Firmware_v04_23

switch

- Added a protection feature to switch --add-mca and switch --del-mca. The protection feature is used to protect manually entered static multicast addresses to the ATU from being automatically removed by the IGMP snooper's "leave" operation.
Limitation: There is only reserved space for 256 protected addresses for each port. Exceeding this limit will make the last defined address static in the ATU but not protected against removal by the IGMP snooper at a later time.

NOTE: The IP multicast address range covers 268435456 addresses (28 bits), while the Ethernet range only covers 8388608 (23 bits). This means that there is only one Ethernet address for each 32 IP addresses.

- Fixed switch --dump-atu for 8-port boards. Now we also see ports 1-5.

Brush up of help text for 8-port boards.

IGMP snooper

- Indicate to the switch program that the "add-uca" and "del-uca" commands came from the IGMP snooper, in order to use the new protection feature of these functions.

- Fixed bug for 8-port boards: LAN 5 (Ext 1) was ignored when looking for membership of VLAN, so IGMP snooping did not work for this port.

dhcprelay

- Update to new IGMP snooper version 1.3 with new directory.

2013-12-04
DKT_BF_Firmware_v04_22

VoIP

- Fixed annoying ringing when dialing a number without having connection to a server.

SNMP

- Added .1.3.6.1.4.1.27304.10.4 generic device information with similar information as in the DHCP option 43 field (sub option 'm').

Currently defined values:

- base = 4 port Basic version without VoIP nor WiFi
- voip = 4 port VoIP hardware
- base8 = 8 port Basic version without VoIP nor WiFi
- voip8 = 8 port VoIP hardware
- base,wifi7 = 7 port WiFi hardware, no VoIP hardware

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voip,wifi7 = 7 port Both VoIP and WiFi hardware

DHCP client

- Request DHCP option 54 (server identifier)
This information has shown to be needed in some cases.

Webconfig

- Fixed handling of special characters in input fields (f.ex in VoIP input pattern).
- Fixed a few errors in CSS definitions (undefined fields).
- Added missing form end in the password page.

2013-11-13
DKT_BF_Firmware_v04_21

SSH

- Disabled reverse DNS lookup.

System

- Compatibility with Atmel platform:
Enabled root login without password through telnet.
The user should create his own /etc/passwd file.
Note: SSH does not allow direct root login.

2013-09-28
DKT_BF_Firmware_v04_20

System

- Improved the watchdog by giving the watchdog process the highest oom_score. This means that an out of memory condition will make the system kill the watchdog which then again will make a CPU reset after some seconds.
- Reboot the system in case of kernel panic (system crash).

catv

- Fixed support for new CATV interface board with optical signal detect. In release 4.19, the polarity was inverted. In release 4.20 the value 1 indicates that we have optical signal and the value 0 indicates insufficient optical signal level.

Webconfig

- The reboot button now first kills the watchdog process before issuing a reboot command.

TR-069

- Fixed script to handle option-43 with server configuration. The script was unintentional replaced with another script.

2013-08-19
DKT_BF_Firmware_v04_19

CATV

- Support for new CATV interface board with optical signal detect.

2013-07-31
DKT_BF_Firmware_v04_18

switch program

- Fixed: The optional default priority and force default VID to --set-port-default-vid did not correctly set InitialPri of port offset 4 to 0, so the initial priority was taken from IPv4 field instead of the port's default priority.

Webconfig

- Added password protection for the web server. NOTE: This username and password does not affect telnet nor SSH password.
- Configuration file editor: Fixed a DOS/Unix issue when saving configuration file in the editor.

2013-06-21

DKT_BF_Firmware_v04_17

System

- Added indication if signal detect is valid /etc/dkt_config/catv_signal_detect

DHCP/TR-069

- Fixed script to handle TR-069 server indications in DHCP option 43.

VoIP

- Fixed missing script to handle DHCP client for VoIP over VLAN
- Fixed handling DHCP for VoIP over VLAN
- Added support for voltage based message waiting indication

switch program:

Ver 2.2:

- Fixed error in --get/set-port-speed-mode for gigabit full and half duplex. The wrong bits in the phy registers was used
- Fixed handling of which chip the given port is connected to in --get-port-vlan-table=PORT
- Added optional default priority and force default VID
--set-port-default-vid=PORT:VID[:DEFPRI[:FORCE]]
- Added default priority and forced default VID in returned text from
--get-port-default-vid=PORT
<VID>:<Default priority>:<Force default VID>

Webconfig

- Updates according to review:
 - In port configuration, make current values the default for the speed and MTU selections.
 - Disable possibility for deleting the CPE's MAC address from the ATU.
 - Removed CPU from the egress rate limitation list in order to not confuse the user with our 5MB rate limitation there.
 - Rearranged the VLAN page to make it a bit more intuitive
 - If no NTP host has been specified, then don't start the NTP client.
 - General brush-up of pages with regard to layout and understanding.
 - Added support for default priority and forced default VID on switch --set-port-default-vid
 - Added editor for configuration file
 - Added button to reset VoIP settings to defaults

2013-05-23

DKT_BF_Firmware_v04_16

System

- /etc/dkt_config/item_number contains both item number for product width and without CATV - for example: "79601,79631"

Webconfig

- Overview page has added "Uptime", "Information", "Port overview", "CATV power"

The Information field can be modified by the user to include his own text information about the particular CPE. This could be things like location or permissions. The uptime field has got a link to NTP configuration. CATV power has got a modify button.

2013-05-08
DKT_BF_Firmware_v04_15

syslog

- Enabled feature for logging to file.

```
syslogd -O <file> -s <maxsize in kbytes> [-L -R <host>]
```

Note: If logging to file, a backup file <file.0> is created when the size of <file> reach the max size, and a new <file> is created. So there must be enough space in the flash disk for two times the log file size.

- Enabled feature for including kernel log messages in syslog. To start kernel logging, insert this line in your configuration file:

```
klogd
```

2013-04-12
DKT_BF_Firmware_v04_14

SNMP server

- Reverted SNMP service to full support (equal to the functionality in release 4.08)

The firmware variant with TR-069 still has reduced SNMP support in order to save memory.

TFTP client

- Increased initial timeout value for TFTP client from 50ms to 250ms.

System

- Fixed error in detection of TR-069 support (minor bug).

2013-04-05
DKT_BF_Firmware_v04_13

VoIP

- Added more choices for Configuration->Regionalization-> SLAC Configuration->slac dtmf caller id start/end code "DTMF *", "DTMF #" and NONE

switch program

- Added optional parameter ethertype to command:

```
--set-port-802dot1q-provider-mode=ENABLE[:ethertype]
```

The ethertype value is interpreted as hexadecimal number ethertype defaults to 0x9100 if not given.

2012-03-12
DKT_BF_Firmware_v04_12

System

- Disabled telnet login for the user root without password. If you want root login, then a valid password must be added to the following: `/etc/passwd`

- Enabled telnet login logging to syslog for all users. Please refer to user guide for how to enable syslog functionality.

- Added logging of link up/down to syslog.

- Added tool to measure current CPU load during one second: `dkt_cpu_load`

- Added tool to monitor CPU load and to send a message to syslog if the load is above a certain level (default is 90%).

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If the tool has sent a syslog message, it waits for 20 seconds before continuing monitoring:
dkt_cpu_load_monitor [percentage level]

The tool may be started from the CPE configuration file like this:
dkt_cpu_load_monitor &

- Added tool to monitor network statistics. The tool issues a syslog message once each hour with all packet counters for eth0.

The format of the string is like the output from ifconfig:

RX packets:0 errors:0 dropped:0 overruns:0 frame:0

TX packets:0 errors:0 dropped:0 overruns:0 carrier:0

The counters are counting up from last start of the network interface (they are not reset every hour).

dkt_if_stat_logger

The tool may be started from the CPE configuration file like this:
dkt_if_stat_logger &

VoIP

- Fixed error caused by using t.38 negotiation which is not supported by DKT's VoIP implementations.

2012-02-15

DKT_BF_Firmware_v04_11

System

- Added /etc/dkt_config/serial_number with MAC address

- Undo the fix in 4.09 with adding a host route entry. This is wrong, and if a host entry is required, then the user must add this manually in his configuration script.

- Added support for adding extra route entries in /etc/extra_routes on DHCP renew.

The route entry should be of the form:

route add -host <ip> gw <ip> dev <if>

route add -net <net> gw <ip> netmask <mask> dev <if>

<interface> is eth0 or eth0.<VID> where VID is VLAN ID.

VoIP

- Added route entry when defining VLAN and fixed IP address

- Ensure that we do not use CPE configuration file for VoIP

2013-02-06

DKT_BF_Firmware_v04_09

System

- If a TFTP server is given by DHCP, and if there is at least one router entry, then a host route entry for that TFTP server host is added to the device route table, with the gateway being the first address in option routers.

switch program

- VID for add and delete VTU entry must be below 4095 - not 4095 (exact value) since this (reserved value) has caused problems in switch --dump-vtu.

- Fixed error in default setup of port based vlan for CPU port. This was introduced in firmware 04_03.

VoIP

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- Added parameter default gateway to static-IP-VLAN configuration of enable_voip. This is mandatory for correct VoIP operation. Use "...-g <IP address of default gateway>"
- Fixed problem with starting VoIP application in case of fixed IP address.

2012-11-12
DKT_BF_Firmware_v04_08

System

- Fixed bug with missing static ATU entry for CPU port's MAC
The bug means that the MAC entry will time out and the management will flood to all ports if VLAN is not configured.
- Hardware configuration can now be detected by files in /etc/dkt_config/ - these files can also be used in the user configuration file.

DHCP client

- Fixed error in startup of syslogd based on DHCP options
- Option 43 is now requested - as compatibility with the TR-069 software (option 43 requested in option 55).

2012-08-17
DKT_BF_Firmware_v04_07

System

- This firmware has support for RJ45 WAN. RJ45 WAN needs bootloader version 4.04 or higher. Directory for saved_configuration is created per default before loading configuration file.

switch program:

- Updated help text for --set-port-vlan-table, --set-sa-da-frame-priority-override and --set-sa-da-queue-priority-override

- Added support for specifying more than one traffic type to a bucket in a comma separated list. The list may be empty if used with priority (see below).

- Added support for IEEE priority specification for ingress rate limitation bucket. The priority is the mapped priority to the switch's internal queues (0,1,2,3). The mapping is changed with --set-ieee-queue-map

- Added the following traffic types to ingress rate limitation:
 - UC (Unicast packets)
 - UUC (Unknown unicast packets - not in ARP table)
 - ARP (ARP packets)
 - MGMT (Management packets)

- Fixed traffic types in ingress rate limitation when printing bucket list.

2012-06-01
DKT_BF_Firmware_v04_06

DHCP client

- Added hardware version as sub-field to Option 43.
The value field is the output from the "hw_version" command with the space replaced by '-'. The field is tagged with 'p' and is appended after the 'm' tag.
Example: 43,15,'m',4,"base",'p',7,"GE2_4-2"

switch program

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- Added new command to power off or enable a LAN port


```
switch --enable-port=<port>:<enable>
      <port> must be in the range 1..4
      <enable> 0=power off, 1=enabled.
```

For the upper 4 ports on the 8-port platform, the command is:

```
switch --enable-port-ext=<port>:<enable>
switch --get-enable-port=<port>
      Get enable-state of LAN port
      <port> must be in the range 1..4
```

- Adjusted help text for --add-vtu-entry to state that nrl option is ignored on the gigabit platforms.

system

- In the case where the configuration file name ends on '/', then use lower case letters in MAC address.

 2012-05-10
 DKT_BF_Firmware_v04_05

System

- If configuration file name ends on '/', then the CPE also try to retrieve the configuration file with the hostname (which may be set by DHCP option 12) as part of the file name. The following sequence is followed:

```
1 <filename>dkt_config_<MAC address>.sh
2 <filename>dkt_config_<model>.sh
3 <filename>dkt_config_<hostname>.sh
4 <filename>dkt_config.sh
```

DHCP client

- Added 12 (host name) to Option 55 Parameter Request List in DHCP requests. This makes item 3 in the above sequence work on ISC DHCP servers.

switch program

- 8-port: Hide cross-chip interface entries from --dump-atu
- 8-port: Added --dump-atu-x to show cross-chip interface entries
- 8-port: Updated help text

IGMP snoop

- 8-port: Fixed problem with snooping on ports 5-8
- Fixed strange 8-port error message on 4-port boards

enable voip

- Check for VoIP hardware before starting VoIP software.

 2012-04-26
 DKT_BF_Firmware_v04_04

System

- Added fix for wrong hardware ID for 79601 in DHCP option 43 field. This resulted in wrong VoIP present indication.
- DHCP option 43 is now always present - if no VoIP is present, then it contains 'm',4,'base'

 2012-01-04
 DKT_BF_Firmware_v04_03

System

- Added support for 8-port platform.

- Changed DHCP vendor classid from `DKT_Firmware_BF_vXXX` to `DKT_BF_Firmware_vXXX` in order to be able to distinguish 792xx ... 795xx series platform from 796xx platform with a DHCP server setup for 792xx ... 795xx series.
- Added support for WiFi module (use cable interconnect on revision 0 boards and force enable wifi in U-boot).
- Added two new scripts to start and stop daemons: `/etc/init.d/syslogd` and `/etc/init.d/telnetd`
- Added support for WAN port SFP module.

DHCP client

- Compatibility with Atmel platform. Set broadcast flag in DHCP discover packets.
- Added support for NTP server (DHCP option 42). To enable this feature, add this line to the configuration file (along with syslog):
`echo "-O logsrv -O ntpsrv" > /tmp/dhcp_requests.txt`
On systems with much load and long response times, it might be necessary to also add this line: `/etc/init.d/udhcp restart`
- Added fix to ensure that the client send requests as unicasts when XID is present on command line (second time the client is started after boot and when link has been down and up).

dhcprelayd

- The DHCP relay daemon has been upgraded with support for the 8-port platform. The only exception is that the functionality does not work properly with 802.1Q VLAN on port 5-8. On these ports, both the relayed packets and the final packets are sent on both the LAN port and on the WAN port. The reason is not yet known, but it might be related to an unintended VLAN tunnel. To be fixed in future release.

enable_wifi

- Fixed buffer-pointer bug, so now WiFi is enabled a little bit faster.

switch_program

- Fixed bug in `--dump-atu` MAC addresses containing 'FF' in just one of the bytes did not show in the list.
- Fixed bug in printout of forcing port-based VLAN.
- Added dump of ATU registers in `dump-global`.

2011-10-04
DKT_Firmware_BF_v04_02

General: Ensuring that file is not corrupted, firmware 04_02 is identical to firmware 04_01, introduced for logistical reasons.

2011-08-30
DKT_Firmware_BF_v04_01

System

- Removed unused RTC driver sw. This software module caused problems during the boot procedure on some hardware.

2011-06-20
DKT_Firmware_BF_v04_00

VoIP

- Fixed problem with DHCP over VLAN in enable_voip. The obtained IP address was not applied correctly to the VoIP app. Manual IP configuration for VLAN was OK.

2011-05-31/KS
Release dkt_fw2_04_20110531

System

- Initial release for DKT 796xx series, based on the firmware 03_xx platform for DKT 792xx, 793xx, 794xx devices.

For further details, please contact:

Med venlig hilsen / Best regards

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