Release note for firmware 03_26

Introduction

This is the release note for the DKTCOMEGA CPE 79203, 79204 and 79403 firmware. Special precaution must be taken into account when performing the upgrade, please refer to the instruction guide available on www.dktcomega.com -> support -> firmware

Please notice that this firmware is only valid with boot loader revision 01_02 or later. If an earlier boot loader revision (earlier than 01_02) will be used in the customer's production environment, <u>no firmware upgrade</u> should be performed.

It is highly recommended that boot loader 02_05 is used, due to the introduction of auto sense functionality on 79403 Gigabit CPE as well as save of last configuration file to CPE flash memory.

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

Changes in firmware

2014-02-04
Release dkt_fw_03_26

<u>DHCP client</u>
- Updated startup and fiber link up/down handling to be equal to the Balder platform:
DHCP client is now started once link is up, and stays running.
The DHCP client keeps the obtained IP address even when connection to the DHCP server is lost (unless link-local address allocation is active).
Link-local address can still be disabled by setting USE_ZERO_CONF=N.

<u>switch</u>
- Version 2.6, Got rid of HTML formatted help text.

<u>dkt_netman</u>
- Version 1.2, Get correct fiber link status from the network driver.

2013-12-12
Release dkt_fw_03_25

<u>Switch:</u>
- Version 2.5
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.

<u>IGMP snooper:</u>
- Version 1.3

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.

DHCP relay daemon:
- Version 1.2
Update to new IGMP snooper version with new directory.

2013-11-13
Release dkt_fw_03_24

SSH:
- Disabled reverse DNS lookup.

2013-09-23
Release dkt_fw_03_23

SNMP:
- Fixed /etc/snmp/snmpd.conf - was unintentionally replaced with the net-snmp template version.

2013-08-15
Release dkt_fw_03_22

system:
- Fixed path to link-up/down handler (was moved to new location in 3.21)

VoIP:
- Added pause to allow VoIP network interface to appear before adding VoIP module's MAC address to ATU.

dkt_switch v2.2 - v2.3:
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.
- Fixed error in `--get/set-port-speed-mode` for gigabit full and half duplex. Some 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>`

2013-05-15
Release dkt_fw_03_21

System:
- 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%). 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 statistic. 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 &
```

- Removed the debug messages which were introduced in version 3.18_debug. The file /mnt/flash/bootlog.txt is removed on every reboot if present.
- Removed ADC driver since we've never used it.

2013-04-05
Release dkt_fw_03_20

<u>TFTP client</u>
- Increased initial timeout value for TFTP client from 50ms to 250ms.

2013-04-05
Release dkt_fw_03_19

<u>System</u>
- Directory for saved_configuration is created per default before loading configuration file.

<u>switch program</u>
- 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 for 1Gbps platform when printing bucket list.
- VID for add and delete VTU entry must be below 4095 – not 4095 since this (reserved value) has caused problems in switch --dump-vtu.
- Fixed error in default setup of port-based vlan for CPU port
- 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.`
- Added help text for ingress rate limitation on gigabit.

2012-06-06/KS
Release dkt_fw_03_18

<u>DHCP client</u>
- Added product identifier 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',4,"GE-4"`

- 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.
- Added 6 (DNS server) to Option 55 Parameter Request List
- DHCP option 43 is now always present - if no VoIP ispresent, then it contains 'm',4,'base'

switch program
- 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.
- Fixed problem with saving PAM configuration files. The destination directory for PAM files was wrong.

2012-02-06/KS
Release dkt_fw_03_17

Wifi
- Introduced dedicated `dkt_fw_flashdisk_wifi_03_17.img` for 79550 with wifi. This will increase the boot procedure of CPEs including wifi modules. Going forward this dedicated .img file must be used, as the firmware can't recognize the wifi module if the standard .img file is used.

System
- Authentication is moved to PAM (linux-pam-1.1.5). PAM is enabled in login and dropbear (ssh daemon).
- Added TACACS+ authentication for SSH and telnet login (pam-tacplus-1.3.5).
To enable TACACS authentication, create the `sshd` or `telnetd` file in `/etc/pam.d`
see:
http://debian.securedservers.com/kernel/pub/linux/libs/pam/Linux-PAM-html/Linux-PAM_SAG.html

Switch configuration program
- Fixed bug in --dump-atu   MAC addresses containing 'FF' in just one of the bytes did not show in the list. The bug was introduced in 3.07.

2011-10-20/KS
Release dkt_fw_03_16
switch program
- Fixed missing bit in ingress rate limitation in 100Mbps platform.

2011-10-20/KS
Release dkt_fw_03_15
Boot
- Added extra protection of CPU port during boot. If excessive load is present at the CPU port during boot, this could cause long boot time. Traffic not intended for the CPU port will be filtered, so normal procedure can take place.

Note: This release was used for evaluation purposes only, and not officially released.

2011-09-26/KS
Release dkt_fw_03_14

dhcprelayd
- Added support for optional remote ID text switch --set-port-dhcp-option82=PORT:ENABLE:
[optional circuit ID[:optional remote ID]]

switch command
- Updated help text for --set-port-dhcp-option82

2011-07-11/KS
Release dkt_fw_03_13

WiFi support
- Changed timing for WiFi detection due to changed timing in new WiFi firmware.

2011-06-30/KS
Release dkt_fw_03_12

DHCP client
- Set broadcast flag in DHCP discover packets. This flag was unintentionally left out in
distribution upgrade in release 3.00.

2011-06-10/KS
Release dkt_fw_03_11

WAN link handler
- Aligned startup procedure with 797xx series. DHCP client is started when link is detected
and stopped when link is down. IGMP handler and dhcprelayd are started after first DHCP
lease.

switch command
- Help text updated to only show help which is valid for the given platform.

dhcprelayd
- Fixed issue with applying the correct VLAN ID on DHCP requests.

Startup
- Optimized WAN port control to minimize Linux network start time - for 100Mbit and
gigabit modes.

igmp snooper
- Don't allow more than one instance of the program to run at a time. Added '-f' option to
force start of the program for use in case the previous instance was killed.

Wifi support
- Potential problem when enabling wifi without VoIP enabled, it was not possible to start
wifi without having VoIP enabled.

2011-03-25/KS
Release dkt_fw_03_10

System
- Improved algorithm for detecting WAN link speed

Startup

- Fixed issue if no link on WAN port while booting.

Switch
- Fixed configuration of speed and duplex mode

dhcprelayd
- Fixed error in internal MAC handling.
- Fixed issue concerning co-existing with the IGMP handler. When a DHCP packet is forwarded to a LAN port, then port-based VLAN-forcing is disabled from the port before the packet is sent, and restored afterwards. During that period the IGMP handler is locked from sending packets. Likewise, if the IGMP handler is forwarding, then the dhcprelayd is locked from sending packets.

igmp
- The IGMP handler is modified to delay forwarding any packets while the port-based VLAN-forcing is disabled by the dhcprelayd (locked). When the lock is released again, then the IGMP packets will be sent. Likewise when the igmp handler forwards a packet, then the dhcprelayd is locked from sending.

- Fixed: When leaving group with no members, then the leave packet was not forwarded.

enable_wifi
- If there is no connection to the TFTP server and there is not any saved wifi configuration, then a new configuration is created with radio off and stored in the wifi module. If there is a saved configuration then it will be used.

2011-01-28/KS
Release dkt_fw_03_09

System
- Minor issue: Fixed error in command to hardware-reset the VoIP board.
- Minor issue: Added a home directory for root.

Snmpd
- Fixed problem with RMON counters only having 31 effecive bits.
NOTE: The type of the counters have changed to COUNTER32 switch command
- Ingress rate limitation: Added support for traffic based rate limitation for the types: Broadcast (BC), Multicast (MC) and Unknown multicast (UMC) traffic.

2010-12-20/KS
Release dkt_fw_03_08_rc4

DHCP client
- Added DHCP option 43 Vendor Specific Information to the DHCP client. The field informs about whether voip and wifi modules are connected to the CPE.
- Added /etc/init.d/udhcpc script to start/stop the DHCP client. This script is also used by the enable_voip script.
- Added support for DHCP option 7 request in the option 55 list. Added support for handling DHCP option 7 response by starting the syslog-daemon with the specified address as parameter.
- Added simple WAN link up/down handler to start new DHCP negotiation upon link-up

Syslog Daemon
Supporting Syslog, the deamon must be started in the configuration file or by DHCP client.
syslogd -R <Remote server IP>

Switch Program

- Fixed undefined RMON counter InGoodOctetsHi/OutOctetsHi for 100Mbps platform. The field is now always 0 - also if InGoodOctetsLo/OutOctetsLo wraps around.

Configuration file
- Added `TFTP_CONFIGURATION_FILE_NAME` to `/etc/dhcp.vars` so we are able to see which file was loaded if a directory is given as boot file name in the DHCP response.

SNMP daemon
- Performance improvement of RMON counters and port variables
- Performance improvement of remaining DKT MIBs (generic and catv).
- Fixed error in snmpset handling of OID: 27304.10.3 (enterprises.dkt.genericMIB.reboot)
- Added user Administrator for SNMP v3 support
- Removed obsolete SNMP test scripts.

System
- Added support for external WiFi module
- Added -c option to enable_wifi to check for WiFi module present (used for DHCP option 43 field.)
- Memory location of Linux has been moved back to be compatible with the 02.xx series. Avoids problems with flash disk and other issues.
- Wifi settings file is copied to the CPE's flashdisk – if flashdisk is available. New settings are only sent to the wifi module if settings has changed.
- Fixed handling of bring eth0 down and up. NOTE: Use ifup and ifdown - not ifconfig up/down - for proper handling.
- Early start of watchdog daemon - prevents reboot if the flashdisk is corrupted. If corrupted, then the flashdisk is erased and mounted on new.
- Added new feature for specifying a download directory with configuration files.
The current method by specifying a file name still works as it did before.

If the configuration file name (given during DHCP) ends with '/' then the CPE creates a filename based on the following rules:
Start with the most specific and then move to a more general file name;
```
<CFG_DIR>dkt_config_<MAC>.sh
<CFG_DIR>dkt_config_<Model>.sh
<CFG_DIR>dkt_config.sh
```
If no file found, then we look for a saved configuration file in flash.
If no file found in flash, then use the default configuration.

Example given the file name `"dkt/"` and the CPE MAC address is 00:19:9f:40:00:80 the following names will be attempted loaded:
```
dkt/dkt_config_00199f400080.sh
dkt/dkt_config_FE2.sh
dkt/dkt_config.sh
```

- Configuration file may also be specified as the BOOTP bootfile name.
The BOOTP bootfile name is only used if the DHCP option 67 file name is not present in the DHCP response. The file will be checked for being a firmware update, so we don't mistakenly use a firmware for a configuration file.

- Fixed bug in driver for ATA, with heavy load, the driver could miss an interrupt thedriver did not recover. The driver has furthermore got at filter for dropping packets that are not for the ATA and not multicast packets.

- Added support for SPI flash other than Atmel's.
- Added security check, so it is impossible to downgrade below version 3.0 of both bootloader and Linux firmware.

2010-06-29/KS
Release dkt_fw_03_07

<u>System</u>
- Disabled switch MAC address learning on CPU port. Instead the CPE and ATA MAC
addresses are entered statically in the switch ATU.

2010-06-22/KS
Release dkt_fw_03_06

<u>Switch program</u>
- Fixed bug in --enable-port-block-unknown-multicast where broadcasts also got blocked on
the ports without multicast blocking.

2010-06-21/KS
Release dkt_fw_03_05

<u>System</u>
- Linux network driver: Changed eth0 link up/down handling
Instead of just following the WAN port's link status, we now just report WAN link up/down
on the console but does not report that to the Linux kernel. This will be true, but data
might be thrown away by the switch due to WAN port link down.

2010-06-20/KS
Release dkt_fw_03_04
<u>Linux network driver</u>
- Where we have added extra protection so only one at a time can make changes to
  registers in the switch engine

2010-06-15/KS
Release dkt_fw_03_03
<u>Switch program</u>
- As Broadcasts are treated as multicast, one could end up in a situation where ARPs are
  blocked if "blocking of unknown multicast" is enabled, due to source/destination time-
  outs in ATU. Now broadcasts are now longer treated as multicasts, so frames with
  destination address of FF:FF:FF:FF:FF:FF will no longer be filtered, if source MAC
  address is unknown.

2010-06-07/KS
Release dkt_fw_03_02
<u>Switch program</u>
- Alignment on Provider Mode settings for 100 Mbps and 1 Gbps CPE, note that for 1 Gbps
  CPE 802q1 mode must be disabled, so LAN clients must have their settings = 0. E.g.
  switch --set-port-802dot1q-mode=1:0
- switch --set-port-802dot1q-mode=2:0
- switch --set-port-802dot1q-mode=3:0
- switch --set-port-802dot1q-mode=4:0

2010-06-01/KS
Release dkt_fw_03_01
<u>igmp program</u>
- Aligned Marvell 6165 and 6065 Switch IGMP settings with respect to VID forwarding,
  when IGMP snooping is enabled
- WAN port is associated with the multicast address entry in ATU

<u>DHCP</u>

- Fixed wrong reporting of hostname by DHCP client if VoIP is enabled.

General
- Added new environment variable: WAN_MACADDR
- Own MAC address now inserted as static entry in ATU

2010-05-27/KS
Release dkt_fw_03_00
igmp program
- Added support for VLAN on gigabit platform

SSH daemon
- Administrator password is fixed, so correct default password is as specified in the user guide.
- Let Administrator own his own SSH files

dhcprelayd program
- Added DHCP Option 82 functionality.
- Added VLAN tag if VLAN tagging is enabled for the source port
- Added a packet buffer system in order to be able to handle small bursts of DHCP requests
- Introduced a DHCP session cache timeout of 15 seconds, so it can be detected if the user has moved a device from one LAN port to another LAN port

DHCP
- Fixed error handling of link-local addresses that could let the interface be without IP in certain cases
- Added support for using hostname from DHCP replies

System
- Changed default hostname to also include the MAC address.

switch program
- Fixed --add-uca. Now the option only adds the specified port to the MAC address.
- Added --set-port-dhcp-option82. The option makes the switch trap all DHCP packets from the port. Furthermore a VLAN tunnel to the CPU port is enabled so the DHCP replies may be forwarded correctly to the DHCP client despite the port based VLAN. The packets may be forwarded to the DHCP server using dhcpsnoop.

- Added --get-port-dhcp-option82 for status.

lldp daemon
- Added support for LLDP, CDP, EDP and FDP. The first revision of the daemon is start/stop/restarted by /etc/init.d/lldp
----
2010-11-04/KS
Release dkt_fw_v02_21

System
- Fixed "deadlock" when booting with a corrupted flashdisk. When the flash disk was mounted, the checkdisk procedure took so long that the watchdog would reset the system. The fix changes the order of when to mount the file system and when to start the watchdog daemon. If the flashdisk is corrupted, then it will be erased and mounted as new virgin flash disk.

2010-10-08/KS
Release dkt_fw_v02_20

System
- Added new feature for specifying a download directory with configuration files.
The current method by specifying a file name still works as it did before.

If the configuration file name (given during DHCP) ends with '/' then the CPE creates a
filename based on the following rules:
Start with the most specific and then move to a more general file name;
<CFG_DIR>dkt_config_<MAC>.sh
<CFG_DIR>dkt_config_<Model>.sh
<CFG_DIR>dkt_config.sh

If no file found, then we look for a saved configuration file in flash. If no file found in
flash, then use the default configuration.

Example given the file name "dkt/" and the CPE MAC address is 00:19:9f:40:00:80 the
following names will be attempted loaded:
dkt/dkt_config_00199f400080.sh
dkt/dkt_config_FE2.sh
dkt/dkt_config.sh

- New feature:
Configuration file may also be specified as the BOOTP bootfile name.
The BOOTP bootfile name is only used if the DHCP option 67 file name is not present in the
DHCP response. The file will be checked for being a firmware update, so we don't
mistakenly use a firmware for a configuration file.

2010-09-01/KS
Release dkt_fw_v02_19

Switch program
- Fixed bug for gigabit platform in the optional "force" parameter, to switch --set-port-
vlan-table

System
- Fixed problem with frame synchronization in driver for VoIP data.

2010-07-19/KS
Release dkt_fw_v02_18

System
- Fixed bug in driver for ATA. With heavy load, the driver could miss an interrupt the driver
did not recover. The driver has furthermore got at filter for dropping packets that are not
for the ATA and not multicast packets.

2010-07-09/KS
Release dkt_fw_v02_17
General
- Migrated changes in 3.00 to 3.07 into the 2.xx version. Exception: lldp is not supported in
this version.
3.00 platform is postponed for future release.

System
- ATU learning for CPU port is disabled. Instead the CPU's MAC is added statically to the
ATU.
- VoIP driver is modified to report the VoIP module's MAC in the system log when VoIP is
enabled. The MAC address is snooped from source field of the first Ethernet frames.

- The VoIP MAC address is added statically to the ATU.
- When "switch --enable-port-block-unknown-multicast" is executed for a LAN port, also add the broadcast address for the port statically. Also add the broadcast address for the WAN port statically.
- The broadcast address is hidden from the list shown by "switch --dump-atu"
- Add the CPU MAC statically in the switch ATU
- Fixed wrong reporting of hostname by DHCP client if VoIP is enabled.
- Added new environment variable: WAN_MACADDR

IGMP snooper
- Ignoring non-multicast IGMP packets - just forwarding them to the WAN port.

Switch program
- Fixed bug in provider mode (Q in Q tagging) for gigabit platform.
- Fixed bug in --enable-port-block-unknown-multicast where broadcasts also got blocked on the ports without multicast blocking.
- Added an optional parameter, force to --set-port-vlan-table

----
2010-05-19/KS
Release dkt_fw_v02_16

switch program
- Fixed --add-uca. Now the option only adds the specified port to the MAC address.
- Added --set-port-dhcp-option82. The option makes the switch trap all DHCP packets from the port. Furthermore a VLAN tunnel to the CPU port is enabled so the DHCP replies may be forwarded correctly to the DHCP client despite the port based VLAN. The packets may be forwarded to the DHCP server using dhcpsnoop.
- Added --get-port-dhcp-option82.
- Fixed printout of --get-port-ingress-rate

igmp program
- Closer connected to the switch program (synchronized), so now IGMP forwarding will probably not drop packets any more. This will give less propability of latency in switching TV channel ....

dhcprelayd program
- Added DHCP relay with Option 82 functionality.

2010-03-03/KS
Release dkt_fw_v02_15

System
- Added support for SSH for CPEs with 8MB flash.
To start the service, add this line to the configuration file:
        /etc/init.d/sshd start
The configuration should be saved the first time with this command:
        save_configuration
        - or else, the secret key will have to be regenerated on each reboot.
- Added new user "Administrator"
- Added passsword and group administration commands addgroup, adduser, delgroup, deluser, ...
- Increased flashdisk size from 270kB to 1MB

2010-02-23/KS
Release dkt_fw_v02_14

switch
- Fixed a race-condition in the switch configuration program.
The problem was exposed when accessing the switch configuration from SNMP.
The main part of the program now runs in the background as "switch_back" while "switch" is
a small front-end to it.

shell
- Enabled tab-completion of commands.

2009-12-17/KS
Release dkt_fw_v02_13

DHCP client
- Improvement of the link-local feature which takes over if no DHCP server is found. The
link-local client is now running until DHCP get a successful lease.

switch
- Fixed error in switch program. The program would eat up network sockets.
- Added two new options related to mirroring of ARP packets to the CPU port:
          --set-arp-mirroring=PORT:enable and
          --get-arp-mirroring=PORT
This feature is used when port-block-unknown-multicast is enabled.

SNMP
- The SNMP daemon supports the new arp-mirroring feature at .1.3.6.1.4.1.27304.12.2.x.23
and .1.3.6.1.4.1.27304.14.2.x.20

2009-12-09/KS
Release dkt_fw_v02_12

DHCP client
- Added default route when a link-local address is assigned (due to no DHCP server in
sight). This is required for networking with non-link-local networks.

2009-11-24/KS
Release dkt_fw_v02_11
Distribution:
- The distribution now contains two 'img' files:
dkt_fw_02_11.img and dkt_fw_flashdisk_02_11.img
A new feature with booting even if there is no responding DHCP or TFTP server. The new
feature is enabled by using dkt_fw_flashdisk_02_11.img
The old file name convention is continued with normal functionality, i.e. the boot process
waits for response from the DHCP and the TFTP servers before continuing with the boot
process.

Initialization:
-Added feature to load configuration file from flash if there was no contat with DHCP or
TFTP servers. This feature is enabled by updating firmware using the file:
"dkt_fw_flashdisk_02_11.img".

File system:
 - Added support for 264KB flash file system. It is only possible for CPEs with 8MB flash. The
 feature is disabled for old 4MB boards.

New commands:
- Added command to save current configuration file to flash: "save_configuration"
- SNMP: Fixed error in SNMP handler script for Gigabit MIB

- VoIP driver: The VoIP driver is now first loaded when required. This means that the "enable_voip" command may be issued long time after reboot from a telnet session.

2009-09-23/KS
Release dkt_fw_v02_10

DHCP client- Removed DNS, hostname and domain from Parameter Request List in the DHCP client's DISCOVER packet. This simplifies the requirements to the DHCP server configuration.

switch command:
- Fixed range check on VLAN IDs - now they cannot be above 4095
- Changed listing of ports to be a comma-separated list for the --dump-atu command (was a hexadecimal bit mask).
- Added two new commands for Gigabit CPEs:
        --set-port-mtu and --get-port-mtu.
        --del-mca: Fixed error on Gigabit nodes. Port number was not handled correctly.

igmp command:
- Changed default behaviour for IGMP v2 LEAVE and v3 INCLUDE messages. Now the message is not forwarded to the WAN port if there are still active members of the multicast group. The v2 LEAVE or v3 INCLUDE message is forwarded to the WAN port when the last member has left the group.
- Added "-l"/"--leave_all" options to the igmp command. This option makes the program unconditionally forward all IGMP v2 LEAVE and V3 INCLUDE messages to the WAN port.

Configuration:
- Made configuration file execution tolerant for DOS/Windows' CRLF line endings by stripping CR characters when the configuration file is received.

Linux network:
- 100/1000Mbit auto sense support in Gigabit CPEs. NOTE: Gigabit CPE is much faster at detecting link with 1000Mbps- than with 100Mbps link partner.

Security:
- The firmware download is now protected by CRC32. Verification is performed both after transferring the file via TFTP and after flash programming. Only if both were OK then the firmware version is upgraded. This feature is compatible with all bootloader versions.

2009-08-11/KS
Release dkt_fw_v02_09
- catv command: Added help text
- switch command: Disabled the following modes for 100Mbps WAN port: AUTO/FD/HD. These modes are not supported in 100BASE-FX
- IGMP snooper: Added support for IGMP in VLAN packets.

2009-07-22/KS
Release dkt_fw_v02_08
Feature: The IGMP snooping program is changed so timeout is disabled per default. This means that once a device has joined a multicast channel then the address will be present in the switch ATU until a leave is received by the IGMP snooper.

New: To enable timeout in the IGMP snooper with default timeout values, the user must put this line in the CPE configuration file:

ENABLE_IGMP_TIMEOUT=1 /etc/init.d/igmp restart

or
enable_igmp_timeout=1 /etc/init.d/igmp restart

New: To enable timeout and to increase timeout from defaults in the IGMP snooper, the user must put this line in the CPE configuration file (example with additional 77 seconds timeout):

ENABLE_IGMP_TIMEOUT=1 ADDITIONAL_IGMP_TIMEOUT=77 /etc/init.d/igmp restart
or
enable_igmp_timeout=1 additional_igmp_timeout=77 /etc/init.d/igmp restart
----
2009-06-15/KS
Release dkt_fw_v02_07
Fixed: switch --del-mca: The program just removed the entry in the ATU without taking into account that more than one port had been enabled for this address.
The appropriate port is now only removed from the requested multicast group. The fix resolves the issue where two multicast clients on two switch ports both gets excluded from the multicast group when one of them leaves the group.

2009-06-09/KS
Release dkt_fw_v02_06
- Fixed: When a VoIP module is present, then the CPE is given a wrong MAC address. This cause problems when more than one CPE is present on the network.
- Fixed. Problem on some hardware with the console UART by enabling pull-up on the receive input.

2009-05-25/KS
Release dkt_fw_v02_05
- Added optional parameter to --add-vtu-entry for overriding VLAN frame
  priority. The forced frame priority is specified in the optional parameter.
  --add-vtu-entry=VID:WAN:LAN1:LAN2:LAN3:LAN4:CPU:NRL-ENABLE[:PRIORITY]
- Adjusted switch help text to fit a 80 column console

2009-05-19/KS
Release dkt_fw_v02_04
- Added SNMP support for 802.1Q provider mode (Q-in-Q) for both Gigabit and 100 Mb. New MIBs are defined.
- Fixed error in VoIP setup without VLAN tagging. The Linux couldn't access the network.

2009-05-18/KS
Release dkt_fw_v02_03
- Switched to new improved se0 driver for ATA interface.
- Removed default setup of VoIP network
- Added separate command to enable VoIP from configuration script - optionally with VLAN tagging;
    enable_voip [VLAN_ID]
- Added new switch options --set-port-802dot1q-provider-mode and --get-port-802dot1q-provider-mode
- Fixed help text for --get-port-default-vid

2009-05-11/KS
Release dkt_fw_v02_02
- Removed unused file: /etc/sip.conf
- Enabled VLAN setup for the CPU port of the switch.

2009-04-03/KS

Release dkt_fw_v02_01_voip_3 (svn: 852)
- Switch to another Linux DHCP client (built-in) with support for DHCP release.
- If VoIP ATA is detected, wait with DHCP until bridge is up in order to save one DHCP negotiation.

2009-04-01/KS
Release dkt_ptest_v02 (svn:849)
The first release of a generic production test software with support for all
nodes

2009-03-31/KS
Release dkt_fw_v02_01_voip_2
- Changed VoIP network configuration to be automatic upon boot
- Changed MTU for se0 to 1500
- Set bridge forward delay to 0 to speed up things a bit

2009-03-25/KS
Release dkt_fw_v02_01_voip
Copy of firmware release 02_01 with modifications for VoIP piggy-back board
- Removed unused file: /etc/sip.conf
- Added configuration file for VoIP network setup /etc/network/voip_net_cfg.sh
- Removed unused vinetic spi driver which conflicts with VoIP module.

2009-03-06/KS
Release dkt_fw_v02_01
Linux firmware:
- Fixed problem with switch --set-port-speed-mode on gigabit platform.
- Added support for switch --set-port-vlan-table, --get-port-vlan-table, --get-port-speed-mode
- Added tests for gigabit node in /usr/share/test (for internal use only)
- Updated dkt_ge.mib according to review (fixed errors in copy/paste from dkt_fe.mib)
- Fixed: IGMP snooper now only forwards IGMP packets from LAN ports - and not from the WAN port. IGMP packets on the WAN ports resulted in IGMP spamming...
- Added HW detection of NEF PCB.
- Re-introduced the 'v' in the version string(and also in the DHCP vendor class identifier string)

2009-02-02/KS
Release dkt_fw_02_00 (Branch of the main trunk 731).
Added support for 6165 gigabit switch in Linux kernel and applications.
Added watchdog Linux driver to feed the watchdog.
Readback of ingress rate limitation is enabled (switch --get-port-ingress-rate).
Added patch to use internal SRAM for ethernet buffers (fix for the TX buffer underrun problem).

Merged 100Mbps SNMP implementation. (With fix for switch --get-port-map-rule)

SNMP MIBs
- Fixed type and read/write permissions for feDumpPIRLBuckets
- Fixed read/write permissions for feCPUPortIngressRateLimitation
- Readback of ingress rate limitation is enabled (switch --get-port-ingress-rate)
- Added MIB for Gigabit nodes.

2008-12-19/KS
Release 01_06_08

- Fixed SNMP action for turning CATV on/off

2008-12-18/KS
Release 01_06_07 (Based on release 01_06_06)

- New implementation of the SNMP daemon, please note that the following MIBs are only
compatible with firmware revision 01_06_07 or later
- dkt_rmon.mib
- dkt_generic.mib
- dkt_fe.mib
- dkt_catv.mib
- old MIBs are obsoleted and no longer supported
- LAN ports are not enabled in the default configuration file - now only the Telnet daemon
is started in case the host did not provide a configuration...
- Egress rate limitation is not limited to a fixed number of rates any more
- Fixed IGMP snooping - Now it doesn't crash with IGMP packets on LAN port 4
- IGMP snooping is running per default, note must be configured per port before activated
- Fixed delete unicast/mulitcast from ATU

2008-10-30/KS
Release 01_06_06

Fixed error in obtaining firmware version string for the SNMP daemon
Known limitation to the IGMP snooping program exist, as it may crash during operation.
- Added help text to igmp program
- A fix is planned for the future.

2008-10-07/KS
Release 01_06_05
Identical with 01_06_04

2008-08-15/KS
Release 01_06_04

Changes compared to release 01_06_03:
Fixed problem with Linux system clock tick.
The Linux software assumed the system clock to be faster than setup by the bootloader.
This is corrected. Affects all timing in Linux kernel and drivers inclusive protocol timing.

2008-07-17/KS
Release 01_06_03

Changed test scripts to be silent unless errors are found.
Updated test scripts to support new QoS features

Changes compared to release 01_06_02:
- Added new QOS switch option --set-sa-da-frame-priority-override
- Added new QOS switch option --set-sa-da-queue-priority-override
- Added new QOS switch option --set-queue-priority

Fixed version printout (-v, --version option) to read version from
        the file /etc/version
        switch now complains when using unsupported command options.

2008-06-16/KS
Release 01_06_02

Changes compared to release 01_06_01:
- Added DKT version string to Linux' DHCP option 60 field

2008-06-13/KS
Release 01_06_01

Changes compared to release 01_06:
- Added this file; the first version of the release notes.
- Problems with formal release of 01_06 fixed:
  - Added port-enable-vid-nrl command (copied from the next release 01_07)

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