# BROADCOM ®

**BCM96XXX**

**Broadband Router Software (Data)**

**Software Release Notes**
**5.02L.07_P1**

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# 1 Introduction

5.02L.07_P1 is a mandatory maintenance release that supersedes the 5.02L.07 release. This release provides critical bug fixes and important enhancements.

# 2 Supported Build Platforms

This release supports the following build platforms:

- BCM63158
- BCM63138 and BCM63148
- BCM63168 and BCM63268
- BCM63381
- BCM62118 and BCM62116
- BCM6838X and BCM6848X
- BCM5504X
- BCM6858X
- BCM6836X
- BCM6846X
- BCM68560
- BCM63178, BCM47622, and BCM675X
- BCM68781
- BCM47189
- BCM4906, BCM4908, and BCM4910

This release contains the following items:

- 4.1 Linux kernel.
- Source code for the Broadband Router, including the bootloader and common firmware environment (CFE).

**NOTE:**   Voice is part of this patch delivery.

**NOTE:**   All data release tarball/packages are part of this maintenance release.

**NOTE:**   OVS customer must request a License from Broadcom to use datapath acceleration capability from flow-cache.

**CAUTION!**  If customer has received patches on top of 5.02L.07GA and the corresponding CSP# is not mentioned below (see "Enhancements" on page 7 and "Bugs Fixed" on page 12), consult with Broadcom before applying this patch. (Customer should confirm this by checking their existing patch.version patches).

# 3 WLAN Updates

## 3.1 Software Version

| WLAN Release | IMPL | Version | Profile Modifier | Host | WLAN |
|---|---|---|---|---|---|
| 17.3.5 | 29 | 9.10.178.92 | | 47189 | Non-11ax |
| 17.3.5 | 32 | 7.14.170.43 | | Except 47189/63178/675X/47622/6878 | Non-11ax |
| 18.2.1P2 | 61 | 17.10.99.27 | WL18D2D1 | 63178/675X/47622 6878/6858/6846/6836/6856 63138/62118(4908)/63158 | Internal radio, Hardware with 43684 |
| 19.1 | 63 | 17.10.121.11 | WL19D1 | 63178/675X/47622 6858/6846/6836/6856 63138/62118(4908)/63158 | Hardware with 6710 |

# 4 DSL PHY Updates

DHY PHY versions included in the release are shown in Table 1.

**Table 1: DSL PHY Versions**

| Chip Family | DSL PHY Version | Description |
|---|---|---|
| BCM63158 | A2pvfbK046n | Single PHY for all modes |
| | B2pvfbK046n | Annex B |
| BCM63138 | A2pvfbH045q | Single PHY for all modes |
| | B2pvfbH045q | Annex B |
| BCM63148 | A2pvbJ042x3 | Single PHY for all modes |
| | B2pvbJ040h | Annex B |
| BCM63268 | A2pv6F039y4 | Annex A |
| | B2pv6F039y1 | Annex B |
| | A2pv4bF038r2 | 4-band bonding |
| | A2pvbF039y4 | 5-band bonding |
| BCM63381 | A2pvI042r | Single PHY for all modes |
| | B2pvI042r | Annex B |
| BCM63178 | A2pv6L046n | Single PHY for all modes |
| | B2pv6L046m | Annex B |

# 5 Enhancements

**Table 2: Enhancements in 5.02L.07_P1**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-33103 | | [BCM6858X/68560/6836X/6846X/6878X] [UDP Speed Service] UDP Iperf3 Runner acceleration supported with following options:<br>-H to specify HW acceleration by Runner<br>-b -b0 or -B1G should be used for 1Gbps interface, -b10G should be used for 10Gbps interface<br>-l supported<br>-R supported<br>-P multi flow not supported for UDP |
| SWBCACPE-34284 | | [WLAN] Remove lltd from reference software |
| SWBCACPE-35325 | CS7415268 | [BCM6858X/5504X/68560/6836X/6846X/6878X] Port loopback functionality extended to WAN port. Configured via rdpa_port_loopback_set.<br>Example:<br>bs /bdmf/configure port/index=wan0 loopback={type=fw,op=local,wan_flow=2,queue=1} |
| SWBCACPE-35521 | | [PHY] Added MACsec support for BCM84891LM/84891M/54991M/54991EM per 802.1AE standard |
| SWBCACPE-35880 | | [BCM55045] new counter in port object rx_frag_discard to count discarded fragments in reassembly task per SID |
| SWBCACPE-35927 | CS8391259, CS8590727 | [BCM63178/47622/6750/6755] [TMCTL] Added support for queue stats from Archer using TMCTL API/CLI. |
| SWBCACPE-36005 | | [Data model][WLAN] Change configuration default for WPS (Wsc_mode) from disabled to enabled. |
| SWBCACPE-36017 | CS9223670 | [BCM6858X/68560/6836X/6846X/6878X/5504X/63158] [Runner Egress Queues] [TMCTL] Default LAN queue size increased to 1MB; except when packet buffering memory (FPM_POOL) is set to 16 MB, in this case queue size of 400 KB is used. Minimal buffer reservation configured to reserve single packet per queue. High priority is given to PON OMCI TCONT queues. |
| SWBCACPE-36202 | CS4981095, CS5345401, CS7735943, CS7744137, CS9190901 | [TMS] TMS 6.91 enhancement for external kernel module support |
| SWBCACPE-36297 | | [BCM5504X/6858X/68560/6836X/6846X] [Runner] [Protocol Filter] Protocol Filter logic modified so that when the protocol filter is set to forward IPv4 traffic, ARP and RARP packets are forwarded rather than dropped. |
| SWBCACPE-36307 | | [BCM6858X/5504X/68560/6836X/6846X] [Runner Bridge] Default VID per port<br>New boolean attribute 'is_default' is introduced in the VLAN object. Once VLAN object is configured as a default VID, untagged traffic from the port is treated as if it is received with this VID. If no default VLAN is configured, untagged traffic is considered the same as 'any tag' and using the port configuration.<br>The default VID or port configurations are used for bridging (including SA/DA lookup configurations), filtering logic (ingress filters and protocol filters), Ingress classification, Ingress QoS discard priority and VLAN counters.<br>Untagged packets are counted on the default VID of the ingress and egress ports. If no default VID is configured, packets are counted on the port counters only.<br>Default VID is used as VID value for building the Ingress Classifier key. if no default VID is configured, value 0 is used.<br>Changing default VID will require deletion of vlan object and configuring it with new parameters. |

**Table 2: Enhancements in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-36397 | | [BCM6858X] Support for 1.8V/2.5V/3.3V RGMII modes |
| SWBCACPE-36407 | | [NGPON] Added support of new fields in various PLOAMs defined in G.989.3 amendment 2.<br><br>Added support of new Reboot DS PLOAM defined in G.989.3 amendment 2 and G.9807.1 Amendment 1. Also supported in XGPON.<br><br>Inclusion of Activation Debug Information field in the Serial Number ONU US PLOAM, and interpretation of new fields in DS Burst Profile PLOAM can be enabled in compile time by enabling G989_3_AMD2 define in /bcmdrivers/broadcom/char/gpon/impl6/Makefile.<br><br>Implemented dwell timer, value can be changed e.g.<br>gponctl setDWELL_TIMER --dwell_timer 30000 |
| SWBCACPE-36408 | | [PON] Flow acceleration in SFU mode can be done either by Ingress Classifier or by Flow Cache.<br>Flow Cache will be used if IpClassMethod scratchpad key is set to FC value; otherwise Ingress Classifier will be used.<br><br>Known limitations: Unidirectional flows are not accelerated if FlowCache acceleration is selected. |
| SWBCACPE-36430 | | [EPON][DPoE] Support classification on TCP/UDP port without specified IpProtocolType. |
| SWBCACPE-36446 | | [PON] Support PPP dial-on-demand with below limitations:<br>1) Support in TR98 only.<br>2) Support in CTC data module.<br>3) Support IPv4 only |
| SWBCACPE-36447 | | [Userspace] [L2TP] Added support for multiple concurrent L2TP tunnels. |
| SWBCACPE-36472 | | [BCM47622/6755] Added Serdes OTP support. |
| SWBCACPE-36477 | | [PON] Added support for Linux Bonding driver with the following limitations:<br><br>1. Only LAN side bonding is supported<br>2. For Multicast traffic only static bonding configuration is supported i.e. adding/removing interface in bonding group requires reboot.<br><br>Refer to Kernel_Bonding_Driver_AppNote.pdf and Linux bonding tutorials for configuration. |
| SWBCACPE-36481 | CS8627107 | [BCM68901/68910] Added /proc/pmd/reset entry to control the PMD reset mode |
| SWBCACPE-36565 | CS8705639 | [BCM63178/47622/6750/6755] [ARCHER] [Ingress QoS] Added Ingress QoS support based on Ether-type and L3 protocol. |
| SWBCACPE-36636 | | [BCM6858X/68560/6836X/6846X/6878X/5504X/63158][DHD Runner Offload] Improve Background Access Category throughput when other Access Categories are active. |
| SWBCACPE-36695 | | [BCM63178/47622/6750/6755] [ARCHER] Added support for L2/L3 GRE Tunnel traffic acceleration. |
| SWBCACPE-36711 | | [EPON] support only dump error OAM messages for debugging. Usage: "eponctl oammsg dump <link> <off\|alarm\|normal\|error\|all>" |

**Table 2: Enhancements in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-36717 | CS8022384 | Combo Image format is a term describing a concatenation of several individual Broadcom CPE flash images in single file. In the beginning of this single file, there is a header; a directory listing the individual CPE images and the byte offset in the file. The benefit for the telecom operator is that the TR-069 ACS server will need to maintain a single software upgrade file for all types of deployed CPE.<br><br>The actual image download is done using HTTP protocol GET command. If the HTTP server supports "Accept-Ranges" command, the HTTP client in CPE will request the exact byte range containing the individual Broadcom image matching the CPE type. That way, the amount of bytes on wire equals roughly to the sum of Combo Header size and individual Broadcom image size. |
| SWBCACPE-36740 | | [Kernel] Backport ARM_MODULE_PLTS feature and introduce BUILD_ARM_PLTS which can be selected for builds that require large modules. e.g. error with "vmap allocation for size XXX failed" when loading modules. |
| SWBCACPE-36766 | CS8712299 | [Flow-cache] Added PPPoE Session ID as secondary lookup key for the accelerated flows to take care of multiple PPP sessions concurrently between same client+server pair. |
| SWBCACPE-36777 | | [BCM63178/47622/675X] [ARCHER] WRED support is added for Ethernet Interfaces. |
| SWBCACPE-36812 | CS3974901 | [BCM6858X/5504X/68560/6836X/6846X] [Runner Ingress Classification] Enable Packets and Bytes counters per flow<br>New attribute 'stat_type' is added in ingress classifier result that can be set to either<br>packets (default) or packets_and_bytes. Example for setting packets and bytes:<br>bs /b/c ingress_class/dir=ds,index=0 flow[1]={result={stat_type=packets_and_bytes, disable_stat=no}}<br>Flow configured for packets and bytes consumes 2 counters.<br>IC flow counters enlarged by 256 counters for BCM6858X and BCM55040.<br>number of counters in the bank can be seen using:<br>bs /b/e system counter_cfg |
| SWBCACPE-36827 | CS8786587, CS8989082 | [Ethernet][SERDES] Enhanced Auto-link speed detection mechanism by adopting random time shift during each speed iteration. |
| SWBCACPE-36928 | | [WLAN] Support kernel NVRAM dump separately. (nvram kdump/kshow) |
| SWBCACPE-36972 | | [OVS] Broadcom supplied License is required to enable Flow-cache for OVS flows. Existing OVS customers must request License from Broadcom. |
| SWBCACPE-37048 | | [DHD Runner Offload] Reserved Memory allocation for TX flowring must be set to either 0 Mb for no offload or the size specified in section 3.1 in DHD_Offload_AppNote_CPE-AN2302.pdf. Any memory size in between results in failure to load DHD and system may boot with wrong WLAN configuration. |
| SWBCACPE-37115 | | [BCM68901/68910] Moved PMD proc API to a dedicated directory instead of under proc root:<br>/proc/pmd/calibration<br><br>Added user space API to control PMD reset state from pwrctl library:<br>int pwr_api_pmd_get(char *param, int *enable);<br>int pwr_api_pmd_set(char *param, int enable);<br><br>Integrated PMD reset to pwrctl tool:<br># pwr config --pmd on\|off<br># pwr show --pmd |

**Table 2: Enhancements in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-37123 | CS8593783, CS9732364 | [SpeedService] Add TCP Selective acknowledgment support for download in Runner mode |
| SWBCACPE-37140 | CS8655439, CS8694144 | [Flow-cache] [Multicast Learning] Enable multicast learning for all clients i.e. evict existing flows from hardware whenever a new client joins the group and relearn flow for all the clients. "fcctl config --mcast-learn 2" option can be selected to disable this behavior to maintain backward compatibility. |
| SWBCACPE-37225 | CS8956831 | [Flow-cache] Flow does not get accelerated when nf_conntrack is not in ASSURED state. |
| SWBCACPE-37313 | CS8782754 | [SpeedService] Add multistream and multiprocess support for TCP download and upload |
| SWBCACPE-37340 | | [Flow-cache] Release binaries are different for same CPU architecture due to Kernel compilation flag dependecies. Flow-cache is made independent of Kernel compliation flags. |
| SWBCACPE-37408 | CS9115739, CS9434926 | [BCM6858X/6836X/6846X/68560/6878X/5504X] New attribute 'min_packet_size' in rdpa_port_dp_cfg_t to enable receiving packet size of 60B on PON. Can be configured via rdpa_port_cfg_set(). |
| SWBCACPE-37422 | CS6432680 | [BCM6858X/5504X/68560/6836X/6846X] [multicast] rx_valid_bytes counter added to IPTV object statistics: iptv->iptv_stat->rx_valid_bytes |
| SWBCACPE-37444 | | [BCM63158] [XTM] Support added for port based rate limiting/shaping on DSL interface(s) using runner firmware.<br>Usage : Refer to the xtmctl help for ratelimit. |
| SWBCACPE-37491 | | [BCM47622/6755] [ARCHER] Support per-port and per-queue traffic shaping for WAN and LAN Ethernet ports. Disable external Switch global back-pressure (when available), avoiding potential head-of-line blocking between Ethernet ports with different speeds or congestion levels. |
| SWBCACPE-37520 | CS8999636 | [BCM5504X/6858X/68560/6836X/6846X/6878X] Added 'all_traffic' as another traffic type option in port ingress rate limit to limit all traffic from the specified port. |
| SWBCACPE-37542 | | [OVS] OpenVSwitch package is upgraded to version 2.8.7 |
| SWBCACPE-37596 | CS8517749 | [Flow-cache] Disable flow cache acceleration for DNS packets. |
| SWBCACPE-37660 | CS8825761 | [Flow-cache] [Multicast] Added flowcache acceleration support for LAN GRE Multicast clients. Hardware acceleration is not supported. |
| SWBCACPE-37667 | | [BCM63178/47622/6750/6755] [ARCHER] Enhanced Flow hash table collision mechanism. |
| SWBCACPE-37684 | | [BCM6846X] [EPON] Support EPON DPoE with GWO and O profile. The default maximum link number is 4. |
| SWBCACPE-37793 | CS9261233 | [Flow-cache] Added capability to disable/enable 4o6 fragmentation support in flow cache. Default behavior is enable. |
| SWBCACPE-37813 | | [OVS] [Kernel] Backported kernel patch to enable Conntrack zones with out dependency on NETFILTER_XT_TARGET_CT required by OVS. |
| SWBCACPE-37848 | | [Data model][WLAN] Change configuration default of wlTaf from 0 to -1 for taf_enable to be set as -1 to use the driver's default behavior. |
| SWBCACPE-37922 | CS8719850, CS9262643 | [Flow-Stats] Export Flow Statistics Query API for kernel modules usage. Refer to latest FLOWSTATS_AppNote for details. |
| SWBCACPE-37927 | | [WLAN][wlconf]Added support to read default value of -1 for taf_enable. |
| SWBCACPE-37936 | | [BCM63178/6750] Support 8 Egress Queues on the Ethernet WAN Port. Refer to MiscDataPathAppNotes-96XXX-ANxxx-R.pdf in /docs/data_customer_docs directory. |
| SWBCACPE-37968 | CS9321905 | [BCM63178/6750] Enable I2C-bitbanging driver |
| SWBCACPE-37985 | | [BCM6858X/6836X/6846X/68560/6878X/5504X] Support Ingress QoS according to DSCP<br>If ingress packet is untagged and IP, Ingress QoS can be resolved according to DSCP by dscp_to_pbit table (with qos_mapping=yes) linked to ingress port, together with pbit_to_dp_map to resolve priority as previously supported |

**Table 2: Enhancements in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-38020 | CS9216895 | [BCM6858X] Added support of SerDes lane shut-down |
| SWBCACPE-38163 | | [xDSL] Upstream port rate shaping API/CLI command updated to remove redundant MBR option. |
| SWBCACPE-38376 | | [WLAN] Update impl29 WLAN software package version to 9.10.178.92 |
| SWBCACPE-38438 | | [WLAN] Update impl32 WLAN software package version to 7.14.170.43 |
| SWBCACPE-38840 | CS8712299 | [BCM63158/63138/63148/4908/62118] [Runner] Added PPPoE Session ID as secondary lookup key for the accelerated flows to take care of multiple PPP sessions concurrently between same client+server pair. |

# 6 Bugs Fixed

**Table 3: Bugs Fixed in 5.02L.07_P1**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-18380 | | [GPON] Incorrect values of Optical Signal Level and Transmit Optical Level in OMCI ANI.G ME. |
| SWBCACPE-30607 | CS4981095, CS5345401, CS7735943, CS7744137 | [TMS] Slab/memory corruption noticed due to Kernel compilation flag dependencies in TMS binaries. |
| SWBCACPE-31276 | | [NGPON2] Laser monitoring features not supported for XFP optical modules |
| SWBCACPE-35681 | | [BCM68901/68910] wanconf initialization of WAN GBE port failed on boards with PMD |
| SWBCACPE-35915 | CS8717890 | [BCM6878X][USB] CPE can crash during USB OHCI driver initialization |
| SWBCACPE-35918 | | [BCM6878X][SpeedService] UDP acceleration is not functional |
| SWBCACPE-35961 | | [BCM6878X][SpeedService] TCP runner mode acceleration doesn't work |
| SWBCACPE-35966 | CS8399969, CS9626189 | [DHD Runner Offload] [BCM6858X/68560/6836X/6846X/63158] Kernel exception as a result of corrupted SKB indices bypassing SKB validation checker for DHD offload traffic from host. |
| SWBCACPE-36041 | CS7845592 | [SIP] The software IP phone can't call the POTS line phone which connect to same CPE when the route WAN service enabled NAT. |
| SWBCACPE-36096 | | [SpeedService] CPE crashing when trying to run 2 sessions of TCP Speed Service at the same time using wget -H option |
| SWBCACPE-36119 | CS7836982 | [BCM6836X/68560/6878X] Enabling RX mirroring of WAN control traffic may cause issues in datapath |
| SWBCACPE-36148 | CS8292454, CS8803768 | [PON] System takes longer than 20s to load the configuration file if it's larger than 90K bytes |
| SWBCACPE-36207 | CS8874989, CS9329588 | [ENET] ethctl media-type command fails to configure some speeds |
| SWBCACPE-36209 | | [Linux] [Bridge] [WLAN] Patch introduced by CONFIG_BCM_KF_BYPASS_STP_FOR_LOCAL could lead to memory corruption if Bridge netfilter is enabled. |
| SWBCACPE-36217 | CS8438281 | [ALL] DLNA can't recognize some formats |
| SWBCACPE-36237 | CS7643437 | [BCM6858X/6836X/6846X/68560/6878X] GRE downstream traffic is not accelerated when GRE tunnel is configured without 'key' option |
| SWBCACPE-36242 | CS8488873 | [BCM63138/63148/62118/4908] TCP/UDP packets with combined (L2+L3+L4) header length greater than 110 bytes would cause traffic issues and/or complete traffic stall. |
| SWBCACPE-36289 | | [WLAN] Fixed IPv6 WMF multicast not working over DWDS interface with NIC based driver. |
| SWBCACPE-36309 | CS8587658, CS9626189 | [BCM6858X/68560/6836X/6846X/63158][DHD Runner Offload] Fix "release of not allocated SKB" error in some scenarios |
| SWBCACPE-36336 | CS8446862, CS9502613 | [EPON] ONU should reboot itself automatically when EPON MAC fatal error happen. |
| SWBCACPE-36366 | CS8655439, CS8694144 | [Flow-cache] [Multicast] Error in Runner flow creation when a second client joins the same SSM group and source when multicast learning is enabled. |
| SWBCACPE-36367 | | [NGPON] gponctl getState can't display NGPON operational states such as O8 and O9 |
| SWBCACPE-36372 | CS8401443 | [PON] Removing vlanctl rules sometimes leave rdpa vlan_action objects. |
| SWBCACPE-36376 | CS8365085 | [EPON][AE] WAN port can't be link up when set WAN rate auto sensing |
| SWBCACPE-36383 | | [Flow-cache] [Multicast] [DHD Runner Offload] When multicast learning (fcctl config --mcast-learn) is enabled, not all wifi clients from the same BSS can stream the same multicast group/stream, the first joined client won't be able to stream video. |

**Table 3: Bugs Fixed in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-36395 | CS8739714, CS8745285, CS8768083, CS8770551, CS8870012 | [BCM47622/6755] Repeaters are not able to connect to upstream AP. A change in how the interfaces are created in Linux and associated with the bridge introduced this problem. |
| SWBCACPE-36405 | | [NGPON] Support encrypted OMCC channel per G.987.3 chapter 15.5.1 |
| SWBCACPE-36415 | | [WLAN] Fix an issue that the AP, when operating WMF multicasting with dhd in non-offload mode, crashes after rebooting the associated DWDS repeater. |
| SWBCACPE-36422 | | [Speed Service] When image compiled with BRCM_DRIVER_SPDSVC=m and without BRCM_DRIVER_SPDTEST=m, Speed Service application might not work in some cases. |
| SWBCACPE-36425 | CS7436294, CS8455425, CS8872684, CS9164415, CS9169371, CS9208609, CS9253884 | [BCM5504X/6858X/68560/6836X/6846X/6878X] [Runner Port Mirroring] WAN port RX mirroring is causing packet buffers leakage |
| SWBCACPE-36433 | CS9478648 | [UNIMAC] Unimac needs to be held in reset much longer when PHY linked at 10FD speed for proper clock sync between MAC and PHY. |
| SWBCACPE-36436 | CS7728740 | [PON] TX packets multicast counter of veipX interface remains 0 for IPoE service. Rx packets multicast counter of veipX interface is incorrect (counts approx. three times more packets) |
| SWBCACPE-36443 | | [OVS] [Multicast] [DHD Runner Offload] Multicast traffic acceleration towards DHD offloaded clients does not work. |
| SWBCACPE-36450 | CS8491508 | [BCM5504X/6858X/68560/6836X/6846X/6878X] [Runner] [Multicast] IP fragments are not classified as multicast traffic |
| SWBCACPE-36464 | CS8715469, CS8719372, CS9410674 | [OMCI] TR-247 test case 6.2.14 fails (the RDPA packet drop queue thresholds configuration is missing) in OMCI scrambling case. |
| SWBCACPE-36465 | CS9087830, CS9446754 | [BCM5504X/6858X/68560/6836X/6846X/6878X] [Runner] [Bridge] Kernel crash as result of linking WLAN port to a bridge object, rather than ignoring this redundant configuration as WLAN port forwarding is accelerated only via FlowCache. |
| SWBCACPE-36475 | CS8127475 | [BCM6858X/6836X/6846X/68560/6878X/5504X] Deleting egress rate limiter may cause packet drops on egress queue |
| SWBCACPE-36507 | CS8650554 | [BCM63158] Under stress DHD RX environment with other ongoing traffic, Runner's buffer management block might get corrupted. |
| SWBCACPE-36530 | CS8650486 | [Flow-cache] Kernel may crash due to uninitialized variable when handling "ether+ipv4+gre+ipv4+ether+esp" packets. |
| SWBCACPE-36541 | CS8774593 | [BCM47189] [OVS] Failed to build 947189GW_NOCMS_OVS profile. |
| SWBCACPE-36554 | CS8503263 | [USB3] Incorrect register setting when USB3 is disabled. This bug does not affect any functionality as usb30_ctl1 is not used when USB3 is disabled. |
| SWBCACPE-36569 | | [WLAN] Reset the hooks in wl_pktc_detach() to fix "Bad mode in Synchronous Abort handler detected" with call trace LR is at br_handle_frame_finish, found in internal testing. |
| SWBCACPE-36572 | CS8177185 | [BCM63158] [Runner] CPE may stop forwarding traffic towards LAN ports due to a race conditon related to ACB handling in runner firmware. |
| SWBCACPE-36578 | | [EPON][DPoE] ONU deregister after disabling/enabling pon if ONU has DPOE rules for multicast data. |
| SWBCACPE-36583 | | [OVS][Multicast] OVS Multicast datapath flow evicted after acceleration. |
| SWBCACPE-36586 | CS8775785 | [PON] Fast path acceleration with l2_class for packets not going through a bridge and for WLAN inter-BSS packets could not work well |

**Table 3: Bugs Fixed in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-36587 | | [PON][WFD] WLAN client sometime can't create TCP session to WAN side when using IPv6. |
| SWBCACPE-36615 | CS8074808, CS8838478, CS9120427, CS9392163 | [DHD Runner Offload] [Multicast] [BCM6858X/68560/6836X/6846X/63158] Incorrect operation when two WiFi clients join the same group from different radios and one of them leaves the group. |
| SWBCACPE-36619 | | [NGPON2] Various handover process improvements: <br> 1. In case of channel handover failure ONU will unconditionally switch to original channel without notifying the OLT <br> 2. Channel index in Channel_Profile PLOAM has to be less than total number of WDM channels <br> 3. Tuning_Response PLOAM with Complete_u and Rollback return codes is sent via one shot PLOAM transmission mechanism and can easily be missed by OLT <br> 4. TO4 timer is stopped once Ranging_Time PLOAM is received in O8/O9 states <br> 5. In O9 state Ranging_Time PLOAM MIC is checked with default PLOAM Integrity Key <br> 6. Encryption keys are not re-generated after handover is completed <br> 7. SFC comparison interrupt remains armed even if NGPON2 state machine transits from O5 to O6 and then to O1. |
| SWBCACPE-36620 | | [BPM] Out of bound memory access when allocating buffers during initialization. |
| SWBCACPE-36622 | CS8376583 | [BCM63158] [Runner] [DSL] Shorter than 16 Bytes packets received from DSL interface are discarded. |
| SWBCACPE-36627 | | [SPINAND] Correct a case where, when Linux reads certain SPINAND device that sometimes require temporarily disabling ECC, it may not re-enable ECC for subsequent reads. |
| SWBCACPE-36655 | CS8770194 | [Flow-cache] Under certain conditions, interface stats are not reported correctly. |
| SWBCACPE-36656 | CS8797457 | [BCM631X8/4908/62118/6750] [Ethernet] [Switch] Unable to disable softswitching once enabled. |
| SWBCACPE-36657 | | [CFE] When a device is forced to boot an older image (not the newest image), the DTB for the newer image may be mistakenly used by CFERAM. |
| SWBCACPE-36661 | CS7418853 | [PON] When removing RDPA egress_tm and creating a different one, packets might be forwarded to the wrong port. |
| SWBCACPE-36663 | | [BCM5504X/6858X/68560/6836X/6846X] Traffic blocked when sending traffic in fast path when QoS Type is FlowCache |
| SWBCACPE-36679 | | [BCM63178/47622/6750/6755] [ARCHER] DSCP remarking in 6rd flows results in packet corruption. |
| SWBCACPE-36685 | CS8804835 | [RDPA BRIDGE] Enslaving WLAN SSID interfaces sharing same radio to multiple Linux bridges will fail. |
| SWBCACPE-36690 | CS8716994 | [PON] PON link state change from O5 to O6 state will remove all accelerated flows from WAN interface |
| SWBCACPE-36701 | | [EPON][DPoE] support classification on UDP/TCP port with multiple '!=' operator |
| SWBCACPE-36730 | CS8829968 | [BCM63158] [Runner] Crafted packet with IP length greater than actual packet size could result in buffer leak in Runner network processor. |
| SWBCACPE-36737 | CS8801242 | [BCM6858X][EPON][PKTCBL] ONU returns error to OLT after receiving MAC Learning Max Allowed (0xD7/0x0108), MAC Learning Min Guarantee (0xD7/0x0107), Dynamic MAC Table (0xD7/0x0103) for virtual interface. |
| SWBCACPE-36782 | CS8846736 | [BCM63138/63148/621184908] Rate Limiter might be configured with incorrect/insufficient burst size that are not enough to maintain the configured rate. |
| SWBCACPE-36784 | CS8831553, CS9041568, CS9410674, CS9463887 | [Multicast] Failure to join group if sending IGMPv3 report with source ip 0.0.0.0 |

**Table 3:  Bugs Fixed in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-36799 | | [VLANCTL] SKB protocol (skb->protocol) field not updated with correct protocol value after removing VLAN TAG(s). |
| SWBCACPE-36811 | | [PHY] Upgraded firmware for BCM8489xL/M to v1.0.13 and BCM5499xL/M to v1.1.3 |
| SWBCACPE-36825 | | [BCM63178/47622/6750/6755] [ARCHER] Command list related error prints displayed on console during avalance TCP WLAN traffic over 6rd tunnel. |
| SWBCACPE-36826 | | [NAND] Linux will now skip bad blocks before looking for a magic number to determine file-system type |
| SWBCACPE-36853 | | [EPON][DPOE] One clause can exist multiple same custom fields now. |
| SWBCACPE-36856 | CS8332370, CS8875483, CS9181618 | [Flow cache] Kernel crash is noticed due to a missing NULL pointer check when flow list is empty. |
| SWBCACPE-36867 | | [GPON] Missing APIs to access Sleep_Request and Sleep_Allow PLOAM counters. |
| SWBCACPE-36902 | | [BCM63158] [JUMBO] Host transmitted Jumbo packet (larger than 1990 bytes) towards DSL interface gets corrupted. |
| SWBCACPE-36903 | CS8848039 | [BCM63138/63148] Incorrect padding is applied for short packets in various ATM/PTM modes, resulting in interop issues with specific DSLAM(s)/BRAS. |
| SWBCACPE-36926 | CS8769600 | [BCM63158] First IP fragment packet could be forwarded by Runner which is an unexpected behavior. It should always be handled by the host/Linux network stack. |
| SWBCACPE-36930 | | [ALL] TCP Sequence number was not adjusted correctly when RTSP have interleaved transport. |
| SWBCACPE-36935 | CS8870216, CS9046580 | [Flow-cache] IPv4 checksum error for upstream ISAKMP traffic over LW4o6 tunnel. |
| SWBCACPE-36939 | CS8870129, CS9137318, CS9181618, CS9337453 | [Flow-cache] Incorrect flows gets evicted (and re-learnt) from flow-cache, whenever a Wifi client disconnects. |
| SWBCACPE-36945 | | [DPOE] EPON App crash when using 2048 bit Device Certificate |
| SWBCACPE-36951 | CS8806836 | [Multicast][DHD Runner Offload] Multicast traffic to WLAN VLAN interface with no tags not accelerated by hardware. |
| SWBCACPE-36963 | | [BCM6858X] [Mirroring] RX port mirroring not functional on LAN0 or LAN4 |
| SWBCACPE-36980 | BCM | [NETFILTER] ebtables TOS target does not work for PPPoE packets on ARM platforms. |
| SWBCACPE-36990 | BCM | [Flow-cache] IPv4 checksum errors in ToS mangled bridged PPPoE pass-thru traffic flows when L2 acceleration mode is enabled. |
| SWBCACPE-37034 | CS9164415, CS9169371, CS9208609, CS9253884 | [BCM5504X/6858X/68560/6836X/6846X/6878X] [Runner Port Mirroring] LAN TX port mirroring is causing FPM error |
| SWBCACPE-37035 | CS8074808, CS8838478, CS9120427, CS9173273, CS9392163 | [DHD Runner Offload] [Multicast] [BCM6858X/68560/6836X/6846X/63158] Incorrect operation when two WiFi clients join the same group and one of them leaves the group. |
| SWBCACPE-37082 | | [CMS] QoS classification rules involving LAN side queue will not take effect if that port is down during boot up in PURE181 mode. |
| SWBCACPE-37094 | CS8999367 | [Ethernet] Ethner driver managed ports are also reported to SWMDK, resulting in link status mismatch. |
| SWBCACPE-37114 | CS8953071 | [BCM5504X/6858X/68560/6836X/6846X] [Runner VLAN counters] TX VLAN counters are incremented for IPTV traffic while RX counters aren't incremented |

**Table 3: Bugs Fixed in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-37122 | CS9036313 | [OMCI] Set failure when changing the IP Host Config data ME IP options attribute from dynamic IP to static IP mode. |
| SWBCACPE-37127 | CS9016116 | [Ethernet] Crash when configuring non PHY crossbar port as WAN port. |
| SWBCACPE-37136 | CS9010700, CS9256006 | [OMCI]The creation of the WAN interface in CMS clears the OMCI-configured igmp-mcast-interfaces in mcpd.conf. |
| SWBCACPE-37145 | CS8074808, CS8838478, CS9120427, CS9392163 | [BCM6858X/68560/6836X/6846X][DHD Runner Offload] [Multicast] IPTV traffic failure after overnight stress with iptv "lookup_method: group_ip" |
| SWBCACPE-37147 | CS8870216, CS9046580 | [Flow-cache] LW4o6 tunnel packets have L3 and L4 checksum errors. |
| SWBCACPE-37159 | CS8882109, CS9225826 | [PON] [Multicast] On bridged service, multicast traffic does not flow after bursty IGMP join / leave messages. |
| SWBCACPE-37160 | | [BCM6858X/6836X/6846X/68560/6878X/5504X] Possible buffer leakage when TX mirroring is done at high rate |
| SWBCACPE-37162 | | [BEEP][PON] The BEEP binaries in the BEEP add-on package are compatible with TR-181 and Hybrid mode data models. <br> To build a PON profile supporting BEEP, use DMHYB.arch to set hybrid data model and PURE181.arch to set TR-181 data model <br> Example <br> ./release/maketargets 96858GWO+BEEP+DMHYB <br> -OR- <br> ./release/maketargets 96858GWO+BEEP+PURE181 <br> The 96858GWO_BEEP image supports hybrid mode data model. |
| SWBCACPE-37163 | CS8925578 | [BCM5504X/6858X/68560/6836X/6846X] [Runner] [Ingress Classifier] [VLAN counters] VLAN and ingress classifier counters are not cleared before reused |
| SWBCACPE-37164 | | [BCM5504X/6858X/68560/6836X/6846X] PBIT remarking is not working for packets with 3 VLAN tags at ingress and push action |
| SWBCACPE-37197 | CS9337552 | [BCM63178/6750] [Switch] Under certain scenarios, strict priority queue scheduling does not yield expected results due to incorrect XOFF threshold configuration. |
| SWBCACPE-37203 | CS8986450 | [Flow-cache] Kernel panic occurs when NAT table is full and continuous Hping3 traffic flowing. |
| SWBCACPE-37269 | CS9113107 | [PHY] Upgrade firmware for BCM5499x PHY to v1.0.14 |
| SWBCACPE-37312 | CS8272306 | [BCM6858X/6836X/6846X/68560/55040] WAN loopback not sustaining line rate |
| SWBCACPE-37314 | CS8965832 | [BCM5504x/6858x/68560/6836x/6846x] [Runner] [ingress filters] Ingress_filter configuration fails after adding/deleting VLAN objects with different ingress_filters configurations |
| SWBCACPE-37325 | CS8961116 | [WLAN] Use global_page_state instead of si_meminfo to not possibly deadlock with nr_blockdev_pages in the call trace. |
| SWBCACPE-37353 | CS9181618 | [Flow-cache] PRBS errors in upstream traffic over LW4o6 tunnel. |
| SWBCACPE-37368 | CS9131109 | [BCM5504X/6858X/68560/6836X/6846X/6878X] [Runner] [UDP Speed Service] UDP Speed Service Runner acceleration is leading to a kernel crash when transmit rate is higher then the actual link rate |
| SWBCACPE-37387 | | [IPv6][RFC7084] CPE didn't reply with ICMPv6 Destination Unreachable to an Echo Request from an invalid prefix |
| SWBCACPE-37389 | | [IPv6][RFC7084] ICMPv6 Echo Request was forwarded from LAN to WAN before IA_PD received |
| SWBCACPE-37391 | CS8844781 | [BCM6858X/6836X/6846X/68560/5504X] Error is printed in CLI when deleting VLAN action per port object |
| SWBCACPE-37420 | CS8946352 | [PON] Disable Dynamic Feed Ring feature when enabling Jumbo 9K packets support. |

**Table 3: Bugs Fixed in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-37436 | | [BCM6858X][DPOE][PKTCBL] TCP Speed Service with integrated iperf3 CLI command fail. |
| SWBCACPE-37452 | CS7867027, CS9082312 | [NGPON2] ONU wrongly identify LOF interrupts as inconsistent PONID event. |
| SWBCACPE-37463 | CS8804816 | [GPON] [ROGUE] After a rogue detection interrupt occurs, re-enabling the interrupt can lead to an interrupt storm.<br>Recommended configurations are:<br>bs /b/c gpon rogue_onu={enable=yes,mode=tx_fault,clock_cycle=1000000}<br>bs /b/c gpon rogue_onu={enable=yes,mode=tx_monitor,clock_cycle=50} |
| SWBCACPE-37477 | CS9143067 | [ALL] statistics on vlan interface are not correct after delete and add a large number of flows |
| SWBCACPE-37505 | CS9173273 | [BCM63158] [DHD Runner Offload] Second DHD client leaving the same stream from the same radio/SSID results in runner memory corruption and complete traffic stall. |
| SWBCACPE-37527 | CS9156693 | [DPI] Netlink broadcast messages queued out of order causing incorrect ordering of messages during bursts of application instance creation/deletion. |
| SWBCACPE-37533 | CS9173273 | [BCM63158] [DHD Runner Offload] Second DHD client joining the same stream from the same radio/SSID results in traffic stoppage on first client as well. |
| SWBCACPE-37576 | | [BCM6858X/68560/6836X/6846X] [GRE] [DHD Runner Offload] Packet loss when GRE tunnel terminated traffic forwarded by Runner to Dongle WLAN. |
| SWBCACPE-37594 | CS9224160 | [BCM63178/6750] Kernel crash when port#3 of integrated switch (SF2) is removed from board parameters. |
| SWBCACPE-37603 | CS9292742 | [BCM6858X/6836X/6846X/68560/6878X/5504X] Queue Minimum buffer reservation threshold can be modified after queue creation |
| SWBCACPE-37614 | | [BCM63178/47622/6750/6755] [ARCHER] Race condition between Archer and WLAN-RX-Miss thread could result in thread not waken up by Archer and stops all WLAN-RX flow miss traffic processing. |
| SWBCACPE-37650 | CS9247247 | [DPI] Crash during dpid init with large numbers of flows. |
| SWBCACPE-37652 | | [BSP][WLAN] Adds -DWIRELESS to bcmdrivers/opensource/char/plat-bcm to fix an issue that reset button does not restore default WLAN nvram, observed with 47189. |
| SWBCACPE-37661 | CS9254823 | [PON] MDM lock failure when the ONU veip0.x interfaces are getting IP addresses via DHCP. |
| SWBCACPE-37703 | CS9246014 | [PON] Board can hang due to a deadlock during WAN SERDES configuration. |
| SWBCACPE-37704 | | [BCM6858X] MDIO driver might get stuck in busy state |
| SWBCACPE-37728 | | [BCM6858X/6836X/6846X/68560/6878X/55040] Upstream may get stuck after dynamically switching WAN interface between GBE and AE |
| SWBCACPE-37746 | CS9292651 | [BCM63178/6750] LAN to/from bridged ethWAN traffic failure when re-enable hw-switching. |
| SWBCACPE-37753 | CS9173250, CS9309075 | [BCM63138/63148/63158/4908/6858X/68560/6836X] [DHD Runner Offload] Incorrect TX operation when large number of stations are connected to BCM43684. Doorbell message for FlowRings >= 480 is incorrect. |
| SWBCACPE-37754 | CS9293712 | [BCM63178/63138] [Ethernet] [Switch] Unable to set multiport MAC on IMP Port resulting in IEEE1905 related issues. When CONFIG_BCM_IEEE1905 is defined, automatically add 1905 multicast address to multiport MAC table. |
| SWBCACPE-37767 | CS9293712 | [Ethernet] Incorrect multiport MAC entry port map for IMP port. |
| SWBCACPE-37776 | CS8401529 | [BCM55045] Toggling a SERDES link state could cause the link to stay permanently down<br>[BCM55045] When disconnecting a SERDES to SERDES link, Runner egress queues aren't flushed |
| SWBCACPE-37783 | | [BCM5504X/6858X/68560/6836X/6846X/6878X] [Runner Port Mirroring] Resources leakage when disabling TX Port Mirroring under traffic |
| SWBCACPE-37788 | CS9269746 | [OMCI] Value of "Total code words" in FEC performance monitoring history data ME not as expected. |

**Table 3: Bugs Fixed in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-37800 | CS9149612 | [DPI] Upgraded DPI engine with fixes from vendor. |
| SWBCACPE-37825 | | [WLAN][wlmngr] Spinoff wlhostapd to start hostapd related app. |
| SWBCACPE-37833 | CS9167383 | [IPv6] fix memory leak in SSK when handling dhcp6c state changed event |
| SWBCACPE-37840 | CS9284926 | [DPI] Service queue info lost when flow reprogrammed after WAN reset. |
| SWBCACPE-37842 | | [CMS] Fix QoS port shaping rate configuration error in PURE181 mode. |
| SWBCACPE-37847 | | [CMS] Fix QoS port shaping configuration not effective after reboot or wire reconnect when using PURE181 data-model. |
| SWBCACPE-37856 | | [BCM6868X/6836X/6846X/68560/6878X/5504X] Datapath may get stuck when sending traffic from CPU under high stress |
| SWBCACPE-37858 | | [TRNG][PON] Low performance in rngtest test |
| SWBCACPE-37882 | CS9212450 | [BCM6858X/6836X/6846X/68560/5504X] Added new miss action option for SA lookup in Port/VLAN objects - "rdpa_forward_action_drop_low_pri"<br><br>Using it packets will be dropped only if the packets were not dropped/trapped by ingress filters, contrary to existing "rdpa_forward_action_drop" option<br><br>Configured using sal_miss_action field in rdpa_port_cfg_set() or rdpa_vlan_mac_lookup_cfg_set() APIs |
| SWBCACPE-37895 | CS9254763 | [BCM6858X/6836X/6846X/68560/5504X] [VLAN counters] VLAN TX counters are not incremented for flooded packets |
| SWBCACPE-37896 | CS9113584 | [BCM6878X] Datapath may get stuck when there's WLAN traffic |
| SWBCACPE-37926 | | [WLAN] Fix an issue that an AP operating in the middle of WMF multicasting to an associated DWDS repeater could crash/memory leak after the repeater is powered down. |
| SWBCACPE-37931 | | [NGPON2] ONU can get stuck on an invalid channel and will not start hunting. |
| SWBCACPE-37937 | CS9109530 | [BCM63178] Packet drops (small packets) were observed while running wlan5G <- 35B DSLwan test. |
| SWBCACPE-37970 | CS9167383 | [CMS] Fix cms application exited due to signal 11 when enabled CMS_MEM_LEAK_TRACING |
| SWBCACPE-37972 | | [WLAN][PON] Packets received on WLAN interface are going through CPU and not through Runner ip_class/l2_class. Happens on 17.10.x WLAN driver + NIC device. |
| SWBCACPE-37975 | CS9338584 | [DPI] Cleaned up error messages; added more detailed debug logging. |
| SWBCACPE-37996 | CS9109530 | [BCM63178] [XTM] Packets shorter than 64 Bytes are not padded correctly. |
| SWBCACPE-37997 | CS9270421 | [XTM] TX queues created with incorrect sizes if connections are not reconfigured after link status change. Issue is not present on platforms following Broadcom reference software design logic. |
| SWBCACPE-38000 | | [DSL] Upstream port rate shaping capability restricted to BCM63158 only (Removed from BCM63178). |
| SWBCACPE-38021 | CS9179885 | [BCM68901/68910] Thermistor resistance to temperature table endianness is incorrect |
| SWBCACPE-38023 | CS8668902 | [BCM63268/63168] [External Switch] EEE interoparability issues due to incorrect MII reg 18 shadow register write sequence. |
| SWBCACPE-38037 | CS8782754 | [SpeedService] In Runner mode only: TCP upload retransmission fails after long ACK timeout |
| SWBCACPE-38038 | | [HTTP]OMCI system configuration HTTP page is not responding |
| SWBCACPE-38047 | CS9397648 | [Flow-cache] PPTP pass-through traffic failure due to incorrect Call-ID. |
| SWBCACPE-38049 | | [WLAN] Fixed a memory leak issue that might occur to the NIC driver. When there is active intra-bss activity between its clients, in case one of the clients moves to associate with the DHD interface on the same gateway, memory leak could occur on the NIC interface. |
| SWBCACPE-38055 | CS9346097, CS9723572 | [Ethernet] Added missing support for "/proc/ethernet/crossbar_status". |

**Table 3: Bugs Fixed in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-38074 | CS8482687 | [BCM55045] RX multicast and broadcast counters for the WAN port cannot be retrieved from RDPA API |
| SWBCACPE-38103 | CS9397648 | [Flow-cache] PPTP over PPPoE WAN traffic contains incorrect pppoe payload length. |
| SWBCACPE-38117 | CS9254508 | [OVS] OVS bridge port STP state is not reflected in HW L2-switch. |
| SWBCACPE-38154 | CS9397648 | [Flow-cache] L2GRE pass-through traffic flow does not get pushed to hardware accelerators. |
| SWBCACPE-38177 | CS9084917, CS9379241 | [BCM6858X/6836X/6846X/68560/6878X/5504X] GEM flow may fail to create after a sequence of create/delete GEM flows |
| SWBCACPE-38229 | CS9127153 | [OVS] In some corner cases, datapath changes in OVS does not take effect if flow is already accelerated by flow-cache. |
| SWBCACPE-38253 | CS 9383838 | [BCM47622/6755] Packet loss at 2.5G link speed due to improper EEE timer value configuration. |
| SWBCACPE-38257 | | [WLAN] Adding/back-porting 6GHz support in kernel. |
| SWBCACPE-38273 | CS9468449 | [ALL] Dhcp client has problem with 0 lease time. |
| SWBCACPE-38277 | | [WLAN] NIC only: small size packet overloading traffic cause high CPU usage and throughput drop-down |
| SWBCACPE-38280 | CS8822104 | [BCM63138/63148/4908/62118] [Runner] A race condition, based on system load, could prevent runner task to complete packet processing resulting in RX traffic stall condition. |
| SWBCACPE-38330 | | [GPON] Rogue ONU detection functionality was disabled by default. <br> Please refer to the application notes (Rogue_ONU_Detection_CPE-AN4100) in the Docs folder describing the new behavior and configuration during init and optical module insertion/removal. |
| SWBCACPE-38372 | | [BCM68901/68910] After re-configuring the WAN type the board could crash during reboot |
| SWBCACPE-38383 | | [GPON] Sleep Request PLOAM message type was incorrectly set to 0x10 instead of 0xA |
| SWBCACPE-38400 | | [1000Base-T PHY] Auto-negotiation is disabled when in 1G fixed speed mode, in contrast to Auto-negotiation section in clause 28 of IEEE 802.3 |
| SWBCACPE-38403 | CS9204091 | [NGPON] Source channel PON TAG is used for PLOAM IK re-generation after protection switch event instead of target channel PON TAG. |
| SWBCACPE-38407 | | [BCM6858X/6836X/6846X/68560/6878X][Flow-Control] Dual bucket policer doesn't remark to yellow color. |
| SWBCACPE-38419 | CS9473183 | [BCM47189] Wrong WFD idx is used after the same client associated with NIC[wl1] then back to DHD[wl0] |
| SWBCACPE-38434 | | [WLAN] [impl32/dhd] Include a fix for scheduling while atomic with (dhd_get_stats [dhd]) in the call trace observed with 5.02L.03+7.14.170.42 |
| SWBCACPE-38456 | CS9279073 | [OVS] Flow actions reallocation in OVS v2.8.x could cause memory corruption. Back ported a fix from latest OVS release. |
| SWBCACPE-38469 | | [Flow-cache] [Path Stats] Exececuting "cat /proc/fcache/stats/path" results in kernel crash when there are a lot of different packet forwarding paths. |
| SWBCACPE-38484 | CS9342724 | [Flow-cache] Due to race condition and insufficient locking, kernel panic may occur if disabliing flow-cache (fcctl disable) while traffic is running. |
| SWBCACPE-38506 | CS9394959, CS9746821 | [BCM63138/63148/4908/62118] [DHD Runner Offload] DHD RX processing could completely stop during a race condition where runner wasn't able to allocate a new buffer and at the same time dongle consumed all the provided RX buffers. |
| SWBCACPE-38509 | CS9128586 | [BCM63138/63148][IPSEC] Fixed occasional data corruption in IPSec packets when the crypto operations were accelerated by the underlying HW assisted crypto engine. |
| SWBCACPE-38526 | CS9100932 | [PON] Some SFP/XFP optical modules, depending on their LBE polarity, can cause rogue behavior |
| SWBCACPE-38563 | CS9658636 | [BCM63178] Wrong TxQ used when large number of PVCs are configured. Extend size of variable for egress queue index to cover all XTM TxQ. |

**Table 3: Bugs Fixed in 5.02L.07_P1 (Continued)**

| ID | CSP Reference | Description |
|---|---|---|
| SWBCACPE-38609 | CS9577443 | [Flow-cache] Bridge FDB aging time is not updated correctly when same MAC address is learnt in multiple bridges. |
| SWBCACPE-38631 | CS9189831 | [DGM] CPU Tx may fail if LAN is repeated connected and disconnected |
| SWBCACPE-38696 | CS9288685 | [BCM63138/63148/4908/62118] [DHD Runner Offload] Same multicast stream towards two or more DHD clients could result in Runner buffer leak. |
| SWBCACPE-38838 | | [stongswan] An intermittent build issue in strongswan's mlibtool/libtool has been resolved |
| SWRDP-3277 | | [BCM6858X/6836X/6846X/68560/5504X] RX VLAN counters mismatch for IPTV packets, fix provided by SWBCACPE-37114, |
| SWRDP-3403 | | [BCM6858X/6836X/6846X/68560/6878X/5504X] RX mirrored PON control frames are corrupted |

# 7 Open Issues in 5.02L.07_P1

**Table 4:  Open Issues in 5.02L.07_P1**

| ID | Description |
|---|---|
| SWBCACPE-10547 | [USB] [BCM63268] USB SMB file transfer throughput degrades over the Far End (FE) interface when voice is enabled. |
| SWBCACPE-14778 | [BCM63268] PTM bonding packet loss on a given operational line when restarting the other line during traffic |
| SWBCACPE-15294 | [GRE] Flow-cache does not accelerate packets over MTU size over GRE tunnel. |
| SWBCACPE-16546 | [BCM63138/63148/4908/62118] Software support for USB Device is discontinued. |
| SWBCACPE-17527 | [63138/63148/62118] UDP packet fragmentation is not supported by Runner. Packets requiring fragmentation (i.e. exceeds flow MTU) are handled by flow-cache. |
| SWBCACPE-29725 | [BCM63158] [GPON] Upstream drop precedence does not work when flow is accelerated by runner. |
| SWBCACPE-29777 | [BCM63268] Zero packet loss (ZPL) forwarding performance drops when ~400 flows are created at once. If the flows are already existing in FAP, no performance drop is noticed. |
| SWBCACPE-30250 | [BCM47189][WLAN] When loading the envram to 47189acr, if the WiFi card was unplugged, on board 47189's radio would not be detected. |
| SWBCACPE-30905 | [DEBUG/BPM] Testing traffic with BRCM_BPM_BUF_TRACKING enabled build profile results in traffic stoppage towards WLAN DHD/Dongle through WFD path. Note: BRCM_BPM_BUF_TRACKING is a debug feature to track BPM buffers and is not supposed to be enabled in regular build profiles. |
| SWBCACPE-31012 | [BCM63138/63148] [XTM] RED/WRED queue creation fails when using WebGUI. |
| SWBCACPE-31917 | [BCM6838X/6848X] [EPON] Upstream Packet based QoS mapping in IP Class is not supported in EPON CTC mode |
| SWBCACPE-32299 | [BCM63158][SPDSVC][DSL] Upstream speed service not achieving full bandwidth with packet size < 600 bytes. |
| SWBCACPE-32583 | [BCM63138/63148] [Runner] 64Byte NAT IPv4 line rate performance dropped to 1920Mbps from 2000Mbps. |
| SWBCACPE-32864 | [BCM6838X/6848X] Speed Service is not working |
| SWBCACPE-33851 | [BEEP desktop] Fix problem of SW fails to compile with Seccomp enabled. |
| SWBCACPE-34713 | [BCM6858X] Packets sent to disconnected LAN port are stuck in egress queue |
| SWBCACPE-34812 | [BCM63158] Some of the ARM UARTs are not enabled. |
| SWBCACPE-35753 | [BCM63138/63148/62118/4908] [GRE] [Runner] 4in6 GRE downstream flows created in runner but do not hit. Traffic gets accelerated by flow-cache in host CPU. |
| SWBCACPE-36097 | [BCM63138/63148] [TCP Speed Test] [DSL] Upstream speed test performance is low for VDSL & ADSL line modes. Customer should enlarge the Runner egress queue size to at least 512 packet deep to achieve the max throughput. Following commands can be used to change the default queue sizes:<br>xtmctl threshold -adsl 512<br>xtmctl threshold -vdls 512 |
| SWBCACPE-36177 | [Kernel] In VOIP enabled builds, where CONFIG_BCM_PRINTK_INT_ENABLED is set, a portion of the kernel panic information is not printed |
| SWBCACPE-36182 | [PON][ENET] ethctl media-type command does not work on SGMII ports |
| SWBCACPE-36226 | [BCM62118/4908] [Runner] 64Byte NAT IPv4 line rate performance dropped to 980Mbps in downstream and 975Mbps in upstream from earlier 1000Mbps. |
| SWBCACPE-36229 | [BEEP] cannot update EE with privilege field in manifest changed. |
| SWBCACPE-36286 | [PURE181][IPv6] IPv4 port forwarding rule does not work when added rule from IPv6 ACS server. |
| SWBCACPE-38475 | [BCM63158] [DHD Runner Offload] IGMP Leave from 3rd offloaded radio (tri-band Wifi products) results in complete traffic stall condition. |
| SWBCACPE-38504 | [Flow-cache] PPTP Pass-through traffic could cause kernel crash after issuing "fcctl disable" command if PPTP kernel module (pptp.ko) is not loaded. |
| SWRDP-2637 | [BCM6858X/68360/6846X/68560/5504X][VLAN action] Remark of inner TPID not working in 'Push always+TPID remark' command for priority tagged packets |

**Table 4: Open Issues in 5.02L.07_P1 (Continued)**

| ID | Description |
|---|---|
| SWRDP-3277 | [BCM6858X/6836X/6846X/68560/5504X] RX VLAN counters not working for IPTV packets |

# Revision History

## 96XXX_Data-RN215-R; February 10, 2020

■ Mandatory maintenance release (v5.02L.07_P1)

## 96XXX_Data-RN214-R; August 1, 2019

■ Updated for v5.02L.07

## 96XXX_Data-RN213-R; February 14, 2019

■ Mandatory maintenance release (5.02L.05p1)

## 96XXX_Data-RN212-R; December 26, 2018

■ Updated for v5.02L.06

## 96XXX_Data-RN211-R; July 24, 2018

■ Updated for v5.02L.05
■ Updates **not** reflected in July 19, 2018 tar release document (*bcm963xxx_relnotes_5.02L.05.pdf*):
  – SWBCACPE-29051
  – Table 10, Broadcom Proprietary Kernel Directory Structure (added "adsl")

## 96XXX_Data-RN210-R; December 1, 2017

■ Updated for v5.02L.04

## Previous Release History

| Revision | Date | Change Description |
|---|---|---|
| 96XXX_Data-RN209-R | May 19, 2017 | Updated for v5.02L.03 |
| 96XXX_Data-RN208-R | December 29, 2016 | Updated for v5.02L.02A |
| 96XXX_Data-RN207-R | September 16, 2016 | Updated for v5.02L.02 |
| 96XXX_Data-RN206-R | June 2, 2016 | Updated for v5.02L.01 |
| 96XXX_Data-RN205-R | February 22, 2016 | Updated for v4.16L.05 |
| 96XXX_Data-RN204-R | September 4, 2015 | Updated for v4.16L.04 |
| 96XXX_Data-RN203-R | April 1, 2015 | **Added:**<br>• Last two lines to Table 20: "Open Source Project References," |
| 96XXX_Data-RN202-R | January 14, 2015 | Updated for v4.16L.03 |
| 96XXX_Data-RN201-R | October 15, 2014 | Updated for v4.16L.02A |
| 96XXX_Data-RN200-R | July 17, 2014 | Updated for v4.16L.02 |
| 96XXX_Data-RN105-R | February 14, 2014 | Updated for v4.16L.01A |
| 96XXX_Data-RN104-R | January 24, 2014 | Updated for v4.16L.01 |
| 96XXX_Data-RN103-R | December 3, 2013 | Updated for v4.14L.04 |
| 96XXX_Data-RN102-R | August 13, 2013 | Updated for v4.14L.03 |
| 96XXX_Data-RN101-R | July 31, 2013 | Updated for v4.14L.02 |

| *Revision* | *Date* | *Change Description* |
|---|---|---|
| 96XXX_Data-RN100-R | July 31, 2013 | Initial release, documenting v4.14L.01 |