



Release Notes

Control Plane-Platform Development Kit 2.11

March 2004



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1. Introduction

The release notes for Control Plane PDK Release 2.11 explain the changes since last release, list of issues fixed in the current release, NPF compliance and lists known issues for the PDK.

Refer to the *Getting Started* document included with the PDK for information on the following:

- System requirements
- The directory structure of the CP-PDK
- How to set up a system to build and run the CP-PDK

1.1 Changes Since Release 2.0

The Control Plane PDK has added the following since Release 2.0:

- Support for Monta Vista* Linux* is added in the Forwarding Plane in this release
- Now CP-PDK can be run with Linux in both FP and CP. This support has been validated for IPv4-4Gb Ethernet Pipeline in the current release. Refer to *FP Module Design Reference* document for Linux FP module design.
- Application Note for PCI Interconnect support is included. This application notes provides details on how to integrate a PCI driver with CP-PDK 2.1 in order to provide interconnect support between Control and Forward planes. Refer to *PCI Application Notes* document for details.
- RCM module has been removed from CP-PDK 2.1 release. Refer to Section 3 for details.
- CP-PDK is integrated with **IXA SDK 3.5**.
- Documentation has been improved by migrating it to HTML-based presentation.

1.2 PDK Documentation

The CP-PDK Overview webpage can be accessed from the CP-PDK hyperlink in IXA SDK 3.5 → Documentation → Software Framework menu. This webpage provides easy navigation to all the documents included with the CP-PDK and provides a brief overview for each set of documents.

2.NPF Compliance

The API implementations are compliant with the following NPF Implementation Agreements:

1. API Framework Lexicon (August 2002)
2. Software API Conventions (August 2002)
3. API Software Framework (August 2002)
4. Interface Management APIs (August 2002)
5. IPv4 Unicast Forwarding Service API (April 2003)

The following Interface Management functions are not supported in the current release of PDK:

1. NPF_IfLAN_SrcAddrGet
2. NPF_IfLAN_SrcAddrSet
3. NPF_IfLAN_MAC_RcvAddrListSet
4. NPF_IfLAN_MAC_RcvAddrListAdd
5. NPF_IfLAN_PromiscSet
6. NPF_IfLAN_PromiscClear
7. NPF_IfLAN_FullDuplexSet
8. NPF_IfLAN_FullDuplexClear
9. NPF_IfLAN_FlowControlTxEnable
10. NPF_IfLAN_FlowControlTxDisable
11. NPF_IfLAN_FlowControlRxEnable
12. NPF_IfLAN_FlowControlRxDisable
13. NPF_IfIPv6UCZoneSet
14. NPF_IfIPv6inv4DstAddrSet
15. NPF_IfIPv6inv4SrcAddrSet
16. NPF_IfIPv6inv4TTLSet
17. NPF_IfIPv6inv4DSCPSet
18. NPF_IfICMPv6RateLimitSet
19. NPF_IfICMPv6RateLimitSet

3. Known Issues

The following are known issues for the current release of the Control Plane PDK:

- CP-PDK is integration tested only with single FE (Forwarding Element) configuration on Intel IXP 2400 Advanced Development Platform.
- The IXA SDK and CP-PDK cannot support associating a prefix entry with multiple next hop addresses. (ECMP is not supported)
- IPv4 Discrete PrefixEntryQuery and NextHopEntryQuery APIs do not support querying multiple entries in a single request.
- IPV4 Unified API support is implemented as a mapping layer above the Discrete APIs. Following are known issues with this implementation:
- Applications using IPv4 Unified API must wait for the previous callback before issuing next request. Not doing so might result in inconsistent state in CP-PDK IPv4 Module.
- Since IXA SDK has support for discrete route tables only the NPF IPV4 unified APIs are mapped to discrete APIs. Hence single Unified API invocation may result in more than two discrete APIs being called. This may have some impact on performance. For example, adding a route entry using discrete APIs will involve two calls, that is, **AddNhop** and **AddPrefix**. However, in case of unified APIs, this will involve one extra Query Call to Forwarding Plane by the mapping layer. Please refer to the *IPV4 Design* Document for further details on the Unified API Mapping Layer.
- Support for adding and deleting multiple entries in a single request is not supported in Unified API mapping layer due to issue 3 mentioned above.
- Address Resolution Table Creation should be done after Prefix/Fib Table Create and **IfIPv4FibSet** calls
- While invoking **NPF_IPv4UC_NextHopEntryAdd**, MediaType of Egress Interface should be correctly put by the application, even if the MediaAddress is not used in the request. For example, if the Egress Interface is Ethernet, Media Type should be **NPF_IF_LAN**. **NPF_IF_NO_MEDIA_TYPE** is interpreted as POS in this release.
- IXA SDK 3.51 IPv4 Core Components require NextHop Entry Addition to be done before corresponding Prefix Entry Addition. The same limitation is applicable to CP-PDK.
- For compiling CP-PDK for DiffServ, over DiffServ-OC48 pipeline, the file bindings.h has to be manually copied from IXA_SDK_3.5/src/applications/ipv4_diffserv/oc48_pos/ingress/include to IXA_SDK_3.5/build/include
- While running CP-PDK on dual IXP development platforms (IXDP 2400 or IXP 2800), same blade id should be used while invoking SDK application entry function (**ix_sa_entry**) on both egress and ingress. For co-located setup, the egress and ingress blade ids must always be set as 1.
- The PDK must be initialized and shut down from an external application such as the Conformance Test Framework. If PDK initialization and shutdown is embedded in the IXA SDK 3.51 System Application, PDK shutdown does not lead to completion.
- There is a bug in Tornado 2.2 that does not allow the Interface Type or the MAC address of the virtual interfaces to be displayed in the shell.
- The MTU size for the directly attached hosts cannot be set to more than 1450 due to an issue in the VxWorks raw socket implementation. (Windriver TSR # 312974)

4. Issues Fixed From Last Release

In Release 2.0, for IPv4 over ATM, **LLC** Table Entry was not being deleted on egress side, while deleting the **NextHop** Entry on Ingress. This has been fixed in this release.

In Release 2.0, adding more than 11 entries simultaneously (using array) in **NextHopEntryAdd** request resulted in garbled last entry in the Forwarding Plane and resulted in crash. This has been fixed in this release.

Appendix A: File Changes Since CP-PDK 2.1

1. Re-implemented the packet handler Linux kernel module in the forwarding plane

Following new files have been added:

src/cp_pdk/ForwardingPlane/FPModule/PacketHandlerManager/src/ix_ph_core_linux_kernel_module.c
src/cp_pdk/ForwardingPlane/FPModule/PacketHandlerManager/inc/ix_ph.h

The contents of the entire file has been changed:

src/cp_pdk/ForwardingPlane/FPModule/PacketHandlerManager/src/pkthndlr_linux_kernel_module.c

Following files have been modified

src/cp_pdk/ForwardingPlane/FPModule/PacketHandlerManager/src/Makefile.linux_kernel

2. The contents of the file src/cp_pdk/common/DataTypes/src/hwaddr.c are modified as follows:

Function npf_hwaddr_addr2char() is removed

Function npf_hwaddr_char2addr() is re-implemented

Function main () is removed.

3. The implementation of the function main () is changed in the file

src/cp_pdk/common/TPCodeGen/src/main.c

4. Removed deadcode form the following files

src/cp_pdk/ControlPlane/PDKManager/src/pdkmgr.c

src/cp_pdk/ForwardingPlane/FPModule/IPV4Manager/src/ipv4_mgr-stub.c

5. Removed the support for APC and Registry calls from the CP-PDK PIL module

src/cp_pdk/common/pil/unix/pilinit.c: References to reg_init() and reg_deinit() functions are removed.
src/cp_pdk/common/pil/unix/Makefile: pilreg.c is removed from getting compiled.

src/cp_pdk/common/pil/vxworks/pil_vx.h : APC related structure definitions removed.
src/cp_pdk/common/pil/vxworks/Makefile: pilreg.c is removed from getting compiled.

src/cp_pdk/common/pil/inc/pil.h: pilreg.h is removed from being included.
src/cp_pdk/common/pil/inc/pil_lnx.h : APC related structure definitions removed.

src/cp_pdk/common/pil/common/persist.c: File replaced by blank file.

src/cp_pdk/common/pil/common/pilapc.c: File replaced by blank file.

src/cp_pdk/common/pil/inc/pilapc.h: File replaced by blank file.

src/cp_pdk/common/pil/vxworks/pilapc.c: File replaced by blank file.

5. Removed compile time warnings from the following files:

src/cp_pdk/fpmodule_core/include/ix_cc_fpm_core.h

src/cp_pdk/fpmodule_core/source/ix_cc_fpm.c

src/cp_pdk/fpmodule_core/source/ix_cc_fpm_msg_helpers.c

src/cp_pdk/fpmodule_proxy/include/ix_cc_fpm_proxy.h

src/cp_pdk/fpmodule_proxy/source/ix_cc_fpm_proxy.c

7. Following obsolete Files have been replaced with empty files

src/cp_pdk/Tools/m2p.pl

src/cp_pdk/Tools/project.template

src/cp_pdk/ControlPlane/PDKManager/src/pdkdynload.c

src/cp_pdk/common/pil/inc/stdint-old.h

src/cp_pdk/common/pil/inc/pilreg.h

src/cp_pdk/common/pil/common/pilreg.c

src/cp_pdk/ForwardingPlane/FPModule/inc/pkt_hndlr_stub_c.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/dl_system.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/ipv4_fwder_uc.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/ipv4_mcast_fwder_uc.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/ix_cci.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/ix_lkup.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/ix_rm.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/l2_config_linux_kernel_module.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/mac_config_linux_kernel_module.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/route_config_linux_kernel_module.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_atm.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_arp.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_atm.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_atm_pos_tx.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_atmrx_cci.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_atmsar.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_classifier_6t.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_classifier_6t_api.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_classifier_6t_hash.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_classifier_6t_hash_comp.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_classifier_6t_msg.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_classifier_6t_stats.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_classifier_6t_utils.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_csix_rx.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_csix_tx.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_dscp_classifier_msghlp.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_eth_rx.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_eth_tx.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_fpm_common.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_fpm_core.h
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src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_fragmentation.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_genex.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_genexts.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_hash_table.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_hash_table128.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_index_pool.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_ipv4.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_l2tm.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_llc_snap_encap.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_mpls.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_msup.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_pos_rx.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_qm.h
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src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_reg_util.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_rtmv4.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_sched.h
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src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_stkdrv.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_stkdrv_common.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_stkdrv_pktclass.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_stkdrv_tm.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_stkdrv_vidd_linux.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_tc_meter_msg_helpers.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/ix_cc_wred_msghlp.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/llc_snap_decap.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/shim_ipv4_mgr.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/shim_list.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/shim_mgr.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/fragmentation/checksum.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/fragmentation/fragment.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/fragmentation/ip4hdr.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/internal/internal_arp.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/internal/internal_error.h
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src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/cc/internal/internal_hash_table.h
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src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/configuration_property.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/counter_64bit.h
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src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/me_xscale_locks.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/memory.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/microengine.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/remote_communication.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/symbols.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/sync_mechanism.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/system.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_buffer.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_communication.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_configuration_property.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_counter_64bit.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_hardware.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_hash.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_me_xscale_locks.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_memory.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_microengine.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_pci_communication.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_remote_communication.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_support.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_sync.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_system.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_tk_input_notify.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/rm/internal/internal_version.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/sa/ix_sa.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/sa/ix_sa_cc_list.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/sa/ix_sa_linux_kernel_module.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/sa/internal/egress_internal_registry_data_linux.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/sa/internal/ingress_internal_registry_data_linux.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/sa/internal/internal_env_data.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/sa/internal/internal_exe.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/sa/internal/internal_registry.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/build/include/sa/internal/internal_sa.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/MeIntrDrv.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/NetTrafficSimInterface.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/PacketSim_dll.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/PortConfigData.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/RDinterface.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/XT_WB_state_console_api.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/XT_WB_xactio_api.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/cmb_api.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/cmb_api_ex.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/core_io.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/dbgMe.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/dbgMeInfo.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/dbgMe_def.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/delay.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/foreign_model_user.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/halMev2Api.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/halMmap.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/hal_dram.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/hal_global.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/hal_mev2.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/hal_scratch.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/hal_sram.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/iostyle.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/ix_ossl.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/ixptype.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/me_constants.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/mmap.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/osApi.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/ostype.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/pciconfx.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/rs_cntl.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/rs_connection.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/rs_udbg_status.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/sem.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/simIo.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/thread.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/uclo.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/uof.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/uof_dbg.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/utils.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/utl_bits.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/utl_crc.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/utl_str.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/xact_vmod.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/xact_vmod_proxy.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/ossl_include/ix_error.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/ix_macros.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/ix_os_type.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/ix_symbols.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/ix_types.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/ix_uint128_type.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/oss.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/vssver.scc
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/linux_kernel/internal_os_types.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/linux_kernel/vssver.scc
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/linux_user/internal_os_types.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/linux_user/vssver.scc
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/qnx/internal_os_types.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/qnx/vssver.scc
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/vxworks/internal_os_types.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/vxworks/vssver.scc
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/win32/internal_os_types.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/win32/vssver.scc
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/xactor_os_api/delay.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/xactor_os_api/osApi.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/xactor_os_api/ostype.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/xactor_os_api/sem.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/xactor_os_api/thread.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/me_tools/include/oss_include/xactor_os_api/vssver.scc
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/bindings.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/bindings_general.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/definitions.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/hardware.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_cc.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_cc_error.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_cc_macros.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_cc_microengines_bindings.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_cc_prop_clients.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_cc_properties.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_config.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_error.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_hardware_configuration.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_macros.h

src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_netmacros.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_os_type.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_symbols.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_types.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ix_uint128_type.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ixp2400_hardware.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/ixp2800_hardware.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/westport_hardware.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/vxworks/ixp2400/ixdp2400.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/vxworks/ixp2400/ixdp2400Pci.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/vxworks/ixp2400/ixdp2400misc.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/vxworks/ixp2800/config.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/vxworks/ixp2800/ixdp2000.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/vxworks/ixp2800/ixdp2000Pci.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/vxworks/ixp2800/ixdp2000misc.h
src/cp_pdk/ForwardingPlane/FPModule/ixaheaders/src/include/vxworks/ixp2800/ixdp2800.h

9. Modified the license information in the following files:

cp_pdk/common/DataTypes/src/hwaddr.c
cp_pdk/common/DataTypes/src/ipaddr.c
cp_pdk/common/DataTypes/src/list.c
cp_pdk/common/DataTypes/src/log.c
cp_pdk/common/DataTypes/src/pdk_callback.c
cp_pdk/common/Encap/inc/fppdecap_npf_ds.h
cp_pdk/common/Encap/inc/fppencap_npf_ds.h
cp_pdk/common/Encap/src/fppdecap_npf_ds.c
cp_pdk/common/Encap/src/fppencap_npf_ds.c
cp_pdk/common/inc/hwaddr.h
cp_pdk/common/inc/list.h
cp_pdk/common/inc/log.h
cp_pdk/common/inc/pdk_callback.h
cp_pdk/common/inc/pdk_callback_types.h
cp_pdk/common/inc/pdk_macros.h
cp_pdk/common/pil/common/pillist.c
cp_pdk/common/pil/inc/npfpdk_def.h
cp_pdk/common/pil/inc/pillist.h
cp_pdk/common/pil/inc/stdint-old.h
cp_pdk/common/pil/vxworks/pilcs.c

cp_pdk/common/TPCodeGen/inc/functions.h
cp_pdk/common/TPCodeGen/inc/list.h
cp_pdk/common/TPCodeGen/inc/stack.h
cp_pdk/common/TPCodeGen/inc/types.h
cp_pdk/common/TPCodeGen/src/defs.l
cp_pdk/common/TPCodeGen/src/defs.y
cp_pdk/common/TPCodeGen/src/decap.c
cp_pdk/common/TPCodeGen/src/encap.c
cp_pdk/common/TPCodeGen/src/functions.c
cp_pdk/common/TPCodeGen/src/list.c
cp_pdk/common/TPCodeGen/src/main.c
cp_pdk/common/TPCodeGen/src/stack.c
cp_pdk/common/TPCodeGen/src/types.c
cp_pdk/common/TPCodeGen/src/typesinternal.h
cp_pdk/ControlPlane/APIImplementations/DiffServ/src/ds.c
cp_pdk/ControlPlane/CoreBlocks/BindingDiscovery/inc/bind_cap_disc.h
cp_pdk/ControlPlane/CoreBlocks/PacketHandler/inc/pkt_hdlr.h
cp_pdk/ControlPlane/CoreBlocks/PacketHandler/inc/vip_tunnel.h
cp_pdk/ControlPlane/CoreBlocks/PacketHandler/src/ph_vx.c
cp_pdk/ControlPlane/CoreBlocks/VIDDController/inc/vidd.h
cp_pdk/ControlPlane/CoreBlocks/VIDDController/src/tun_dev.c
cp_pdk/ControlPlane/inc/pdk_bd.h
cp_pdk/ControlPlane/inc/pdk_ipv4.h
cp_pdk/ControlPlane/inc/pdk_ph.h
cp_pdk/ControlPlane/inc/pdk_vic.h
cp_pdk/ControlPlane/PDKManager/inc/dynamicmodule.h
cp_pdk/ControlPlane/PDKManager/src/pdkdynload.c
cp_pdk/cppui/build/inc/cppui_atm.h
cp_pdk/cppui/build/inc/cppui_common.h
cp_pdk/cppui/build/inc/cppui_diffserv.h
cp_pdk/cppui/build/inc/cppui_interface.h
cp_pdk/cppui/build/inc/cppui_ipv4.h
cp_pdk/cppui/build/inc/cppui_namespace.h
cp_pdk/cppui/build/inc/cppui_rcm.h
cp_pdk/cppui/build/src/cppui_atm.c
cp_pdk/cppui/build/src/cppui_callback.c
cp_pdk/cppui/build/src/cppui_diffserv.c
cp_pdk/cppui/build/src/cppui_input.c
cp_pdk/cppui/build/src/cppui_interface.c

cp_pdk/cppui/build/src/cppui_ipv4.c
cp_pdk/cppui/build/src/cppui_namespace.c
cp_pdk/cppui/build/src/cppui_rcm.c
cp_pdk/ForwardingPlane/FPMModule/inc/pkt_hdlr_stub_c.h
cp_pdk/ForwardingPlane/FPMModule/QoSManager/src/qos_mgr-stub.c
cp_pdk/ForwardingPlane/FPMModule/Shim/inc/shim_list.h
cp_pdk/npf_api/npf.h
cp_pdk/npf_api/npf_if.h