OF-DPA

Thursday, September 8, 2016   5:06 PM

s hardware objects to the agent in terms of objects such as flow tables, group
ports that can be programmed using the protocol described in the OpenFlow

ble objects to support MPLS-TP, OAM and QoS are also defined.
maintaining per flow Loss management counters and per flow packet dropping.
ew protocol message types and invoked using new actions in action lists or action sets.

m/#!forum/opennetworklinux Google Groups ONL

lled OpenNSL, or Open Network Switch Library, isn't the same sort of open-
ws, for example, a home hobbyist to unlock a smartphone. Instead, OpenNSL
rs with the freedom to control their equipment so that it operates in a more
at meets their specific needs.

administrators can better manage workloads and network traffic, as well as
st hardware innovation in the future.

g/network-infrastructure/inside-opennsl-open-source-innovation-in-the-network-

thub.com/Broadcom-Switch/OpenNSL/tree/master/doc.

enNSL.

witch/OpenNSL/blob/master/bin/as5712/INSTALL

et Transfers With the snoop Command

824_01/html/821-1453/gexkw.html

ld Processor.

noop matched packets (treat them according to the specified snoop profile)

roup__field.html#gga7e4b15dc0ad1411548bfbaff998cb97fae076a2c11714c9bff8794118d0349b33>

The following is a list of fundamental aspects of switching which are all m

- **Error Codes**: With few exceptions, all OpenNSL routines return an
- **Initialization**: The OpenNSL API provide the functions to attach th
  order of these operations is critical.
- **KNET**: The Kernel Network (KNET) module provides a software co
  the packet streams from the network interfaces to OpenNSL transr
- **Layer 2**: Switch devices in the system generally inspect the Layer
  the Layer 2 forwarding data base is an important part of the softwa
- **Layer 3**: Some devices support examining deeper into the packet
  information. Typically, software is responsible for the learning of La
- **Link Monitor**: The OpenNSL API provides a mechanism to scan th
  for link status, and then calling user-supplied callbacks.
- **Packet transmit and receive**: The OpenNSL packet transmit and
  the host CPU. Typical uses for these functions are to implement va
- **Port Configuration**: The port configuration API's provide control c
- **Statistics**: The Statistics module allows for retrieval of common SI
  statistics API uses an enumerated type indicating the type of statis
- **STG**: Spanning tree groups are groups of VLANs. A port has a for
- **Switch Control** : Some operating modes within switching devices
  into other parts of the OpenNSL APIs. They have been collected in
- **Trunk**: Trunking, or link aggregation, is a mechanism that allows s
  between switches, or both, are required.
- **VLAN**: A virtual network to which ports may belong. Ports may mai

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RM is used for virtualization concepts in short.

Resource Manager(RM) is used for partitioning switch resources
pipelines. The main responsibilities of resource manager (RM) a

- Provides a mechanism to define and create a switch res
  can be reserved/allocated via the profile are: Port table

- Maintains a one-to-one mapping between application ar

- Ensures that the overall resources do not exceed the ca

- Enforces scaling limits per application as specified in the

- Provide an isolation of switch resources among applicati

- Provides a means to update the profile parameters duri

- Provides filtering mechanism to isolate asynchronous sv
  switch event to every application.

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NSL Monitoring APIs.

Buffer Statistics Tracking (BST)

This feature provides better visibility into the device buffer usage. It aids in res

BST has two modes: Max Use Count and Current Use Count. Max Use Count
instantaneous value of the monitored counter.

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Link Monitoring and Notification

The OpenNSL API provides a mechanism to scan the ports, monitc
calling user-supplied callbacks.

Most PHYs latch link down events, not permitting the status to chan
may transition to link up. If multiple applications (or threads of exec
down. The opennsl_port_link_status_get API call retrieves the curr
status without the possibility of missing an event. For this reason, th

The linkscan process ensures that user supplied callbacks are calle

Statistics

The statistics module allows for retrieval of common SNMP statistic
provided for the following groups: RFC 1213 (MIB-II), RFC 1493 (B