



# Abstract APIs for DPDK and ODP

LEADING  
COLLABORATION  
IN THE ARM  
ECOSYSTEM

# Interface vs API vs implementation

## **Abstract interface (ETSI NFV specifications)**

Defines a behavior regardless how it is technically described in any language or protocol

For instance could be realized as a programming API, a PCI interface, a network protocol

## **An API is abstract interface binding to a language**

For C language, consist of header files

## **An implementation**

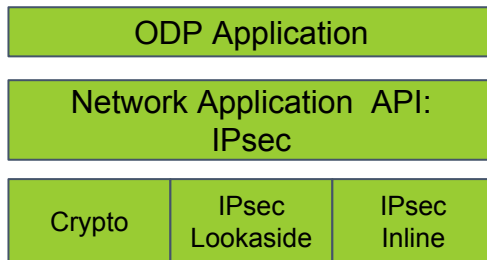
Is a piece of source code that implements the API and can be consumed by other software

# Network Application API

## ETSI NFV hardware independence

- A VNF is instantiated on a platform with hardware **not known** at VNF on-boarding time
- VNF instance is (live) migrated from a platform with acceleration on a new platform without acceleration or a different one

## ODP Network Application API for IPsec

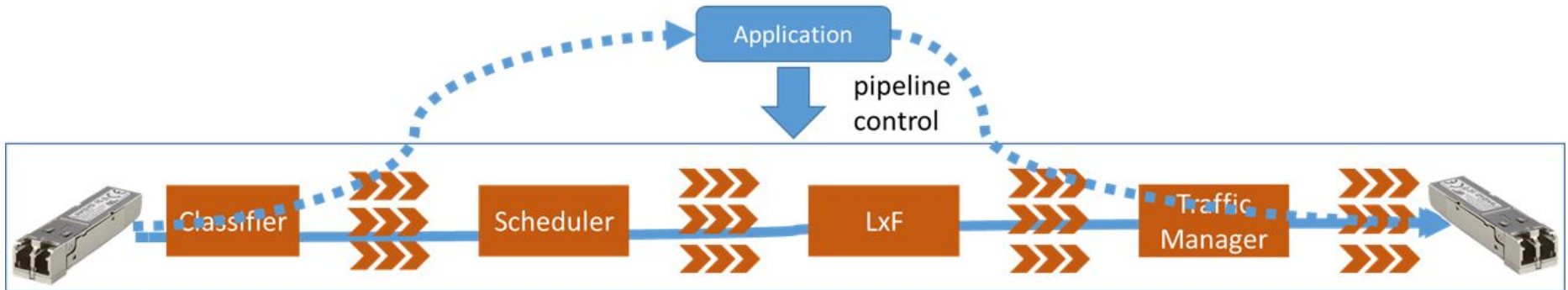


# Network function pipeline ~ simplified VPP graph

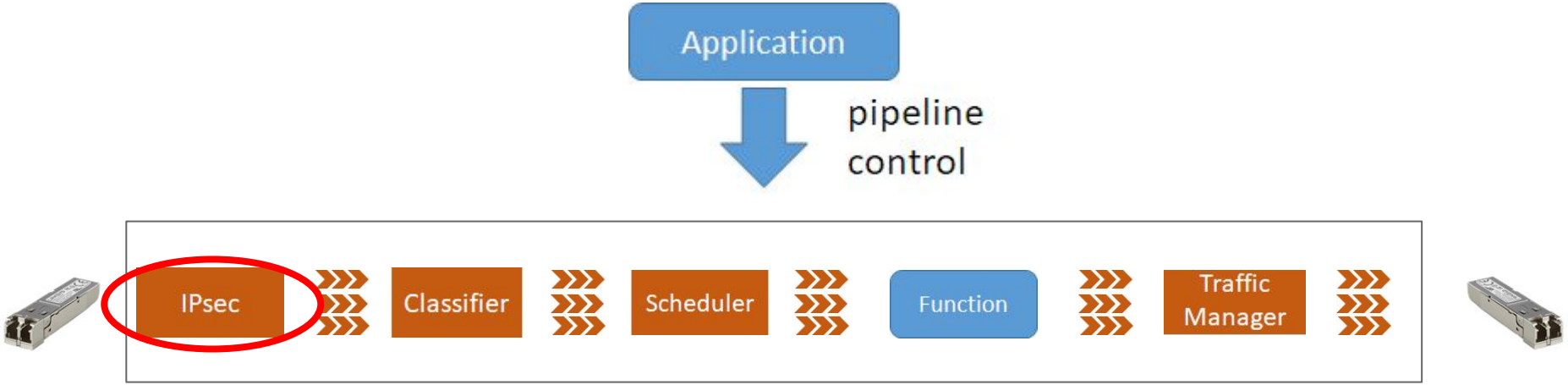
Software Implemented: DPDK (poll mode), Netmap, PacketDirect...



Software Defined: OpenDataPlane, partly DPDK event mode



# IPsec: inline hardware class 1

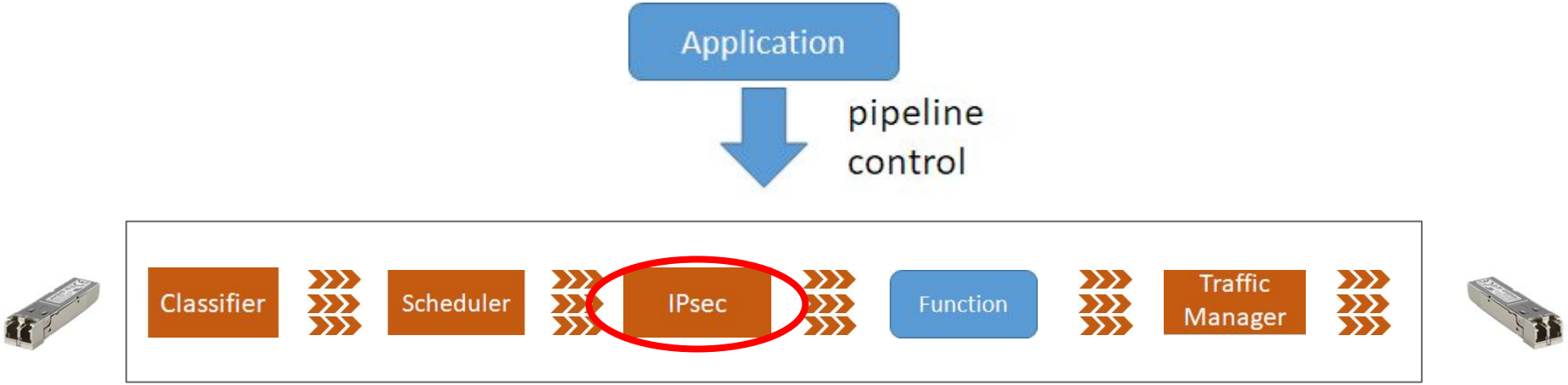


- HW
- ODP SW
- APP SW



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# IPsec: inline hardware class 2

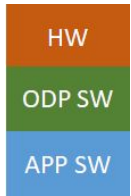
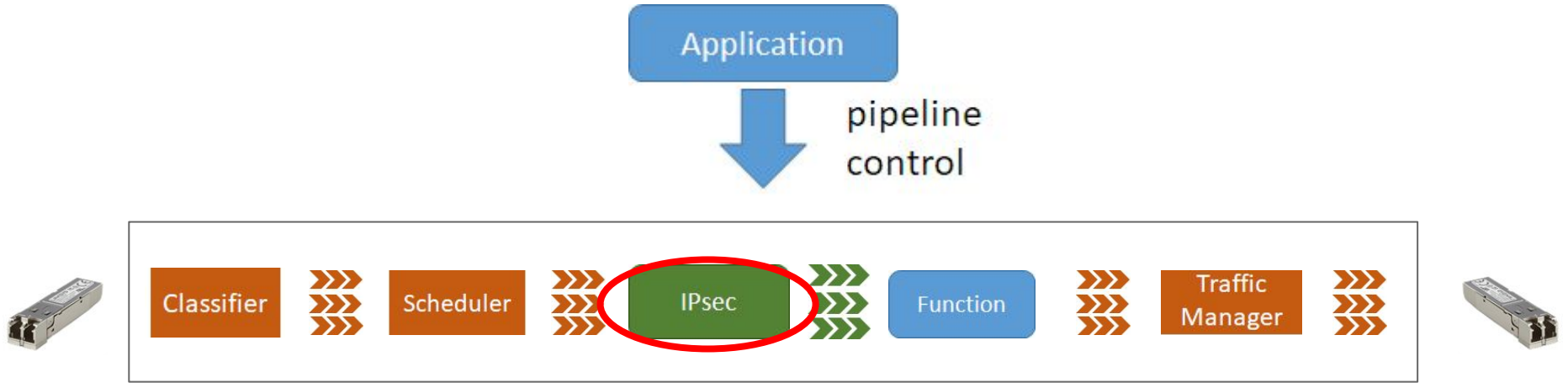


- HW
- ODP SW
- APP SW

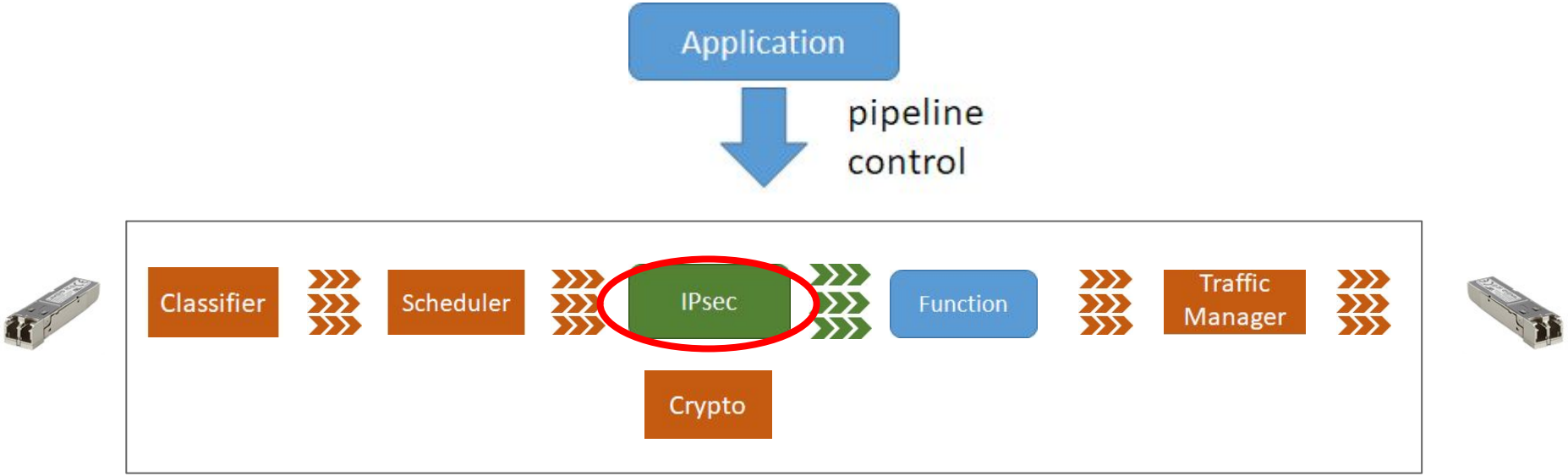


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# IPsec: software with no acceleration



# IPsec: software with crypto acceleration



- HW
- ODP SW
- APP SW



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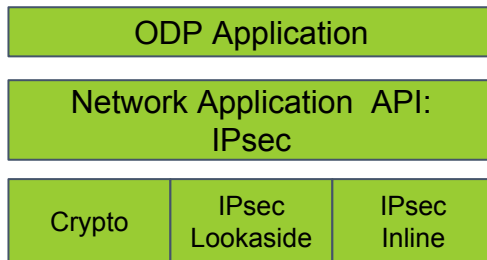


# Network Application API

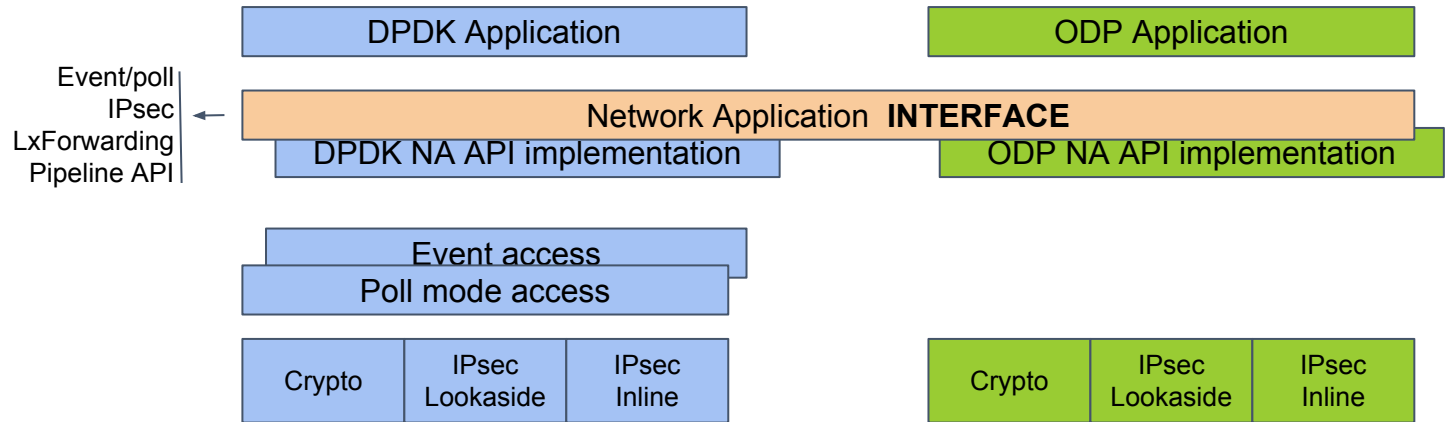
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## ODP Network Application API for IPsec



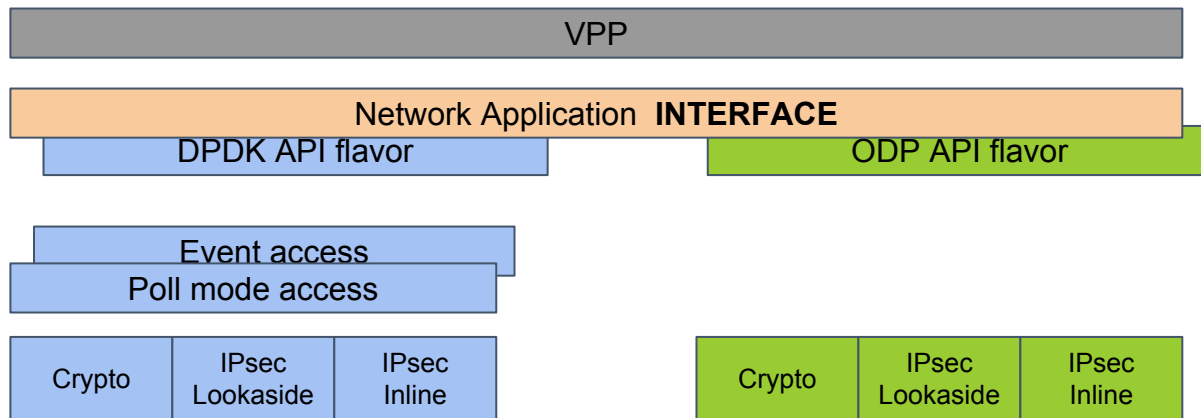
# A common Network Application Interface ?



# Impact on VPP

IPsec VPP node with  
a south bound API  
implemented by

OpenSSL  
DPDK  
ODP



CORE  
level



CLUB  
level



GROUP  
level



96BOARDS



COMMUNITY

