



PRESENTS

NETWORLD INTEROP



Standards Status: A Report from the Network Processing Forum

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September 10, 2001



Agenda

- The Network Processing Forum
- Hardware Update
- Software Update
- Benchmarks Update
- Technical Marketing & Education Update
- Summary and Call to Action

History

- Wire-speed performance forced a tight coupling of hardware and software architecture
 - Custom ASIC development
 - Hand-crafted machine-specific code

- Long design cycles for adding new functionality to ASICs to meet evolving standards and protocols
 - How many spins does it take?
 - How much money does it cost?

History: CSIX



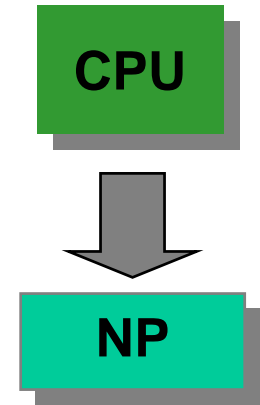
- Common Switch Interface Consortium
- Started in Feb. 1999 by PowerX & XaQti
- Focus on i/f between switch fabric and traffic manager
- 30+ members
- Produced CSIX-L1 spec



History: CPIX

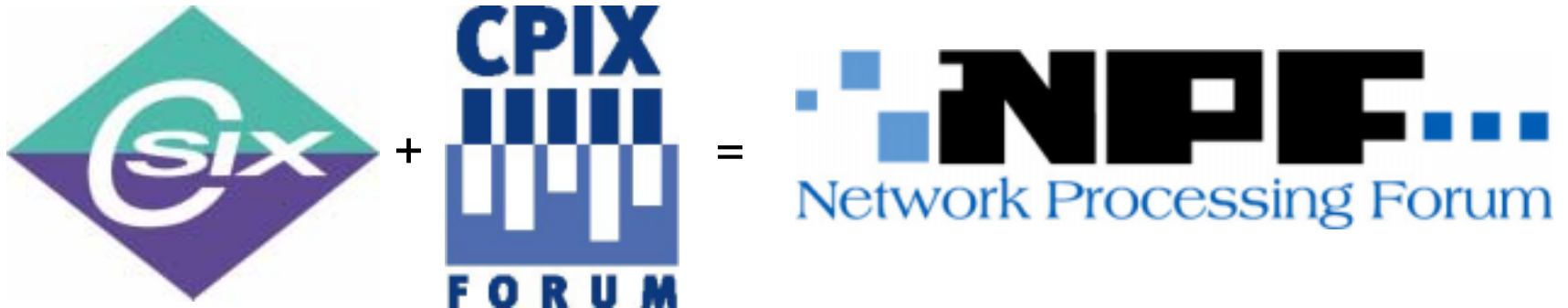


- Common Programming Interface Forum
- Started in Sept. 1999 by IBM, C-port & Lucent
- Focus on S/W interfaces
- 30+ members
- Workgroups working on functional block and a application level APIs



Rise of Network Processing

- Advancing silicon and software performance enables flexibility
 - Rapid design using pre-defined functions
 - Run-time software-based support of new features
 - Rapid innovation in HW and SW simultaneously
- Hardware and software join for success!



The Network Processing Forum

Value Proposition

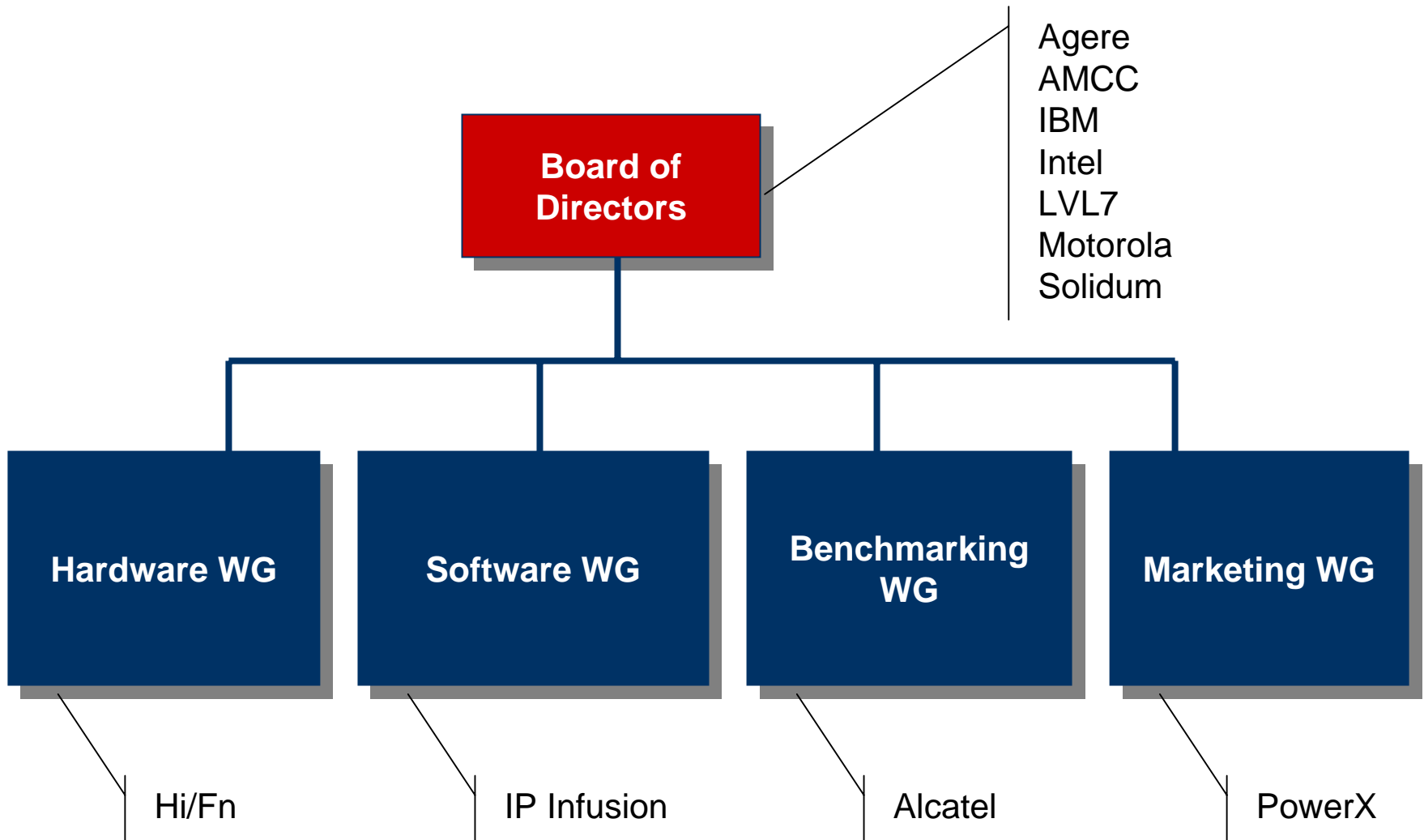
The NP Forum encourages the growth and effective use of network processing technology through

- Specifications
- Benchmarking
- Interoperability
- Education

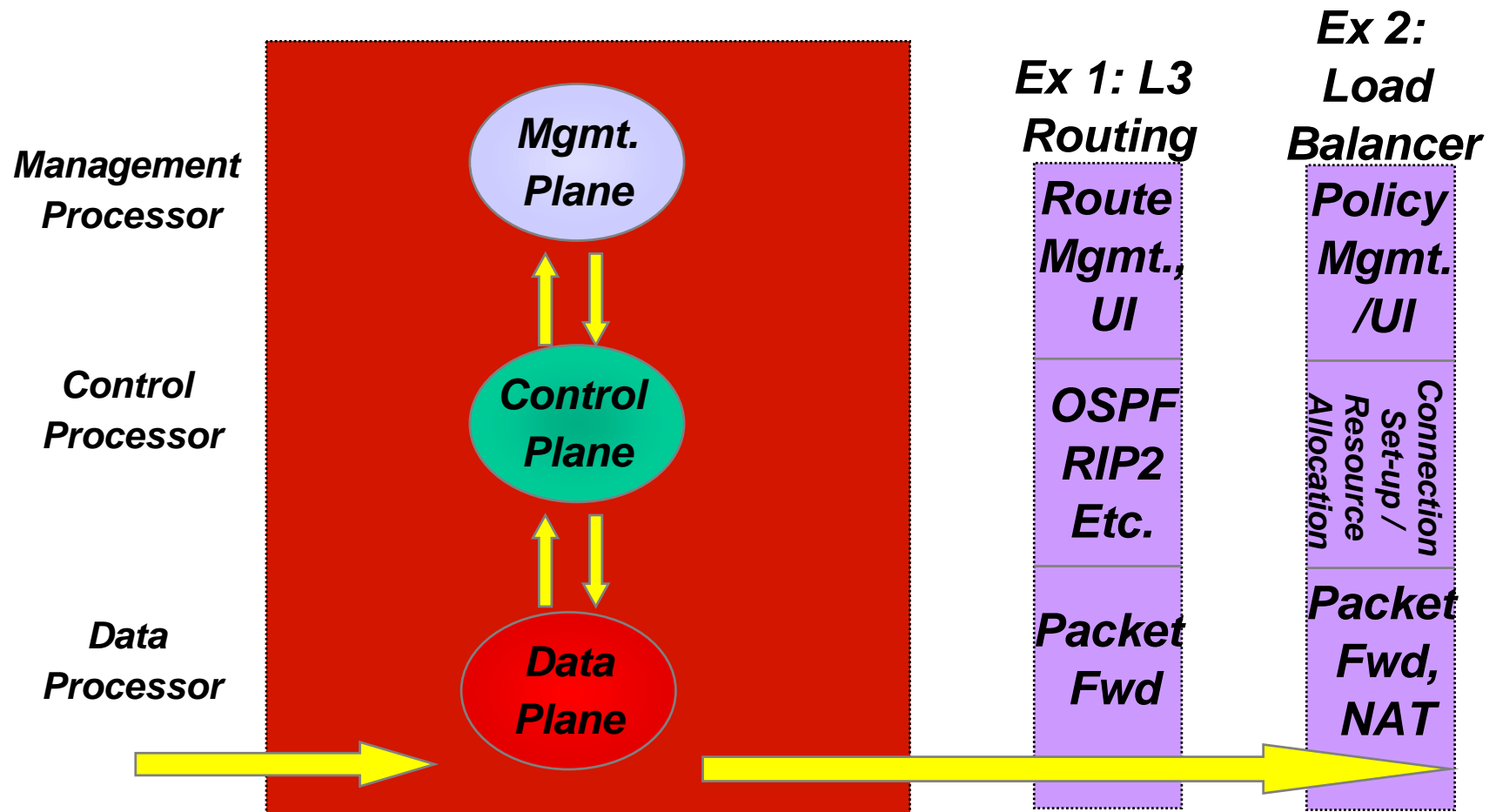
NP Forum Facts

- Formed in Feb. 2001
- 80+ members
- 4 Workgroups
- Quarterly meetings
- Annual meeting in June
- Single class of membership
- Membership fee \$10K

NP Forum Work Groups



Partitioning the Network Element

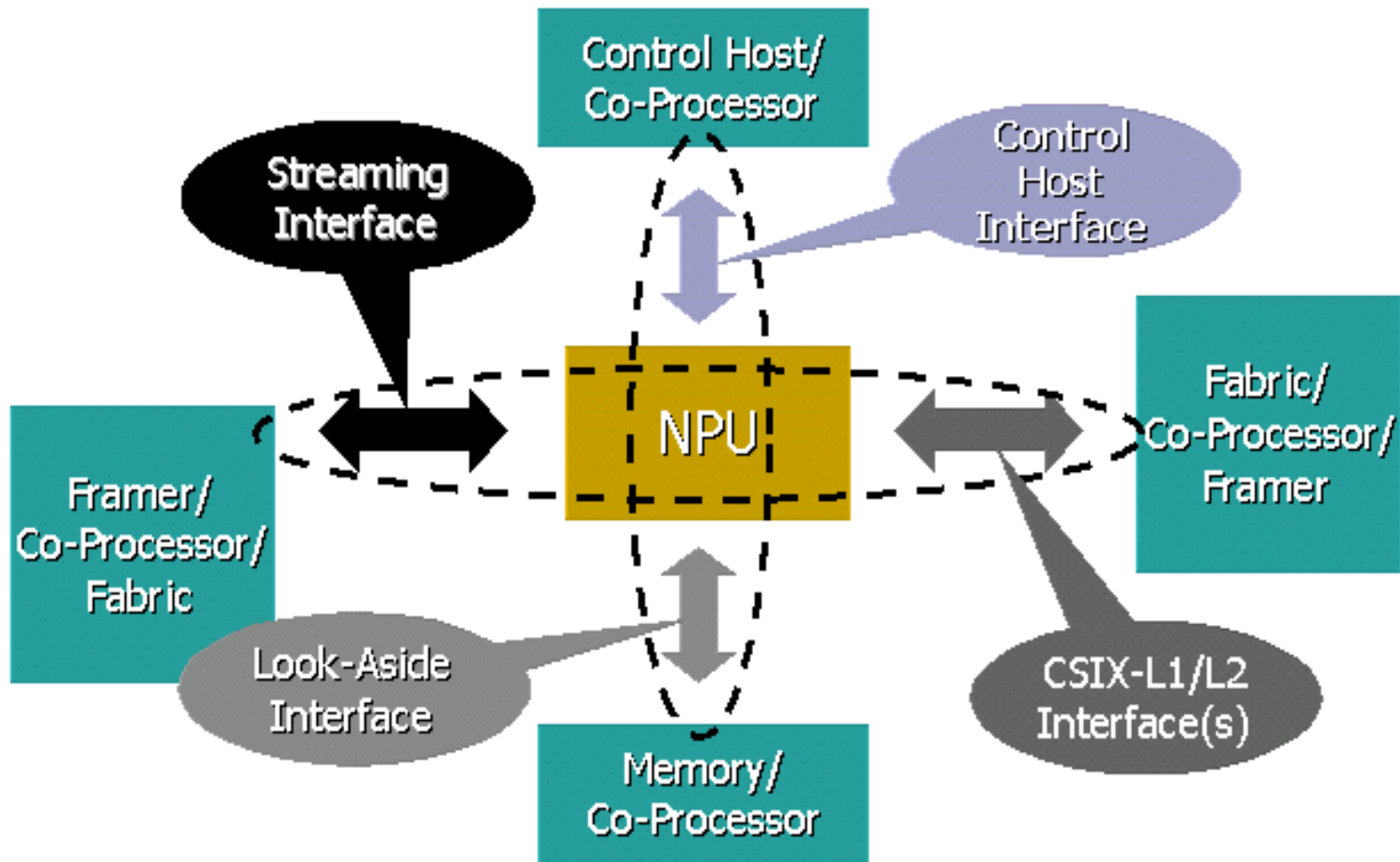


Benefits of Specified Interfaces

- Partition complex problem into solvable pieces
- Interoperability between vendors
- Innovation at multiple levels
- “Best of breed” choices for specific functionality
- Reduce time to market
- Increase integration success

NP Forum specifications enable
Network Processing

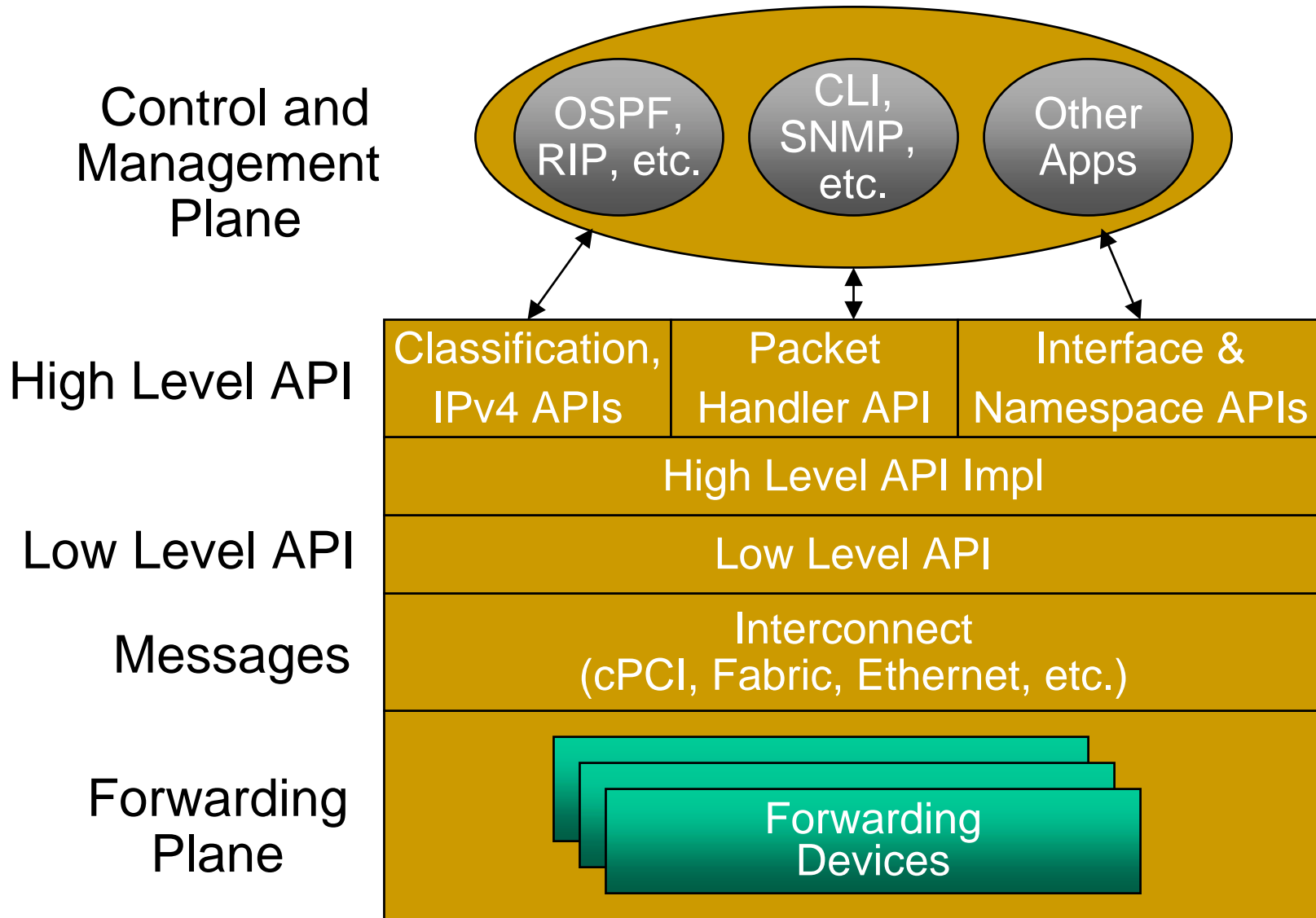
Hardware WG



Hardware WG Status

- Streaming interface task group
 - Developing a family of datapath interfaces: Framer-to-NPU, NPU-to-NPU, NPU-to-Fabric
 - Defining a new interface for NPU-to-Fabric
 - Similar to SPI-4.2, not an extension of CSIX-L1
 - Proposal for NPU-to-Fabric interface is due for straw ballot in October
- Look-aside task group
 - Developing a family of non-datapath coprocessor interfaces: LA1 and LA2
 - QDR interface selected for LA1. Due for straw ballot in October
 - LA2 is scheduled for straw ballot in May 02

Software WG

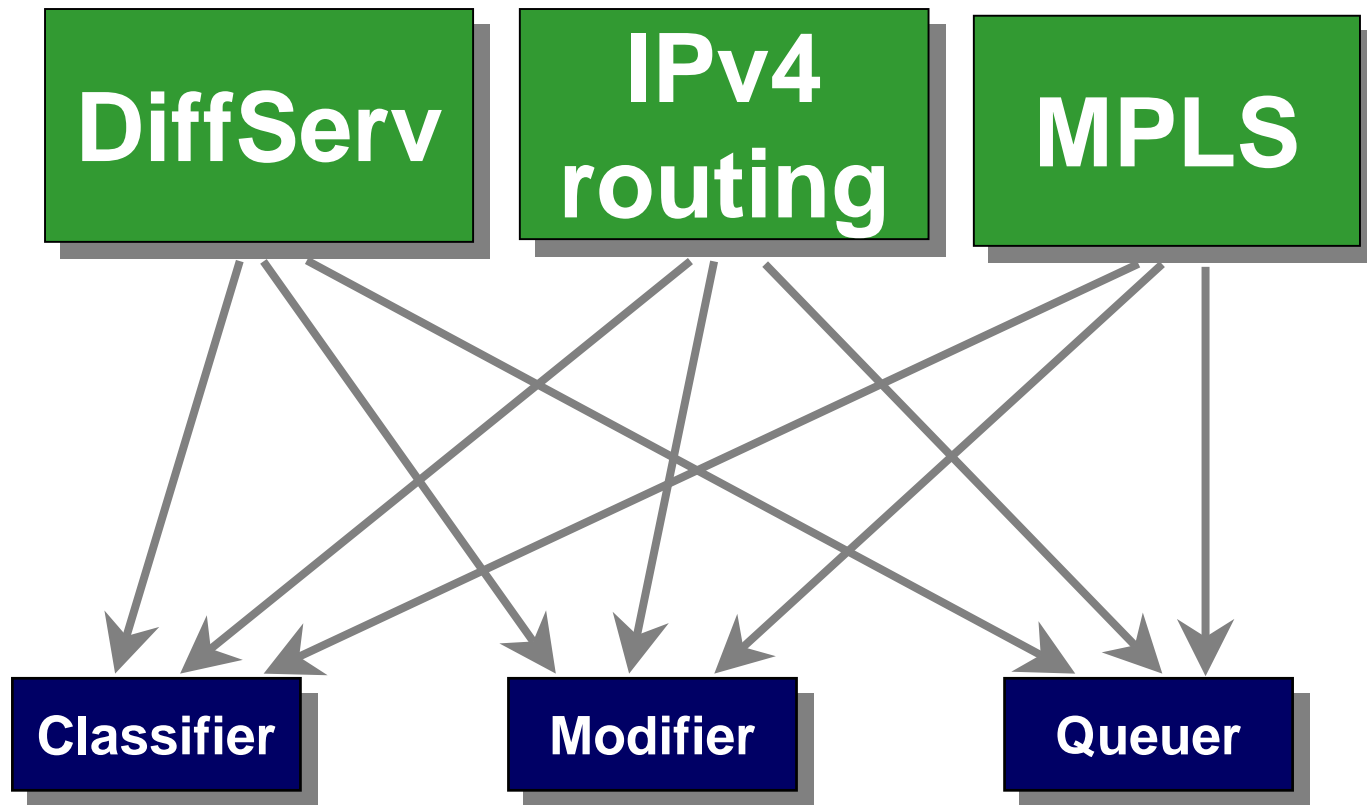


Software WG Status

- Lexicon Document – development and review
- Framework task group
 - Describing components of the Network Processing ecosystems
 - Framework doc scheduled for straw-ballot in October
- Foundations task group
 - Defining infrastructure element (e.g Asynchronous calls, memory models, etc.)
 - Defining common services to be used by all application-specific API (e.g Namespace API)
- Interface task group
 - Defining APIs to configure physical and logical interfaces managed by NPs
- IPv4 task group
 - Defining APIs to manage forwarding tables on NPs

Benchmarking WG

Applications



Components

Benchmarking WG

- Two task groups
 - Network Processing task group
 - Fabric task group
- NP benchmarks
 - Black-box approach isolating NPU subsystem
 - Task level: LPM, 5-tuple classification, etc.
 - Application level: IP forwarding, MPLS, etc.
- Fabric benchmarks
 - Black-box approach isolating fabric subsystem
 - Framework document under development

Benchmark WG Status

- Network Processing Task Group
 - Framework document approved
 - IPv4 app-level spec is due for straw ballot in October
 - IPv4 spec implementation is in progress
 - MPLS app-level spec work is starting
 - Members encouraged to implement these benchmarks
- Fabric Task Group
 - Framework document is in progress
 - Connector document is in progress

Technical Marketing & Education WG

- Generation and editing of all external communication and Marketing Messages
- Event Sponsorship in 2001
 - N+I/NPS (Fall) - Network Processor Conference
 - NGN
- Press & Analysts
 - Key Industry Analysts engaged in NP key announcements
- White Papers
 - Responsible for generation, editing and posting
 - Position statements on other forums (IETF ForCES)
- Industry OEM
 - Recruitment into NP Forum
 - NP Forum represent member interests with OEMs

80+ Members

Summary

- Network processing is enabling a revolutionary architecture for building networking systems
- NP Forum provides
 - Specifications to accelerate effective use of network processing
 - Forum for creating and validating solutions for customers using network processing
 - Forum for understanding and creating awareness of new opportunities using network processing

Join the NPF!

- Next meeting – October 9-11
- Get subscription forms, news and other info at:

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