Transport SDN Interoperability Program

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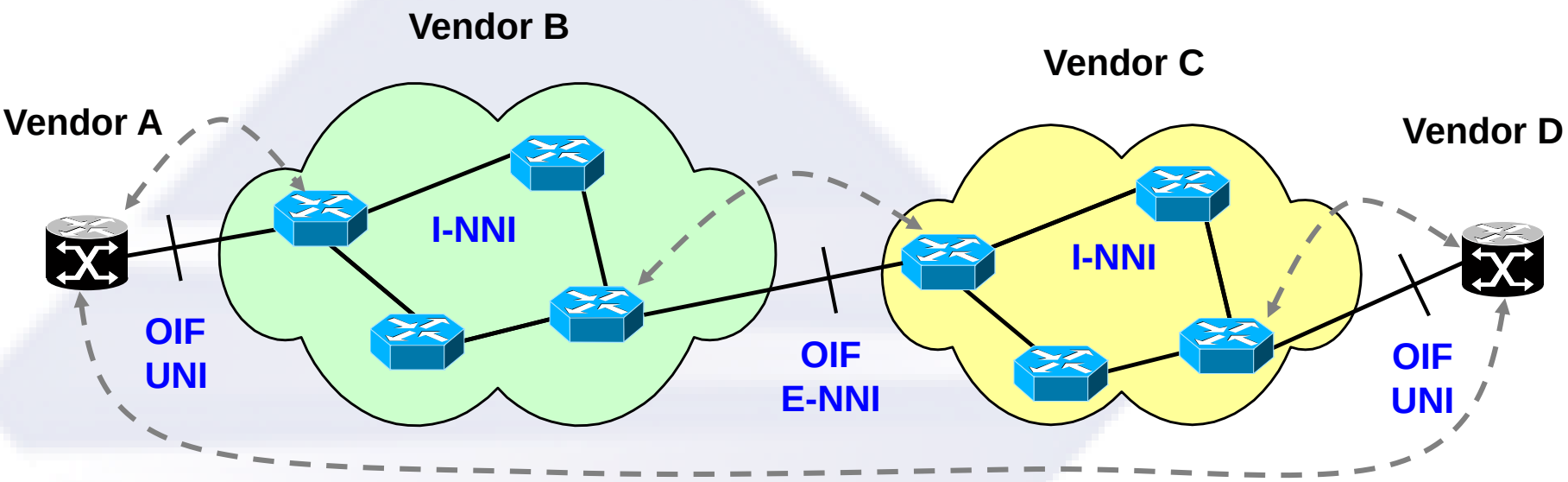
Networking Interoperability WG

OIF OPTICAL INTERNETWORKING FORUM

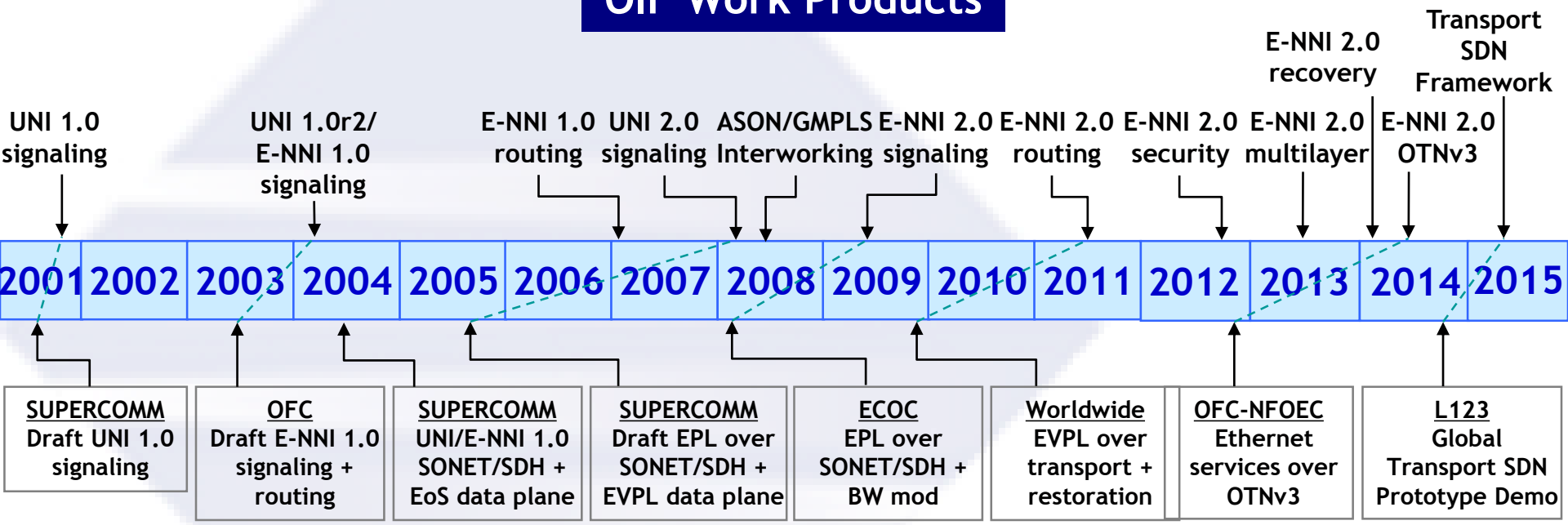
The Need



- Interoperability testing is needed to evaluate multi-vendor interop and advance CP maturity
  - Essential stepping-stone to move CP from research labs to live networks
  - Initial exposure and feasibility demo, feedback into standards process
  - Critical tool for early detection and correction of interoperability issues - in specifications, vendor implementations and operations concepts

OIF Interop History

OIF Work Products



OIF Networking Interoperability Demonstrations

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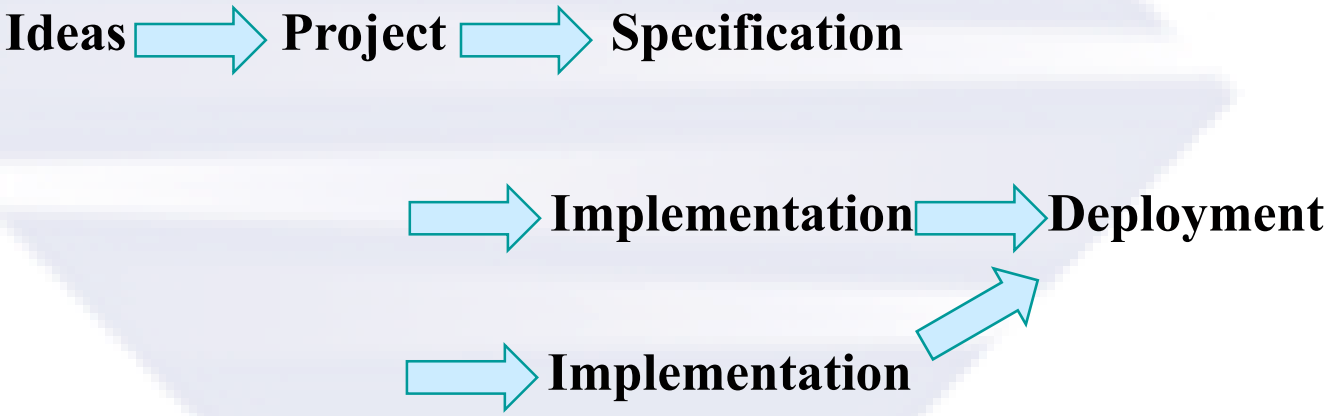
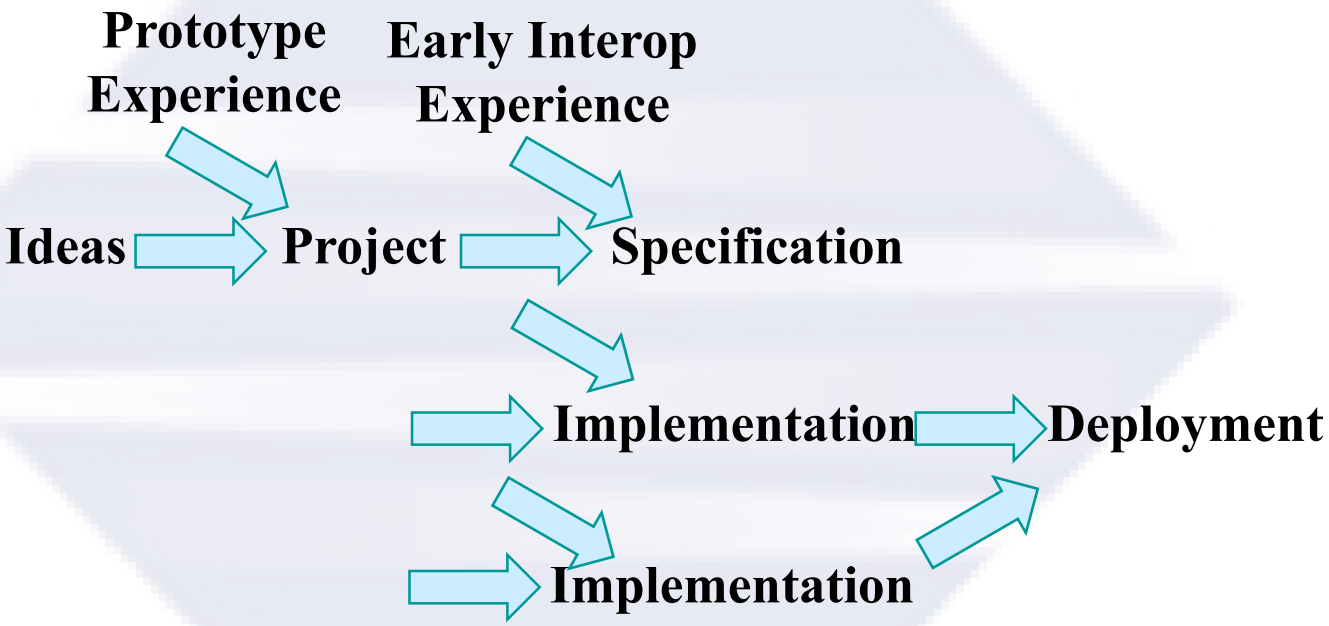
Historical standards process lifecycle



Interoperability issues not found until deployment

The OIF Lifecycle



Interoperability input is integrated from the start

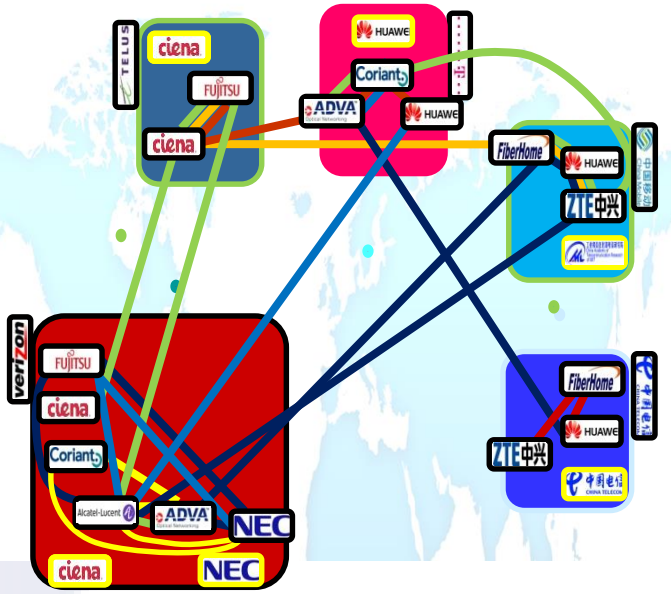
OIF Interop Goals

- **Facilitate learning from early prototyping**
  - Early implementations explore new approaches / technologies
    - OIF 2005 Interop Event – Ethernet services over SDH
      - Multi-layer model
    - OIF 2014 Interop Event – Transport SDN NBIs
      - APIs using REST JSON
  - Experiences from early prototypes validate approaches later used in OIF Implementation Agreements

Specifications based on experience are useful to industry

OIF Interop Goals

- **Enable service providers to get early experience**
  - **Held in Carrier labs worldwide**
    - **HW and SW vendors**
  - **Real optical switches**
    - **Test interoperability of software**



- **Tests facilitated by Worldwide network connecting labs**
  - **Enables pair-wise testing amongst all participants**
- **Validating use cases, approaches focuses work**
  - **Vendors get direct feed back from service providers**

- **Service provider observations feed spec development**

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OIF Interop Goals

- **Drive Specification clarity**
  - **Interop Testing validates draft specifications**
    - **Identify ambiguous text**
    - **Find places specification text is incomplete**
  - **When two implementations are found to not interop, specification text is reviewed for areas to improve**
    - **Findings document generated with recommendations**
    - **Liaisons sent to other organizations involved in test**

Interop Testing experiences refine specifications

What's next?

- **Planning for next OIF/ONF Transport SDN test event**
  - Joint activity with ONF
  - Significant interest from carriers, vendors
- **Potential test areas:**
  - Standardized OpenFlow Optical extensions
    - Based on Technical Spec v1.1 to be issued by ONF
  - Testing of work on Standard Transport API
    - Based on ONF T-API Spec, Info Model, Data Models
    - Refine options, naming/addressing, functionality for carriers
  - SDN-based Services and Applications
    - Packet/Optical Integration with real-time event handling
    - NFV enablement with VTNS and other applications
- **Targeting late 2016 testing, early 2017 readout**

THANK YOU