# Extending reach of open source through standards

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**DEVNET** 

#### Why Standards?

- Standards have played key role many/most industries
- Industry demand standards compliance from vendors
  - Ensure interoperability, avoid lock-in
- Vendors work together defining standards
  - Establish credibility for products
  - Ensure interoperability with partners and competitors





### Why Open Source?

- Industry demands open source story from vendors
  - Open source contributions bring credibility and seat at table w/ customers
- Open source based defense
  - Use standards to drive demand for your products and solutions
  - Support for standards in open source projects protects leadership position
- Open source based offense
  - Use open source offering to commoditize position of competitor
  - Change playing field to align with your strengths

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#### **Traditional Standards Process**





Photo credit: https://play.google.com/store/apps/details?id=com.mobilerise.hourglass

#### Power of Open Source Software

- Fuel industry transformation
- Leverage a vast community
- Innovate at rapid pace
- Result in de facto standard



#### Complexity of Open Source

- Some assembly required
- Poor documentation
- Moving target
- Projects fade away
- Fragments



Standards



#### **Combine Standards with Open Source**

- Bring speed and collaborative spirit to open source to standards
- Add support for key standards to open source projects
- Use open source projects in reference implementations
- Hackathons, interop events



Photo credit: dreamstime.com









#### IETF

- Internet Engineering Task Force
- Founded in 1986
- Goal Make the Internet Work Better
- Definition of Internet Drafts (I-Ds) and RFCs
- Networking protocols, e.g. TCP/IP, DNS, HTTP, TLS, YANG, NETCONF, RESTCONF, VXLAN, GRE, ...



We reject kings, presidents and voting. We believe in rough consensus and running code. - David Clark, Tao of the IETF

#### Challenges

- Slow
- Aging community
- Too much time on rough consensus, not enough on running code
- Overrun by pace of innovation
- Code (potentially open source) as de-facto standard

#### **IETF Hackathons**

- Advance pace and relevance of IETF standards
  - Flush out ideas, feed into working group
  - Produce reference implementations, libraries
- Attract developers, young people
  - Team newcomers with IETF veterans
  - University engagement
- Collaborative event, any competition is friendly





#### https://github.com/ietf-hackathon



≡ smartcards4dnssec Code to allow stock BIND to use smartcards ● C ★ 1 ※1 ≡ ietf101-project-presentations

Customize pinned repositories

Presentations of project results at end of hackathon

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## Hackathon @ AIS



- Goals
  - Build technical capacity around networking standards
  - Deployment of existing and evolving IETF standards
  - Encourage contribution to standards development process
- Projects related to IETF work
  - Network Programmability (YANG/NETCONF/RESTCONF)
  - NTP data minimization draft-ietf-ntp-data-minimization
  - Intelligent Transportation Systems <u>draft-ietf-ipwave-</u> <u>ipv6-over-80211ocb</u>







#### MEF - A history of successful industry alignment



## Extend CE 2.0 framework with Lifecycle Service Orchestration (LSO) and an open community



#### LSO Hackathon

- Cisco DevNet introduced MEF to hackathon at GEN15, Nov 2015
- Transform LSO architecture and APIs
  into running code
- Validation of evolving APIs/standards, with feedback into technical committees
- Collaboration across SDOs and Open Source communities

#### **GEN15 LSO Hackathon**

The place for hands-on collaboration and development of orchestrated Carrier Ethernet services!

The MEF is holding its first LSO Hackathon to accelerate the development of Lifecycle Service Orchestration (LSO) APIs, SDN controller plugins and LSO orchestration solutions. The LSO Hackathon will facilitate discussion, collaboration and the development of ideas, sample code and solutions that can be used through the Open Source community for the benefit of service providers and technology vendors.



Supported by:







♠ > How we work > Running code > IETF Hackathons

#### **IETF Hackathon Bangkok**

IETF

At IETF Hackathons developers and implementers discuss, collaborate, and develop utilities, ideas, sample code and solutions that show practical implementations of IETF standards.



When: November 3rd and 4th, 2018	IETF HACKATHONS
Where: Mariott Marquis Queen's Park	IETE Hackathon Londo
Room: TBD	
Signup for the Hackathon - Here!	IETF Hackathon Singa
View the list of Hackathon Attendees - Here!	IETF Hackathon Pragu
Keep up to date by subscribing to the mail list.	IETF Hackathon Seoul
	IETF Hackathon Berlin
Hackathon Wiki - https://trac.ietf.org/trac/ietf/meeting/wiki/103hackathon	IETE Hackathon Pragu

The Hackathon is free to attend and open to everyone. It is a collaborative event, not a competition. Any competition is friendly and in the spirit of advancing the pace and relevance of new and evolving internet standards.

pore **IETF Hackathon Montreal IETF Hackathon Bangkok** 



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MEF LSO Hackathon

Home > Overview > MEF18 LSO Hackathon



The place for hands-on collaboration and development of MEF 3.0 Implementation Projects!

MEF LSO Hackathons encourage software developers and network experts to collaborate and develop utilities, ideas, sample code and solutions that show practical implementations of MEF-defined services and LSO APIs.

MEF is holding its 7th LSO Hackathon at MEF18 to further the existing MEF 3.0 Implementation Projects as well as incubate new ones. This is a great opportunity to collaborate in a hands-on environment, share and learn from your peers, enhance your understanding of LSO, SDN, NFV in the context of working code. LSO Hackathon Topics

MEF LSO Hackathons cover a wide range of topics, as shown below. More information on specific projects



#### Call to Action

- Champion combination of standards and open source
- Make standards consumable by developers
- Make open source consumable by industry

# Thank you!

