Ethernet Alliance
Technology Exploration Forum 2013
"The Future of Ethernet"

Technology Exploration Forum

SDN: Science Project or Promised Land for the Networking Industry

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Introducing Solarflare

- Late-stage startup based in Orange County, CA and Cambridge, UK
- High-performance, low-latency 10GbE networking
- Fastest-growing 10GbE server adapter company (Dell'Oro)
- Partnerships with Altera, Arista, Azul, Cisco, Couchbase, Fusion-io, Juniper, Oracle, Red Hat, VMware
- OEM with IBM and HP
- Over 900 customers worldwide
- NYSE, NASDAQ, and CBOE run Solarflare

NYSE Euronext

Powering the exchanging world.SM

Level Setting

- VMware is the network challenger to Cisco
- IT consumption by Web 2.0 companies = ½ of the market for switching, ½ of the market for servers
- Deployment of Virtual Machines growing faster than bare metal servers (IDC)
- Virtual switch ports growing very fast. Approaching cross over with bare metal switch ports (Crehan)
- July 23, 2013. VMware acquires Nicira for approximately $1.05 billion in cash plus approximately $210 million of unvested equity awards
- SDN acquisitions to date: 8 companies if we count Fulcrum
- SDN = layers of software abstraction on top of bare metal hardware
- SDN = Not just OpenFlow but also orchestration, management, service chaining, Network functions virtualization (NFV), Cloud Oses, programmability, automation of compute, network, and storage

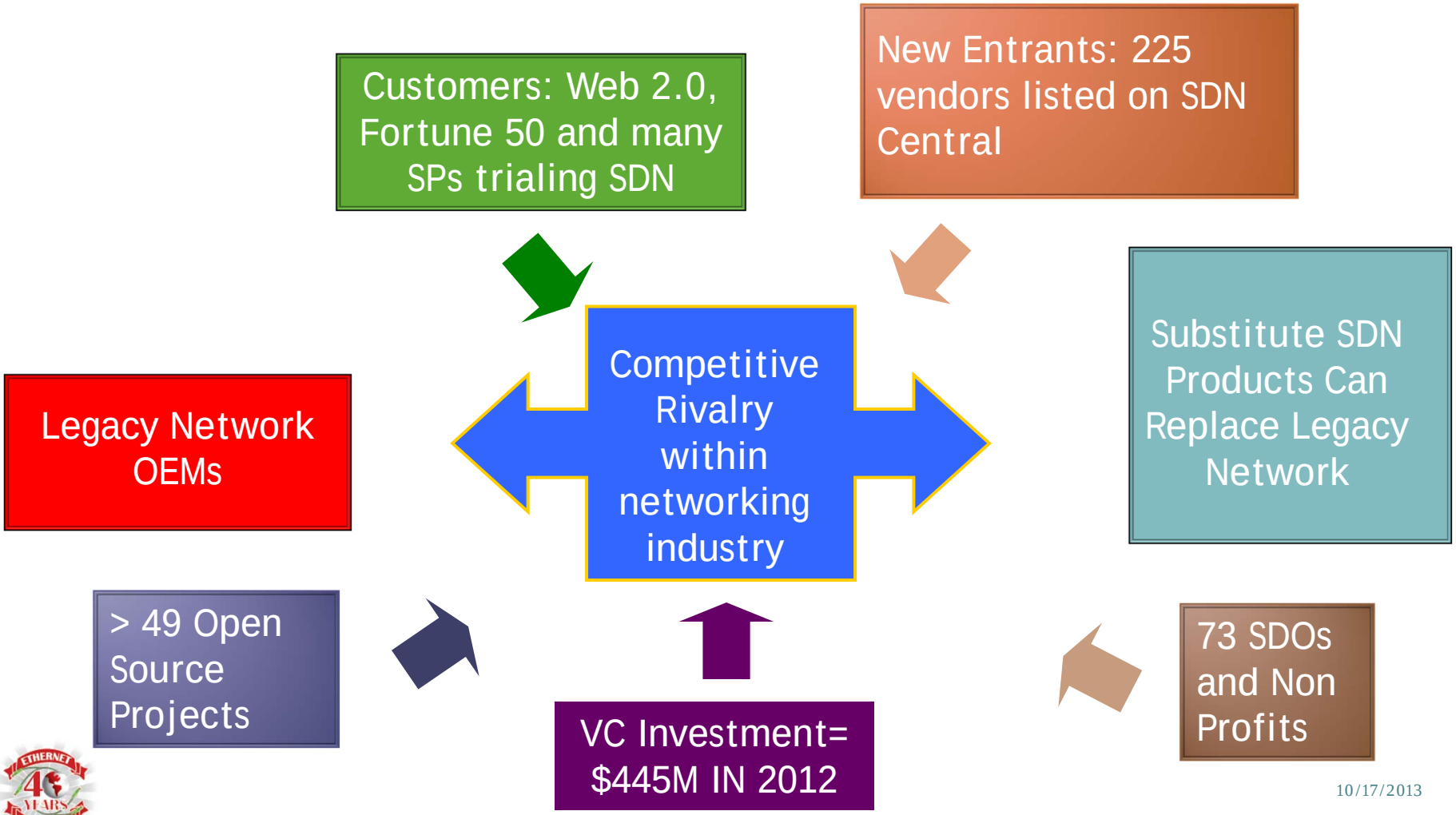
SDN is a Science Project

- Google has been very public about going operational with its OpenFlow WAN. Other Web 2.0 companies close behind
- 10 to 20 POCs at Fortune 100 enterprises
- 20+ POCs at Public Cloud companies
- 10 to 20 POCs at Service Providers in US, EMEA, and AsiaPac

SDN is the Promised Land

- Google has been very public about going operational with its OpenFlow WAN. Other Web 2.0 companies close behind
- 10 to 15 proof of concept tests (POCs) at Fortune 50 enterprises (esp on Wall Street)
- 20+ POCs at Public Cloud companies
- 10 to 20 POCs at Service Providers in US, EMEA, and AsiaPac
- Dell'Oro Forecast SDN impact on Switches $498M 2013 growing to 2.2B in 2017

Emerging Structure of SDN Industry



What Does All This Mean

- Web 2.0 giants and service providers aligning to support SDN, NFV, OpenFlow
- Bargaining Power of Customers growing
- Bargaining Power of Vendors diminishing
- Many new entrants
- Multiple standards organizations
- Competing consortia
- Intense industry rivalry between legacy network OEMS and new comers

Perdition

- IETF and IEEE lose their hegemony on networking
- Virtualization makes all Hardware plain vanilla (merchant silicon and custom network ASICs)
- Networks built from industry standard servers and cheap HW
- Legacy network OEMs disintermediated
- Big Web 2.0 companies and telcos buy directly from value chains that start in AsiaPac
- Can you spell OCP

A Brave New World

- Competition breeds innovation
- Every legacy network OEM has announced "Open" SDN products
- Multiple startups get face time with F50, Web 2.0, Public Cloud, and SPs/Telco's
- Customers like traffic engineering, circuit management capabilities
- Customers like the promise of lower cost
- Customers want one throat to choke
- Virtualization / Software abstractions but the hardware still matters ➔ differentiation and innovation in hardware
- Intel-VT, SR-IOV, server adapters need to support multiple VFs and VNICs
- If analogous to Linux, there will be an 80/20 rule

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