

HPSR panel



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Question

- Is SDN becoming the Linux of networking in Data Center Networks and Core WANs ?
 - Should these SDNs be based on standard APIs?



What is SDN?

- Depends who you ask
 - Vendors differ on what SDN should provide
 - Want to offer more than OpenFlow
 - Customer expectations vary
 - Software controlled forwarding
 - QoS, traffic differentiation, security
 - Software controlled provisioning
 - Hypervisor moving VMs
 - Doesn't care how packets are forwarded



Question

- Is SDN becoming the Linux of networking in Data Center Networks and Core WANs ?
 - *Yes, but will it solve the user's problems?*
 - *Linux is not the answer for everyone*
 - Should these SDNs be based on standard APIs?
 - *That would be good*
 - *But can it be done?*



Question

- Impacts of SDN and Virtualization on
 - Network hardware design
 - Data center protocols and stacks
 - On performance



Impacts of SDN on

- Network hardware design
 - In theory it becomes commodity
 - But flow classification is still costly
 - It might constrain the solution space
- Data center protocols and stacks
 - Beware 'The curse of optional features'
 - v1.0, v1.1, v1.2, v2.0
- Performance
 - Centralized control
 - Security, resilience
 - Flow start costs



Impacts of Virtualization on

- Network hardware design
 - Number of active flows at the edge
- Data center protocols and stacks
 - VM provisioning and migration
 - 802.1Qbg
- On performance
 - Congestion control
 - Mixed use



Question

- Applications and services, and their impact on the DCN.
 - The network has converged.....
 - Parallel distributed storage
 - Database queries
 - DCN properties
 - Isotropic forwarding
 - Multipath mechanisms
 - Fairness
 - Seamless removal and addition of chunks
 - Lossless
 - Responsive to congestion