**Market research on Networking- Hewlett Packard.**



--------------------------------------------------------**History**-------------------------------------------------------------

Some of the most successful and innovative technology companies today, from Apple to Facebook, proudly tell of their humble beginnings in a California garage or a college dorm. But the original garage company success story — began in 1939 when Bill Hewlett and Dave Packard started the Hewlett-Packard Company, affectionately known today as simply HP.

Building on HP’s long-standing history of innovation in networking, HP’s FlexNetwork architecture delivers the industry’s only unified architecture for the data center, campus, and branch, enabling enterprises to fully harness the power of rich media content, virtualization, mobility, and cloud computing. Combined with HP’s servers, storage, and services and as part of the HP Converged Infrastructure, HP Networking protects businesses from day-zero threats across both physical and virtual environments, delivers application services in minutes versus days, and achieves breakthrough economics with its unified, standards-based approach to networking.

--------------------------------------------------------**Technology-**------------------------------------------------------**Software-defined networking** (**SDN**) is an approach to computer networking that allows network administrators to manage network services through abstraction of higher-level functionality. This is done by decoupling the system that makes decisions about where traffic is sent from the underlying systems that forward traffic to the selected destination. The inventors and vendors of these systems claim that this simplifies networking.

SDN requires some method for the control plane to communicate with the data plane. One such mechanism, Open Flow, is often misunderstood to be equivalent to SDN, but other mechanisms could also fit into the concept.

Software-defined networking (SDN) is an architecture purporting to be dynamic, manageable, cost-effective, and adaptable, seeking to be suitable for the high-bandwidth, dynamic nature of today's applications. SDN architectures decouple network control and forwarding functions, enabling network control to become directly programmable and the underlying infrastructure to be abstracted from applications and network services.

---------------------------------------------------**Challenges** -------------------------------------------------------------One fundamental challenge of SDN is how to handle high touch, high security, high performance packet processing flows in an efficient manner. There are two elements to consider; performance and programmability/flexibility. performance refers specifically to the processing speed of the network node considering both throughput and latency. Programmability means the capability to change and/or accept a new set of instructions in order to alter functional behavior. Flexibility is the ability to adapt systems to support new unforeseen features (e.g. applications, protocols, security measures).

Assuming that the performance requirements can be achieved within the hybrid programmable architecture, a further issue that has seen some discussion but limited solution is scalability in SDN.

The third challenge we have in Security. There has been limited industry and research community discussion to date on the security issues associated with SDN. A greater focus on security is therefore required if SDN is going to be acceptable in broader deployment

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With growing increase in networking devices and data centers it is very hard to manage their networking systems manually. So i prefer this technology SDN to ensure great flexibility and enhancing networking in datacenters. In order to meet challenges like performance. stability and security we need to incorporate multi processing technology and huge cpu's in switches there by increasing the packet processing rate. We need to develop more applications using SDN for maintaining security and stability across data centers. One such technology is restore and back up, where you back up all the important data and restore it when the original copy is lost or corrupted. One other important approach is to enable teaming in SDN, where a group of controllers, manage switches instead of one. This will enable to load balancing and to reduce redundant data processing.

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