Software Eats the World, Takes a Bite Out of Networking

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Last summer, Marc Andreessen, Netscape's co-founder and long-time tech industry luminary, proposed an idea that almost instantly became the catchphrase of the new boom. According to Andreessen, who is now a venture capitalist, software is poised to replace the value chain of traditional industries, ranging from aerospace and automotive to retail and telecom. Andreessen describes this process as "software eating the world." Today, software took a small bite out of networking. A group of companies led by Verizon, announced one of the first real-world demonstrations of a concept called "software defined networking" or SDN, by a major carrier. The idea behind SDN is to uncouple traffic management from the physical hardware based elements it has heretofore depended on.

"Software defined networking is a game-changer for the way we think about networking and opens the door to the next generation of network architecture, which promises to give us higher performance at significantly lower cost while supporting a broad range of services," Stu Elby, vice president, network architecture and technology, Verizon, said in a press release.

Eric Johnson, CEO of ADARA Networks, said "Software defined networking provides the freedom to envision any behavior or service" as well as the operation tools to make those services a reality.

The demonstration, which includes ADARA Networks, HP and Intel, will be held at the Open Networking Summit in Santa Clara. It hopes to show how an industry protocol called OpenFlow can reduce the cost of delivering complex, personalized consumer services and optimize the movement of large volumes of data between data centers.
A number of network switch and router vendors have implemented the OpenFlow protocol—include Brocade Communications, Arista Networks, Cisco, IBM, Juniper Networks and Hewlett Packard. But there are still lots of questions about how it can be commercially applied to data centers and carrier networks.

Last week, a consortium of the world's leading networking companies announced the opening of the "Open Networking Research Center," (ONRC) which will focus on supporting SDN with a solid foundation of research and also on ensuring the development of open interfaces and open-source software.

"For two decades, networking has remained essentially stagnant and networks are far too expensive, complex and difficult to manage," said Scott Shenker, a professor of electrical engineering and computer science at UC Berkeley. Shenker is also the faculty director of the ONRC along with Nick McKeown.

The ONRC's founding sponsors include: CableLabs, Cisco, Ericsson, Google, Hewlett-Packard, Huawei, Intel, Juniper, NEC, NTT Docomo, Texas Instruments and VMware.