

SDN UNCLOGS IT ‘PLUMBING’

NARRATIVES by WSJ Custom Studios for Brocade, as previously published in *The Wall Street Journal*.



If you're in marketing, here are two stats that could alternately delight and deflate you. First, product videos comfort a majority of consumers making online purchases. Second, if those videos don't load in two seconds — bam! — those consumers bolt, and slow loading is becoming more frequent.

What's going on? Computer networks are creaky. Tech advances are coming fast and furious, but the switches, routers and other components transporting ever-growing amounts of data such as social media chatter and video can't keep up. Online technology is dazzling; the 20-year-old data centers housing the storage and computing services are not. It's like your great new Jacuzzi is connected to old pipes that can't pump through a sufficient amount of water pressure.

But there's a solution: a new technology approach called software-defined networking, or SDN. A year ago, hardly anybody, even IT professionals, had heard of the term. Today, 27% of companies have implemented SDN strategies, and 63% are looking closely at it, according to a recent study by Enterprise Strategy Group.

Imagine if you climbed into that Jacuzzi, and the plumbing knew automatically to direct all the water pressure in the house to it. That's a simplistic analogy for what SDN does. In a traditional network, the switches and other components that route data must be programmed manually; they treat all data the same. It has been costly to enable such networks to recognize and prioritize different types of data. As a result, websites go down, and companies lack the IT flexibility to take full advantage of the cloud revolution, the trend of accessing services over the Internet.

"The dirty little secret in unplanned downtime is [that] it's because of the human factor, IT people making mistakes," said Larry Ponemon, head of the Ponemon Institute, which recently published its 2013 Study on Data Center Outages. "The next big wave is making the network intelligent and removing the human factor."

That's what SDN does — it automatically decides which data should get priority. Here's a look at what the technology can do for a company:

SDN UNCLOGS IT ‘PLUMBING’ CONTINUED

—Help it move faster. Say the marketing department has an idea for a promotion that requires a lot of computing power. Back in the day, marketing would put in an order to IT, and it might have taken so long to put the technology in place that the marketing opportunity slipped past. Today, IT can put in place 1,000 virtual machines in minutes, but it might take two weeks to tweak the network so it can support that new environment. SDN eliminates the network as the bottleneck — it’s as fluid as the cloud itself, so it can fulfill the promise of the cloud.

—Reduce capital costs. A university needed a load balancer, a piece of technology to help direct data to systems that would analyze whether bad guys had broken into the network. However, the load balancer cost as much as \$200,000 — way beyond the budget. With SDN, the university was able to implement a solution for a quarter of that sum. One reason: SDN reduces some of the people costs, such as network engineers, and allows simpler and cheaper hardware to be used.

—Improve the online experience. In this visual age, SDN can boost performance to allow network providers to stream near-flawless video. It could also improve the economics of video and collaboration applications. The network can be adjusted on the fly, which means the quality of a telepresence session at noon on Wednesday could be raised (to meet the needs of business users and the amount of traffic), and then lowered for a Saturday call at midnight. The power of SDN could improve all types of online experiences.

SDN is just beginning to move from theory to practical use, and it’s important to keep its nascent state in mind. But as companies look to launch new projects, like using content from mobile devices and social media in ad campaigns, they realize they can’t let network plumbing slow them down anymore. Expect to hear the term “software-defined networking” a lot more as companies seek a smart answer to a growing problem.