

HOW CLOUD COMPUTING IS DRIVING THE DEMAND FOR WAN OPTIMIZATION

For the past few years, Google, IBM, Amazon, and other top providers have been pouring money into a new emerging technology. Cloud computing, in which resources are shared across the Internet or private WAN, is becoming extremely popular in today's dynamic, services-oriented computing environment. Heck, even some of our resources are shared in the cloud (your organization might use it too, and you don't even realize it!). It's a cost-effective way for companies to add storage capacity or use applications without incurring the up-front cost of additional infrastructure or licensing software.

So what are some common uses for cloud computing?

Software as a service (SaaS)

Software vendors are increasingly offering the use of their product across the Internet either as a subscription service or as a "pay per use" product. The advantage of this model to customers is that they can try

software without investing in the whole package and that they don't need to add infrastructure to support the software. Additionally, because SaaS is distributed over the Internet, it's available anywhere with an Internet connection, making it ideal for organizations with a traveling salesforce. It's no accident that today's most popular SaaS is Salesforce®.

Services

Many companies offer products that are delivered across the Internet but are not full applications. Examples of these services are credit-card processing and shipping services.

Additional server space

Organizations that are growing fast often find that they need to add server space fast. Adding more servers can mean an expensive and time-consuming infrastructure upgrade. Renting server space over the cloud enables these organizations to instantly add more server space for data storage, Web site hosting, or other uses. The most common way to use server space over the cloud is for backing up network data. Many companies offer services that do this automatically on a set schedule.

Monitoring

Scanning for viruses, checking e-mail for spam, and monitoring building alarm systems are all offered over the Internet.

Everyone can agree that cloud computing can provide significant cost savings and great versatility, but it's also particularly sensitive to bandwidth and latency issues. Anytime an application, a server, or another resource is made available over a WAN, it must take into account the limitations of that WAN. Enter WAN optimization. It provides a way to increase response time and productivity without the expense of adding more bandwidth.

Because of the wide range of technologies that fall under the WAN optimization umbrella and because not all WAN optimization products are suitable for every situation, it's important to understand the particular technology used.

WAN optimization solutions fall into two general categories:

- **Bandwidth optimization:** Works to increase throughput on a WAN link, but isn't particular about what is being sent across that link
- **Bandwidth management:** Increases the efficiency of a WAN link by managing how and when the traffic flows across the link rather than just pushing more data through.

Bandwidth optimization works to get a higher volume of data across the WAN link in some way compressing or storing data or the protocols that control data flow.

Bandwidth management aims, not to move traffic more quickly across the WAN, but to improve performance by controlling the content and type of traffic, as well as the routing and timing of traffic crossing the WAN.

Unless WAN limitations are addressed, users can find themselves with slow response times, leading to lower productivity and frustration.

Because of these limitations, organizations are increasingly investigating the benefits of WAN optimization to increase efficiency and throughput.

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