



What's holding your apps back?

5 culprits behind sluggish network performance and what you can do to stop them

Whether they're your customers or employees, today's end-users demand applications that are fast and reliable.

If enterprise applications are sluggish—or worse, not available at all—you can bet IT will hear about it from frustrated users who want to do business with you or just do their jobs.

It's becoming more serious every day. As demand continues to grow for cloud and other network-dependent technologies, network budgets remain flat. The inevitable result is increased congestion, slower applications and more unhappy voices inside and outside your organization's walls.

Fortunately, you can now find and fix the biggest obstacles to peak application performance without having to buy all new, expensive infrastructure. And you can do it in an evolutionary way that sets you on a path towards the power and flexibility of a software-defined WAN (SD-WAN).

78%
of CIOs can't
guarantee application
performance¹

Here are the top five culprits slowing down enterprise applications—and what you can do to thwart them.

1 Mismanagement of existing bandwidth

When applications run poorly, people love to blame the WAN. It's true: poor application performance is often rooted in poor enterprise network design.

But don't be fooled. The real culprit is far less likely to be lack of bandwidth and more likely to be existing bandwidth that is not optimally managed.

2 Unnecessary network traffic

With all the streaming music, live sporting events and, yes, cat videos clogging the same pipes as business-critical applications, is it any wonder that Finance can't access the general ledger for monthly closings, or that calls to the Help Desk or to Sales get garbled by your voice over IP system?

It's not always realistic or even necessary to prohibit access to these sites, but they shouldn't get in the way of what is truly important to the business either.

3 Over-provisioning for apps that don't need it

Our next culprit typically appears when you deploy a key application without testing its impact on network performance. All too often, application vendors' bandwidth recommendations are accepted without proper due diligence. This can lead to over-provisioning of bandwidth.

That means a single "road hog"-like voice or video might be allocated 60% of bandwidth while it needs only 30%. Meanwhile, all of your other now-under-provisioned apps are sharing the remaining 40%, resulting in unintended performance issues.



2 out of 3 IT organizations don't prioritize applications or only do so in a static manner²

4 Lack of visibility

It seems surprising, but many enterprises don't know how many applications are running on their networks, how much bandwidth they consume or who is using them at any given moment. Root causes of this include the sinister-sounding though increasingly common *shadow IT*—users or departments who, often without realizing it, become rogue users by secretly deploying their own cloud applications, such as Salesforce, which they pay for monthly on a credit card and access via the public Internet. This process often inadvertently leaves their colleagues in IT unaware, catching them off guard when it comes to bandwidth.

Similar issues can stem from the growing number of network-connected, non-application-driven services or devices like sensors that are part of the burgeoning Internet of Things (IoT). Whatever the cause, the inability to get an accurate, holistic view of actual network workloads is a surefire path to insufficient network and application performance. After all, you can't control something if you don't know that it exists.

5 Lack of control

The final but perhaps biggest culprit slowing applications down is lack of network control. Here's how. Picture a highway where every vehicle is fighting to drive in the fast lane. That's just what happens on many flat, unsegmented enterprise networks. Without dedicated high-occupancy vehicle or emergency lanes, directional signage and/or a traffic cop to tell everyone which way to go and when, the result is a constant traffic jam where no one gets anywhere, fast. And that lack of control makes all the other problems a whole lot worse.



Only 8% of companies know the scope of shadow IT at their organizations²

The fixes

Once identified, these culprits can be corrected. Here are a few potential fixes to put some pep back into your network's step.

1

Find a better way to the cloud

There is no doubt the cloud has had a significant impact on business and IT.

Despite being keenly aware of the implications, many enterprises overlook that the cloud requires bandwidth, since moving applications from the data center to the cloud changes the application path, often from the LAN to the WAN. If you don't take this into account, performance and reliability can suffer. When that happens, there is a good chance your end-users will suffer, too.

Luckily, there is a simple fix in the form of cloud application optimization solutions, such as cloud exchanges. These are often provided by a network service provider (NSP), leveraging their network to connect customer sites directly to leading cloud vendors such as AWS and providing privacy and security while optimizing cloud application performance.

3

Be more dynamic

Popular GPS navigation app Waze dynamically routes cars on different roads, using real-time data on traffic ahead. In the event of a bottleneck, it crunches the data and automatically reroutes drivers along a better path.

You can do that on the network, too, routing applications and users based on predefined profiles and current network conditions. The result is that top-priority traffic is rerouted to get to its destination faster, bypassing lower-priority traffic along the way.

The ability to make this happen is among the best ways to avoid your apps catching some z's. While there have been solutions for this before, SD-WAN is now the best way to introduce this kind of dynamic routing.

2

Go hybrid

Another option is a hybrid WAN, which segments high-priority, high-bandwidth and/or latency-sensitive applications like voice and video on your primary MPLS network and less-demanding data streams like web browsing on a lower-cost or backup broadband network.

Hybrid networking offers an efficient, cost-effective approach that allows you to sidestep network sluggishness caused by too many applications of varying levels of importance competing for the same bandwidth without any means of prioritizing their level of importance.

4

Get visibility and take control with SD-WAN

Ultimately, the single most important step you can take to address network sluggishness is to gain visibility into what's actually going on.

Once you have that kind of vision, you need a way to take control of how applications interact. By prioritizing and optimizing their individual passage, you will be doing the same for available bandwidth as a whole.

By moving to SD-WAN, IT leaders gain both visibility and control. SD-WAN draws on bandwidth across multiple connections and dynamically routes traffic based on predefined, customizable business policies, coupled with real-time network performance data. The results are dramatic improvements in application performance, along with reductions in the cost of bandwidth on a per megabit basis. Significant gains in customer and user experience will follow, too.

Time to take action

Armed with this information, you are ready to start bringing the culprits back in line. Even better, you're prepared to begin moving your entire organization forward to a higher-performance future.

¹ Boston Consulting Group, 2015.

² "The 2014 State of WAN Report." Ashton, Metzler & Associates, www.ashtonmetzler.com/Metzler-WAN-Survey-2014.pdf. Accessed 9 Apr. 2018.

³ "Cloud Adoption Practices & Priorities Survey Report." Cloud Security Alliance, Jan. 2015, downloads.cloudsecurityalliance.org/initiatives/surveys/capp/Cloud_Adoption_Practices_Priorities_Survey_Final.pdf. Accessed 9 Apr. 2018.

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