



Top 4 pitfalls

to avoid when deploying Office 365

There's no denying that Office 365 is a big deal. It's a big part of the Microsoft Intelligent Cloud strategy. It's big in terms of its user base. And it has a big impact on your network. Fully deployed, Office 365 will quickly become your greatest consumer of bandwidth and slayer of firewalls.

Office 365 is unlike any other SaaS app and, even with careful planning, it's fair to say that deployment doesn't always go without a hitch. To help you get on the road to success, we've pulled together an overview of the most common pitfalls organizations make pre-deployment—and what you can do to avoid them.

PITFALL 1: YOU THINK YOUR EXISTING NETWORK IS UP TO THE TASK

Most government organizations rely on a hub-and-spoke network to route traffic from field offices through a central data center, where applications are housed and security controls are applied. If you're also running apps on Azure, you may have set up ExpressRoute connections to those workloads. So, it's reasonable to think that you could use those same pipes for Office 365, right? Think again. You're about to take a huge application and its data and move it to the cloud. It's time to think differently about your data and your network.

What does Microsoft say?

In March 2017, Microsoft released its updated Office 365 connectivity guidance via TechNet. If you want to geek out on the blog, [you can find it here¹](https://blogs.technet.microsoft.com/onthewire/2017/03/22/__guidance/). If not, we've summed up the key points for you. In regards to networking, and Office 365, Microsoft had this to say:

Regarding hub-and-spoke networks

"With cloud services such as Office 365, that methodology [hub-and-spoke] no longer makes sense; your data isn't in a 'place' it is in many locations in the region where your tenant is. For Office 365 specifically your data will be held simultaneously in up to four locations. Therefore, the connectivity model needs to reflect this."

Regarding ExpressRoute for Office 365

"Because of this list of cons, especially the complexity and high risk of outages if not correctly implemented, **Microsoft [has] a review policy of requests to use ExpressRoute for Office 365...**so we can discuss these pros/cons with the customer and ensure that all parties are aware of **the 2-6 months of planning, extra complexity** and what ExpressRoute can/cannot deliver."

What does Zscaler recommend?

It's important to establish a local network egress as close as possible to the user. Also known as a "local internet breakout," this approach minimizes latency on user traffic. Latency is the enemy of Office 365, and the quicker you can get your user traffic to a Microsoft data center, the better.

Get to know your latency

Know the latency users experience when getting to the internet—on your network, over VPN, and from your field offices. The round-trip time (RTT) should be less than 250ms, with Exchange requiring less than 50ms and SharePoint Online less than 25ms. Anything above these numbers is a deal breaker.

Embrace your new network

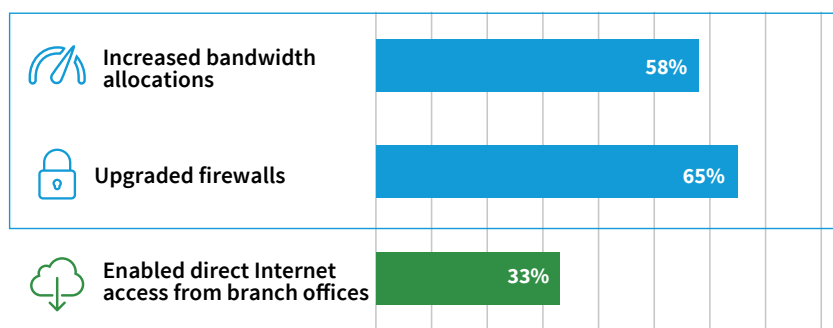
When it comes to Office 365, the internet is the de facto network. Public sector organizations with successful deployments are using local internet breakouts at field offices, which gets Office 365 traffic to Microsoft as quickly as possible and avoids the extra latency added by traveling through older hub-and-spoke networks.

¹ https://blogs.technet.microsoft.com/onthewire/2017/03/22/__guidance/

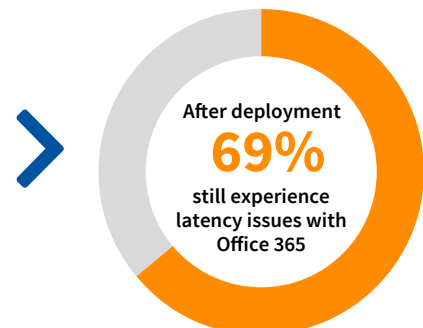
PITFALL 2: YOU DOUBLE DOWN ON YOUR EXISTING GATEWAY

You've probably invested a great deal in your gateway, so it's perfectly natural to turn your focus to the gateway when the Office 365 project hits your plate. It's possible you've been able to do just that with other SaaS projects: you scope out your gateway, plan for added bandwidth, and upgrade appliances as needed. The problem is that Office 365 is unlike any other SaaS application you've dealt with in the past. It will lay waste to even the best-planned gateway upgrades. In a recent survey,² 250 enterprises were asked about their post-deployment experience, and their responses reflect this reality.

How did your organization prepare for the deployment of Office 365?



What was your post-deployment experience?



While a third of the survey respondents enabled direct internet access from their branch offices, the majority focused on the traditional approaches of bandwidth management and appliance upgrades. It's no surprise, then, that a similar percentage of those respondents also reported latency problems post deployment.

What does Microsoft say?

In Microsoft's connectivity guidance for Office 365, the company calls out the proxied/centralized gateway approach as problematic:

The problems with centralized gateways

- They often don't scale and were not installed/designed with SaaS in mind
- The proxy functions can delay frames on their way through, adding jitter and latency
- Proxies commonly alter TCP-level settings, which can cause performance issues
- Skype's coping mechanisms for poor networks are drastically reduced when TCP is used

² TechValidate and Zscaler. "Challenges with Office 365 Deployment" Survey. Q1 2017.

What does Zscaler recommend?

Because Office 365 opens an unusually high number of long-lived sessions, you will want to avoid exhausting the resources of your existing gateway appliances.

Embrace local internet breakouts

Instead of overloading your existing gateway, or taking on the added cost of upgrading your appliances, you should look to the local internet breakout. By breaking out Office 365 at the field level, you can extend the life of your existing gateway appliances and avoid Office 365 performance headaches.

Deliver security without breaking the bank

Many think that local internet breakouts will be more expensive, as they require the installation of appliances at every field office in order to deliver security. By embracing a security-as-a-service approach, you can deliver both the security required for your internet-bound traffic and the user performance needed for your Office 365 connections.

PITFALL 3: YOU ASSUME ALL INTERNET CONNECTIONS ARE ALIKE

To get the very best Office 365 performance—and the happiest Office 365 users—you need to connect to Microsoft as quickly as possible. Since we know that local internet breakouts help you accomplish that goal, you should now train your focus on the last leg of your Office 365 connection. This is where a lot of organizations falter, because they don't handle DNS locally, too, which results in unnecessary latency. If you provide Microsoft with DNS information for your headquarters in Washington, DC, your Office 365 traffic will be routed through the Microsoft Office 365 data center in Washington, DC even for your users in the San Antonio field office.

What does Microsoft say?

Microsoft has a robust global network in which to provide Office 365 services like Skype, SharePoint, and Exchange. Care should be put into planning the internet portion of the journey once it breaks out of your network.

Stay away from Centralized DNS

“ Ensuring good access to Microsoft's global network enables us to optimize your traffic for the majority of its journey, deliver services and enhancements locally and ensures your traffic isn't on the internet for anything other than a short leg from the edge of your network to the edge of Microsoft's [global network]. ”

What does Zscaler recommend?

There are some key areas that can make your Office 365 deployment a success, and they have a lot to do with making sure you have the quickest connection possible to Microsoft.

Think through your DNS strategy

As your traffic breaks out to the internet from your field offices, you will want it to resolve to a DNS that is closest to your users. By leveraging a DNS infrastructure that is always local to a Microsoft Office 365 connection, you can guarantee your traffic won't take unnecessary hops, and you'll reduce latency for consistent user performance no matter where users connect.

Peering with Microsoft is key

You should also focus on ways to peer with the Microsoft global network. By selecting an outbound network connection that peers with Microsoft in multiple data center exchanges, you can get your connection handed off to Microsoft with a minimal 1-2ms hop. Zscaler peers with Microsoft Office 365 in 20 different exchanges globally, which guarantees a fast connection from any location.

PITFALL 4: YOU BELIEVE LIFE IS GOING TO GET EASIER AFTER OFFICE 365

With all the hardware and services you'll be offloading to Microsoft after your Office 365 migration, you might have the impression that Office 365 will give you some precious time back. But the reality is that managing and maintaining Office 365 can itself be a full-time job.

What does Microsoft Say?

Microsoft maintains a [master XML list](#)³ of all connection points, known as "Office 365 endpoints." Microsoft makes changes to these endpoints on a regular basis, and will notify you when they do. It is your responsibility to adjust firewalls, proxies, or other access control equipment when these changes occur.

About your responsibility to update Office 365

☞ When new endpoints are announced, there is usually a 30+ day buffer before they are effective and network requests begin going to them. This buffer is to ensure customers and partners have an opportunity to update their systems. ☞

³ <https://support.office.com/en-us/article/Managing-Office-365-endpoints-99cab9d4-ef59-4207-9f2b-3728eb46bf9a>

What does Zscaler recommend?

Simplify the administration of URL/IP updates

Staying on top of Office 365 updates on a regular basis, across all your infrastructure, can be time consuming. In addition, missing an update can cause outage problems. Look for a vendor like Zscaler that can help streamline this process. Zscaler provides a one-click configuration option that automatically updates these Microsoft changes, without any additional administrator workload.

Remember that your users are everywhere

As users leave your network, be sure you have a good strategy for getting them to Office 365. Forcing them back onto the VPN and through your network only to head back out to the cloud and Office 365 is far from efficient. Zscaler offers a great option, as it enables all users—on or off network—to connect directly to the internet through the Zscaler cloud platform. With over 100 data centers and peering with Microsoft, every user gets a fast connection to Office 365 as well as a complete security stack, delivered as a service, that protects traffic bound for the open internet.

IT'S YOUR MOVE.

Now that you've read how to avoid the common pitfalls, we hope you're feeling more optimistic about your best path for a successful Office 365 deployment. If you'd like a deeper dive, or you're running into problems with your migration, we'd suggest reading our "[Definitive Guide to Networking for Office 365](#)."⁴ This document explores strategies for getting your network ready for Office 365, and the specific steps you should take to make your deployment a success.

Learn more at [zscaler.com/O365](https://www.zscaler.com/O365)

⁴ <https://www.zscaler.com/resources/white-papers/office-365-network-readiness.pdf>

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