

SOLUTION NOTE

BloxOne[®] DDI

Optimizing Office 365 with Near-Line Access

SUMMARY

Modern Office 365 and SaaS cloud-based applications deliver improved collaboration and productivity. However, traditional hub-and-spoke networks were not designed to provide direct Internet access from branch and remote locations and can adversely impact access and performance. Two common architectures can produce challenges. First, DNS backhaul through the data center can mean inefficient traffic flow, routing issues to SaaS applications and no local survivability. Second, traffic routed from server- and router-based DNS/DHCP through the data center can be inefficient and labor intensive, especially with individually managed records. Further, it provides limited administrative visibility and a high potential for site-to-site inconsistencies.

The solution lies in deploying local DNS for local Internet breakouts for optimum access and performance. Office 365 routes traffic to the closest Microsoft network edge location. Exchange routes traffic to the closest Exchange Client Access Server. And DNS queries are resolved locally at the closest Internet breakout. This approach improves SaaS access, DNS/DHCP performance and local survivability. It also enables central management, uniform policies and processes, deep visibility into network activity and automated provisioning.

Infoblox BloxOne[®] DDI optimizes Office 365. It's the industry's first secure, cloud managed, locally hosted DDI solution. It enables distributed environments, local survivability, simplified IT deployments and management, enhanced reliability, scalability to thousands of locations, consistent software updates, centralized reporting, fully extensible templated integrations and open RESTful APIs. Best of all, it improves user experience and provides near-line access for greater control, automation and security.

The Office 365 Dilemma

The upside promise of Office 365 was exactly what you needed—a distributed Software-as-a-Service (SaaS) cloud-based application that delivered improved collaboration and productivity. So, you made the investment and deployed. But now you have a dilemma. Corporate Office 365 users are happy, but branch and remote users are complaining about access, reliability and performance.

In the design and planning process, how branch and remote users connect to Office 365 and SaaS applications can often be overlooked. That's because enterprise networks were originally designed to centralize data and applications at the headquarters' datacenter, not provide direct Internet access from the branch. For branch and remote users, traditional network configurations can adversely impact Office 365 and SaaS access and performance. But before we explore that, let's take a brief look at the role of core network services.



Core Network Services

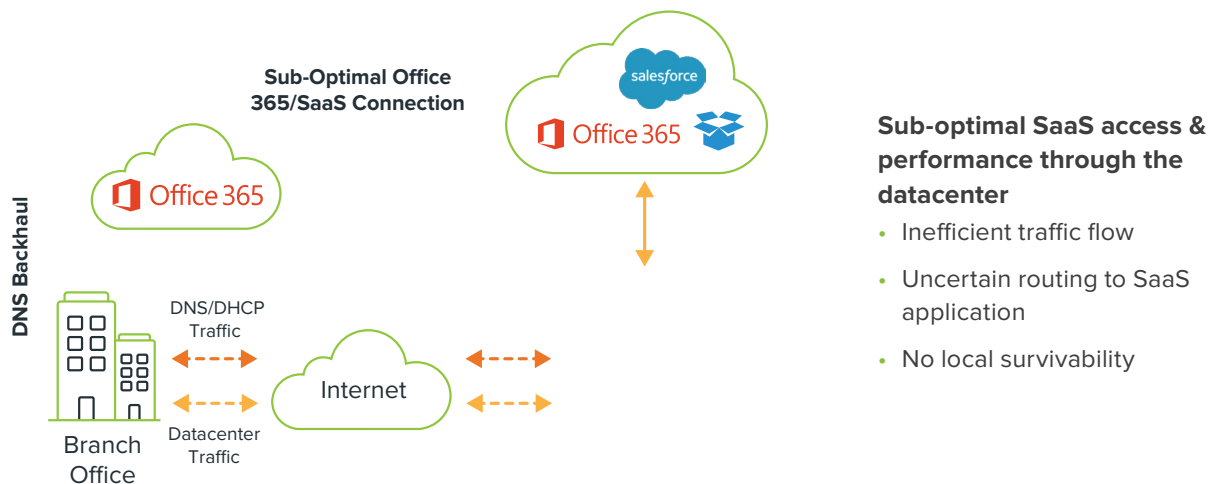
All network and cloud interactions depend on core network services including DNS, DHCP and IPAM (DDI). All play a foundational role in IP-based communications. For example, Domain Name System (DNS) is the starting point for every network conversation. It's like the phone book of the Internet because it translates common, memorable alphabetic domain names into numeric Internet Protocol (IP) addresses used by web browsers to find unique devices, interact and exchange resources. Next, there's Dynamic Host Configuration Protocol (DHCP), the foundation of network identity and access. It provides quick, automatic, central management and distribution of IP addresses to connect devices to networks. Finally, IP Address Management (IPAM) refers to the planning, tracking and management of DNS and DHCP services that assign and resolve IP addresses for machines on the network. With accurate network endpoint discovery, IPAM becomes the authoritative source for all network-connected assets. For branch and remote users, these network services are essential for fast, reliable and resilient access to Office 365 and SaaS applications.

Traditional Network Challenge

For branch and remote offices, DDI core network services are not traditionally deployed to enable direct-to-cloud services like Office 365 or SaaS applications. A brief look at two prevailing configurations show why branch users are unhappy.

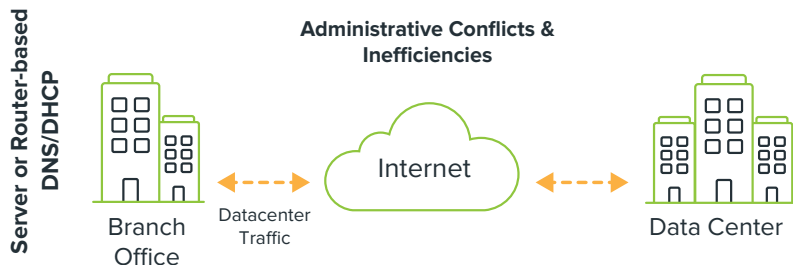
DNS Backhaul

In the traditional DNS backhaul model, where branch and remote traffic is directed back through headquarters datacenters before reaching the Internet, Office 365 workflows and routing to SaaS applications become inefficient and uncertain. Branch users must often travel longer network distances before reaching files and data, significantly impacting access, reliability and performance. Worse, there's no branch resiliency or local survivability as branch users are at the mercy of the headquarters datacenter being up and functional.



Server- and Router-Based DNS/DHCP

Utilizing servers and routers to manage DNS/DHCP is another network model that often results in adverse Office 365 user experiences. This approach involves labor-intensive, individual branch server- and router-management that can generate site-to-site inconsistencies. Server-based DNS/DHCP can experience performance degradation and process interruptions, while routers are often subject to limited administrative visibility.



DNS/DHCP management challenges through the datacenter

- Labor intense, individually managed resources
- Limited administrative visibility
- Potential site-to-site inconsistencies

Network Transformation for Office 365 and SaaS

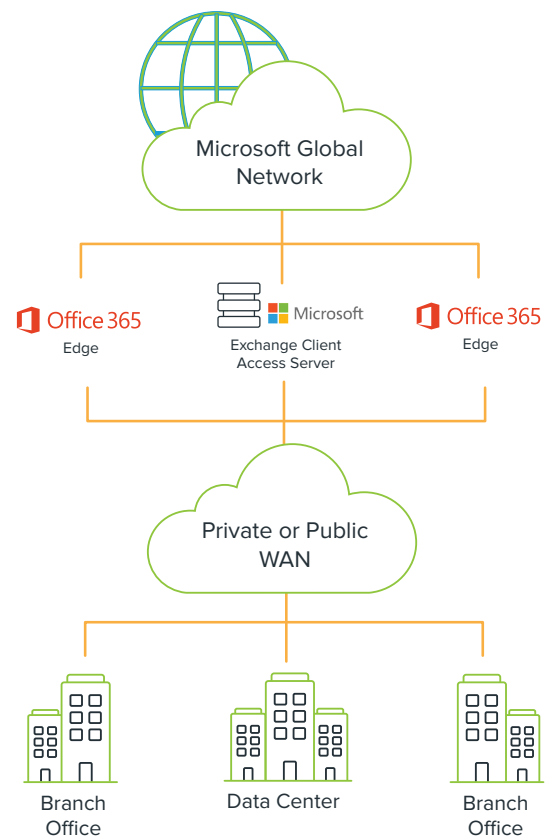
With the emergence of Office 365 and SaaS, technology forged ahead, pushing the network edge out to the branch and leaving traditional models in their wake. Because Office 365 is a globally-distributed service, connectivity comes through Microsoft Global Network front doors scaled-out across hundreds of locations worldwide. From an architectural view, optimum user experience is achieved by deploying local DNS to access Office 365's local Internet breakouts. This enables branch and remote users to connect to the closest Office 365 network location for the best overall experience. But it also means that DNS queries must be resolved locally, something that the DNS backhaul model cannot deliver.

So, you might ask, “What about local server- and router-based DNS/DHCP management models? By definition, don’t they provide local service?” Yes, but it comes at considerable cost. Individual branch-located servers and routers can be expensive to deploy, maintain and refresh, and cumbersome, error-prone and inefficient to operate, especially for extensive, geo-diverse networks. Plus, servers can experience performance and service interruptions, impacting user experience. With constrained budgets, resources and cost reduction initiatives, the server and router-model may no longer be sustainable for many organizations, especially when lower-cost, more cost-predictable and higher-performing options are available.

Ultimately, if your network is deployed using traditional DDI models and Office 365 is already in play or on the horizon, it’s initial value and benefits could be at risk or already be costing you. So how do you resolve this dilemma? Move your DDI core network services to the cloud.

Deploy local DNS for local Internet breakout and optimum access

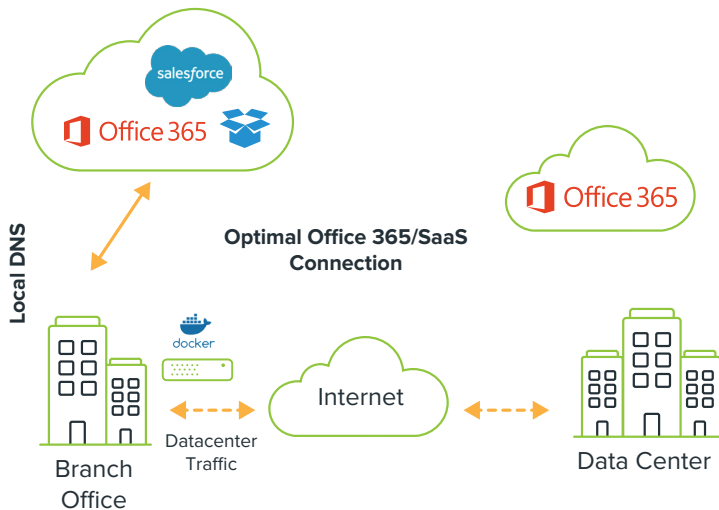
- Office 365 traffic routes to the closest MS network edge location
- Exchange traffic routes to the closest Exchange Client Access Server
- Branch & remote users get best overall experience through local access



Cloud DDI—Optimized Office 365 Access

Introducing BloxOne® DDI from Infoblox, the industry's first cloud managed DDI solution optimized for branch office networks. Unlike traditional network architectures, BloxOne DDI provides significant advantages over backhaul, server and router-based delivery. By always connecting users to the nearest Office 365 entry point, BloxOne DDI optimizes user access to Office 365, SaaS and datacenter applications, improving reliability, performance and overall experience. BloxOne is the transformative, best-in-class platform that delivers both locally recursive DNS and locally hosted, High Availability (HA) DHCP with deep IPAM integration. BloxOne DDI is scalable to support thousands of sites and can increase capacity simply by adding site licenses. It offers the flexibility

to deploy on an on-premises commodity hardware appliance, VM or in a container, significantly lowering capital hardware costs. It also lowers operating expense through a subscription, cloud-consumption model. The lightweight on-premises branch appliance provides resiliency and local survivability and guarantees geo-local access to cloud-based Office 365. It further improves workflows by centralizing visibility and automating core network services, allowing network administrators to manage more users and environment workloads in less time. So, wherever users are, they can access and remain connected to Office 365 and SaaS applications regardless of network service interruptions at the corporate headquarters. This means superior reliability for thousands of remote offices, optimizing Office 365 access and improving user experience for performance and productivity.



Local DNS queries resolved locally for closest Internet breakout

- Routing for nearest SaaS access & assured DNS/DHCP performance
- Local survivability & uniform policies & processes
- Central management & automated provisioning
- Deep visibility into network activity & history

If this has piqued your interest and you're looking to improve branch user access, reliability and performance for Office 365, ask us more about BloxOne DDI from Infoblox—the first cloud-managed DDI solution for branch office networks. Because the network that works best is the network you never notice.



Infoblox is the leader in modern, cloud-first networking and security services. Through extensive integrations, its solutions empower organizations to realize the full advantages of cloud networking today, while maximizing their existing infrastructure investments. Infoblox has over 12,000 customers, including 70 percent of the Fortune 500.

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