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BLOXONE® DDI

Simple, Reliable and Flexible Core Network Services for the Expanding Distributed Enterprise

SUMMARY

Mobile, IoT and cloud solutions are sensitive to latency and are heavily dependent on reliable infrastructures.

BloxOne DDI consolidates the visibility, administration and control of distributed locations into a single interface, directs traffic to the closest SaaS entry point to improve performance and ensures survivability in the event of lost connections to data centers.

BloxOne DDI is based on an extensible, microservices and container-based architecture to simplify deployments and streamline operations to reduce overall cost of ownership. The solution also harnesses a full set of native APIs, providing secure, programmatic access to all supported UI capabilities.

ENTERPRISE NETWORKING HAS CHANGED

"Digital disruption" is often defined as how technologies such as mobility, IoT and the cloud have changed the way business is done. This trend continues to accelerate, as mobile devices are now a significant part of daily life. In addition, IoT growth in surveillance, manufacturing, healthcare and smart offices is expanding, and business critical applications and services are rapidly shifting to cloud-based alternatives such as Salesforce, Microsoft 365 and Box.

As a result networks have expanded, primarily at the edge, where the number of locations and devices within them have increased exponentially. Today's stakeholders, users and customers expect greater access, faster response times and more reliable connectivity. In turn, these rising expectations at the network edge are increasing the demand for solutions that simplify and optimize the administration and control of distributed environments.

WHY INFOBLOX BLOXONE DDI?

BloxOne DDI greatly simplifies the management of the core network services organizations rely on to deliver applications and services at the network edge. These services include DNS, DHCP and IP address management (aka DDI). Organizations have traditionally backhauled DNS and DHCP traffic through enterprise data centers and used local server or router based DDI implementations for branch office and remote locations. Although these approaches offered some cost efficiencies, they become less efficient when the number of locations increase as more activity shifts to the edge. Moreover, the use of traffic backhauling results in latency when accessing cloud-based SaaS applications and services that are especially prone to latency issues and heavily dependent on a reliable DDI infrastructure.

Infoblox, the industry leader in core network services, is the first to market with a cloud-managed solution for DDI. BloxOne DDI centralizes the provisioning, management and administration of DDI for the borderless enterprise. The solution consolidates the visibility, administration and control of distributed locations into a single interface, directs web and SaaS traffic to the closest service entry point in the cloud to improve performance and ensures survivability of DDI services in distributed locations in the event of lost connections to data centers.

BloxOne DDI also utilizes an extensible microservices and container-based platform to simplify deployments, streamline operations and minimize overall total cost of ownership. A full complement of APIs are available for secure, programmatic access to supported features throughout the solution.

USE CASE: CENTRALIZED ADMINISTRATION AND ENTERPRISE INTEGRATION

Local DNS/DHPC

BRANCH OFFICES

Individually managed

Data center
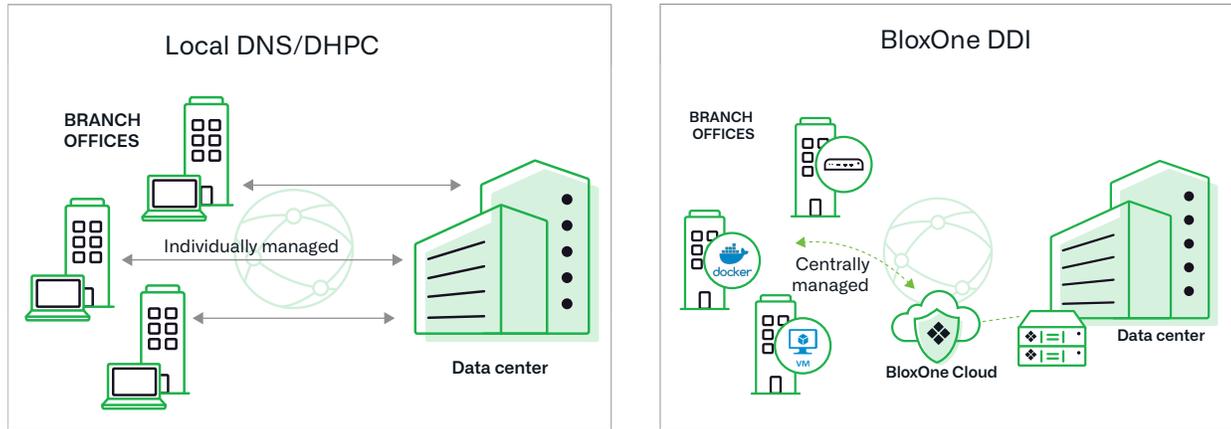
- Individually managed & labor intensive
- Site-to-site inconsistencies
- Performance degradation & interruption
- No integration with enterprise DDI

BloxOne DDI

BRANCH OFFICES

Centrally managed

BloxOne Cloud

Data center

- Centrally managed & automated provisioning
- Uniform policies & processes
- Purpose-built for DDI performance & security
- Native integration with enterprise DDI

Figure 1: Cloud-managed administration & integration

BloxOne DDI centralizes cloud-based provisioning, administration and control, simplifying the management of multiple sites. It offers consolidated views and template-based provisioning to ensure consistency across all locations. It also integrates with enterprise DDI solutions to provide a single point of visibility and control in one easy-to-use interface.

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USE CASE: OPTIMIZATION FOR SAAS AND CLOUD-BASED APPLICATIONS

DNS backhaul was originally designed to serve applications hosted in the headquarters data center and is inefficient for cloud-based applications across multiple sites, as Figure 2 illustrates.
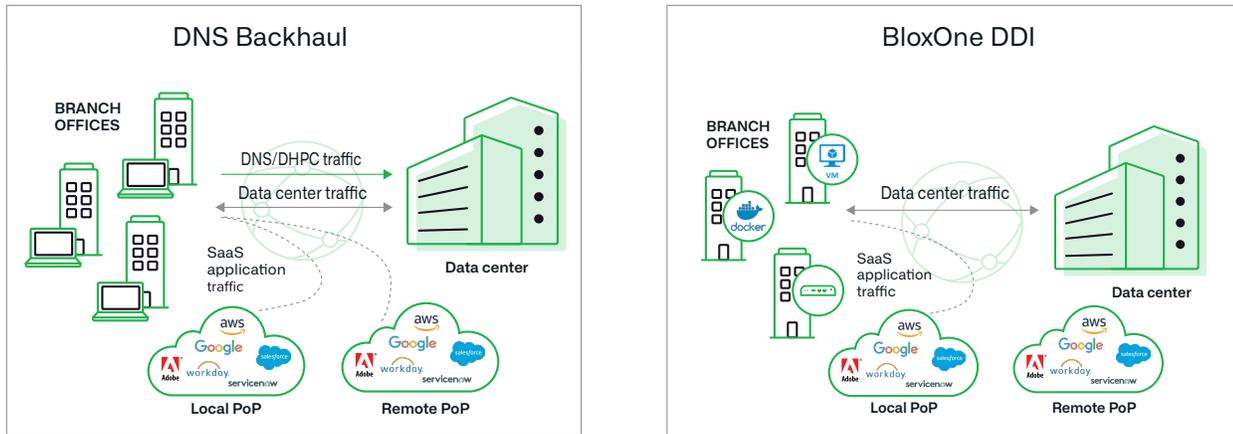

- Uncertain routing for SaaS applications
- Unpredictable latency & response times

- DNS routing to nearest SaaS PoP
- Optimized DNS for improved user experience

Figure 2: DNS network service optimized for cloud-based applications

Data center DNS services typically resolve and direct traffic through the closest point of presence (PoP) to the data center, rather than the one closest to the requesting location or site, resulting in longer latency and slower application response times. BloxOne DDI provides local DDI services to ensure DNS services execute at the closest PoP, vastly improving the end-user experience.

USE CASE: LOCAL SURVIVABILITY AND RESILIENCY

When distributed sites and locations depend on a backhauled link to their enterprise data center, critical business activities can be interrupted if that link fails or slows down.
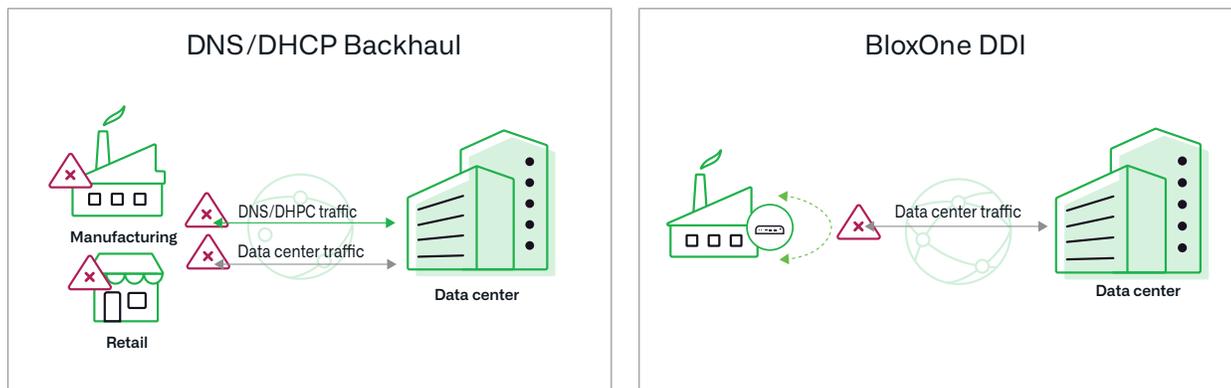

- Local access & services lost with failed link

- Local access & services lost with failed link

Figure 3: Local survivability for distributed sites and locations

In a backhaul architecture, a disaster affecting the data center link will disrupt all applications and services for dependent sites and locations, including DNS/DHCP, which are required for all network operations. With BloxOne DDI, remote sites are no longer dependent on their data center for key services. So local access and services are unaffected.

USE CASE: RIGHT-SIZED SOLUTION

For some borderless enterprises, fully-featured enterprise-grade DDI services are not needed in all of their distributed locations. For example, an organization may already have a DNS service that meets all its needs in every location, but it wants to deploy only DHCP or IP address management services in small regional offices.
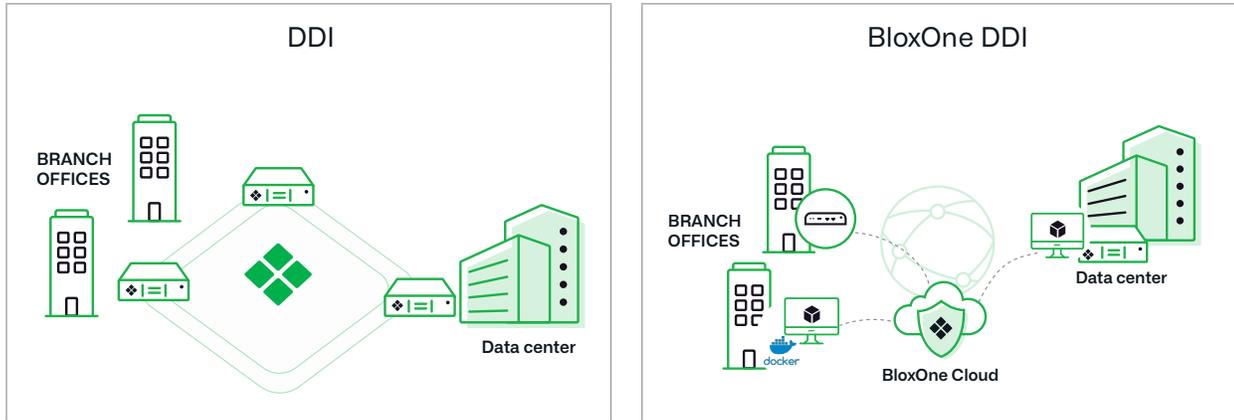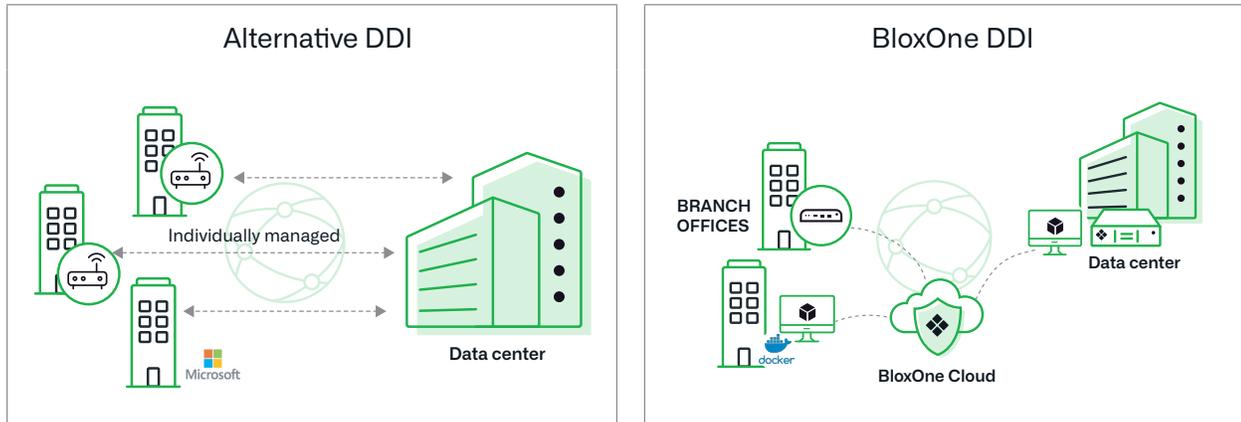

| Enterprise level capacity is excessive | Site & location optimized capacity |
| Full DDI feature set is excessive | Site & location optimized feature set |

Figure 4: Right-sized and hybrid solution options

A flexible and customizable cloud-managed solution provides the agility for enterprises to achieve the right size DDI implementation for every location. And as a bonus, the DDI used in distributed sites integrates with the enterprise DDI used in headquarters.

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USE CASE: DISTRIBUTED CLOUD-ONLY ENTERPRISES

Many high-growth companies today were born in the cloud and their business is 100 percent cloud-based. That means no centralized data center—all apps and services are managed and delivered in the cloud. So when it comes to managing the growth of distributed locations, it's challenging to find a solution that is 100 percent cloud-ready.

- Distributed services managed separately

- Potential site-to-site inconsistencies

- Performance & process degradation

- Centralized provisioning & management

- Uniform policies & processes

- Purpose-built for optimal performance

Figure 5: Born-in-the-cloud architecture

For cloud-born businesses, cloud-managed DDI makes it simple to eliminate resource-heavy physical appliances in branch and remote offices. Instead, lightweight devices or containerized appliances can be deployed in all locations, which enables DDI to be centrally managed in the cloud across all sites.

CONCLUSION

Networks have changed, and organizations must change with them. Traditional DDI solutions are unable to keep pace with the rapid growth of today's distributed environments. BloxOne DDI provides an efficient set of DNS, DHCP and IP address management core network services. It delivers centralized administration and enterprise integration, optimization for SaaS and cloud-based applications, local survivability for distributed locations in the event of lost data center connectivity, right-sized deployment options and flexible, cost-effective operations for distributed cloud-first environments. BloxOne DDI is the ideal solution to help organizations deliver the reliable, efficient and resilient connectivity today's mobile, IoT and SaaS environments demand.