Infoblox

CASE STUDY

Major North American Wireless Operator

The Customer

The customer is a major North American wireless provider offering LTE mobile phone and data services to an extensive retail and business customer base.

The Challenge

The operator was using BIND as its primary DNS caching solution for the mobile network. This set of caching servers handled all cached DNS queries for the entire mobile subscriber base. As they added subscribers to the network, the latency for DNS queries increased significantly on the legacy BIND servers.

This was a significant cause for concern since smartphone response time during web browsing, content sharing, and social media downloads is a critical factor affecting customer satisfaction—increasing customer churn and reducing average revenue per user (ARPU). Faced with explosive traffic growth as smartphone sales skyrocketed, the network team needed to reduce DNS latency to keep customers happy as DNS traffic levels increased. To keep latency low, the operator distributed video content endpoint servers to the network edge, placing content closer to customers by placing DNS servers alongside the content servers.

BIND was historically the first and most commonly deployed DNS management solution and familiar to network engineers, but over time could not keep pace with growing service provider environments. Since it requires customized scripting and manual intervention, BIND can be challenging to maintain. It lacks modern APIs for DevOps integrations and is not hardened against cyber threats. Worse yet, this once widely-used management solution is facing a dwindling pool of experts as these critical skillsets move on. For this provider, the day-to-day administration of additional remote BIND servers was becoming very costly and time-consuming for the small operations group to manage. The operator needed to manage multiple DNS servers remotely from a central location.

Customer: A leading wireless provider offering nationwide LTE service

Location: North America

Challenges:

- Needed to deliver strong user experience by reducing latency for bandwidth-hungry smartphone applications
- Existing BIND solution was very complex to administer, easy to break and could no longer scale

Results:

- Reduction of manual server administration and support costs through automation
- Increased visibility for capacity planning and troubleshooting
- Network scalability to keep staffing requirements down

Solutions:

- A highly distributed Infoblox Grid™ architecture

The Infoblox Solution

Infoblox provided a centralized management approach for the operator's highly distributed DNS architecture using the Infoblox Grid™ to automate routine daily server administration tasks. The Infoblox Grid manages the entire population of Infoblox DNS server instances from a single central management console and a single database that archives all DNS server conditions, configurations, and status information. All DNS server upgrades and patches can be performed by updating the central Grid Primary instance, automatically updating all the other instances in the Grid, eliminating the need to update each instance individually. The Grid also manages local and remote server failover if failures occur, ensuring seamless disaster recovery and a high level of service integrity for users. With Infoblox, providers can secure their DNS. They can pervasively protect the network from DNS threats that BIND can't see or defend–automatically stopping malware, ransomware and data theft by turning DNS into the network's most effective enforcement point.

"The flexibility, central control, and automated management of the Infoblox Grid architecture enable a wireless provider to meet customer demands for smartphone app performance by pushing content out to the network edge."

The Results

Because of installing the Infoblox DNS system and the Infoblox Grid, the operator has experienced decreased operational support costs and can scale and expand its network quickly and efficiently. They could eliminate the complexity of traditional BIND implementations and consolidate core network services on a common platform. Subscriber count and traffic levels continued to grow without compromising DNS latency or user response times.

Infoblox

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% of the Fortune 500.

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