CASE STUDY

Equipping BT with a robust and high-performance OX PowerDNS solution

Helping BT meet current broadband traffic and security needs, as well as preparing for mobile 5G and IoT demands

The challenge

The advance of Internet of Things (IoT) devices, high-speed broadband and next-generation wireless technologies such as 5G are changing the service provider landscape. Operators need to rearchitect their networks, including DNS, so that they can deliver guaranteed low latency for demanding applications such as video streaming, as well as for millions of subscribers and even more connected IoT devices.

BT Group, which includes the Consumer Division comprising EE, BT Mobile and Plusnet, is the largest provider of fixed-line, broadband and mobile services in the UK. It concluded in 2017 that its current DNS solution was constrained, and that it needed to start moving to a more scalable and future-proof solution, while retaining and improving upon existing functionality such as parental controls and malware protection.

Another goal for BT Group was the desire to consolidate and converge services, including DNS across both the fixed-line and mobile networks. In addition, the more 'smart' devices a customer adds to their network, the greater the potential threat from cyber criminals, so BT needed additional DNS-based security layers that would dynamically protect subscribers and the core network against malware.

Open-Xchange was chosen as BT Group's partner in this endeavor, using its OX PowerDNS solution.

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Migrating **millions of users**
to a new DNS platform

The solution

BT required a new DNS installation with at least the same level of functionality as its incumbent, including parental controls, with a predictable pricing and business model that supported current and future market requirements. After two successful long-term PoCs, BT was convinced of OX PowerDNS and the Open-Xchange support team.

Instead of a DNS black box, OX PowerDNS is very open and flexible, which meant that it could be deployed to meet BT's exact requirements. The transparent business model and predictable per-subscriber licensing convinced the financial stakeholders, and the OX team's technical knowledge and willingness to provide support above-and-beyond contractual obligations, means BT Group and Open-Xchange are now enjoying a strong, collaborative relationship.

Open-Xchange currently provides DNS resolving services to over nine million broadband subscribers across the BT, EE and Plusnet brands in a first phase project, with the option to consolidate all of the group's mobile and remaining broadband users, onto the same DNS infrastructure in the next phase.

Through its OX PowerDNS solution, Open-Xchange is providing BT with rapid DNS resolution. The solution provides the latest DNS security features to protect against malware, phishing and malicious traffic, and secures BT against DNS-based DDoS attacks. Combined with parental control to offer child-friendly internet and family protection options, this opens additional business opportunities for value added services. The new platform is the ideal solution to boost BT subscribers' browsing experience and serve their IoT devices with the rapid connectivity they need.

Since deploying OX PowerDNS, millions of users have been migrated without any impact on their experience, and BT has succeeded in addressing its DNS latency and security requirements.

BT's new robust and high-performance infrastructure is well-equipped to handle BT's peak QPS and leaves ample room for growth.

This means BT subscribers enjoy a rapid and secure internet experience, with BT Web Protect and BT Parental Controls now powered by Open-Xchange's parental control and malware protection solutions.

The OX PowerDNS solution matched BT's requirement for broadband controls that provide subscribers with ability to block content categories, including malware and phishing, and to block or allow specific web addresses. This is based on a combination of content categorization feeds from Open-Xchange partner zvelo and BT's own security intelligence. During the migration, around two million parental control profiles were migrated from the incumbent solution to ensure that the users of parental controls had a consistent user experience after the migration.

BT also benefits from enhanced DDoS protection, which equips it for protection from future botnet attacks from IoT devices.

As modern networks for fixed-line and mobile are built out, other network providers will quickly discover that legacy DNS architectures can be inadequate for their needs. Therefore, it is vital that network providers invest in DNS solutions that are scalable and future-proof, addressing the needs of next-generation network technologies, such as 5G.

The future

BT is also running a DNS-over-HTTPS trial using the OX PowerDNS solution, which will inform potential future introduction of a full production service, offering enhanced privacy and security to BT subscribers.

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