CASE STUDY | GLOBAL TECHNOLOGY PROVIDER

Providing DNS Hosting and Global Server Load Balancing for a leading global technology provider
in consumer and business electronics, software, and services

The challenge

PowerDNS is pleased to support a major global technology provider specializing in consumer and business electronics, software, and services, headquartered in the USA. The customer is widely recognized for its highly user-friendly products and continuous innovation in hardware, software, and services.

Some of the company's products communicate with its servers to check for new or updated software. When necessary, these products request software that the company deploys to the hardware. This process is crucial for sustaining the manufacturer's ongoing innovation. To efficiently distribute software, a fast and reliable DNS solution is required to handle user device queries seamlessly.

Additionally, these updates introduce essential security layers for product users. The vast number of connected devices presents an attractive target for various types of cyberattacks. Safeguarding users from these threats while simultaneously securing the company's infrastructure is a top priority for the technology provider. Therefore, the new DNS solution must be capable of verifying legitimate requests, filtering out malicious content, and blocking a wide range of attacks.

Furthermore, this DNS solution should be used to determine users' locations and their requests. Based on their geographic location, users receive region-specific software.

Valuing the PowerDNS open-source foundation and **securing swift access to PowerDNS developers for urgent matters**

The solution

To provide software, download domains and enable user localization, the global technology provider initially tested the community version of PowerDNS Authoritative Server and DNSdist. The tests were highly successful and promising; however, relying on the PowerDNS community version without support and SLAs was not a viable option due to the potential risks of DNS failures. As a result, the global technology provider proceeded with PowerDNS's commercial services and collaborated with the PowerDNS team to find the most optimal solution.

The implementation centers around PowerDNS Authoritative Server, which efficiently handles incoming DNS queries from users and devices. By responding rapidly and providing the necessary data, the solution is highly scalable and capable of handling millions of simultaneous requests from the technology provider's customers. This level of performance is essential, given the scale and complexity of the provider's internal cloud infrastructure, which relies on thousands of authoritative servers to securely route both internal systems and customer traffic to the correct destinations.

Working in conjunction with the PowerDNS Authoritative Server, DNSdist assists the technology provider by distributing requests across multiple servers and selecting the optimal local server. A crucial aspect of this setup is user and device localization. This is achieved through Global Server Load Balancing (GSLB), which tailors DNS responses based on a combination of the service health behind a domain name and the geographical location of the client.

Additionally, DNSdist serves as a mitigation tool against Distributed Denial of Service (DDoS) attacks for the global technology provider. The flexible policy engine of DNSdist enables customized rules and filters to suit the technology provider's traffic requirements. Combined with rate limiting of incoming requests, it ensures robust protection against potential DDoS threats. Furthermore, the technology provider leverages the solution's DNSSEC signing capabilities to add an extra layer of assurance that DNS requests are authentic and have not been tampered with.

This solution is reinforced by a 24/7 support agreement, which includes stringent SLAs and provides the technology provider with swift access to PowerDNS developers for urgent matters or optimization inquiries.

On a broader level, an essential factor in the global technology provider's decision to establish a partnership with PowerDNS was its open-source foundation. Releasing PowerDNS products as open-source software aligns with our vision of a borderless, open, secure, and free internet. We place significant emphasis on the quality of our community-driven products as the foundation of our commercial services. These services, in turn, benefit from community feedback and contributions, enhancing the robustness and reliability of our commercial solutions. Our commitment to keeping the core of PowerDNS products open further incentivized the global technology provider to support this mission through a contractual agreement with PowerDNS and its associated commercial offerings.

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www.powerdns.com | info@pdns-inc.com

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