CGNAT SOLUTION

PROBLEM

The global proliferation of mobile devices and the IoT (Internet of Things) has led to the depletion of IPv4 addresses. Although the growth rate of IPv6 traffic is increasing (it is estimated that in 2018 40% of mobile traffic will be on IPv6), it is estimated that the use of IPv4 will continue for quite some time (due to «legacy» services, applications and devices, which do not support IPv6).

The challenge for operators is to support and manage content and devices using IPv4, while simultaneously facilitating the transition to the new devices, services and applications in IPv6.

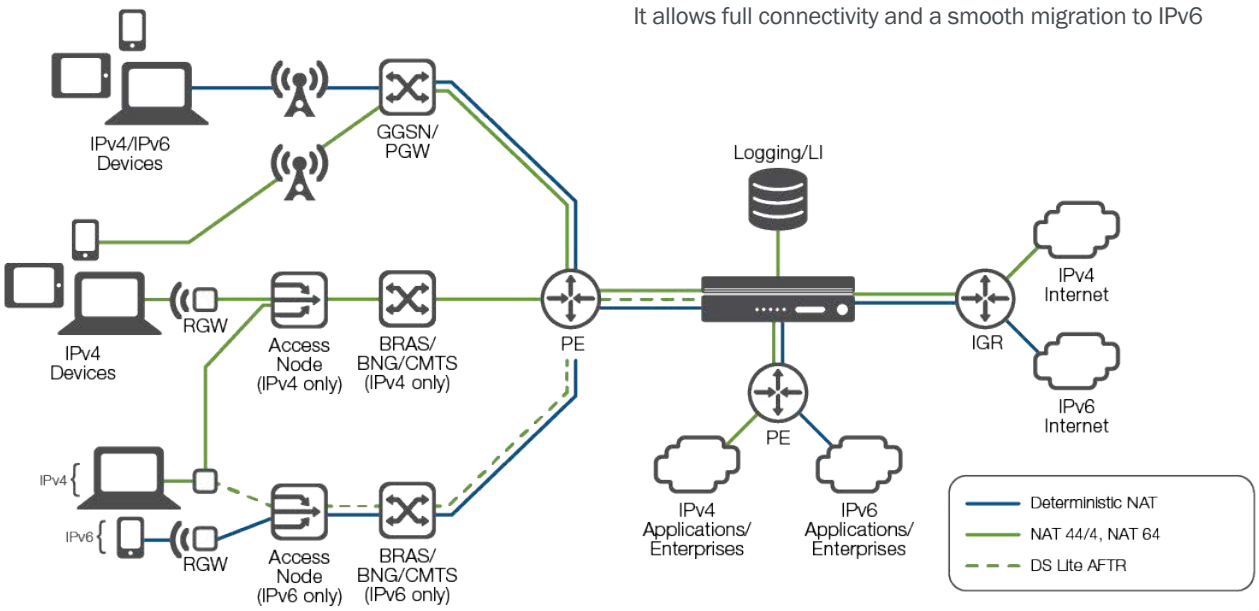
ALTERNATIVES

- Other NAT solutions, which are less scalable and less flexible, with high costs.
- Giving up IPv6 services, isolating a growing source of traffic and moving away from the needs of users.

F5 | CARRIER-GRADE NAT SOLUTION

F5's BIG-IP Carrier Grade NAT (CGNAT) offers a powerful and scalable solution which enables operators to migrate successfully to IPv6 while continuing to support IPv4, ensuring the interoperability of both worlds. F5 CGNAT provides high-speed- logging capabilities as well as support for IPFIX. This compresses NAT-logging, which significantly reduces the amount of data generated and therefore reduces the total cost of storage and processing. In addition, it supports multiple deployment models and functionalities (such as DS Lite, 6RD, MAP; NAT44, NAT64, 464XLAT, PBA, Deterministic NAT, Hair-pinning, etc.) as well offering extensive support for ALGs (Application Layer Gws), which is essential for applications such as VoIP, SIP services, etc.

REFERENCE ARCHITECTURE | CGNAT SOLUTION



IPV6 GATEWAY

PROBLEM

In January 2011, IPv4 addresses began to run out, which gave rise to a need to undertake a process of transition to the new IPv6 protocol. Today many «legacy» systems and devices still do not support IPv6.

Conversely, many operators are already providing their subscribers with IPv6 addressing; publishing content in IPv6 has become a reality. It is not easy to implement an infrastructure in which both protocols co-exist until the full migration to IPv6 is complete, and this has high implementation and re-engineering costs.

ALTERNATIVES

- Undertake a migration of the entire infrastructure to IPv6, which has an impact on CAPEX/OPEX, as well as on the operation and security of the infrastructure itself.
- Big companies like Google, Facebook, Microsoft and Apple are driving users to migrate to IPv6, so ignoring this change will end up reducing visibility and business value.

F5 | LTM SOLUTION

The F5 LTM (Local Traffic Manager) solution supports IPv6 natively, and acts as a gateway between the two protocols, allowing a dual-stack architecture which translates the traffic in a bi-directional manner (IPv4 - IPv6).

LTM makes it possible to publish services in IPv6 while the client infrastructure is still on IPv4, allowing a gradual migration, without any impact to users and ensuring the ROI of existing infrastructure.

REFERENCE ARCHITECTURE | IPV6 GATEWAY