NOKIA

European Tier 1 service provider uses Deepfield network and subscriber analytics to improve planning for network capacity upgrades and prioritize FTTH rollouts

Use case

Accelerated network infrastructure buildouts and upgrades have become a priority for service providers and network operators worldwide. Governments, regulators and customers expect service providers to roll out next-generation fiber-based networks that will significantly improve broadband connectivity. But managing business objectives and capital investments is a balancing act for service providers. Will customers embrace the new fiber-to-the-home (FTTH) service offers? Will the speed and service mix offered to them meet their needs?

Challenge

A European Tier 1 communications service provider (CSP) wanted to take a data-driven approach to network planning when evaluating which parts of its network to upgrade from xDSL to next-generation passive optical networks (PONs) and FTTH.

The CSP's service planning and marketing teams knew exactly what they were looking for. For example, they wanted to be able to identify the 100 postal codes with the highest subscription video on demand (SVOD) consumption rates among the xDSL subscriber base. Or the postal codes where customers average more than two online video subscriptions, including the CSP's own online video service offering.

Legacy management and configuration data and reports obtained from access systems and accounting records could not provide deep insights like these. The planning and marketing teams needed a better and more agile way to get up-to-date information on how subscribers were using their network resources and consuming internet applications and services.

Solution

The CSP deployed Nokia Deepfield Cloud and Subscriber Intelligence to address this challenge. With Deepfield, the planning and marketing teams can track residential customers' average upstream and downstream bandwidth consumption by application, service plan (tier), market, geography and many other dimensions. This is especially important to watch at times when network utilization is at its peak, such as in the

busy hour (BH), or in the prime time for video traffic. Deepfield analytics and reporting capabilities make it easy to get important insights such as which products, service plans and markets are the most profitable, which new applications and usage patterns are on the rise, and whether specific products and services are providing a consistently good customer experience.

Video streaming is a major contributor to network traffic, so the planning and marketing teams built custom dashboards to report on SVOD consumption, cross-referenced by subscriber plan, access type and postal code. These dashboards provided them with deep, multi-dimensional consumption insights that would otherwise be impossible or very difficult to obtain. Based on the output from Deepfield Subscriber Intelligence, the service planning and marketing teams created a network-wide map of hot-spot areas where network usage justified the prioritization of a fiber access rollout.

Benefits

The deployment of Deepfield Cloud and Subscriber Intelligence has enabled the CSP to use analytics to improve its understanding of how subscribers use its network and prioritize fiber rollouts and capacity upgrades based on actual demand. With insights from Deepfield, its planning and marketing teams can:

• Make better and faster decisions on where to add capacity, upgrade xDSL to FTTH, perform node splits, adjust transit/direct peering, and add or increase on-net (cache) capacity for video content

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Use case
European Tier-1 service provider reduces subscriber churn through better subscriber and consumption insights using Nokia Deepfield
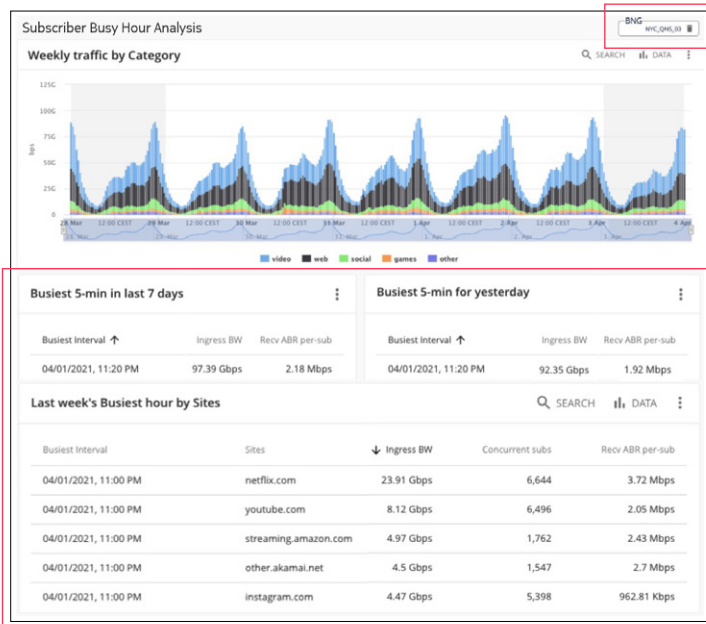
- Make CAPEX investment decisions based on the highest subscriber demand or consumption for specific services
- Tailor service plans for specific customer types (e.g., busy families with high bandwidth needs)
- Improve CAPEX/OPEX modeling and forecasting
- Generate SVOD usage reports for specific services, plans, access types and geographical areas.

Based on the output from Deepfield Cloud and Subscriber Intelligence, the service and marketing teams created a network-wide map of hot-spot areas where network usage justified the prioritization of a fiber access rollout.

Sample report showing busy hour traffic analysis (per-BNG, per-application)

Per Broadband Network Gateway (BNG)

Traffic per traffic category (per selected BNG)

Examples of available busy hour metrics:

- Total bandwidth
- Total Average Bit Rate (ABR) per subscriber
- Top applications
- Total bandwidth per application
- Active users during busy hour per application
- Per-application user bandwidth

About Nokia

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.