US CSP using predictive analytics to deliver extraordinary video experiences

Results

59%

reduction in Netflix buffering

15%

fewer YouTube playback delays

✓

Better prediction of bottlenecks

See how customer experience video

Whether it's the latest big budget superhero movie on Netflix or the latest viral content on YouTube, catching up with their favorite video content on the move is an everyday experience for a lot of people.

So much so that by 2020, video will account for a staggering 80 percent of all mobile traffic. Clearly, it's a big deal for communications service providers (CSPs), so they need to ensure their subscribers are getting the best possible video experience.

Challenge

Improve service and customer experience

50 percent of video traffic is encrypted, so CSPs cannot dive in to analyze it and make sure videos are not freezing or buffering. The danger is that, with a low quality of experience, users will simply churn to other providers for their video fix.

This was the challenge facing a major CSP in the US. It wanted to improve the service to its users and ensure that its action and investments had beneficial effects.

How Nokia Helps

Find problems before they happen

To help the CSP address the challenge, Nokia delivered its Predictive Video Analytics solution. This analyzes video performance data including encrypted video, to predict how Quality of Experience (QoE) will be affected by interference, congestion and coverage.

Modeling techniques then link video QoE to critical business Key Performance Indicators (KPIs), including churn, Net Promoter Score (NPS) and revenue. The CSP is provided with recommendations on which parameters to alter and resolve issues quickly. Linking QoE to business performance also allows optimization efforts to be directed at the most valuable subscribers and locations. Correlation of User Plane traffic and Layer 3 signaling enables prediction of 'freezes' and QoE. The solution is multivendor capable and can make use of a variety of data sources. Predictive Video Analytics is an as-a-Service solution with cloud based delivery via the Nokia AVA platform.

> Nokia AVA is the most mature offering in the Telecoms AI ecosystem market.
>
> **Analysys Mason, July 2018**

It also offers flexible commercial models. For the US CSP, the Service made 54 automated recommendations, allowing it to optimize the performance of the network by changing parameters. The most

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Predictive Video Analytics Solution >

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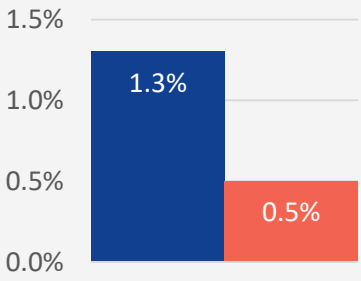
important cells were highlighted, as well as issues affecting the transport, core and content delivery networks.

The Outcome

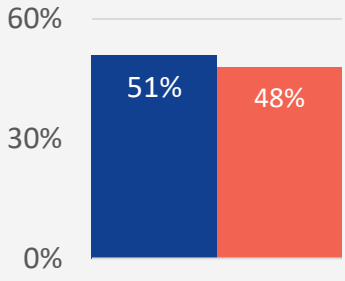
Major reduction

The CSP gained significant benefits from the service. The main ones were a 59 percent reduction in Netflix buffering. YouTube services that suffered playback delays of more than four seconds, were reduced by 15 percent -after four seconds of delay, most people abandon a video, so cutting this delay is vital to keep subscribers using the service.

Netflix % of sessions with at least 1 freeze

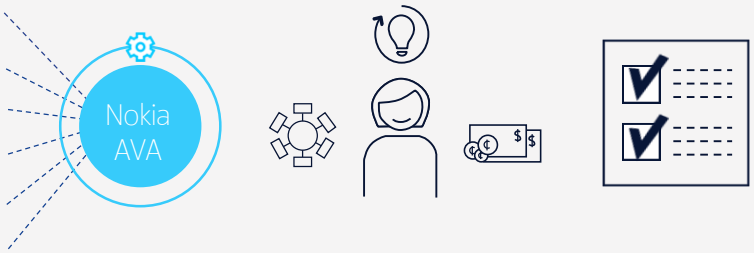


YouTube % of sessions with >4 sec play delay



Pre Optimization Post Optimization

54 recommendations to improve video Quality of Experience across radio, transport, core & CDNs



Unencrypted, encrypted video

Analytics predicts the impact on QoE

Actions prioritized based on business outcomes

The CSP gained a better understanding of what drives video QoE and user behavior, as well as the ability for rapid troubleshooting and prioritization of issues. It can now also predict any bottlenecks across the network, whether they occur in the radio network, transport, the core or content delivery network (CDN). Because it improves the user's experience, Predictive Video Analytics.

Nokia Oyj, Karaportti 3, 02610 Espoo, Finland | nokia.com | Product code: SR1910038939EN CID206842

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