

NOKIA

Nokia AVA

AI for video-based services

Nokia internal use



Customer experience remains the battlefield for market share

Video share of overall traffic is already

80%

Customers would stop doing business with a brand they love after one bad experience

32%

Customers expecting companies to understand their wants and needs

73%

People playing mobile games

>2 billion

Users abandoning the video after 2 buffering

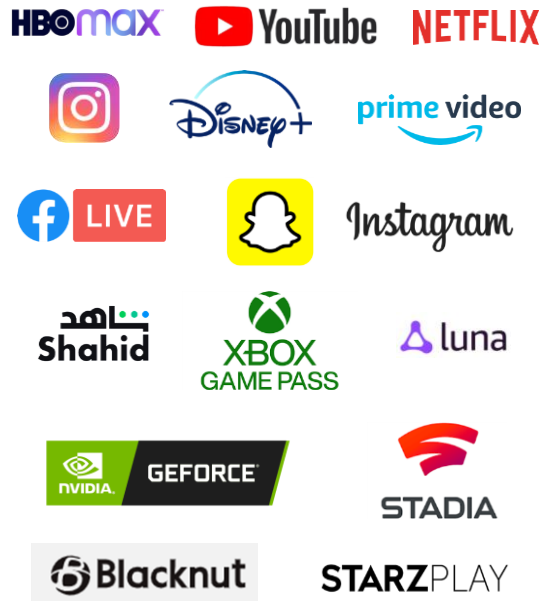
46%

Nr.1

issue for subscribers to churn is service quality

What is AI for video-based services?

Cloud-based, easy to consume insights on video-based service QoE and usage



①

Worst cells,
S/PGW, CDNs
for video stalls

②

RCA ranking per
EARFCN, cell,
cluster, market,
video provider

③

Automated
recommendations
for coverage,
interference and multi-
layer optimization for
worst cells for video,
CDN/PGW load opt

④

Users and
attempts per band,
geolocate users

What makes Nokia's AI for video-based services unique?

Full QoE visibility



Deep insight into QoE of encrypted video app sessions

E2E root cause analysis (RCA)



Quantify key e2e measurements that affect video QoE degradation through precision-based RCA

Analytics (AI/ML)



Customized AI algorithms from QoE detection, geo-enrichment, to data driven RCA

Multivendor and scalable



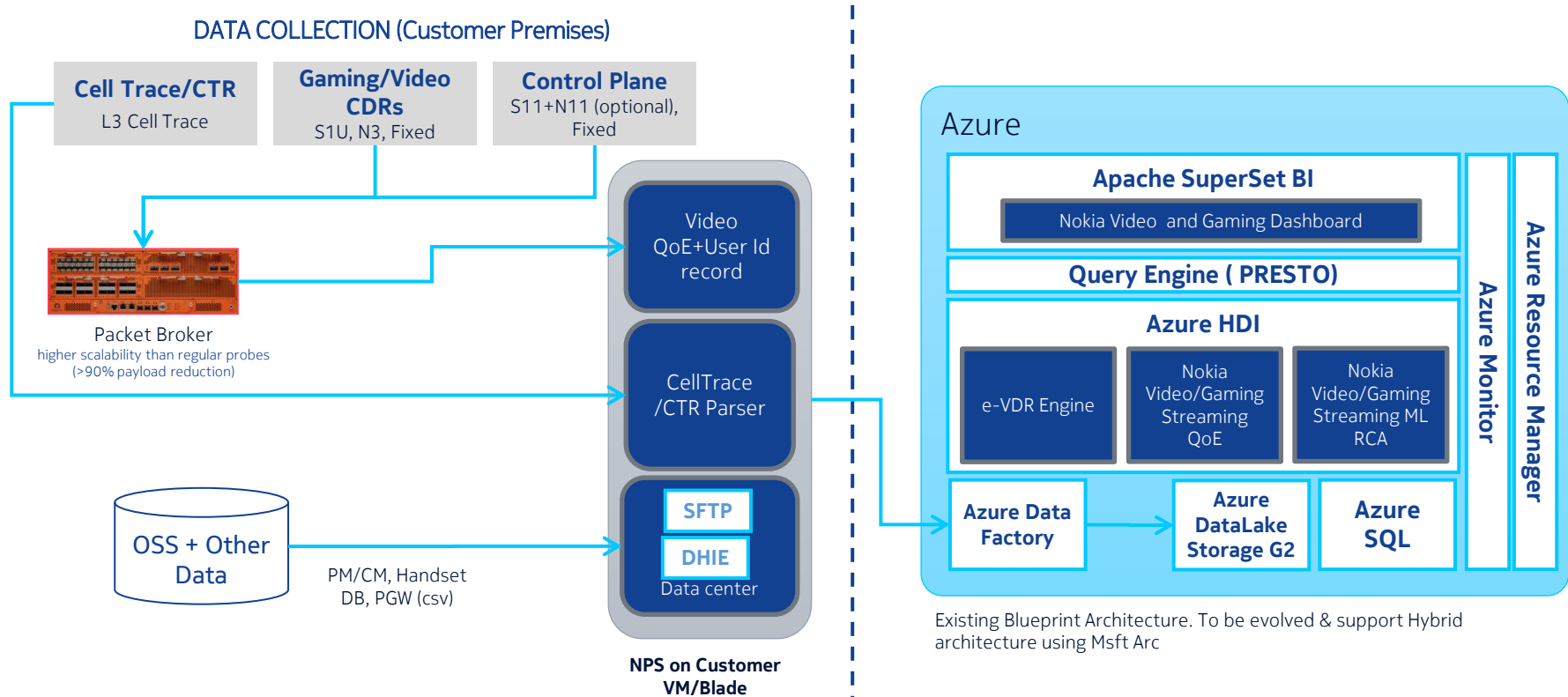
4G and 5G, multi-vendor (Nokia, Huawei, Ericsson, Samsung)

OPEX effective



UE QoE analysis without drive tests and S1U probes from live traffic for all users

AI for Video based Service Architecture



AI for video-based services (AVS) in a nutshell

Key components

- Nokia L3 proprietary parser
- Video parser compatible with all video OTT applications (incl. encrypted protocols) with rapid adaptation when OTTs change transmission protocols, e.g. from SSL to QUIC or from QUIC to new protocol
- ML/AI proprietary algorithms (Bell Labs) for automated signatures identification causing poor QoE from e2e perspective
- 5G readiness
- Near real time

Key deliverables

- QoE indicators for all videos including those on encrypted protocols
- E2E Root Cause Analysis (RAN, transport, core)
- CDN analysis
- Identification of optimization actions that improves video quality
- Geo-location through MDT and standard 2D geolocation solutions

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