

VIDEO ANALYTICS

PROCERA

Ensure that video is delivered with a high quality of experience for your subscribers

USE CASES FOR PROCERA'S VIDEO ANALYTICS

Procera's unique combination of business and subscriber video experience metrics enables advanced video analytics use cases:

Subscriber Video Analytics:
Subscriber-specific video analytics to gain insights into video consumption for engineering, marketing, and customer care

CDN Video Analytics:
Gain insights and manage video traffic on peering links to deliver high Video QoE.

Video Service Plans:
Enable video package offerings – zero rating, bundles, and provider-offered managed video services.

Video Quality Assurance:
Sophisticated queuing and Fair Usage to enhance subscriber video QoE.

Selective Video Optimization:
Selective traffic steering to video optimization during congestion based on video type, device, etc to deliver a high video QoE even during peak loads.

INTRODUCTION

Video traffic is the biggest contributor to network traffic, consuming as much as 60% of total network traffic in fixed and mobile networks around the world. Network operators are struggling to cope with the flood of video traffic and need better video intelligence and analytics in order to determine if they are delivering a high quality of experience to their subscribers. Over the Top video services like YouTube, Amazon Prime, Netflix, Hulu, and many others worldwide are driving consumers to purchase higher speed broadband connections. Operators are also offering their own managed video services, either as a compliment to their existing broadband offerings, or to compete with existing video providers leveraging their high speed connection to consumers.

The key for operators to ensure a high video QoE for their subscribers is to have easy access to relevant Key Performance Indicators (KPIs) on video traffic in their network. Simple metrics like percentage of video traffic, popular content providers, and different video types streamed on a network are not sufficient to measure experience. Operators need to know if the video stalls during playback, if the resolution delivered matches the device that it is played on, and if the video fails to play due to a network issue to gain real insights on video quality. With this information available, operators can advertise their video performance to their subscribers and not be defined by content provider scorecards.

SOLUTION OVERVIEW

Procera's Video Perspectives solution satisfies this need, combining Procera's rich subscriber experience intelligence with the most relevant video intelligence to deliver a complete video analytics solution. Video Perspectives is a software solution that can be run on PacketLogic platforms to collect detailed video analytics on a broadband network. The intelligence is visualized as an integrated part of the PacketLogic Insights product family (Customer Care and Engineering Insights) and the Video Studio product. The integrated Insights solutions present detailed video reporting and analytics views that combine other PacketLogic Perspectives, and Video Studio is an interactive tool that enables the operator to create custom reports and analytics based on specific issues or opportunities in their network.

The video analytics collected by Video Perspectives enables the broadband operator to analyze both managed video services and Over-the-Top (OTT) video services. The metrics gathered by the solution include session metrics (stream changes, termination, stalls), play quality (delay, delivery, duration), encoding information (bit rate, encoder), and quality metrics (bandwidth, resolution, QoE). With Video Perspectives, broadband operators have a complete view of the video being consumed by their subscribers and their success in delivering a high quality of experience to their subscribers.

SOLUTIONS COMPONENTS

Mandatory

- PRE Platform*
- Traffic Perspectives*
- Subscriber Perspectives*
- Video Perspectives*
- Engineering Insights*
- Mirroring Action*

Optional

- Topology Perspectives*
- RAN Perspectives*
- Congestion Management Action*
- Charging Action*
- Steering Action*

SOLUTION COMPONENTS

The Network Scoring Solution is composed of several mandatory and optional components that add value to the overall solution.

PRE PLATFORM

The PRE acts as the collection engine on the networks for gathering the video experience scoring data. For the video analytics solution, the PRE can be deployed in a passive mode to collect the scoring metrics. The PRE will inspect all video traffic or operator selected video traffic on the network and stream it to the Insights database for visualization.

TRAFFIC PERSPECTIVES

Traffic Perspectives is based on Procera's industry-leading Datastream Recognition Definition Language (DRDL) DPI engine, and provides visibility into the applications running on the operator's network. Over 2,500 unique applications are included like Messaging, VoIP, Video Streaming, Audio Streaming, File Sharing, Gaming, and many other categories of applications. Traffic Perspectives identifies video traffic that is sent from the in-line PRE to the Video Analytics PRE system for Video Perspectives processing.

SUBSCRIBER PERSPECTIVES

Subscriber Perspectives is the integration point with the BSS/OSS to glean subscriber-specific information to associate with each flow on the network. With Subscriber Perspectives, each subscriber is associated with their IP address, service plan, location, device, and other information available in the operator's OSS and BSS. This data is crucial to video experience, since the subscriber is the fundamental measurement basis for the solution. Video Perspectives measures active video traffic to perform the analytics on for the operator.

Figure 1

Video Perspectives in Engineering Insights



UP TO
60%
OF TRAFFIC ON
OPERATOR'S NETWORKS
IS VIDEO TODAY

Procera's Video Perspectives intelligence ensures that an operator has visibility into this critical portion of traffic that often can determine a subscriber's perceived quality of experience on the operator's broadband network. Both Fixed and Mobile operators are struggling to cope with the flood of video traffic being consumed by subscribers.

VIDEO PERSPECTIVES

Video Perspectives measures up to fifty different metrics per video flow to enable the operator to gain a better understanding of the video traffic on their network. The video traffic can be Over-the-Top video or an operator's own managed video service offering. These metrics are collected and then sent to the Insights database for storage and presentation by the individual Insight products.

ENGINEERING INSIGHTS

Engineering Insights (EI) is one of Procera's role-based visualization and decisioning platforms. Designed specifically with Engineering and Network Operations as the target audience, Engineering Insights visualizes the subscriber experience intelligence collected by the PRE. Each Perspective is represented as a different view of network activity, so each additional Perspective purchased adds to the overall value of the data. Engineering Insights contains the drill down capability to help Engineering isolate the root cause of a bad video QoE metric.

MIRRORING ACTION

Mirroring is needed on the active PRE to send only the selected video traffic to the video analytics PRE.

TOPOLOGY PERSPECTIVES

Topology Perspectives integrates the subscribers location with their traffic. For mobile subscribers, this can include the cell, SGSN, GGSN, Gateway, and APN, as well as any other logical geographic grouping. In Fixed networks this can include the CMTS port and/or channel, DSLAM and/or BRAS Port. In WiFi networks it can include the Access Point name and location. Location is extremely important for video QoE monitoring.

RAN PERSPECTIVES

RAN Perspectives adds the exact cell location in real-time for a mobile subscriber as well as the RAN Signal Strength and Quality for the subscriber's device. The real-time location information is sent to the Subscriber Perspectives where it is provisioned in the PRE to capture the subscriber's location for the collection of video metrics.

CONGESTION MANAGEMENT ACTION

The Shaping Action includes support for Fair Usage and prioritization that are used to ensure the quality of video traffic on the operator's network. Procera's Fair Usage is highly scalable, with support for millions of subscribers, including advanced tier awareness and metrics gathered during times of congestion for latency added and packets dropped during active congestion management.

CHARGING ACTION

Charging can be implemented to offer video service plans - whether they are zero rated, quota-based, or value added charging for premium video services. Charging is implemented with the Subscriber Perspectives and the Policy and Charging systems deployed by the operator.

STEERING ACTION

Selective Traffic Steering can be implemented when the operators wants to implement a video optimization solution only during times of congestion and only for specific types of video. The PRE will only offload certain subscribers, devices, or video types to a video optimization solution to reduce network load during peak usage times.



Video Perspectives ensures that the network and presentation quality of experience for an operator's network is readily available to reduce churn due to poor video performance.

PROCERA'S UNIQUE SOLUTION VALUE

VIDEO QOE ANALYTICS CAPABILITIES

Video Perspectives is focused on measuring the network's Delivery QoE and the subscriber's Presentation QoE to create a Session QoE metric that combines the two metrics for a comprehensive video QoE score. The QoE score is modeled after the Mean Opinion Score (MOS) scoring for voice traffic. QoE is measured not only at the network level, but at the subscriber, CDN, location, and device level to ensure that the root cause of poor video performance can easily be determined on an operator's network.

ACTIONABLE BREAKDOWN BY PERSPECTIVE

Procera's Perspectives combine to deliver more intelligence on the subscriber experience than any other solution. Subscriber-based video analytics can be combined with location, device, service plan, and other Perspectives to give a more comprehensive overview of video traffic, and enable better monetization of video traffic through service offerings.

TARGETED OPTIMIZATION OF VIDEO TRAFFIC

For operators looking to deploy a video optimization solution, Procera's video analytics solution provides insights into what video, subscribers, and devices will benefit the network the most for selective video optimization. Only the desired traffic will be sent to the video optimization solution, minimizing the cost of the solution and maximizing the reduction of bandwidth used by video during peak usage hours.

VIDEO QUALITY ASSURANCE

The PRE platform delivers sophisticated traffic management and fair usage that ensures that subscribers have a good quality of experience on their broadband network. Many video analytics solutions can report on video usage, but cannot actively improve the video experience or manage congestion on the operator's network.



Contact your Procera sales representative to find out more about this solution and how it can help you transform your business.

CONCLUSION

Video is the biggest consumer of bandwidth on broadband networks worldwide, and considered by many subscribers to be their most important traffic type. When videos stall, skip, or downshift to low resolution, subscribers will blame their operator. With Procera's Video Analytics solutions, an operator can stay ahead of their subscribers by identifying bad video experiences and more accurately forecasting video consumption on their network to stay ahead of the video consumption curve.

ABOUT PROCERA NETWORKS

Procera Networks, the global Subscriber Experience company, is revolutionizing the way operators and vendors monitor, manage and monetize their network traffic. Elevate your business value and improve customer experience with Procera's sophisticated intelligence solutions. For more information, visit proceranetworks.com or follow Procera on Twitter at @ProceraNetworks.

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