

GET A NEW LEVEL OF INSIGHT INTO YOUR TV SERVICE

Measuring TV viewing used to be easy. Today, with multiple ways to view content - anytime, anywhere and on any device - it is much harder to see the bigger picture. IP-based TV delivery can generate large amounts of data, but to analyze and present this in a useful way requires the right tools.

With Edgewartv TV Analytics, you can monitor, analyze and understand all aspects of your TV service. You can understand the quality of your delivery network, your viewer's experience and behavior and how they relate to the popularity of your latest content. Regardless of your network architecture, your business model or the services you enable, TV Analytics provides you the tools to optimize your TV service and maximize your Return On Investment (ROI).

A SINGLE PLATFORM INTEGRATING VIEWER AND QUALITY ANALYTICS

EDGEWARE TV ANALYTICS BRIDGES FRONTEND AND BACK-END ANALYTICS BY AGGREGATING DATA FROM VARIOUS SOURCES INCLUDING DEVICES, NETWORK APPLICATIONS AND INTEGRATED THIRD PARTY CDNS.

Frontend analytics revolves around at viewer behavior, providing insights such as:

- Most popular content
- Top streaming locations
- Engagement level per asset / content category
- Session roaming - single session multiple IP device tracking

Backend analytics look at operations and network performance, also known as quality analytics, providing insights such as:

- Bandwidth consumption
- Bitrate per session
- Service delivery by client / device /asset
- Device to device consumption

Session roaming

Session management makes it possible to track client IP changes in the network, for example, when a viewer device moves from one network to another such as WiFi and 4G.

The ability to monitor and examine both viewer and quality analytics allows you to make advanced analysis to improve different aspects of your TV service, such as looking into the relationship between network performance and customer satisfaction, viewing behavior across geographies or screens, viewer mobility and screen swapping.

KEY BENEFITS:

- **Reduce churn:** Increase customer satisfaction by monitoring and improving QoE
- **Guide innovation:** Learn to know your customers' behavior to help understand how to further develop your service
- **Boost ROI:** Optimize your content investments, scheduling and marketing to increase viewing
- **Optimize your network:** Analyze performance, identify bottlenecks and plan capacity upgrades
- **Transition to IP:** Monitor delivery to IPTV, CATV VOD and IP Multiscreen devices from a single interface

KEY FEATURES:

- Comprehensive and actionable information: Combining real-time and historical data
- Unified data gathering: IPTV and OTT TV in one place
- Delivery server aggregation of Adaptive Bit Rate log data into virtual sessions for efficient real-time collection and analysis
- REST based integration API for integration with sources such as device clients and 3rd party CDN's
- Powerful Kibana visualization tool embedded in Edgware Management Software:
 - 35+ pre-made widgets providing insights into your TV service
 - Intuitive point-and-click interface
 - Multi-dimensional analysis: From high level to fine-granular data
 - Fully customizable: Easily create new dashboards and widgets
- Export data to Excel or import charts to other web tools simply by adding the dashboard URL
- Export data to the 3rd party systems via the HTTP API

CUSTOMIZED AND ADVANCED ANALYTICS

Edgeware TV Analytics comes with three out-of-the-box dashboards - Network Operations, Service Operations and Content & Viewers. While these views provide a good level of tools for basic monitoring and analytics, you can fully customize filters in the TV Analytics tool for much greater analysis. This allows you to make more complex correlations, and using the APIs or export functions, the data can be further processed and combined with additional data using Excel or other data processing tools.

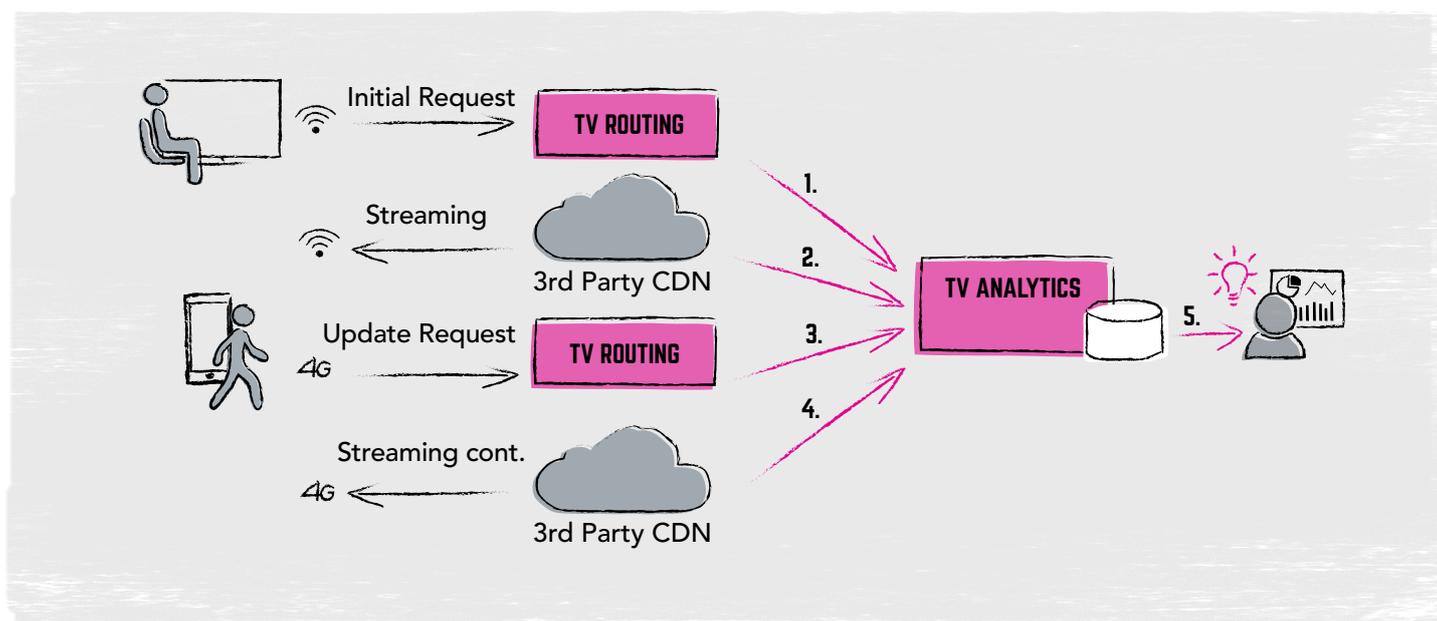
EXAMPLE USE CASES

1. Content Consumption Patterns on various Screens and Geographies

Analyze how various content performs across different screen types, and also how the viewing patterns for the content differs. This gives you valuable insight into planning your next campaigns and designing catalogues.

2. Viewer Mobility and Screen Swapping

Analyze how, when and where viewers use the mobility and roaming possibilities of TVE and OTT services. Changes in device and network data within a certain time-frame enable identification of session roaming.



3. Network Performance and Customer Satisfaction Correlation

Get insights into how the network conditions impact on the delivery of your content your viewers experience, e.g. identify which of your viewers are suffering from bad user experience and are most likely to churn.

4. Ad-insertion analytics

Analyze any new segment for ads, the number of ads served over a defined period, the location of the viewers where ads are served, devices, etc. on the same dashboard.

EXAMPLES OF QUESTIONS THAT YOU CAN ANSWER USING TV ANALYTICS:

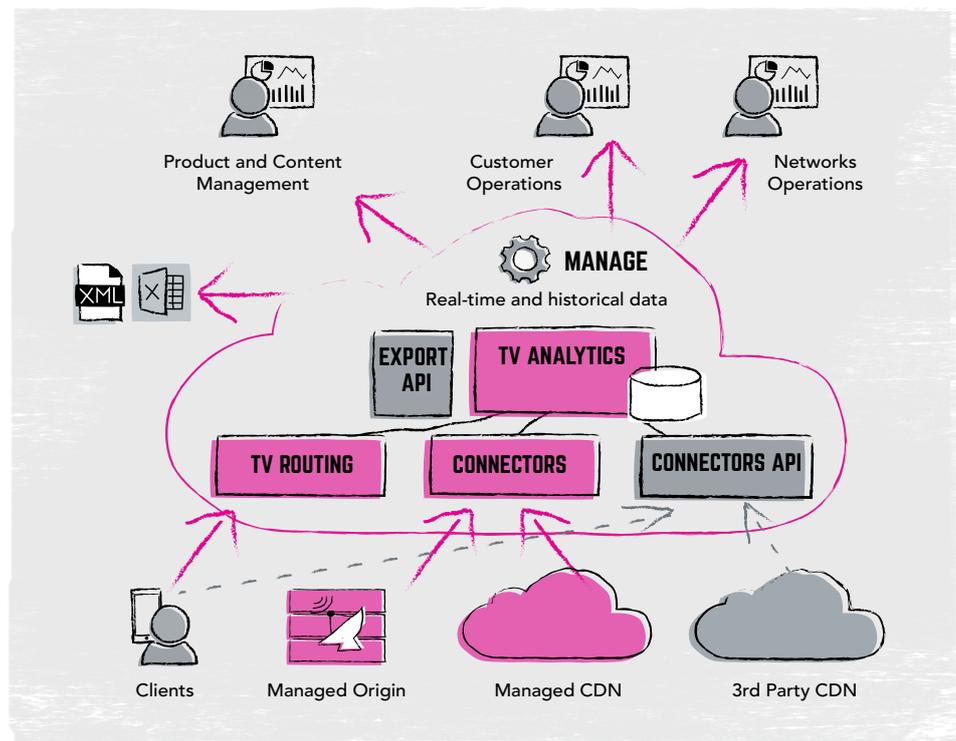
- Which are the top content streamed right now, in real-time?
- Which devices are causing quality drop? For which asset?
- How long time do viewers engage with our new assets?
- Is our on-demand services more popular than linear?
- Which devices do clients use when watching Asset A? When?

... and more

PERSONALIZED DASHBOARDS, FOR YOU OR YOUR PARTNERS

With Edgware TV Analytics, you can fully personalize all of your dashboards. You can customize the widgets to meet your business needs by adapting the variables, you can choose the graphs that best visualize your data or create your own segmen

INTELLIGENT DATA AGGREGATION



Data is gathered from devices, network applications, and integrated third party CDNs.

The central components in Edgware TV Analytics are the database and the integration with various information sources. Perhaps the most important source of information is the Edgware TV Routing software. This manages all the requests from end user devices attempting to start a video session or adapting to network changes. The TV Routing and the TV Analytics database are, by default, integrated with Edgware TV Delivery products such as origin and edge streaming applications. These can also be integrated with various other sources such as third party CDNs and clients.

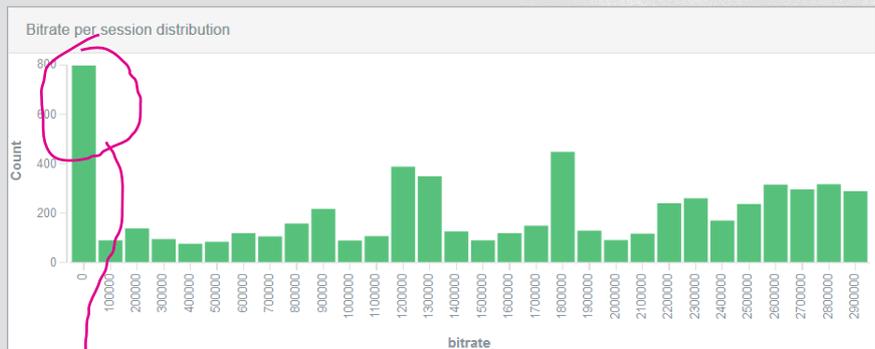
NETWORK OPERATIONS

The Network Operations dashboard reveals how your distribution network is performing. The interactive interface presents your bandwidth consumption, concurrent sessions, average bitrate and your mix of traffic across IPTV, VOD and multiscreen networks. It also allows you to easily use filters. For example, you can visualize the activity of one specific network location or delivery server, including the location of the requests. This gives you valuable information to plan future capacity needs.

Example 1: analyze a quality drop and its impact on different assets

1.

The graph to the right shows that there is a high number of sessions with a very low bitrate (0-100 kbps).



bitrate: "0 to 100000" Actions ▾
All filters: Enable Disable Invert Toggle Remove

2.

By filtering on this bitrate interval you can see which content that has been impacted and analyze the root causes of the quality drop.

Top 50 content	Top 1 type	Count	Unique count of address	Average bitrate	Sum of bytes	Average duration
Channel 1	live	9009	6163	0.002	245	0.031
Channel 9	live	8553	6504	296.775	75586587	2.197
Channel 6	live	4774	2450	152.377	12367605	1.436
Channel 4	live	3694	2757	0.325	2282	0.113
Channel 2	live	1575	1068	100.24	2083787	2.423
Channel 5	live	1565	1068	105.154	1108351	2.523
Channel 3	live	1498	1068	0.281	1062	0.276

SERVICE OPERATIONS

The Service Operations dashboard is an important tool to troubleshoot issues at an individual customer level. It can be used for customer support, or by product specialists to further understand service delivery aspects per user, asset or device. Filtering of data enables you to identify correlations and root causes. It also enables better analysis of your viewer-experience, identification of potential issues and compensation planning.

Searching by client ID or IP address, the widgets can be used by customer support to get a good overview of the quality of individual customer sessions at a highly granular level, using the session samples (one minute intervals).

At a higher level, this tool helps identify patterns, such as disturbances caused by new devices. For example, this information can be used on customer support portals to report on current issues with specific devices.

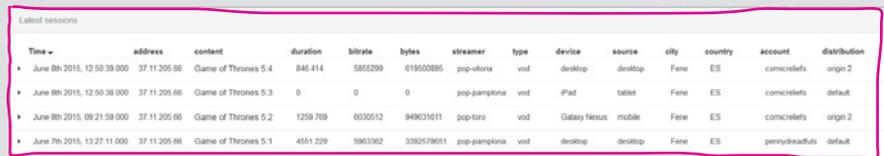
1.

Search by a client's IP address (or ID)



2.

You will get an overview of the latest sessions of this customer



Time	address	content	duration	bitrate	bytes	streamer	type	device	source	city	country	account	distribution
June 8th 2015, 12:50:39.000	37.11.205.66	Game of Thrones 5.4	846.414	585299	619520895	pop-vitoria	vod	desktop	desktop	Fene	ES	comcredels	origin2
June 8th 2015, 12:50:38.000	37.11.205.66	Game of Thrones 5.3	0	0	0	pop-pamplona	vod	iPad	tablet	Fene	ES	comcredels	default
June 8th 2015, 09:21:59.000	37.11.205.66	Game of Thrones 5.2	1259.709	6030512	949031611	pop-baro	vod	Galaxy Nexus	mobile	Fene	ES	comcredels	origin2
June 7th 2015, 13:27:11.000	37.11.205.66	Game of Thrones 5.1	4551.229	5963362	3392579651	pop-pamplona	vod	desktop	desktop	Fene	ES	pennyheadfuls	default

3.

By filtering on a specific session, customer support can get a precise view of the quality of this session, minute by minute.



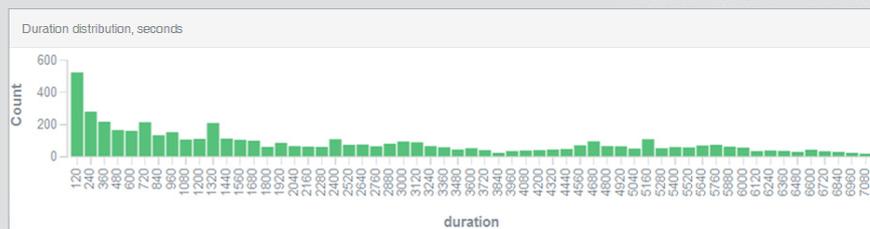
CONTENT & VIEWERS

The Content & Viewers dashboard provides powerful user behavior insights so you can make more informed business, marketing and programming decisions.

TV Analytics consolidates all of your viewing statistics into one place, whether it derives from a set-top box or a connected device, from a live stream or a VOD session. The dashboard goes beyond simple video stats to give you a detailed understanding of your viewers' engagement with a piece or a group of content, so that you gain insight into viewers' program preferences. This is not only useful for your reporting to content owners; it is also valuable for your future content acquisition decisions.

Example 3: Analyze viewer engagement with a piece of content

By filtering on a specific piece of content, you can see the split of sessions depending on viewing time, which helps understand how your subscribers engage with this asset.



TECHNICAL SPECIFICATIONS

Platform	TV Analytics uses the Kibana 4.0 platform to visualize data stored in an Elasticsearch database.
Redundancy and scaling	All data stored in Elasticsearch is clustered and replicated in order to guarantee performance and high availability. Performance is scaled by simply adding more cluster nodes.
Integration	Open REST HTTP API XML files

WANT TO LEARN MORE?

Edgware Professional Services team is here to:

- Provide guidance in getting the most out of your data
- Ensure accurate collection of relevant data
- Create personalized dashboards
- Provide training for you and your teams

TV Analytics requires an additional license for Edgware Management Software. This add-on is licensed according to the number of concurrent sessions. Contact us for further details.

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