

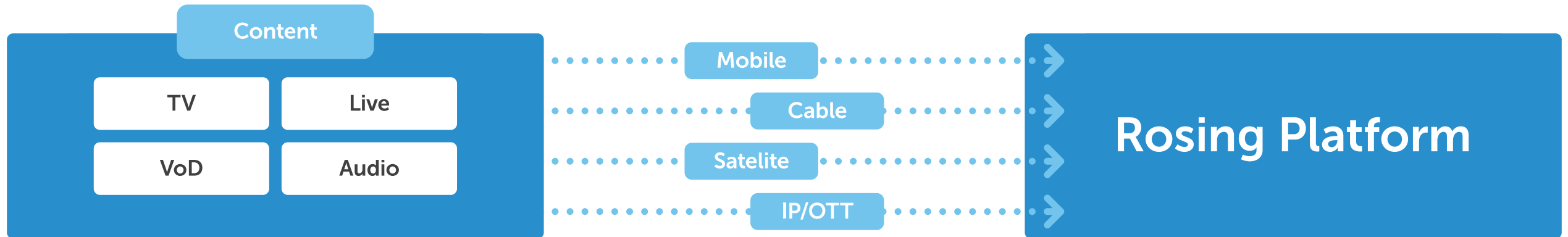
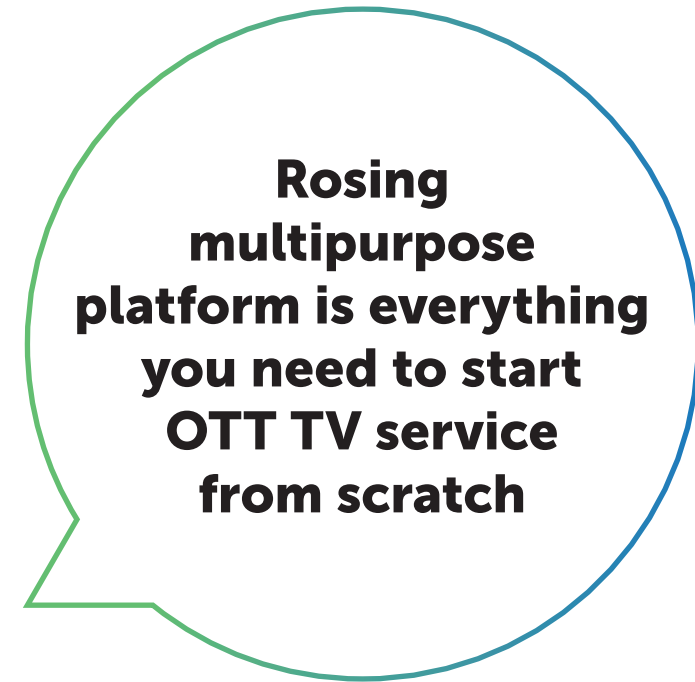


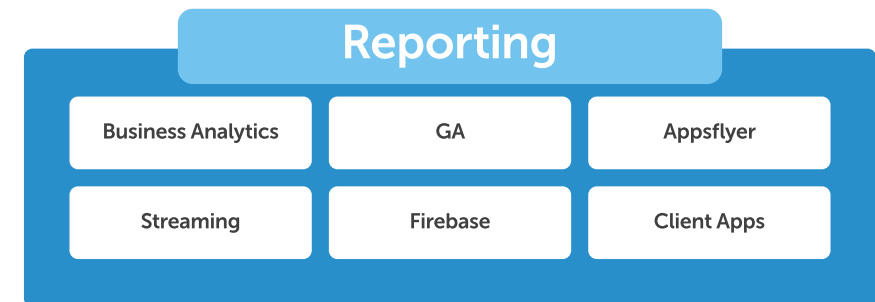
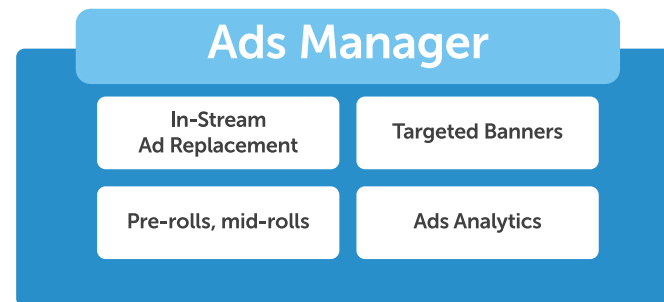
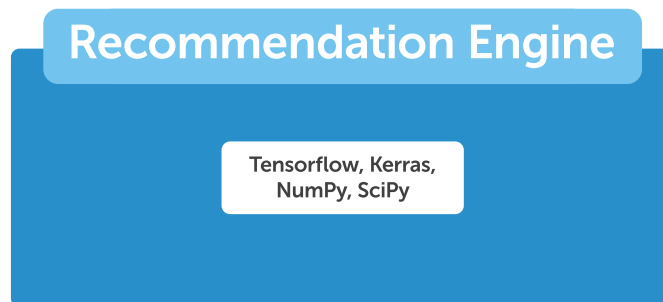
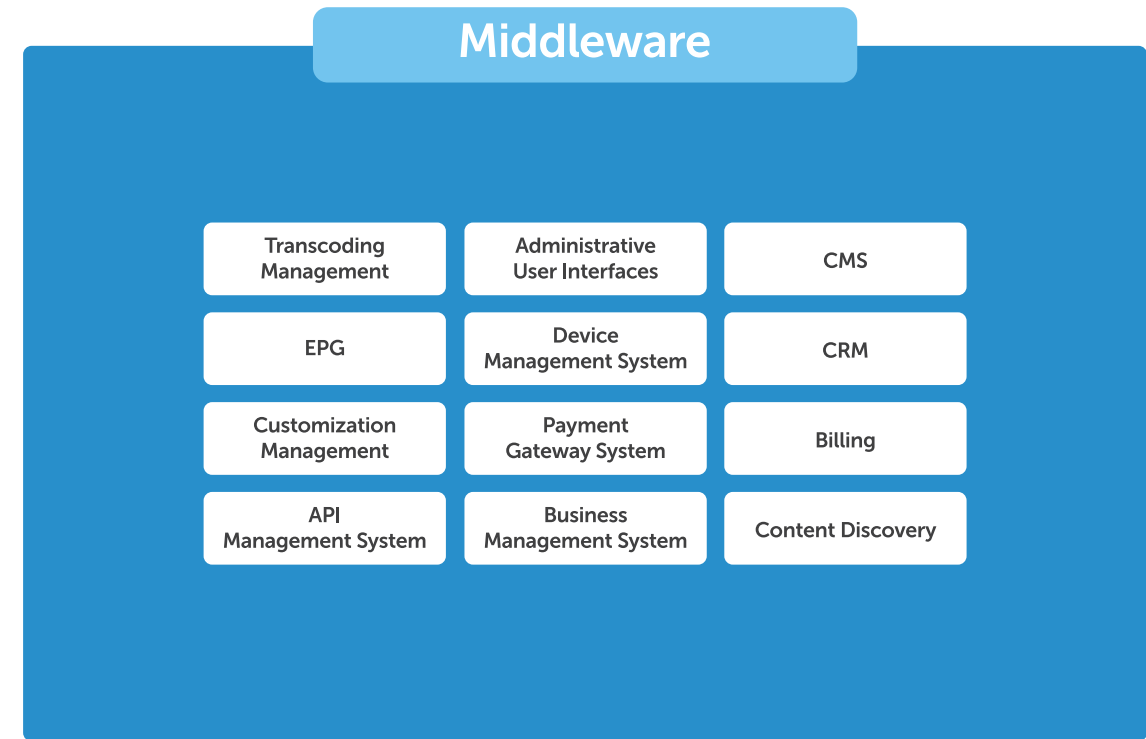
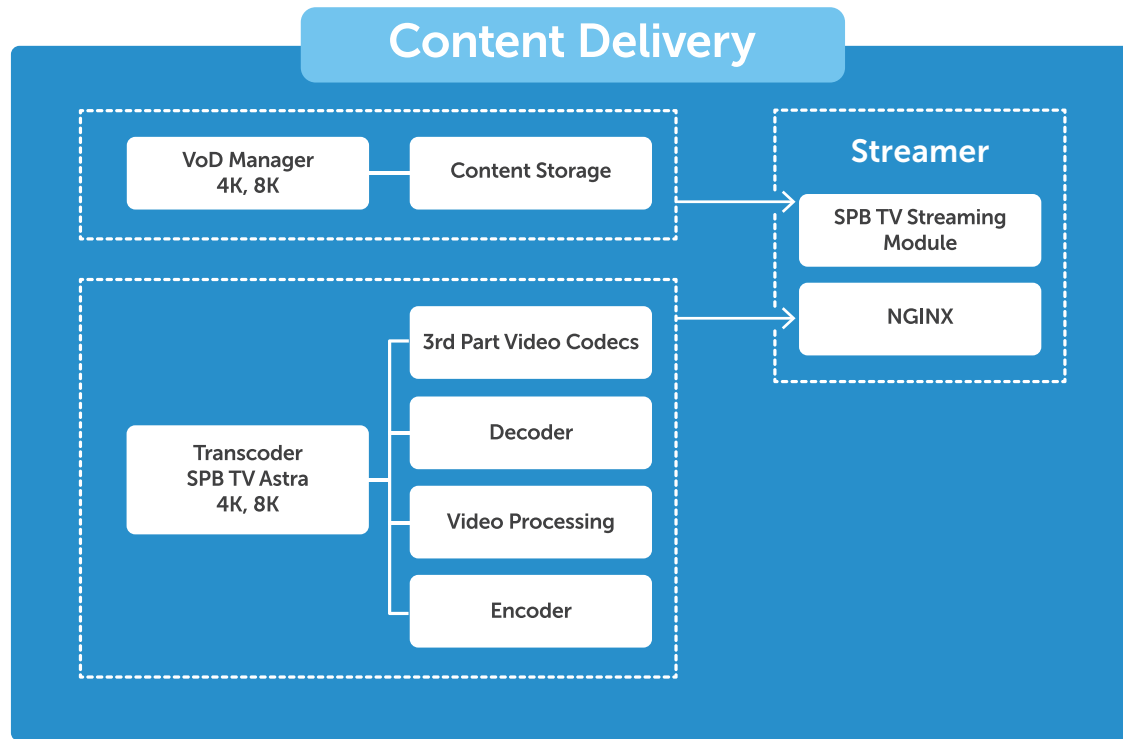
Rosing Overview

SPB TV Rosing

SPB TV Rosing is a flexible easy scalable platform for video delivery. Creating TV service with SPB TV Rosing is easy and fast. The service can be deployed onsite or cloud-based depending on your equipment and development goals. The platform includes streaming and transcoding software, easy manageable CMS and CRM, branded client applications for any device, built-in monetization and analytic tools.

It is an easy-to-deploy platform, enabling mobile, cable, satellite, and IP/OTT TV service providers to deliver live, video and audio content from a single headend to end-user devices.





Rosing platform consists of 5 main blocks: Content Delivery technology, a set of Middleware tools, Advertising management

block, Recommendation engine and Reporting tools. All this is complemented with modern client apps for every device you need.

Elements and Features



Setup

SPB TV's platform can be deployed in your own premises or third party cloud service providers: our team with its extensive expertise in delivering OTT TV solutions will assist you in selecting the deployment option that suits best your business needs and balancing the speed of roll out with the required investments.



Cloud or onsite



**Ultimate
high quality**

Transcoder

Transcoder for high-quality, multi-rate encoding and transcoding of live and on-demand video streams for multi-screen devices.

- A variety of supported codecs, including H.264 and H.265
- The highest video quality (SD, HD, 4K UHD) with effective bandwidth consumption
- DRM content protection (PlayReady, Verimatrix, Widevine, Adobe Flash Access or equivalent, certified holder)

Streamer

Streamer for managing adaptive video delivery to multi-screen devices with different networks' bandwidth capabilities. It generates up to 5,000 concurrent sessions in various quality options.

- Support for various formats: live streaming, VOD, VOD playlist streaming and VOD Loop channel streaming with the ability to download content for storage on local devices or for storage on SPB TV/operator's cloud service
- SPB TV supports Adaptive Streaming technology. Adaptive Streaming is the ability for a video player to dynamically adjust video quality based on a user's available bandwidth, device performance, and network conditions.

Content Delivery Technology

Content delivery technology allows for the delivery of heavy content to numerous users by caching it on cloud servers, then directing it to users based on proximity and network topology, edge load and other metrics.

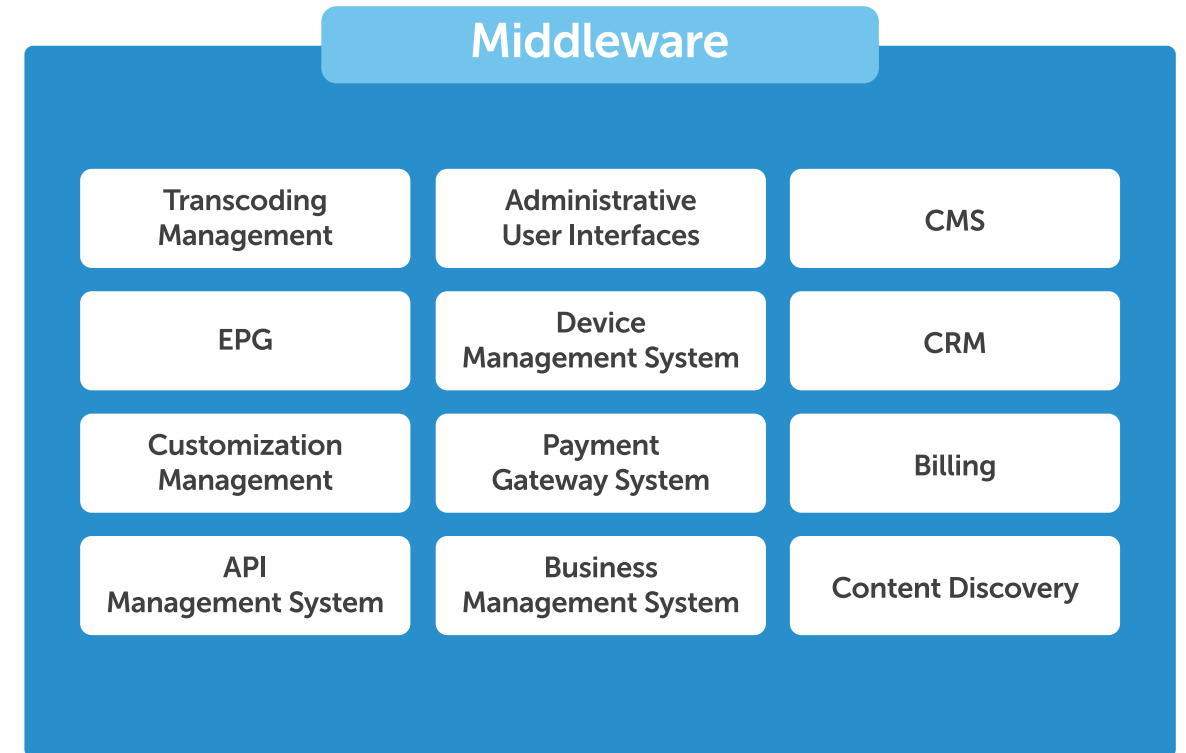


Middleware

Middleware is responsible for the whole system logic, principles of content distribution, connection with client software integrating them with the authorization and billing systems. It also provides the operator with CMS and conditional access systems available from one control point. As well middleware contains business analytic tools and creation of business models.

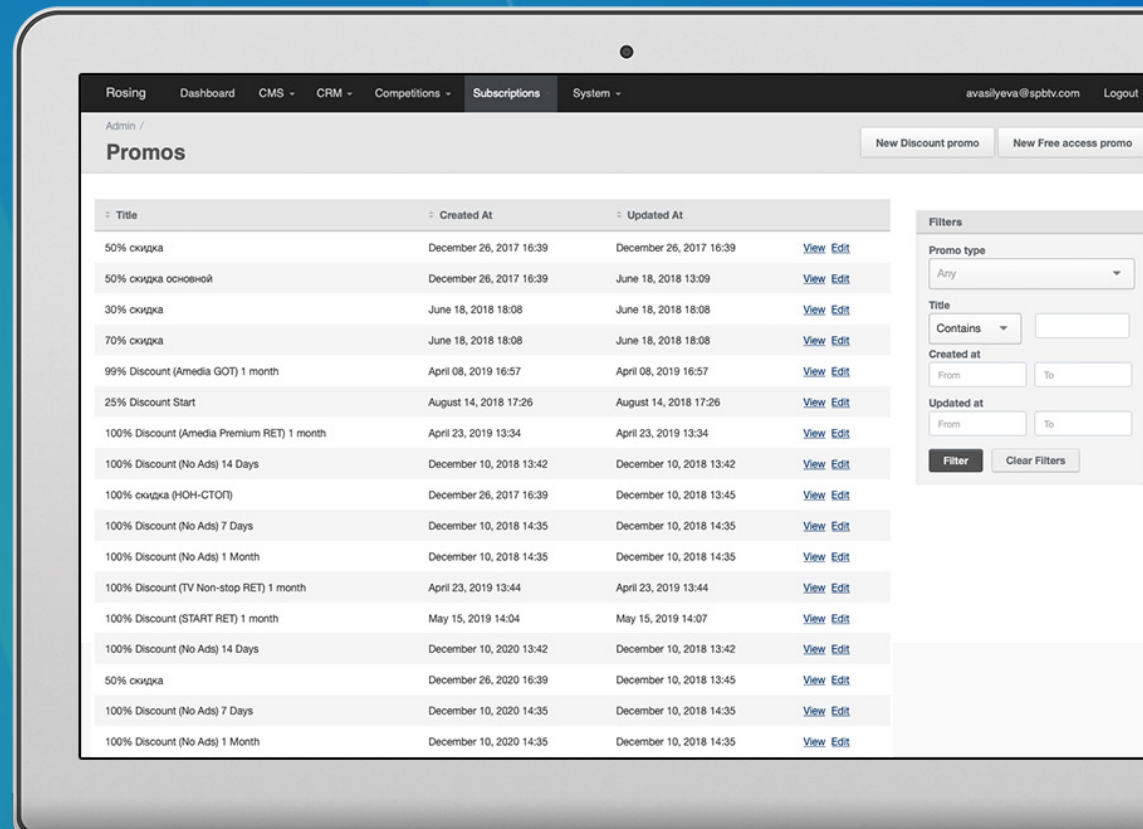
CMS is a highly customizable module-based system that allows the TV operators to import and manage linear TV channels and video-on-demand files, enter the associated meta-data. Using CMS tools service manager can create thematic collections and channels for better content discovery and user experience.

- Any type of content can be added to the library: audio, video, images, text files.
- Every piece of content can be accompanied by description, additional images, trailers, as well as tags and metadata so that the user could discover content library fast and easy.



CRM

Customer relationship manager allows to create and keep strong connection with users. Inside this tool service manager will arrange subscriptions and promo codes, additionally, CRM intuitive interface allows service manager make changes without special technical assistance.



Business Models

Platform configuration allows implementation of any business model that suits business plan. Models can be freemium, subscription, TVOD, AVOD, add-on, a-la carte channels or free. Service content can be included in one model or several. Service manager can form subscription packages, arrange bundles, trial periods, promos, and much more.

- **The Subscription model** supposes more predictable regular income, customer loyalty and more opportunities to upsell on premium packages, to offer additional content. Using a Subscription model, you can offer Customers not only content, but also additional premium features (e.g. HD / UHD content or disable advertising during the subscription period).
- **Trial and Promo periods.** You can configure the Subscription adding a free trial period. Trial phase of Subscription is the

first one to be applied. As a rule, it is provided once for each user. As well, you can add a promotional phase to your Subscription. Promo phase is an alternative of the Trial phase and is obtained by applying a Promo.

- **Promo code.** Promo code represents a combination of letters and digits (alphanumeric code). Customers can use them to redeem special bonus in Application, e.g. discount or free days for Subscription.
- **TVOD** is a VOD service that allows to buy content on a pay-per-view basis. One item can be sold for different amount of money depending on the quality and length of use.
- You can use Add-on Product in SPB TV Rosing CMS to distribute the premium features, like **Disable Ads feature**.

Billing and Payment



Billing system of SPB TV Rosing Platform supports the integration with operator's billing system, e-wallets and other 3rd party payment services.



This versatility allows the system to implement any subscription and payment model and operate with a subscriber database of any size.

Any payment option



App Store



Google Play

SPB TV Rosing supports in-app purchase by integration with Google Play and Apple Store. This feature makes viewing experience smooth and easy.

Integration With Content Providers

Integration with content providers allows you to increase the amount of content offered in the service. In addition to service content, you can add more movies, series and in some cases TV

channels to the SPB TV Rosing system from external sources. The platform has already implemented integration with several online cinemas: Start, Amediateka, Okko, ivi, Megogo.



more.tv

ökko

Advertising Engine

Advertising Engine is a unique one-stop-shop solution. It includes options of adding pre-rolls and mid-rolls and banners. As well, SPB TV develops its own in-stream ad insertion technology. It allows accurate substitution of broadcast commercials based on the user's location, gender and preferences. The solution integrates all the necessary components for in-stream ads detection, removal and insertion – and doesn't require any third party assistance.



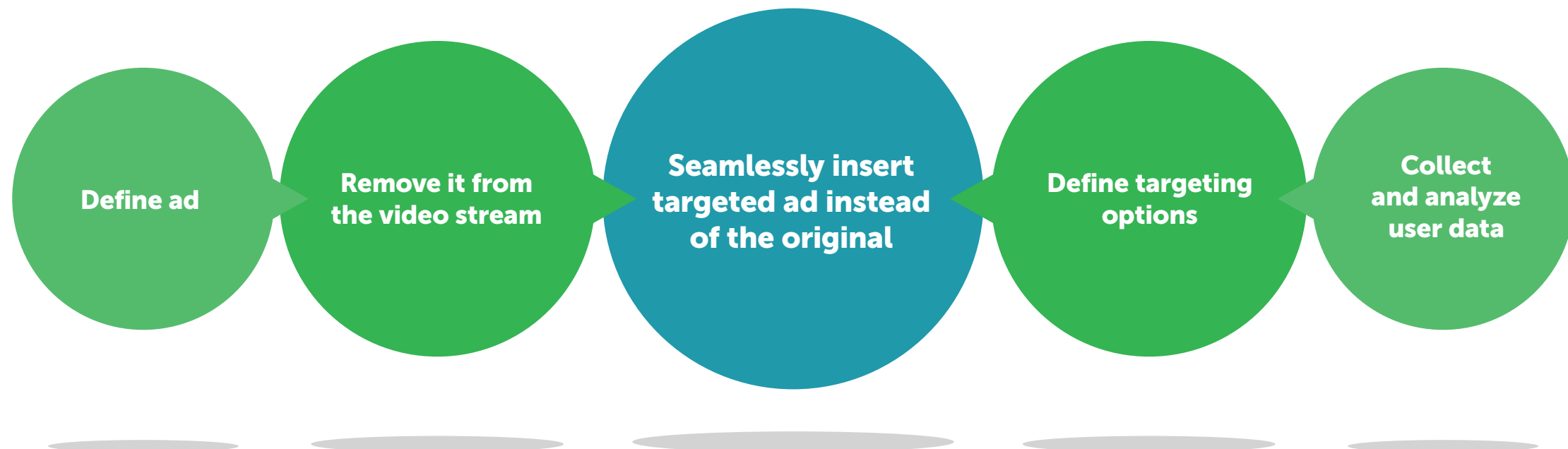
Targeted advertising placements



In-stream ads replacement



Ads Performance Analytics



Reporting

SPB TV User Intelligence is a system for collecting data about the viewers. The system tracks views, user activity, purchases, new users, retention rates, geo data, etc. The system comes equipped with a user-friendly interface, in which the TV operator can monitor axial statistical parameters, as well as create unique reports using filters. The reports can be exported in .csv, .xlsx or .json formats. Service managers can monitor channel performance in real time, collect statistics and monitor user behavior.

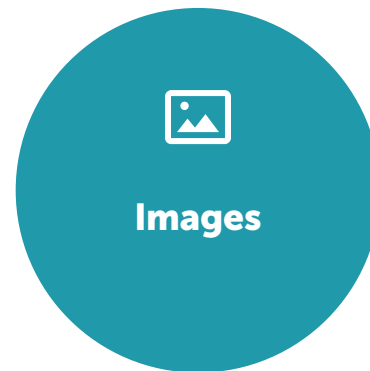
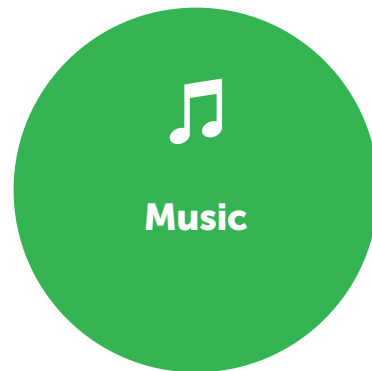
Comprehensive analytics



Recommendation Engine

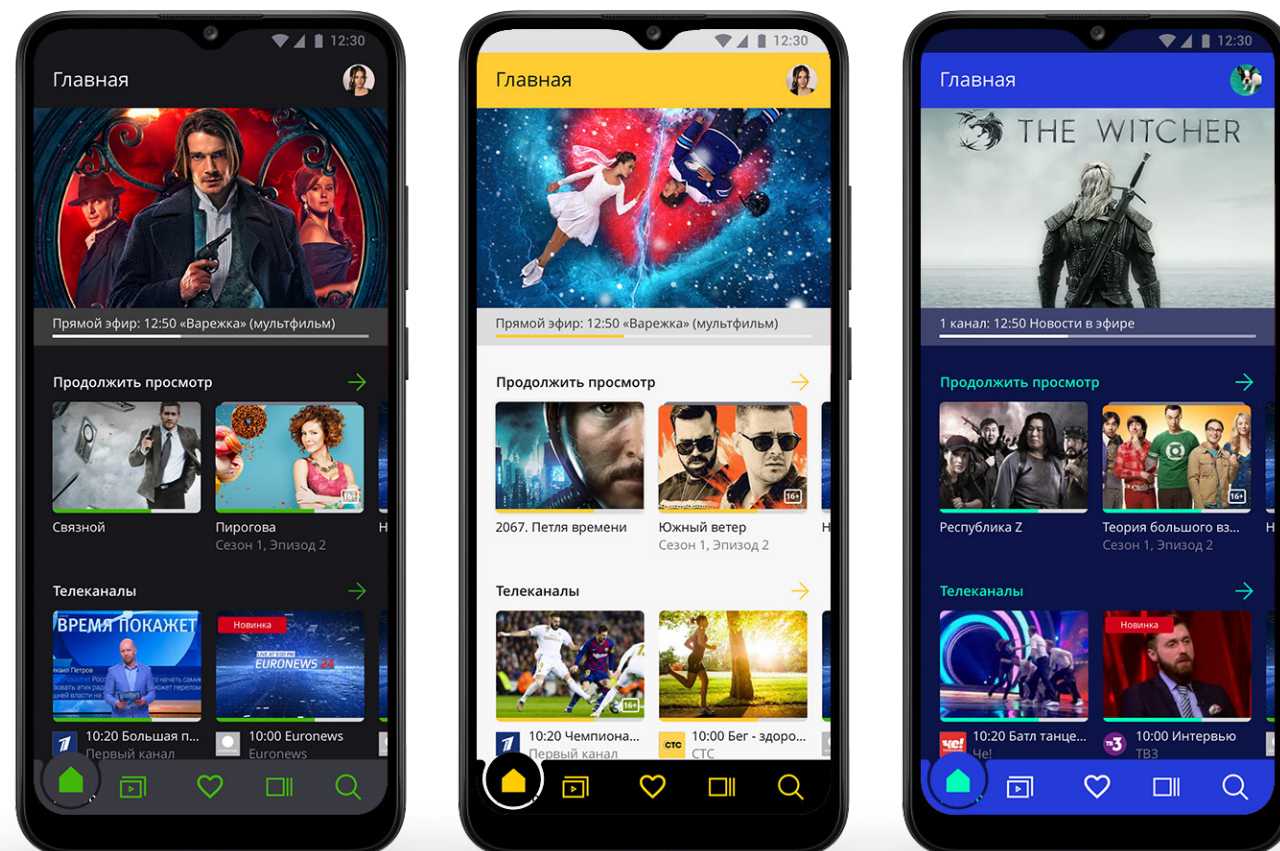
SPB TV develops its own recommender system based on collaborative filtration: the system collects and processes both personal user data and data on content watched.

Implementation of a recommender system enriches users' experience of interaction with a TV service and helps to explore the content to the full. All that leads to increase of customer's loyalty.



Client Solutions

Every TV service is equipped with an UI kit that ensures fast branding with no developer's assistance. Service manager sets the interface using hundreds of options to improve content discovery. Service can be developed and fitted for any language with any kind of written characters.





Personal Profiles allow different members of household to store their own personalized settings and user history in the Application. User can have up to 10 individual profiles within a single account. Every account is accessible on **different devices**: TV with a set-top-box, Smart TV, Tablet, smartphone, computer.



To protect children from inappropriate content user can turn on **Parental control** function in a child's profile.



Electronic program guide (EPG) is a menu-based system. SPB TV Rosing supports advanced EPG which provides users of Application with continuously updated menu, displaying the schedule of programs, with the ability to interactively navigate content by time, name, channel, content type, genre, language etc.



Timeshift ("time-shifted broadcasting") is a feature that allows Customer to pause a live video stream or rewind it to some point in time in the past.



Catchup is a technology that allows Customer to watch TV programs using the Internet after they have been broadcast. As a rule, TV programs remain available for viewing for some period of time (e.g. for 7 days).



User can create different **Content Lists**: Favorites, Watch later, Continue watching, etc.



The absence of Internet connection won't stop viewer from watching videos and shows with **Offline mode**.

Technical Information

Input

IP Input Interfaces	2x Gigabit Ethernet
Optional Digital Input Interfaces	SDI, DVB-S
Input IP Streams	UDP Unicast/Multicast, HTTP, HLS, RTSP, RTMP, MMS
Supported Codecs	MPEG-2, MPEG-4, H.264, MPEG-1, MPEG-1 Layer 3, AAC, HE AAC, AC3, WMV 7, WMV 8, WMV 9, WMA 1, WMA 2, WMA 9 Pro, On2 VP3, On2 VP5, On2 VP6, On2 VP8, PNG
Filters	Video cropping, Image insertion on input source loss, automatic audio loudness adjustment

Output

IP Output Interfaces	2x Gigabit Ethernet
Output IP streams	UDP/RTP MPEG2-TS Multicast/Unicast, HLS, HDS, Smooth Streaming, MPEG-DASH
Output Codecs	H.265, H.264 (Baseline, Main, High), MPEG-4, MPEG-2, AAC, HE AAC, DTS, Dolby Digital Plus
VoD Output	Multi Track MP4
VoD Publishing	FTP, SFTP, S3
Thumbnails	PNG, JPEG

Management/Monitoring

Monitoring	SNMP v1, v2 Traps, Input streams monitoring and notification
System integration and configuration	Front panel LCD control interface, Command Line Interface, SAP protocol for components auto configuration, System configuration using TFTP and HTTP
Redundancy	N+1 High Availability is achieved using SPB TV Centralized Management Console

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