

On-Demand Transcoding

Overcoming New Media Distribution Challenges

As video is created—whether it's professional, prosumer, or user-generated content—operators are challenged to re-format, re-distribute and cross-market it for multiple screens to increase viewers and maximize revenue. However, the volume of mobile, internet and IPTV video, along with the number of encoding profiles, are outpacing legacy transcoding, storage and distribution resources, adding to an already difficult problem.

To ease video delivery and distribution challenges, RGB Networks is changing the traditional, pre-transcoding process into a transactional model based on the RGB TransAct family of software products, which manages the myriad of transcoding and video delivery responsibilities in a transparent, real-time manner. While delivering optimal video quality through a unique hardware appliance—the Application Media Server (AMS)—RGB's value extends beyond video transcoding to offer an extensive suite of video applications and Web 2.0 workflow solutions to enable on-demand and live video content to be played across the 'three screen' domain as a network-based transaction that can be easily monetized. The TransAct product family supports an innova-

tive on-demand transcoding solution and a live broadcast, real-time stream transcoding solution for optimal flexibility in delivering file-based or live content across mobile, internet or IPTV domains.

RGB On-Demand Transcoding Solution

RGB's on-demand transcoding solution transforms the process of repurposing video and solves the problem of distributing content across multiple screens. With this solution, video can be transcoded in real time while simultaneously being progressively downloaded or streamed to end user devices including the popular Apple® iPhone™, T-Mobile G1™, RIM BlackBerry® Bold and BlackBerry® Storm, producing a high-quality viewing experience based on content type,

device, network bandwidth and ad policy. A software- or appliance-based infrastructure transcoding solution, RGB extends video delivery across multiple channels, without requiring specialized handset applications or video players, and without the need to pre-transcode content for each device.

As an advantage, transcoding video on demand eliminates the need for companies operating in today's new media market to 'pre-transcode' and store multiple file formats of their entire video library. RGB's on-demand transcoding solution enables content creators and distributors to continuously and easily expand the reach of their video library as new encode profiles are introduced, without re-transcoding all of their content. By dynamically transcoding video on the fly, operators can monetize their entire video library—not just the most widely viewed titles—enabling them to grow their business and add new revenue streams.



RGB TransAct Product Family

There are several components of the TransAct family that form the basis for RGB's innovative on-demand transcoding solution architecture. Each product has a unique purpose and set of functions to support an on-demand transcode and delivery of user-requested content.

The **TransAct Commander** is a sophisticated software application packaged in a single rack unit server that manages and controls the on-demand transcoding operations and workflows supporting a single or cluster of RGB transcoding appliances. TransAct Commander provides back-end intelligence to route on-demand transcode requests, balancing the workload and ensuring availability through failover and redundancy capabilities.

The heart of RGB's on-demand transcoding system, the **TransAct Transcoder**, is specifically designed for the next generation of internet video. Uniquely designed for high performance video processing, RGB's transcoding appliance provides an unparalleled video decode and encode quality in a 1RU appliance, for a flexible, scalable and future-proof transcoding solution.

The RGB **TransAct Detector** provides the intelligence in a web application to accurately identify a variety of internet-enabled devices including mobile handsets and other video-, audio- and data-rendering endpoints. Particularly applicable for the mobile market, TransAct Detector understands a mobile handset's distinct image and video capabilities to ensure delivery of the best user experience possible for that device.

RGB's **TransAct Monetizer** gives advertisers the ability to extend the reach of their branding efforts to targeted users on new media platforms while offering Web 2.0 companies opportunities to monetize their video assets across new channels. Leveraging RGB's on-demand transcoding solution, TransAct Monetizer is able to dynamically insert device-optimized pre- or post-roll video advertising for increased relevance and higher CPM.

Intuitive XML-based **TransAct APIs** provide tools for developers to quickly and seamlessly integrate RGB's transcoding solutions into Web 2.0 environments and third party applications such as ad servers or mobile handset detection and geo-location applications.

Supported Codec Parameters

RGB supports the most popular codecs and standards demanded by the digital video industry and has future-proofed its solution to support newly available codecs through user-controlled software updates.

The following recipes are supported in RGB's on-demand transcoding solution:

TYPE	DECODE	ENCODE
RTSP / STREAMING	ASF (WMV9 SP/MP, WMA 9) FLV (VP6, MPEG-1 Layer 3) FLV (VP6, MPEG-2 Layer 3) MP4 (H.264 BP, AAC-LC) ASF (WMA 7) ASF (WMA 8) ASF (WMA 9) WAV (PCM)	3GP (MPEG-4 Part 2 SP, MPEG-4 Part 3, AAC-LC) 3GP (MPEG-4 Part 2 SP, AMR-NB) 3GP (H.263 P0, MPEG-4 Part 3, AAC-LC) 3GP (H.263 P0, AMR-NB) 3GP (H.264 BP, MPEG-4 Part 3, AAC-LC) 3GP (H.264 BP, AMR-NB) 3GP (AAC-LC) 3GP (AAC-HEv1) 3GP (AMR-NB)
HTTP / PROGRESSIVE DOWNLOAD	ASF (WMV9 SP/MP, WMA 9) FLV (VP6, MPEG-1 Layer 3) FLV (VP6, MPEG-2 Layer 3) MP4 (H.264 BP, AAC-LC)	FLV (VP6, MPEG-1 Layer 3) FLV (VP6, MPEG-2 Layer 3) MP4 (MPEG-4 Part 2 SP, AAC-LC) MP4 (H.264 BP, AAC-LC)
FILE-TO-FILE	ASF (WMV9 SP/MP, WMA 9) FLV (VP6, MPEG-1 Layer 3) FLV (VP6, MPEG-2 Layer 3) MP4 (H.264 BP, AAC-LC) WAV (PCM) ASF (WMA7) ASF (WMA8) ASF (WMA9)	3GP (MPEG-4 Part 2 SP, MPEG-4 Part 3, AAC-LC) 3GP (MPEG-4 Part 2 SP, AMR-NB) 3GP (H.263 P0, MPEG-4 Part 3, AAC-LC) 3GP (H.263 P0, AMR-NB) 3GP (H.264 BP, MPEG-4 Part 3, AAC-LC) 3GP (H.264 BP, AMR-NB) FLV (VP6, MPEG-1 Layer 3) FLV (VP6, MPEG-2 Layer 3) MP4 (MPEG-4 Part 2 SP, AAC-LC) MP4 (H.264 BP, AAC-LC) MP3/ID3v1 (MPEG-1 Layer 3) MP3/ID3v1 (MPEG-2 Layer 3) 3GP (AAC-LC) 3GP (AAC-HE v1) 3GP (AMR-NB)

RGB TransAct Technical Specifications

RGB Networks offers the TransAct software product suite as either software-only or as an appliance. The software-only solution ships on a CD and allows customers to deploy on their choice of server-based hardware platform. Ask your sales representative about supported hardware platforms. TransAct software is also offered on an RGB supported appliance—the Application Media Server (AMS).

<p>MANAGEMENT</p> <p>Features</p>	<ul style="list-style-type: none"> Terminal access via serial port for CLI Web browser GUI Secure shell (SSH) XML-RPC 1.2 In-band / out-of-band support Front panel LCD for system status SNMP traps Remote upgrades
<p>AMS HARDWARE</p> <p>I/O</p> <p>Form Factor</p> <p>Dimensions</p> <p>Weight</p> <p>Power</p> <p>Temperature</p> <p>Regulatory</p>	<ul style="list-style-type: none"> Up to six Ethernet (10/100/1000 Base-T) ports 1 RU 18.99" (W) x 30.39" (D) x 1.68" (H) 48.24 cm (W) x 77.2 cm (D) x 4.26 cm (H) 39 lbs / 17.69 Kgs AC P/S operating in the range of 100V-240V Nominal Voltage 120V AC 717 Watt, dual-line cord 1+1 PFC (dual power supply redundant configuration) Operating temperature: 50 to 95° F (10 to 35° C) Relative humidity: 20 to 80% non-condensing FCC Part 15 NRTL UL / CSA



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