



Profile:

The Move to Multi-Screen

By Sara Waddington and Dr Roger Blakeway, SCTE

Jef Graham, CEO of RGB Networks, talks to Broadband Journal on the company's growth plans, targets and outlook for the future.

RGB Networks enables video service providers to migrate to a multi-screen environment for the delivery of linear and on-demand video over managed and unmanaged IP networks. The company's success is based on core strengths in transcoding, advertising and overlay insertion as well as statistical multiplexing.

RGB's solutions for video delivery to TVs, desktop and mobile devices are built to deliver high video quality offering the density and scalability required to support the growing demands of consumers with integrated functionality that simplifies operators' network architectures and minimises operational costs. RGB's products are deployed by over 200 cable, telco, satellite, OTT and mobile operators in 30+ countries.



Jef Graham, CEO of RGB Networks

“ In 2011, we anticipate shipping over US\$ 70 million of products. ”

“ IP video enables operators to move into lower cost, simpler and more standardised operating environments, consuming less power and less cost. ”

BBJ: Please give us some background history on RGB Networks. When was it formed, how many people are in the company and where are your production/office facilities?

JG: The company was founded in 2003, with investment from Accel and Kleiner Perkins, two of the top US venture capital firms. It started shipping in 2005 and, in 2006, we launched the broadcast network processor (for ad insertion and statistical multiplexing). Those were the two core products until about 18 months ago. Up until the end of the last quarter, we had shipped over US\$ 200 million of products (from 2005). We have about 200 people and most of our development is done at our Sunnyvale, California facility.

We acquired a company last year (RipCode) which does transcoding and packaging for PC and mobile environments. The RipCode acquisition now enables us to deliver to PCs and mobiles as well as largescreen (ad insertion, transcoding and statistical multiplexing). We have about 25 former RipCode engineers in Austin, Texas doing the mobile and PC development for us.

We also have field sales employees scattered across the world (10 in Europe, 10 in Asia and teams in the Americas etc.) to support us. Flash Electronics in Fremont builds the equipment that we design. All assembly is done in the US.

BBJ: Please outline your main products and technologies?

JG: We have four product lines at present, the SEP and BNP, as previously mentioned, and two IP video product lines—the Video Multiprocessing Gateway (VMG) and the Application Media Processor (AMP). The VMG performs transcoding, ad insertion and packaging to multi-screens. This has become our flagship product and is the main growth driver in the company. The AMS, with its TransAct software for packaging and transcoding, enables us to deliver from the VMG to PCs and mobile environments and is also a fully mobile solution as well as being a solution for software cloud encoding.

Being able to do ad insertion in the same platform from the same head-end is a great advantage we have. That is what the

VMG essentially does – transcodes, inserts ads and packages them up to deliver them to a specific device. VMG is currently the only carrier-class platform for multi-screen.

BBJ: Please confirm your turnover for the last three years. How do you see the future?

JG: We grew 60% in 2010 over 2009 and we think that growth will continue. In 2010, we shipped over US\$ 50 million of products and we shipped over US\$ 30 million in 2009. In 2011, we anticipate shipping over US\$ 70 million of products.

Last year, our revenues were 89% cable and satellite and 11% telco and mobile. We were most dominant in the US (75% of our business) and 25% of our business was international last year.

BBJ: Please outline new or current trends and applications in your markets?

JG: The big trend for us is the growth in the telco and mobile business. This year, we expect telco/mobile to be about 30% of our business and 40% will be international. The international business in Europe, Asia and Latin America is moving very rapidly for us.

A lot of the future growth will be in IP video, where we have product lines. We are seeing big growth in this area. IP first ‘ate’ data a couple of years, it has now largely ‘eaten’ voice and is now just starting to ‘eat’ video. We are moving towards a complete IP world and this video transition is the last frontier of moving to IP. IP video enables operators to move into lower cost, simpler and more standardised operating environments, consuming less power and less cost. It also, importantly, allows operators to move to multi-screen.

What we see now are silos – individual head-ends delivering video to individual devices. In the future, there will be a single head-end delivering IP video to multiple screens. As you do that, scalability and reliability become very important. Power consumption also reduces by a factor of 10 if you use carrier-

“ Our main objective is to be the leader in IP video infrastructure for multi-screen. ”

class (completely fault-tolerant) platforms. It also becomes a very modular platform where resolution etc. can be changed.

People tend to talk about transcoding as a general technology but there are three parameters to it. The first parameter is the “resolution” you want. Traditionally, very high resolution has been required. In the last few years, we have seen a proliferation of software transcoders spanning low resolution. The second parameter is whether you are doing “live” or “offline” transcoding. The third parameter is a “scalability” issue – the number of channels you are trying to transcode simultaneously and the number of outputs you are trying to make simultaneously.

When you go to multi-screen, you need to span all these parameters to cover all the platforms in a live or VoD environment at scale. So, doing that transcoding in the VMG platform is our target market. We are seeing small scale test (i.e. on I-Pads) in the market right now. Multi-screen ad insertion is also a very exciting opportunity.

BBJ: *What are your main objectives and targets over the next few years? How do you intend to achieve them?*

JG: Our main objective is to be the leader in IP video infrastructure for multi-screen. We therefore want to provide all the technologies in a single platform that are required to do that. You will therefore see us continue to add more capability into this platform.

In the international arena (Europe and Asia Pacific), this becomes very important because a lot of the time you are doing green field installs. People are building out complete infrastructures for IP video and solutions need to be highly efficient for operators in smaller countries, specifically. So, we have designed the VMG to be suitable for small and large operators.

In Europe particularly, as you go to multi-screen you move into different regulatory environments. Ad insertion, in most of Western Europe, is done by the broadcaster in the TV environment. You enter different sets of regulations and laws as you go into PC and mobile environments and transition to an adaptive streaming model. So this opens up vast new income and subscription



opportunities for operators in Europe as they go into multi-screen and we want to partner them in this.

One of our targets is to become a public company – we think we can IPO next year. This allows us to raise capital and more aggressively expand. To become a public company, we must have predictability on revenue flow, which stems from diversity in product lines, markets etc.

Our major goal is to broaden our capabilities in the marketplace. It's all about revenue growth and innovation and building a better mousetrap than your competitors.

BBJ: *In which regional markets do you predict future growth and why?*

JG: In the US, mobile video is still in its infancy – US operators are primarily targeting the PC and the I-Pad. In Europe, however, there is a desire to get mobile video to the phone. Phones are already a subscription model. Many European operators cross the lines of being a mobile operator, telco and sometimes a cable company so there is not the same strict division of responsibility that you see in the US.

The mobile environment in video is very exciting and there is a lot of opportunity in European markets. Historically, most mobile video has been offline and I expect to see more

“ One of our targets is to become a public company – we think we can IPO next year. ”



Above: RGB Networks' offices in Sunnyvale, California.

live video coming to mobile environments in the next few years. I am a European CEO in a US market environment – I have worked all over Europe and push our business very strongly in global markets. My driving mantra is to push the diversity of our products in different global markets to give us that predictability on revenue flow.

The great thing about Europe, from a vendor perspective, is that the diversity of language, culture and national boundaries means that you have a large number of national operators. In the US, on the other hand, 50% of cable subscribers are with two vendors. It is therefore important to supply scalable solutions to fit these very different markets.

We saw big growth in Latin America (i.e. Brazil), which leverages heavily off the US. In Europe and Asia, we expect to see very high growth as people move to multi-screen environments.

BBJ: Which technologies do you feel have the most potential for future business?

JG: Transcoding and packaging are two very hot technology topics. Operators are trying to understand multi-screen right now and prove that it works. The next move forward is ad insertion to monetise this process and it is, of course, a great opportunity for the PC environment. Operators need to seriously think about partners who can handle both the infrastructure and the ad insertion process.

IP video will overtake IPTV. I am less enthusiastic about IPTV where you need a set-top box. Why go to IPTV with a set-top box when you can deploy intelligent devices that can pick up the video through the network?

BBJ: How many customers do you have worldwide? Please outline any successes and achievements over the last two years.

JG: We currently have over 200 customers in over 30 countries.

In terms of successes, the two biggest trials going on in the US right now in multi-screen use our delivery systems – our system has been extensively evaluated and tested, and proven in scale. We are delivering single chassis product systems that send out over 400 video streams simultaneously.

BBJ: Do you have plans to launch any new products or technologies, any new office or distributor facilities or enter any new markets etc. over the next two years?

JG: Generally, we are adding more capabilities to our platform (through in-house development, partnering, acquisition, integration etc.). As we become more global, we will start to do more development on a global basis. We have no development facilities in Europe right now but I fully expect to open R&D facilities in Europe at some point over the next few years.

There is great talent in video in Europe (UK, Sweden and France etc.) and we want to tap into that talent.

BBJ: Thank you for your time.



For further details, see www.rgbnetworks.com