Video QoE 2012: Managing the Video Tidal Wave for Quality & Profit

Stratecast Analysis by

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The Intelligent Application of Analytics to Customer Experience

According to today's industry *corporatespeak*, "everything is analytics," and whatever is not analytics must be "customer experience." This Stratecast report is about an area where the buzzwords actually mean something: the intelligent application of analytics to customer experience—and how that can help communications service providers (CSPs), the world's operators, meet what may be the single greatest challenge they face today: video.

The fuel that increasingly powers both the world of commerce and our social selves is video. Any reader with a smartphone or other mobile device of any kind has likely used it to watch video, quite possibly a lot of video. While the entertainment value of video cannot be denied—as untold millions of Web hits on videos of talking dogs will attest—video is also a key cog in the wheels of commerce, as businesses in every industry position themselves and present their capabilities through video, globally available in an instant.

The dramatic growth of video is a positive phenomenon for content providers—but those who are at ground zero of the transmission of all of that video, CSPs, are experiencing something similar to an extremely active sales team that cannot close the deal: a great deal of activity with little revenue to show for it. What makes it harder on CSPs than anyone else in the video ecosystem is not only the opportunity cost of having to concern themselves to such a high degree with video delivery, and not merely the notion that they would like to be getting compensated for their vital central role in that ecosystem, but also the high capital and operational costs of having to engineer and manage their networks to carry all of that video. As with all services, applications and even URLs accessed over a CSP's network, the one that shoulders most of the blame when video problems occur is the CSP. Thus, while content providers, including content delivery networks (CDNs) and others in the video delivery ecosystem, will undoubtedly lose customers if they fail to perform, the CSP faces the unique challenge that customer perceptions of poor video quality can in fact cost it customers—who ironically were not paying for the privilege of watching video but were paying for the CSP's voice and data services.

Bottom line, regardless of the exact level of churn CSPs are incurring due to video quality issues, they need to find ways to devote fewer resources to managing the video tidal wave; and if they are to craft strategies and offerings to capture video-driven revenues themselves, quality is paramount.

Does today's scenario present something of a cruel dichotomy for CSPs? Yes. Does Stratecast have concerns about the negative long-term impact video can have on the world's CSPs? It does indeed. All of us, collectively, as citizens of the planet who rely to one degree or another on communications services, have a stake in the survival and success of CSPs. Yet, the phrase "no one said life was fair" should not be lost on anyone in the world's communications markets. Nor should this bit of colloquial wisdom: "Crying won't help." The good news for CSPs is that the help they have been crying for, or at least actively seeking, is on the way, through capable providers such as Qwilt.

Qwilt

Products

Combining video analytics software running on top of commercial off-the-shelf (COTS) hardware platforms is the way several of the leaders in the video QoE space provide their solutions. The most effective way to deliver online video is to deploy video delivery nodes at the network edge, close to subscribers—and that is the core of Qwilt's strategy. The company's offer is built on a software-supported network device designed from the ground up for video delivery. From intelligent video classification to tiered storage and video analytics, it is preconfigured and optimized for the specific challenges presented by streaming video. The meaning behind the Qwilt name is the company's vision of "stitching together multiple layers" of technology—similar to the way an expert crafter creates a "quilt"—to address the needs of the four main constituencies of the video value chain: content providers, CSPs, content delivery networks (CDNs) and consumers. The product itself, Qwilt's QB-Series:

- Offers CSPs a high-performance, low-overhead platform that detects and delivers video content at rates up to 5x faster than competitive solutions, at a footprint that is, on average, 5x smaller, and that is helping some CSP customers reduce video traffic demands by up to 80 percent.[1]
- Enables CSPs to identify, store, monitor and deliver online video to their subscribers at scale for enhanced video QoE, cost containment and the potential for new monetization models.
- Provides a universal video delivery layer that works transparently, without interruption or changes to content provider or network infrastructures. It helps CSPs contain the cost of online video traffic while keeping their options open for future business models leveraging the video delivery layer.
- Works out of the box without prerequisites or inter-dependencies such as content provider agreements.

Qwilt is winning business based on those product advantages—but two other competitive factors are often what tip the scales:

1. Implementing a competitive solution may require new wiring and switching purchases, reconfiguration of policy-based routing and bolting together equipment from different vendors. Qwilt's off-line deployment model—or, in the vendor's parlance, "drop and deploy"—can minimize negative effects on network traffic.[2]
2. Other caching solutions require cache engines, switches and storage that, over the course of a typical network edge deployment, may necessitate 10 new devices, taking up an entire data center server rack. This increases complexity, the company's IT footprint and its energy footprint as well. The QB-Series combines video discovery, monitoring, storage and delivery in one platform.

Qwilt's QB-Series fulfills the APM, CSA and service-specific QoE portions of Stratecast's CEM model with regard to video. In fact, the product nearly spans the gamut of CEM, at least from a video technology perspective, in that it is delivering a sliver of CEA—not full subscriber profiles, as

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[1] Qwilt solutions are deployed for operators of all sizes; and, as such, video delivery statistics can vary; in general, the larger the consumer base a device will see, the better the statistics will be.

[2] The analogy here is to Signaling System 7, out-of-band common channel signaling technology with look-ahead routing that was the foundation for intelligent design and services in the telecommunications industry.

is being done by CEA providers such as Aito Technologies—but enough customer data to enable things like targeted video packages and promotions.

CSP Revenue Opportunities

The Qwilt solution reveals video traffic characteristics, forecasts and simulates video delivery results for optimal performance. This insight is the first step towards monetization.

Stratecast has discussed how it is often difficult for CSPs to simply locate OTT video in their networks. Qwilt's Online Video Classification Engine, a feature of the QB-Series, combines network intelligence with content analysis techniques—similar to the way online analytics engines detect site and social content—to detect OTT video. The product does so without affecting network performance, and delivers the content transparently to the video consumer. Qwilt's Video Signature Research Group continually analyzes, researches and updates video signatures for the QB-Series platforms, much in the same way as cyber-security teams are constantly updating virus and spam signatures to keep the Internet a safer place.

Another feature of the QB-Series, the Video Title Popularity Engine, provides detailed video traffic analysis and statistics concerning current/ongoing video delivery. Qwilt's detailed video traffic analysis offers insight into video traffic and trends as they happen. The resulting relevant, granular video usage data:

- Facilitates revenue sharing agreements between CSPs, CDNs and content owners.
- Enables CDNs to offload video from their servers, reducing the number of servers they need to deploy.
- Enables CDNs and content originators to work effectively with CSPs to expand their reach in new markets through Qwilt deployments.
- Helps all provider parties leverage the data to launch highly effective promotions to CSP subscribers. Qwilt currently does not support full title visibility, and uses a title naming convention that is not human readable; but promotions are available with the focus around improved online video viewing.

Qwilt has pre-integrated its products with a number of undisclosed BI/analytics suites from large BI platform providers, but its primary partner in this regard is Guavus. The Guavus Reflex platform features a grid-based, scalable, high-availability computing architecture for data analytics using stream processing and analytics for collection, processing and reporting. The Reflex platform embodies the qualities Stratecast has recently identified as the Intercept/Store & Forward model for real-time, next-generation analytics in a growing number of CSP environments:

- Instead of first storing and then querying large and growing volumes of data, the platform processes raw network data streams as they arrive from the various network elements.
- Catalog information, such as subscriber demographics, pricing plans, device catalogs and more, is infused with network usage data to provide a holistic picture and deliver timely BI.

In addition to Guavas, Qwilt products come with Qwilt's own analytics suite that can be used out-of-the-box.

Market Presence

Qwilt has yet to disclose any current customers, but indicated to Stratecast that it is engaged with more than 100 CSPs across every world region. Stratecast believes most of those engagements are of the sales dialogue variety, a view supported by the company's public discussions, late in 1Q12, that it

was "coming out of stealth mode and ready to compete." So, these are early days at Qwilt; and yet, the company also indicated to Stratecast that it is engaged in deployments and trials with 10 ISPs in Europe, APAC and the U.S. **Stratecast estimates that Qwilt has an annualized revenue stream of $8 million**, a number that could rocket skyward given the uniqueness and revenue-readiness of what it is bringing to market.

The Qwilt team consists of 40 employees, including industry veterans from Broadsoft, Cisco, Fortinet, Juniper and Nokia-Siemens Networks (NSN).[3] Qwilt is working with several regional channels, including with IT Frontier/Mitsubishi in Japan.

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[3] Stratecast believes the Cisco and NSN connections were forged during the course of those two companies' multi-year joint cooperation on the ANA standard—which was intended to be the ultimate multivendor management strategy for managing network equipment from any vendor under a unified platform.

Stratecast
The Last Word

The explosion of new video choices, particularly over-the-top (OTT) video sources such as YouTube, Netflix, Hulu and Vimeo, is a positive development for many. **The only ones for whom video can be a net negative are those whose networks are bringing all of that video to global video consumers: communications service providers (CSPs).** Video is a data-intensive proposition, which means it consumes a lot of CSP network capacity. Ensuring high video quality is probably the most difficult task that anyone who operates a network can undertake, demanding a great deal of expertise and resources. Even accepting those challenges, it might be worth the time, trouble and sharply higher levels of investment that video requires of CSPs if they were being well-compensated for their efforts. Yet, today, by any reasonable standard, no CSP is being well-compensated for video—and many are being compensated not at all. They are draining resources trying to stem the tidal wave of video flooding their networks—resources they need to deliver the services that represent most of their revenue: voice communications and (non-video) data services. Perhaps more importantly, if CSPs hope to drive revenue through video services—and the fact that so many of them already offer their own CDNs is just one indicator that they intend to do just that—delivering optimal video quality is imperative.

CSPs now have a technology at their disposal to help stem the tide: video delivery, assurance and quality of experience (QoE) solutions, which Stratecast simply terms Video QoE. Video QoE solutions are enabling CSPs to address all of the challenges outlined above:

- Managing video traffic efficiently and so that it does not overwhelm the network and the business.
- Ensuring optimal video quality so a CSP can compete with others and not see poor quality drive away voice and non-video data customers.
- Delivering granular data about video users and usage that is actually, for the first time, enabling CSPs to view video as revenue-positive: enabling targeted promotions based on which movies and other entertainment programs their subscribers are watching.
- Creating new service packages built on tiered video services.
- Helping them negotiate with advertisers and content providers based on both quality assurances and informed access to their most desirable users.

Sometimes the success of a solution, or an entire category of solutions, can hinge on the manner in which it is provided. So, from a supplier perspective, Stratecast believes Video QoE providers whose solutions are not currently pre-integrated with broader platforms and frameworks, in OSS/BSS, BI/analytics, or both, are fine in the short run but will soon run out of market runway. Video QoE providers, especially the small and medium-sized companies, would do well to ensure that their solutions do not become yet one more integration headache for their CSP customers. That way they will still be around to provide the video pain relief their CSP customers require.

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