Interview with Charlie Good

We sat down recently with Charlie Good, CTO and co-founder of Wowza Media Systems, to talk about his industry background, architectural philosophy and the Wowza Media Server, a highly successful interactive Flash media server software that he created. Charlie also talks about how his company is expanding the Wowza Media Server platform beyond Flash by adding streaming to iPhone, Silverlight, QuickTime and IPTV set-tops.

You used to work for Adobe – did you get involved with Flash there?

Wowza co-founder and CEO, Dave Stubenvoll and I actually left Adobe before the Macromedia acquisition was completed. In my eight years with Adobe I was involved in a lot of projects, including the responsibility for Adobe web site and as an architect and a lead developer for an enterprise-class publishing system able to deliver documents in 36 languages from a single template. I was also fortunate to work for some other great companies that helped me hone my skills as an architect. At Digital Equipment Corporation and Claris I worked on educational software, consumer and business imaging and graphics, and computer-aided design products. While I worked with Flash peripherally, I was always fascinated with its possibilities, especially as it had to do with interactivity and media streaming.

So how did you finally get involved with Flash?

When I left Adobe, Dave and I got an office at a well known Silicon Valley VC firm. We were working on a whole bunch of portfolio companies there and at the same time were experimenting with consumer web services that involved a lot of Flash and video. One idea was to create the easiest-to-use video blogging service. We tried FCS and FMS for that but they were too constraining and pricey. We needed a much more open, flexible and reliable server. So we decided to create our own. That was the catalyst for getting very heavily involved with Flash.

Did these web services go anywhere?

To be honest with you, no. But in the process we learned a few things. One of the most important revelations was that video streaming was serious business. We started to see many people building companies around it and telling us that it had to be industrial grade. In fact, this is how we stumbled into the Flash media server software business. Folks were asking us what we used for our consumer sites because it worked so well. Quite a few wanted to buy our software. That's when we realized that the market was hungry for a product that worked better that what was available and was more economical. That was the start of the Wowza Media Server.

What was your approach to architecting Wowza Media Server?

My architectural philosophy is based on five key pillars – performance, extensibility, scalability, price and support. I didn't want to do a *me too* product. The objective was to create a media server platform that was extremely reliable, that would allow designers to extend it in interesting ways, and that would serve the market beyond our initial Flash media focus. The advantage we had was that we started from a clean sheet of paper and could make choices that are simply not possible when you are dealing with lots of legacy technology that has evolved organically without a vision.

What did this architecture allow your customers to do?

Well, it kind of goes both ways. The Wowza server offers very deep sets of APIs and capabilities. It has enabled us and our customers to do some very interesting things. For example, early on we saw an opportunity to help the radio streaming market to transition to Flash. The Flash (player) was creating a new consumer behavior as people were starting to shy away from the stand-alone players like WinAmp. So we implemented the capability to take in SHOUTcast MP3/AAC audio streams and made them consumable directly in the Flash player. Then we did the same for the video broadcast market with live H.264 RTSP/RTP and MPEG-TS ingest. That opened up a lot of possibilities for broadcasters to get their video and audio content to the Flash platform in a very simple way without changing their encoders. We also see our customers extending the Wowza server in a number of unique ways. Wowza is a fully interactive server. So we see lots of chat and collaboration uses. Some customers have even

created modules that connect *Flash phones* on the desktop with PBXs and PSTN. One customer is using our server to analyze speech to interactively teach foreign languages. Others are using it with screen sharing tools like Hmelyoff Java VH Screen Capture Kit (JScrCap) or building applications that push content to Second Life virtual environment. I'm a developer and it excites me to see how creative the developer community is and I'm eager to help them.

Wowza is a Java server – why did you choose Java?

We chose Java for many reasons. First, it is a great fit with our architectural objectives. It is highly multi-threaded and allows us to take full advantage of 64-bit computing which gives us a performance advantage. It gives our customers the ability to run Wowza on any OS – Windows, Linux, Solaris, Mac OS. In fact, one of our large CDN customers deployed Wowza on Mac Xserves that they repurposed from the QuickTime Streaming Servers. It saved them a lot of money. We also chose Java over ActionScript for server-side programming because it offers higher efficiency and there are a ton of off-the-shelf tools available. For instance, you can use a readily available JDBC module to interface Wowza server directly with a SQL database. It is very powerful.

Isn't it difficult for the ActionScript folks to transition to Java?

We do support ActionScript 100% on the client side. In fact, we fully support all variants up to AS3. So that works with the Flash player straight up. On the server side we chose Java over ActionScript because of its many advantages that I described before. No doubt, it presents a bit of a challenge for some ActionScript developers, but we try to make it easier for them to transition to Java. For example, we have created a free IDE that makes development of server-side Java code simpler. We also offer a very complete FMS-to-Wowza API cross-reference to ease the transition and there are many helpful tidbits on the Wowza forums as well. And we take support very seriously and encourage developers to ask us questions directly – our forums and email support are free and Wowza folks answer them all.

How is Wowza doing?

We're actually astounded at how the developer community and our customers have embraced Wowza server technology. Our original goal was to make enough to buy lattes. Now, two and a half years later we have more than 30,000 licensees all over the world. We never imagined that it would have that level of acceptance. It is very gratifying.

What advances in streaming media do you see on the horizon?

No doubt, the media space is seeing a slew of new things coming to play. Flash has a very strong foothold in the space. It is the most mature. There is still a lot to be settled, though. We are starting to see signs of maturity in Silverlight. HTML5 is an interesting development. There are still a lot of open questions about the codec choices for that and browser implementations. Apple certainly took a stance on HTML5 with Safari and the iPhone HTTP streaming by choosing H.264 codec. iPhone and iPod touch is a huge market that we think will be great for streaming media. We are keen on exploring all the different angles. At the end of the day what matters is how to get content to consumers. Technology, whatever it is, is just the means. We can't be biased.

What's next for Wowza?

Our advantage is that we are just about the only company out there that only cares about media servers. This is our focus. The goal is to offer a media server platform that delivers from any codec, over any protocol, to any client. Consumers want to get their content wherever they are – on the desktop, on the go or in the living room, and we architected the Wowza Media Server to do exactly that. So we're now taking it beyond Flash. We're extending our server to support streaming to iPhone, Silverlight, and RTSP/RTP clients that will include QuickTime and mobile clients, and to IPTV set-top boxes. This is what Wowza Media Server 2 Advanced is all about. It is now available in a preview release and will be commercially available later this year. We see a lot of opportunities there for the developers and that is who we want to enable.

Thank you Charlie very much for your time.

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