Niagara Max: Powerful, Pint-Size Encoder

ViewCast's portable NiagaraMAX can simultaneously encode and serve up to four unique bit-rate profiles from two inputs. Contributor Jabar McKellar takes the system for a spin to find out if this $26,995 system lives up to its cost.

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ViewCast's NiagaraMAX is one of a new generation of portable Web video (with audio) encoder/servers that can simultaneously encode and serve up to four streams of Microsoft or Real compressed video (or two streams of Microsoft *and* two streams of Real compressed video). This pint-size dynamo, weighing in at a mere 32 pounds, crams dual 1GHz PIII CPUs; an Osprey 2000 DV-Pro capture card (see review) and an Osprey 220 capture card; a 17-inch LCD monitor; 512MB of RAM; and a 36GB, 10,000 rpm SCSI drive, all into a very cool James Bondesque, briefcase-size unit that can easily fit into an airplane's overhead bin.

This system is impressive beyond its looks: It can simultaneously encode up to four unique bit-rate profiles (with multiple bit rates in each profile) from any of two inputs, and sports a very useful software bundle, including powerful remote management.

But although this box and others like it are advertised as capable of serving streams directly to end-users, as well as encoding, we suspect that a scalability wall will prevent this from being practical in all but the most contained scenarios (such as with a very small number of unicast sessions, or multicasting within a private network). In other words, if you're trying to encode multiple bit-rate video and serve it to your audience at the same time, simply based on the hardware's capability, you're likely to become frustrated. Therefore, we consider it to be most appropriate for streaming live to a CDN or other streaming network distribution point capable of scaling all the way up to global audience sizes. With the ProPac upgrade, the NiagaraMAX weighs in at $26,995.

Simple Setup

Setting up the NiagaraMAX is a no-brainer. Simply attach your camera(s)/source deck(s) to the unit, plug in a hot Cat 5 cable, input your network configuration, launch the SCX encoder app, and you're ready to go.

As far as audio and video connections go, the NiagaraMAX supports XLR, AES/EBU, composite, S-Video, FireWire and SDI. For our tests, we attached video decks to both the composite and S-Video inputs and fed the NiagaraMAX both a live broadcast video and pre-recorded tape material. In both cases we were pleased with the quality of the compression. Note that only unbalanced audio and analog video were tested.

Performance

When testing the NiagaraMAX using ViewCast's recommended settings, encoding four streams using Osprey's SimulStream and the bundled SCX Manager software, the MAX performed beautifully. Processor usage hovered around 70 percent, with four small/medium-size streams being encoded.

However, the performance-built Max has one potential gotcha related to its impressive specs: With its two 1GHz PIII processors and 36GB, 10,000rpm SCSI hard drive stuffed inside such a tight enclosure, we found that the unit gets hot pretty quickly. If you're going to do any kind of lengthy streaming sessions, the box must be placed in a well-ventilated area. We performed a seven-hour, four-stream encoding session in one of our enclosed lab rooms — which, granted, is a long time for a single event — and the unit locked up on us. After we let it cool down for a half hour, we restarted and everything

worked fine again.

Software Bundle

One of our favorite things about the NiagaraMAX with the ProPac upgrade is its well-rounded software bundle, which includes ViewCast's own SCX (Stream Control eXtension) Manager, Osprey's SimulStream and Accordent's PresenterPro. The base unit (without the ProPac upgrade) lists at $21,995 and doesn't include Presenter Pro or the Videonics A/V mixer.

The SCX software manager offers monitoring and control of multiple remote or distributed encoders throughout the enterprise, or across the Internet, via SNMP or XML-based applications.

During our tests, the SCX Manager ran flawlessly, and if your client's or venue's IT department is already running VNC (a freeware remote terminal software program from AT&T, common in IT shops), you won't have a problem getting your Change Control Request (CCR) through for ports that are probably already open.

SimulStream, which is comparable to Winnov's BMS (Balanced Media Streaming) software and Pinnacle's MultiStream, allows one A/V source to be encoded at up to four bit rates using RealNetworks' SureStream or Microsoft's Intellistream. Or, if you've got a video input going into the second Osprey card in the Max, you could encode two Real streams and two Microsoft streams. (Even if you're only using a single source feed, you could encode two Real and two WMP streams.)

PresenterPro is a powerful interactive browser template app that lets you merge live or on-demand video with other multimedia elements, such as PowerPoint slides, pictures and Flash animations, to create lively interactive presentations. PresenterPro is in the same general "streaming business presentation" category as the PresenterLive software from SofTV, Akamai's Forum and iBeam's Activecast. PresenterPro worked very nicely and gave us no trouble at all.

The Osprey 2000 drivers, themselves, offer the very attractive ability to change contrast, brightness, hue and saturation while viewing the input source. If, while you're tweaking your image, you find you're doing more harm than good, you can either "restore previous," which brings you back to the last tweak you made, or "restore defaults," which takes you back to the software's default setting.

This rather crude but very practical software lets you tweak the video just enough to avoid traditional video pre-processing methods. If you want to be able to apply other effects to your video, you'll need to upgrade to the ProPac, which includes Focus Enhancements' MXProDV mixing board. The MXProDV lets you mix up to four video sources (two DV and two analog) and offers roughly 500 realtime video effects, a TBC, level meters and chroma key.

The Price Seems Right

We were quite pleased with the performance, but we still thought the price was little steep. To test that notion, we researched how much a comparable system would cost if we built it ourselves. We found the same server for sale online for about $9,000; the two Osprey cards would set you back about $6,000; and a comparable presenter program will run you anywhere from $8,000 to $15,000 (including Web hosting). At that point, we had already spent $23,000 (minimum) — not counting, of course, the internal technical bandwidth for build-out and support that would be required for both systems.

With the NiagaraMAX, if something goes wrong with the box, there's one number to call to get back up and running.

The Bottom Line

A couple of years ago, setting up a streaming encoder for a live event required several people, and a truckload of equipment. Today, ViewCast's NiagaraMAX can be set up by one person and then deployed remotely.

There are a number of similar products on the market, so before making a decision of this magnitude, you'll want to look around. The NiagaraMAX, like much of the ViewCast hardware we've tested, worked, worked straight out of the box, and worked reliably — it's a safe choice. With a product this complex in such a competitive market, that's just about the highest praise we can provide.