From: Greg Friedman
To: Laurent Lawton; Frank Vegliante (burst); Dave Egan
Cc: Kim Massingale; Kyle Faulkner; June White; Maribeth Riggs
Subject: AVN Status

Today I talked with Harvey and Dale at All Video Networks (AVN), and I also worked with Engineering to come up with a solution for AVN's pressing issues.

Here's a summary of the status of AVN as I understand it. Note that some of the details might not be exactly right; I gathered almost all of this information today.

First, let me briefly describe what AVN is doing.

AVN is putting together a web site, which they are hosting, for providing both live and on-demand video of sports events. They are trying to get a contract with CBS so that they will be the provider for this kind of event coverage for CBS. I think CBS is providing them with the live content.

AVN is using another product, I think Microsoft's, for the live webcast. The live feed will also be encoded into many small (about 3 minutes or so) archived files that will be available on-demand almost immediately. They are planning on using Burstware to deliver the on-demand video.

The archived video will be encoded at several different bitrates, ranging from about 24 kbps to about 250 kbps. They are using ASF as the format. Harvey is using his own home-grown bandwidth sniffer to determine what bitrate of video to deliver. The encoders are also home-grown (Dale is responsible for these).

Now, let me describe AVN's plans and schedule.

There are three significant dates that I am aware of:
1. On Monday, Jan 31, AVN will be presenting their video-enabled Web site to CBS. Harvey describes this as the make-or-break day for AVN's deal with CBS.

CBS intends to do some kind of load test to verify that AVN's web site is robust enough to handle their needs. Harvey claims that this will consists of 10,000 concurrent clients for the live video, and a much smaller number (about 100 or so, possibly more) of concurrent clients for the archived video.

2. On Feburary 10, there is some high-profile live event that AVN will be hosting for CBS (assuming Jan 31 goes well).

3. On Feb 29, there is another live event (not as high profile) that AVN will be hosting for CBS.

IMPORTANT NOTE: Harvey has told me that he wants to "freeze" Burstware on Friday, Jan 28. He does not want to get any software updates (or even configuration changes) from us after Friday, until after Feb. 10. This is so he can do extensive testing over the weekend to determine if Burstware is up to the task for the Monday test. (If not, his backup plan seems to be to use http streaming instead). He then wants no changes in Burstware until after the Feb 10 event.

Now I'll describe AVN's use of Burstware.
AVN has purchased 75 Mb/s of bandwidth from IVT. They are deploying 10 Burstware Servers, all on seperate machines, and 2 Burstware Conductors. There are three geographical locations in the U.S. that will contain these machines. I believe (though I'm not sure) that they are planning on having all Burstware Servers be in the same Conductor domain. I don't know if they are aware of the possibility of seperate Conductor domains with external routing.

Now, AVN's Issues with Burstware
AVN appears to be generally happy with Burstware. There are, however, three issues that they consider critical that we address before Friday Jan 28:
1. They have hit a bug where, on certain machines, the video doesn't play even though the Burstware buffer gets filled. After talking with Dale, Harvery, and Laurent, I can say that this is very clearly bug the "Digital Lava" bug. We have previously provided a fix for this bug to Digital Lava. Digital Lava has confirmed that our fix worked.
2. The small download of the WMP bridge is considered absolutely essential.
AVN has been working with a pre-beta release of the small download and appear to be happy with it. Any new bridges we deliver to them must always use the small download. They do not consider the large download to be an acceptible workaround in any situation.

3. They are hitting another problem which has been described as "freezing the player" or "freezing the browser" when trying to exit or stop the video. Apparently this seems to happen either primarily or only on Windows 98 when connected over a slow connection (such as a modem or 64 kbps ISDN). Other than this, the details of the problem are not very clear. Dale and Harvey have somewhat different ideas of the nature of the problem.
I don't have a clear read on this bug. We have not been able to reproduce it. We have a hypothesis that it may be due to the large size of the bursts we deliver, which also causes the "slow seek" problem over slow connections. I have asked Dale to see if he can try to reproduce the problem over a T-1 line, which will help narrow down the problem. He said he would get back to me today but did not (I called him once to remind him).

Both Harvey and Dale have said that if we can fix the two bugs and keep the small download, they would be proceed with the plan to test the hell out of Burstware and the Web site in general over the weekend. If that goes well, they intend on using Burstware for the Monday trial/presentation to CBS. If that goes well, they will use Burstware for the Feb 10 event.

Harvey has said that he wants to err on the side of caution. That is, if we can't give him well-tested, solid code, he'd rather use his backup plan for now (http streaming) and use Burstware later (possibly for the Feb 29 event). He does not in any circumstance want us to give him something that is not stable and might jeopordize the Monday trial.

Harvey has said that we could deliver him a new bridge in .exe format. He plans on packaging the .exe in a jar and a cab himself.

Now, Engineering's status:
As of 7pm or so tonight, we have successfully built a small download bridge that contains a fix for the Digital Lava bug, as well as for the "ASF stutter" bug we discovered in the MMS comparison pages. We decided to put the fix for the ASF stutter bug in the bridge because: (a) we believe they are likely to hit this problem unless we send them a fix, and (b) there is some chance that this will also fix the "freezing" bug.

We really don't have confidence that the ASF stutter fix with address the freeze problem, since we cannot reproduce the problem. But there is a technical reason to believe it could help.

The bridge we have produced is in .exe format and has not yet been tested (except very minimally).

We have been exploring two possible way for them to configure the Server such that they might be less likely to hit the "freeze" bug, and also so they would be less likely to hit the slow seek bug. (These might be two symptoms of the same problem). However, neither of these two tests have not yielded positive results and we are not going to recommend making either of these changes.

Our current plan:
Our current plan is to do as much testing as we can on the new bridge tomorrow. We then plan on giving the bridge to AVN on or before Friday, barring unforseen problems. This will be Patch Release 1.2.3 of the WMP bridge.

We currently do not plan on changing anything on the back end (Server or Conductor).

In parallel, we will attempt to better understand and reproduce the "freeze" problem.

Suggestions:
I believe we should have an SE on-site at AVN Friday, and possibly over the weekend, to help with any Burstware issues that may come up. The SE can contact me if necessary. I will be reachable at all times (including the weekend) via my cell phone: 510.393.9014

This is our first "live" customer and we need to make them successful. I believe we should commit the resources necessary to do this properly.

If AVN is not comfortable using Burstware for Monday, we should do everything we can to address any remaining issues, so AVN will use Burstware for the Feb 29 event. I hope and believe we can be used Monday, but in the end it is AVN's call.

Summary:
We have built a new bridge that we strongly believe will address one of their two critical issues. It is a small download as Harvey has said is required. The bridge also addresses another problem (the ASF stutter problem) that we feel we need to be proactive about giving them a fix for. The new bridge may or may not fix AVN's other critical issue (the freeze problem).