

Amy Johnstone (LCA)

From: Bob Muglia
Sent: Wednesday, March 26, 1997 7:29 AM
To: Jim Durkin; Anthony Bay
Subject: RE: Multicasting channels on the internet - a new software distribution approach

To some extent the issue is about making sure everybody has our clients installed, our authoring process is superior, and the ability to buy the server is more straightforward than PN.

It seems like file download could help us get more clients installed. It seems very cool to combine that with a slideshow so that people know what they're getting...

bob

-----Original Message-----

From: Jim Durkin
Sent: Tuesday, March 25, 1997 12:54 PM
To: Bob Muglia; Anthony Bay
Subject: RE: Multicasting channels on the internet - a new software distribution approach

Exhibit: 4
Wit: Bay
Date: 4-29-04
Emi Albright, CCR RPR
Esquire Deposition Services

****responses below. Maybe I wasn't clear enough in my email—I draw a distinction between multicast streaming of audio and video vs. multicast file transfer of word or excel. The former certainly helps us today against PN and we enable it and push it heavily today. The latter is a compelling use of multicast, but it doesn't help us against PN.

jim

-----Original Message-----

From: Bob Muglia
Sent: Tuesday, March 25, 1997 7:00 AM
To: Jim Durkin; Anthony Bay
Subject: RE: Multicasting channels on the internet - a new software distribution approach

Are you really sure? It seems like live broadcasts are interesting things - to a lot of people.

[Jim Durkin]

****Yes, I completely agree. That's why we do both multicast and unicast of audio, video, illustrated audio. Live or on demand. Multicast does help us make some traction against PN here, though the lack of multicast-enabled networks makes this more of a paper tiger at this point (only UUNET, the MBone, and a few corporations are multicast-enabled now). We're trying to fix that with the MS/Cisco/Intel alliance you may have seen the press on last week. Multicasting audio and video is one of the 5 top features we mention every time we talk about netshow.

if you didn't have to rent a satellite and could get decent quality through the Internet, how many companies would use multicast to live press releases? If encryption were supported, it could be used for internal communications between sites (like company meetings).

[Jim Durkin]

****I agree.

I agree that we need leverage with content producers. Still, we need some technical hooks where we are clearly ahead of pn. maybe I'm wrong because I really don't understand this stuff that well, but multicast seems like something we can hang our hat on and people will instantly get it.

[Jim Durkin]

****Multicast of audio and video I completely agree. I was responding, though, to the multicast FILE TRANSFER (not audio or video streaming, but using a multicast version of FTP to deliver word or excel or replicate your server). In other words, the scenario Jimall was proposing. This is a compelling scenario in its own way, but it doesn't help us against PN. The intersection of people who want to stream audio and video over multicast and those who want to do bulk file transfers is, in my opinion, a small number.

We should spend some more time taking you through what we've got today. If your perception is that we're weak or could be pushing multicast more in the product, I think it would take me about 5 seconds to change that perception. Today we have THE most advanced multicast streaming server on the market by a good margin. We enable people to set up channels, program within those channels, mix sources on the fly, mix media types, etc. In short, to set up television and radio stations on the web.

bob

-----Original Message-----

From: Jim Durkin
Sent: Monday, March 24, 1997 6:35 PM
To: Bob Muglia; Anthony Bay
Subject: RE: Multicasting channels on the internet - a new software distribution approach

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PN doesn't do multicast file transfer (in fact, multicast itself is a threat to them—they would like to be able to unicast everything because it requires more streams and that's how they make money—on per stream revenue). Right now, they added multicast as a checkbox feature that's not played up.

While multicasting files is definitely a differentiator for NetShow, it doesn't strike at the heart of where PN is threatening us. Basically, PN is a threat because of their enormous mindshare in content creation on the web (live and on demand content is going into their format, putting them in a controlling position with respect to tools vendors, webmasters, and content providers). Their main customer base are broadcasters moving their analog content to the web and PN is attempting to lever that leadership position into leadership in intranets as well. (Corporate users browse the web and see all of the cool content served in PN's format from PN servers and it makes them more likely to adopt PN for intranet uses as well). A worse threat is that it's very likely that PN will use their content domination to begin defining how encryption, security, and billing are done for multimedia streams (and it's highly unlikely they will do this in an open way or based on any Microsoft technology, btw).

Bulk file transfer over multicast is something that's interesting for Microsoft and is definitely something interesting for Corporate MIS groups, however, it's not something that buys the content community or webmaster all that much. For most of those guys the fact that we can push HTM's to the Active Desktop using file multicast is about as interesting as it gets (as well as, of course, just being able to multicast the streams of audio and video themselves—which interests them greatly because it reduces their ISP bill).

I think this is definitely a direction we need to go in, nevertheless, but I don't think it's going to help us in the big PN/Netscape networked multimedia wars from the content perspective.

jim

-----Original Message-----

From: Bob Muglia
Sent: Sunday, March 23, 1997 6:41 AM
To: Jim Durkin; Anthony Bay
Subject: RE: Multicasting channels on the internet - a new software distribution approach

You know, maybe software distribution through multi-cast is a way we can get some traction for Netshow on the Internet?

Jim, where is Progressive on multi-cast file transfer?

bob

-----Original Message-----

From: Jim Durkin
Sent: Saturday, March 22, 1997 9:23 AM
To: Bob Muglia; Jim Allchin (Exchange); Greg Burns (DBSD); Jawad Khaki
Cc: Anthony Bay; David Thompson (NT); Carl Stork; Moshe Dunie; Ed Stubbs; Tom Lennon; Anthony Bay
Subject: RE: Multicasting channels on the internet - a new software distribution approach

BTW, I think that below attached is a piece of the "research" Jim refers to below about the multicast over non-multicast enabled networks.

I'm not sure this is a good approach, however, because it flies in the face of where the IP multicast momentum is heading today and would be another instance of pitting us against a pretty big standards effort (and against Cisco, Intel, etc.).

What we've been trying to do with NetShow is create a "domino effect" of ISP's, where we focus on getting multicast services deployed on UUNET (UUNET is now fully multicast enabled on a parallel network. MSN will roll out 4 "multicast enabled" shows beginning in April), and use that success to get the other ISP's to turn multicast on as well.

Maybe we could up the stakes a little by doing the same thing with the IE 4 or NT 5 launch. Tell the ISP's that if they have multicast turned on IE 4 Midnight Madness in September, we will provide them with a special "Launch Coverage" NetShow, complete with IE 4 multicast file download.

jim

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-----Original Message-----

From: Yaron Goland
Sent: Sunday, January 05, 1997 1:53 PM
To: David Cole; Ray Patch; Daniel Adam
Cc: Jim Durkin; John Ludwig

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167

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Subject: HRME and Internet Multicasting

As the below documents I have been talking to David about an algorithm I invented called HRME. HRME stands for Host Routing Multicast Engine and is a software based multicasting system. It runs over IP and uses servers rather than routers to handle switching. It builds, maintains, and optimizes a multicast tree w/out user/sys admin intervention. It scales at a logarithmic rate. It is designed to handle high bandwidth/low priority data like Usenet, Pointcast, etc. Its structure makes it especially useful when you need reliable multicast because servers can easily talk to each other and thus locally recover data without suffering IP implosion on a single server. I have talked about it to a number of groups at Microsoft but they have not been interested because they are focusing on the Intranet, where multicast hardware is built in, instead of the Internet where multicast hardware is rare, and where it exists is too expensive to use for the type of data HRME is designed for. David feels y'all would be interested. I have included the patent application below which contains all the implementation details.

Yaron

<< File: HRME PATENT APPLICATION.DOC >>

PS I could swear that I presented this algorithm to your group after the company meeting.

-----Original Message-----

From: Bob Muglia
Sent: Saturday, March 22, 1997 8:17 AM
To: Jim Allchin (Exchange); Greg Burns (DBSD); Jawad Khaki; Jim Durkin
Cc: Anthony Bay; David Thompson (NT); Carl Stork; Moshe Dunie; Ed Stubbs; Tom Lennon; Anthony Bay
Subject: RE: Multicasting channels on the Internet - a new software distribution approach

Jim (durkin), is there any leverage we can get from the multicast work done in Netshow?

bob

-----Original Message-----

From: Jim Allchin (Exchange)
Sent: Friday, March 14, 1997 3:27 PM
To: Greg Burns (DBSD); Jawad Khaki
Cc: Anthony Bay; David Thompson (NT); Carl Stork; Moshe Dunie; Ed Stubbs; Bob Muglia; Tom Lennon
Subject: Multicasting channels on the internet -- a new software distribution approach

One of the problems we have when we propagate a high visibility product to microsoft.com is that we kill the Internet with point to point downloads. An alternative that the microsoft.com people suggested is to treat a certain part of the bandwidth as a broadcast channel. This would dramatically reduce our overhead on the Internet since instead of point to point downloads by each person there would be synchronized (timed) downloads for anyone who was listening. For example,

"Microsoft Product Distribution Channel":

1pm: IE 3.02
2pm: NT SP2
3pm: IIS 3.0
4pm: IE 3.1 Beta
etc.

There has been significant research on creating such a multicast layer above TCP/IP to do this sort of service. It requires no router or infrastructure changes. It does require a new protocol running on top of TCP/IP that the download app uses to manage the multicast "product distribution" channel. I get very worried about the CDM in Memphis and NT without something like this. In addition, this would begin to address the problem we have when a new service pack, IE, etc. is made available for download.

I think this would be an awesome feature for us to have in the system. Can you do some thinking about this and as well as dig up all the experimental work that has been done?

thanks,
jim

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168

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