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Dave Delay: News Developments

Interview by
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*[Editor's Note: To learn more about newsgroup support in Notes R5, check out the discussion with Dave in the **Developer Spotlight**. For specific information on using newsgroups in Notes R5, see "**Notes R5: Into the future with Internet standards**."]*

The Notes R5 client provides support for many new Internet protocols, among them NNTP (Network News Transfer Protocol). As a result, Notes users can now have interactive discussions with other standards-based clients. Internet Client Project leader Dave Delay explains how it all works.

Why is NNTP support important to the R5 client?
The two most popular applications of Notes are electronic mail and discussions. Until R4.5, Notes was a closed system, relying exclusively on the Notes server. In R4.6, we made it possible to receive mail from any POP3 server, whatever the brand. You could also send mail to any SMTP server. But discussion capabilities were still dependent on Lotus server technology, now called Domino.

The NNTP support in the R5 client makes it possible to participate in discussions with any NNTP server on the back end. It's not that NNTP is inherently better than our previously proprietary protocol. What's really important is that Notes can now interoperate with other standards-based clients, including Netscape Communicator and Microsoft Outlook.

What's the technical challenge in supporting NNTP?
The challenge was to give the user an interactive experience that is consistent with the rest of Notes. Notes had never interactively accessed data using a standard protocol before. In R4.6, we could retrieve POP3 messages, but not interactively. We simply stored the POP3 messages in the user's mail file, and then accessed the messages like any other Notes messages. But using the same model didn't make sense for NNTP. Imagine retrieving 1,000 messages from a newsgroup just so you can read the handful of messages that really interest you. A geek would call that sub-optimal performance.

How do you attack the problem?

Our starting point was this: Notes is the most powerful client available. As we know, it does electronic mail and discussions extremely well. It also does calendar and scheduling, and workflow, and it is customizable like no other client. We wanted to take advantage of NNTP, but only in order to build on the world's best client. So, our task was not to bring Notes to NNTP, but to bring NNTP to Notes.

How did this drive design decisions?
This was an important mindset for us. Whenever we were faced with a design decision, we first looked at how a similar problem is already solved in Notes. We tried to keep the experience consistent with the rest of Notes -- to the point where customers may not even know they are interacting with an NNTP server.

Another key part of our approach was the realization that NNTP and IMAP are very similar. Both store messages in MIME format. Both arrange messages in separate folders. They are called newsgroups in the NNTP world, and mailboxes in IMAP, but the concepts are similar. We decided early on that we would use these similarities to our advantage, and build NNTP and IMAP features on the same foundation.

Can you give an example of how NNTP and IMAP share the same foundation?
Well, both NNTP and IMAP are based on a concept that is new to Notes R5. We call it a proxy database. A proxy database is local to the Notes client. Like most local databases, it includes design elements like forms, folders, and even some new R5 elements such as framesets. Unlike most local databases, the data comes from a remote server through a standard protocol like NNTP. When you select a folder in an NNTP proxy, Notes goes to the NNTP server to retrieve message summaries from the corresponding newsgroup. When you open a message, Notes goes to the NNTP server for the message.

What's the benefit to R5 client users?
I guess the most obvious benefit is that customers can read IMAP mail and NNTP newsgroups without storing messages locally. Notes retrieves messages as you read them, so you're not consuming a lot of disk space with messages that don't interest you.

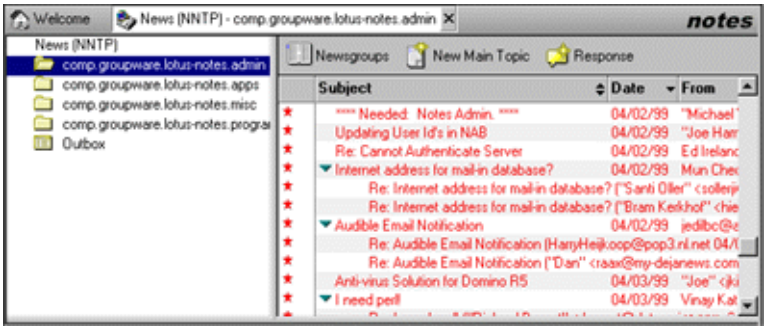
A less obvious benefit is that the design is customizable. Because the proxy database holds the design of forms and folders, you can customize the presentation of newsgroups and news messages the way you want. As a simple example, you could brand the news topic form with a company logo. You need a Domino Designer license to do this, but we think that there's a real opportunity for Business Partners, corporate developers, and even ISPs to customize the IMAP and NNTP client templates. As far as I know, this feature is unique among Internet clients.

Are there any other NNTP benefits that are unique to Notes?
I've been stressing the interactive nature of NNTP, but let's not forget that this is Notes. Another landmark feature of Notes is that it is a superior mobile client. Notes customers are accustomed to creating a local replica of a database, and doing their work while disconnected from the network. With Notes R5, you can do the same with IMAP and NNTP data. For example, you can create a complete replica of the NNTP newsgroups you have subscribed to. You can then read newsgroups while disconnected. Because the local replica is a Notes database, you can even full-text search the data while disconnected.

How easy is it for a user to access newsgroups from Notes?
It's really easy. You just go to your local address book, select the "Accounts" view and then click "Add Account." This gives you a document

that describes the new account. The only information that you really have to enter is a friendly account name, which you determine for your own use, plus the server name and a protocol -- in this case, NNTP. Then, you save the account document and Notes adds a bookmark to your client. Remember that with Notes R5, the former Notes workspace is replaced by bookmarks, which provide a much faster way for getting to and managing information on desktops and the Internet. Once you click on your new NNTP bookmark, you can select from a list of newsgroups published by the server administrator, and you're on!

[Editor's note: The following screen shows the newsgroup comp.groupware.lotus-notes.admin displayed in Notes R5.]



How about creating a local replica?
Once you have created your NNTP account, creating a local replica is just like creating a replica for any other Notes database. You click on your NNTP bookmark and choose File - Replication - New Replica. You fill in the New Replica dialog box, and click OK. Notes adds a new entry to the Replicator page and starts replicating newsgroups in the background. After this initial replication is finished, you can add the news account to your replication schedule, or you can go to the Replicator page to start replication whenever you want.

How does the R5 client's NNTP feature differ from Outlook's?
Despite Microsoft's claims, Outlook has no native NNTP capabilities. In Outlook, the newsreader function is actually delivered by Outlook Express -- a similarly named, but completely separate product that installs with Internet Explorer on Windows PCs. The Outlook user interface "hosts" the Outlook Express newsreader, masking the need to install and support two separate products. The NNTP capability is only available when Outlook is installed in the "Internet Only" mode. If Outlook is installed in the "Corporate or Workgroup" mode -- which is required when accessing an Exchange server -- NNTP functionality is absent. This is also true for IMAP4 mail access, and even for "remote mail header" support, when using Exchange Offline Folders. I believe this is the stated direction for the pending Outlook 2000 release.

What do you think is going to impress users most about the R5 client?
With R5, you get the ability to do offline browsing and management of mail, Web pages and news, all in a single, integrated environment. Plus, we've done a lot of work to simplify the configuration and setup for mobile users. Together with the easier replica management with bookmarks, we think that this is going to make for a really great product, particularly for the user who is not always connected to the network.

What's the next step for the NNTP client?
I mentioned reaching out to ISPs so that they can customize the IMAP and NNTP templates to make them appear like they originated from the ISP. Because these protocols are based on templates, an ISP or even an

individual enterprise can customize the design for their environment. Since we've done the work to make it so easy to get connected to Internet mail and newsgroups, we think this could be useful to others who want to provide this capability quickly and easily.

What about changes to the NNTP standard -- are there any developments that will have an immediate impact on users?
Yes, there are a number of things that are happening in the standards community that we want to incorporate into the NNTP client capability. One of those is NNTP server-based searches. Currently, if you do a "quick search" of newsgroups, you are only searching the message titles, not the full text. So you can't search across the message content within the newsgroup. To do that with our client, we would have to retrieve all the messages, which as we discussed, isn't practical. There's a standard that has been around for about a year that builds server-based search capability on top of NNTP, so that you can issue an NNTP search command to any server that supports this extension. There is also a similar capability in IMAP4rev1, so that you can do IMAP-based searches as well. Of course, with Notes R5, you can always replicate and do a full-text search that way. This is actually very cool regardless of what happens with NNTP standards, because the search extension will not be available on all NNTP servers. So, either way, with Notes, you get full-text searches of NNTP newsgroups.

BIOGRAPHY
Dave Delay is the project leader of the Internet Client Group, and has been with Iris for 2 1/2 years. He's been developing software professionally for about 15 years. Outside of work, Dave enjoys backpacking, canoeing and reading -- especially history and historical fiction.