The Iris Interview

Pooter talks about Domino Off-Line Services

by Jack Allen and
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Level: Intermediate
Works with: DOLS 1.0
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Carl "Pooter" Kraenzel is one of the creative forces behind Domino Off-Line Services (DOLS), which enables browser users to access and interact with Domino Web applications while disconnected from the network. A part of iNotes, DOLS provides support for application logic, security access, synchronization, and much more.

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What exactly is Domino Off-Line Services?
It's a toolkit that you can use to augment Domino Web applications so they have the ability to "go offline." Basically, we've unbundled the Notes replication experience, which was previously used only with Notes applications inside the Notes client. With Domino Off-Line Services (DOLS, for short), end users can now have the same kind of experience with a Domino Web application.

Replication has always been one of the sexy differentiators of Notes -- the ability to replicate teamrooms, discussions, workflow, mail, and other applications, while maintaining a fully functional experience with that personal copy, along with full confidence that replication will synchronize any changes between your local copy and the server copy of the application.

Replicated applications provide huge flexibility benefits to end users (disconnected use, faster response time, and so on), as well as huge benefits to IT administrators (network robustness, scalability benefits, security models, and so on). This is a massively potent capability that no other application platform manages correctly. And now we've brought it to the Web experience in the form of Domino Off-Line Services.

Can you talk a little about your involvement with the DOLS project?
A bit too central I'd say. I direct all DOLS project activities including
development. I also architect the software. But my primary role is actually in
strategic business analysis, originating and guiding the overall strategic
imperatives for Lotus in this area. This is all part of a long-term strategic
effort I've directed that predates the Web and has given birth to various
tactical product offshoots, such as Lotus Notes HiTest VB, Lotus Weblicator,
Offline QuickPlace, and now DOLS and iNotes. And we're only halfway
through what I've been aiming at, so long term is a slight understatement.
Thankfully, I've been surrounded with an incredibly competent team that has
been helping me get closer to a personal goal of becoming dispensable to
the project since there are other similar projects at Lotus that I'd like to spend
time on some day.

How do you use DOLS to enable a Domino application for offline use?
It's surprisingly easy. The DOLS kit contains a resource template library
(DOLRES.NTF) with around a dozen design elements that you just copy into
your Web application design (NTF or NSF) using Domino Designer. You then
modify some part of your design (usually the main frameset) to display one
of the DOLS design elements. Where you put the design element is totally a
matter of design aesthetics, so we leave the choice of location, look and feel
totally up to the Web application developer. The new design element displays
a "Go Offline" button when the application is rendered in a browser. At this
point, the Web application developer could kick back and do nothing more.
It's that easy! There are a bunch of cool additional settings the developer can
take advantage of, such as customizing the download icons, but these are all
optional features.

Once the Web application design has been updated, the ball goes into the
administrator's court. The administrator uses the DOLS kit to upgrade a
Domino server to work with these augmented applications. The DOLS kit
also provides the administrator with some new features that allow Notes IDs
(from lookup or auto-generate) to be quietly downloaded to end-user
machines as part of the "go offline" experience. The administrator can also
edit the offline configuration document and indicate that several NSFs should
replicate together as one subscription, though this can also be preset in the
design phase. All these steps and options are quite easy to apply, and
detailed help is provided throughout.

Once the Web application has been activated by the administrator, end users
who visit that application with a browser (Internet Explorer or Netscape) can
download a fully functional replica of that application by simply clicking on
the "Go Offline" button and selecting the Install option from the menu that
pops up. The install painlessly downloads the application, as well as some
simple end-user tools (like the Lotus iNotes Sync Manager) to manage the
downloaded application.

What would the DOLS experience be for the end user?
Our end users are browser users, so we took great pains to keep things
simple and minimal. End users, therefore, experience exactly the same
behavior when they use the offline replica of the application as they would
when they use the online version. The exception is that the "Go Offline"
button changes state to say "Go Online" when displayed in the offline
version. This helps end users know when they are working offline. When
clicked, the button pops up a simple menu that lets the user synchronize the
subscription, switch between online and offline in the browser, or manage
subscription properties by bringing up the Lotus iNotes Sync Manager.

Since these end users are generally presumed to be unfamiliar with Notes
terminology, the terminology presented to them (by client-side help, dialogs,

UI elements) has been altered somewhat. For example, we use "synchronize" instead of "replicate" and "subscription" instead of "replicated Web application." The Lotus iNotes Sync Manager, therefore, presents a plain list of subscriptions that the end user has taken offline and lets the end user synchronize them, edit properties for them (like scheduled synchronization), open a browser to the online or offline version, or delete a subscription. The Sync Manager runs hidden all the time as a lightweight scheduler, and the user has various ways (such as the in-browser menu) to display the manager's UI if properties or schedules need to be changed.

Most users will never do more than create, sync, and delete subscriptions. More advanced or experienced users would investigate the subscription's properties tab and start to use other features such as date-filtered replication. Because most of those advanced features are already preset by the administrator, most end users won't need to bother.

What is Lotus iNotes and how does DOLS fit into it?
Lotus iNotes refers to this new "client" experience that DOLS has made possible. These new end-user utilities are technically a client. Or, more accurately, they are the runtime modules that, when added to a replica of a Web application, produce a customized client. Our business partners and customers have long been asking for the ability to build custom clients for the Notes/Domino platform. DOLS answers that need, and the clients that result all fall into the bucket we call "iNotes clients."

This is actually an extremely broad bucket, if you even just imagine the wide array of Web applications that can now be turned into partially connected, occasionally connected, or even stand-alone clients. But it goes further than that. DOLS provides a basis for other kinds of applications, such as Notes API programs, which can now download easily from a Web site and run locally against replicated data stores. You can do this today, using the custom-fileset download option in DOLS.

So a Web browser doesn't always have to be the interface to the replicated data. It could be your own Windows program. Or a third-party program that has generic interfaces like MAPI [Microsoft's Mail API]. Actually, this is one example of how we ourselves at Lotus are taking further advantage of DOLS. At Lotusphere 2000, we announced plans to deliver Lotus iNotes Access for Microsoft Outlook -- a great example of a custom iNotes client interface to Notes/Domino data (your mail file) that is delivered by the DOLS install and setup; however, in this case, it doesn't interface locally with your Web browser. Instead, using Notes API calls and MAPI calls, it interfaces locally with your copy of Outlook.

Why would customers choose DOLS over Lotus Notes?
Actually the choice is more between Lotus iNotes and Lotus Notes. DOLS supports the deployment of an iNotes client. By definition, this is a client that will have less functionality than a full Notes client. Even though DOLS adds replication to the browser experience, the other deficiencies of a browser don't go away. Imagine trying to cut/paste 100 documents between two Web applications in a browser! The same activity is trivially easy in the Notes client. That's just one example of the powerful inter-application integration features of the Notes client. You just won't find that fidelity of experience in a browser.

So why would anyone choose the lower functionality of the browser? With or without DOLS? The answer has always been in the domain of tailorization and simplification. Browsers became popular *because* they have fewer capabilities. The result is a lower learning curve and fewer distractions for end users, fewer ways to make mistakes, lower support and training costs.

So the bottom line is that customers would use DOLS/iNotes when they want to deploy the simpler, more point-tailored experience one gets with a browser, such as an intranet HR application. DOLS adds the power of mobility and replication to that experience while still keeping things simple and training costs down. DOLS also is very attractive to IT managers who want to improve the scalability and robustness of intranets or extranets by moving processing to the client.

We know that DOLS was released at the end of Q1 2000. How is it being received so far?
Extremely well. A massive number of downloads have already occurred, even before the press and analysts delivered opinions, which have all been quite positive so far. For example, eWeek (formerly PCWeek) gave us a **positive in-depth review** in the Labs section. Some analysts had expressed doubts that we'd ship in Q1 (as we'd announced we would last June), so we got favorable reactions for meeting our ship date targets too.

What is the future for DOLS?
In general, DOLS itself will proceed with normal feature enhancements to round out customer needs. It's the uses of DOLS that bear watching with anticipation. The many incarnations of Lotus iNotes clients, that's where there will be an explosion of creativity from partners, customers, our services sector and our development teams.

Some folks want to use DOLS to deploy applications on a CD for snail-mail carpet bombing, full of default content and capability that auto-updates when the user installs it. Other folk want to use DOLS as a "replicatable" file system. Others are looking at replicating servlets, LSXs, COM programs, and DECS connectors. Certain sectors see opportunity to preload Web-based help facilities and knowledge bases onto laptops as part of OEM deals.

Internet sites see this as an opportunity to reduce traffic to the server for things like browsing market analysis databases, or for publishing selective-replica (per user profiles) research databases as an attractive reason for users to register on the site. Some of the biggest Internet sites see the competitive advantage this could present, particularly in the international markets where connect charges and speeds are still the biggest uptake inhibitors.

We heard that you gave a great DOLS talk at Lotusphere 2000 in Orlando. Do you have any surprises for us at DevCon 2000?
Yah, wow, the feedback we got from Orlando was tons more positive than we expected. I like to do something goofy or bizarre in a presentation, while still keeping the content level high. It helps people stay awake and remember what was covered. But the attendee feedback was surprisingly enthusiastic, so I guess at DevCon we might have to do something equally wacky. Hopefully it will be fun, without going over the top, and without detracting from the content. That's always a tricky balance to strike. But I figure if people take the time to come see me, I should try really hard to make it worth their while and fun.

I also like to give away some nifty prize during a presentation. Though the lava lamps were very popular in Orlando, I'm aiming higher for DevCon. Currently one option I'm considering is to raffle off one of my leading developers for an on-site three-day consultation. Another option is to give away a 30 foot helium-filled lobster balloon. And other options too, still not sure what to choose, so I guess that'll be a surprise for DevCon attendees to look forward to!

Editor's Notes
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ABOUT POOTER
Carl "Pooter" Kraenzel, now an IBM Senior Technical Staff Member, came to Lotus when his small New Hampshire company, Edge Research, was acquired in 1994.

As an experienced entrepreneur and technology/business evangelist, Carl has since been instrumental in the launch of several cutting-edge Lotus products, programs, and technologies, including the Notes HiTest products, early NotesPump technology, the Treatment Data Project, and more recently the KM projects in the area of expertise discovery.

His major theme over the last several years has been "componentizing" Notes/Domino for the Web and e-Business. In this, Carl has been the central driving force behind the creation of Lotus Weblicator, Offline Lotus QuickPlace, and now Domino Off-Line Services and Lotus iNotes.

Carl got his nickname "Pooter" from his TEP fraternity brothers during his pursuit of a Physics degree at MIT. Since that time, he's worn many hats in small and large software companies and even spent some time as a professional actor, performing lead roles with groups like the Boston Opera Company and Shea's Theater in Buffalo NY. Through all that, the nickname never went away and is now used by all Carl's contacts inside and outside the company to his great amusement and occasional chagrin.