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Works with: Sametime Everyplace
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In STEP with Dan Harris and Howard Davidson

Interview by
Tara Hall

Sametime Everyplace (STEP) lets you view your Sametime Buddy List and send and receive instant messages from a cell phone or PDA. STEP 3.0 was recently released, so we spoke with Dan Harris, STEP project lead, and Howard Davidson, STEP technical lead, about what's new in STEP 3.0.

Please introduce yourselves.
Dan Harris
I'm the project lead for Sametime Everyplace. I'm responsible for driving the product technical requirements and interfacing with IBM internal teams, device manufacturers, operators such as AT&T, and customers to ensure that we're building the right product.

Howard Davidson
I'm the technical lead for Sametime Everyplace. I'm the visionary for setting the product direction as well as the user interface design and overall product architecture.

For anyone out there who is not familiar with Sametime Everyplace, can you tell me what it is?
Dan Harris
To understand Sametime Everyplace, it helps to be familiar with Sametime and instant messaging (IM) in general. Sametime Everyplace brings the secure instant messaging, awareness, and presence features found in Sametime and delivers it securely to the mobile worker, allowing him to have access to his Sametime Buddy List; to see who's online, off-line, and who's mobile; and to initiate a chat while on the road. In a nutshell, it extends Sametime awareness and instant messaging capability to a mobile device. In addition, it allows a user who's left his office to still remain part of the Sametime community through the use of a mobile status icon. When you log off from Sametime or you close your laptop and head on the road, your mobile presence remains in the Sametime community. This product is ideal for people who need the same efficient real-time collaboration features of Sametime IM while traveling or on the road.

Which mobile devices are you supporting for this release?
Dan Harris
The previous release of STEP was primarily a WAP or microbrowser only solution. With our new release, STEP 3.0, we support a much wider range of devices. The newest thing we're doing with STEP 3.0 is adding client support.

Client support for MIDP (Mobile Information Device Profile) class devices, which are basically Java-enabled smartphones, adds color icons, enhanced user experience, and fully encrypted chats. We have tested with a number of Java-enabled phones to provide over-the-air download of the application to the device. After it's installed, the user simply enters his user name and password and connects to Sametime via STEP server components. Also, we deliver Palm and Pocket PC clients which I expect to be very popular with STEP 3.0 users.

Are you still supporting BlackBerry?
Howard Davidson
We support the BlackBerry in two different ways. We support the older BlackBerry Handhelds via WAP; the new Java Blackberries we're supporting via Java—J2ME MIDP implementation. The MIDP client will run on other MIDP devices.

Dan Harris
I expect many of the Java-enabled BlackBerry users will be very happy with the STEP Java client. We worked closely with RIM to ensure we were a well-behaved MIDP application on this platform. The client can be downloaded OTA (over the air) by the BlackBerry 6710/20 user directly from our STEP server. And because the client uses HTTP, it takes advantage of the security model provided by the existing RIM environment. On top of this, we encrypt the chat messages.

Howard Davidson
The advantage with the clients is off-loading the user interface from the server to the device itself. Therefore, we can provide a richer client experience than WAP. This also means less traffic over the air.

Dan Harris
From a market perspective, we want to be applicable to both the enterprise and to operators who are focused on the enterprise space. We're also working closely with the IBM Pervasive Computing Group both on strategy and on shared technology. We're hoping to vastly improve the user experience by adding on-device clients because you gain the color icons, the persistence, and the general ease of use that a client provides. And it extends Sametime to a much broader range of devices than we supported in the past. We're using all the best features from past releases and making changes based on feedback we have collected from our customer base.

Technically, we have achieved tighter integration with the Sametime Community server. And we've built in security features in both the existing WAP solution and the clients. So unlike many of the current IM solutions out there in the public domain, ours can be fully secured either through SSL (for WAP) or 128-bit encryption end-to-end in the client side. That's the same encryption that Sametime uses. We've moved to increase performance and scalability with the client solution. And we've been very careful not to get locked down on a specific device technology. One of the benefits that MIDP Java gives us is the ability to run on a broad class of devices and handsets—nearly all the handsets coming out now are Java MIDP-enabled.

For anyone who is not familiar with Java MIDP technology, can you give a broad overview of what it is?

Howard Davidson
MIDP is basically Java scaled back to run on a small device. It's running on a very small memory footprint with limited user interface capabilities, so it's a mobile edition of Java. The reason we were constrained to a very small footprint with the application size is the limited memory on the devices. For example, our current MIDP client is about 60 KB, which sounds small by today's standards, but on this class of device, that's about as large as you can go.

On the PDAs, there is a little more flexibility as far as what you can do because we are not as restricted in the size of the application and we have greater user interface capability, so the native clients take advantage of that with greater usability and features. The Java, Palm, and PocketPC clients all use a common protocol stack included with the Sametime Everyplace solution.

I assume your next release is going to support the latest release of Sametime?
Howard Davidson
Yes, it'll run against Sametime 3.0 Interim Fix 2a or 3.1.

Dan Harris
In addition, we'll ship with Domino Everyplace SMS (a component of Domino Everyplace Access 6.0), and Domino 6.0.2 for use with the STEP server. With STEP 3.0, existing Sametime 3.0 and Sametime 3.1 customers receive everything they need to implement a complete mobile IM solution.

At this time, STEP is not integrated into the Sametime product. You're still a separate product.
Howard Davidson
We're integrated technically into Sametime, but STEP is a stand-alone product. For example, the mobile icons—when you bring up a chat with a mobile user, you'll see on the bottom left-hand corner a phone icon, indicating that you're talking to a phone user. Under the Preferences menu, you'll see mobile preferences, which opens our configuration page.

Dan Harris
We're integrated with Sametime in other ways, too. For instance, we support single sign-on through the use of the LTPA token. We can run on the same machine as the Sametime Community server or in many cases, on a separate box in the DMZ connecting to the Sametime Community server through the server API.

What other features are available in Sametime Everyplace 3.0?
Dan Harris
One of the integration features in Sametime 3.0 clients that we're taking advantage of is the ability to set an alert for a user. A Sametime Everyplace user can set an alert on another user so that when that user comes online, the mobile user is notified. The mobile device will either vibrate or beep depending on setup.

Users of the mobile device can change their status and their status text all from the mobile device just as they would from the desktop client. So if they wanted to go into an Away or Do Not Disturb state, they could do that from the device. In addition, we're using the same underlying encryption that's used in the standard Sametime desktop client.

For the WAP users, who typically have a standard cell phone keypad, we provide the option of using a Web page to personalize STEP for their device—things like whether or not to use graphics/icons, QuickText messages, and status message text which saves the user time.

Howard Davidson
Also across all our clients, and the WAP solution or the microbrowser solution, we also offer what we call QuickText because on a lot of these devices input is difficult at best. QuickText is precanned text that you can select and drop into your chat window then you can modify it before you send it, making it easier to send text messages. It's common phrases or terms you may want to typically use when you respond to people.

Dan Harris
We have improved autologin performance to allow Sametime users to send messages to off-line mobile devices directly from their Sametime desktop client. The feature has two big benefits. One is from the desktop: If

the user is mobile, he shows up as mobile via a mobile icon in the Sametime Buddy List. A desktop user sends a message to the mobile user in the same way as another desktop user. STEP then routes the message to the off-line device using SMS (short messaging service or text messaging).

In other words, your device doesn't actually have to be logged in to the application for you to receive messages. The desktop user no longer needs to know your mobile phone number or how to reach you at your pager address. He simply clicks your icon and sends you a message. The mobile user's device would either vibrate or beep, letting him know he has an incoming message. Then he's given the choice to either reply to the SMS, in which case STEP would return to the Sametime window, or more securely log in to the application and conduct a secure chat.

Autologin can be scheduled so that you can decide which days and which times you want your presence displayed as mobile. Whenever you're not at your desk, Sametime Everyplace automatically shows your presence as mobile. When you log in at your desktop, the desktop client takes over your presence again.

You can configure STEP to use SMS or any valid SMTP address.

Is scheduling your presence done through the profile?
Howard Davidson
The schedule is part of the microbrowser user's profile. When we talk about the user's profile, let's break it into two pieces: the WAP, or microbrowser, and the clients. For the clients, you can configure to show only online users, whether or not the device should make noise, and a couple of other features like that. On the microbrowser, we allow you to either change your settings on the device or on the server via Notes or a Web browser.

In addition to the show online only, show nicknames, show how often it goes back to server to refresh your Buddy Lists, you also can modify your QuickText and modify your Buddy List. The WAP solution maintains a separate Buddy List from your Sametime Connect Buddy List. You can modify a mobile privacy list.

We use Domino to host our Web page. So users can edit their profile from Notes or from the Web browser. We do something that's very unique. Our database actually concurrently handles up to 15 languages at once. So you don't have to worry about deploying STEP servers in geographic locations. One server can handle all the languages that we support. The same database is used for administration of the server. A user who's set up with administrator privileges can see an administrative view of the database. They can set up the global configuration and user defaults.

What are your global configuration options?
Howard Davidson
Global configuration options or global settings include which STEP server the Sametime server is pointing to; the administrator login for Sametime, which is used for the autologin process to monitor when to log users on; and SMS configuration. Default settings for users, most of the chat intervals, Buddy List updates, how long you can be inactive and stay on the server, and the home URL are all user configurable. The administrator can set it up when a new user is created. Those properties are propagated down to the user.

Dan Harris
The idea is that most of these are set by default when it's installed. The only required information from the user when he uses the application for the first time is his preferred language and phone number. The user can also add an SMS email address if he wants to use autologin.

What other features are in this release?
Howard Davidson
We added a security tab in this release. This lets the system administrator determine who can actually use STEP and which devices can use STEP. We've added the ability to bind a device ID to a user, to allow only certain gateways to come in, and to use the access control list that we had in the earlier version.

There's also a maximum number of login attempts to prevent someone from trying to brute force break your password. And you can specify how long before STEP lets you try to come in again. It's a delay tactic for breaking

the password. We also added a tab for listing bots that can use Sametime. If you're using Sametime bots within your company, making those available mobility is very valuable. But when we started testing with bots, we found that most bots come in and expect to talk to the user before the user talks to the bot. We had to have a list of bots, so we knew to wait for the bot to talk to us before we talked to it.

Can you give an overview of how Sametime Everyplace integrates with the existing Sametime infrastructure?

Dan Harris

I guess a point to make is that it's flexible. You can deploy the components that you want, and we give you everything you need for a mobile deployment except Sametime. You get a Domino server and the appropriate mobile components.

As part of Sametime Everyplace 3.0, we've bundled clients, which utilize a mobile server application called ST Mobile. It is a proxy that provides light ST Mobile protocol through which devices log in to Sametime Community server. It uses HTTP, so it can easily pass through firewalls. It's a simple and efficient protocol for mobile clients and secured by encryption. It's a Java-based application, and you can run this either on your Sametime server or on a separate box. It's basically the channel that the clients use to communicate with Sametime.

Howard Davidson

It integrates very seamlessly. Your existing Sametime servers stay in place. In a typical configuration, you install ST Mobile on the Sametime server that you designate to be the one that's the point of contact for your mobile devices. In a DMZ or between two firewalls, you set up a Domino server on which you install the STEP microbrowser component which also offers up the preference database as well as the autologin process. You also install on that box or on a separate box a copy of the stand-alone Sametime Community Multiplexer (MUX) server. You configure that multiplexer to allow ST Mobile traffic through it. You configure the outside firewall, opening port 80 or port 433 depending on whether or not you want SSL.

If your Sametime community is already using LDAP, the STEP box also supports LDAP. You just point to your LDAP server the same way you normally configure Sametime to point at LDAP. On the inner firewall, you open up ports 1533 and 1516. Port 1533 is how the microbrowser and autologin process communicate with the Sametime server, and ST Mobile communicates over port 1516 to the ST Mobile process. If you do not want client support, then you don't need ST Mobile and the community multiplexer. You can roll out the client support without the microbrowser support, but you lose the autologin functionality.

You can modify the typical configuration for VPNs (virtual private networks) and for your security needs. If you're running a VPN and you can tunnel the devices inside your firewall without having to put a server in your DMZ, that simplifies the configuration, and you only need one firewall. If your security needs aren't quite as tight, you may not need your outer firewall.

Could you tell me a little bit more about how Sametime Everyplace works with Domino Everyplace SMS?

Howard Davidson

The licensed version that we supply with STEP 3.0 is for STEP purposes only. If your cellular provider allows you to connect SMS to its SMS switch, then you can use Domino Everyplace SMS for that purpose or to support pagers. Some carriers in the U.S. only allow SMTP traffic through. We also support that.

Let's talk more generally about pervasive computing and particularly about where this area is going within Lotus.

Howard Davidson

In the Lotus Workplace offering, we will be supporting more protocols. We're looking at supporting iMode and WAP 2.0 and XHTML interfaces as well as extending the clients that we're supporting. If we see a client that is becoming more popular, we'll look at building the appropriate client for that device, either J2ME (Java 2 Platform Micro Edition) or a native solution. We tend to favor devices with keyboards or a keyboard-like interface for chatting and instant messaging. For chatting and awareness, it's crucial. It isn't like you're just scrolling down through your email. You need to correspond, so we're looking at higher-end devices versus the low-end devices.

Dan Harris

Lotus Workplace is going to be designed with mobile in mind from the ground up. We're working to integrate

network-driven status where possible to take advantage of information that will be available from operators, such as location-based awareness information or information telling you if a device is powered on or off or in use. We're also looking at audio support right now and at some point adding video. We frequently evaluate handheld capabilities to ensure we are delivering synchronous capability proportionate to the device capabilities. It's a balancing act between providing maximum functionality and delivering core capabilities to a wide range of devices types and users.

Howard Davidson
We're working tightly with IBM's Pervasive Computing Group on device selection and the platforms that we're supporting. Not all devices can support some of these advanced features. If you have a PDA-class device, it will do more than a WAP-based device. We'll go for the appropriate functionality on the appropriate device.

I'm not a cell phone owner. I must be the last person at IBM not to own one. When you have a cell phone, why do you want to text message?
Howard Davidson
This dates back a little bit before this STEP product. I used to work on what is now Domino Everyplace SMS. I used to carry a PageWriter 2000 which is a two-way pager with a keyboard. It's easy in a meeting to drop your device down into your lap, hammer out a message, and get an answer from somebody else. When the question comes around to you at the meeting, you have the answer, and you look like a genius. You can do the same thing with STEP and a device. If a question is asked, you take out your device, log in, see who's online who may have an answer, ping them, and get the answer. If you actually had to use your cell phone to do that, you'd interrupt the meeting, and everyone would know that you don't have the answer. Or you may have to call four people before you find someone with the answer. The difference is that someone can now get you on your device and not call you, so you don't have to leave the meeting to speak with that person. It works both ways.

The direction we're seeing is people are carrying more and more powerful devices. Devices that we carry usually have PDA functionality and a keyboard, and they're wireless.

How often do you use your own products?
Howard Davidson
All the time. We live on Sametime and STEP. If you see one of us not at his desk, we're in a mobile state. We have a device, and you can ping us.

Dan Harris
Oftentimes, I won't even log in to Sametime because I know that STEP will automatically log in for me. So I can always receive messages wherever I am, whether I'm between meetings or traveling to Cambridge. It's just easier to stay in touch that way; you don't have to think about it.

Do you ever get tired of being connected all the time?
Howard Davidson
It's part of our jobs. I have awareness scheduled between 9:00 and 6:00 when I'm online. At 6 o'clock, if I'm not on my desktop, I'm logged off from STEP and I vanish.

Dan Harris
With the privacy list, you can always allow only two or three people to see you when you're mobile. That helps narrow down the world of people who can contact you. For some users, it may not be the right answer. For many executives who have to be reachable or who need information immediately, it's important. Also, we find high usage by mobile sales teams and by IT folks who need real-time communication and love the idea of having their Sametime Buddy List in their pocket.

ABOUT DAN HARRIS
Prior to his current position, Dan was responsible for leading Development projects in the Lotus Mobile Communications group, and successfully launched Sametime Everyplace 1.0 in 2001 and the www.Lotus.com/MobileInnovations Web site that describes the future of Lotus mobile software. Dan has held the positions of Senior Manager of eBusiness Strategy and Data Architecture; Technical Manager charged with developing Lotus' eCommerce store; and Staff Scientist in IBM Expert Systems project office in San Jose, CA. He has lead special projects in Lotus WW operations to streamline and automate go-to-market processes and spent three years with the IBM Knowedge-based Systems Center in Cambridge, MA. Dan holds a Bachelors in

Engineering from the University of Massachusetts. In his spare time, Dan is a volunteer with the Eye Opener community program with Boston Public Schools. In 2002, he was an IBM Black Achiever recipient.

ABOUT HOWARD DAVIDSON

Since 1991, Howie has been the technical lead for several IBM/Lotus products, including three products that connected cc:Mail and Notes, the Domino Everyplace SMS, and STEP. Howie holds a Bachelors in Computer Science from Worcester Polytechnic Institute.