



Version 3.3

User's Guide

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Release Notes

Please refer to the docs/ReleaseNotes.html or the online version available at <http://www.zionsoftware.com/support/jmessageserver/docs/ReleaseNotes.html> for the complete release notes of JBuddy Server.

Release 3.3

Release 3.3.120227

- Added support for restricting authenticated users to a specific organization unit (ou) and/or a specific LDAP/AD group. See the JBuddy LDAP Gateway User's Guide for details.
- *Added support for setting user's nickName (displayName) to LDAP/AD user's firstName lastName and keeping it in sync upon login.*
- Added support for looking up Buddies in support of JBuddy Messenger's Add Buddy feature, using a firstName and/or lastName search. See JBuddy Messenger User's Guide for details.
- Added SASL DIGEST-MD5 security authentication support to Active Directory and other LDAPv3 based directories.
- Added military-grade password encryption to communication with JBuddy Server components.
- Updated XMPP Translation Gateway (XTG) in support of LDAP/AD authentication.
- Updated Lotus Sametime Connect library in support of Lotus Sametime 8.5.x.
- Updated DEMO / FREE license with new license supporting three (3) concurrent clients, (JSC protocol), one of which may be an XMPP client thru XTG.

Release 3.2

Release 3.2.111216

- Added JBuddy LDAP Gateway in support of LDAP and Active Directory authentication using simple LDAP bind. The installation windows are illustrated in this guide. For an in depth explanation of the installation options, see the JBuddy LDAP Gateway User's Guide available online, in the docs/ldap directory and the docs directory of the separate JBuddy LDAP Gateway installer.
- Added JBuddy Server DNS SRV Record support for use by JBuddy Messenger and JBuddy SDK-enabled IM clients. See the DNS SRV section within the Installation chapter of this guide.
- Updated default config to require java server version for enhanced performance. See the Installation chapter and sections "Installing Java" and "Which Java".
- The last chapter of this guide covering JBuddy Messenger IM client is now promoted to a separate JBuddyMessengerUsersGuide.pdf available within the docs directory along side this guide (if Documentation) pack is installed) and online.

Introduction

Welcome to the JBuddy Message Server User's Guide. Please note: JBuddy Message Server is the official product name, however for brevity, it is also known as "JBuddy Server."

This guide is intended primarily for three types of readers:

- System Administrators
- Support Staff
- Users who have been granted authorization to administer their own accounts

System Administrators would typically be involved in preparing the hardware and software environment for JBuddy Server installation and ongoing maintenance and administration. Support Staff would typically be involved in ongoing support. The third type of reader would typically be IT Staff who might oversee the technical administrative needs of a workgroup or department. These users might be granted authorization to create and manage their own set of JBuddy Server accounts.

This guide will introduce Instant Messaging concepts and terms, JBuddy Server architecture, and installation. Additional chapters will discuss optional components that enhance the capabilities of the JBuddy Server.

Instant Messaging Concepts

To understand the terms and concepts of this guide, a basic understanding of Instant Messaging concepts is required. The following terms and definitions will be used throughout this guide:

- IM / Messaging - a text message sent from one user to another user. It may contain plain or rich text.
- Presence - the online availability or status of a user. Online is typically represented as 'Online' or 'Available.' Variations of unavailable include 'Offline,' 'Away,' 'Busy,' 'On the Phone,' etc.
- Privacy - a user typically has control over how their Presence is made available to others. This is managed through the user's privacy settings. Typically this is done on the IM client.
- Buddy - a user may add other users to their Buddy List, in essence, subscribe to their Presence. The entities which represent the other users are called Buddies.
- Buddy Lists - a user can organize Buddies into Groups and Groups within a container called a Buddy List. In XMPP, Buddy Lists are called the 'Roster.'
- File Transfer - a user can send a local file to another user using File Transfer. If the two users are on different networks, file transfer may fail due to NAT traversal problems. The recipient user may accept, decline or ignore the file transfer request.
- IM Bots - Using powerful SDKs, developers can build non-human IM entities that can perform tasks, send alerts, monitor other systems, etc. These non-human IM entities are often called 'Bots,' not to be confused with Bot Nets which are networks of malware or viruses that do bad things. This guide will not cover IM Bots which are covered in depth by Zion's JBuddy Developer Tools products available online at <http://www.zionsoftware.com/products/jbuddy/>
- Group Chat - when more than two users are engaged in the same chat, this is a multiparty chat, often called a 'group chat.'
- Emoticons - these are small icons or caricatures such as a smiley face, frown, etc that can be included with the IM.
- Public IM - in the late 1990s several large companies launched public IM services available for free and over the internet. Over the years these public IM networks have reached some level of interoperability between various networks but not to the degree of an internet standard. The AIM network is owned and operated by AOL. The ICQ network was acquired by AOL. The MSN Messenger network or Windows Live is owned and operated by Microsoft. Yahoo Messenger is owned and managed by Yahoo. Two additional large public IM networks to be aware of are GTalk and Skype. Google owns and operates the GTalk IM network as a publicly hosted version of IETF IM standard, XMPP. Skype is known as a free hosted VOIP network but the Skype network includes all the core ideas and capabilities of IM. Skype was acquired by Microsoft in 2011. Logos for AIM, ICQ, MSN and Yahoo are shown below.



AIM



ICQ



MSN



Yahoo

- Enterprise IM - private IM solutions for use within a corporate intranet.

Enterprise Instant Messaging

As corporations realized the value of instant messaging both between employees and with outside customers and vendors, they realized that public IM did not offer any of the management, control, nor compliance demanded by corporations. When an employee using public IM left the company, the employee could take their public IM account (and buddies, often customers) as well.

Enterprise IM is born

With business's need for privacy, control and compliance, enterprise IM or (EIM) was born. EIM offers businesses the ability to manage and control instant messaging use by employees. Some businesses, especially within Financial Services and Healthcare have strict regulatory compliance requirements for encryption, logging and archiving of instant messages. Failure to comply with regulations can carry still fines and penalties.

Enterprise IM Vendors

Four large EIM product vendors are IBM, Microsoft, Attachmate, and Cisco. IBM offers Lotus Sametime. Microsoft offers Lync (formerly named Live Communications Server (LCS) in 2003 - 2005, then renamed Office Communications Server (OCS) in 2007. Attachmate acquired Novell in 2011 and maintains Novell as a subsidiary. Novell offers Novell Messenger within the context of it's GroupWise collaboration suite although lack of presence on it's product pages strongly hints at its diminished role and focus. Finally, Cisco offers Jabber XCP after acquiring Jabber Inc. Typically large enterprises choose one of these vendors based on preexisting long term relationships. If you are a "Microsoft shop" you would likely choose Lync. If you are a "Lotus shop" you would choose Lotus Sametime, etc. With these software giants competing, the pressure to innovate, add new features and acquire new customers is great. This leads to a trend.

Collaboration Software - Growing Complexity

The trend in software is to add more features, integrate products, and create deeper customer dependency on the software vendor. EIM software follows this trend. Today's software giants have joined together EIM features with email, calendaring, office suites, VoIP/telephony, etc. Together, these products form 'Collaboration' software. This is the latest buzz word in software with promises to increase sales, productivity, and more through greater team and customer collaboration. The downside to adopting huge 'Collaboration' software suites is two fold. It creates a deeper dependency on the software vendor. It adds significant complexity for both end users and system administrators. Most of these new collaboration features are left unused by end users and result in waste and bloatware.

JBuddy Server -Simple yet powerful EIM

For businesses eager to realize the true benefits of enterprise IM while avoiding the bloat, complexity, and vendor lock-in of 'Collaboration Suites' offered by the software giants, Zion Software introduced the JBuddy Server and JBuddy Messenger products. Simple to use and administer, yet powerful enterprise instant messaging features.

Architecture

To make the most of JBuddy Server, it is important to understand the overall architecture. The JBuddy Server consists of a central “dispatch” service, and additional modules supporting directory authorization, and messaging gateways, some required and some optional. In the simplest deployment scenario, supporting internal enterprise IM, the following modules (or services) will be in use: JBuddy Server, JBuddy IM Gateway, Web Administrative console, and a relational database (these are also collectively referred to in this document as the JBuddy Server).

Authentication

JBuddy Server version 3.3 builds on JBuddy Server version 3.2’s LDAP and Active Directory authentication support by introducing new security controls for restricting who can authenticate with JBuddy Server. See Figure 1-1 below. Now organizations can restrict access by organizational unit and/or Security Group. Before JBuddy Server version 3.2 and JBuddy Messenger version 3.2.111216, JBuddy accounts needed to be created within JBuddy Server manually through the Web Administration console or using a custom database load script. For larger organizations, this was tedious and keeping JBuddy accounts in sync with corporate directories proved difficult. By leveraging the corporate directory, no manual account maintenance is required within JBuddy Server. See the JBuddy LDAP Gateway User’s Guide for details.

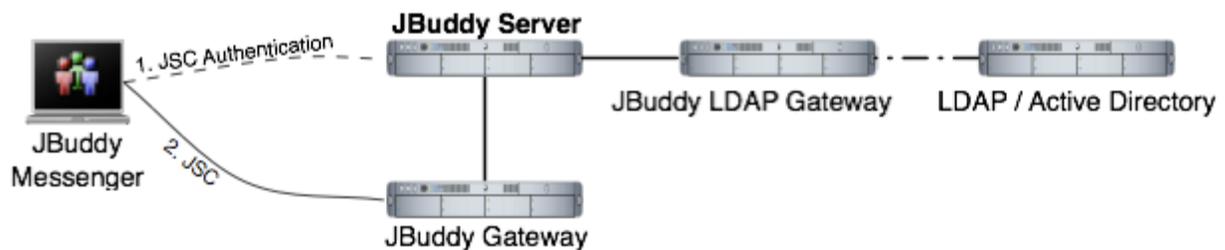


Figure 1-1 JBuddy Server with JBuddy LDAP Gateway

Public & Enterprise IM Connectivity

For organizations wishing to support instant messaging with public or third party enterprise IM users, two scenarios are supported, each with their own pros and cons.

SCENARIO 1

Internal users leveraging JBuddy Messenger as their IM client connect to JBuddy Server and JBuddy Gateway for secure, internal IM. Users sign on to their public or third party enterprise IM accounts using JBuddy Messenger as shown in Figure 1-2 below.

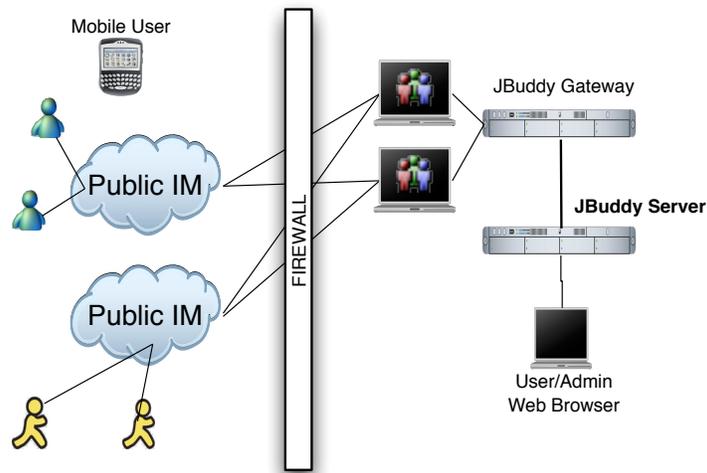


Figure 1-2: JBuddy Server Setup (Scenario 1)

Scenario 1 offers the most robust public IM feature set including support for messaging, presence, group chat, and file transfer if network administrators have configured the corporate firewall to support these features. Connectivity to public IM would not be managed in this scenario unless a specialized third party IM management network appliance is deployed for such purposes. Also, centralized logging of public IM messages sent or received with JBuddy Messenger to JBuddy Server requires the additional configuration of the MessageLoggerServlet. Scenario 1 was the only scenario available in JBuddy Server before version 3.0.

SCENARIO 2

Beginning with version 3.0, JBuddy Server introduced an alternative scenario for public IM connectivity. In this scenario, optional public IM Gateways are deployed alongside the JBuddy Server. Under this scenario, an administrator creates public IM accounts and “routes” these accounts to internal, or SMTP accounts. Since the IMs pass through the JBuddy Server, they are automatically logged if server logging is enabled. The main drawback of this scenario is that only messaging and presence is supported with external IM services (not file transfer or group chat) and users cannot manage these external IM accounts (which may be a benefit to a business). JBuddy Server 3.0 also introduced support for enterprise IM Gateways for Jabber, Lotus Sametime and Microsoft LCS 2005 and OCS 2007 as well as an SMTP Gateway for routing instant messages as email to mobile email-enabled users.

Illustrated in Figure 1-3 below, a JBuddy Server 3.x architecture is shown with optional XMPP Translation Gateway, SMTP, MSN and AIM IM Gateways. Public IM is represented on the left side of Figure 1-3 by the MSN and AIM clouds. A Blackberry icon represents an enterprise mobile user with an E-mail enabled device. On the right side of Figure 1-3, several components which make up the JBuddy Server architecture are shown. Note: **even under Scenario 2, users can still connect directly to public IM networks if they are allowed to use IM clients that support public IM connectivity.**

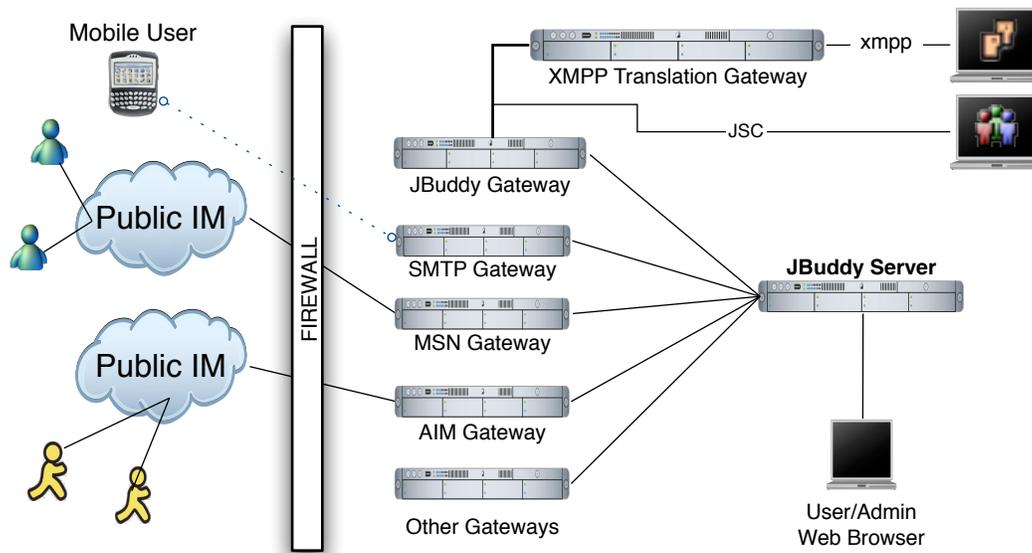


Figure 1-3: JBuddy Server Setup (Scenario 2)

XMPP Client Support

JBuddy Server version 3.1 introduced an optional gateway called the XMPP Translation Gateway (XTG) (also illustrated in Figure 1-3 above and Figure 1-4 below). The XTG adds connectivity support for XMPP clients to JBuddy Server. This means that in addition to the cross-platform, multi-protocol JBuddy Messenger client, JBuddy Server, allows compliant XMPP clients to connect and send and receive messages and presence with other connected clients. If the XTG is running and *license installed*, users can connect to JBuddy Server with an XMPP client **including an XMPP IM Client for smart phones**. If this is of interest, administrators should read the other sections of this document related to the XTG.

At this time, sending and receiving files and multi-user chat is not supported for XMPP clients, nor is federated messaging with other XMPP servers. These features may be supported in a future release.

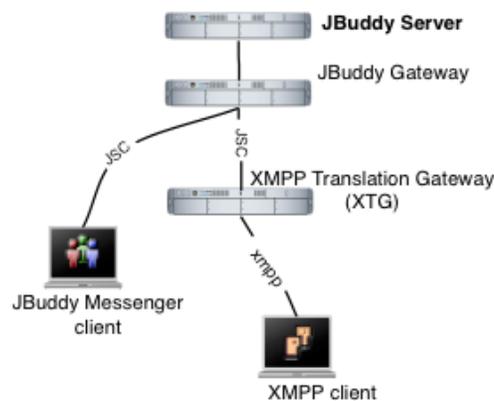


Figure 1-4: XMPP IM Client Support with XTG

Database

The JBuddy Server leverages a relational database management system (RDBMS) for storing IM account data, buddy lists, privacy settings, message archival for regulatory compliance purposes, buddy presence, and message routing rules. The Database server is also omitted from Figure 1-1 to Figure 1-5 but is a critical component of the JBuddy Server architecture. A fresh JBuddy Server install includes and is configured for using a small yet powerful embedded database called HsqlDB. In the basic installation, HsqlDB runs within the JBuddy Server service, not as a separate service. Although HsqlDB is a powerful database in it's own right, **it is highly recommended that an external database be configured for use by JBuddy Server if the organization intends to log high volumes of Instant Messages.** If an organization manages a third party database such as MySQL, Postgres, Oracle, SQL Server, etc, and employs a database administrator, they are in a good position to support this recommendation. Third party database configuration with JBuddy Server is beyond the scope of this guide. Both Standard Installation Support and Third Party Database Configuration/Integration Support are available as options at time of initial purchase from Zion Software.

Live Chat with Instant Help

JBuddy Server version 3.0 introduced a powerful message gateway called Instant Help. Instant Help is illustrated in Figure 1-5 below. Instant Help allows a company to support web visitors with “live chat” by leveraging IM infrastructure. Instant Help is described in a subsequent chapter. Instant Help can leverage either public IM, JBuddy Server or third party enterprise IM.

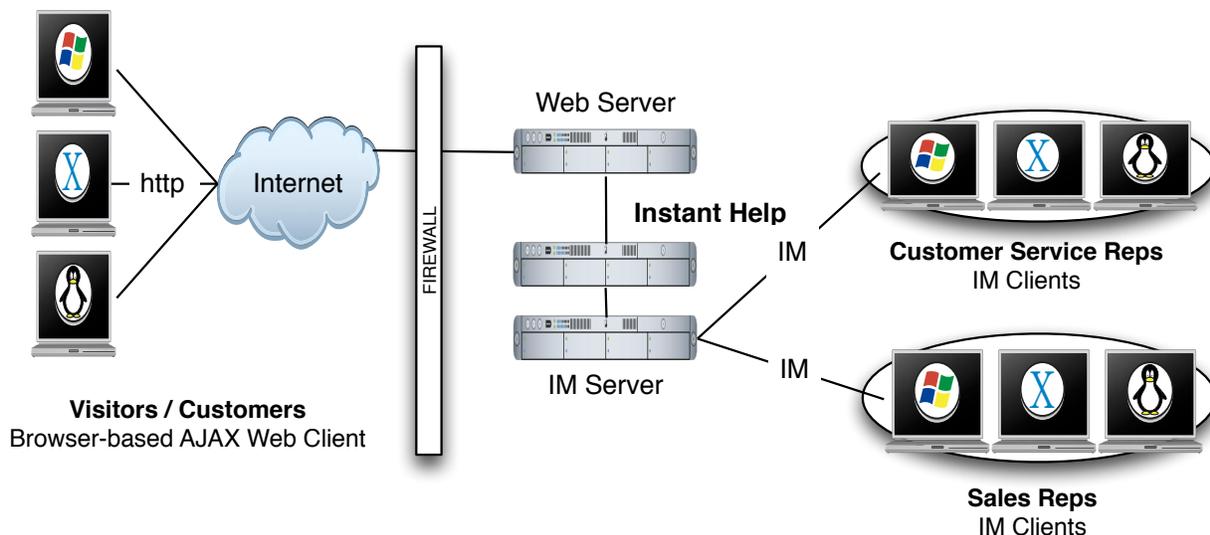


Figure 1-5: Instant Help for web-based live-chat support with IM

Custom Applications with Presence

Zion Software also offers powerful Instant Messaging APIs for developing custom IM-enabled applications. The JBuddy Developer Tools suite can be leveraged to build custom IM clients, IM Bots (non-human agents), help-desk solutions, and much more. Alternatively, developers can leverage the live buddy presence updates in the Database. These are available through connections to the database or more simply using the PresenceServlet, installed with Instant Help. This is illustrated in Figure 1-6 below.

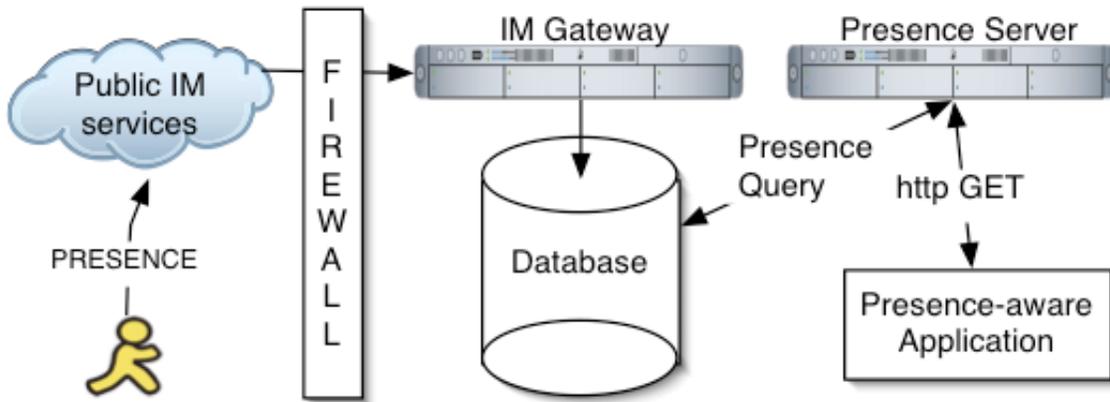


Figure 1-6: Custom Application with Presence

Installation

System Requirements

To run the JBuddy Server installation program as well as the server itself, you must have at least Java Standard Edition (JSE) version 1.4.2 or newer installed. Note: JSE version 1.4.2 and version 5.0.x have reached 'end of service life' with support only available for Java for Business subscribers (paying support to Oracle). If you plan to enforce SSL login and message encryption, you must have JSE 5.x or newer installed before running the server. **We have tested with Oracle's JSE. We have not validated with other versions of Java such as IBM JRE or the OpenJDK project.** The JBuddy Server installation program as well as JBuddy Server itself are written entirely in Java and should therefore run on any modern, operating system supported by Oracle's JSE. That said, the startup and shutdown scripts and any operating system 'services' used to launch, monitor and shutdown JBuddy Server utilize a native library called Java Service Wrapper (JSW) version 3.2.0 to facilitate better native operating system integration such as with Windows Services. JSW version 3.2.0 was released with an open source license friendly to commercial software. This version includes 32-bit native wrappers for Windows x86, Linux x86 and PPC, and Solaris SPARC. Newer JSW versions and 64-bit versions are available directly from Tanuki Software <http://wrapper.tanukisoftware.org/> however, Zion does not offer support for newer JSW versions at this time. If necessary, the JBuddy Server can be operated without the startup / shutdown scripts by passing the proper arguments directly to the JVM from a script, command shell or terminal. Instructions for custom JSW library compilation and non-JSW startup/shutdown are beyond the scope of this guide.

Installing Java

For best performance and scalability, we recommend using the full featured JSE 6.x or 7.x obtainable from Oracle at <http://www.oracle.com/technetwork/java/javase/downloads/index.html>. The JSE supports the `-server` flag which is the default and intended use of JBuddy Server. Further, you should select the 32-bit version of JSE if you are running on a 32-bit OS and the 64-bit JSE if you are running on a 64-bit OS. Note: A 32-bit version of JSW should not prevent you from running 64-bit JSE.

Which Java

During installation, if the Installer encounters more than one Java environment, it will make a 'best guess' on which Java environment to use. It updates `.conf` files located in the `conf` directory. Near the top of these files it sets the property `'wrapper.java.command=$JAVA_HOME/bin/java'` and then a little lower it updates the classpath `wrapper.java.classpath.1=$JAVA_HOME/lib/tools.jar.'` The `$JAVA_HOME` variable is replaced with the `'JAVA_HOME'` that the Installer believes is the correct version. If you wish to use a different Java, you will need to edit the values above. The `-server` flag is enabled by default for performance reasons. The JRE available from www.java.com does not support the `-server` flag, therefore Zion must recommend the JSE over the JRE. You can determine if your JVM environment supports the `-server` flag by typing the following in a command shell or terminal: `java -server -version` which should tell you the version of java used as well as if it is the server or client version of the virtual machine.

Command Line Installation

Initially you will need to run the installation on a computer with a graphical interface (see the Graphical Installation section below). At the end of the installation, you will be prompted if you wish to save the installation (including the supplied values) as a XML installation script which can be used later for an automated (non-graphical) installation such as on a remote Linux or unix-based server. If this is your situation, you need to enter information applicable to the remote host when prompted during the Installer. To run a headless installation, copy the installer jar file and xml install script (that you chose to save at the end of the GUI install) to the remote host. Then login to the remote host and from a command shell or terminal, enter the following command:

```
java -jar JBuddyMessageServerInstaller-3.x.xxxxxx.jar  
JBuddyServerInstallScript.xml
```

where the JBuddyServerInstallScript.xml is whatever name you saved at the end of the GUI install.

Graphical Installation

After a modern JSE is properly installed, double click on the JBuddyMessageServerInstaller-3.x.xxxxxx.jar file to launch the installation program. If you prefer, you can launch the Installer by simply entering the following from a command shell or terminal: `java -jar JBuddyMessageServerInstaller-3.x.xxxxxx.jar`. Once launched you should see a small Language Selection dialog appear similar to Figure 2-1 below:



Figure 2-1: Installer Language Selection Dialog

Installation Figures below are shown based on a Mac OS X install and a language selection of 'eng' (English). Click OK and the Installation Welcome window appears similar to Figure 2-2:



Figure 2-2: Installation Welcome

After clicking Next, the Installation README window appears similar to Figure 2-3:



Figure 2-3: Installation README

After clicking Next, the License Agreement window appears similar to Figure 2-4. You must accept the terms of the license agreement by selecting 'I accept the terms of this license agreement' before the Next button will be enabled.

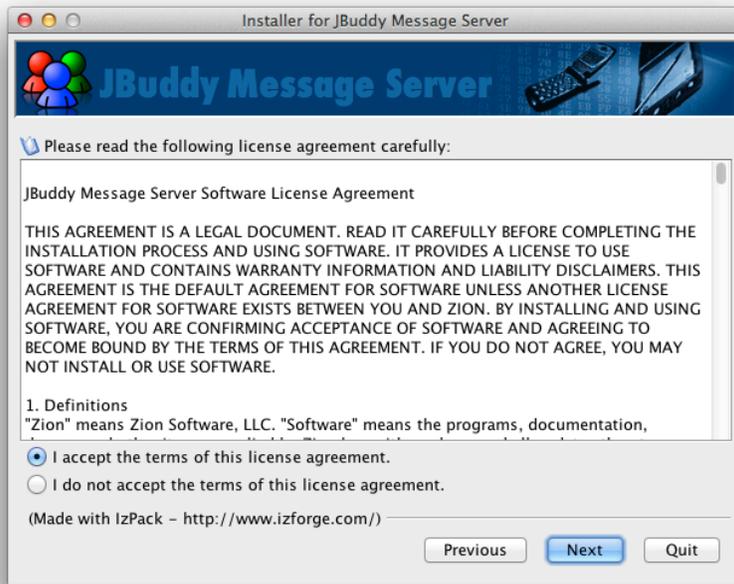


Figure 2-4: Installation License Agreement

After accepting the license agreement terms and clicking Next, the installation path must be specified as in Figure 2-5 below. Once Next is chosen a Message dialog appears to inform you that the directory will be created (or if it already exists).

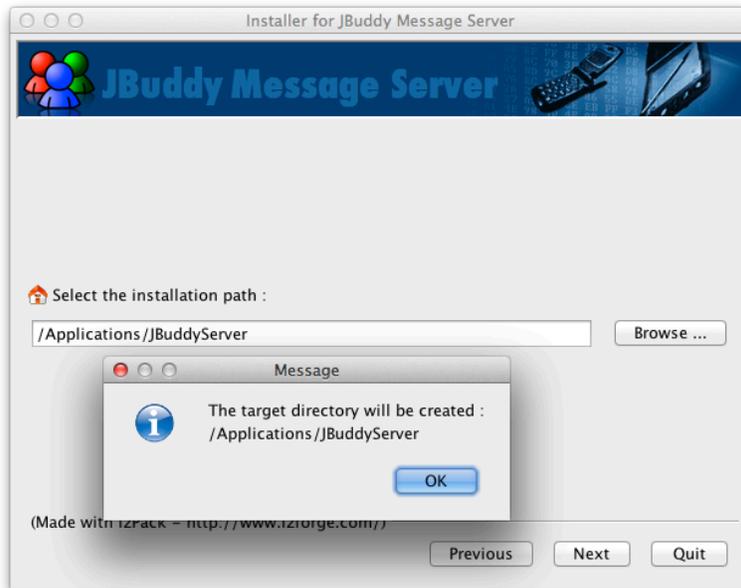


Figure 2-5: Installation Location

After clicking OK to the Message dialog, the Package Selection window will appear similar to Figure 2-6 below:



Figure 2-6: Installation Package Selection

The Package Selection window shows mandatory and optional ‘packs’ that can be installed. Clicking an individual pack changes the Description shown. For example, if you don’t have plans to leverage Lotus Sametime and ICQ, you can uncheck these packs and they will not get installed. Note: **Just because you install a particular pack doesn’t mean you have the proper license to enable that feature (XTG and Instant Help require separate license keys).** Once you are satisfied with your packs selection, click Next to continue.

After clicking Next, the Installation Configuration window will appear similar to Figure 2-7 below. Server Hostname is the IP address or fully qualified domain name of the machine where JBuddy Server will operate once installed. If it will ultimately live on a remote headless machine, enter that host name or IP address instead.

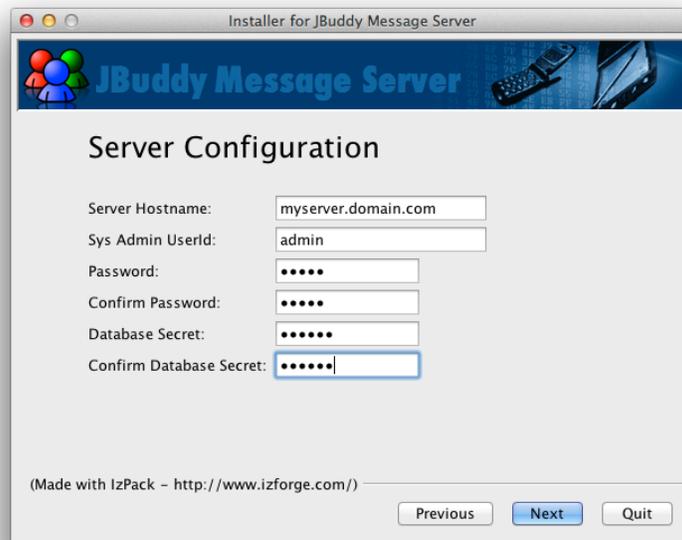


Figure 2-7: Installation Configuration (part 1)

The Sys Admin UserId is a login userid for administering the JBuddy Server. It is not related to operating system authorization credentials. Confirm the chosen password by reentering it in the Confirm Password input field. The Database Secret field is also a password field of sorts. It is used to encrypt all user account passwords with 192 bit Triple DES encryption into the Database. It should be noted that although the account passwords are very securely encrypted, the Database Secret must be accessible by the server at runtime to unencrypt the passwords on demand and therefore, utmost care should be taken to protect the JBuddy Server configuration files from unauthorized access or view. When JBuddy LDAP Gateway is used for user authentication, the account passwords stored in the Database are not usable for authentication. See the Account Manager Chapter for further details on Accounts.

After clicking Next, the second Installation Configuration window will appear similar to Figure 2-8 below. E-mail From is the email address used for emails sent from the JBuddy Server such as for lost passwords. The Smtip Host is the fully qualified hostname of the SMTP mail server that JBuddy Server will use to deliver the email. If the SMTP mail server requires authorization to login before sending email, the Smtip User and Smtip Password should be entered. If not, leave them blank.



Figure 2-8: Installation Configuration (part 2)

After clicking Next, any optional Installation Configuration windows will appear. If you selected the JBuddy LDAP/AD Gateway, Smtip Gateway, Lotus Sametime, Microsoft LCS/OCS or Jabber packs respectively during the Installation Package Selection window (Figure 2-6), the configuration Windows similar to Figure 2-9 A-G will appear. **Review the separate JBuddy LDAP/AD Gateway User's Guide for instructions specific to this authentication gateway.**

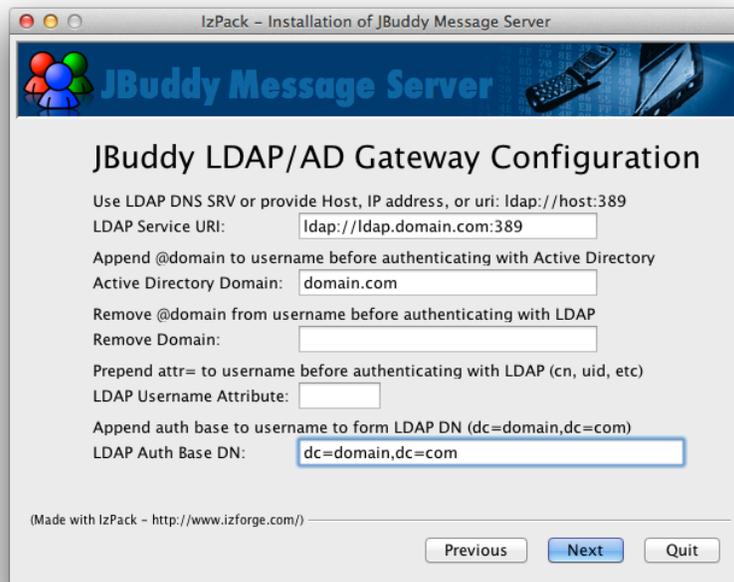


Figure 2-9A: LDAP/AD Gateway Configuration (AD)

Figure 2-9A illustrates a typical J Buddy LDAP/AD Gateway Configuration for an Active Directory scenario.

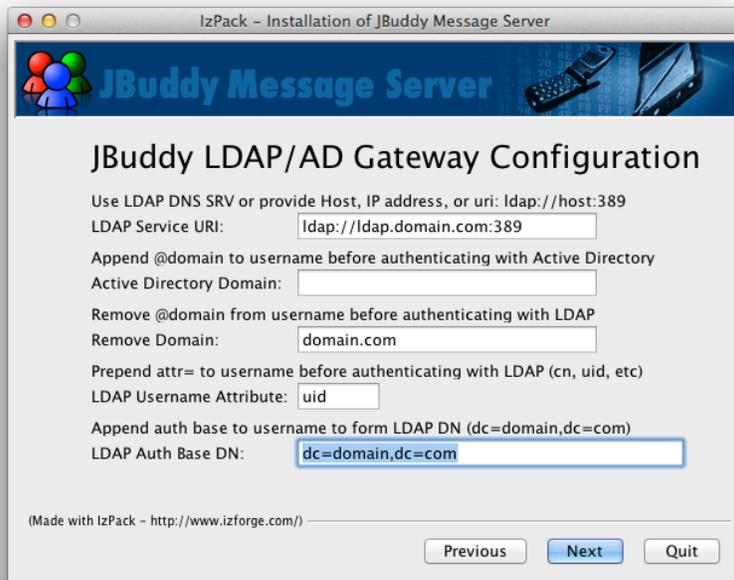


Figure 2-9B: LDAP/AD Gateway Configuration (LDAP)

Figure 2-9B illustrates a typical J Buddy LDAP/AD Gateway Configuration for an LDAP scenario.

In Figure 2-9C1, the JBuddy LDAP/AD Gateway Search Configuration panel is shown with an AD example.

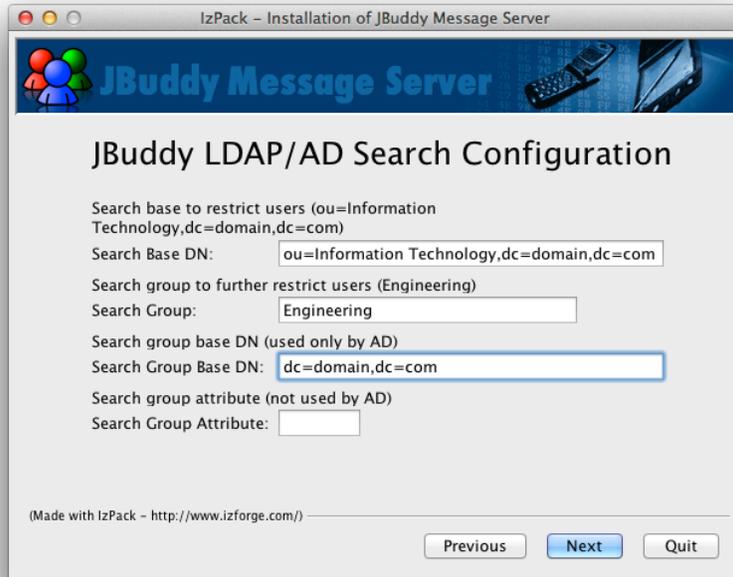


Figure 2-9C: LDAP/AD Search Configuration (AD)

In Figure 2-9C2, the JBuddy LDAP/AD Gateway Search Configuration panel is shown with an LDAP example.

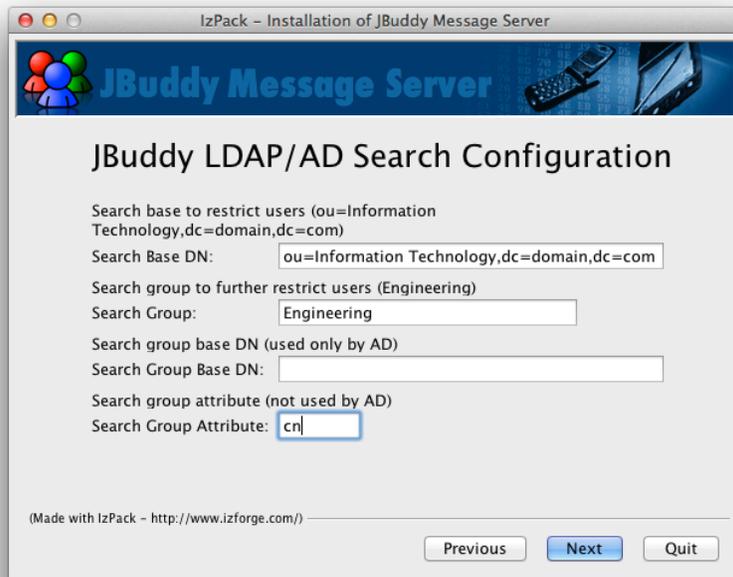


Figure 2-9C2: LDAP/AD Search Configuration (LDAP)

Fill in the Search Base and Search Group if a subset of all the active LDAP/AD users are authorized to use JBuddy Server.

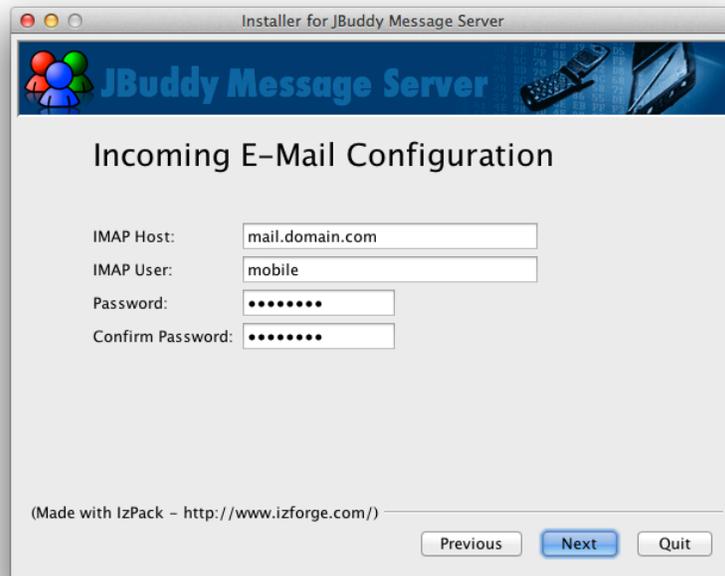


Figure 2-9D: Smtplib Gateway Configuration

If the optional Smtplib Gateway pack is chosen, Figure 2-9D illustrates how the installer will prompt for IMAP credentials for the purpose of allowing the Smtplib Gateway to receive email through IMAP and route into an IM Gateway. The SmtplibMsgGateway.properties file found in the server's lib folder may be configured for POP email retrieval instead of IMAP by manually editing the correct properties after the installation is complete, then restarting the Smtplib Gateway.

If you selected any other enterprise IM packs to be installed such as Lotus Sametime or Microsoft LCS or Jabber, you will be prompted to provide the hostname of the EIM server similar to Figure 2-9E, 2-9F, and 2-9G). Additional configuration for each gateway may be required depending on the gateway. **NOTE: The XTG and the Jabber Gateway serve two very different purposes within the JBuddy Server architecture.**

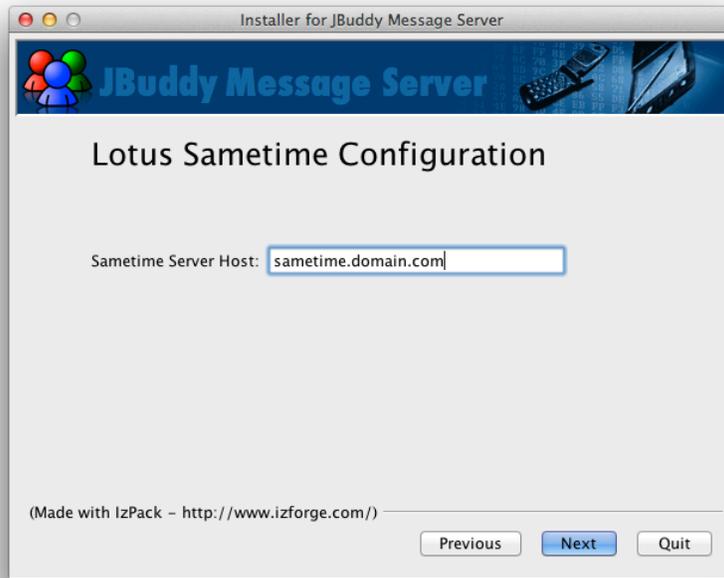


Figure 2-9E: Lotus Sametime Configuration

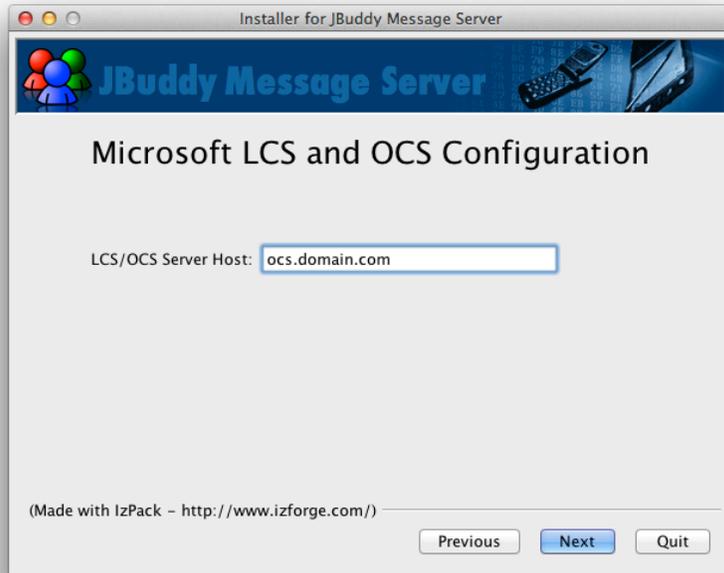


Figure 2-9F: Microsoft LCS / OCS Configuration



Figure 2-9G: Jabber Configuration

After clicking Next, the Installation Process (Figure 2-10) will begin and you will see progress bars as the packs are written to the directory specified in the Installation Location window (see Figure 2-5). Once this process is complete, the Next button will become active.



Figure 2-10: Installation Progress

After clicking Next, the Installation Post Install Processing window will appear. Installations on Windows Server will have Post Install Processing tasks. See Figure 2-11 (Windows). On Win-

dows, the Installer will attempt to register the JBuddy Server, JBuddy Server Admin Console and optionally installed modules as services with the operating system and start them in order. **Note: Installation on other operating systems will require manual start and stop by an administrator.** The log output from Post Install Processing will appear in the window as well. If the Installation is believed to be successful, the Next button will be enabled again.



Figure 2-11: Installation Post Install Processing (Windows)

After clicking Next, the final Installation window will appear as shown in Figure 2-12 below. You can save this GUI installation as a XML script for a repeatable non-gui installation, by clicking the “Generate an automatic installation script” button before finishing.



Figure 2-12: Installation Success / Save Installation Script

Uninstall

Should you wish to uninstall JBuddy Server, follow the steps below:

1. Navigate or `cd` to the directory where JBuddy Server is installed.
2. On Windows Server 2003 or 2008, you may skip to step 4 or manually stop the JBuddy Server service within the Windows Services application. This will stop the additional JBuddy services which all depend on the JBuddy Server.
3. On a non-windows server, stop all of the JBuddy Server components first by running the bin scripts in reverse startup order: gateways first, admin console, and lastly, the JBuddy Server service itself: `./bin/jbuddy-gateway.sh/bin/server.sh`
4. Run the Uninstaller by double clicking on the Uninstaller/uninstaller.jar within the JBuddy Server directory or from the command line type: `java -jar Uninstaller/uninstaller.jar`. A window similar to Figure 2-13 will appear.
5. If you wish to delete everything, check the box 'Force the deletion of...' in the Uninstaller window but be sure the path to be deleted is correct first. See Figure 2-13. When you are satisfied with your choice, click Uninstall. On Windows, this may take several minutes to complete if the JBuddy Server services are still running when the Uninstaller runs. Do not interrupt this process! The status bar in the Uninstaller will indicate completion. Click the 'Quit' button to close the Uninstaller.

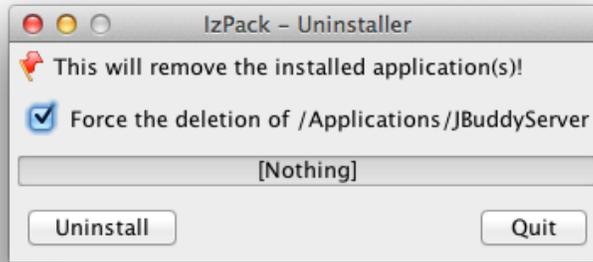


Figure 2-13: Uninstaller (Mac OS X)

Administration

As discussed in the Architecture chapter, JBuddy Server consists of two services and one or more optional modules (gateways). The services are JBuddy Server and JBuddy Server Admin Console. The JBuddy Server Admin Console runs as a web application within an instance of Apache Tomcat 5 which is a web server with Java Servlet and JSP support. The JBuddy Server Admin Console is required for route configuration, local account management, message archive searches, and more. In addition, Instant Help services, the PresenceServlet and the Message-LoggerServlet all require the JBuddy Server Admin Console service.

Windows Server 2003 and 2008

On Windows Server 2003 and 2008, both JBuddy Server services are installed and started automatically in the background as ‘windows services.’ Log output shown in the Installation Post Install Processing window (Figure 2-11) would typically indicate the success or failure of the services launch during installation. At any point after the installation, you can view the current running status of the JBuddy Server services on a Windows Machine by viewing the Windows Services Panel, (Look in Standard or Extended Services) (Figure 3-1). If the Status is “Started” this indicates the service is running. To shutdown the server on Windows, select the JBuddy Server service and click stop the stop button. The JBuddy Server Admin Console will also be stopped as it depends on the JBuddy Server service. This may take a minute or two. To start the Server, select JBuddy Server first, then each of the other JBuddy Server services and click the start button. After a few seconds the Services panel should refresh and update the services Status to ‘Started.’ If one or both of the services fail to start the Windows Event Logger will show the failure.

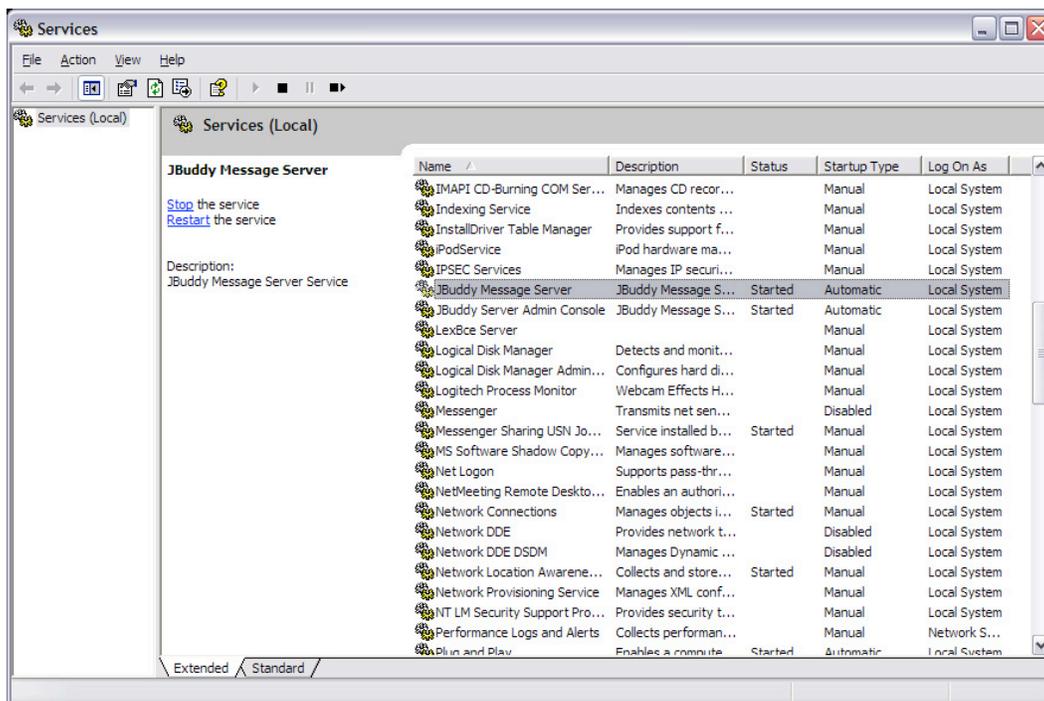


Figure 3-1: Windows Services Panel

Linux, Solaris, Mac OS X, BSD, etc

On Linux, Solaris, Mac OS X, or another flavor of 'unix,' the Installation process does not launch the server. You will need to invoke shell scripts from a command shell or terminal. If having the server available after reboot is desired, add the scripts to the etc server startup scripts (this is beyond the scope of this guide.) For now, just open command shell or terminal and change to the installation directory. Next enter `./bin/server.sh start` to start the server and `./bin/admin.sh start` to start the admin console. Gateways can be started with `./bin/xxxGateway.sh start` where xxx is the pre-fix of the desired message gateway. Use no arguments to see the other options (stop, status).

Configuration Files

Inside the installation directory is a conf subdirectory which contains JSW and JBuddy Server configuration data for servers and gateways. Various configuration parameters may be modified by carefully editing the .conf files and restarting the servers and gateways. A backup copy should always be made before editing in case a simple typo is introduced preventing the server or gateway from starting. Important parameters include: -server JVM argument to specify the server JVM (no -D is prepended), System properties to enable SSL encryption, message archival, and logging levels, whether to use an external Database or not, and many more. Consult the comments within each of the .conf files for details. Below is a table of useful Java System properties that may be set in the .conf files by adding new wrapper.java.additional.X=-D where X is the next highest level and the property name=value is appended after the -D (no space) unless otherwise noted.

PROPERTY NAME	PROPERTY VALUE	DEFAULT	DESCRIPTION
-server	N/A	N/A	uses the server JVM instead of the client JVM for server side applications. No -D is prepended.
-XX:AggressiveHeap	N/A	N/A	enables the AggressiveHeap garbage collector in the JVM for high load servers. No -D is prepended.
jbuddy.use_external_db	true	false	Disable embedded HsqlDB engine
jbuddy.disable_message_archive	true	false	Disable message archiving
jbuddy.use_rich_text_in_message_archive	true	false	Archive message in native rich text format instead of plain text
jbuddy.auto_reply_seconds	900	900	Number of seconds of idle to resend auto_reply message

PROPERTY NAME	PROPERTY VALUE	DEFAULT	DESCRIPTION
jbuddy.db_key	READ ONLY	DB Secret	This is READ ONLY after installer. Triple DES key used to encrypt passwords.
jbuddy.use_ssl	true	false	Enable SSL login and message encryption (applies to JBuddy Gateway and JBuddy Server)
jbuddy.logLevel	0-1023	3	default log level for JBuddy Server and all components
jbuddy.logThreaded	true	false	Spawn a logger thread to try to order the incoming log requests according to FIFO order

Table 3-1: Server Properties

The JBuddy Server and each installed gateway have gateway specific properties files located in the server's lib folder. Protocol specific settings such as what ports to connect to, security settings, and much more are manually configurable by carefully editing the protocol specific properties files located in the server's lib folder and restarting the gateway.

Logs

Inside the installation subdirectory is a logs directory where logs will be written. The JBuddy Server logs to server.log while the JBuddy Server Admin Console writes to the admin.log. The gateways log to xxxx.log where xxxx is the corresponding gateway name. In addition Apache Tomcat may also log other messages to jakarta-tomcat/logs. The logging level of various processes managed by the servers may be changed carefully and the servers restarted. The JSW .conf parameters also specify how large a .log file will grow before it is replaced and how many log files will be rotated. The table below outlines various JBuddy specific log levels that can be enabled depending on the desired output. jbuddy.logLevel is bit-wise ANDed with the log level of the log call to determine if it will be logged, therefore you will add the values you want to arrive at a log level. For example, if you want to log EXCEPTIONS, ERRORS, WARNINGS across all JBuddy processes, you would add the values from the table below to arrive at the logLevel: jbuddy.logLevel=7

LOG LEVEL NAME	LOG LEVEL	DESCRIPTION
OFF	0	Logging Disabled
EXCEPTION	1	Log Exceptions
ERROR	2	Log Errors
WARNING	4	Log Warnings
DATABASE	8	Database related logs

LOG LEVEL NAME	LOG LEVEL	DESCRIPTION
RMI	16	RMI related logs
SOCKET	32	Socket related logs
TRACE	64	Method level logs
DEBUG	128	Full debug logs
LOG_BUDDY	256	Presence related logs
LOG_MESSAGE	512	IM related logs
ALL	1023	Always log

Table 3-2: Log Levels

For more fine-grained control over service logging, individual components can have their `logLevel` set by adding a System property to the `MessageServer.properties` file after the specified component. For example, to turn on `EXCEPTION`, `ERROR`, `WARNING`, and `PRESENCE` and `MESSAGE` logging for the AIM Gateway, we would enter the following using the values from the Log Level Table above:

```
com.zion.messaging.aim.AimMsgGatewayImpl.logLevel=775
```

Database

Inside the installation directory is a `hsqldb` subdirectory where the HSQLDB database server is installed. This is a simple yet powerful open source relational Database written in Java. Using a `.conf` option, the JBuddy Server can be told to use an external Database such as Oracle, SQL Server, My SQL, etc rather than Hsqldb if desired. Presently the JBuddy Server controls the start and stop of Hsqldb. JBuddy Server, the web applications and installed gateways communicate with the Database through a properly configured JDBC driver.

OBJECT ID SERVER

To provide a Database column sequencer that works with any database, JBuddy Server includes a service called the `ObjectIdServer`. This service acts as a object id (primary key sequencer) generator for many of the Database tables used by JBuddy Server. Therefore, careful care should be made not to manually insert rows into any Database table with an ID field while the server is running, otherwise the `ObjectIdServer` may become out of sync for that Database table. Currently, the `ObjectIdServer` service runs inline with the JBuddy Server service.

CREATING ACCOUNTS WITH SQL

If you will be leveraging the JBuddy LDAP/AD Gateway for authenticating with a corporate directory service such as LDAP or Active Directory, you can safely skip this section. Or, if you plan to only create user accounts through the JBuddy Server Admin Console, you can skip this section. If not, read on.

Although we haven't covered User level accounts up to this point, this section will detail how to correctly create local accounts in the `hsqldb` database such as for a bulk load of users by directly updating the `hsqldb` database with SQL. If you are using an external database by disabling the `hsqldb` through the config parameter, you can skip steps 2-4 above and create rows according to step 5 and the SQL example provided.

1. Shutdown the JBuddy Server service.
2. In a command shell or terminal, start only the database (run hsqldb.sh)
3. Run the DatabaseManager command line interface tool:

```
cd into the hsqldb directory
java -cp lib/hsqldb.jar org.hsqldb.util.DatabaseManager
```

4. Login to the Hsqldb and change login fields to:

```
Type: HSQL Database Engine Server
Driver: org.hsqldb.jdbcDriver
URL: jdbc:hsqldb:hsqldb://localhost
User: sa Password: <blank>
```

5. Insert a new database record into the ACCOUNT table for each user. You will need to increment the ID field for each record inserted. The name field should be lowercase with no spaces or strange punctuation but may be formatted like a valid email address firstname.lastname@company.com for example, or flastname or first1, etc. The U_ID column must match the account name given for the Sys Admin account or another valid U_ID from the USER_PROFILE table.

example SQL:

```
INSERT INTO ACCOUNT (ID, NAME, NICK_NAME, MSP_ID, U_ID, BUDDY_LIST_VERSION, BUDDY_LIST_PERMIT_MODE, NUM_MESSAGES_SENT, NUM_MESSAGES_RECEIVED, PASSWORD, KEEP_ALIVE, AUTO_REPLY_MSG, SERVER_HOST, SERVER_PORT)
VALUES (1, 'bart star', 'bart', 99, 'admin',0,1,0,0, 'password', 'T', 'This conversation is being logged by JBuddy Server', null, null)
```

INSTANT MESSAGE ARCHIVING CONSIDERATIONS

This section could easily get its own chapter however for purposes of readability, it will be kept brief. If IM message logging is enabled (by default) on the JBuddy Server, every IM message sent from one user to another is recorded to the database. If the Instant Help system is used, it also stores help session and messages in the database for each live chat that takes place. The Database schema for JBuddy Server has a Message table where instant messages are stored. As any database administrator knows, you cannot insert an infinite number of rows into a database table. Long before you reach millions of records, your database will be protesting by performing badly or have failed already. Once users discover the benefits of using IM over email for internal communications, IM will begin to increase rapidly. As an administrator you need to plan for this if you plan to archive Instant Messages or leverage Instant Help. It is beyond the scope of this User's Guide, but suffice to say you should either disable instant message archiving altogether if your organization is not bound by HIPPA or Sarbanes Oxley or SEC regulations or employ a database administrator who can monitor the JBuddy Server database tables and periodically shut down the JBuddy Server for maintenance, archive off older Message records to an archive solution, purge the archived Message records and restart JBuddy Server. The goal of this periodic preventive maintenance is to keep the Message table to a reasonable size, as determined by the database administrator.

Network Ports

For enterprise IM using the proprietary JBuddy protocol, the JBuddy Server service listens on port 1424 and the JBuddy Gateway listens on 1425 by default. These can be modified before startup by carefully editing the MessageServer.properties file within the lib subdirectory. The

load balancer listening on port 1424 redirects connecting clients to connect to the JBuddy Gateway running on port 1425 on the same host or other hosts if JBuddy Server is configured for enterprise clustering. The JBuddy Server Admin Console runs as a web application within Apache Tomcat and is available by default by pointing your browser to port 8080, although configuring Apache Tomcat to run in parallel with the popular Apache web server on port 80 is very common but beyond the scope of this guide. Other network ports used by JBuddy Server may include additional ports opened by Apache Tomcat (see tomcat documentation for details), HsqlDB (defaults to port 9001), and Java's RMI (port 1099 by default). Various other optional message gateways use additional ports and are documented in the corresponding configuration properties files in the server's lib folder.

EXTERNAL ACCESS WHILE BEHIND A NAT ROUTER

Normally enterprise IM is configured for privacy and security with no external access permitted. However, if the JBuddy Server is used for an internet portal or online community, then external access is required. If the host that JBuddy Server is installed on is reachable from the internet with a fully qualified domain name or internet IP, there is no problem. However, if the host that JBuddy Server is installed on is only visible from the private network, an additional setting is required. The JBuddy Server may be configured to listen for connecting clients from the internet while running on a private IP network such as 192.168.x.x behind a NAT Router by adding the following System Property to MessageServer.properties located in the lib subdirectory:

```
JSC_HOST_DMZ=externalhostname or IP
```

The private hostname or private IP is still required during the installation process since this is the hostname or IP address that the JBuddy Server load balancer and the JBuddy Gateway bind to, however with the JSC_HOST_DMZ property set, the JBuddy Server load balancer will return the external host name or internet IP address to clients that connect rather than the default hostname or IP that the JBuddy Gateway binds to which would be unreachable from the internet. It should be noted that if this setting is used, internal clients may be unable to connect if they are unable to connect to the external address from inside. This may be remedied with a proper route entry added to the NAT router, although this is beyond the scope of this guide.

DNS SRV Support

JBuddy MESSENGER AND JBuddy-ENABLED IM CLIENTS

JBuddy Messenger 3.2.111216 (and any IM client build on JBuddy SDK 6.3.111216 or newer) features the new DNS SRV support for locating a JBuddy Server. DNS SRV is leveraged to simplify JBuddy Messenger enterprise deployment by eliminating the need for end users to specify a JBuddy Server host and port. To accomplish this, there are two requirements.

- JBuddy Server IM Account usernames must be in the form `username@domain`
- A DNS SRV record for `_j_buddy-client._tcp.domain` must be created

DNS administration is beyond the scope of this guide, however Figures 3-2 through 3-5 illustrate the steps required using DNS Manager on Windows Server 2008.

1. Launch DNS Manager: *Start Menu --> Control Panel --> Administrative Tools --> DNS*
2. Expand 'Forward Lookup Zones'
3. Right click on the zone (domain name) and click 'Other New Records...' as shown in Figure 3-2.

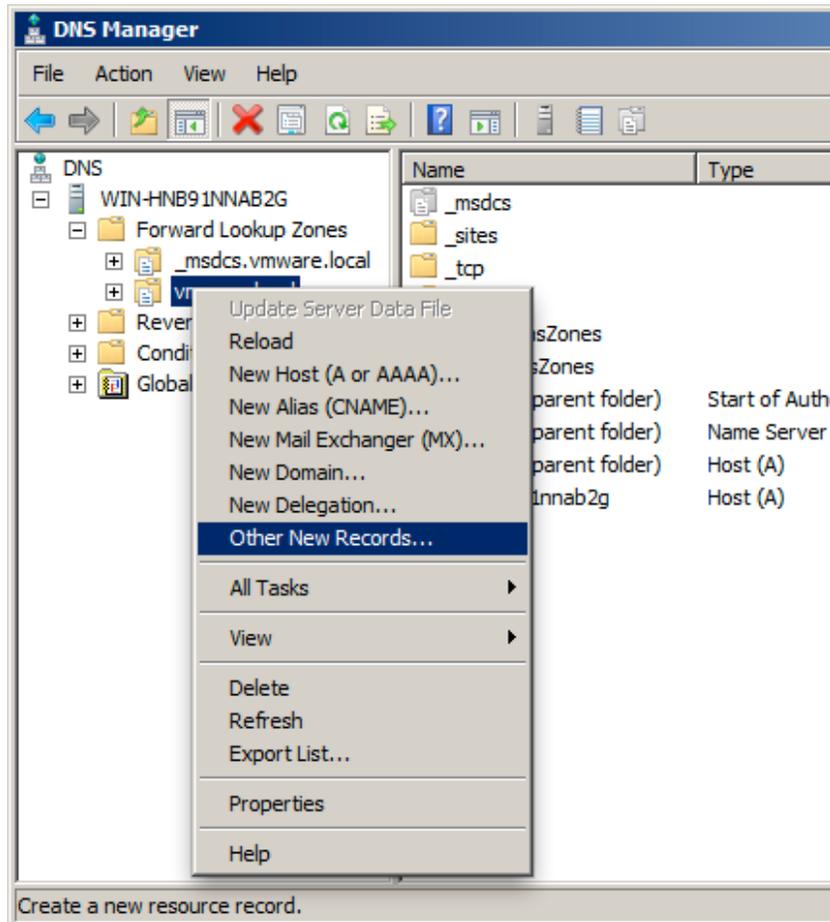


Figure 3-2: DNS Manager - Other New Records...

Next, in the 'Resource Record Type' dialog, scroll down and select 'Service Location (SRV),' as shown in Figure 3-3, then click the button "Create Record..." as shown in Figure 3-3.

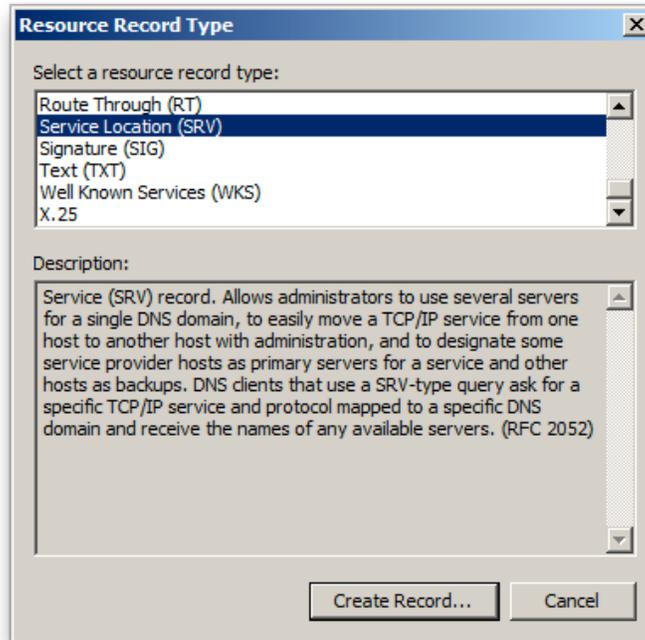


Figure 3-3: Select Resource Record Type

Finally, fill in the SRV record fields (see Figure 3-4) and click 'OK.'

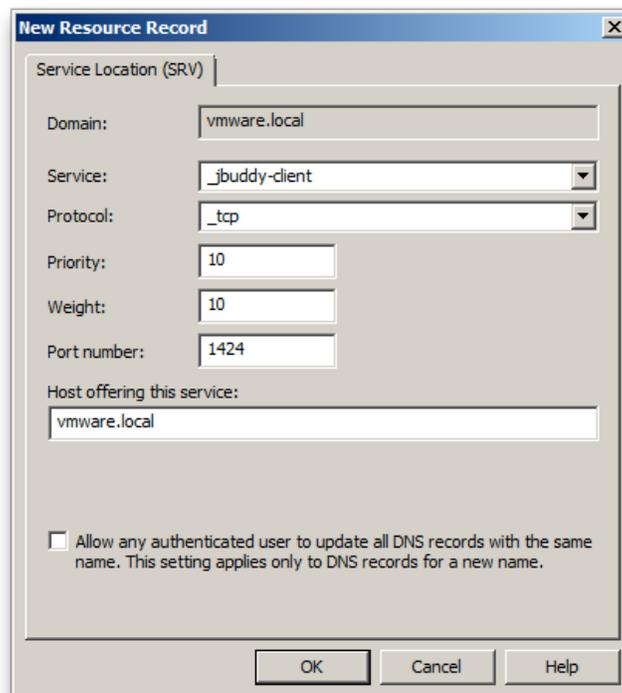


Figure 3-4: New Resource Record

If the values are acceptable, you will see the new DNS SRV record in the DNS Manager as shown in Figure 3-5.

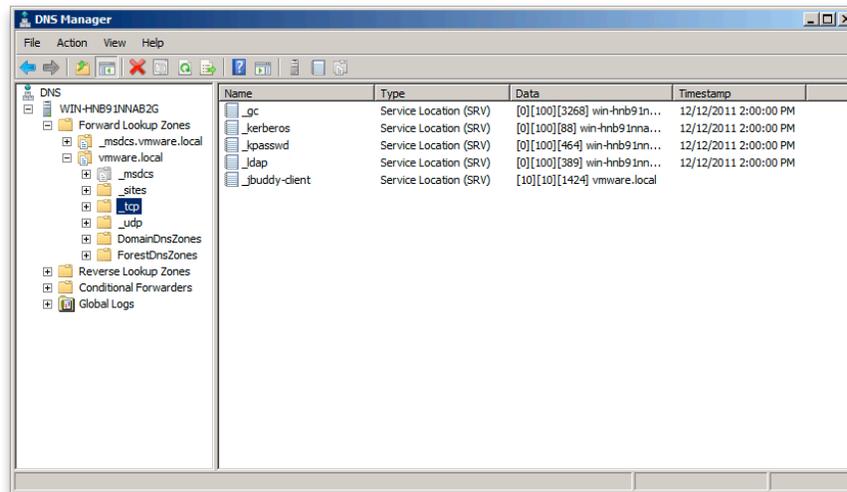


Figure 3-5: DNS Manager with new `_juddy-client._tcp.domain` DNS SRV record

To verify the DNS SRV records are working, simply use the existing command line tools such as `nslookup`, `dig` or `host`.

XMPP IM CLIENTS

If you intend to connect to the JBuddy Server using an XMPP IM Client, the XTG should be running. You should also configure the `_xmpp-client._tcp.domain` DNS SRV record for XMPP so the XMPP IM Client can automatically discover the XTG's host and port. The XMPP default port is 5222. For Windows Server 2008, follow the steps illustrated above, substituting `_xmpp-client._tcp.domain` for the Service, 5222 for the port, and the hostname where XTG is running as the Host offering the service.

EXAMPLE

An example is now given describing how the new DNS SRV record supports locating a JBuddy Server and works in conjunction with the JBuddy LDAP/AD Gateway to authenticate with Active Directory on Windows. This example assumes an existing DNS SRV record for `_juddy-client._tcp.domain.com` pointing to `myserver.domain.com` and port 1424 and an Active Directory contains a user named Jack Frost with a Windows login of `jack.frost@domain.com`. Using JBuddy Messenger, Jack would simply launch JBuddy Messenger, and create a JBuddy Server account with his Windows credentials `jack.frost@domain.com` and password. JBuddy Messenger would look up the DNS SRV record `_juddy-client._tcp.domain.com` from Active Directory which returns `myserver.domain.com` and port 1424. JBuddy Messenger then connect to the JBuddy Server running on `myserver.domain.com` listening on port 1424. JBuddy Server then passes the username `jack.frost@domain.com` and the password provided to the JBuddy LDAP/AD Gateway which attempts to authenticate using Active Directory using an ldap 'simple bind' request.

User Profiles

Owner Profile

To sign on to JBuddy Server using JBuddy Messenger or another compatible IM Client, the user must have an Account. Accounts are created within the JBuddy Server under a 'Owner Profile.' Accounts created under one Profile cannot be managed or viewed by another Owner Profile. A User Profile consists of a user id and password and other contact information. A default Sys Admin User Id is created during server installation. If central control of all accounts will be handled by the Sys Admin for the JBuddy Server, then no additional User Profiles should be created. **Additionally, the Sys Admin User Id Owner Profile is used when automatic Account create is configured using the JBuddy LDAP/AD Gateway.** The default Central Account Management screen is shown in Figure 4-1A below.

- [About Zion Software, LLC](#)
- [Product Homepage](#)
- [Support Homepage](#)
- [Having trouble logging in?](#)



Figure 4-1A: Central Account Management Screen

If each user will be able to manage their own Accounts such as for a hosted service, then each user should to have their own User Profile. Please request the hosted-version of the JBuddy Server from Zion Software if this is your intended use. It differs slightly from the non-hosted version (see Figure 4-1B) and provides users with the ability to create their own User Profile. To create their own User Profile, users will click on the Sign Up Now link from the homepage and completing the User Registration form (Figure 4-2).

Do you need an instant messaging solution for your business or enterprise but you're worried about security, compliance, and regulations? Then explore the power of Zion's EIM Client and Server solutions. Sign up for a free trial EIM account today!

- [Sign up now \(for free!\)](#) ←
- [Why should I sign up?](#) ←
- [About Zion Software, LLC](#)



[Having trouble logging in?](#)

Figure 4-1B: Hosted Account Management Screen

The screenshot shows a web form for user registration. At the top, there is a navigation bar with links for 'EIM Home', 'Service', and 'Sign Up'. The main heading is 'User Registration' followed by 'Enter Company/Organization Contact Information'. The form includes the following fields: First Name, Last Name, Title (dropdown), Company/Organization, Company/Organization size (dropdown), Industry (dropdown), Address, City, State/Province, Postal Code (Zip), Country (dropdown), Company/Organization Web Site, Contact Phone, Contact EMail, Requested user name, Password, and Confirm Password. At the bottom are 'Register' and 'Clear Form' buttons. Red annotations include an arrow pointing to the 'Contact EMail' field with the text 'lost password gets mailed here', and two arrows pointing to the 'Requested user name' and 'Password' fields with the text 'login user ID and password'.

Figure 4-2: User Registration Form

Logging In

WEB LOGIN

With a valid user ID and password (either the Sys Admin or one created using the User Registration form in Figure 4-2), a user can login to the JBuddy Server Admin console by entering their user ID and password in the User Name and Password fields shown in Figure 4-1, or may login using a WAP enabled mobile device but pointing the WAP browser of the mobile device to:

WAP LOGIN

<http://hostname:8080/JBuddyMessageServer/login.wml>

The hostname is the hostname or IP of the server hosting the JBuddy Server Admin Console and 8080 is the port where the Admin Console is available (could be port 80 or 443 if accessed through a web server such as apache).

Upon login the user will be presented with the Welcome page (Figure 4-3).

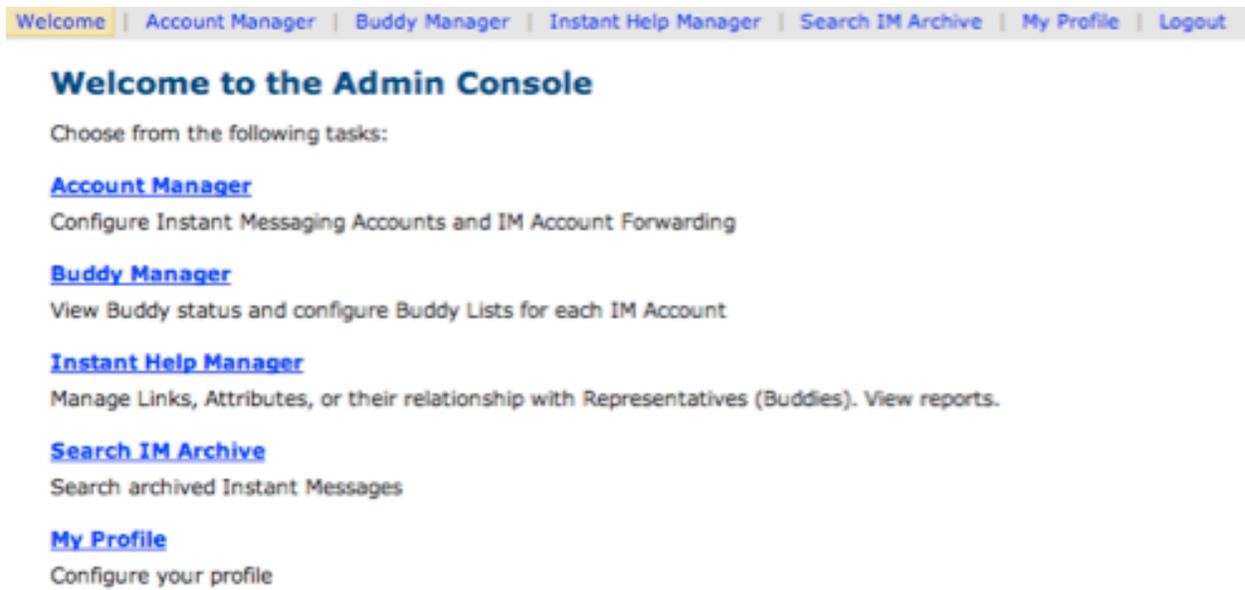


Figure 4-3: Welcome to the Admin Console

From here, the user can access various pages in the Admin Console by either clicking on the links in the Welcome page or clicking on the tabs across the top. Since this is a newly created User, we will begin with the Account Manager.

Account Manager

IM Accounts

All connectivity in the JBuddy Server centers on Accounts. There are IM Accounts and there are other non-IM Message Accounts. A user may have more than one Account since JBuddy Server version 3.x is capable of connecting to five (5) public IM networks and four (4) Enterprise IM servers along with other messaging services. After clicking on the Account Manager link or top menu tab, the Account Manager Admin screen appears (Figure 4-4):

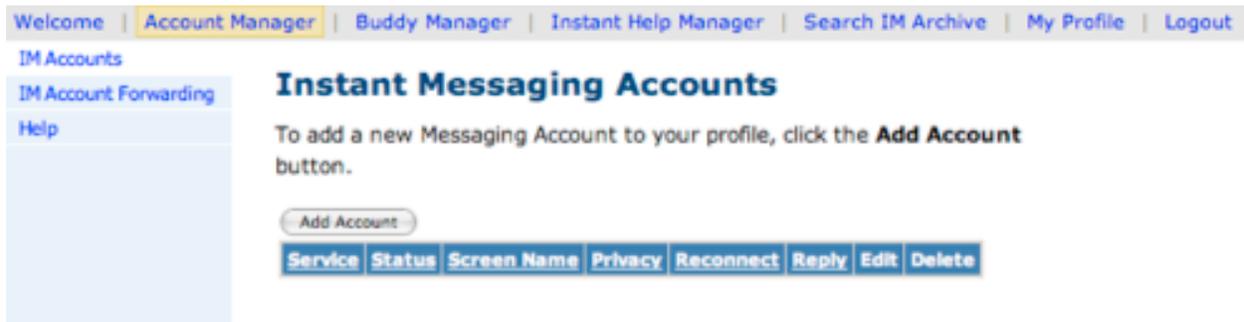


Figure 4-4: Account Manager Admin

Since this is a brand new user profile, there are no accounts visible in the table. After clicking on the Add Account, the New Messaging Service Account screen appears (Figure 4-5):

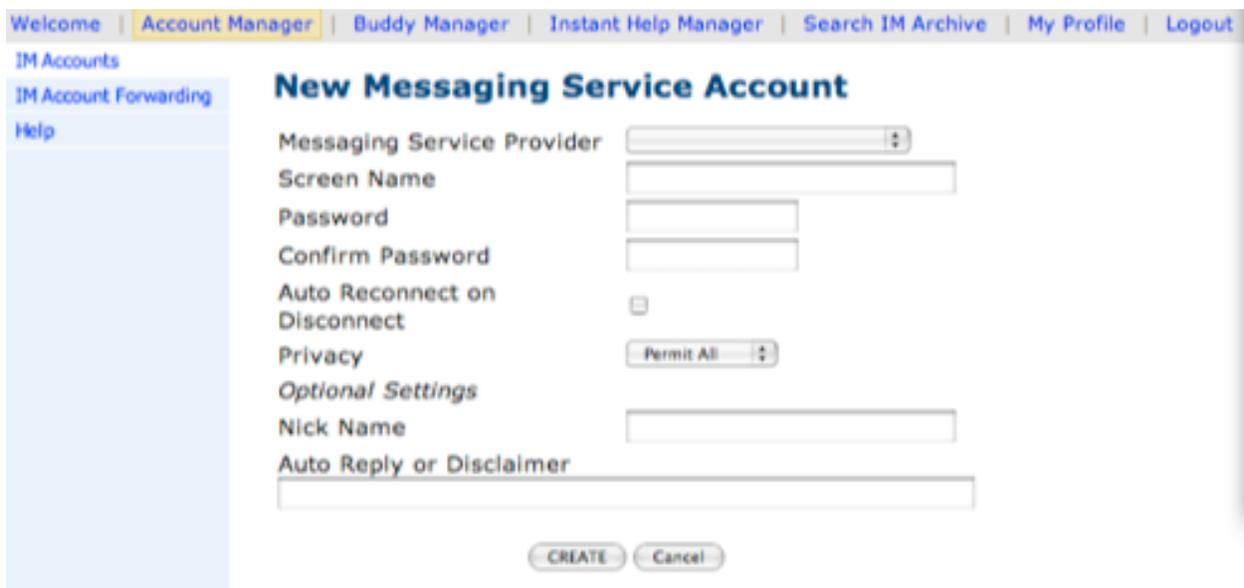


Figure 4-5: New Messaging Service Account

The Message Service Provide drop down list offers a list of public IM, enterprise IM and several other messaging service types. Depending on the license(s) installed, this list may be different. If nothing appears in the Message Service Provider drop down list, then JBuddy Server has been unable to find a valid license. Please verify that a valid license.lic exists in the lib folder of your JBuddy Server installation. This license key is fingerprinted and sensitive to any modification. After selecting the desired Messaging Service Provider, the default fields may change.

JBuddy SERVER IM ACCOUNTS

If you are only interested in private, enterprise IM using the JBuddy Server, you only need JBuddy Server IM accounts (even if you intend to connect to the JBuddy Server using XMPP Clients using the XTG). JBuddy Server IM Accounts can be created one of three ways.

- Automatic
- Manual
- Database bulk load

Only the Automatic JBuddy Message Server Accounts are usable if the JBuddy LDAP/AD Gateway is used. If the JBuddy LDAP/AD Gateway is **not** used, only the Manual or Database bulk load created JBuddy Message Server Accounts are usable.

AUTOMATIC ACCOUNT CREATION

If the JBuddy LDAP/AD Gateway is active, the LDAP or Active Directory service configured during installation will be the authentication authority. A JBuddy Server IM Account is created automatically on-demand for the user after a successful LDAP/AD authentication. The Sys Admin User Id used during the JBuddy Server installation will be the Owner Profile. **If the JBuddy LDAP/AD Gateway is used, NO manual 'JBuddy Message Server' IM Accounts should be created using the Account Manager.**

MANUAL ACCOUNT CREATION

If the JBuddy LDAP/AD Gateway is NOT used for authentication, an administrator should manually create JBuddy Message Server IM Accounts as illustrated in Figure 4-6 below. The JBuddy Message Server drop down choice is selected as shown by the JBuddy icon (red, green and blue people). Once JBuddy Server IM accounts are created, all that's required to start using the JBuddy Server for private enterprise IM is to either configure the `_jbuddy-client._tcp.domain` DNS SRV record or manually configure the JBuddy Messenger to point to this JBuddy Server instance (configure the host in the IM client) and login with the administrator provided screen name and password. This is discussed in detail in the JBuddy Messenger User's Guide (available online and with the JBuddy Messenger download).

The screenshot shows a web interface with a navigation bar at the top containing links: Welcome, Account Manager (highlighted), Buddy Manager, Instant Help Manager, Search IM Archive, My Profile, and Logout. On the left, there is a sidebar with links: IM Accounts, IM Account Forwarding, and Help. The main content area is titled 'New Messaging Service Account' and features a sub-header 'JBuddy Message Server' with a small icon. Below this, there are several form fields: 'Server Hostname' (pre-filled with 'localhost'), 'Screen Name' (empty), 'Password' (empty), 'Confirm Password' (empty), 'Auto Reconnect on Disconnect' (checkbox, unchecked), 'Privacy' (dropdown menu set to 'Permit All'), and 'Optional Settings' which includes 'Nick Name' (empty) and 'Auto Reply or Disclaimer' (empty). At the bottom of the form are two buttons: 'CREATE' and 'Cancel'.

Figure 4-6: New JBuddy Server Account form

PUBLIC IM ACCOUNTS

In Figure 4-7, we've selected AOL Instant Messenger Messaging Service Provider as indicated by the yellow triangle representing AIM.

The screenshot shows the same web interface as Figure 4-6, but the sub-header is 'AOL Instant Messenger' with a yellow triangle icon. The form fields are: 'Screen Name' (pre-filled with 'ziondev'), 'Password' (masked with '****'), 'Confirm Password' (masked with '****'), 'Auto Reconnect on Disconnect' (checkbox, unchecked), 'Privacy' (dropdown menu set to 'Permit All'), and 'Optional Settings' which includes 'Nick Name' (pre-filled with 'Zion Dev') and 'Auto Reply or Disclaimer' (pre-filled with 'Your IM has been forwarded to my Blackberry. Please be patient on my reply'). At the bottom are 'CREATE' and 'Cancel' buttons.

Figure 4-7: New AIM Service Account

The Screen Name and Password fields are required for all IM messaging accounts and represents a valid screen name of the selected Message Service Provider. The Password and Con-

firm Password input fields are where the valid password for this screen name are entered. Optional fields for the public IM and non-JBuddy enterprise IM accounts include the Auto Reconnect on Disconnect checkbox, Privacy, Nick Name, and Auto Reply fields. The non-JBuddy enterprise IM services including Lotus Sametime, Jabber / XMPP, and Microsoft LCS also require Server Host and Server Port fields to be provided in order for JBuddy Server to know where to connect.

The Auto Reconnect checkbox informs the JBuddy Server to attempt to maintain an active connection for this screen name. An invalid screen name or password would prevent this. The Privacy drop down list specifies how the IM account handles messages from other buddies. Permit All allows all messages, Permit Some allows messages from the buddies on the Permit / Allow List. The Deny Some privacy setting blocks messages from the buddies in the Deny List but allows messages from all others. Lastly, the Deny All privacy setting prevents messages from everyone which is not often used. The Nick Name field is often used by IM services as the Display Name seen by other buddies. The Auto Reply or Disclaimer field can be used by the server to send an automatic reply to a new conversation with a buddy, potentially to let them know the conversation will be logged, or to let them know the messages are being forwarded to a mobile device.

After creating several message accounts, the Account Manager Admin screen would look similar to Figure 4-8 below:

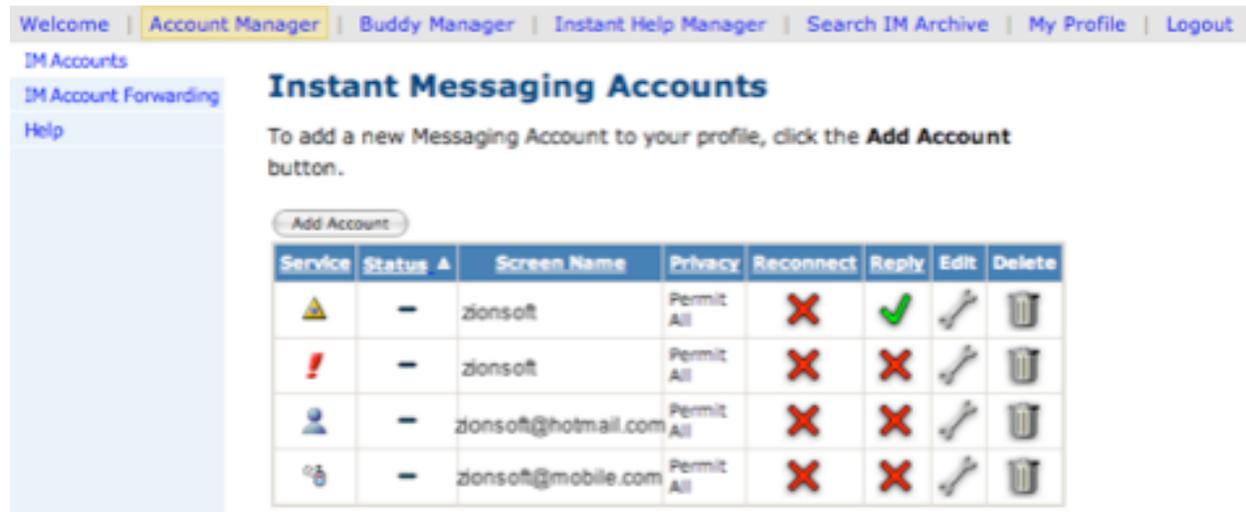


Figure 4-8: Account Manager Admin

Notice in Figure 4-8 how the status is blank for all the services. This is because the accounts are not yet active.

IM Account Forwarding

To activate message accounts created in the IM Accounts screen, they must be associated with another message service. In the JBuddy Server Admin Console, this message account association or mapping or routing is termed, 'IM Account Forwarding' and it is available as a sub menu on the left side of the screen in the Account Manager below 'IM Accounts' (Figure 4-9 below).

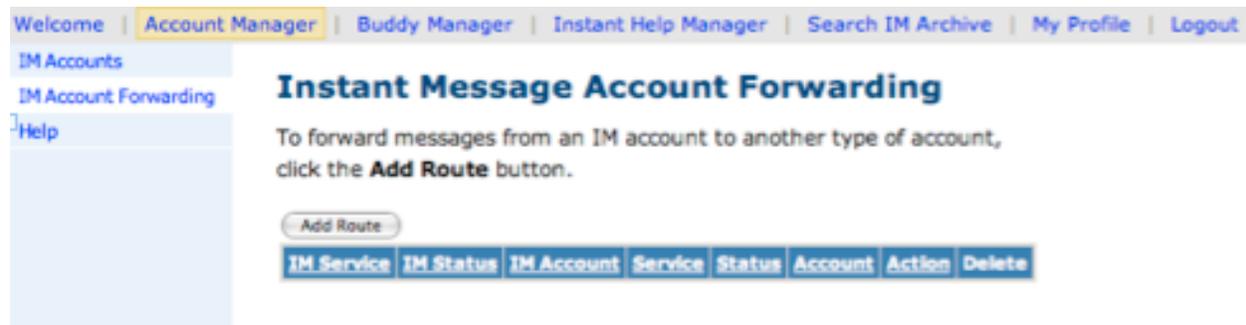


Figure 4-9: Instant Messaging Account Forwarding Admin (no routes).

ADDING A ROUTE

After clicking the IM Account Forwarding submenu, the Instant Messaging Account Forwarding Admin screen appears. In a new User Profile, there will be no 'routes' initially. As in Account creation, click the Add Route button to specify a new route between an IM Account and another message Account. After clicking Add Route, a screen similar to Figure 4-10 will appear unless you don't have any Accounts defined, in which case you will get an error screen (Figure 4-11). The top drop down list contains the list of IM Accounts shown with the format: screen name : message service provider. The bottom drop down list contains a list of non-IM Accounts that you can associate with the IM Account. This is true except for JBuddy Server IM Accounts (JSC). This type of IM account will appear in the top list because it's an IM account, however it will also be available as a choice in the bottom drop down list. When a JBuddy Server IM Account is used in the top drop down list, then it can not be used in the bottom drop down list for that 'route.' Instead a non-IM account can be used to forward JBuddy Server protocol messaging and presence to a non-IM gateway such as a mobile email account or even the JBuddy Instant Help software. **If a 'JBuddy Message Server' IM Account is not used in the top drop down list, it can be used in the bottom drop down list. In this scenario, the top drop down list would be a public or enterprise IM and the messages and presence from this public or enterprise IM is forwarded when the JBuddy protocol client (JBuddy Messenger or a JBuddy SDK-enabled application such as an IM Bot) is online.**

IM FORWARDING TO MOBILE (E-MAIL ENABLED DEVICES)

Forwarding IM accounts to an SMTP account permits an end user to receive IM messages and buddy presence on an email enabled device such as a RIM Blackberry. If the routes have been created but not started prior to leaving the office, the end user can login to the JBuddy Server Admin Console using a WAP enabled browser from the device but only if the end user has authorization credential to login and if the Admin Console is accessible from the device (see WAP Login in the Logging In section above). It should be noted that if IM logging has been enabled, that even messages to and from the mobile user will be logged ensuring full-time regulatory compliance even from the road.

IM FORWARDING TO INSTANT HELP

Forwarding IM accounts to an Instant Help account permits an IM account to be used as a proxy representative for a real person. As an example, the ZionRep AIM account could be forwarded to an Instant Help account named 'Sales'. When a properly configured Instant Help web link was clicked by a web visitor, the Sales Instant Help proxy would be selected and an IM help in-

vation would be sent to one or more real IM users through the proxy representative (ZionRep). This scenario is very powerful for distributed live help desk support and will be covered in a chapter of its own.

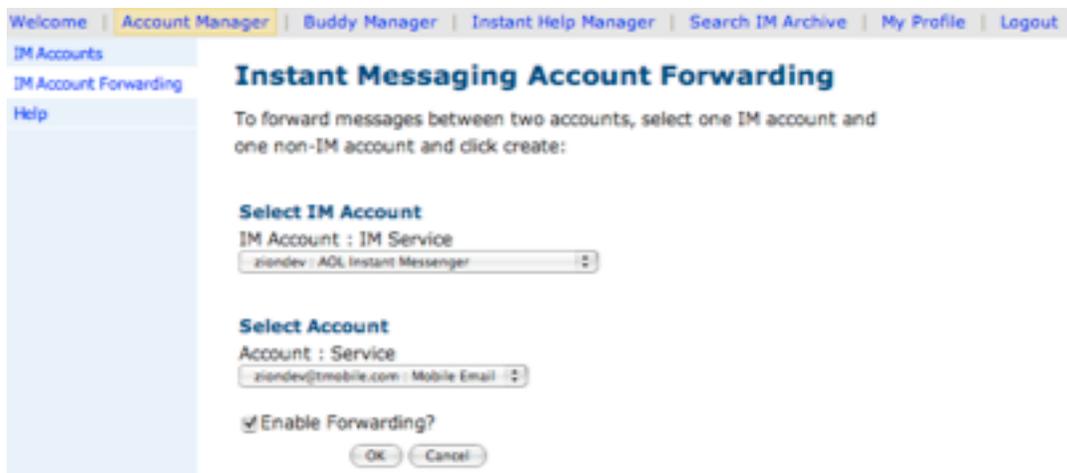
IM FORWARDING TO JBuddy SERVER ACCOUNTS

Forwarding public or enterprise IM accounts to JBuddy Server accounts is used for two scenarios typically:

1. Central control of public IM access. Define which IM accounts and which JBuddy Messenger Users will have access to external protocols. This is primarily when an end-user will be using the JBuddy Messenger IM client or another JBuddy SDK-enabled IM client on their desktop. (Figure 1-2.)
2. Central control and management of IM Bots made available on public IM networks. Bots are written using JBuddy IM toolkits and access the JBuddy Server using the JBuddy protocol (JSC) and are made available to public IM users by creating a route to forward public IM account(s) to the JBuddy-protocol connected IM Bot.

ACTIVATING IM FORWARDING

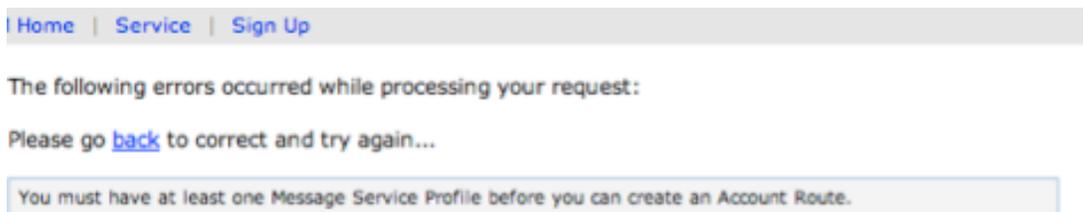
If the Enable Forwarding checkbox is checked, clicking OK will store the active state of this route in the database and the accounts will attempt to connect and go online. For scenario 2 detailed above, the routes state will be active but the IM account will not go online until a remote JBuddy client connects, at which time the route will be provisioned in the server and the IM account will attempt to go online and begin routing messages and presence to and from the public or enterprise IM client to the JBuddy client.



The screenshot shows a web application interface for "Instant Messaging Account Forwarding". The top navigation bar includes links for "Welcome", "Account Manager", "Buddy Manager", "Instant Help Manager", "Search IM Archive", "My Profile", and "Logout". The left sidebar has "IM Accounts", "IM Account Forwarding", and "Help". The main content area is titled "Instant Messaging Account Forwarding" and contains the following elements:

- Instruction: "To forward messages between two accounts, select one IM account and one non-IM account and click create:"
- "Select IM Account" section: "IM Account : IM Service" with a dropdown menu showing "ziondev : AOL Instant Messenger".
- "Select Account" section: "Account : Service" with a dropdown menu showing "ziondev@tmobile.com : Mobile Email".
- "Enable Forwarding?" checkbox, which is checked.
- "OK" and "Cancel" buttons.

Figure 4-10: Instant Messaging Account Forwarding (create new route)



The screenshot shows an error message in a web application. The top navigation bar includes links for "Home", "Service", and "Sign Up". The main content area displays the following text:

The following errors occurred while processing your request:

Please go [back](#) to correct and try again...

You must have at least one Message Service Profile before you can create an Account Route.

Figure 4-11: Instant Messaging Account Forwarding (error when no accounts exists)

After clicking OK in the Instant Messaging Account Forwarding (create new route) screen, you will return to the Instant Messaging Account Forwarding Admin screen. If Enable Forwarding was checked, the Action column will show a red stop sign (since clicking it would “stop” the enabled account forwarding). Since starting an account may take some time, the IM Status and Status columns may not refresh by themselves and may have a horizontal bar which normally indicates an offline status (Figure 4-12).

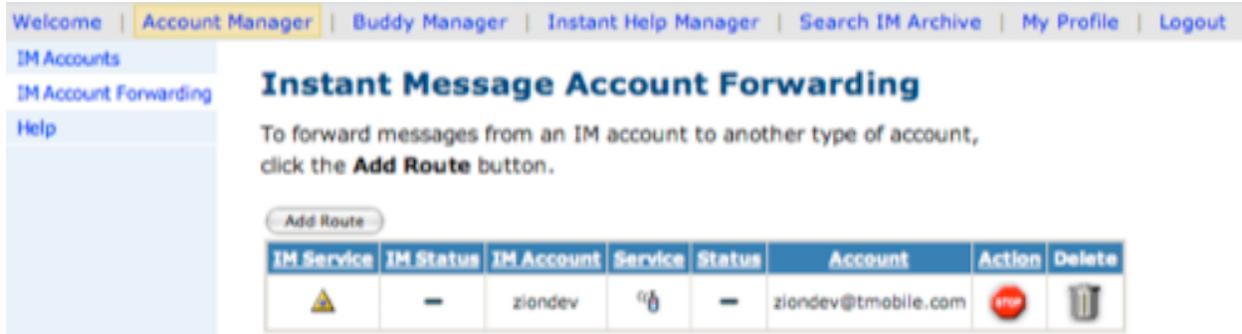


Figure 4-12: Forwarding an AIM account to a mobile email address

In this case, a newly enabled route just needs to be manually refreshed. This can be accomplished by clicking on either the IM Status or Status column headers to sort by that column. A side effect of sorting the column is that the statuses also refresh. If they are online, you will see a green bullet icon (Figure 4-13).

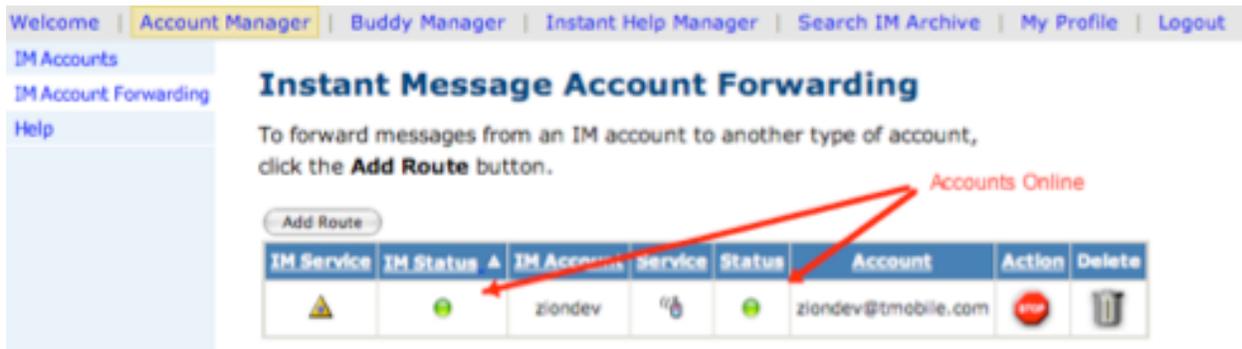


Figure 4-13: AIM Status (online), Mobile Email (online) after column sort

Returning to the IM Account Forwarding screen, we notice the new online accounts status as indicated by the status column with green (online) bullets (Figure 4-14). If a route was not active, instead of a stop sign, you would see a green “Go” button to indicate that you need to press GO to activate it.

DEACTIVATING IM FORWARDING

IM Forwarding can be deactivated simply by clicking on the red stop sign or deleting the route altogether. In addition, a mobile users with a WAP enabled browser and authorization creden-

tials can login (see WAP Login in the Logging In section above) to the Admin Console if it's accessible and de-active any active routes.

Welcome | **Account Manager** | Buddy Manager | Instant Help Manager | Search IM Archive | My Profile | Logout

IM Accounts
IM Account Forwarding
Help

Instant Messaging Accounts

To add a new Messaging Account to your profile, click the **Add Account** button.

Accounts Online

Service	Status	Screen Name	Privacy	Reconnect	Reply	Edit	Delete
		ziondev	Permit All				
		ziondev@hotmail.com	Permit All				
		ziondev	Permit All				
		ziondev@tmobile.com	Permit All				

Figure 4-14 Account Manager Admin with account online status

In the next chapter, we will examine the Buddy Manager where the status of buddies is determined by the active, online status of accounts in this section.

Buddy Manager

IM Accounts

On the left of the Buddy Manager page under the Accounts sub-menu is the list of IM Accounts available under this User Profile. If there are no accounts listed you will need to create them first using the Account Manager. The list of IM accounts is displayed as a list under the Accounts submenu (Figure 5-1):

The screenshot shows the Buddy Manager interface. At the top, there is a navigation bar with links: Welcome, Account Manager, Buddy Manager (highlighted), Instant Help Manager, Search IM Archive, My Profile, and Logout. Below the navigation bar, there is a sidebar with a list of accounts: Accounts, ziondev (with a yellow triangle icon), ziondev@hotmail.com (with a blue person icon), ziondev (with a red exclamation mark icon), and Help. The main content area is titled "Buddy Manager" and contains the text: "To add a buddy to your buddy list, click the **Add Buddy** button." Below this text is an "Add Buddy" button and a table of buddies.

Status ▲	Screen Name	Nick Name	Group Name	Status Timestamp	Edit	Delete
🟡	AimBuddy1	Aim Buddy 1	coworkers	2006-05-26 13:35:08.848		
🔴	AimBuddy2	Aim Buddy 2	Recent Buddies	2006-05-26 13:42:52.978		
🔴	AimBuddy3	Aim Buddy 3	Recent Buddies	2006-05-26 13:35:08.838		
🟢	AimBuddy4	Aim Buddy 4	coworkers	2006-05-26 13:35:08.86		
🟢	AimBuddy5	Aim Buddy 5	coworkers	2006-05-26 13:35:08.847		

Figure 5-1: Buddy Admin Manager with BuddyList for ZionDev on AIM with Status

Buddy List

After selecting an account on the left in the Accounts sub-menu, the Buddy List for this account is presented in a table in the content area. The data is retrieved from the database and if the account which owns this Buddy List is currently online, the information displayed will represent the current availability (status) of the buddies along with the Status Timestamp when the status change was recorded. The status is displayed as online 🟢 or as offline — or as away 🔴 or as idle 🟡 depending on the status of this Buddy. In addition to the status indicator, the Screen Name and Nick Name as well as the Group Name which the Buddy belongs are listed.

Making Changes to the Buddy List

You can add new buddies, delete buddies and change the Group Name which a Buddy belongs using available actions on the Buddy Manager screen (Figure 5-1). Click the Edit button for a Buddy to change the group that this buddy belongs. Click the Delete button to remove the Buddy from the Buddy List. Click the Add Buddy button and specify the screen name and group name and then click OK to add a new Buddy to the Buddy List of this account. Before attempting to make changes to the Buddy List, ensure that this account is currently online 🟢 via IM Account Forwarding.

Search IM Archive

Archiving messages serves no purpose without the ability to search and find specific messages quickly which is why the recent Sarbanes Oxley and HIPPA record retention legislation included time constraints on finding data on demand if a company was under court order or under an SEC audit. This is not a problem with the Search IM Archive screen within the JBuddy Server Admin Console (Figure 6-1):

The screenshot shows the 'Search Instant Messaging Archive' page. At the top is a navigation bar with links: Welcome, Account Manager, Buddy Manager, Instant Help Manager, Search IM Archive (highlighted), My Profile, and Logout. Below the navigation bar is the title 'Search Instant Messaging Archive' and a prompt: 'Enter the fields you wish to search by, then click the Search Archive button.' The search form includes fields for Sender (filled with 'ziondev'), Recipient, Start Time (filled with '18:24:45 03/01/2006'), End Time, Message Contents (filled with 'test'), and Maximum Results. Below these are checkboxes for Message Services: AIM, ICQ, MSN, YIM, JABBER, SAMETIME, LCS, and JBUDY, all of which are checked. At the bottom of the form are 'Search Archive' and 'Reset' buttons. Below the form, it says '5 messages were found.' and a table of results is displayed.

Time Stamp	Service	Sender	Recipient	Message	
16:52:56 03/23/2006	AIM	ziondev	zionsoft	test	View
16:54:12 03/23/2006	YIM	ziondev	zionyahoo	test	View
17:01:38 03/23/2006	AIM	ziondev	zionsoft	i'm just tryin ...	View

Figure 6-1: Search IM Archive with results

In Figure 6-1, at least one Message Service should be checked to indicate which message service to search. In this example, all the services are checked to indicate a broad search. Start Time and End Time can constrain the search by date and time. Sender and Recipient are the screen names of the message sender and recipient respectively and can be used to narrow the search to a particular user, although in this example, there are two users who have the ziondev screen name; one on AIM and one on YIM. They are different users but might be the same person in real life. The Message Contents uses a SQL (like) %search% approach to find partial search word (no matter if it is at the beginning or the end or middle of the message being searched). Clicking on the [View](#) link next to the search results will bring up a popup that displays all the details of the instant message.

Instant Help Manager

Administration of the Instant Help System

Now that we've covered the core JBuddy Server features, we will describe Instant Help, an add-in to the JBuddy Server. Clicking on the Instant Help Manager tab brings up the Instant Help Manager Admin screen (Figure 7-1).



Figure 7-1: Instant Help Manager

Overview

Instant Help is a unique 'help desk' solution built on top of Instant Messaging and offers any company with a website and at least one internet enabled representative with the ability to provide live Instant Help to web site visitors. A snippet of HTML is added to the company's web page at various locations. The HTML snippet contains a URL that can be general or very specific depending on the needs of the company. When a visitor clicks the Instant Help button (Figure 7-2),



Figure 7-2: Instant Help Web Button

they are prompted for their name and their initial question (Figure 7-3):

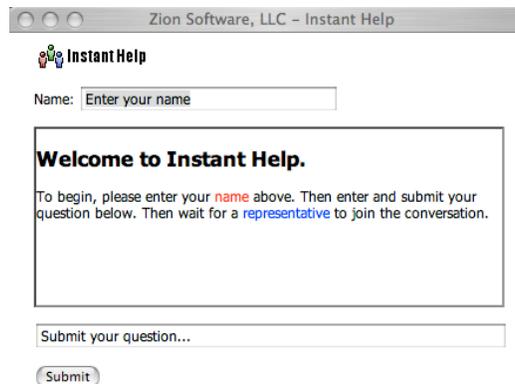


Figure 7-3: Instant Help Visitor (Welcome)

Upon submission, the Instant Help server invites (sends a special IM invitation) one or more qualified representatives (rep) to help this visitor. The first invited rep to respond affirmatively is given the opportunity to help the visitor. The rep communicates with the Instant Help server over IM and the Instant Help server communicates with the visitor within the HTML Instant Help Window (Figure 7-4):

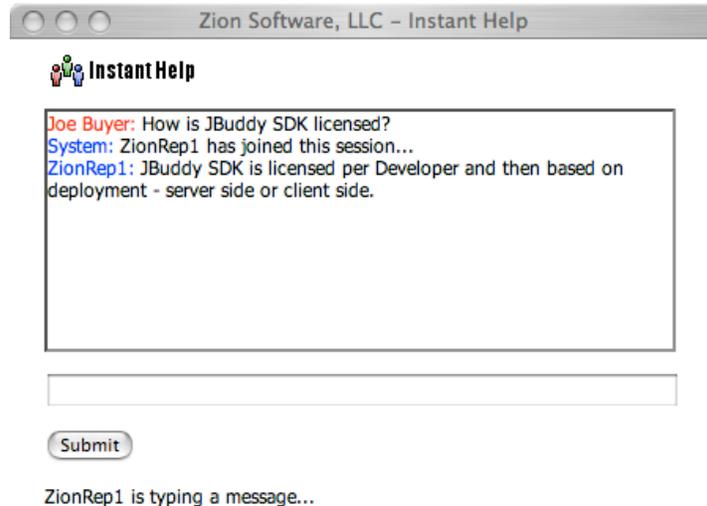


Figure: 7-4: Instant Help Visitor Session

Configuration Overview

Initial configuration of Instant Help server involves creating Instant Help accounts and IM accounts in the Account Manager. The IM account(s) are then forwarded to Instant Help account(s), on a one to one basis. Next, be sure the IM account(s) have Buddies including the buddies who will be the initial reps for the Instant Help session. Next, Attributes should be created and assigned to the reps. Finally, Link(s) should be created and Attributes should be assigned. Once all this is complete, all IM accounts forwarded to Instant Help accounts should be activated. At this point the HTTP URL may be added to the web pages where help should be available.

Link Manager

A Link represents a HTTP hyperlink. Any place you would like to offer Instant Help to visitors such as a company's web page, you can have a unique Link. For example if you have a general store page, you could define a 'store' link. If you wanted to be more specific, you could define an Instant Help link for each product. To view existing links, create, edit, or delete defined links, use the [Links](#) submenu (Figure 7-5):

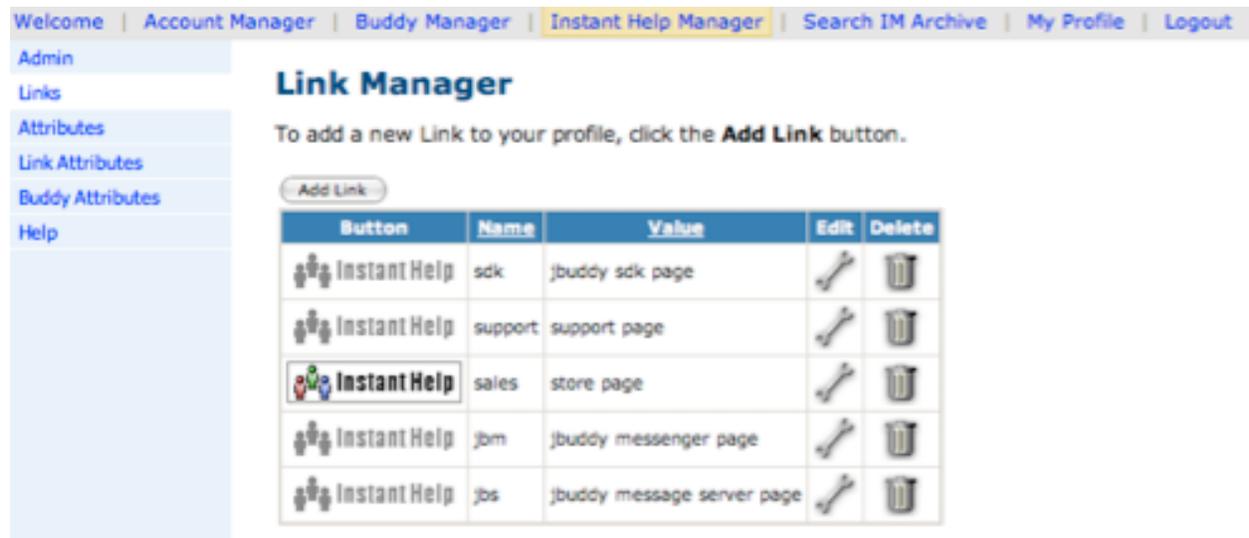


Figure 7-5: Link Manager

Attribute Manager

NAMES AND VALUES

An Attribute is simply a name and value pair of words that can be associated with another element. Specifically, Links can have Attributes and Buddies can have Attributes linked to them. In the Instant Help system, it is the INTERSECTION of Link Attributes and Buddy Attributes that forms the basis for selecting which Buddies are best suited to help a visitor for a particular link. In the example of a 'Store Page Link' element, we could define the following Attributes for this link:

Name: org Value: Acme Inc.

Name: url Value: www.acme.com/store

If we have product specific links, we could add another attribute specific for the product:

Name: partid Value: 12345

To view existing attributes, create, edit, or delete defined links, use the Attributes submenu (Figure 7-6):



Figure 7-6: Attribute Manager

PREDEFINED ATTRIBUTES

In this initial release of the Instant Help Server, the following Attributes are predefined (see Table 7-1). In the future additional Attributes may be defined. The Attribute name and value are specified along with the effect it has if associated with a Link or Buddy.

PROPERTY NAME	PROPERTY VALUE	AREA	DESCRIPTION
dispatchAlgorithm	A whole number	LINK	The number of seconds between sending invitations to help to qualifying reps
dispatchTimeout	A whole number	LINK	The number of seconds after the last invitation to help is sent before telling the visitor no helpers are available
contactFormUrl	URL	LINK	URL to provide to visitor if no helpers are available
contactFormEmail	E-Mail	LINK	The E-Mail address to send default contact form submissions to
noActivityTimeout	A whole number	LINK	The number of minutes after the last activity that a help session is automatically closed
onlineButtonUrl	URL to graphic	LINK, BUDDY	LINK - URL to online button. BUDDY - URL to online button for Buddy Presence
offlineButtonUrl	URL to graphic	LINK, BUDDY	LINK - URL to offline button. BUDDY - URL to offline button for a Buddy Presence

PROPERTY NAME	PROPERTY VALUE	AREA	DESCRIPTION
offlineSchedule*	crontab formatted offline schedule	LINK, BUDDY	<p>LINK - governs when the link is offline/inactive.</p> <p>BUDDY - governs when the buddy is offline/inactive. This is used for PresenceServlet?buddyId=4 queries.</p> <p>Attribute name or Attribute name prefix (attribute name must start with 'offlineSchedule') for scheduled offline hours in unix crontab format. If no link attributes are equal to or begin with offlineSchedule, the presence of qualified reps will determine the use of offlineButtonUrl or onlineButtonUrl.</p> <p>Attribute Value Format consists of five fields. The fields are separated by spaces or tabs. They are integer patterns that specify the following: minute (0 -59), hour (0 -23), day of the month (1 -31), month of the year (1 -12), day of the week (1 -7 with 1 =Sunday).</p> <p>Each of these patterns may be either an asterisk (meaning all legal values) or an element. An element is either a number or two numbers separated by a minus sign (meaning an inclusive range). Note that the specification of days may be made by two fields (day of the month and day of the week). If both are specified, both are adhered to. For example, 0 0 25-31 * 2 would indicate a scheduled outage between the 25th and 31st of the month, as well as on every Monday. To specify days by only one field, the other field should be set to * (for example, 0 0 * * 2 would run a command only on Mondays). The parsable schedule format may be modified in the future to include an asterisk or list of elements separated by commas. For example, * 0-6 * * 7,1 would mean outage from midnight to 6am on Saturday and Sunday. For now, two records for the named resource would be necessary to specify this schedule.</p>
displayName	name	BUDDY	Rep name to display to visitor if set as an attribute of Buddy (Rep)

Table 7-1: Predefined Attributes

Link Attribute Manager

A Link Attribute is simply an association between a Link and an Attribute with two other elements: required and match weight. If a rep must have a particular attribute in order to be included in the list of reps that can help, set required for the Link Attribute. If some Link Attributes have a higher priority in selecting reps over other Link Attributes, increase the match weight. A

Link can have zero or more Attributes associated with it, however in order to find 'reps' to handle an instant help request for this link, at least one Attribute must be associated with the Link. To view, link or delete associations between Links and Attributes, use the Link Attributes submenu (Figure 7-7):

Link Name	Attribute Name	Attribute Value	Required	Weight	Edit	Delete
sales	org	Zion Software	✓	6		
sales	dept	sales	✓	5		
support	org	Zion Software	✓	5		
support	dept	support	✓	5		
sales	contactFormUrl	http://www.zionsoftware.com/company/contact.html	✗	1		
sales	offlineSchedule-sunday	0 0 * * 1	✗	1		
sales	offlineSchedule-saturday	0 0 * * 7	✗	1		
sales	offlineSchedule-night	* 0-8 * * *	✗	1		

Figure 7-7: Link Attribute Manager

Buddy Attributes

A Buddy Attribute is simply an association between a Buddy and an Attribute with one other element: proficiency. The proficiency a Buddy has for a particular Attribute determines which Buddies (reps) are prioritized over another Buddy with the same Buddy Attribute. A Buddy can have zero or more Attributes associated with it, however in order to find the best buddies (Representatives) to handle an instant help request for a link, at least one Attribute must be associated with the Buddy. To view, link or delete associations between Buddies and Attributes, use the Buddy Attributes submenu (Figure 7-8):

Buddy Name	Service	Attribute Name	Attribute Value	Proficiency	Edit	Delete
jbuddysupport		product	JBuddy SDK	7		
jbuddysupport		org	Zion Software	5		

Figure 7-8: Buddy Attribute Manager

Reports

Instant Help captures 'help session' data during each session including; how many messages are sent from the visitor, how many messages are sent by the rep, which rep(s) helped the visitor, the link ID the visitor clicked for help, the visitor's given name and given question (initial submission to request help), the referer URL that brought the visitor into the Instant Help system, the type of web browser used by the visitor, the actual messages sent / received (if message logging is enabled), and several other elements - all recorded in the HELP_SESSION database table.

In a future release of JBuddy Server, the reporting section will include some predefined reports which you may find useful. When available, the reports may be viewed using the Reports sub-menu.