Appendix B

Installation guide

B.1 PDA

B.1.1 Install instructions

This section gives instructions on how to install UbiCollab and its test applications on a Pocket PC compatible device.

The following components have to be installed before UbiCollab and the test applications can run:

Microsoft .Net CF 2.0

The Microsoft .NET CF 2.0 can be found in the following locations:

URL http://www.microsoft.com/downloads/details.aspx?FamilyID=9655156b-356b-4a2c-857c-e62f50ae9a55&DisplayLang=en

CD folder Net CF 2.0

Install the file on a standard computer. The installation process will automatically copy the framework to the PDA if the PDA is connected to the computer and Microsoft Active Sync (version 4.1 or later)[1] is running.

IBM J9

IBM J9 can be found in the following location:

URL http://www-306.ibm.com/software/wireless/weme/

[1] http://www.microsoft.com/windowsmobile/downloads/activesync41.mspx

IBM J9 is integrated in the WebSphere Everyplace Micro Environment. This is a commercial software suite, but a free trial version is available. Download this version and follow the instructions. Make sure to select the Connected Device Configuration (CDC) with the Personal Profile (PPRO) when instructed.

Knopflerfish Tiny OSGi framework

The Knopflerfish Tiny OSGi framework can be found in the following locations:

URL http://knopflerfish.org/download.html

CD folder Knopflerfish Tiny

It is recommended to use the CD version, as this is complete with the UbiCollab services and correct property files.

The Knopflerfish framework can be copied directly to the PDA. Put the three folders in the "Knopflerfish Tiny" folder in the root directory of the PDA.

Java Communications API

An implementation of the Java Communications API for Pocket PC can be found in the locations below. Make sure to download the Communications API and not the JVM if the web URL is used.

URL http://www2s.biglobe.ne.jp/~dat/java/project/jvm/index_en.html

CD folder Java Comm API for Pocket PC

To install put:
javax.comm.jar in J9-Root/PPRO10/lib/jclPPro10/ext
javax.comm.properties in J9-Root/J9/PPRO10/lib
javaxcomm.dll in /Windows

IDBlue Bluetooth RFID Pen drivers

The drivers for the IDBlue RFID Pen can be found in the following locations:

URL http://www.cathexis.com/secure/idblue.aspx (registration needed)

CD folder IDBlue Software

Install the IDBlue Software Suite on a standard computer. Baracoda Manager for ARM PocketPC (Widcomm 1.4) and Franson Bluetools for ARM,X86 PocketPC (Widcomm and Microsoft) have to be installed on the PDA. They can be found under "Cathexis Innovations" ▷ "Bluetooth Support Installers" ▷ "PPC"

on the Windows Start menu, after the installation is complete. These two libraries are also referenced in the code of the applications that utilize the RFID pen. If the references in these projects no longer point to the correct location, update them to point to these two DLLs.

UbiCollab configuration files

The UbiCollab configuration files can be found here:

CD folder UbiCollab Services configuration files

Copy the configuration files to the root directory of the PDA.

B.1.2 How to start UbiCollab and the test applications

After the installation is complete, UbiCollab can be started by clicking the run.lnk file in the /knopflerfish directory, or by running the command in the run.txt file.

The test applications can be started by copying them from the CD to the PDA and launching the corresponding EXE-file. Another approach is to open the source code in Visual Studio and select "deploy to device".

B.1.3 How to install new services for UbiCollab

Put the JAR-file of the new service in the /iPAQ File Store/bundlefiles folder. Add "-install" and "-start" commands to the remote-init.xargs file in the /iPAQ File Store folder.

B.2 PC

B.2.1 Install instructions

When installing UbiCollab on a PC, the prerequisites depend on which bundles are to be installed. This installation guide assumes that all bundles will be installed, and thus covers all prerequisites.

Java 5.0 with MySQL driver

Java (version 5.0 or newer) is required in order to run UbiCollab, and can be downloaded from the following location:

URL http://java.sun.com/j2se/corejava/index.jsp

In addition, a MySQL driver for Java is needed. This can be downloaded from the following location:

URL http://www.mysql.com/products/connector/j/

MySQL

If an external database server is not available, MySQL will have to be installed. The latest version can be found here:

URL http://dev.mysql.com/downloads/

The database server needs to have a database called ubicollab, with username ubi and no password.

The database needs to keep these tables:

discovery		
id	INT	Sequential table-specific ID number
tagId	VARCHAR(40)	ID string on RFID tag
uuId	VARCHAR(100)	ID string for UPnP devices
name	VARCHAR(100)	Name of the service
type	VARCHAR(100)	Type of the service (typically a namespace)
protocol	VARCHAR(10)	The service protocol (ws, upnp, etc.)
descriptionUrl	VARCHAR(200)	URL to the description XML
serviceUrl	VARCHAR(200)	URL to the service XML
owner	VARCHAR(100)	Owner of the service
discovered	TIMESTAMP	Time of discovery

persons		
id	INT	Sequential table-specific ID number
username	VARCHAR(20)	Person's username
fullName	VARCHAR(100)	Person's full name
added	TIMESTAMP	Time of addition

collabinsts		
id	INT	Sequential table-specific ID number
collabInstId	VARCHAR(40)	ID string of collaboration instance
name	VARCHAR(100)	Name of the collaboration instance
creator	VARCHAR(20)	Creator of the collaboration instance
created	TIMESTAMP	Time of creation

personcollabinst		
id	INT	Sequential table-specific ID number
username	VARCHAR(20)	Person's username
collabInstId	VARCHAR(40)	ID string of the collaboration instance
coupled	TIMESTAMP	Time of coupling

filecollabinst		
id	INT	Sequential table-specific ID number
fileId	VARCHAR(200)	ID string of the file
collabInstId	VARCHAR(40)	ID string of the collaboration instance
coupled	TIMESTAMP	Time of coupling

servicecollabinst		
id	INT	Sequential table-specific ID number
descriptionUrl	VARCHAR(200)	URL to the description XML
collabInstId	VARCHAR(40)	ID string of the collaboration instance
coupled	TIMESTAMP	Time of coupling

Knopflerfish OSGi framework

UbiCollab is based on the Knopflerfish OSGi framework and thus requires this framework to run. In addition, the Knopflerfish optional bundles package is required. Both can be downloaded from the following location.

URL http://knopflerfish.org/download.html

From the optional bundles package, the Commons-Logging, and the axis-osgi bundles are required. However, there is a bug in the axis-osgi bundle that makes it incompatible with Java 5.0. Until a new version is available, a fixed version of the bundle can be used. This bundle can be found here:

CD folder Modified axis-osgi bundle/For Java 5.0

UbiCollab configuration files

The UbiCollab configuration files can be found here:

CD folder UbiCollab Services configuration files

Copy the configuration files to this folder: knopflerfish-root/knopflerfish.org/osgi

B.2.2 How to start UbiCollab

UbiCollab can be started on a PC by starting the Knopflerfish OSGi framework. This is done by launching the framework.jar file.

B.2.3 How to install new services for UbiCollab

New services can be added to UbiCollab by starting them in the Knopflerfish OSGi framework. The UbiCollab services can be found in the following location:

CD folder UbiCollab Services bundles