miSCO

(Multiplatform Internet Secure Conference Organizer)

version 1.0

User's Manual

Authors:

Lukasz Szelag
Dariusz Nabialczyk

Table of Contents

List of Figures

List of Figures

1. Introduction

"A conference is a gathering of important people who singly can do nothing, but together can decide that nothing can be done."
- Fred Allen

MISCO (Multiplatform Internet Secure Conference Organizer) is a distributed system that provides means for organizing secure conferences across the Internet. It creates a multiuser environment where participants located anywhere in the world exchange information. As opposed to IRC (Internet Relay Chat) and many other chat programs it is dedicated and secure system. This feature makes it suitable especially for corporate uses.

Not everyone can use the system. The access to the system is restricted to a particular group of users. It means that only registered users can make use of the system. A registered user has a valid nick name and a password. Registered users enter into the system by means of a client program. Information about registered users is stored in a users database. The users database is located on the same host where the server is running. There is provided one dedicated account for the system administrator by default. This account cannot be removed. The system administrator is a registered user who manages the system as a whole. In particular registers new users, unregisters registered users, modifies the users database, shuts down the server. At the time of registering a new user the system administrator defines default user rights for the user. The system administrator manages the system remotely by means of an administrative client program. Since the system administrator upon entering the system becomes a conference participant he or she may use an ordinary client program to take part in a conference.

The conference is created implicitly when the server is started. Thus initially it has no conference participants. The conference has its conference topic that can be changed by a conference participant. A registered user becomes the conference participant upon entering the system. A registered user is not allowed to join simultaneously. After entering the system the conference participant is assigned a set of default user rights. These rights then become the effective user rights for the user. The effective user rights can be dynamically changed during the conference. The modification of the real user rights doesn't affect the default user rights. Thus the effective user rights are not persistent.

The user rights determine what a particular conference participant is allowed to do during a conference. The MISCO system allows to specify the following rights:

❑   the right to listen to conference participants except a conference manager
❑   the right to listen to a conference manager
❑   the right to send private messages
❑   the right to send public messages
❑   the right to change the conference topic
❑   the right to query information about conference participants
❑   the right to manage the conference

The right to manage the conference implies the other rights. A registered user who has this right is called a conference manager. The system administrator is a conference manager by default. The right to manage is the superior right. A conference manager has control over the other conference participants. In particular a conference manager can expel a conference participant from the conference or change the effective user rights of a conference participant. It is not permitted to expel the system administrator nor to change the effective user rights of the system administrator.

In case of distributed systems where its parts are located anywhere on the network on various platforms the portability is an issue. The MISCO system is very flexible because it is platform independent. It requires only the Java Virtual Machine to run.

The MISCO system comprises the following parts that can be distributed over the network:

❑   MISCO Server and users database

The server is a place where a conference is physically located. It hosts a number of clients. Clients programs connect to the server which authenticates them. Although logical connections are established between clients it doesn't involve direct communication. Messages are always passed through server. The server controls users rights. Every client action that requires special privileges i.e. sending a private message is checked by the server. The server communicates (locally) with the users database.

❑   MISCO Service Manager

An administrative client program that connects to the MISCO Server. It is used by the system administrator to manage the system remotely.

❑   MISCO Conferencer

A client program that connects to the MISCO Server. It is used by a registered user to enter into the system and take part in a conference.

❑   MISCO Corber

It is a server that acts as a bridge between the MISCO Server and CORBA clients (fig. 1.1). MISCO Corber makes the MISCO system open and ready for the enterprise CORBA standard. MISCO Service Manager and MISCO Conferencer are Java-clients that use the RMI protocol to connect to the MISCO Server. RMI (Remote Method Invocation) is native Java distributed object model. CORBA as opposed to RMI is language independent. The presence of the MISCO Corber allows to connect non-Java clients to the system. Client software may be written in almost any language including legacy C++.

❑   MISCO Corber Conferencer

A simple CORBA client that has the same functionality as MISCO Conferencer. It connects to the MISCO Server through MISCO Corber proxy.
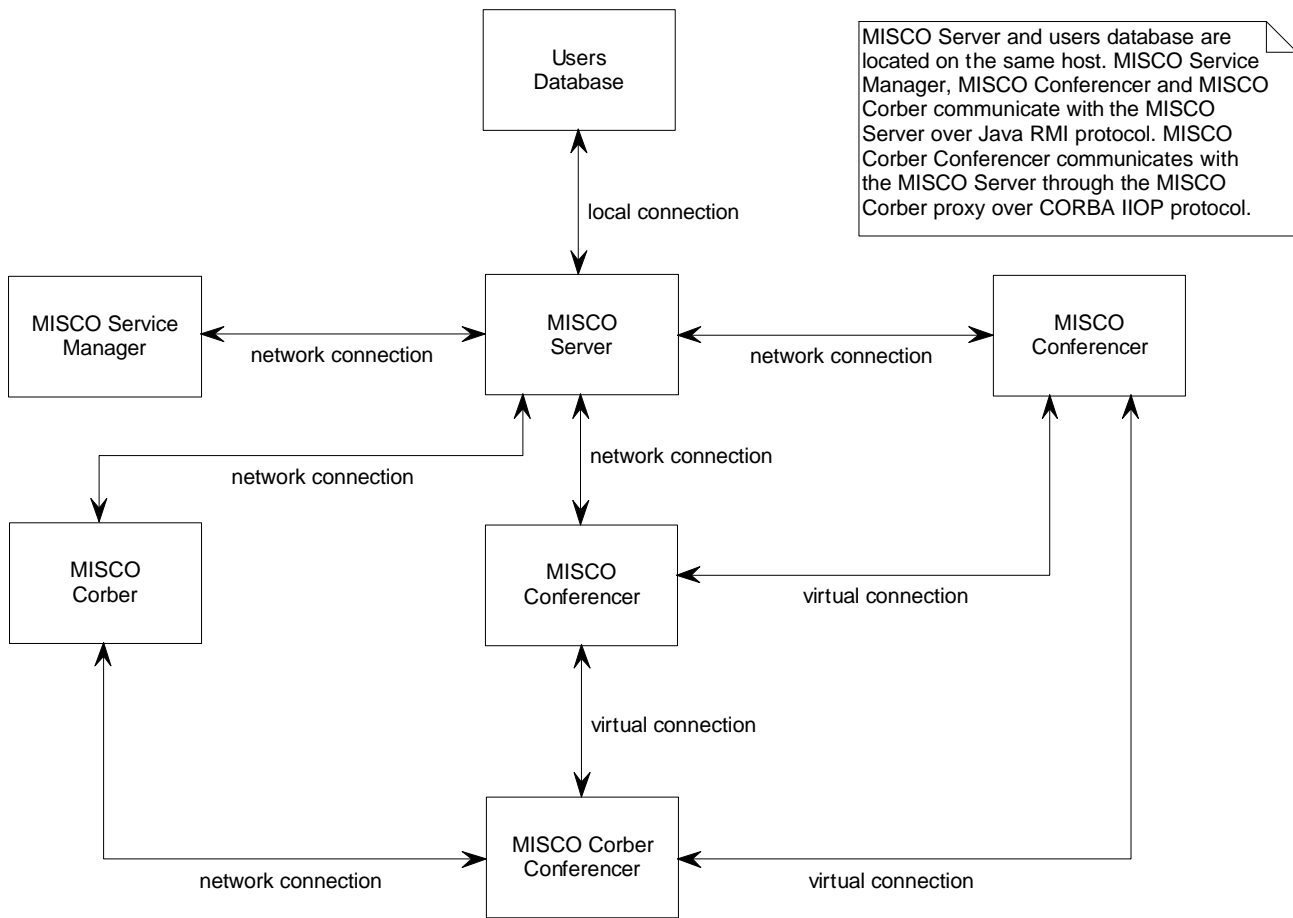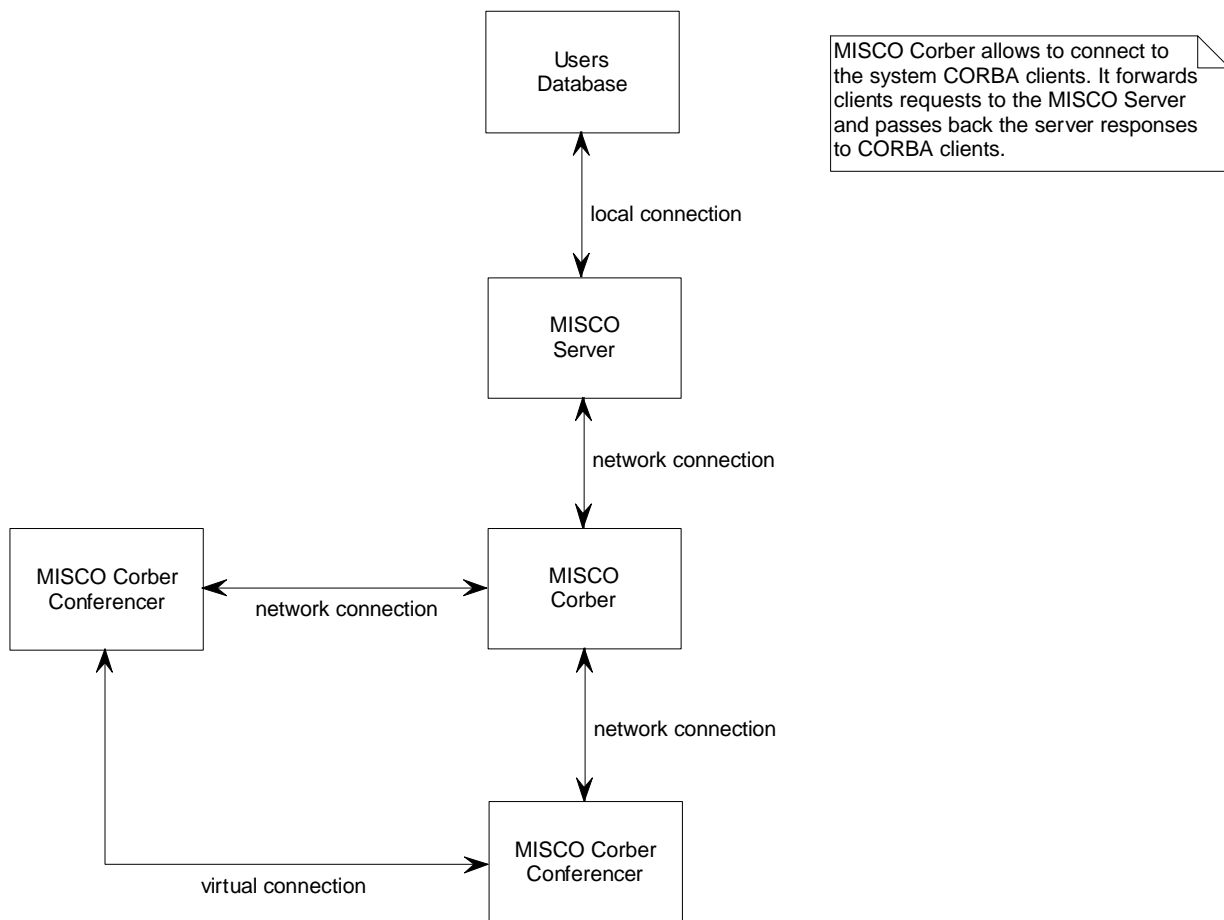
Users
Database

MISCO Server and users database are
located on the same host. MISCO Service
Manager, MISCO Conferencer and MISCO
Corber communicate with the MISCO
Server over Java RMI protocol. MISCO
Corber Conferencer communicates with
the MISCO Server through the MISCO
Corber proxy over CORBA IIOP protocol.

local connection

MISCO Service
Manager

network connection

MISCO
Server

network connection

MISCO
Conferencer

network connection

network connection

MISCO
Corber

MISCO
Conferencer

virtual connection

virtual connection

MISCO Corber
Conferencer

network connection

virtual connection

Figure 1   System Architecture

Users
Database

MISCO Corber allows to connect to
the system CORBA clients. It forwards
clients requests to the MISCO Server
and passes back the server responses
to CORBA clients.

local connection

MISCO
Server

network connection

MISCO Corber
Conferencer

network connection

MISCO
Corber

network connection

MISCO Corber
Conferencer

virtual connection

Figure 2   Support for CORBA Clients

2. MISCO features

- ❑ can be deployed in multiplatform environment
- ❑ supports both RMI and CORBA clients
- ❑ pluggable GUI interface

In addition the Enterprise version will have the following:

- ❑ support for privacy and authentication
- ❑ multiple conference rooms
- ❑ convinient installer program
- ❑ rich documentation

3. System requirements

- ❑ SDK1.2 (you can download it from Sun for free: http://java.sun.com)
- ❑ 32 MB RAM

4. Licence agreement

MISCO is copyright (c) 1998-1999 by Lukasz Szelag and Dariusz Nabialczyk. Until further notice, this software may be used for free for non-commercial use. Commercial use requires registration and the payment of $100 per computer (contact luk@alice.ci.pwr.wroc.pl or nabialcz@alice.ci.pwr.wroc.pl).

To the maximum extent permitted by the law, the MISCO copyright owners disclaims all warranties regarding this software, express or implied, including but not limited to warranties of merchantability and fitness for a particular purpose. In no event the MISCO copyright owners be liable for consequential, special, incidental or indirect damages arising out of the use or inability to use this software even if the MISCO copyright owners are aware of the possibility of such damages or a known defect.

MISCO may not be copied, sold, distributed or used in any other manner without the prior written consent from the MISCO copyright owners.

By using this software you are agreeing to the above terms.

5. Install

The software is bundled in one `misco.jar` file. Simply copy this file to any directory on your hard disk and modify your `CLASSPATH` environment variable, i.e.:

```
SET CLASSPATH=%CLASSPATH%;<install_dir>\misco.jar
```

You will also need to use `policytool` that comes with SDK1.2 to specify addidional permissions for the program. Please refer to the SDK1.2 documentation on how to do that.

6. Uninstall

Simply remove the program directory created during install :)

7. Quick start

❑ start MISCO Server:

```
java com.developer.hell.apps.misco.ms.MS
```

You may optionally specify port for the RMI Name Server (it defaults to 7000) on the command line:

```
-port <RMI_Name_Server_port>
```

Note that RMI Name Server will be started automatically on the specified port.

❑ start MISCO Service Manager and create accounts for users:

```
java com.developer.hell.apps.misco.msm.MSM
```

Open the preferences window and specify hostname and port where MISCO Server is running. There is provided one default account for the system administrator (admin). The password is blank by default (later you should assign a new password for the administrator). Close the window and connect to the server. If you encounter any problems (i.e. connection refused) check if the provided hostname and port is valid. Once connected expand the tree MISCO Server (left pane). You will see the list of registered (admin) and logged users (admin). Now it is time to change the password for the administrator. Select the admin item and choose Properties (right context menu or appropriate menu User/Properties). In the properties window you may specify additional info for the administrator account such as full name and email address (this information will be available during a conference) and new password. Click OK. The administrator entry will be updated (see MISCO Server verbose messages). Next add a new account to the system. Select New User (right context menu or menu User). Once again you will see the properties window. Fill in the appropriate fields (you may specify permissions for a user) and click OK. You will have to create one account per user. Once you are ready disconnect and exit the program.

❑ start MISCO Conferencer:

```
java com.developer.hell.apps.misco.mc.MC
```

Open the preferences window and provide login information. Close the window and connect to the server. Once connected you will join the conference. On the right pane you will see users already connected (in this case only you). If you have sufficient permissions you may send private and public massages, query users, expel users, change topic and permissions for other users. If you want to conference with somebody start another copy of MISCO Conferencer and login on behalf of another user (or better: tell your friends about MISCO and conference with them :)

8. Support for CORBA clients

MISCO Conferencer is written in Java and uses RMI protocol to connect to MISCO Server. The MISCO system provides MISCO Corber that allows to connect non-Java based clients (i.e. written in C++, Smalltalk, Ada and so on). In case you want to test the CORBA readiness there is provided MISCO Corber Conferencer (a client program written in Java). Just follow these easy steps (MISCO Server must be running – see the previous section):

❑   start IDL Name Server (provided with SDK1.2):

```
tnameserv
```

❑   start MISCO Corber bridge:

```
java com.developer.hell.apps.misco.mco.MCO
```

You may have to provide appropriate host and port information for the IDL Name Server and MISCO Server on the command line:

```
-ORBInitialHost <IDL_Name_Server_host>
-ORBInitialPort <IDL_Name_Server_port>
-MSHost <MISCO_Server_host>
-MSPort <MISCO_Server_port>
```

❑   start MISCO Corber Conferencer:

```
java com.developer.hell.apps.misco.mcc.MCC
```

You may have to provide appropriate host and port information for the IDL Name Server and MISCO Server on the command line:

```
-ORBInitialHost <IDL_Name_Server_host>
-ORBInitialPort <IDL_Name_Server_port>
-MSHost <MISCO_Server_host>
-MSPort <MISCO_Server_port>
```

It is very simple, command line oriented client. Type `/help` in the command box for more help.