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CipherShare Server Setup Tutorial

Proven Security Solutions Inc.
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Tutorial Outline

- This tutorial shows how to set up a CipherShare Office for a mythical company called XCORP.
- XCORP has three divisions – Finance, Production and Sales.
- Each division has a number of users that need to secure documents that are used collaboratively.
- Each division is located in a different place.

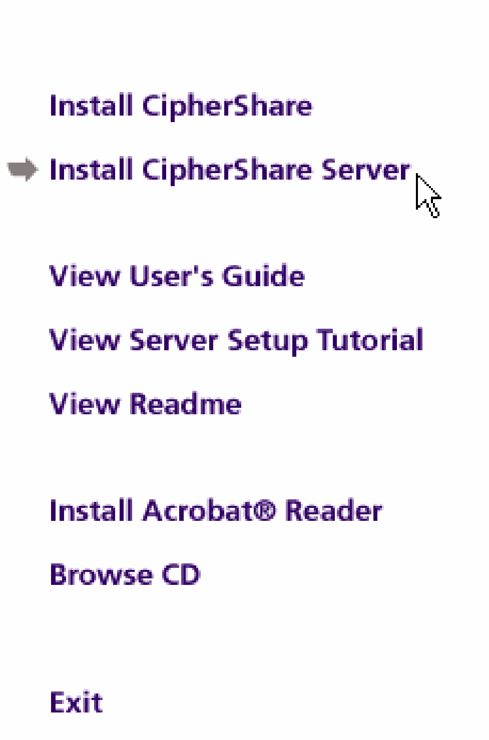
Tutorial Outline

- If you are an existing CipherShare customer performing an upgrade from version 2.1, then you should review the CipherShare Migration Tutorial.

- Whether a new or existing CipherShare customer, you should have your CipherShare License Key before proceeding with the installation/migration.

Server Setup

- Insert the CipherShare installation CD into a drive on the server.
- Click Install CipherShare Server.
- Follow the prompts to install the server component.
- Click Exit on the installation menu.

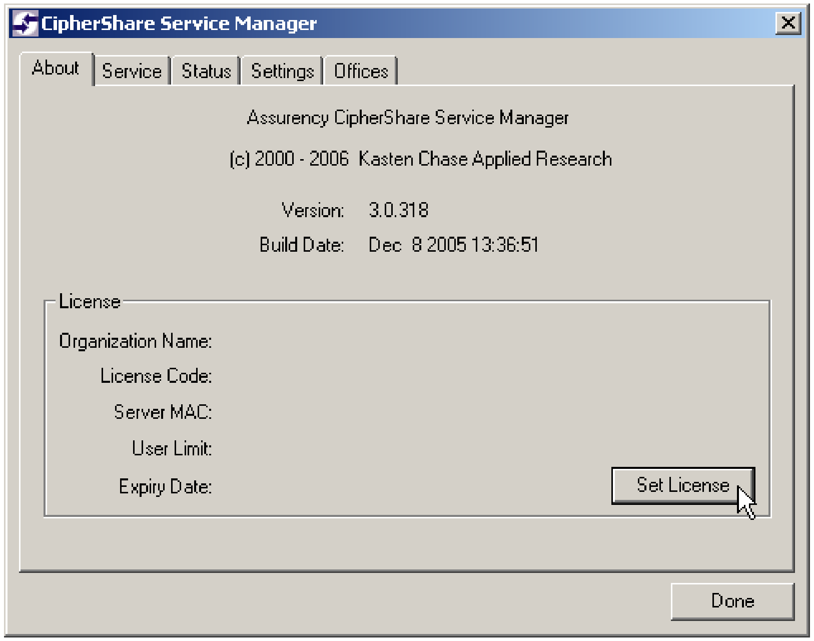


Service Manager

- **Launch the Service Manager**
  - *Start / Programs / CipherShare Server*
  - *Click CipherShare Service Manager Version 3*

- **The About screen is initially displayed as shown at the right.**

- **Click the Set License button to input license information.**



Assurency CipherShare Service Manager

(c) 2000 - 2006 Kasten Chase Applied Research

Version: 3.0.318

Build Date: Dec 8 2005 13:36:51

License

Organization Name:

License Code:

Server MAC:

User Limit:

Expiry Date:

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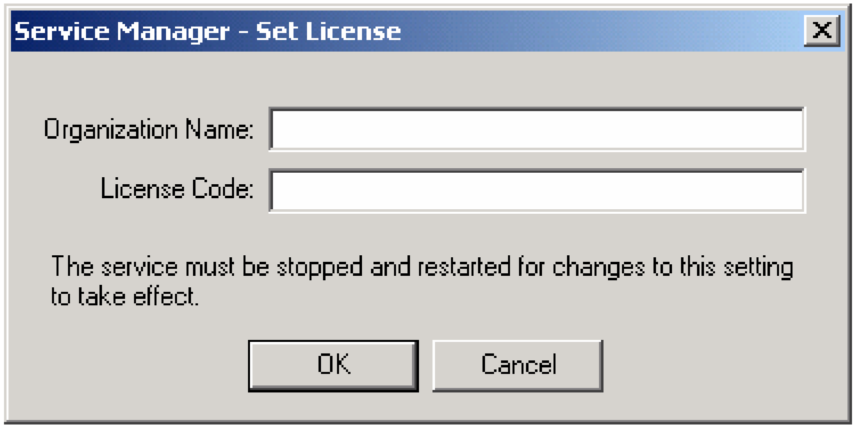
Service Manager – Set License

- Input the Organization Name and License Code exactly as provided.



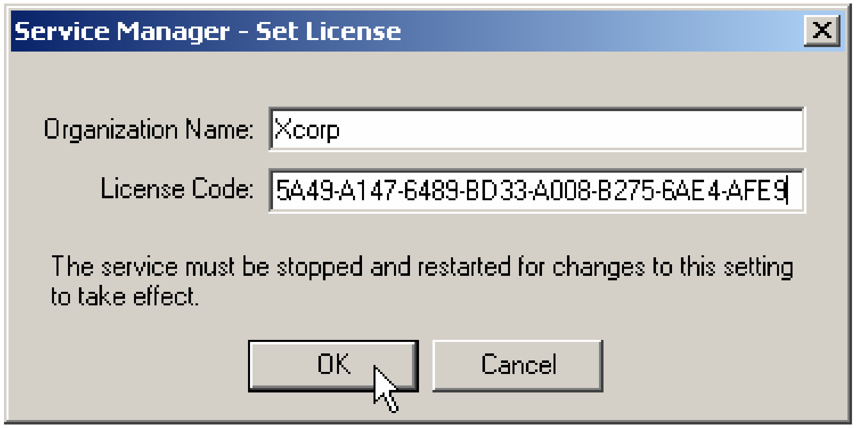
Service Manager - Set License

Organization Name:

License Code:

The service must be stopped and restarted for changes to this setting to take effect.

- When the information is correct, click the OK button.



Service Manager - Set License

Organization Name: Xcorp

License Code: 5A49-A147-6489-BD33-A008-B275-6AE4-AFE9

The service must be stopped and restarted for changes to this setting to take effect.

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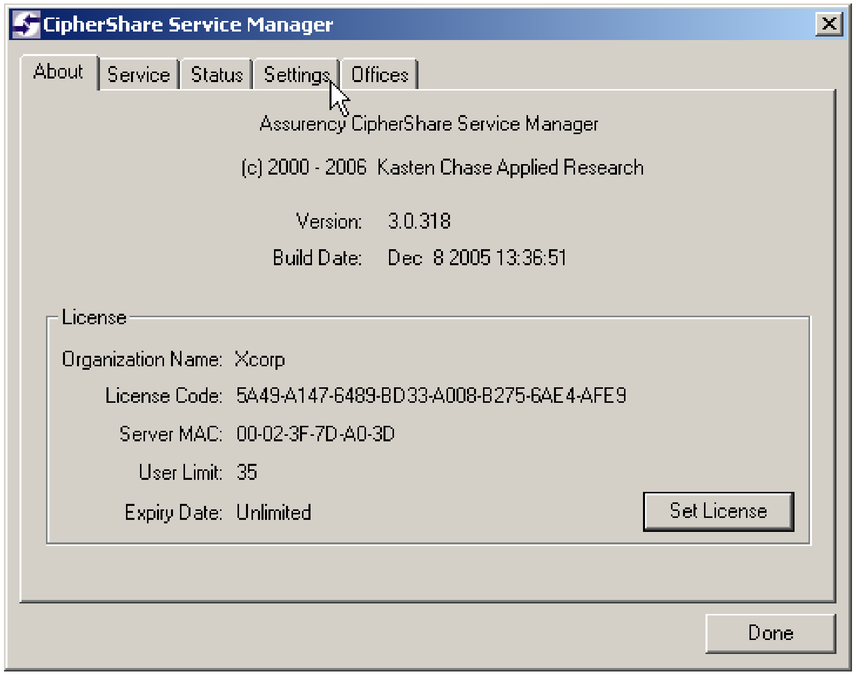
Service Manager – Set License

- **If the license code is valid, the following items are displayed:**
  - *LAN Adapter MAC Address*
  - *User Limit*
  - *Expiry Date*

- **Click the Settings tab to configure specific server parameters.**



Assurency CipherShare Service Manager

(c) 2000 - 2006 Kasten Chase Applied Research

Version: 3.0.318

Build Date: Dec 8 2005 13:36:51

License

Organization Name: Xcorp

License Code: 5A49-A147-6489-BD33-A008-B275-6AE4-AFE9

Server MAC: 00-02-3F-7D-A0-3D

User Limit: 35

Expiry Date: Unlimited

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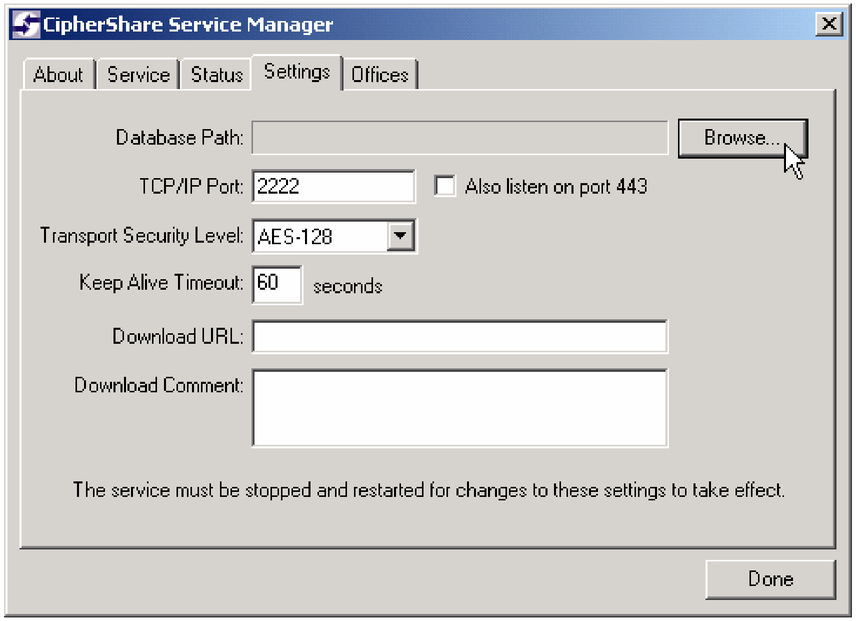
Service Manager - Settings

- Click the Browse button to select the directory where the CipherShare Server Database will reside.
- If desired, change the TCP/IP Port on which the server listens for incoming client connections.
- If desired, modify the Keep Alive Timeout value from the 60 second default.



Database Path:

TCP/IP Port: 2222 □ Also listen on port 443

Transport Security Level: AES-128

Keep Alive Timeout: 60 seconds

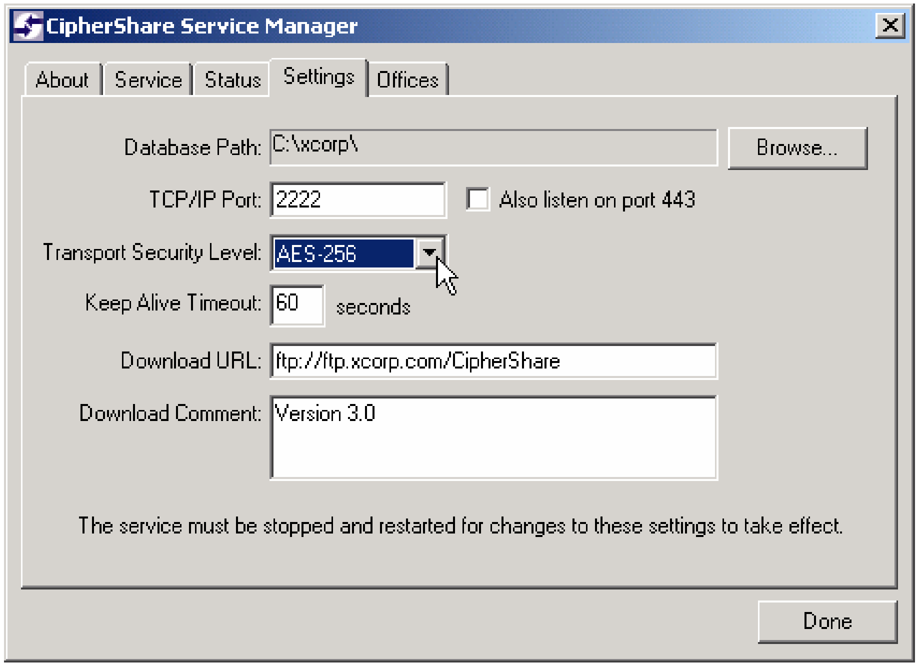
Download URL:

Download Comment:

The service must be stopped and restarted for changes to these settings to take effect.

Service Manager - Settings

- Define the Download URL where client updates will stored.
- Enter a comment that will be displayed if a client download is required.
- Select the Transport Security Level to be used between the client and server. This should match the highest encryption level you plan to assign to documents in your CipherShare offices.



Database Path: C:\xcorp\

TCP/IP Port: 2222 □ Also listen on port 443

Transport Security Level: AES-256

Keep Alive Timeout: 60 seconds

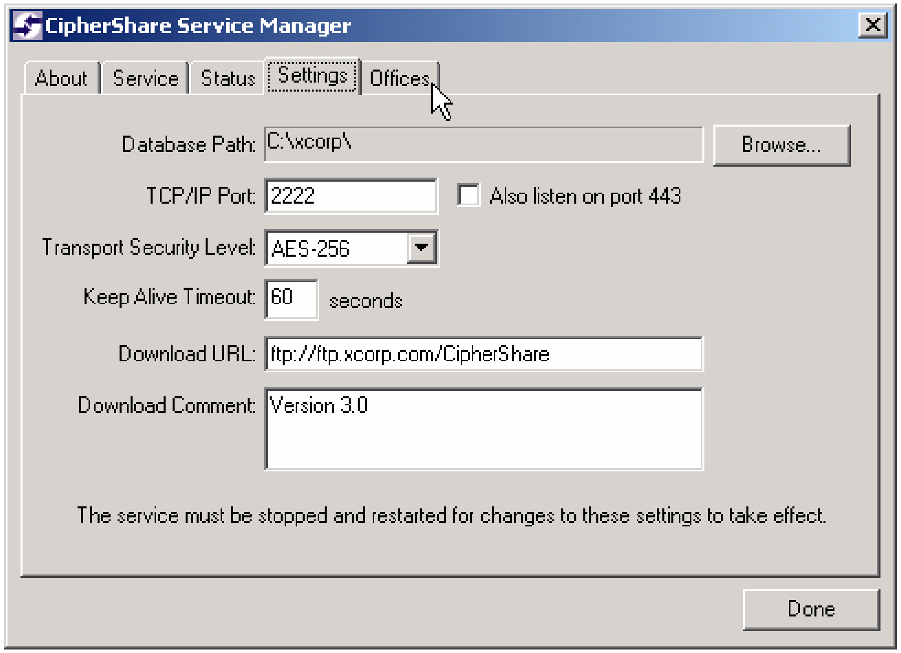
Download URL: ftp://ftp.xcorp.com/CipherShare

Download Comment: Version 3.0

The service must be stopped and restarted for changes to these settings to take effect.

Service Manager - Settings

- **When all settings have been completed, click the Offices tab to create the first CipherShare Office.**



Database Path: C:\xcorp\

TCP/IP Port: 2222

□ Also listen on port 443

Transport Security Level: AES-256

Keep Alive Timeout: 60 seconds

Download URL: ftp://ftp.xcorp.com/CipherShare

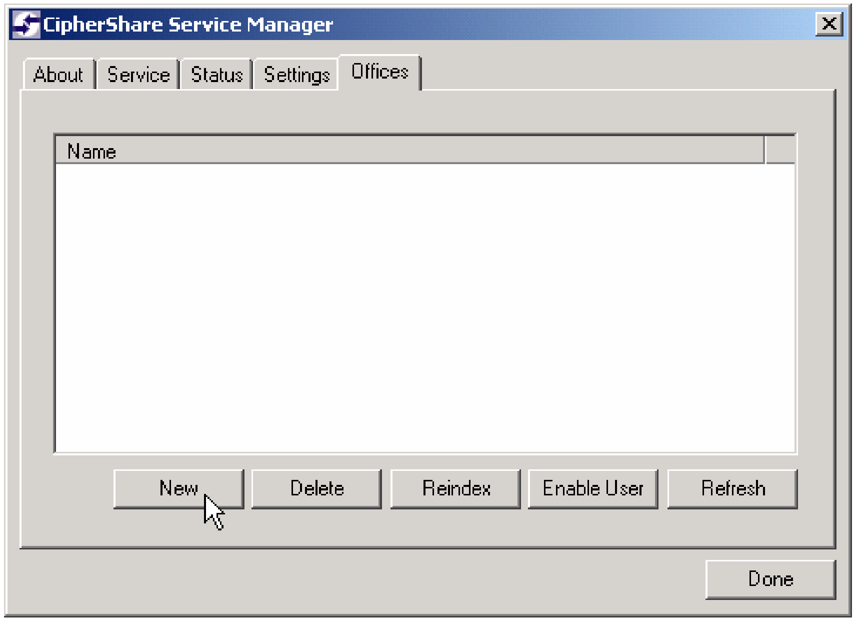
Download Comment: Version 3.0

The service must be stopped and restarted for changes to these settings to take effect.

Service Manager - Offices

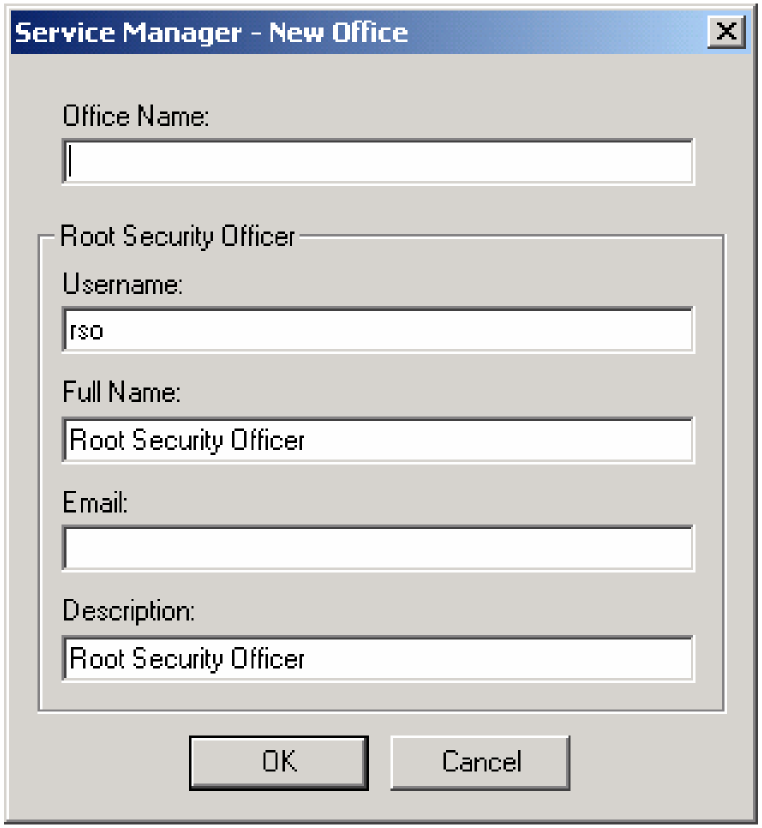
- A CipherShare Office is a secure repository for documents owned by a collection of users.

- Click the New button to create an office.



Service Manager - Offices

- Assign a name to the office.
  - *The Office Name must be specified by a user when connecting to the CipherShare Server.*
- The first account created for an office is that of the Root Security Officer.
- The Root Security Officer account is the base from which mutual trust stems for all subsequently created accounts in the Office.
- Change the Username, Full Name and Description as desired.
- Also add an email address for the Root Security Officer.



Office Name:

Root Security Officer

Username: rso

Full Name: Root Security Officer

Email:

Description: Root Security Officer

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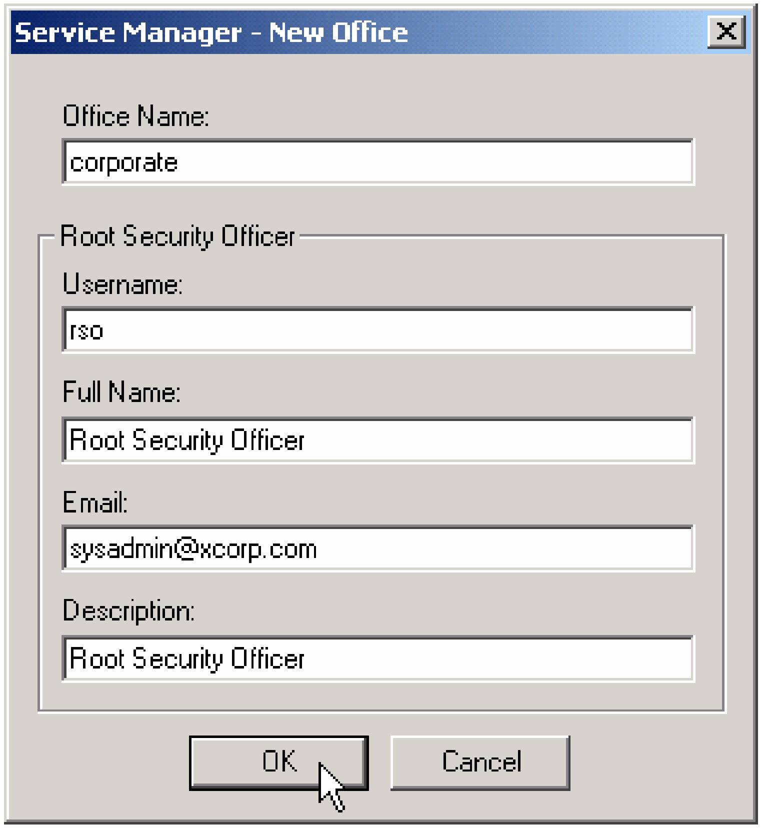
Service Manager - Offices

- When satisfied with the entries, click the OK button to create the Office and the Root Security Officer account.



Service Manager - New Office

Office Name: corporate

Root Security Officer

Username: rso

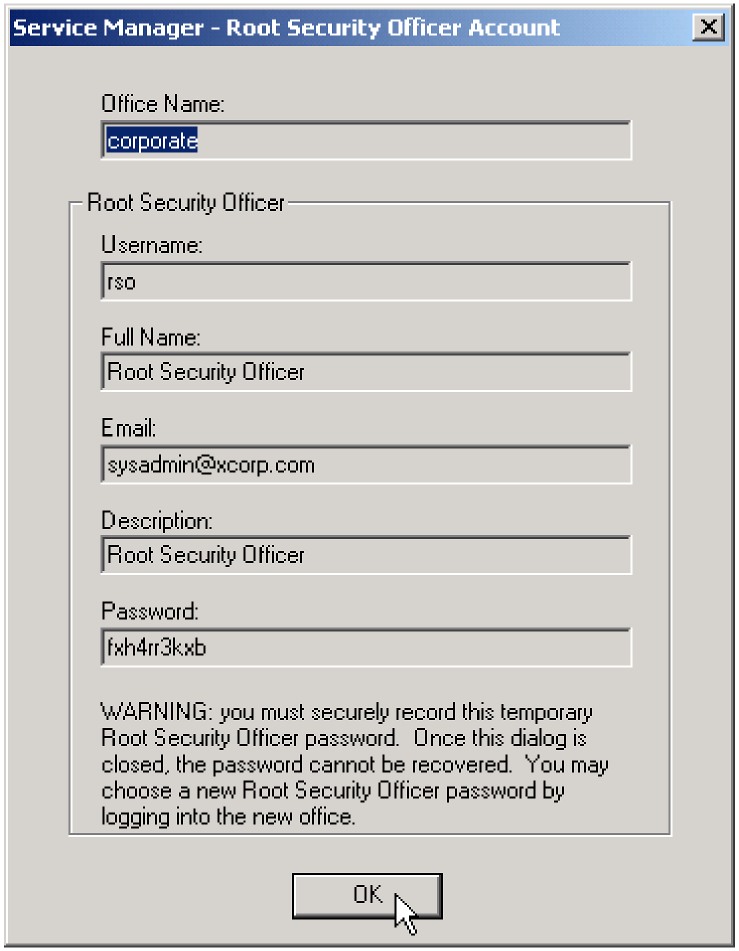
Full Name: Root Security Officer

Email: sysadmin@xcorp.com

Description: Root Security Officer

Service Manager - Offices

- A temporary password is created for the Root Security Officer.
- This password can only be used once at the time of the first login.
- Record the Office Name, Username and Password as they will be required at the time of first login.
- When this has been done, click the OK button.



Service Manager - Root Security Officer Account

Office Name: corporate

Root Security Officer

Username: rso

Full Name: Root Security Officer

Email: sysadmin@xcorp.com

Description: Root Security Officer

Password: fxh4rr3kxb

WARNING: you must securely record this temporary Root Security Officer password. Once this dialog is closed, the password cannot be recovered. You may choose a new Root Security Officer password by logging into the new office.

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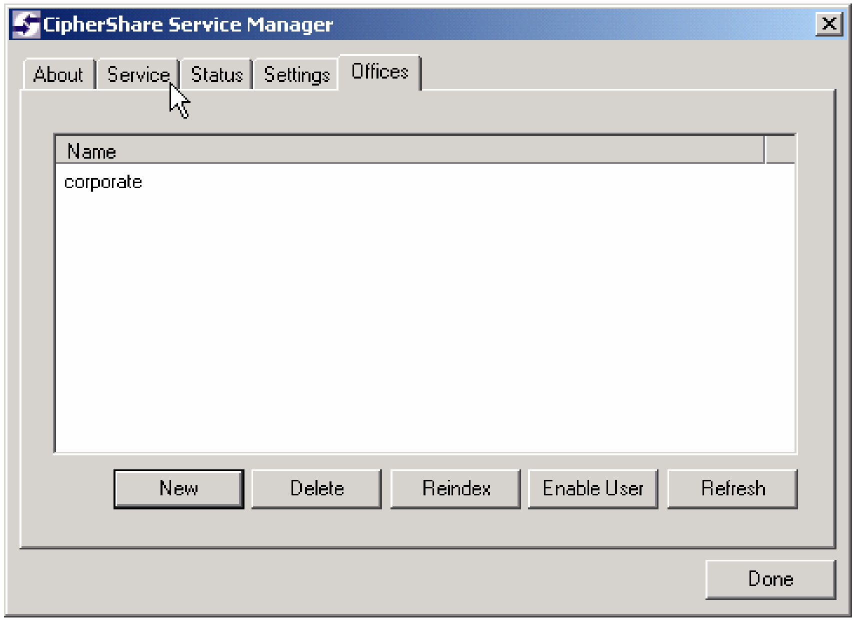
Service Manager - Offices

- Now that the first office has been created, click on the Service tab.

- If at a later time you would like to create additional offices, you can return to the Offices tab to add them.

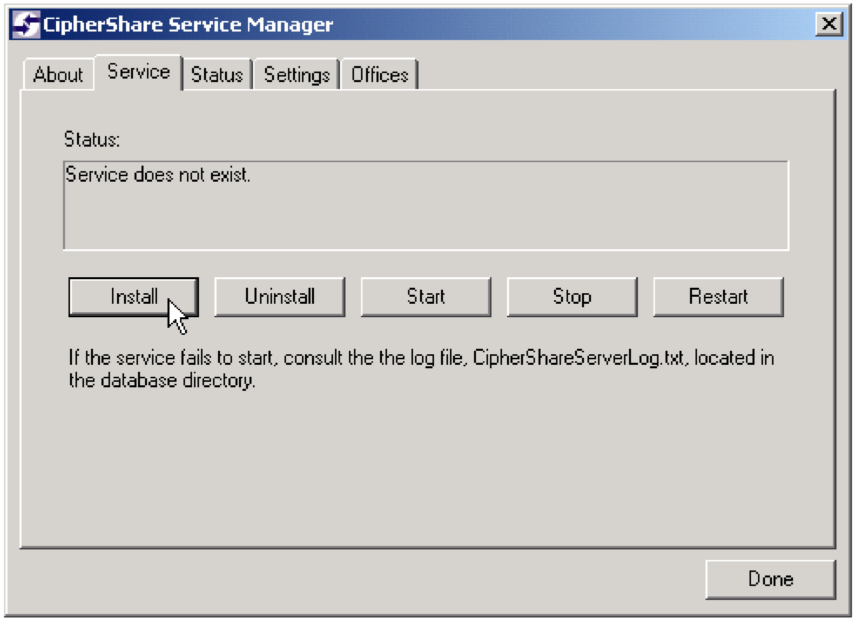


corporate

Service Manager - Service

- On an initial installation, the CipherShare Service does not yet exist on the server.

- Click the Install button to install the service.



Status:

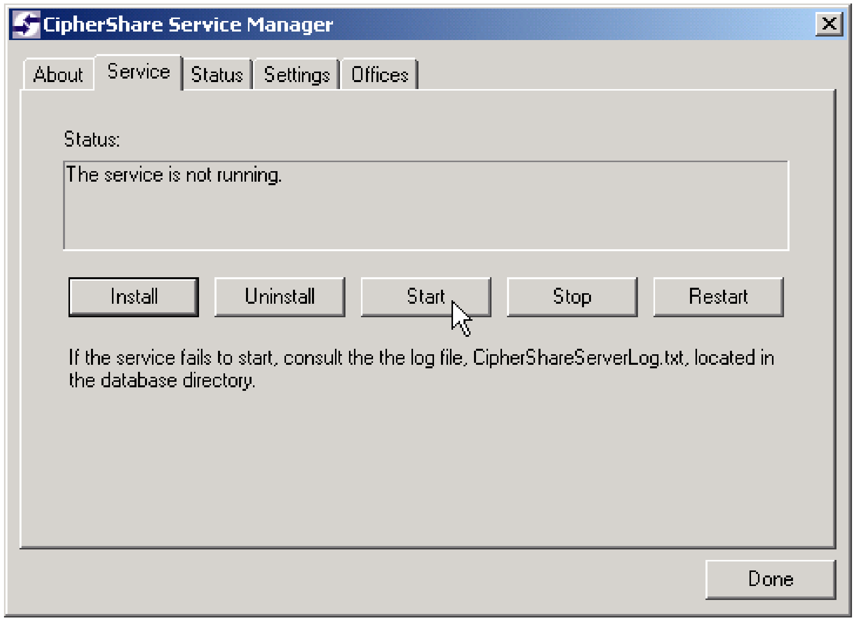
Service does not exist.

If the service fails to start, consult the the log file, CipherShareServerLog.txt, located in the database directory.

Service Manager - Service

- Once the service is installed on the server, click the Start button to start the CipherShare Service.

- Now that the CipherShare Service has been installed and started, it will automatically be restarted whenever the server is rebooted.



Status:

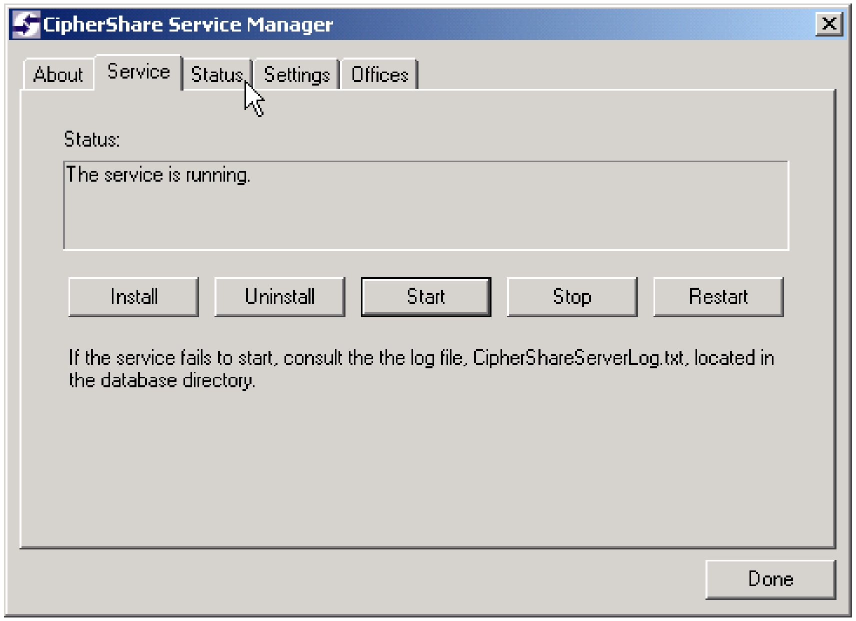
The service is not running.

If the service fails to start, consult the the log file, CipherShareServerLog.txt, located in the database directory.

Service Manager - Service

- The status field on the service tab should indicate that the service is running.

- Click the Status tab for further status information.



Status:

The service is running.

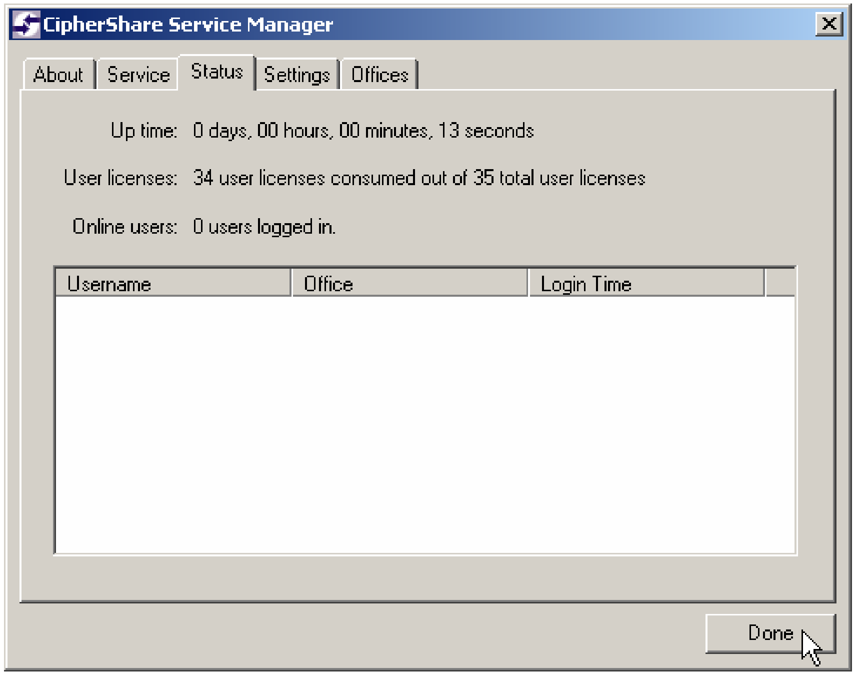
If the service fails to start, consult the the log file, CipherShareServerLog.txt, located in the database directory.

Service Manager - Status

- The Status tab displays how long the service has been running.

- It provides an indication of the number of user licenses that are currently used on the system.

- It also provides a list of users that are currently connected to the server.



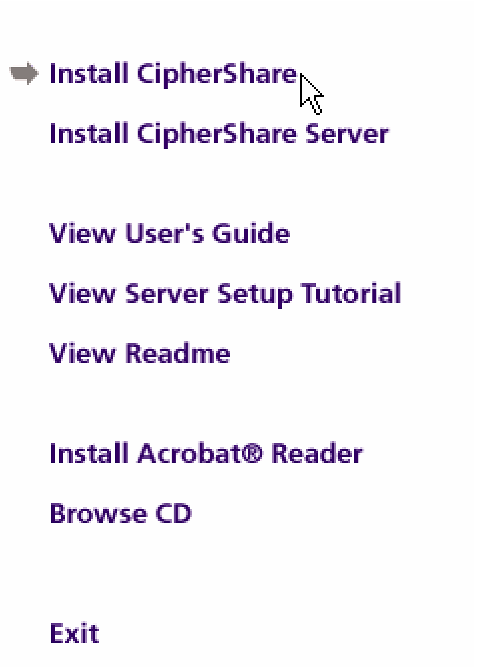
Up time: 0 days, 00 hours, 00 minutes, 13 seconds

User licenses: 34 user licenses consumed out of 35 total user licenses

Online users: 0 users logged in.

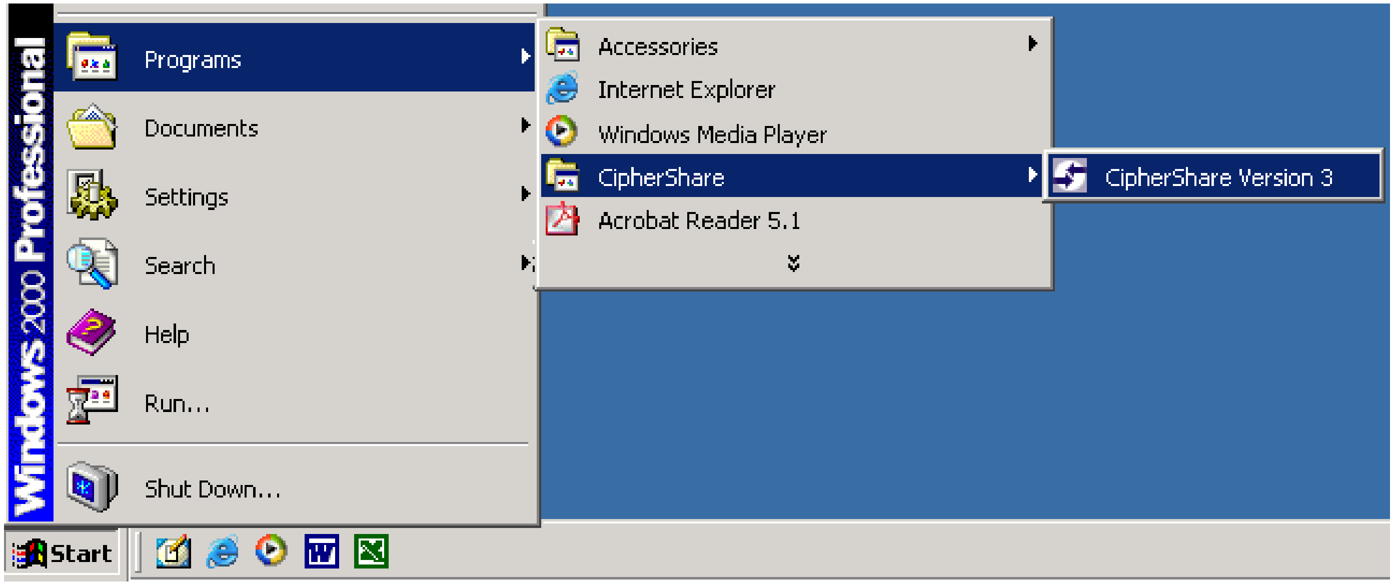
Install CipherShare Client

- **On the server or any workstation, install CipherShare from the Installation CD.**



Root Security Officer – Initial Login

- **Launch CipherShare**
  - *Start / Programs / CipherShare*
  - *Click on CipherShare Version 3*



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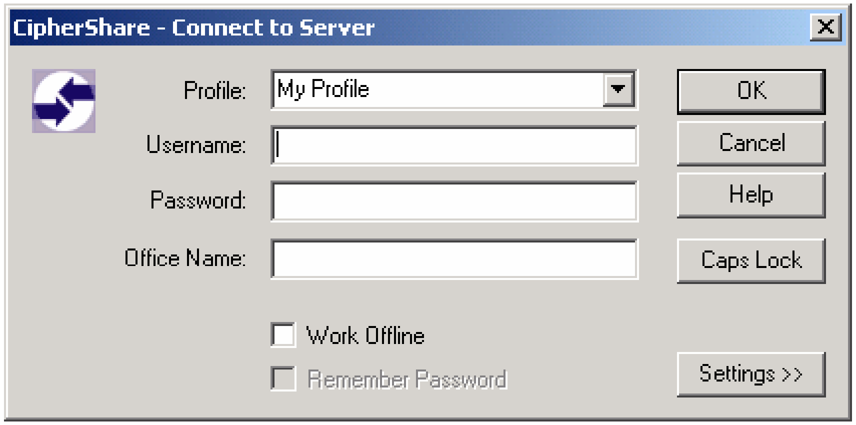
Root Security Officer – Initial Login

- The CipherShare "Connect to Server" window appears.
- Profiles allow you to create and subsequently recall connection specifics for different CipherShare Offices.
- In this example, we need a profile to connect as Root Security Officer for the administration of Xcorp's corporate CipherShare Office.


CipherShare - Connect to Server

Profile: My Profile

Username:

Password:

Office Name:

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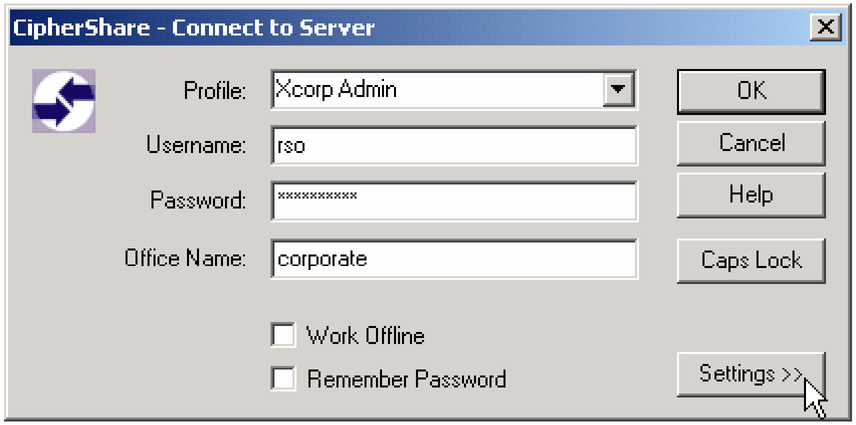
Root Security Officer – Initial Login

- The profile name “Xcorp Admin” is chosen.
- The Username, Password and Office Name values that were saved when the office was created are entered.
- Click the Settings button to fill in other specific details related to the connection.



CipherShare - Connect to Server

Profile: Xcorp Admin

Username: rso

Password: ***********

Office Name: corporate

☐ Work Offline

☐ Remember Password

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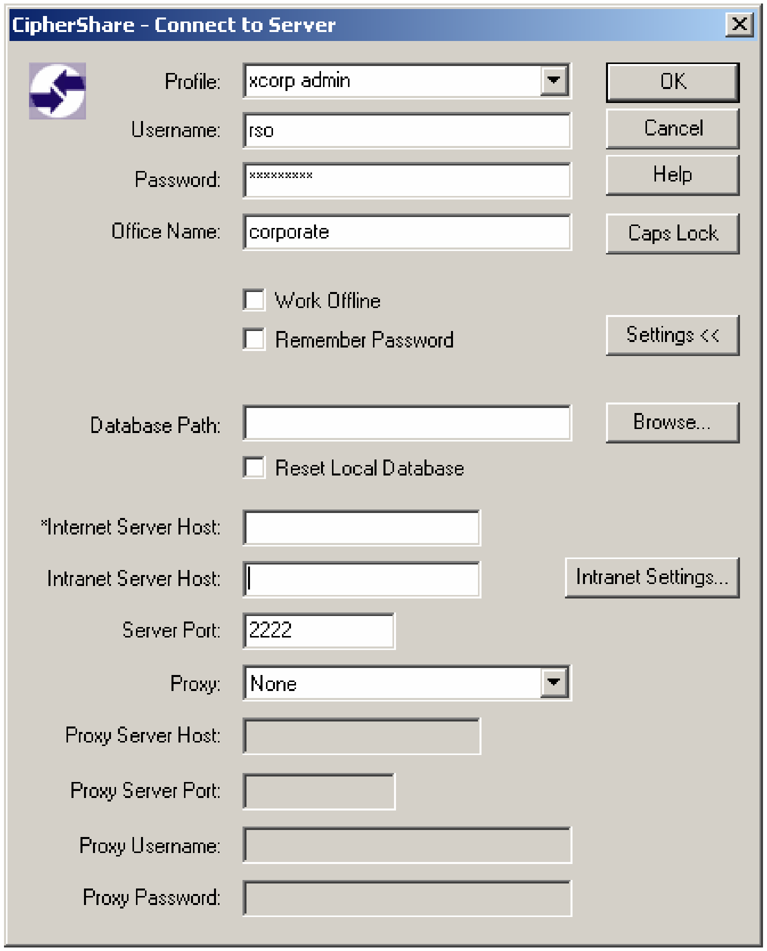
Root Security Officer – Initial Login

- Click the Browse button to select the directory where the local database of CipherShare files is to be stored (normally this defaults to a local private data area)
- Enter the IP address or DNS name of the CipherShare Server (for now make both the Internet and Intranet values the same)



CipherShare - Connect to Server

Profile: xcorp admin

Username: rso

Password: *********

Office Name: corporate

☐ Work Offline

☐ Remember Password

Database Path:

☐ Reset Local Database

*Internet Server Host:

Intranet Server Host:

Server Port: 2222

Proxy: None

Proxy Server Host:

Proxy Server Port:

Proxy Username:

Proxy Password:

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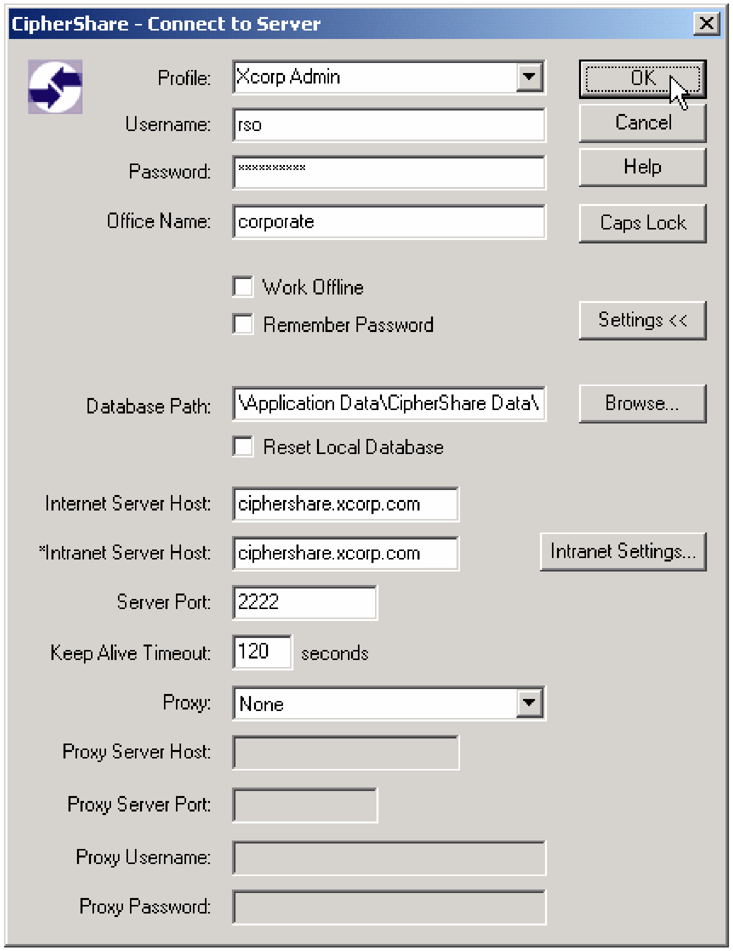
Root Security Officer – Initial Login

- Set the Server Port to the value configured on the Settings tab of the Service Manager.

- Click the OK button to establish the connection.



CipherShare - Connect to Server

Profile: Xcorp Admin

Username: rso

Password: ***********

Office Name: corporate

□ Work Offline

□ Remember Password

Database Path: \Application Data\CipherShare Data\

□ Reset Local Database

Internet Server Host: ciphershare.xcorp.com

*Intranet Server Host: ciphershare.xcorp.com

Server Port: 2222

Keep Alive Timeout: 120 seconds

Proxy: None

Proxy Server Host:

Proxy Server Port:

Proxy Username:

Proxy Password:

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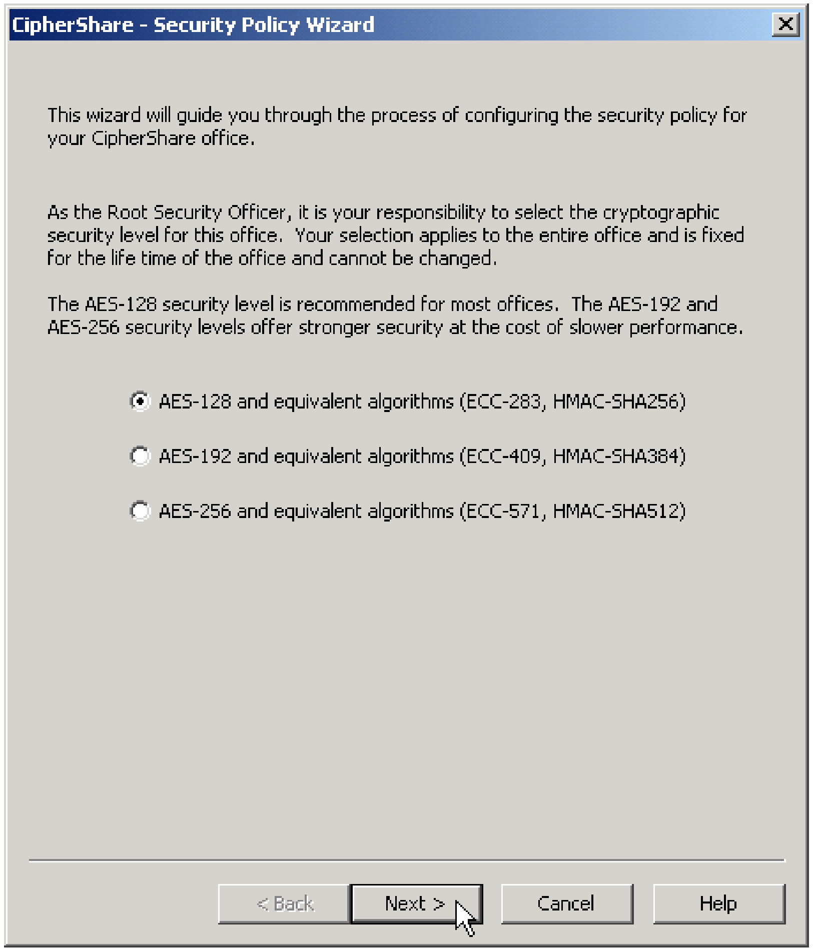
Root Security Officer – Initial Login

- **Since this is the initial RSO connection for this office, the Security Policy Wizard is automatically activated.**

- **Select the level of encryption for all user documents stored in the office and click Next.**



This wizard will guide you through the process of configuring the security policy for your CipherShare office.

As the Root Security Officer, it is your responsibility to select the cryptographic security level for this office. Your selection applies to the entire office and is fixed for the life time of the office and cannot be changed.

The AES-128 security level is recommended for most offices. The AES-192 and AES-256 security levels offer stronger security at the cost of slower performance.

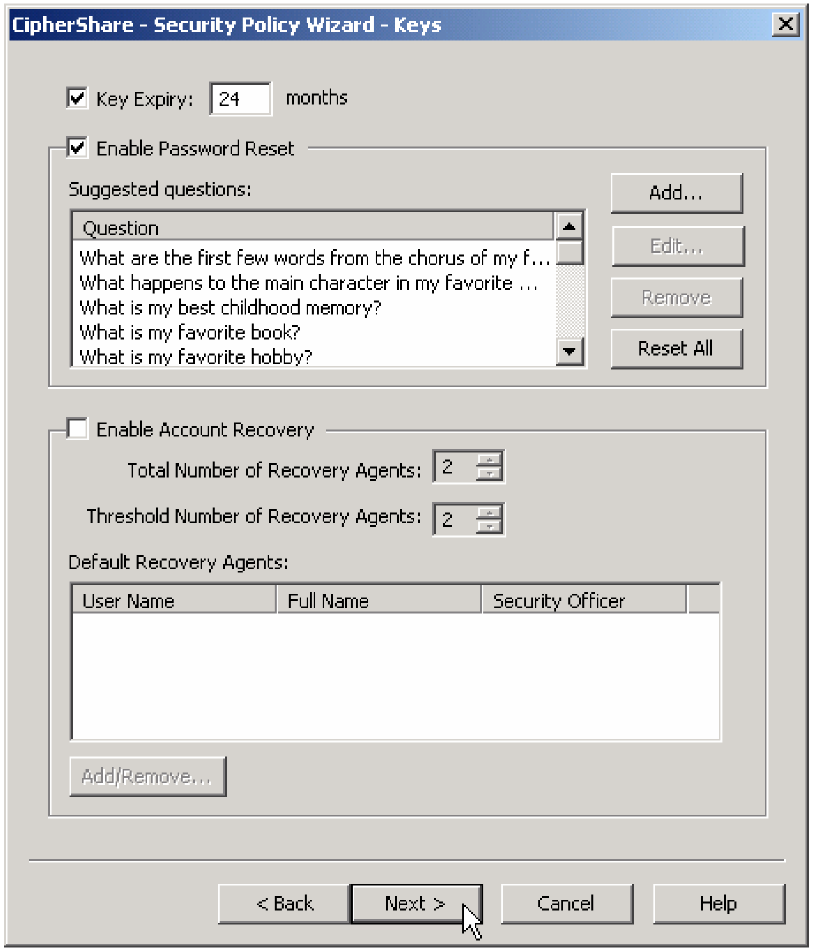
● AES-128 and equivalent algorithms (ECC-283, HMAC-SHA256)

○ AES-192 and equivalent algorithms (ECC-409, HMAC-SHA384)

○ AES-256 and equivalent algorithms (ECC-571, HMAC-SHA512)

Root Security Officer – Initial Login

- Now set the validity period for user keys, enable Password Reset or enable Account Recovery.
- Password Reset is recommended. It allows a user to confirm their identity and enter a new password if their current password is forgotten.
- Don't enable Account Recovery until there are sufficient users configured in the office.
- Click Next.



CipherShare - Security Policy Wizard - Keys

☑ Key Expiry: 24 months

☑ Enable Password Reset

Suggested questions:

Question
What are the first few words from the chorus of my f...
What happens to the main character in my favorite ...
What is my best childhood memory?
What is my favorite book?
What is my favorite hobby?

☐ Enable Account Recovery

Total Number of Recovery Agents: 2

Threshold Number of Recovery Agents: 2

Default Recovery Agents:

User Name	Full Name	Security Officer

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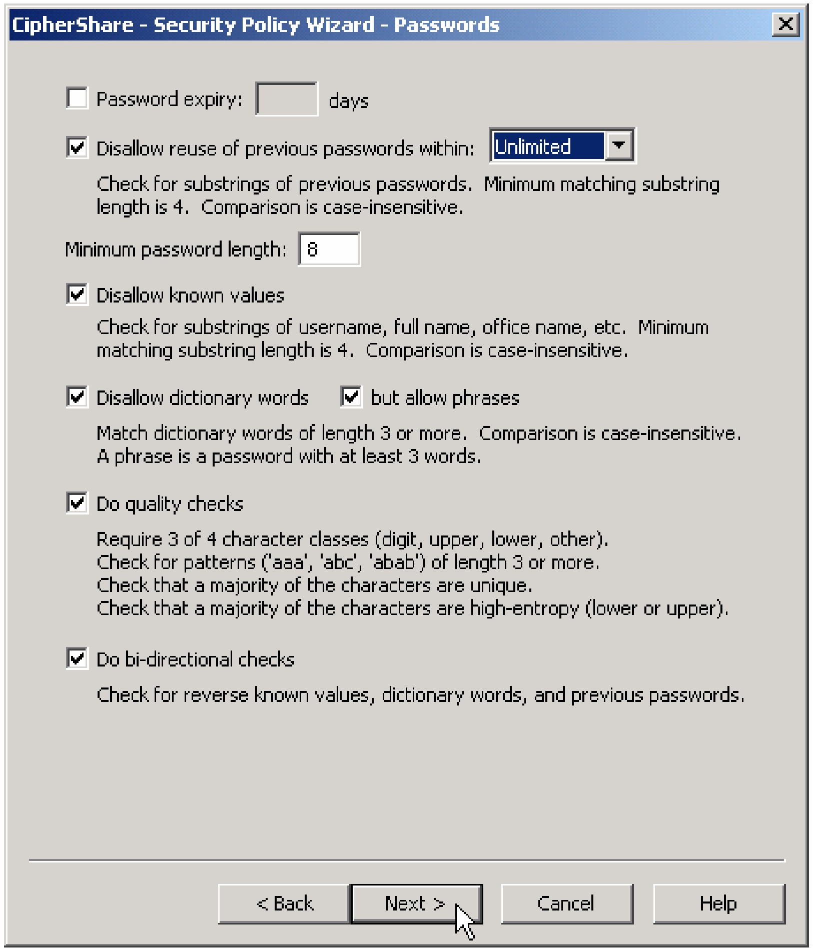
Root Security Officer – Initial Login

- Now set the parameters controlling password length, validity timeframe, reuse rules, minimum length, etc.

- Click Next.



CipherShare - Security Policy Wizard - Passwords

☐ Password expiry: days

☑ Disallow reuse of previous passwords within: Unlimited

Check for substrings of previous passwords. Minimum matching substring length is 4. Comparison is case-insensitive.

Minimum password length: 8

☑ Disallow known values

Check for substrings of username, full name, office name, etc. Minimum matching substring length is 4. Comparison is case-insensitive.

☑ Disallow dictionary words ☑ but allow phrases

Match dictionary words of length 3 or more. Comparison is case-insensitive.
A phrase is a password with at least 3 words.

☑ Do quality checks

Require 3 of 4 character classes (digit, upper, lower, other).
Check for patterns ('aaa', 'abc', 'abab') of length 3 or more.
Check that a majority of the characters are unique.
Check that a majority of the characters are high-entropy (lower or upper).

☑ Do bi-directional checks

Check for reverse known values, dictionary words, and previous passwords.

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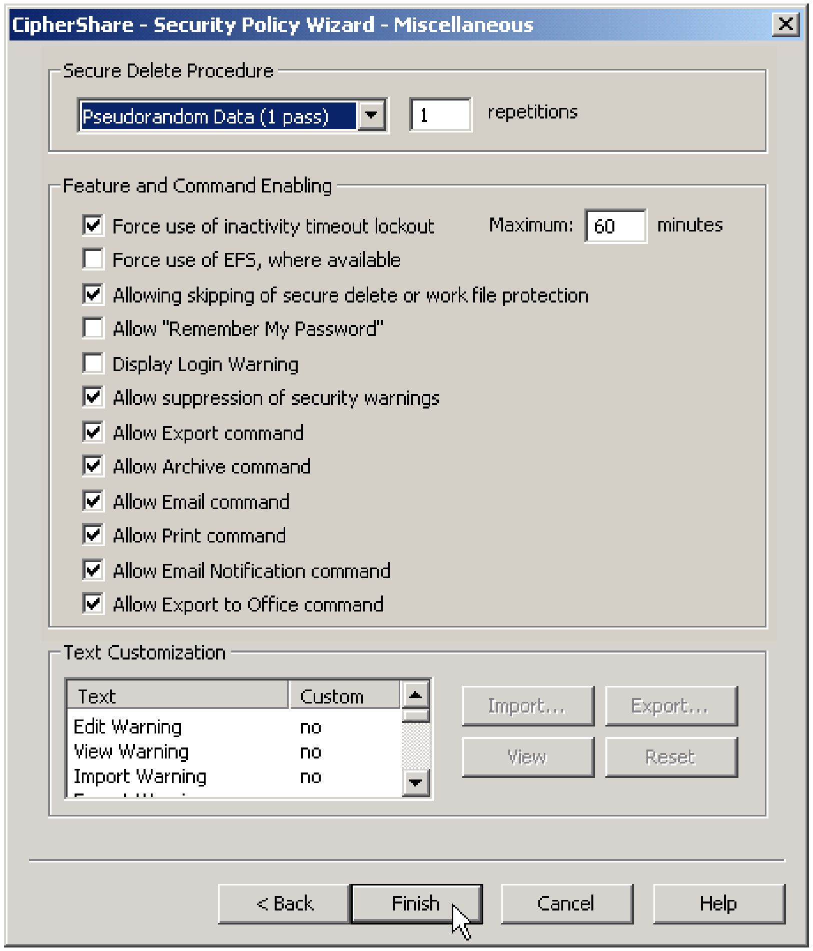
Root Security Officer – Initial Login

- Finally set miscellaneous user interface parameters.
- Click Finish to end the Security Policy Wizard.



CipherShare - Security Policy Wizard - Miscellaneous

Secure Delete Procedure

Pseudorandom Data (1 pass) ▼ 1 repetitions

Feature and Command Enabling

☑ Force use of inactivity timeout lockout Maximum: 60 minutes
☐ Force use of EFS, where available
☑ Allowing skipping of secure delete or work file protection
☐ Allow "Remember My Password"
☐ Display Login Warning
☑ Allow suppression of security warnings
☑ Allow Export command
☑ Allow Archive command
☑ Allow Email command
☑ Allow Print command
☑ Allow Email Notification command
☑ Allow Export to Office command

Text Customization

Text	Custom
Edit Warning	no
View Warning	no
Import Warning	no

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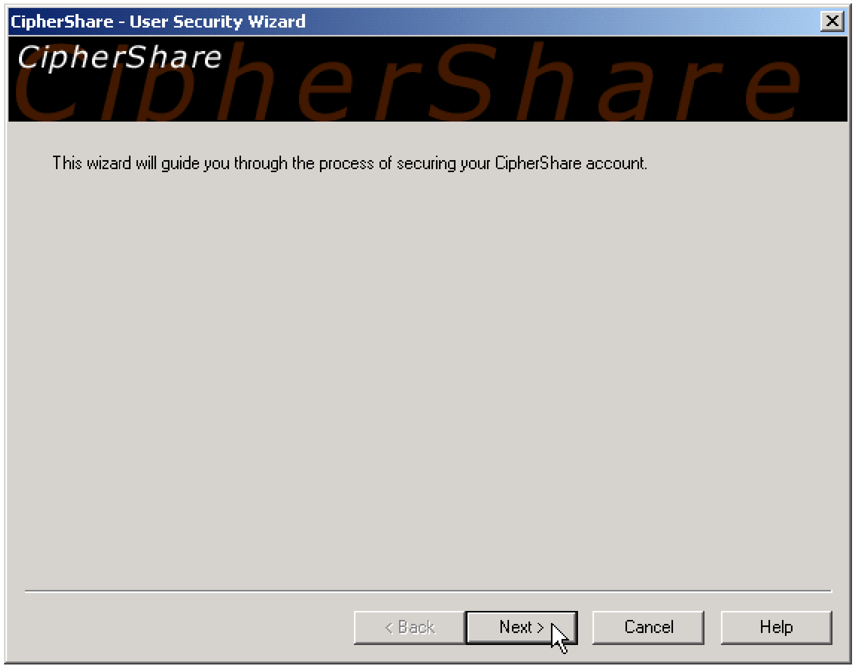
Root Security Officer – Initial Login

- Since this is the first login for this account, the User Security Wizard is automatically executed.
- Click Next.

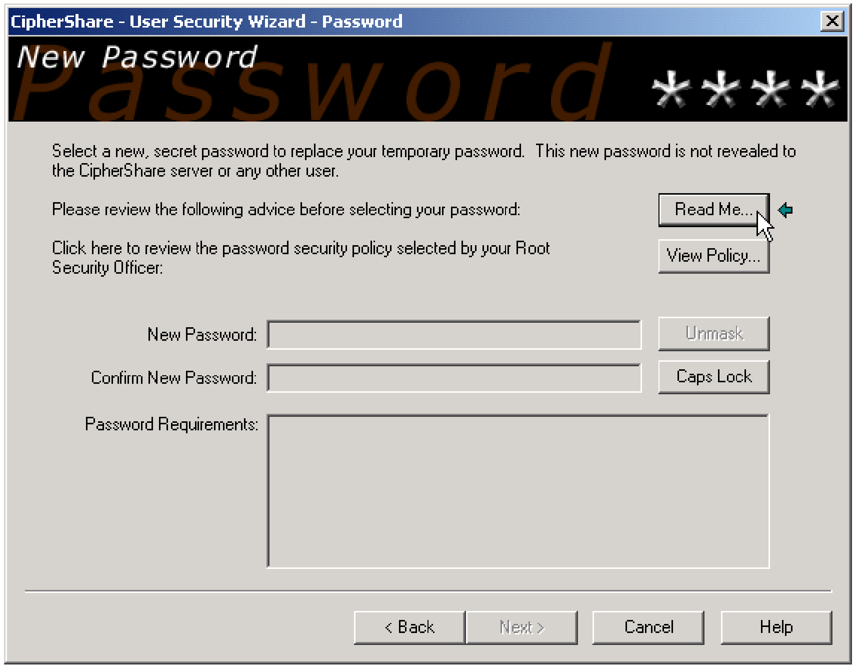


CipherShare - User Security Wizard

This wizard will guide you through the process of securing your CipherShare account.

Root Security Officer – Initial Login

- You must establish your own password.
- Before this can be done, you must read the warning text about the importance of passwords.
- Click Read Me.



CipherShare - User Security Wizard - Password

Select a new, secret password to replace your temporary password. This new password is not revealed to the CipherShare server or any other user.

Please review the following advice before selecting your password:

Click here to review the password security policy selected by your Root Security Officer:

New Password:

Confirm New Password:

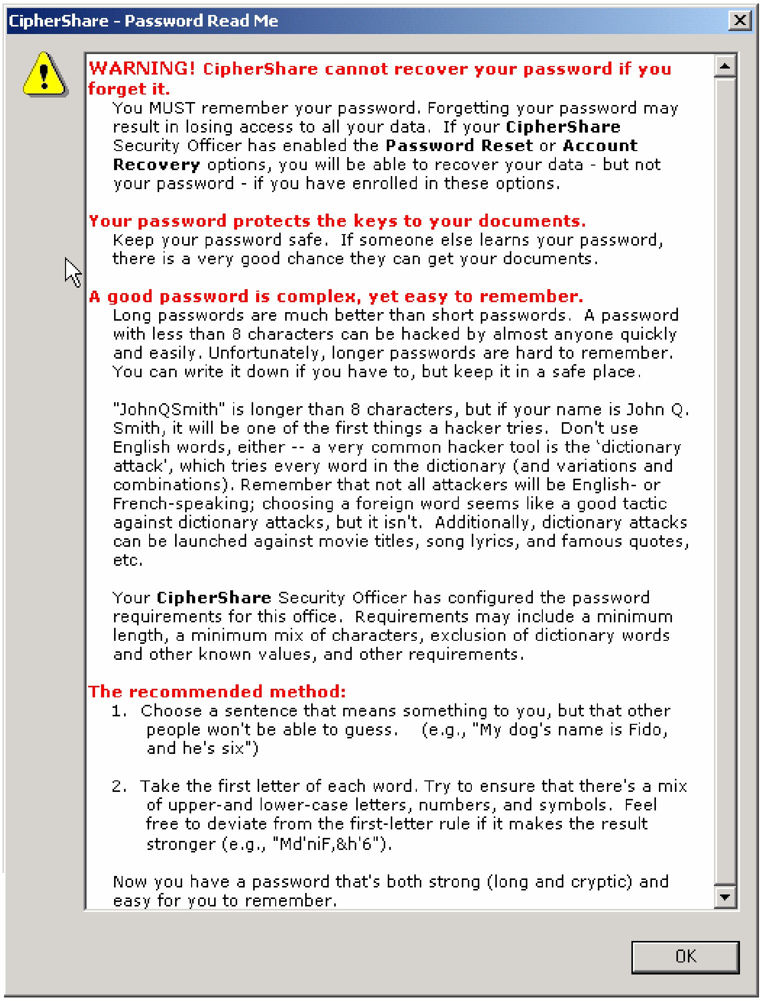
Password Requirements:

Root Security Officer – Initial Login

- Carefully read the information displayed.

- It is important that you understand the significance of remembering your password and keeping it private.

- When ready, click the OK button to continue.



WARNING! CipherShare cannot recover your password if you forget it.
You MUST remember your password. Forgetting your password may result in losing access to all your data. If your **CipherShare** Security Officer has enabled the **Password Reset** or **Account Recovery** options, you will be able to recover your data - but not your password - if you have enrolled in these options.

Your password protects the keys to your documents.
Keep your password safe. If someone else learns your password, there is a very good chance they can get your documents.

A good password is complex, yet easy to remember.
Long passwords are much better than short passwords. A password with less than 8 characters can be hacked by almost anyone quickly and easily. Unfortunately, longer passwords are hard to remember. You can write it down if you have to, but keep it in a safe place.

"JohnQSmith" is longer than 8 characters, but if your name is John Q. Smith, it will be one of the first things a hacker tries. Don't use English words, either -- a very common hacker tool is the 'dictionary attack', which tries every word in the dictionary (and variations and combinations). Remember that not all attackers will be English- or French-speaking; choosing a foreign word seems like a good tactic against dictionary attacks, but it isn't. Additionally, dictionary attacks can be launched against movie titles, song lyrics, and famous quotes, etc.

Your **CipherShare** Security Officer has configured the password requirements for this office. Requirements may include a minimum length, a minimum mix of characters, exclusion of dictionary words and other known values, and other requirements.

The recommended method:

1. Choose a sentence that means something to you, but that other people won't be able to guess. (e.g., "My dog's name is Fido, and he's six")

2. Take the first letter of each word. Try to ensure that there's a mix of upper-and lower-case letters, numbers, and symbols. Feel free to deviate from the first-letter rule if it makes the result stronger (e.g., "Md'niF,&h'6").

Now you have a password that's both strong (long and cryptic) and easy for you to remember.

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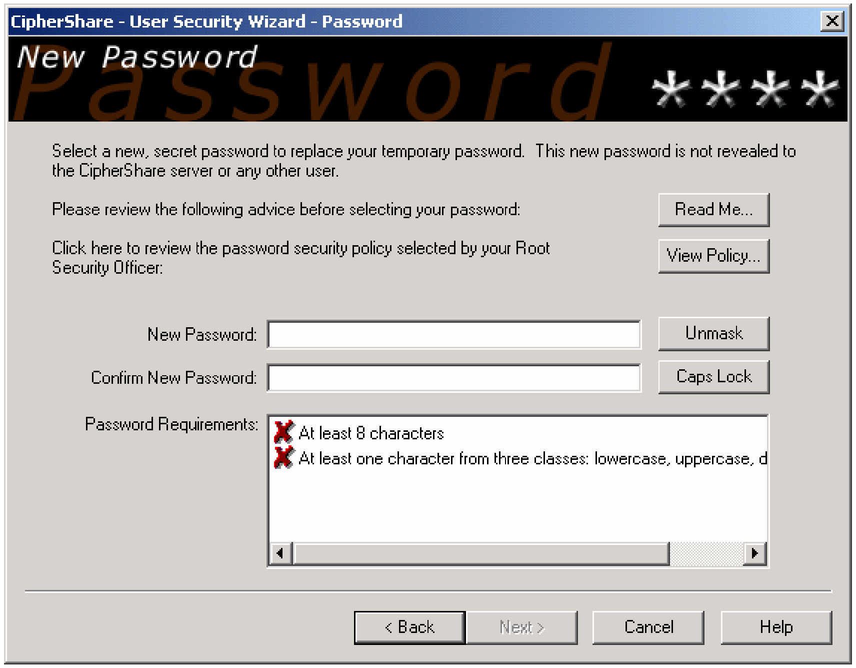
Root Security Officer – Initial Login

- You can now enter your own password.
- Prompts in the Password Requirements display will disappear as your password fulfills the Security Policy requirements.
- Click Next to proceed.



CipherShare - User Security Wizard - Password

New Password

Select a new, secret password to replace your temporary password. This new password is not revealed to the CipherShare server or any other user.

Please review the following advice before selecting your password:

Click here to review the password security policy selected by your Root Security Officer:

New Password:

Confirm New Password:

Password Requirements:

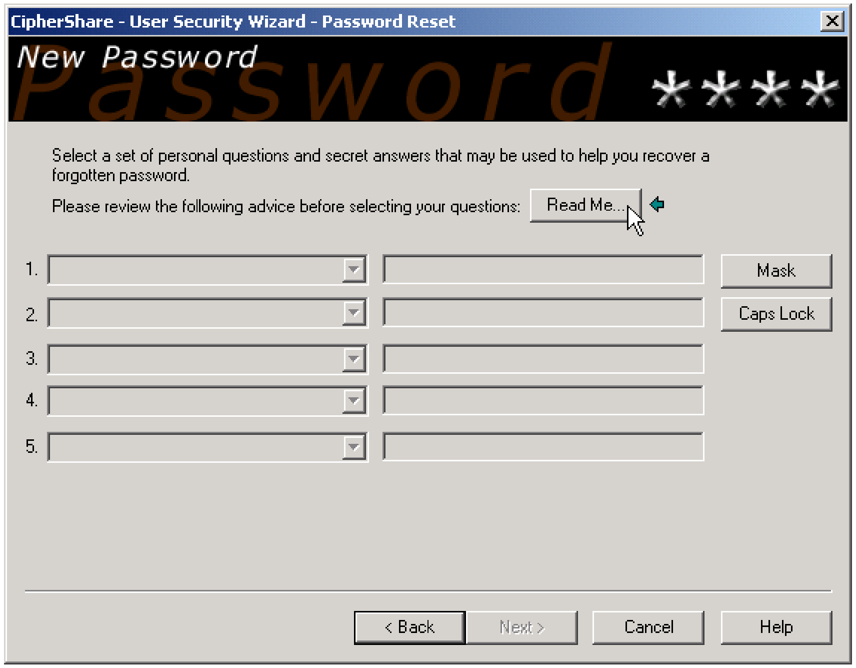
☒ At least 8 characters

☒ At least one character from three classes: lowercase, uppercase, d

Root Security Officer – Initial Login

- If Password Reset is enabled, you must provide answers to a set of questions.

- Before doing this you must read instructions about Password Reset by clicking the Read Me button.



Select a set of personal questions and secret answers that may be used to help you recover a forgotten password.

Please review the following advice before selecting your questions: Read Me...

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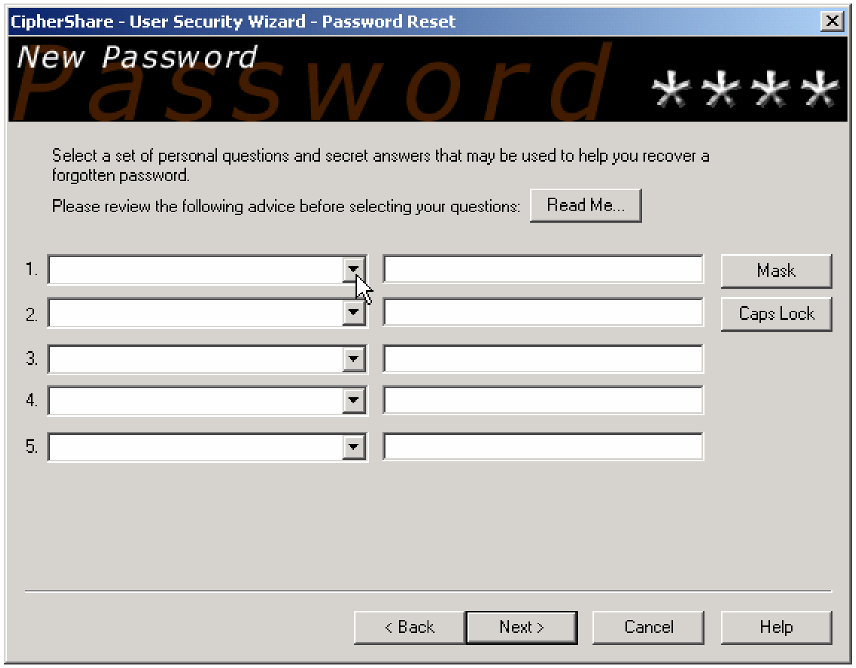
Root Security Officer – Initial Login

- Click the drop down to select one of the predefined questions or type in your own.
- Enter the answer to the right.
- When all 5 questions have been answered, click Next to continue.
- If you forget your password, you must answer these questions in a Security Officer's CipherShare session to reset your password.



Select a set of personal questions and secret answers that may be used to help you recover a forgotten password.

Please review the following advice before selecting your questions:

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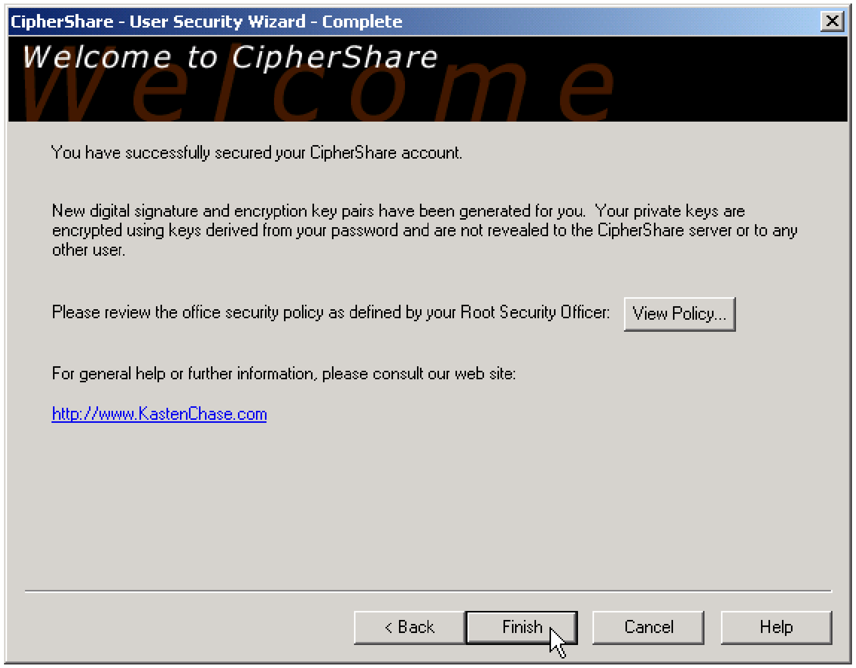
Root Security Officer – Initial Login

- You have now completed the steps necessary to login initially as the Root Security Officer.
- Click the Finish button to continue.



You have successfully secured your CipherShare account.

New digital signature and encryption key pairs have been generated for you. Your private keys are encrypted using keys derived from your password and are not revealed to the CipherShare server or to any other user.

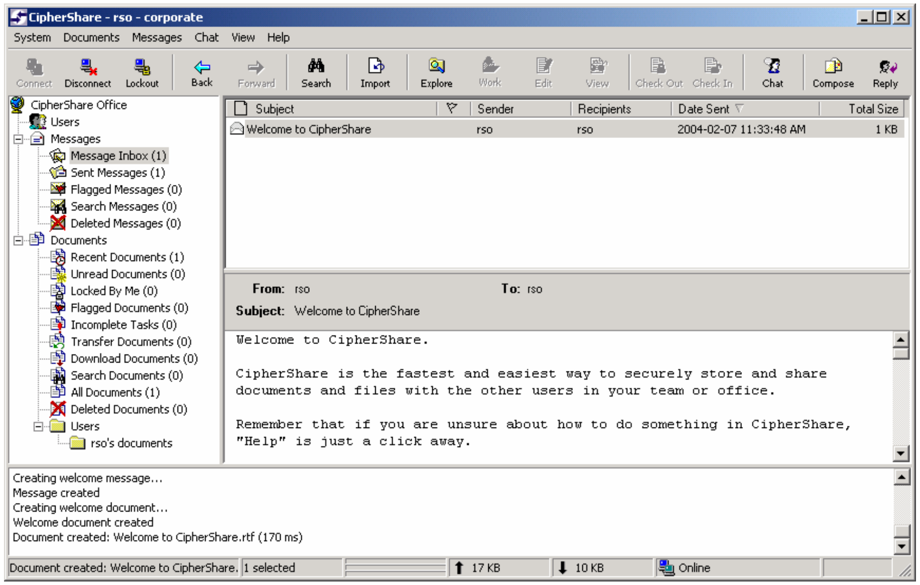
Please review the office security policy as defined by your Root Security Officer:

For general help or further information, please consult our web site:

http://www.KastenChase.com

Root Security Officer – Initial Login

- You should now see the CipherShare Desktop.
- At this point the Root Security Officer can prepare the office for the creation of users.



Subject		Sender	Recipients	Date Sent	Total Size
Welcome to CipherShare		rso	rso	2004-02-07 11:33:48 AM	1 KB

From: rso **To:** rso

Subject: Welcome to CipherShare

```
Welcome to CipherShare.

CipherShare is the fastest and easiest way to securely store and share
documents and files with the other users in your team or office.

Remember that if you are unsure about how to do something in CipherShare,
"Help" is just a click away.
```

```
Creating welcome message...
Message created
Creating welcome document...
Welcome document created
Document created: Welcome to CipherShare.rtf (170 ms)
```

```
Document created: Welcome to CipherShare. | 1 selected | 17 KB | 10 KB | Online
```

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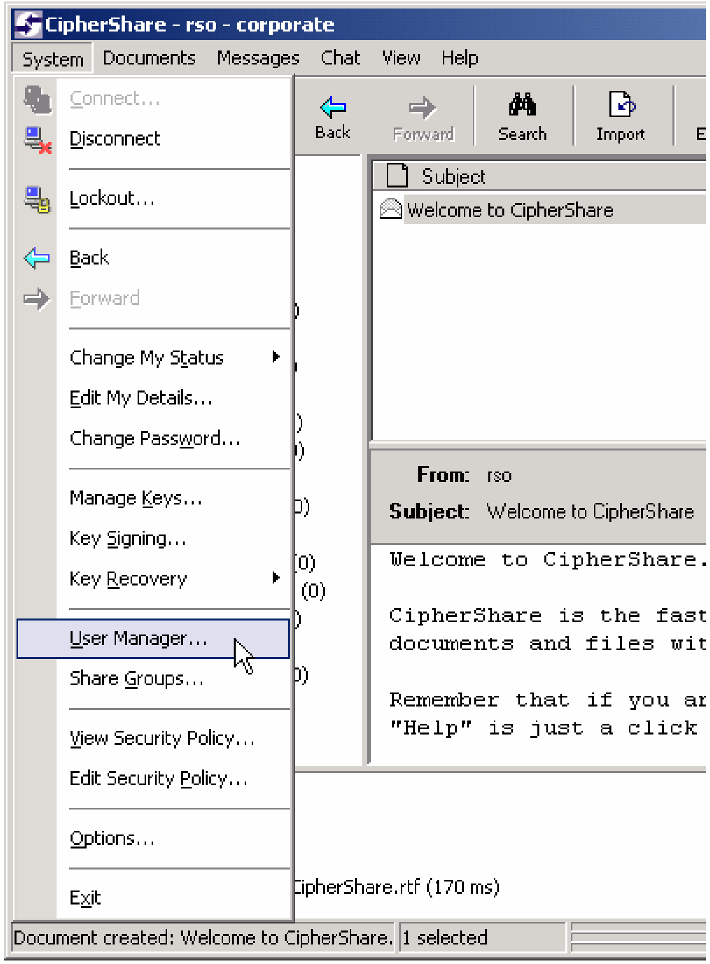
Root Security Officer – Office Setup

- Click System on the top Menu line.
- Move the mouse pointer down to User Manager.
- Click on User Manager.



From: rso
Subject: Welcome to CipherShare

```
Welcome to CipherShare.

CipherShare is the fast
documents and files wit

Remember that if you ar
"Help" is just a click
```

CipherShare.rtf (170 ms)

Document created: Welcome to CipherShare. | 1 selected

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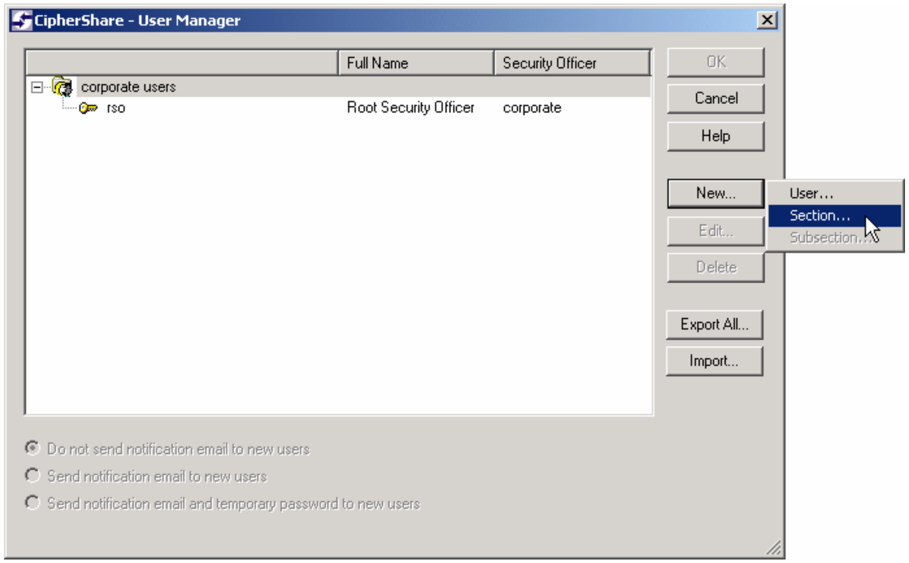
Root Security Officer – Office Setup

- **Click the New button, move the mouse pointer over to Section and click.**

- **We will create 3 sections.**
  - *Finance*
  - *Sales*
  - *Production*



CipherShare - User Manager

	Full Name	Security Officer
corporate users		
rso	Root Security Officer	corporate

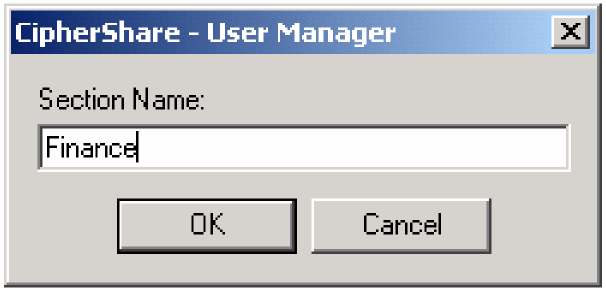
● Do not send notification email to new users

○ Send notification email to new users

○ Send notification email and temporary password to new users

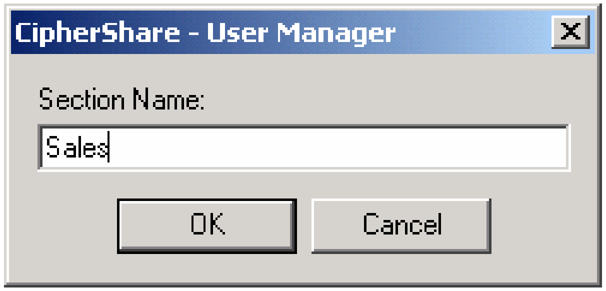
Root Security Officer – Office Setup

- **Each time we add a new section, we are prompted to enter the section name.**
- **Some organizations may prefer to use geographic section names.**
- **This is arbitrary and can be chosen by the organization as desired.**
- **It is also possible to create subsections.**



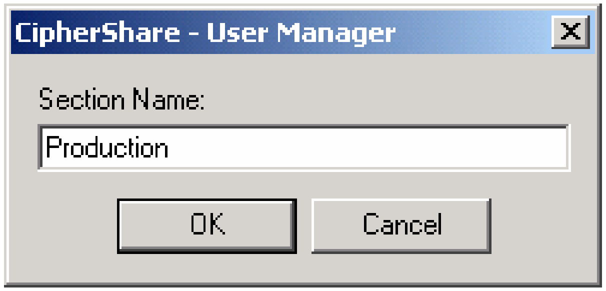
CipherShare - User Manager

Section Name: Finance



CipherShare - User Manager

Section Name: Sales



CipherShare - User Manager

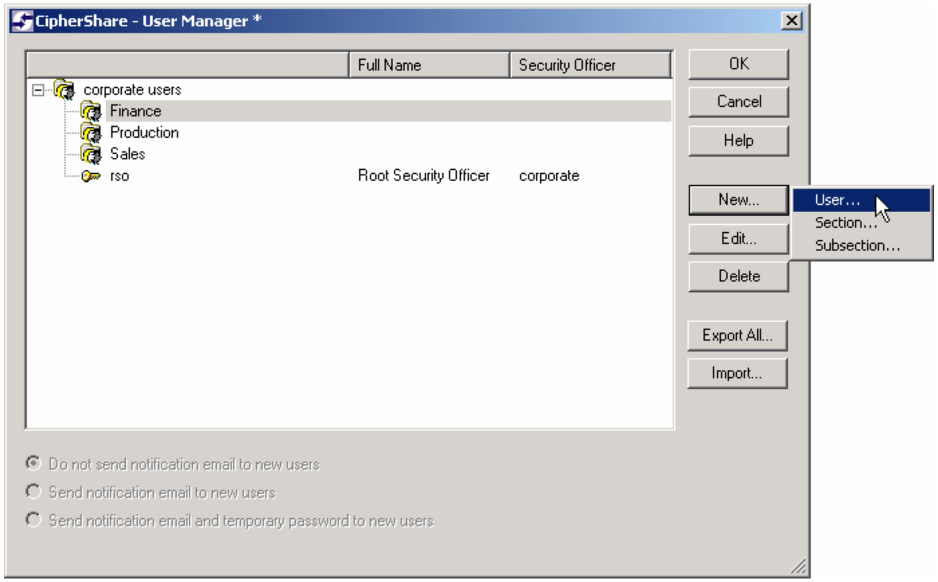
Section Name: Production

Root Security Officer – Office Setup

- We could now add users to the sections.
- However, in a large organization, the Root Security Officer may not personally know every individual in the organization.
- Creating Local Security Officers in the sections allows the delegation of control to individuals with a more immediate relationship to the users.
- We will create a Local Security Officer in each section.

Root Security Officer – Office Setup

- Click on the section name "Finance" to highlight it.
- Click on the New button, then move the mouse to User and click again.

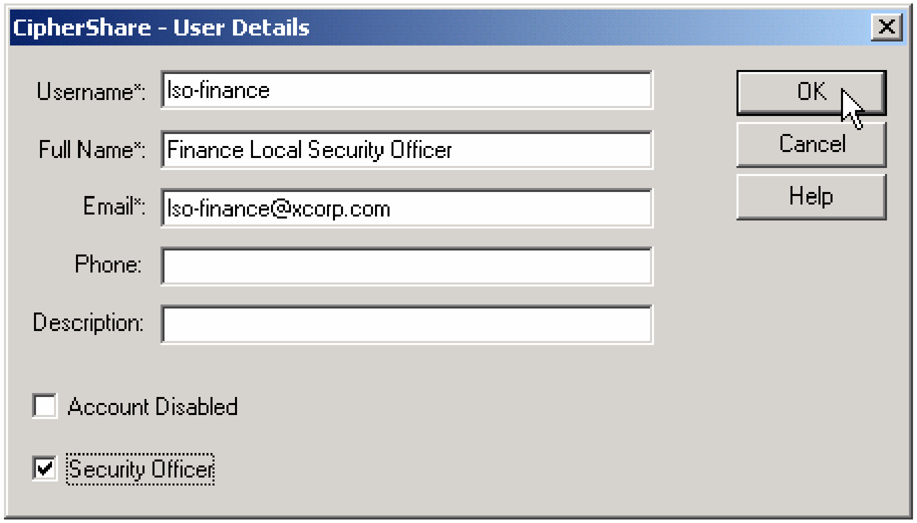


	Full Name	Security Officer
corporate users		
Finance		
Production		
Sales		
rso	Root Security Officer	corporate

● Do not send notification email to new users
○ Send notification email to new users
○ Send notification email and temporary password to new users

Root Security Officer – Office Setup

- **Enter**
  - *Username*
  - *Full Name*
  - *Email*
- **The Phone and Description fields can be filled in later by the actual account owner.**
- **Ensure the Security Officer box is checked.**
- **Click the OK button to continue.**



CipherShare - User Details

Username*: lso-finance

Full Name*: Finance Local Security Officer

Email*: lso-finance@xcorp.com

Phone:

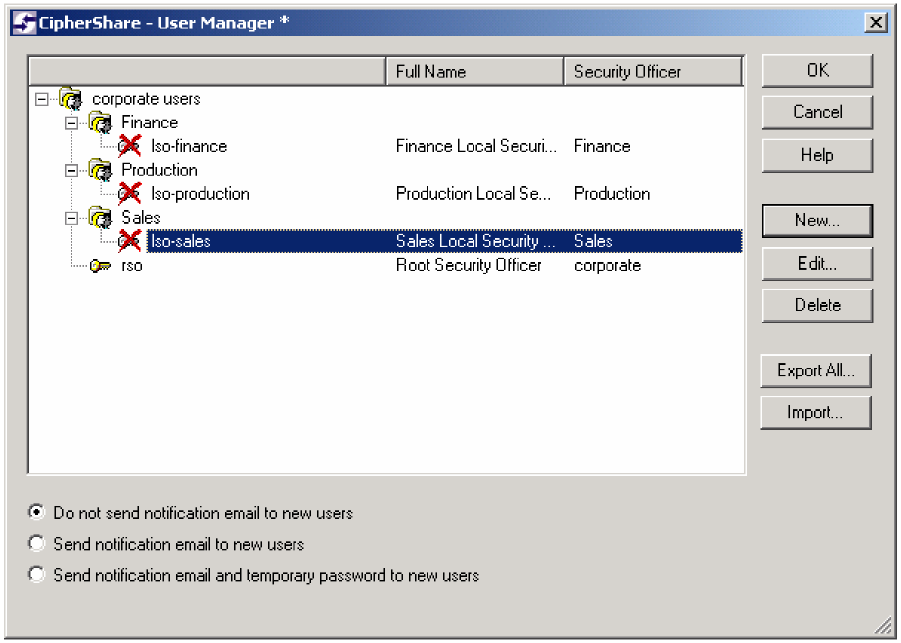
Description:

☐ Account Disabled

☑ Security Officer

Root Security Officer – Office Setup

- Repeat the previous steps to add Local Security Officers to the Production and Sales Sections.
- When this is done, the User Manager window will look like this.
- Take a moment to verify that everything is spelled correctly and in the right place.



CipherShare - User Manager *

	Full Name	Security Officer
corporate users		
Finance		
lso-finance	Finance Local Securi...	Finance
Production		
lso-production	Production Local Se...	Production
Sales		
lso-sales	Sales Local Security ...	Sales
rso	Root Security Officer	corporate

● Do not send notification email to new users

○ Send notification email to new users

○ Send notification email and temporary password to new users

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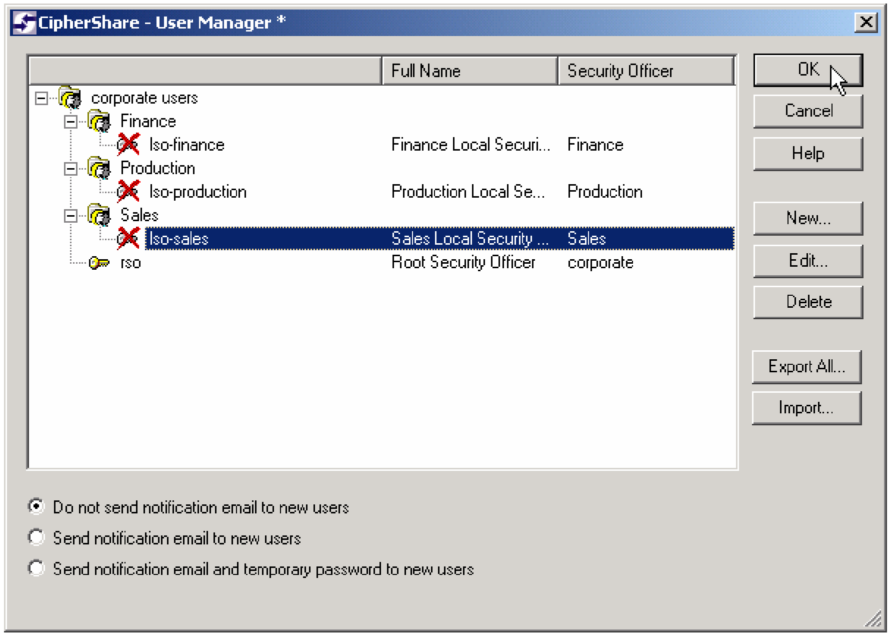
Root Security Officer – Office Setup

- If there are any errors, correct them now.
- You can specify how each user will be notified about his/her new CipherShare account.
- As the creating security officer, you will receive a CipherShare message with all the account details.
- Click the OK button to create the accounts.



	Full Name	Security Officer
corporate users		
Finance		
lso-finance	Finance Local Securi...	Finance
Production		
lso-production	Production Local Se...	Production
Sales		
lso-sales	Sales Local Security ...	Sales
rso	Root Security Officer	corporate

● Do not send notification email to new users

○ Send notification email to new users

○ Send notification email and temporary password to new users

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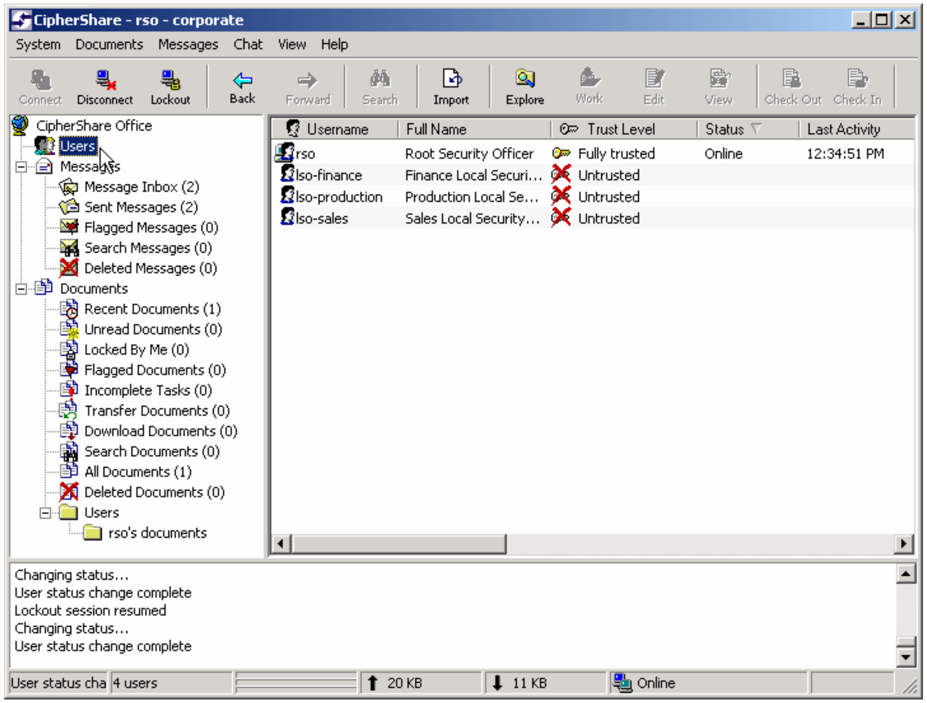
Root Security Officer – Office Setup

- Click on the Users folder of your CipherShare Desktop.
- The list of new users should appear to the right.
- Notice that at this stage the new users are considered to be untrusted.
- They will remain in this state until they have created Public/Private Key Pairs and had them signed.



Username	Full Name	Trust Level	Status	Last Activity
rso	Root Security Officer	Fully trusted	Online	12:34:51 PM
lso-finance	Finance Local Securi...	Untrusted		
lso-production	Production Local Se...	Untrusted		
lso-sales	Sales Local Security...	Untrusted		

```
Changing status...
User status change complete
Lockout session resumed
Changing status...
User status change complete
```

User status cha | 4 users | 20 KB | 11 KB | Online

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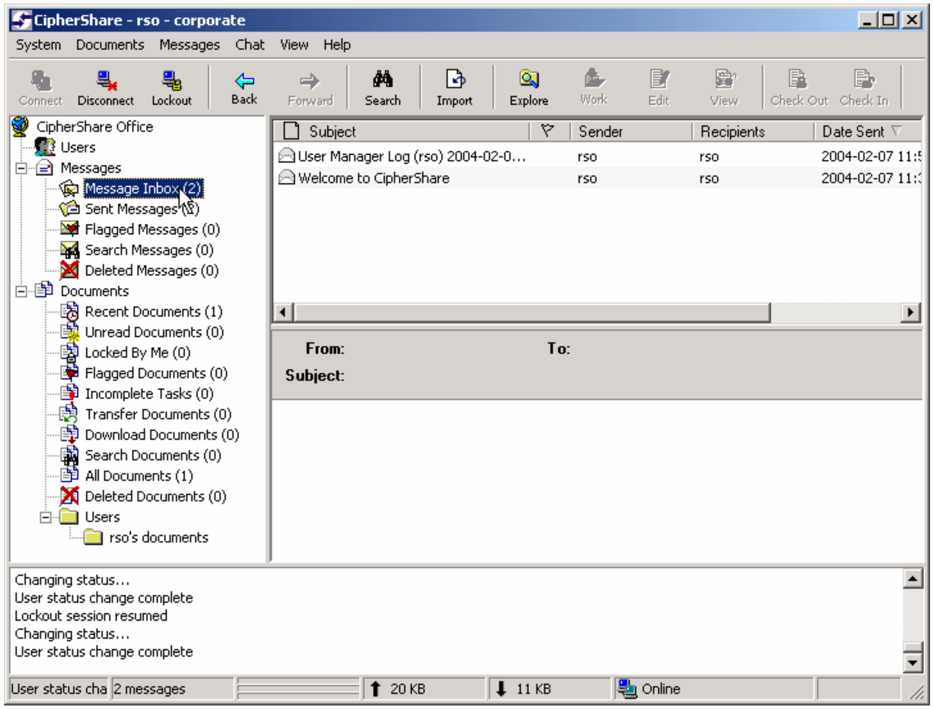
Root Security Officer – Office Setup

- Click on the Message Inbox folder of your CipherShare Desktop.
- The list of messages in the Inbox should appear to the right.
- A User Manager Log message contains the details of the accounts just created.
- Double Click this message to view its contents.



Subject		Sender	Recipients	Date Sent
User Manager Log (rso) 2004-02-0...		rso	rso	2004-02-07 11:5
Welcome to CipherShare		rso	rso	2004-02-07 11:3

```
Changing status...
User status change complete
Lockout session resumed
Changing status...
User status change complete
```

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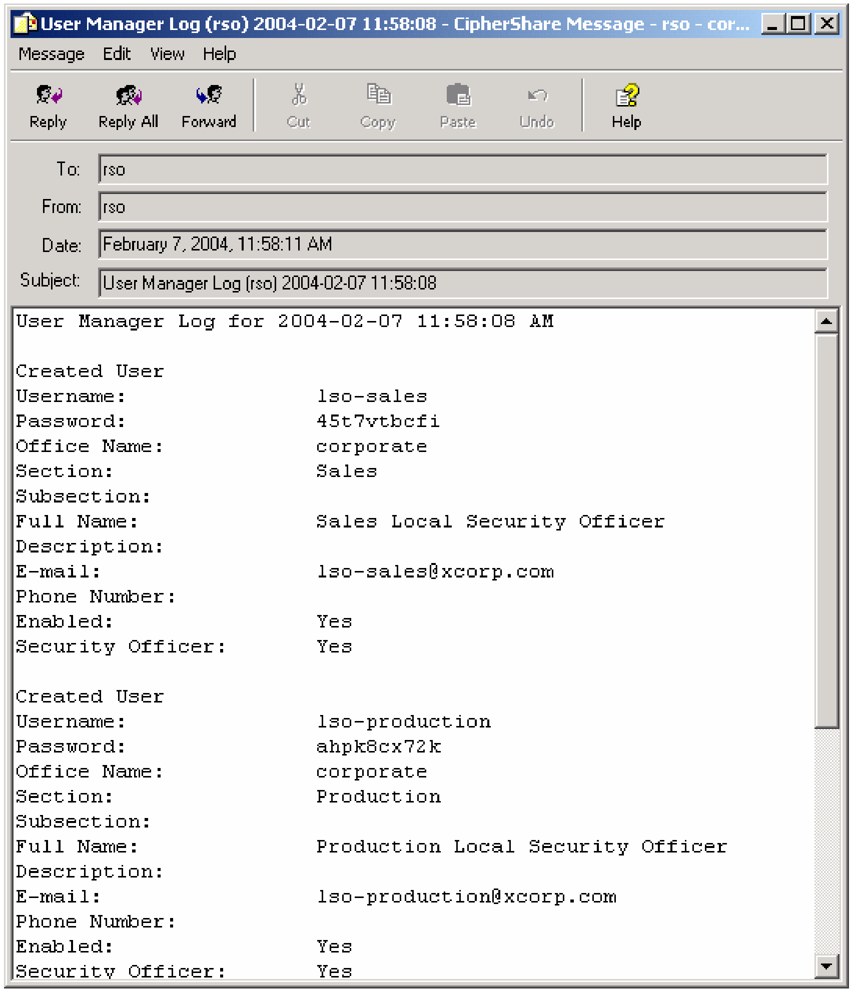
Root Security Officer – Office Setup

- Contact each of the individuals who will act as Local Security Officers.
- Have them install CipherShare and connect to the office using the username and temporary password in the message (follow the steps detailed in slides 20-25 and 31-36).


User Manager Log (rso) 2004-02-07 11:58:08 - CipherShare Message - rso - cor...
Message Edit View Help
Reply
Reply All
Forward
Cut
Copy
Paste
Undo
Help

To: rso

From: rso

Date: February 7, 2004, 11:58:11 AM

Subject: User Manager Log (rso) 2004-02-07 11:58:08

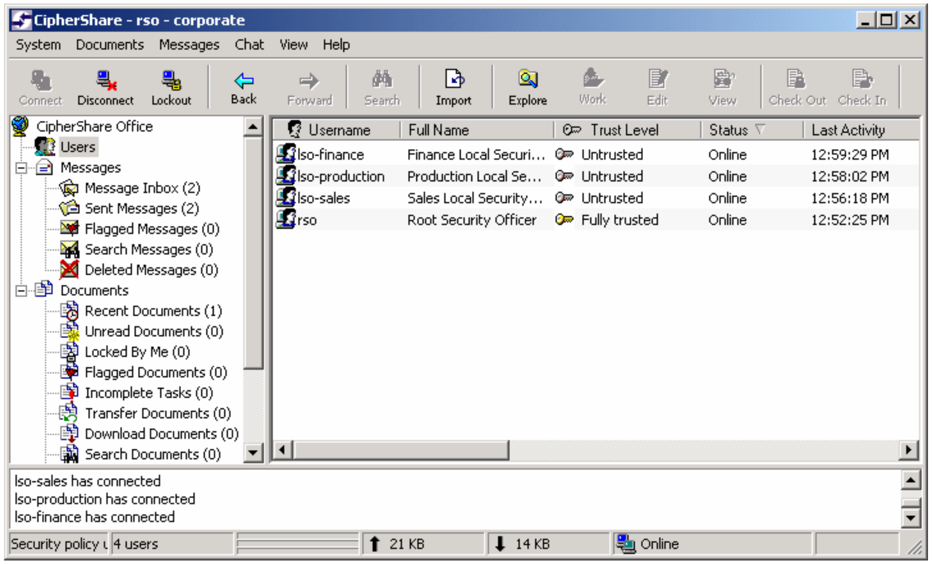
```
User Manager Log for 2004-02-07 11:58:08 AM

Created User
Username:                lso-sales
Password:                45t7vtbcfi
Office Name:             corporate
Section:                 Sales
Subsection:
Full Name:               Sales Local Security Officer
Description:
E-mail:                  lso-sales@xcorp.com
Phone Number:
Enabled:                 Yes
Security Officer:        Yes

Created User
Username:                lso-production
Password:                ahpk8cx72k
Office Name:             corporate
Section:                 Production
Subsection:
Full Name:               Production Local Security Officer
Description:
E-mail:                  lso-production@xcorp.com
Phone Number:
Enabled:                 Yes
Security Officer:        Yes
```

Root Security Officer – Office Setup

- **After the Local Security Officers have connected to the office, the Users list will appear as shown.**
- **Notice that their keys no longer have a red X over them, but they are still untrusted.**



Username	Full Name	Trust Level	Status	Last Activity
lso-finance	Finance Local Securi…	Untrusted	Online	12:59:29 PM
lso-production	Production Local Se…	Untrusted	Online	12:58:02 PM
lso-sales	Sales Local Security…	Untrusted	Online	12:56:18 PM
rso	Root Security Officer	Fully trusted	Online	12:52:25 PM

lso-sales has connected
lso-production has connected
lso-finance has connected

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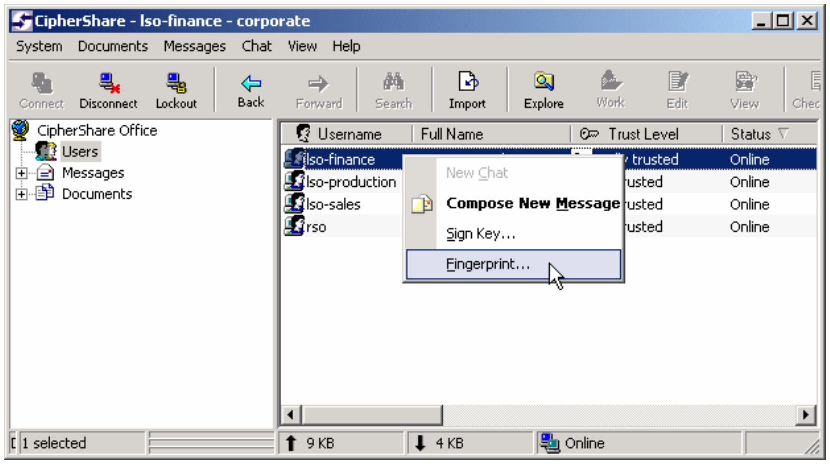
Security Officer – Key Signing

- The Root Security Officer and each of the Local Security Officers must perform mutual key signing.
- Key Signing should be conducted using an out-of-band, direct communication channel (e.g. phone or in person).
- We will illustrate the Root Security Officer (rso) mutual key signing with the Finance Local Security Officer (lso-finance).
- The same process is then carried out for the other Local Security Officers.

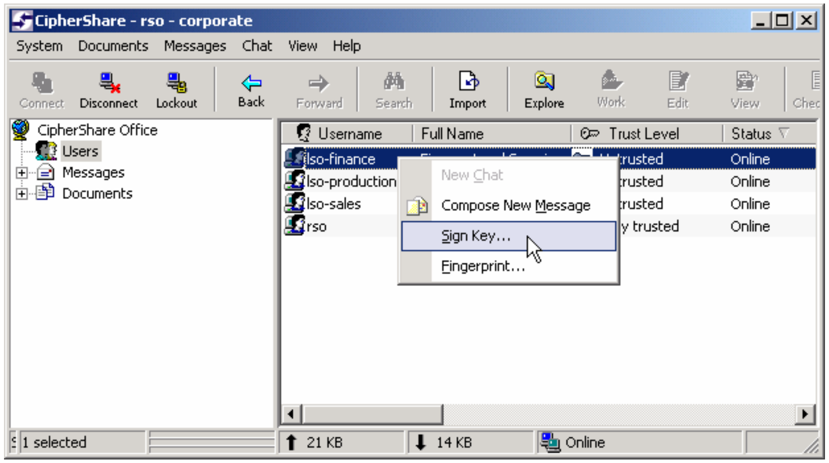
Security Officer – Key Signing

- Finance LSO right clicks on his entry for lso-finance, moves the mouse to Fingerprint and clicks to display his fingerprint window.



Username	Full Name	Trust Level	Status
lso-finance		trusted	Online
lso-production		usted	Online
lso-sales		usted	Online
rso		usted	Online

- RSO right clicks on his user entry for lso-finance, moves the mouse to Sign Key and clicks to display a sign key window.



Username	Full Name	Trust Level	Status
lso-finance		trusted	Online
lso-production		trusted	Online
lso-sales		trusted	Online
rso		y trusted	Online

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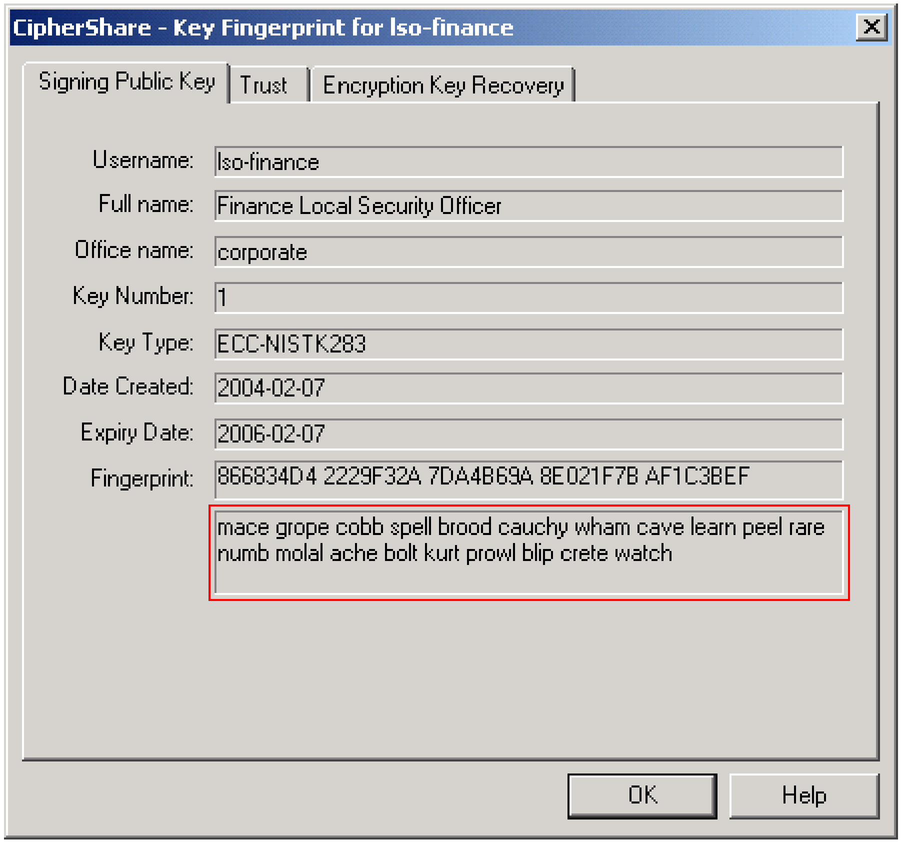
Security Officer – Key Signing

- **The Finance LSO fingerprint window displays a sequence of words that is a unique representation of his public key.**



Username: lso-finance

Full name: Finance Local Security Officer

Office name: corporate

Key Number: 1

Key Type: ECC-NISTK283

Date Created: 2004-02-07

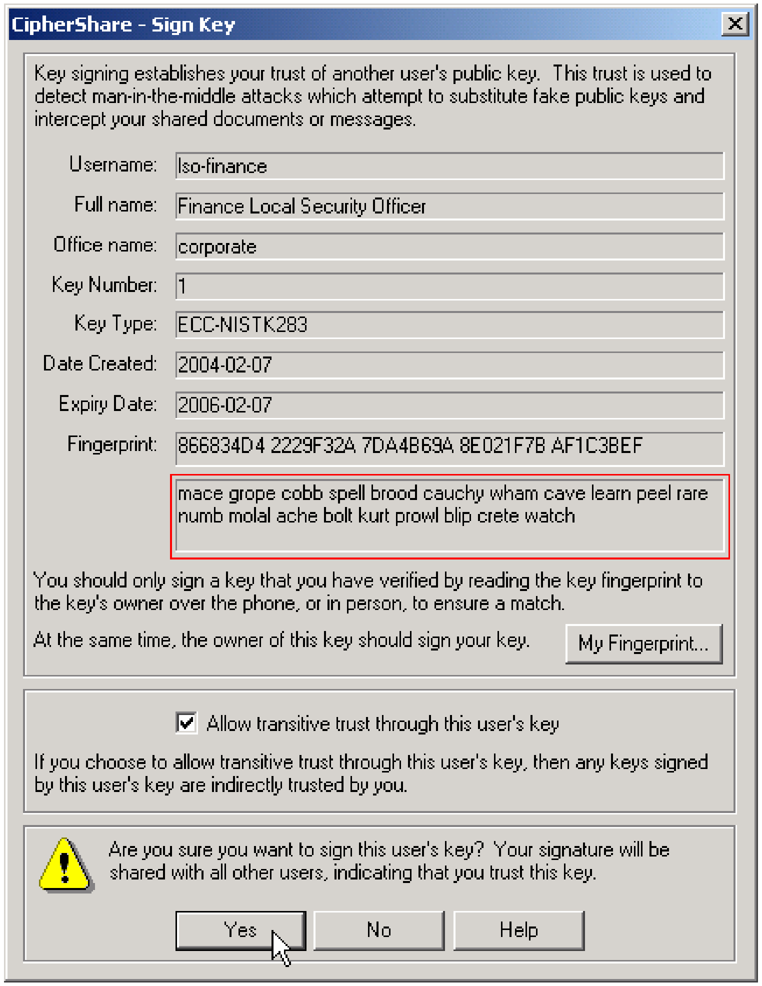
Expiry Date: 2006-02-07

Fingerprint: 866834D4 2229F32A 7DA4B69A 8E021F7B AF1C3BEF

mace grope cobb spell brood cauchy wham cave learn peel rare numb molal ache bolt kurt prowl blip crete watch

Security Officer – Key Signing

- The RSO Sign Key window should have the same fingerprint word sequence.
- This sequence must be verified with the Finance LSO through the out-of-band communication channel.
- When the sequence has been confirmed, RSO clicks the Yes button to sign the key.



Key signing establishes your trust of another user's public key. This trust is used to detect man-in-the-middle attacks which attempt to substitute fake public keys and intercept your shared documents or messages.

Username:	lso-finance
Full name:	Finance Local Security Officer
Office name:	corporate
Key Number:	1
Key Type:	ECC-NISTK283
Date Created:	2004-02-07
Expiry Date:	2006-02-07
Fingerprint:	866834D4 2229F32A 7DA4B69A 8E021F7B AF1C3BEF
	mace grope cobb spell brood cauchy wham cave learn peel rare numb molal ache bolt kurt prowl blip crete watch

You should only sign a key that you have verified by reading the key fingerprint to the key's owner over the phone, or in person, to ensure a match.

At the same time, the owner of this key should sign your key.

☑ Allow transitive trust through this user's key

If you choose to allow transitive trust through this user's key, then any keys signed by this user's key are indirectly trusted by you.

Are you sure you want to sign this user's key? Your signature will be shared with all other users, indicating that you trust this key.

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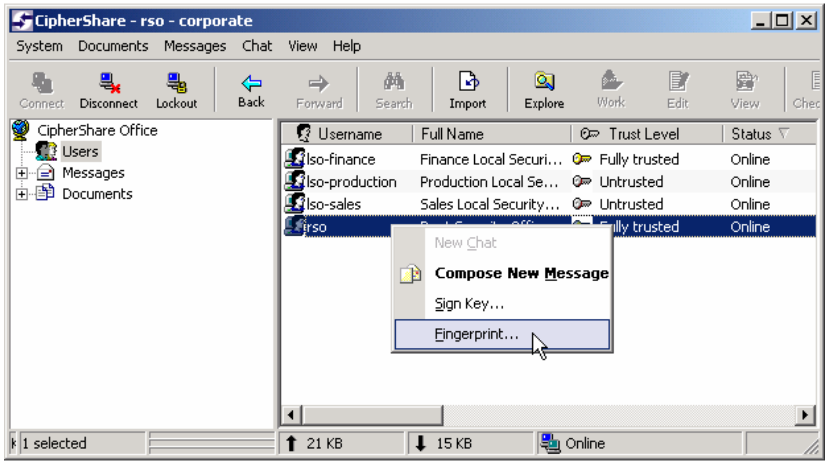
Security Officer – Key Signing

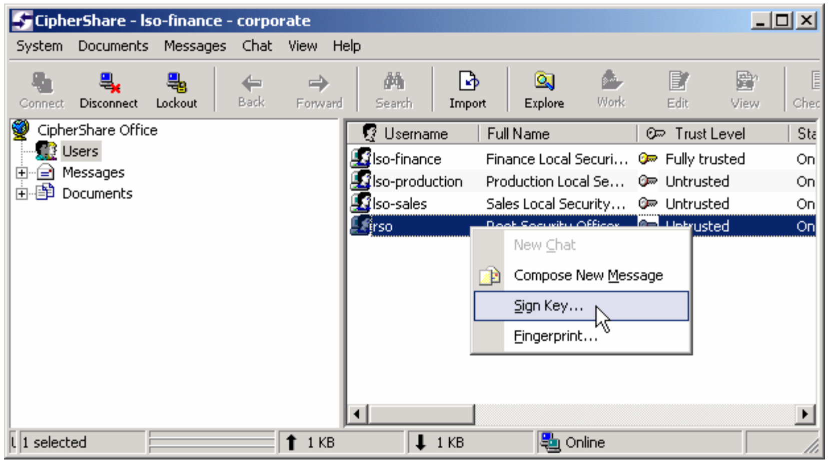
- RSO right clicks on his entry for rso, moves the mouse to Fingerprint and clicks to display his fingerprint window



Username	Full Name	Trust Level	Status
lso-finance	Finance Local Securi…	Fully trusted	Online
lso-production	Production Local Se…	Untrusted	Online
lso-sales	Sales Local Security…	Untrusted	Online
rso	Root Security Offi…	Fully trusted	Online

1 selected | 21 KB | 15 KB | Online

- Finance LSO right clicks on his user entry for rso, moves the mouse to Sign Key and clicks to display a sign key window



Username	Full Name	Trust Level	Sta
lso-finance	Finance Local Securi…	Fully trusted	On
lso-production	Production Local Se…	Untrusted	On
lso-sales	Sales Local Security…	Untrusted	On
rso	Root Security Officer	Untrusted	On

1 selected | 1 KB | 1 KB | Online

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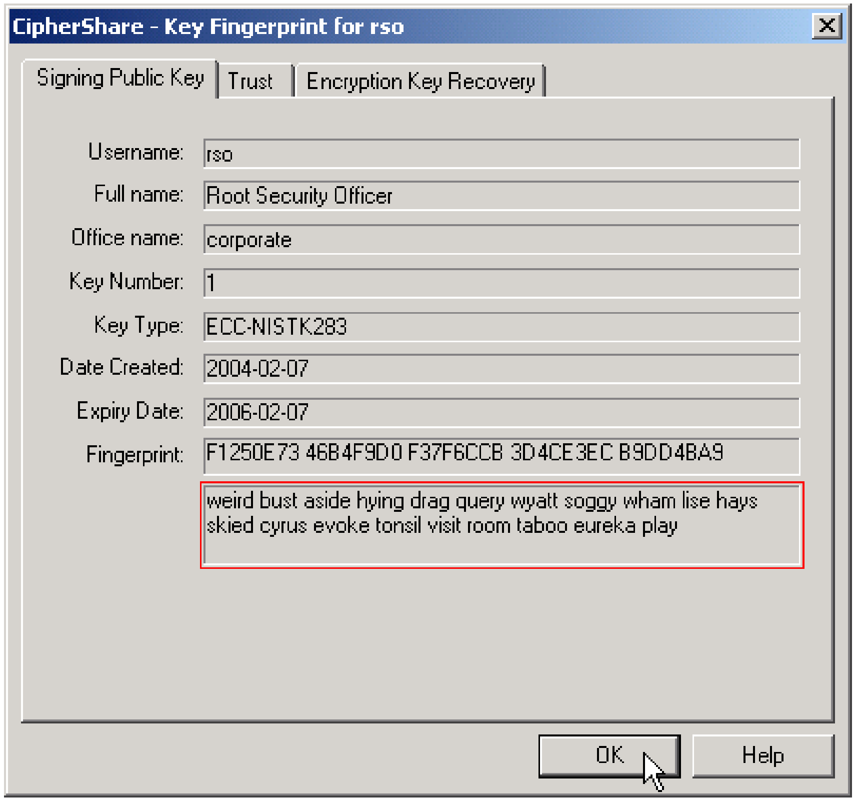
Security Officer – Key Signing

- **The RSO fingerprint window displays a sequence of words that is a unique representation of his public key.**



CipherShare - Key Fingerprint for rso

Username: rso

Full name: Root Security Officer

Office name: corporate

Key Number: 1

Key Type: ECC-NISTK283

Date Created: 2004-02-07

Expiry Date: 2006-02-07

Fingerprint: F1250E73 46B4F9D0 F37F6CCB 3D4CE3EC B9DD4BA9

weird bust aside hying drag query wyatt soggy wham lise hays
skied cyrus evoke tonsil visit room taboo eureka play

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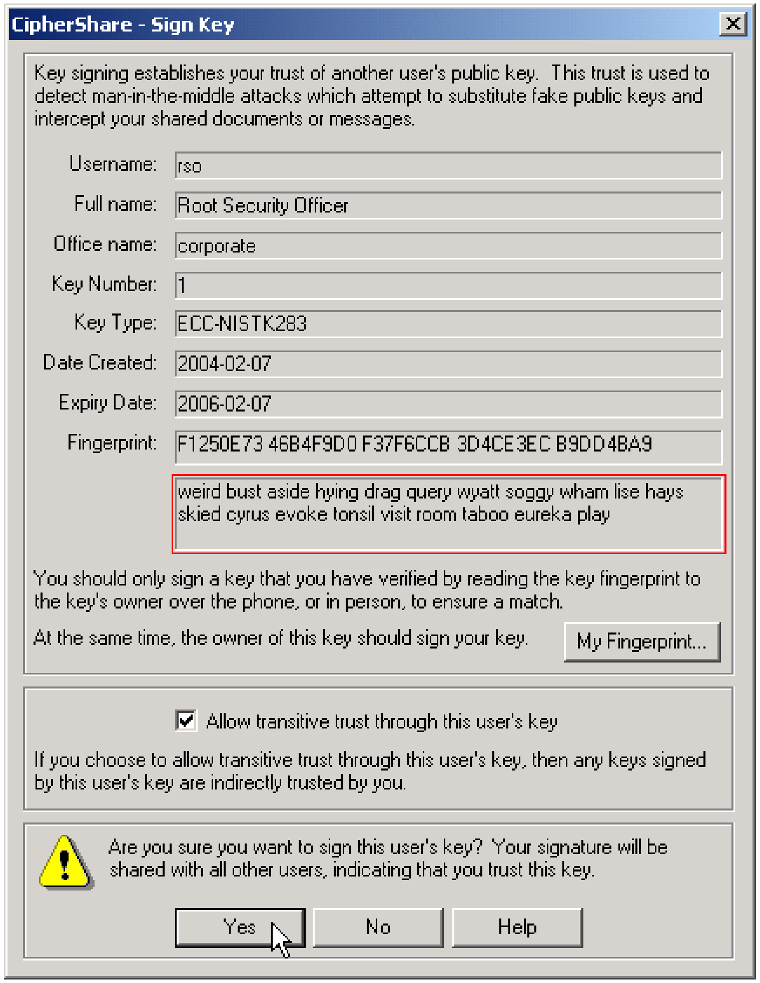
Security Officer – Key Signing

- The Finance LSO sign key window should have the same fingerprint word sequence.
- This sequence must be verified with the RSO through the out-of-band communication channel.
- When the sequence has been confirmed, Finance LSO clicks the Yes button to sign the key.



CipherShare - Sign Key

Key signing establishes your trust of another user's public key. This trust is used to detect man-in-the-middle attacks which attempt to substitute fake public keys and intercept your shared documents or messages.

Username:	rso
Full name:	Root Security Officer
Office name:	corporate
Key Number:	1
Key Type:	ECC-NISTK283
Date Created:	2004-02-07
Expiry Date:	2006-02-07
Fingerprint:	F1250E73 46B4F9D0 F37F6CCB 3D4CE3EC B9DD4BA9
	weird bust aside hying drag query wyatt soggy wham lise hays skied cyrus evoke tonsil visit room taboo eureka play

You should only sign a key that you have verified by reading the key fingerprint to the key's owner over the phone, or in person, to ensure a match.

At the same time, the owner of this key should sign your key.

☑ Allow transitive trust through this user's key

If you choose to allow transitive trust through this user's key, then any keys signed by this user's key are indirectly trusted by you.

Are you sure you want to sign this user's key? Your signature will be shared with all other users, indicating that you trust this key.

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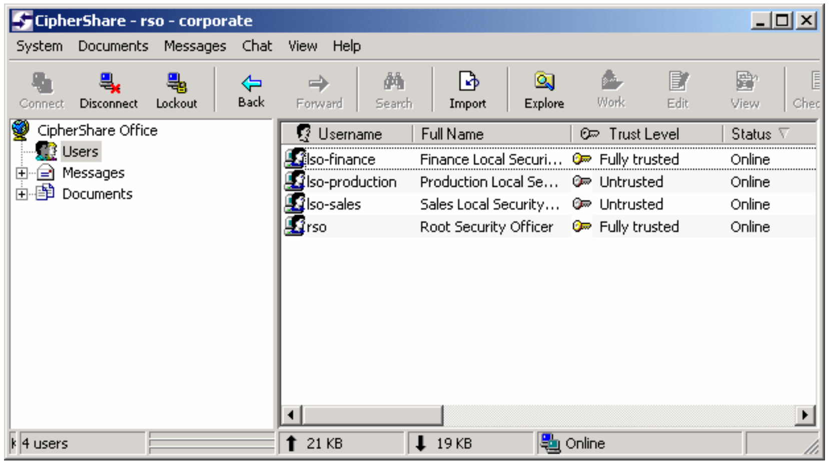
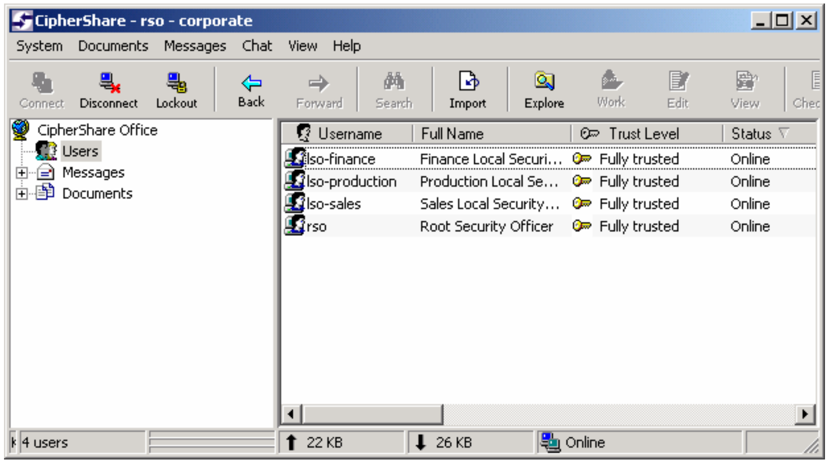
Security Officer – Key Signing

- The mutual key signing between the RSO and the Finance LSO is now complete.



Username	Full Name	Trust Level	Status
lso-finance	Finance Local Securi...	Fully trusted	Online
lso-production	Production Local Se...	Untrusted	Online
lso-sales	Sales Local Security...	Untrusted	Online
rso	Root Security Officer	Fully trusted	Online

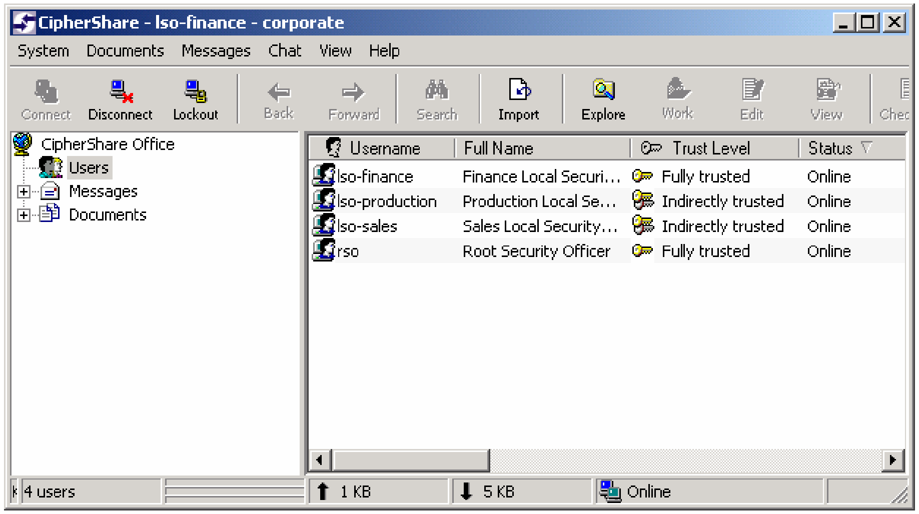
- The RSO must repeat these steps for the other Local Security Officers.
- When complete, the RSO Users list will show that each LSO is fully trusted.



Username	Full Name	Trust Level	Status
lso-finance	Finance Local Securi...	Fully trusted	Online
lso-production	Production Local Se...	Fully trusted	Online
lso-sales	Sales Local Security...	Fully trusted	Online
rso	Root Security Officer	Fully trusted	Online

Security Officer – Key Signing

- The Finance LSO will observe an indirect trust relationship with the other two Local Security Officers.
- This occurs because each LSO granted Transitive Trust to the RSO, i.e. an LSO will trust any key the RSO has signed.
- This concept will be extended as the Local Security Officers create user accounts.



Username	Full Name	Trust Level	Status
lso-finance	Finance Local Securi...	Fully trusted	Online
lso-production	Production Local Se...	Indirectly trusted	Online
lso-sales	Sales Local Security...	Indirectly trusted	Online
rso	Root Security Officer	Fully trusted	Online

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Adding Users to the Office

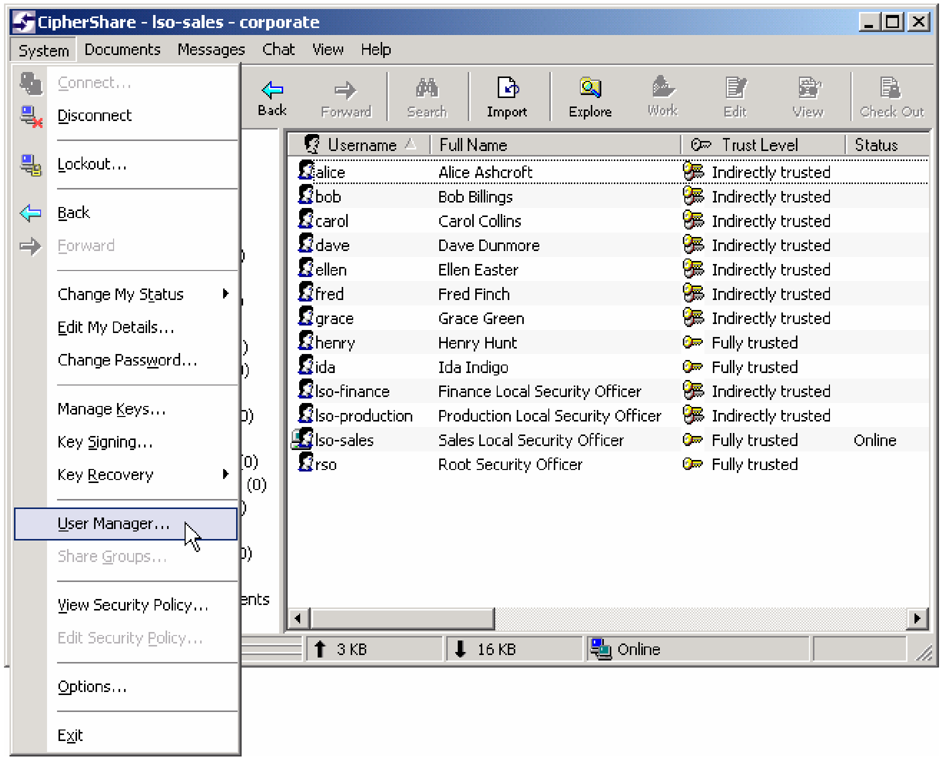
- Each Local Security Officer creates accounts for the users in their department as follows:

  - Finance
    - *Alice*
    - *Bob*
    - *Carol*
  - Production
    - *Dave*
    - *Ellen*
    - *Fred*
    - *Grace*
  - Sales
    - *Henry*
    - *Ida*
    - *Jack*

- We will assume that all but the last account has been set up and follow the process as the Sales Local Security Office creates the account for Jack and establishes mutual trust with it.

Local Security Officer – User Creation

- The Sales Local Security Officer creates a user account for Jack Jefferson.
- Click on System, move the mouse pointer down to User Manager and click again.



Username	Full Name	Trust Level	Status
alice	Alice Ashcroft	Indirectly trusted	
bob	Bob Billings	Indirectly trusted	
carol	Carol Collins	Indirectly trusted	
dave	Dave Dunmore	Indirectly trusted	
ellen	Ellen Easter	Indirectly trusted	
fred	Fred Finch	Indirectly trusted	
grace	Grace Green	Indirectly trusted	
henry	Henry Hunt	Fully trusted	
ida	Ida Indigo	Fully trusted	
lso-finance	Finance Local Security Officer	Indirectly trusted	
lso-production	Production Local Security Officer	Indirectly trusted	
lso-sales	Sales Local Security Officer	Fully trusted	Online
rso	Root Security Officer	Fully trusted	

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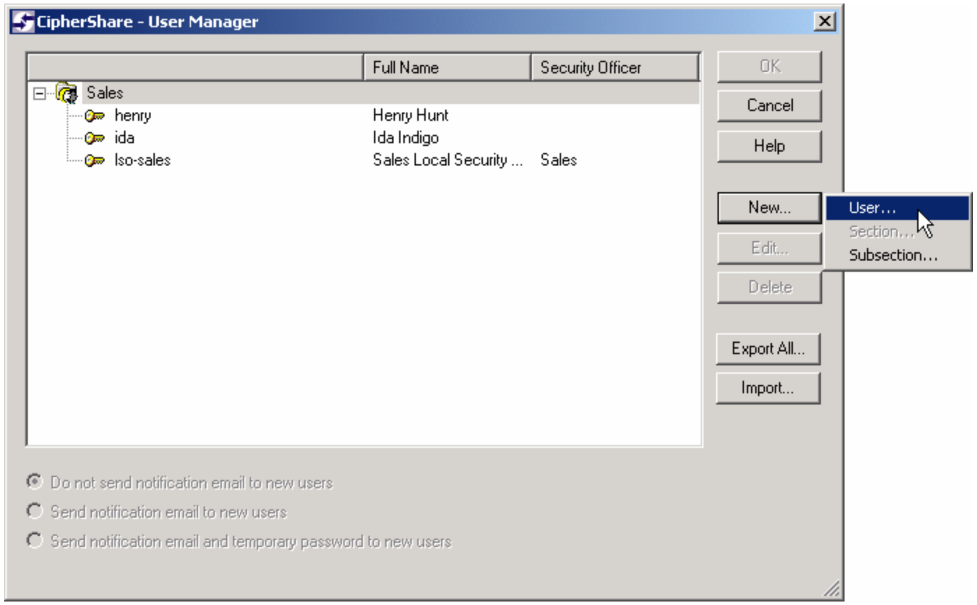
Local Security Officer – User Creation

- Notice that the Sales LSO can only see the Sales Section.

- The Sales LSO clicks on the New button, then moves the mouse to User and clicks again.



CipherShare - User Manager

	Full Name	Security Officer
Sales		
henry	Henry Hunt	
ida	Ida Indigo	
lso-sales	Sales Local Security ...	Sales

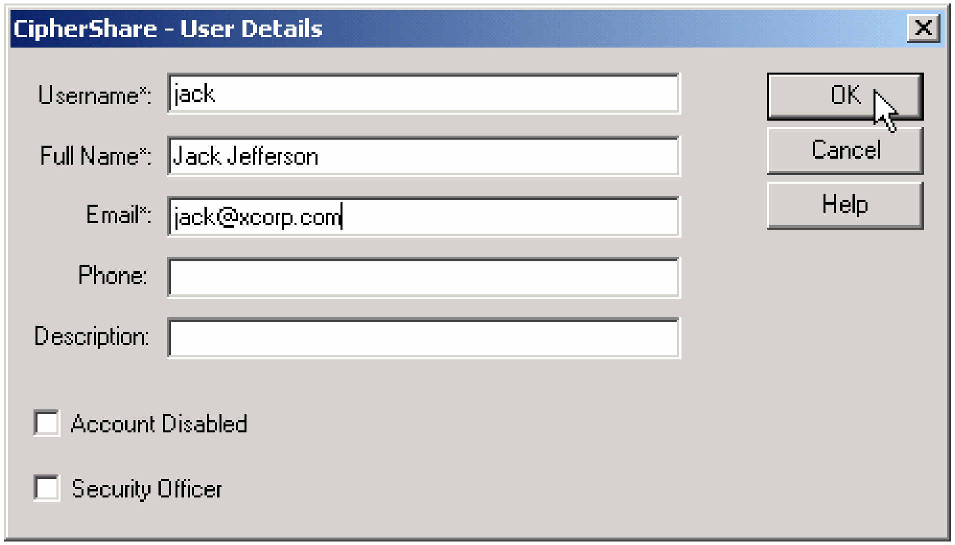
● Do not send notification email to new users

○ Send notification email to new users

○ Send notification email and temporary password to new users

Local Security Officer – User Creation

- **Enter**
  - *Username*
  - *Full Name*
  - *Email*
  - *Phone and Description can be entered now or left to be filled in later by the actual account owner*
- **Ensure the Security Officer box is NOT checked.**
- **Click the OK button to continue.**



CipherShare - User Details

Username*: jack

Full Name*: Jack Jefferson

Email*: jack@xcorp.com

Phone:

Description:

☐ Account Disabled

☐ Security Officer

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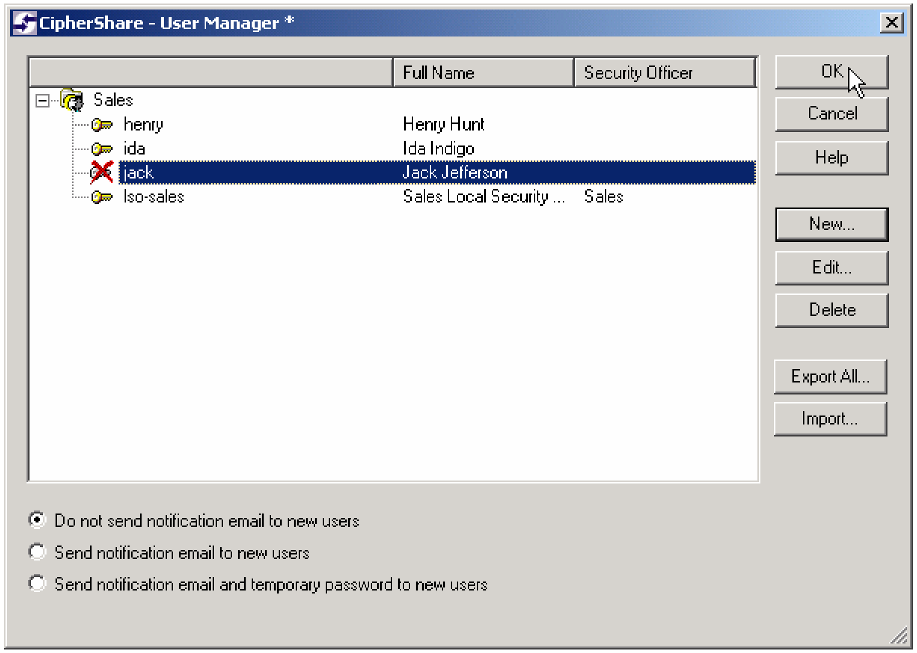
Local Security Officer – User Creation

- The User Manager window will now look like this.
- Take a moment to verify that everything is spelled correctly and in the right place.
- If there are any errors, correct them now.
- You can specify how each user will be notified about his/her new CipherShare account.
- As the creating security officer, you will receive a CipherShare message with all the account details.
- Click the OK button to create the account.



	Full Name	Security Officer
Sales		
henry	Henry Hunt	
ida	Ida Indigo	
jack	Jack Jefferson	
lso-sales	Sales Local Security ...	Sales

● Do not send notification email to new users
○ Send notification email to new users
○ Send notification email and temporary password to new users

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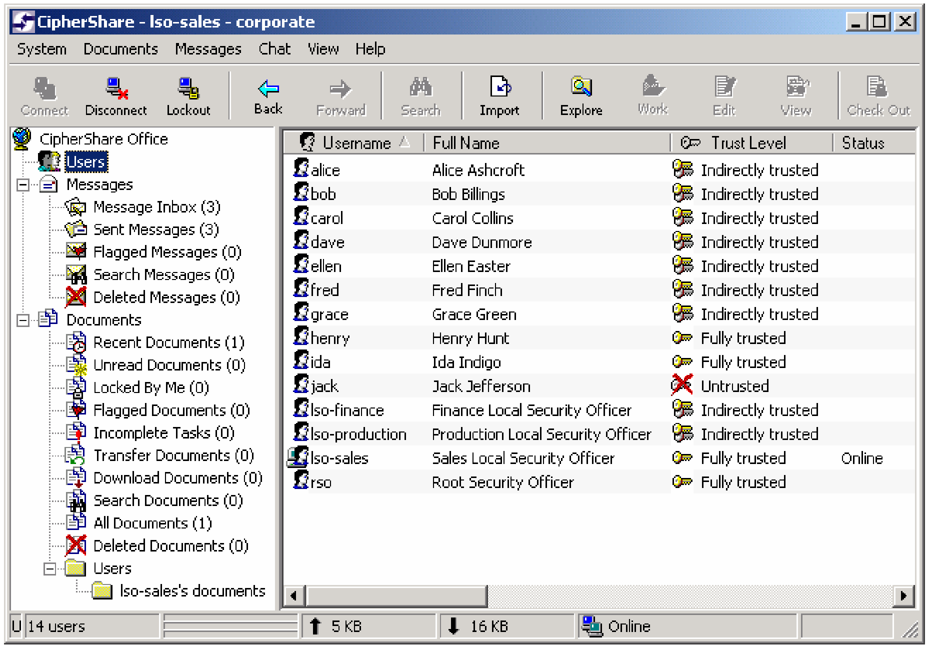
Local Security Officer – User Creation

- Click on the Users folder of the CipherShare Desktop.
- The list of new users should appear to the right.
- Notice that at this stage the entry for Jack Jefferson is considered to be untrusted.
- It will remain in this state until Jack has connected to the CipherShare Office, created a Public/Private Key Pair and had it signed.



Username	Full Name	Trust Level	Status
alice	Alice Ashcroft	Indirectly trusted	
bob	Bob Billings	Indirectly trusted	
carol	Carol Collins	Indirectly trusted	
dave	Dave Dunmore	Indirectly trusted	
ellen	Ellen Easter	Indirectly trusted	
fred	Fred Finch	Indirectly trusted	
grace	Grace Green	Indirectly trusted	
henry	Henry Hunt	Fully trusted	
ida	Ida Indigo	Fully trusted	
jack	Jack Jefferson	Untrusted	
lso-finance	Finance Local Security Officer	Indirectly trusted	
lso-production	Production Local Security Officer	Indirectly trusted	
lso-sales	Sales Local Security Officer	Fully trusted	Online
rso	Root Security Officer	Fully trusted	

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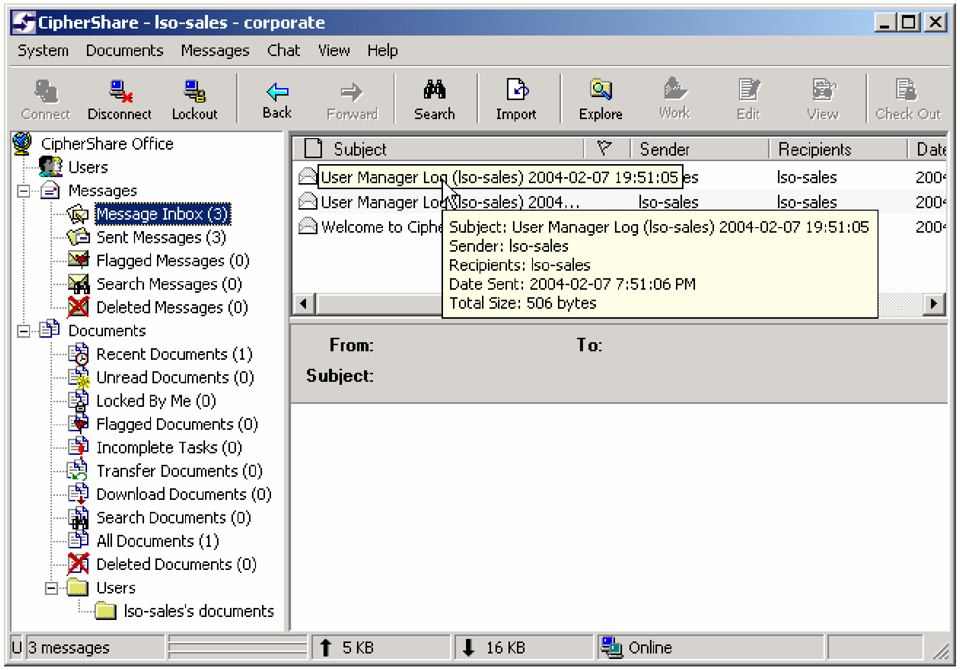
Local Security Officer – User Creation

- Click on the Message Inbox folder of the CipherShare Desktop.
- The list of messages in the Inbox should appear to the right.
- A User Manager Log message contains the details of the account just created.
- Double Click this message to view its contents.



Subject	Sender	Recipients	Date
User Manager Log (lso-sales) 2004-02-07 19:51:05	es	lso-sales	200
User Manager Log (lso-sales) 2004…	lso-sales	lso-sales	200
Welcome to Ciphe			200

Subject: User Manager Log (lso-sales) 2004-02-07 19:51:05
Sender: lso-sales
Recipients: lso-sales
Date Sent: 2004-02-07 7:51:06 PM
Total Size: 506 bytes

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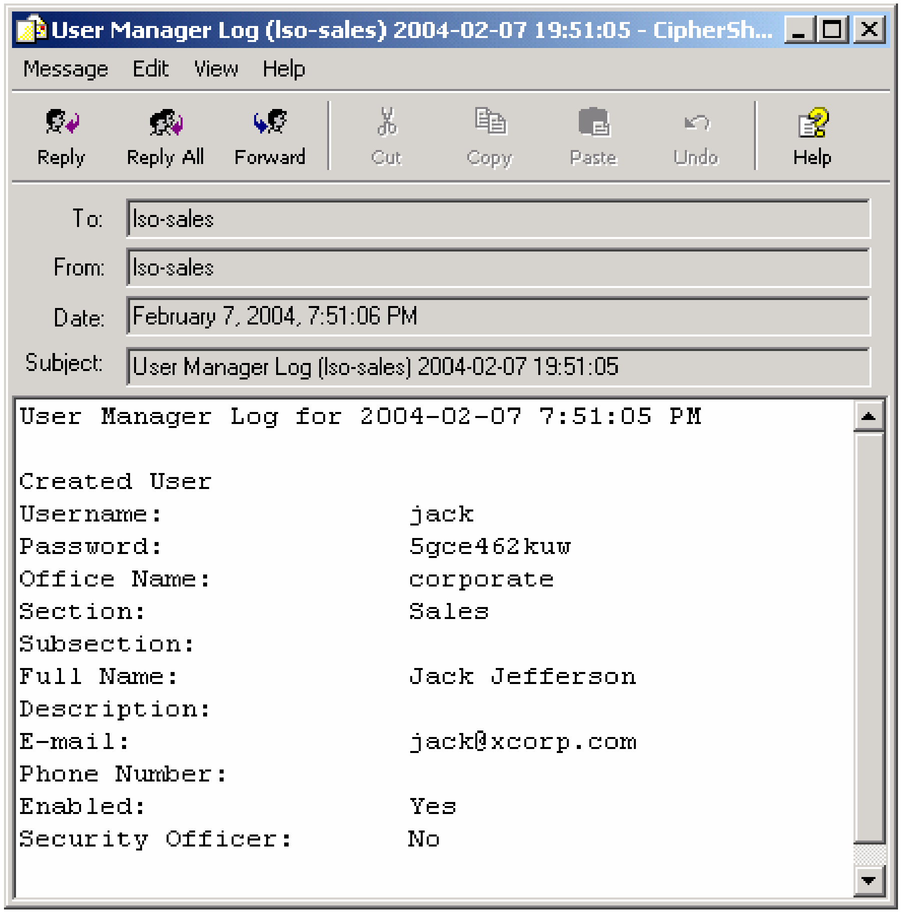
Local Security Officer – User Connection

- Contact Jack.
- Have him install CipherShare following the steps detailed in slides 20-25 and 31-36.
- Have him connect to the office using the username and temporary password in the message.


User Manager Log (lso-sales) 2004-02-07 19:51:05 - CipherSh...
Message
Edit
View
Help
Reply
Reply All
Forward
Cut
Copy
Paste
Undo
Help

To: lso-sales

From: lso-sales

Date: February 7, 2004, 7:51:06 PM

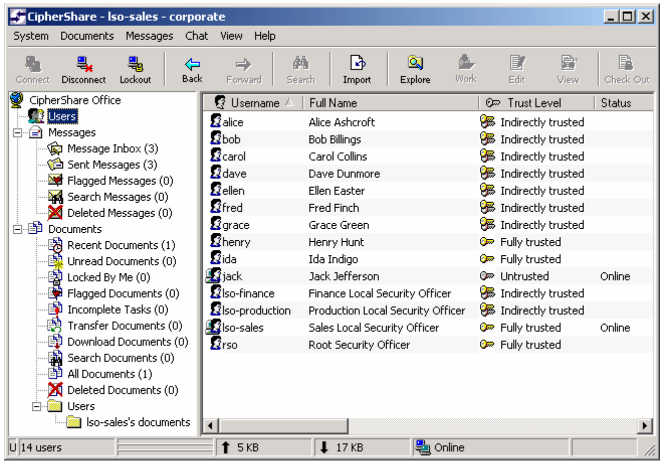
Subject: User Manager Log (lso-sales) 2004-02-07 19:51:05

```
User Manager Log for 2004-02-07 7:51:05 PM

Created User
Username:                 jack
Password:                 5gce462kuw
Office Name:              corporate
Section:                  Sales
Subsection:
Full Name:                Jack Jefferson
Description:
E-mail:                   jack@xcorp.com
Phone Number:
Enabled:                  Yes
Security Officer:         No
```

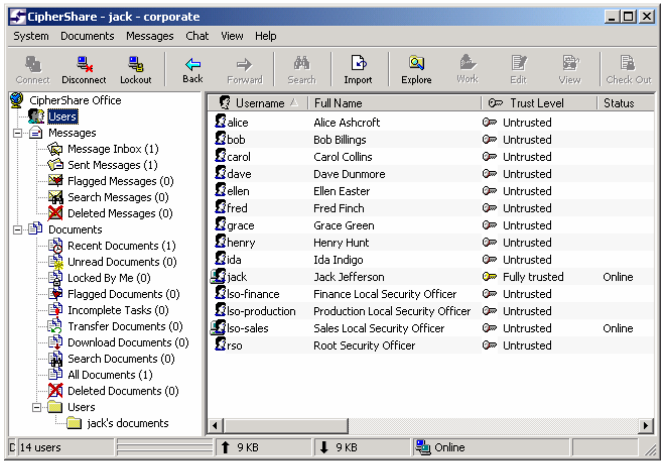
Local Security Officer – User Connection

- After Jack has connected to the Office, the Sales LSO’s Users list appears like this.
- Notice that Jack’s key no longer has a red X over it, but it is still untrusted.



Username	Full Name	Trust Level	Status
alice	Alice Ashcroft	Indirectly trusted	
bob	Bob Billings	Indirectly trusted	
carol	Carol Collins	Indirectly trusted	
dave	Dave Dunmore	Indirectly trusted	
ellen	Ellen Easter	Indirectly trusted	
fred	Fred Finch	Indirectly trusted	
grace	Grace Green	Indirectly trusted	
henry	Henry Hunt	Fully trusted	
ida	Ida Indigo	Fully trusted	
jack	Jack Jefferson	Untrusted	Online
lso-finance	Finance Local Security Officer	Indirectly trusted	
lso-production	Production Local Security Officer	Indirectly trusted	
lso-sales	Sales Local Security Officer	Fully trusted	Online
rso	Root Security Officer	Fully trusted	

- Jack’s user Users list appears like this.
- Notice that Jack sees everyone's keys as untrusted.



Username	Full Name	Trust Level	Status
alice	Alice Ashcroft	Untrusted	
bob	Bob Billings	Untrusted	
carol	Carol Collins	Untrusted	
dave	Dave Dunmore	Untrusted	
ellen	Ellen Easter	Untrusted	
fred	Fred Finch	Untrusted	
grace	Grace Green	Untrusted	
henry	Henry Hunt	Untrusted	
ida	Ida Indigo	Untrusted	
jack	Jack Jefferson	Fully trusted	Online
lso-finance	Finance Local Security Officer	Untrusted	
lso-production	Production Local Security Officer	Untrusted	
lso-sales	Sales Local Security Officer	Untrusted	Online
rso	Root Security Officer	Untrusted	

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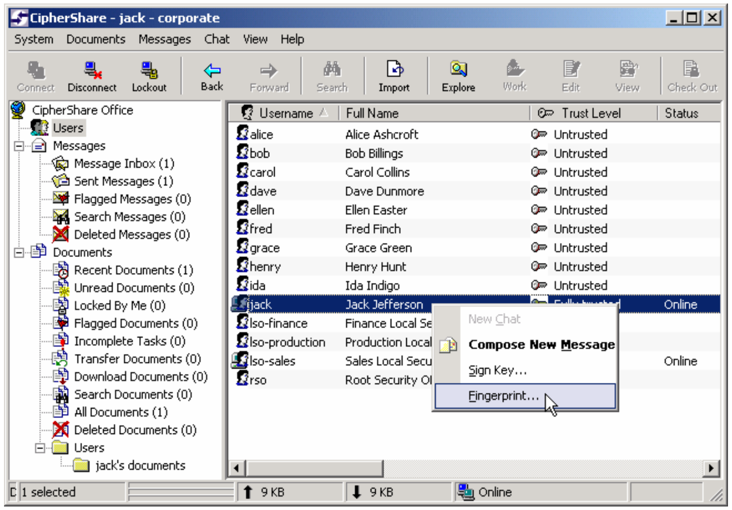
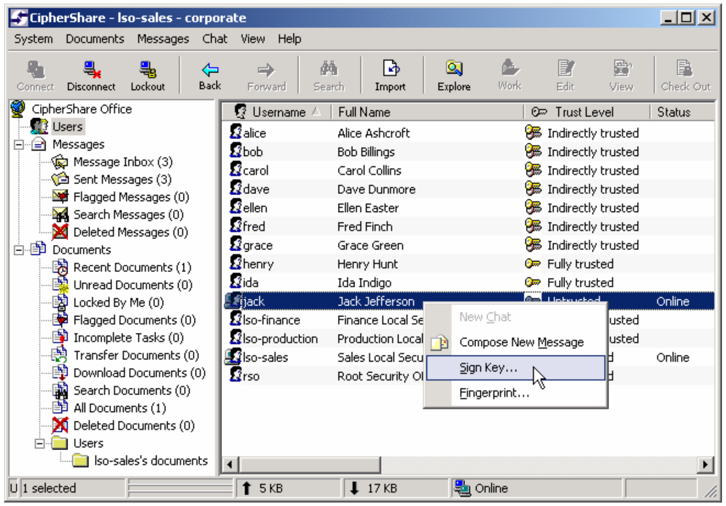
User Key Signing

- Jack right clicks on his entry for jack, moves the mouse to Fingerprint and clicks to display his fingerprint window.

- The Sales LSO right clicks on his user entry for jack, moves the mouse to Sign Key and clicks to display a sign key window.



Username	Full Name	Trust Level	Status
alice	Alice Ashcroft	Untrusted	
bob	Bob Billings	Untrusted	
carol	Carol Collins	Untrusted	
dave	Dave Dunmore	Untrusted	
ellen	Ellen Easter	Untrusted	
fred	Fred Finch	Untrusted	
grace	Grace Green	Untrusted	
henry	Henry Hunt	Untrusted	
ida	Ida Indigo	Untrusted	
jack	Jack Jefferson	Fully trusted	Online
lso-finance	Finance Local Se		
lso-production	Production Local		
lso-sales	Sales Local Secu		Online
rso	Root Security Ol		



Username	Full Name	Trust Level	Status
alice	Alice Ashcroft	Indirectly trusted	
bob	Bob Billings	Indirectly trusted	
carol	Carol Collins	Indirectly trusted	
dave	Dave Dunmore	Indirectly trusted	
ellen	Ellen Easter	Indirectly trusted	
fred	Fred Finch	Indirectly trusted	
grace	Grace Green	Indirectly trusted	
henry	Henry Hunt	Fully trusted	
ida	Ida Indigo	Fully trusted	
jack	Jack Jefferson	Untrusted	Online
lso-finance	Finance Local Se	usted	
lso-production	Production Local	usted	
lso-sales	Sales Local Secu	d	Online
rso	Root Security Ol	d	

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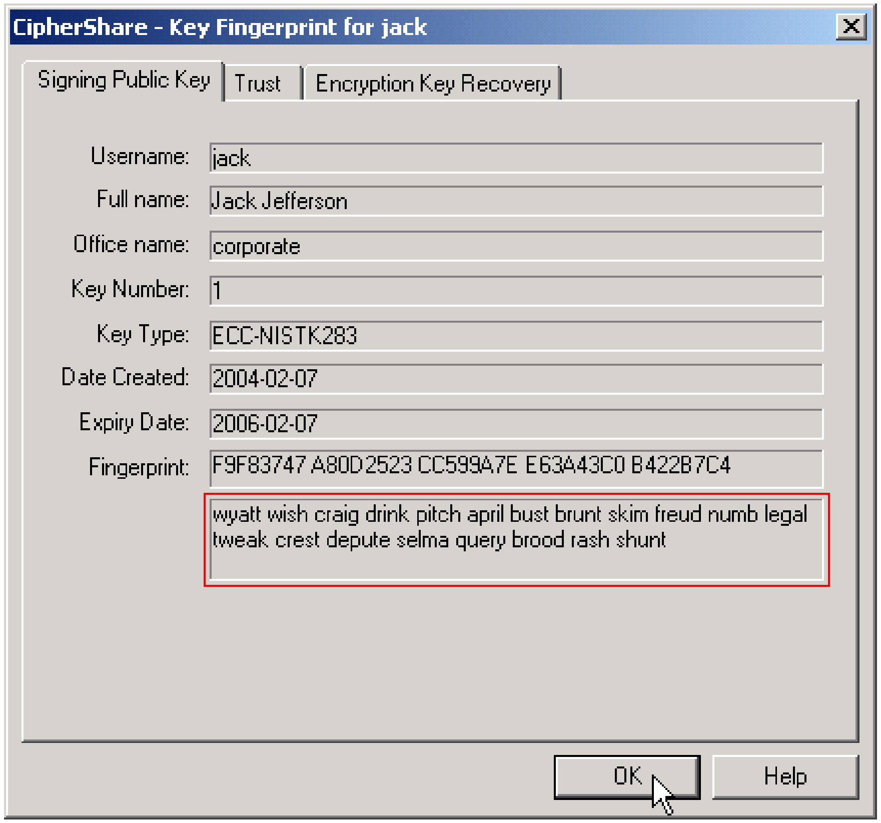
User Key Signing

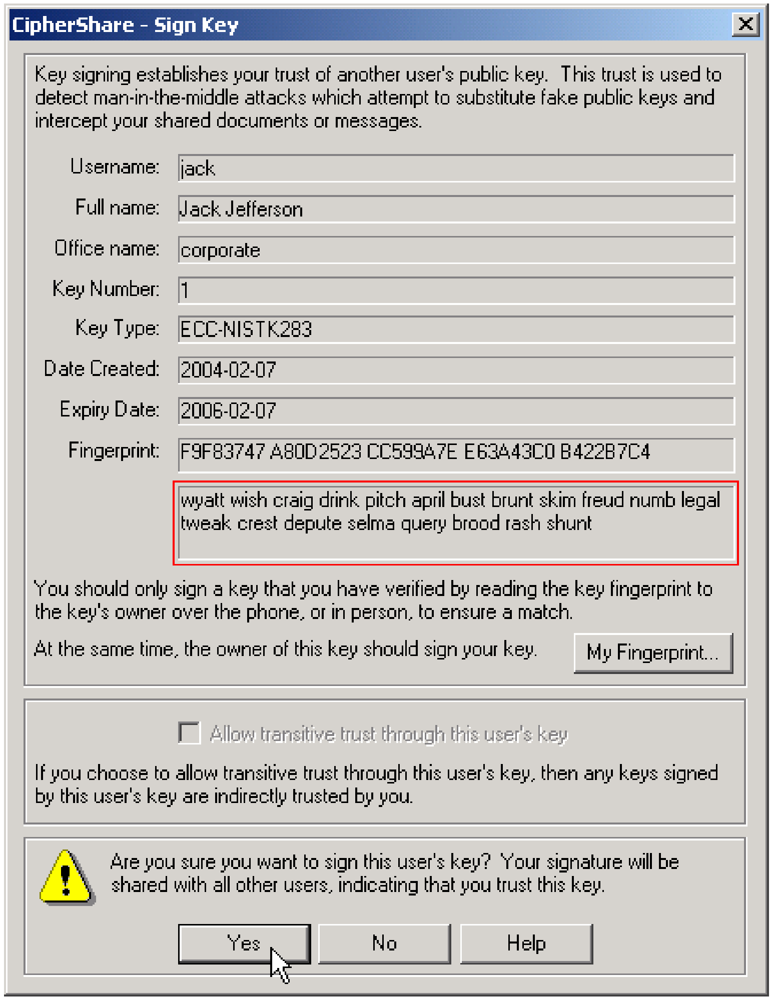
- **The fingerprint window for jack displays a sequence of words that is a unique representation of his public key.**



Username:	jack
Full name:	Jack Jefferson
Office name:	corporate
Key Number:	1
Key Type:	ECC-NISTK283
Date Created:	2004-02-07
Expiry Date:	2006-02-07
Fingerprint:	F9F83747 A80D2523 CC599A7E E63A43C0 B422B7C4
	wyatt wish craig drink pitch april bust brunt skim freud numb legal tweak crest depute selma query brood rash shunt

User Key Signing

- The Sign Key window for jack should have the same fingerprint word sequence.
- This sequence must be verified by the Sales LSO with Jack through an out-of-band communication channel.
- When the sequence has been confirmed, the Sales LSO clicks the Yes button to sign the key.



Key signing establishes your trust of another user's public key. This trust is used to detect man-in-the-middle attacks which attempt to substitute fake public keys and intercept your shared documents or messages.

Username:	jack
Full name:	Jack Jefferson
Office name:	corporate
Key Number:	1
Key Type:	ECC-NISTK283
Date Created:	2004-02-07
Expiry Date:	2006-02-07
Fingerprint:	F9F83747 A80D2523 CC599A7E E63A43C0 B422B7C4
	wyatt wish craig drink pitch april bust brunt skim freud numb legal tweak crest depute selma query brood rash shunt

You should only sign a key that you have verified by reading the key fingerprint to the key's owner over the phone, or in person, to ensure a match.

At the same time, the owner of this key should sign your key.

□ Allow transitive trust through this user's key

If you choose to allow transitive trust through this user's key, then any keys signed by this user's key are indirectly trusted by you.

Are you sure you want to sign this user's key? Your signature will be shared with all other users, indicating that you trust this key.

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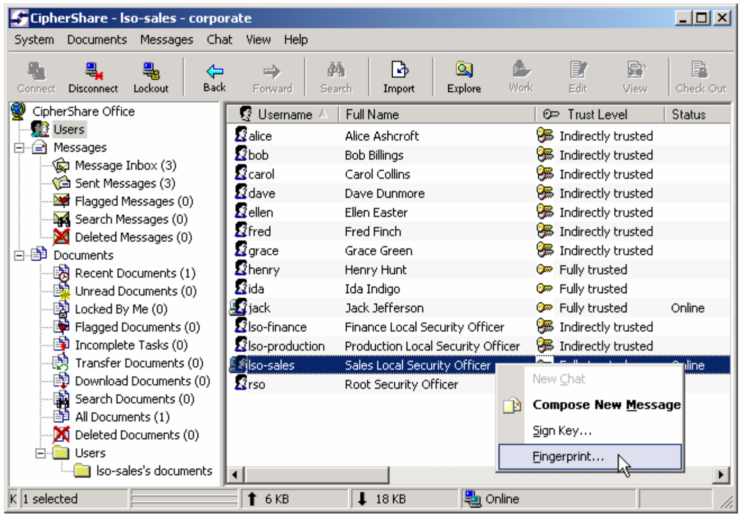
User Key Signing

- The Sales LSO right clicks on his entry for lso-sales, moves the mouse to Fingerprint and clicks to display his fingerprint window.

- Jack right clicks on his user entry for lso-sales, moves the mouse to Sign Key and clicks to display a sign key window.



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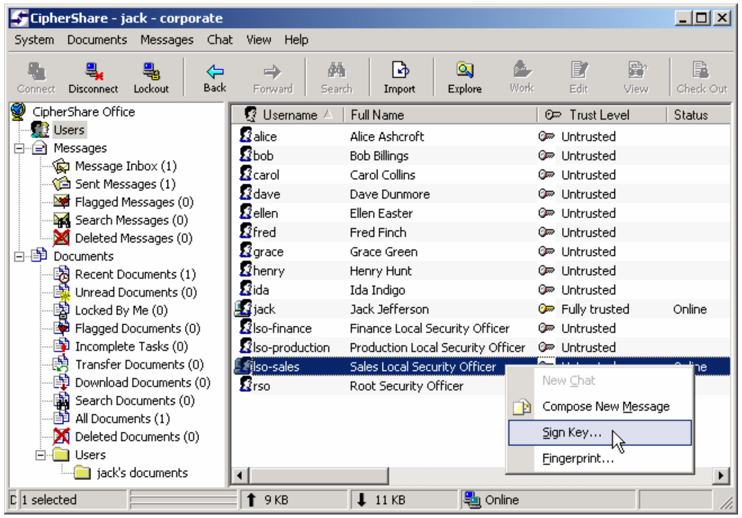
grace	Grace Green	Indirectly trusted	
henry	Henry Hunt	Fully trusted	
ida	Ida Indigo	Fully trusted	
jack	Jack Jefferson	Fully trusted	Online
lso-finance	Finance Local Security Officer	Indirectly trusted	
lso-production	Production Local Security Officer	Indirectly trusted	
lso-sales	Sales Local Security Officer		line
rso	Root Security Officer		



Username	Full Name	Trust Level	Status
alice	Alice Ashcroft	Untrusted	
bob	Bob Billings	Untrusted	
carol	Carol Collins	Untrusted	
dave	Dave Dunmore	Untrusted	
ellen	Ellen Easter	Untrusted	
fred	Fred Finch	Untrusted	
grace	Grace Green	Untrusted	
henry	Henry Hunt	Untrusted	
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jack	Jack Jefferson	Fully trusted	Online
lso-finance	Finance Local Security Officer	Untrusted	
lso-production	Production Local Security Officer	Untrusted	
lso-sales	Sales Local Security Officer		ne
rso	Root Security Officer		

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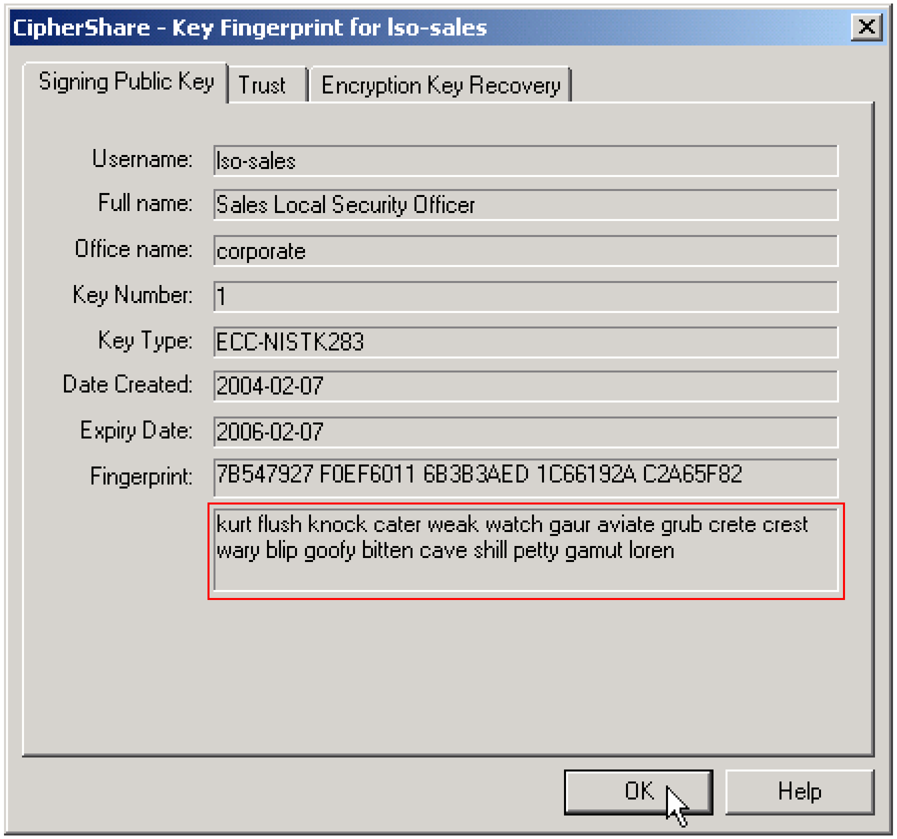
User Key Signing

- **The Sales LSO fingerprint window displays a sequence of words that is a unique representation of his public key.**



Username: lso-sales

Full name: Sales Local Security Officer

Office name: corporate

Key Number: 1

Key Type: ECC-NISTK283

Date Created: 2004-02-07

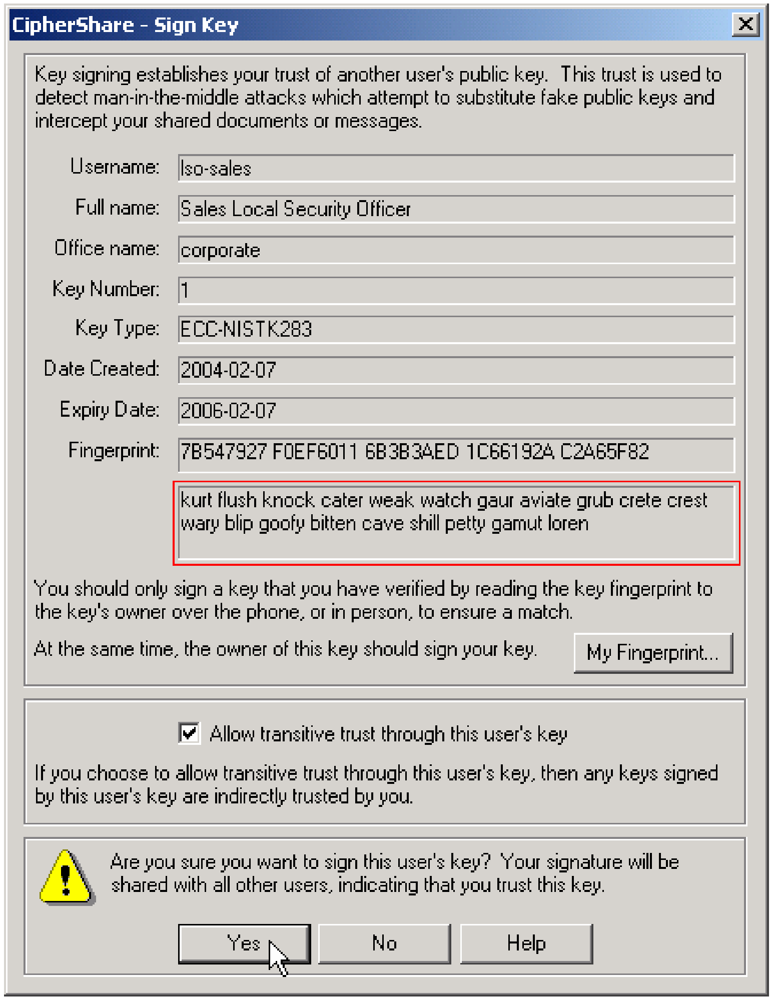
Expiry Date: 2006-02-07

Fingerprint: 7B547927 F0EF6011 6B3B3AED 1C66192A C2A65F82

kurt flush knock cater weak watch gaur aviate grub crete crest wary blip goofy bitten cave shill petty gamut loren

User Key Signing

- The sign key window for lso-sales should have the same fingerprint word sequence.
- This sequence must be verified by Jack with the Sales LSO through an out-of-band communication channel.
- When the sequence has been confirmed, Jack clicks the Yes button to sign the key.



Key signing establishes your trust of another user's public key. This trust is used to detect man-in-the-middle attacks which attempt to substitute fake public keys and intercept your shared documents or messages.

Username: lso-sales

Full name: Sales Local Security Officer

Office name: corporate

Key Number: 1

Key Type: ECC-NISTK283

Date Created: 2004-02-07

Expiry Date: 2006-02-07

Fingerprint: 7B547927 F0EF6011 6B3B3AED 1C66192A C2A65F82

kurt flush knock cater weak watch gaur aviate grub crete crest wary blip goofy bitten cave shill petty gamut loren

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Are you sure you want to sign this user's key? Your signature will be shared with all other users, indicating that you trust this key.

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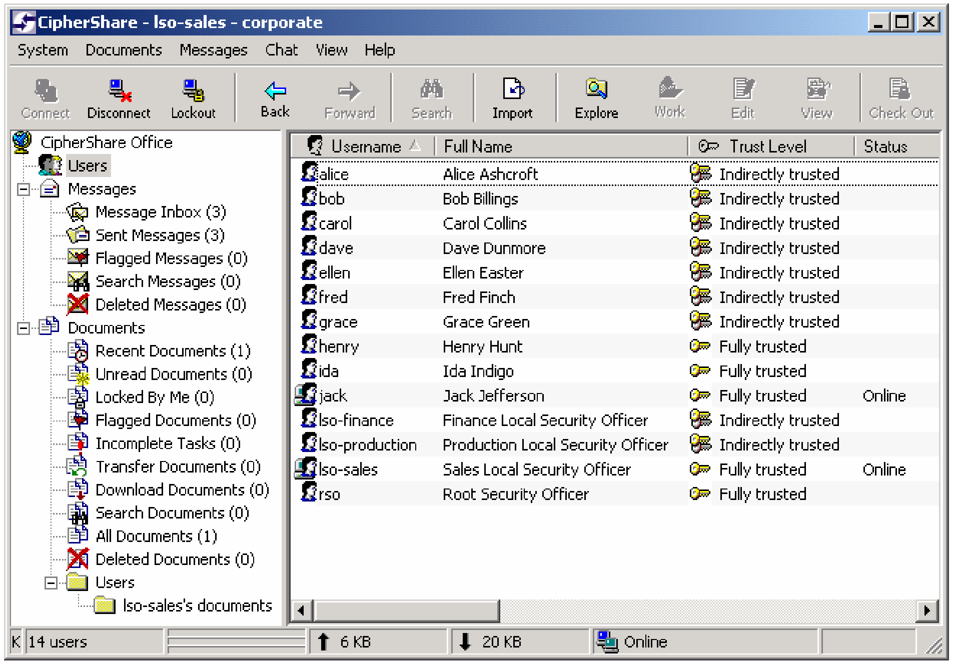
User Key Signing

- The mutual key signing between the Sales LSO and Jack is now complete.
- Sales LSO’s Users list will appear like this.



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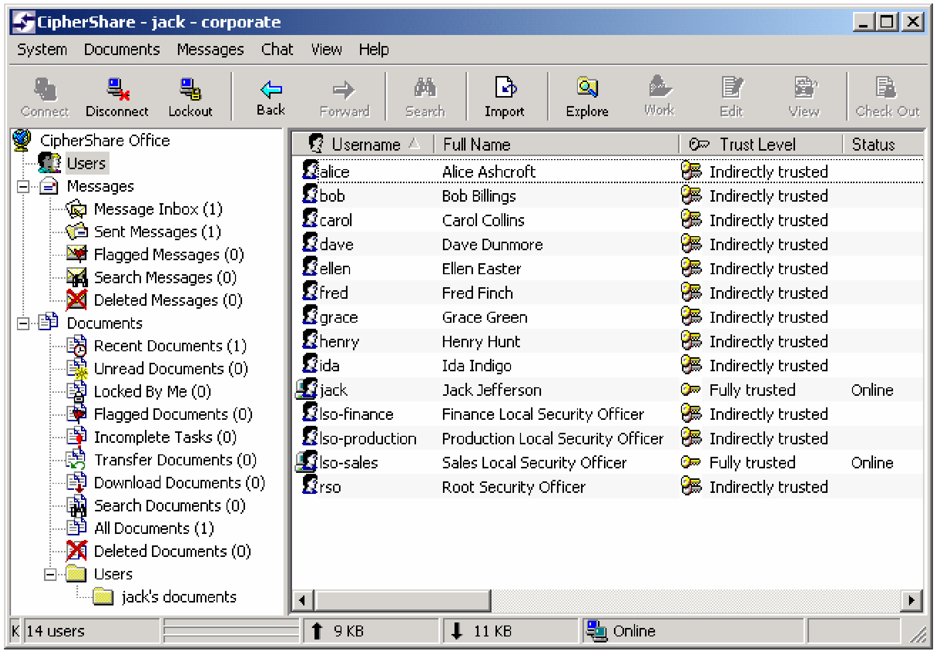
grace	Grace Green	Indirectly trusted	
henry	Henry Hunt	Fully trusted	
ida	Ida Indigo	Fully trusted	
jack	Jack Jefferson	Fully trusted	Online
lso-finance	Finance Local Security Officer	Indirectly trusted	
lso-production	Production Local Security Officer	Indirectly trusted	
lso-sales	Sales Local Security Officer	Fully trusted	Online
rso	Root Security Officer	Fully trusted	

User Key Signing

- Jack’s Users list will appear like this.
- Notice that Jack now has an indirect trust relationship with all other users in the CipherShare Office.
- Jack can now securely chat, message and share documents with trusted users of the Office.



Username	Full Name	Trust Level	Status
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bob	Bob Billings	Indirectly trusted	
carol	Carol Collins	Indirectly trusted	
dave	Dave Dunmore	Indirectly trusted	
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fred	Fred Finch	Indirectly trusted	
grace	Grace Green	Indirectly trusted	
henry	Henry Hunt	Indirectly trusted	
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lso-finance	Finance Local Security Officer	Indirectly trusted	
lso-production	Production Local Security Officer	Indirectly trusted	
lso-sales	Sales Local Security Officer	Fully trusted	Online
rso	Root Security Officer	Indirectly trusted	

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Thank You for viewing the

CipherShare Server Setup Tutorial