

# 2X Manual

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**2X Client for Linux**  
v10.1





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# Contents

<b>Installing 2X Client for Linux</b>	<b>4</b>
Installation Procedures (DEB Version) .....	4
Installation Procedures (RPM Version).....	5
Installation Procedures (.TAR.BZ2 Version) .....	5
SSO (Single Sign On) Installation Procedures .....	6
<b>Using 2X Client</b>	<b>7</b>
User Interface.....	7
Command Line Interface for 2X Client.....	8
Examples of How to Use Command Line Parameters .....	10
Table of Available Locale Identifiers .....	11
<b>Troubleshooting and Support</b>	<b>13</b>
Introduction .....	13
Knowledgebase.....	13
Request Support via E-mail .....	13
Request Support via Phone .....	13
<b>About 2X</b>	<b>14</b>



# INSTALLING 2X CLIENT FOR LINUX

2X Client is approved for the following 32 bit Linux distributions:

- Ubuntu 8.04
- Ubuntu 8.10
- Ubuntu 9.04
- Ubuntu 9.10
- OpenSuse 11.1
- OpenSuse 11.4
- Fedora Core 9
- Fedora Core 11
- Fedora 15
- CentOS 5.2.
- CentOS 6.0

## Installation Procedures (DEB Version)

---

1. Download the deb package from <http://www.2x.com/virtualdesktop/downloadlinks.html> and store it locally.

2. Switch to the root user.

3. To install type:

```
dpkg -i 2XClient.deb
```

4. 2X Client for Linux binaries are now installed under:

```
/opt/2X/Client/bin
```

5. Run the following command to launch 2X Client:

```
/opt/2X/Client/bin/2XClient
```

6. You can also run the following commands to obtain a list of all usage parameters for 2X Client session:

```
cd /opt/2X/Client/bin  
./appserverclient -?
```

## Installation Procedures (RPM Version)

---

1. Download the rpm package from <http://www.2x.com/virtualdesktop/downloadlinks.html> and store it locally.
2. Switch to the root user.
3. To install type:

```
rpm -ivh 2XClient.i386.rpm
```

4. 2X Client for Linux binaries are now installed under:

```
/opt/2X/Client/bin
```

5. Run the following command to launch 2X Client:

```
/opt/2X/Client/bin/2XClient
```

6. You can also run the following commands to obtain a list of all usage parameters for 2X Client session:

```
cd /opt/2X/Client/bin  
./appserverclient -?
```

## Installation Procedures (.TAR.BZ2 Version)

---

1. Download the tar package from <http://www.2x.com/virtualdesktop/downloadlinks.html> and store it locally.
2. Switch to the root user.
3. Switch to the root folder:

```
cd/
```

4. To install type:

```
tar jxvf 2XClient.tar.bz2
```

5. 2X Client for Linux binaries are now installed under:

```
/opt/2X/Client/bin
```

6. Run the following command to launch 2X Client:

```
/opt/2X/Client/bin/2XClient
```

7. You can also run the following commands to obtain a list of all usage parameters for 2X Client session:

```
cd /opt/2X/Client/bin  
./appserverclient -?
```

## SSO (Single Sign On) Installation Procedures

---

1. Install pam\_2xclient.so module to have Single Sign On for 2X Client.

2. The module always returns true and will use an authentication token that will be provided by a higher authentication module.

NOTE: When a higher authentication module has been configured to SUFFICIENT, it will return on success immediately and pam\_2Xclient.so won't be called. Please change SUFFICIENT TO REQUIRED.

3. To install 2X Client PAM module, add two lines to your session manage service (eg. /etc/pam d/gdm):

- auth optional pam\_2xclient.so
- password optional pam\_2xclient.so

Module arguments:

- Debug: Debug trace will be written to /tmp/pam\_2xclient.log. If the file cannot be opened, then syslog will be used.
- You can use debug argument with all module types. EG. Session optional pam\_2xclient.so debug

4. <service\_list> The module will create an SSO cookie only for well known session services.

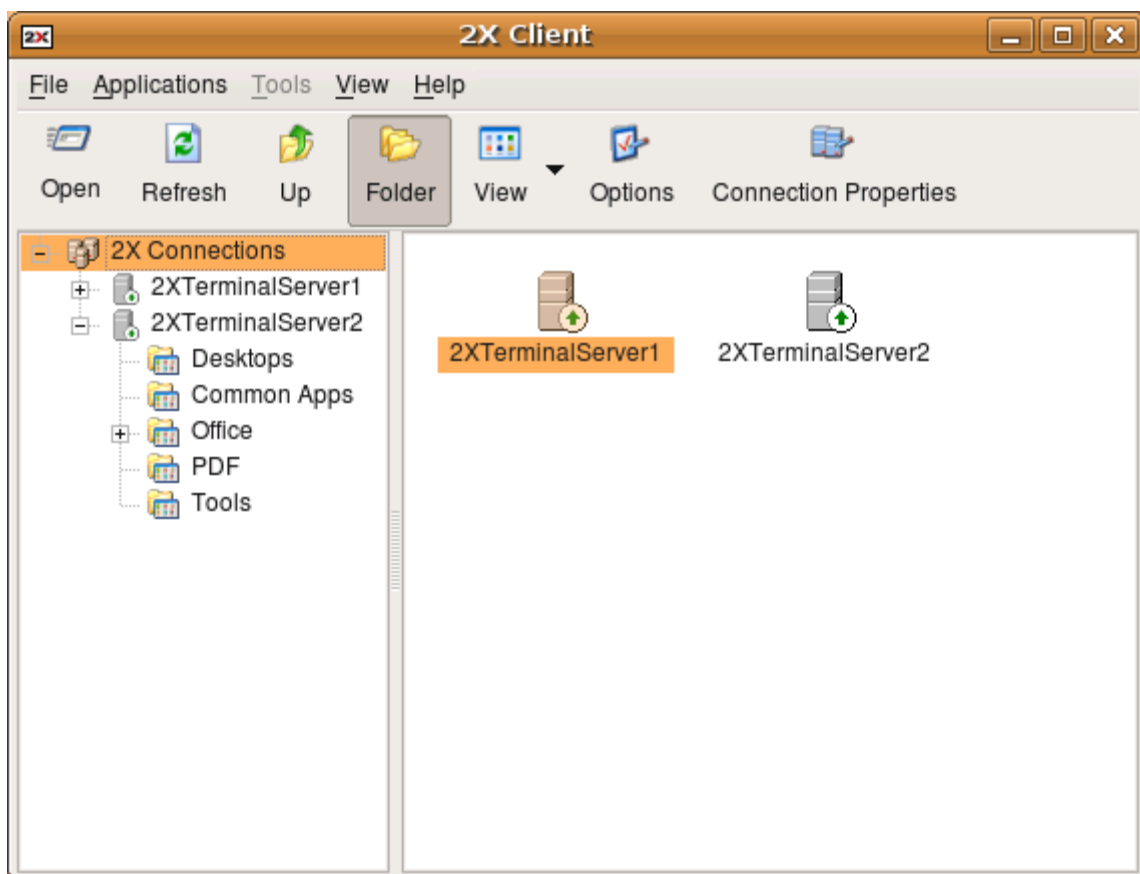
5. You can change the list of services to allow: EG. auth optional pam\_2xclient.so gdm kde kdm-kde4

# USING 2X CLIENT

## User Interface

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Please refer to '[Configuring 2X Client for Windows](#)' for usage instructions.



2X Client for Linux



## Command Line Interface for 2X Client

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2X Client.  
Version 10.1 (build 1155) r16383  
Copyright (C) 2005-2011 2X Software Ltd.

Usage: /opt/2X/Client/bin/appserverclient -s Server -u User  
[options]

### General options:

- m: operating mode
  - 2G for 2X Application Server gateway access client(default)
  - 2D for 2X Application Server direct access client
  - AL for 2X Application Server application list
  - MS for Microsoft Terminal Server client
  - MF for Microsoft Terminal Server fullscreen client
  - MX for Microsoft Terminal Server fullscreen client, that spans over all monitors
- s: server[:port] (default port is 80 for 2G and 2D modes and 3389 for MS and MF modes)
- s: ssl://server[:port] secure access client (TSL/SSL)
- b: altserver[:port] (default port is 80 for 2G and 2D modes and 3389 for MS and MF modes)
- u: user name. It can include domain: -u user@host.domain or -u user@ntdomain
- p: password.
- d: domain.
- a: application to start.
- f: working folder.
- i: 2xa shortcut file.
  - 2xa shortcut files available through 2X Application Server web interface, and include published application settings.
- o: full path to application listing output file
- x: proxy, can be:
  - socks4://[username@]proxy[:port]
  - socks4a://[username@]proxy[:port]
  - socks5://[username[:password]@]proxy[:port]
  - http://[username[:password]@]proxy[:port]

### RDP options:

- H: client hostname.
- T: window title for desktop connection.
- w: override desktop width. It should be used with -h parameter.
- h: override desktop height. It should be used with -w parameter.
- g, -geometry {width}x{height}[[+-]{xoff}[[+-]{yoff}]]:
  - standard application geometry, should be used with -m MS parameter only.
- c: connection color depth in bits (default: 24 bits).
- l: force seamless application placement on primary monitor only.
- X: embed into another window with a given id, should be used with -m MS parameter only.
- K: keep window manager key bindings.
- e: RDP experience one or more ORed value(s) from:
  - 0x7F to disable everything



- 0x01 to disable wallpapers
- 0x02 to disable full window drag
- 0x04 to disable menu animations
- 0x08 to disable theming
- 0x20 to disable cursor shadow
- 0x40 to disable cursor blinking
- 0x80 to enable font smoothing
- 0x00 to disable nothing (default)
- z: RDP compression
  - 0x00 to disable nothing (default)
  - 0x01 to disable compression
  - 0x02 to limit to RDP4 compression
  - 0x03 to limit to RDP5 compression
- t: maximum network timeout in seconds (default: 5 seconds)
- l: locale identifier in HEX format (default: 0x0409 - English (United States))
- admin or -q: connect to administer server

Device options:

- P: redirect printer(s) (this flag can be repeated), can be "printcap" to use printers from '/etc/printcap' use this option if printcap was configured to contain driver name as printer comment:
  - lp0|drivename:rm=clientname:rp=lp0:
  - "printername" to use default printer driver
  - "printername=drivename" to specify driver name also
- S: redirect sound, can be
  - "off" to disable sound (default)
  - "local"= quality to bring it to the client with:
    - "normal" for normal quality
    - "good" for good quality (default)
    - "verygood" for very good quality
  - "remote" to leave it on the server
- D: redirect drive(s) (this flag can be repeated), can be "remotename=localpath"
- O [option]: redirect serial ports (this flag can be repeated with option)
  - "off" to disable port redirection (default)
  - "auto" for COM1=/dev/ttyS0, COM2=/dev/ttyS1, LPT1=/dev/lp0 or option to override local device path: COM1=/dev/debugtty
- C: redirect smart card reader; pcscd smart card manager should be installed in order to use this feature.
- U [options]: redirect URI. options are comma separated list of:
  - "off" disable URI redirection (default).
  - "url" redirect URL (http: and https:).
  - "mailto" redirect Mail (mailto:).
  - Use "url,mailto" to redirect both URL and Mail.
- k [command]: execute special command in active session, where command is one of:
  - "logoff" gracefully log off a published application session.
  - "disconnect" gracefully disconnect a session.

Other options:

- v: print version info
- help or -?: to get help information



## Examples of How to Use Command Line Parameters

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The following examples illustrate the use of this Client:

```
appserverclient -s<Server IP> -a<"Application Name"> -u<User Name>
```

```
appserverclient -s192.168.0.1 -a"Internet Explorer" -uAdministrator
```

In this case you are requested to logon before the application is loaded.

```
appserverclient -s<Server IP> -a<"Application Name"> -u<User Name>  
-p<Password>
```

```
appserverclient -s192.168.0.1 -a"Media Player" -uAdministrator -  
ppassword
```

In this case the logon screen is bypassed if the password is correct.

**NOTE:** The application name is case sensitive and must be surrounded by quotes. Examples are "Notepad", "Internet Explorer", and "Media Player".

## Table of Available Locale Identifiers

Identifier	Name
0x0401	Arabic (Saudi Arabia)
0x0403	Catalan (Spain)
0x0404	Chinese (Taiwan)
0x0804	Chinese (People's Republic of China)
0x0405	Czech (Czech Republic)
0x0406	Danish (Denmark)
0x0407	German (Germany)
0x0807	German (Swiss)
0x0408	Greek (Greece)
0x0409	English (United States)
0x0809	English (Great Britain)
0x0C0A	Spanish - Modern Sort (Spain)
0x0425	Estonian (Estonia)
0x040B	Finnish (Finland)
0x040C	French (France)
0x080C	French (Belgium)
0x0C0C	French (Canada)
0x100C	French (Swiss)
0x040D	Hebrew (Israel)
0x040E	Hungarian (Hungary)
0x0410	Italian (Italy)
0x0411	Japanese (Japan)
0x0412	Korean (Korea)
0x0427	Lithuanian (Latvia)
0x0426	Latvian (Latvia)
0x0413	Dutch (Netherlands)
0x0813	Dutch (Belgium)
0x0414	Norwegian (Norway)
0x0415	Polish (Poland)
0x0416	Portuguese (Brazil)

0x0816	Portuguese (Portugal)
0x0418	Romanian (Romania)
0x0419	Russian (Russia)
0x041A	Croatian (Croatia)
0x041B	Slovak (Slovakia)
0x041D	Swedish (Sweden)
0x041E	Thai (Thailand)
0x041F	Turkish (Turkey)
0x0424	Slovenian (Slovenia)
0x042A	Vietnamese (Vietnam)
0x042D	Basque (Spain)
0x040F	Icelandic (Iceland)



# TROUBLESHOOTING AND SUPPORT

## Introduction

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The troubleshooting chapter explains how you should go about resolving issues you may have. The main sources of information available to users are:

- The manual – most issues can be solved by reading and referring to the manual.
- The 2X support site – accessible from the 2X website. It includes a knowledge base with the most frequently asked questions.
- Contacting the 2X support department by email at [support@2x.com](mailto:support@2x.com)
- Contacting our support department by telephone.

## Knowledgebase

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2X maintains a knowledgebase, which includes answers to most commonly asked problems. If you have a problem, please consult the knowledgebase first. The knowledgebase is continuously updated and contains the-most-up-to-date listings of support questions and patches.

The knowledgebase can be found at <http://www.support.2x.com>

## Request Support via E-mail

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If you are unable to resolve your issue after using the knowledgebase and referring to this manual, please contact the 2X support department.

Contact us via e-mail, and attach any references or examples of the issue you are experiencing. This will enable us to solve your issue quickly and efficiently.

You may be asked to collect some information and you may be asked a number of questions. Please take your time to answer these questions accurately. Without the proper information it will not be possible to diagnose your problem.

We will answer your inquiry within 24 hours or less, depending on your time zone.

## Request Support via Phone

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You can also contact 2X by phone for technical support. Please check our support website for the correct numbers to call, depending on where you are located, and for our hours of operation.

<http://support.2x.com>

# ABOUT 2X

**ABOUT 2X |** 2X Software Ltd - 2X - is a company developing software for the booming server-based computing market. Thin client computing controls skyrocketing PC management costs, centralizes application and desktop management, improves security and performance and allows users to work remotely. The company's product line includes: 2X ApplicationServer for Windows Terminal Services, 2X ApplicationServer, 2X LoadBalancer for Terminal Services/Citrix and 2X ThinClientServer. 2X is a privately held company with offices in the USA, Germany, France, UK, Australia and Malta. Its management team is backed by years of experience in developing and selling network infrastructure software. 2X is a Microsoft, VMware, IBM and RedHat partner. For more information visit: <http://www.2x.com>. All product and company names herein may be trademarks of their respective owners.



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