EXata 5.1
Installation Guide

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Table of Contents

Preface

Who Should Read this Guide

This installation guide describes the system requirements and installation process for EXata and Exata Connection Manager on Windows and Linux systems.

How this Guide is Organized

This guide contains the following information:

- Chapter 1 describes installing EXata on Windows platforms.
- Chapter 2 describes installing EXata on Linux platforms.
- Chapter 3 describes installing Exata Connection Manager on Windows platforms.
- Chapter 4 describes installing Exata Connection Manager on Linux platforms.

EXata Document List

The following table shows the EXata Documentation Set and offers a brief description of each document.

Document	Description
EXata API Reference Guide	This guide is a supplement to *EXata Programmer's Guide* and provides detailed information on the EXata API functions and parameters. This is available in both PDF and HTML formats.
EXata Connection Manager User's Guide	This guide provides information on installing and using EXata Connection Manager.
EXata Distributed Reference Guide	This guide provides instructions for running EXata on a distributed architecture.
EXata Documentation Portfolio	The documentation portfolio combines all EXata documents in a single PDF file.
EXata Installation Guide	This guide provides detailed steps for installing EXata on Windows and Linux platforms.

Document	Description
EXata Model Libraries	This set of documents contains detailed reference information on all EXata models and includes the following protocol libraries. See *EXata Model Library Index* for an alphabetical list of all our models and a reference to which library they can be found in. Advanced Wireless Cellular Cyber Developer Federation Interfaces LTE Multimedia and Enterprise Network Management Sensor Networks UMTS Urban Propagation Wireless
EXata Product Tour	This tour provides an introduction to EXata by means of an example.
EXata Programmer's Guide	This is a guide to the EXata programming interface and functions, allowing users to develop and customize protocol models.
EXata Release Notes	This document lists the changes (added and removed features, bug fixes, etc.) made in the current version of EXata with respect to the previous version.
EXata Statistics Database User's Guide	This is a guide to the statistics database generated by EXata.
EXata User's Guide	This is a detailed guide for using *EXata* and works in combination with the *EXata Model Libraries* set of documents.

More Information

- For general information about SCALABLE, visit the company website at www.scalable-networks.com.
- For more information on EXata, please contact EXata Sales at info@scalable-networks.com or visit the EXata website at www.exata.com.
- For technical help on EXata or help on EXata documentation, please contact EXata Support at support@scalable-networks.com or visit our Support website at support.scalable-networks.com.

1 Installing EXata on Windows

This chapter covers the system requirements and installation procedures for EXata on Windows.

1.1 System Requirements

EXata is supported on the following Windows platforms:

- Windows 7 Home Premium and Professional 32-bit and 64-bit editions
- Windows 8 and Windows 8 Pro 32-bit editions

Notes: **1.** Although EXata has not been fully tested on other Windows platforms, it should also work on other editions of Windows 7 and Windows 8.

2. EXata is a 32-bit application which can run on both 32-bit and 64-bit platforms.

3. The EXata GUI is a 32-bit application which can run on both 32-bit and 64-bit platforms.

The minimum platform requirements to run EXata on a Windows system are listed in Table 1-1.

TABLE 1-1. Minimum Requirements for Windows

Item	Requirements
CPU	32-bit (x86 compatible) processor or 64-bit (x86-64 compatible) processor
Memory	512 MB free for LAN-size simulations without GUI 2 GB free for LAN-size simulations with GUI 2 - 4 GB free for a large network (1000+ nodes)
Disk	1 GB free disk space

GUI Requirements

In addition to the above, the following are recommended when running the EXata GUI on Windows:

- Discrete graphics card with at least 128 MB memory supporting hardware 3D acceleration.
- Display with 1024 x 768 or better resolution.

1.2 Installing EXata

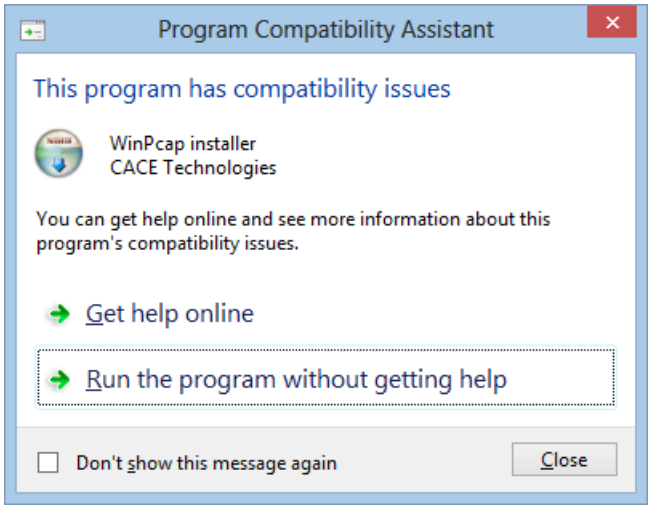
To install EXata on Windows, perform the following steps:

1. Download the installation package (exata-5.1-windows-installer.exe) from the EXata download page or load it from the installation CD.
2. Double-click on the installation package and follow the installation prompts.
3. The installer will prompt you to install the Microsoft Windows C++ Redistribution Package (x86). The Microsoft Windows C++ Redistribution Package (x86) is required to run the EXata GUI. You can choose to install this package during the EXata installation or install it later.

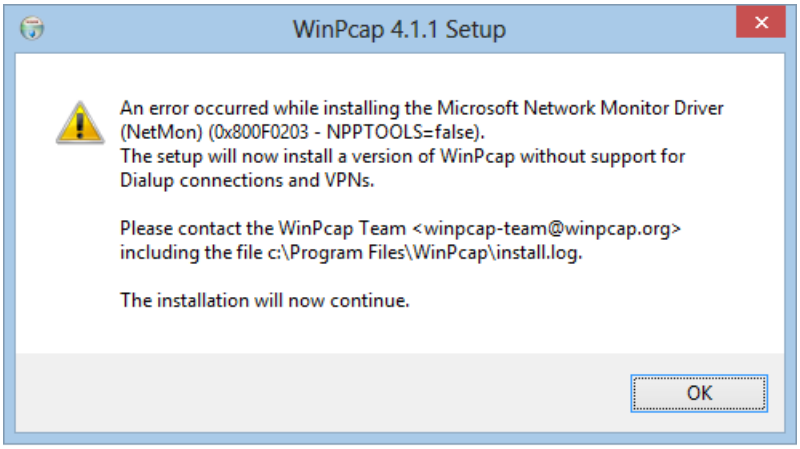
   To install the Microsoft Windows C++ Redistribution Package (x86) later, run vcredist_x86.exe located in the bin subfolder of the EXata installation directory.
4. The installer will prompt you to install the WinPcap software. WinPcap is required for running EXata in emulation mode. You can choose to install this package during the EXata installation or install it later.

   To install WinpCap later, run WinPcap_4_1_1.exe located in interfaces\lib-emulation subfolder of the EXata installation directory.

   a. If you choose to install WinPcap on Windows 8, the following Program Compatibility Assistant window is displayed. Select **Run the Program without getting help**.



b. Follow the prompts to continue installing WinPcap. If the following warning message is displayed, click on **OK**.

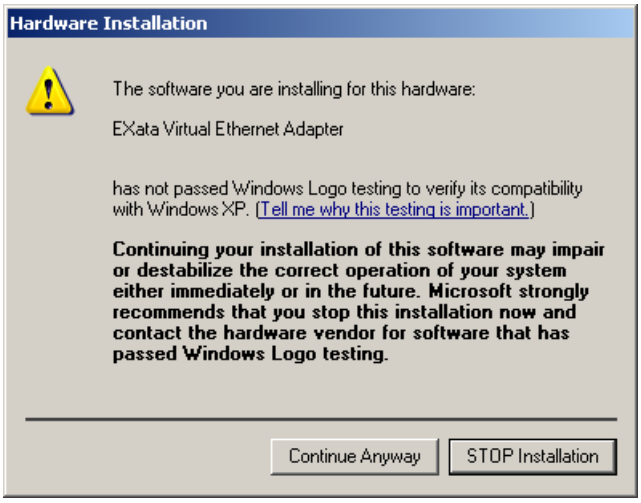


c. Follow the prompts to complete WinPcap installation.

5. The installer will prompt you to install the EXata Virtual Device Driver. The EXata Virtual Device Driver is required for the packet sniffing interface of EXata. You can choose to install this package during the EXata installation or install it later.

To install EXata Virtual Device Driver later, run install-enetv.bat located in interfaces\pas\virtual_windows subfolder of the EXata installation directory.

If you choose to install the EXata Virtual Device Driver and a warning message similar to the following is displayed, click **Continue Anyway**.



Notes:
1. It is recommended that EXata be installed from an administrator user account.
2. Some firewall programs may prevent EXata GUI from running. To use EXata GUI, you may need to add it to the exception list of your firewall program. Check the documentation of your firewall program for details on adding a program to the exception list or contact your system administrator. If you are using Microsoft Windows firewall, visit the Microsoft website for details of adding a program to the exception list.
3. In order to use the Packet Sniffer Interface, you must restart the computer after installing EXata.

1.3 License

During the installation, the installer prompts the user to copy the license file. Copy the license file into EXATA_HOME\license_dir, where EXATA_HOME is the directory where EXata is installed.

The license file name is of the form EXata-<type>-<date>.lic, where <type> is the type of license and <date> is the date when support for the product expires. <type> is one of the following: Commercial-floating, Commercial-node-locked, University-floating, University-node-locked, Evaluation, or Temporary-node-locked. <date> is in the format YYYY-MM-DD-HH-MM-SS. For example, the license file may be named EXata-Commercial-floating-2013-05-19-01-19-52.lic.

Notes:
1. Be sure to check the file extension on your license file. It should end in ".lic". Depending on your system and method of copying, you may end up with an extra extension, such as EXata-Commercial-floating-2013-05-19-01-19-52-lic.txt, which will not work.
2. If the license file cannot be located, inquire with the purchaser of EXata. For users with the evaluation version of EXata, the license file is sent as an email attachment from Scalable Network Technologies.
3. If a floating license is used, follow the instructions provided with the license files to install the server license file.
4. For help with license issues, contact license@scalable-networks.com or visit the FAQ page: http://www.scalable-networks.com/snt-support/index.php?_m=knowledgebase&_a=view.

1.4 Compiling EXata

The EXata installer places a pre-compiled executable file in EXATA_HOME\bin, where EXATA_HOME is the directory where EXata is installed. This pre-compiled executable can be used directly and you do not need to compile EXata. Refer to *EXata User's Guide* for details.

However, if you modify the code or activate certain libraries, you will need to recompile EXata. Refer to *EXata Programmer's Guide* for details.

1.5 Uninstalling EXata

To uninstall EXata, do one of the following:

- Uninstall EXata from the Start menu (this option is available only if you chose to install Start menu shortcuts during installation):

  Start > All Programs > Scalable > EXata-5.1 > EXata Uninstall

- Open a command window, change directories to any location other than the EXata installation directory or any of its subdirectories, and type the following command:

  ```
  %EXATA_HOME%/uninstall.exe
  ```

2 Installing EXata on Linux

This chapter covers the system requirements and installation of EXata on Linux systems. For distributed platforms, refer to *EXata Distributed Reference Guide*.

2.1 System Requirements

EXata is supported on 32-bit (x86 compatible) and 64-bit (x86-64 compatible) platforms running one of the following Linux distributions:

- CentOS 5.9
- Red Hat Enterprise Linux 5.9
- Ubuntu 12.04 LTS

Notes: **1.** If you need to run EXata on a Linux platform not listed above, contact support@scalable-networks.com.

2. The pre-compiled EXata binary included in the EXata distribution is a 32-bit application for 32-bit platforms and a 64-bit application for 64-bit platforms.

3. The EXata GUI is a 32-bit application which can run on both 32-bit and 64-bit platforms.

The minimum platform requirements to run EXata on a Linux system are listed in Table 2-1.

TABLE 2-1. Minimum Requirements for Linux

Item	Requirements
CPU	32-bit (x86 compatible) processor with SSE2 extension support or 64-bit (x86-64 compatible) processor **Note:** When you install EXata, the installer will check whether the CPU supports SSE2 extension.
Memory	512 MB free for LAN-size simulations without GUI 2 GB free for LAN-size simulations with GUI 2 - 4 GB free for a large network (1000+ nodes)
Disk	1 GB free disk space.
OpenGL	OpenGL library libGL.so.1.2 or higher (needed only if EXata GUI is run on the machine).

GUI Requirements

In the addition to the above, the following are recommended when running EXata GUI on Linux:

- Discrete graphics card with at least 128 MB memory supporting hardware 3D acceleration (see Section 2.4 for details on installing drivers). (EXata GUI may not run on a virtual machine since virtual machines typically do not support 3D acceleration.)
- Display with 1024 x 768 or better resolution

EXata Packet Sniffer Interface Requirements

In order to use the EXata Packet Sniffer interface, Linux kernel source code or header files must be present. To verify if these are available on the emulation server (i.e., the machine running EXata), open a terminal window and do the following:

- For Debian or Ubuntu systems, type:

```
dpkg -s kernel
dpkg -s kernel-headers
```

- For other systems, type:

```
rpm –q kernel
rpm –q kernel-headers
```

If the above commands fail, consult your system administrator on how to install the kernel source or header files on the emulation server.

2.2 Installing EXata

This section describes how to install EXata on a Linux system.

EXata can be installed locally on a machine by running the installer's GUI (see Section 2.2.1). EXata can be installed on a remote machine by running the installer from the command line using ssh (see Section 2.2.2).

2.2.1 Running EXata Installer from GUI

To install EXata on a Linux system using the installer's GUI, perform the following steps:

1. Download the installation package from the EXata download page or load it from the installation CD.
   - The installation package for EXata on 32-bit platforms is exata-5.1-linux-installer-32bit.
   - The installation package for EXata on 64-bit platforms is exata-5.1-linux-installer-64bit.
2. Double-click on the installation package.
3. Follow the installation prompts.
4. In addition to copying the necessary files to your system, the installer also updates some environment variables. In order for these environment variables to take effect, you must logout of the system and login again.

2.2.2 Running EXata Installer from Command Line

To install EXata on a Linux system using the installer's command line interface, perform the following steps:

1. Download the installation package from the EXata download page or load it from the installation CD.
   - The installation package for EXata on 32-bit platforms is exata-5.1-linux-installer-32bit.
   - The installation package for EXata on 64-bit platforms is exata-5.1-linux-installer-64bit.
2. Open a command window and change the directory to the location where you downloaded the installation package.
3. Run the installer by typing one of the following commands:
   - For EXata on 32-bit platforms, use the following command:

     ```
     ./exata-5.1-linux-installer-32bit --mode text
     ```

   - For EXata on 64-bit platforms, use the following command:

     ```
     ./exata-5.1-linux-installer-64bit --mode text
     ```

4. Follow the installation prompts.
5. Logout of the system and login again. (This step is required for the environment variables updated by the installer to take effect.)

2.3 License

During the installation, the installer prompts the user to copy the license file. Copy the license file into EXATA_HOME\license_dir, where EXATA_HOME is the directory where EXata is installed.

The license file name is of the form EXata-<type>-<date>.lic, where <type> is the type of license and <date> is the date when support for the product expires. <type> is one of the following: Commercial-floating, Commercial-node-locked, University-floating, University-node-locked, Evaluation, or Temporary-node-locked. <date> is in the format YYYY-MM-DD-HH-MM-SS. For example, the license file may be named EXata-Commercial-floating-2013-05-19-01-19-52.lic.

Notes:

1. Be sure to check the file extension on your license file. It should end in ".lic". Depending on your system and method of copying, you may end up with an extra extension, such as EXata-Commercial-floating-2013-05-19-01-19-52-lic.txt, which will not work.
2. If the license file cannot be located, inquire with the purchaser of EXata. For users with the evaluation version of EXata, the license file is sent as an email attachment from Scalable Network Technologies.
3. If a floating license is used, follow the instructions provided with the license files to install the server license file.
4. For help with license issues, contact license@scalable-networks.com or visit the FAQ page: http://www.scalable-networks.com/snt-support/index.php?_m=knowledgebase&_a=view.

2.4 Installing Third-Party Software

To be able to run the EXata GUI on Linux platforms, you need to install the following software:

- OpenGL library libGL.so.1.2 or higher: Consult your system administrator for help with installing OpenGL.
- Graphics driver: Contact the manufacturer of the graphic card installed on your system for instructions to install the latest version of the graphics driver.
  - For NVidia GeForce cards, drivers are available from http://www.nvidia.com.
  - For ATI Radeon cards, drivers are available from http://www.ati.com.

Note: Some Linux distribution include prepackaged versions of these drivers. Search for "nvidia" for NVidia cards or "fglrx" for ATI cards using the system package manager.

2.5 Compiling EXata

The EXata installer places a pre-compiled executable file in EXATA_HOME\bin, where EXATA_HOME is the directory where EXata is installed. This pre-compiled executable can be used directly and you do not need to compile EXata. Refer to *EXata User's Guide* for details.

However, if you modify the code or activate certain libraries, you will need to recompile EXata. Refer to *EXata Programmer's Guide* for details.

2.6 Uninstalling EXata

To uninstall EXata, do the following:

1. Open a command window.
2. Change directories to any location other than the EXata installation directory or any of its subdirectories.
3. Type the following command to uninstall EXata from the local machine:

```
$EXATA_HOME/uninstall
```

Type the following command to uninstall EXata from a remote machine:

```
$EXATA_HOME/uninstall --mode text
```

3 Installing Connection Manager on Windows

This chapter describes how to install and test Connection Manager on Windows platforms.

3.1 Supported Platforms

EXata Connection Manager is supported on the following platforms:

- Windows 7 Home Premium and Professional 32-bit and 64-bit editions
- Windows 8 and Windows 8 Pro 32-bit editions

Note: Although EXata Connection Manager has not been fully tested on other Windows platforms, it should also work on other editions of Windows 7 and Windows 8.

3.2 Installing Connection Manager on Windows

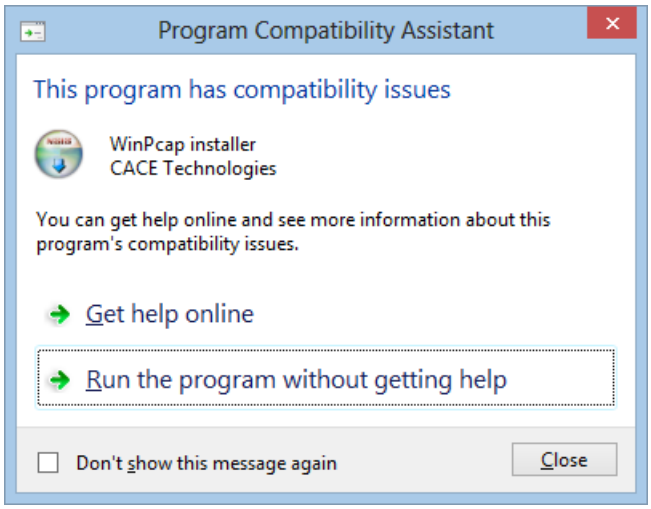
This section describes how to install Connection Manager on a Windows system.

Note:

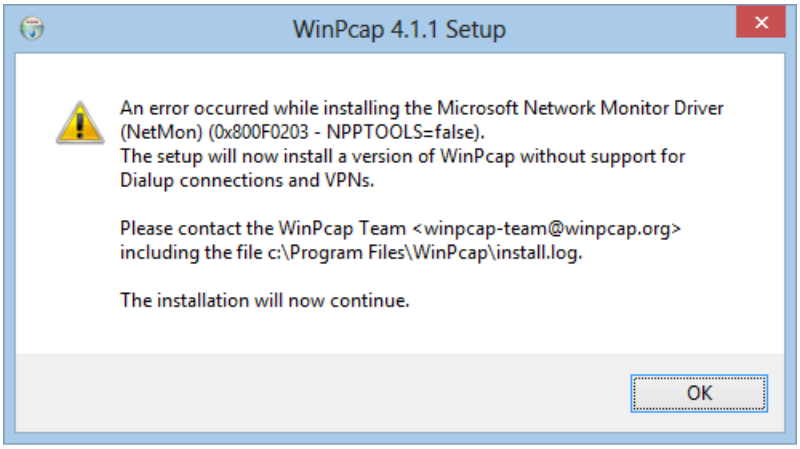
1. Connection Manager should be installed on an operational host, *not* the emulation server (i.e., the machine running EXata).
2. The Graphical User Interface (GUI) of Connection Manager is released under the GPL license. You must accept the GPL license agreement to install Connection Manager.
3. After installing Connection Manager, the installer will install a Microsoft patch for runtime components of Visual C++ libraries that is required to run Connection Manager.
4. For help with installation procedures or problems, contact support@scalable-networks.com.

To install Connection Manager on a Windows system, perform the following steps:.

1. Download the installation package (file exata-5.1-connection-manager-windows-installer.exe) from the EXata download page or load it from the installation CD.
2. Double-click on the installation package, and follow the installation prompts.
3. The installer will prompt you to install the WinPcap software.
   a. If you choose to install WinPcap on Windows 8, the following Program Compatibility Assistant window is displayed. Select **Run the Program without getting help**.



   b. Follow the prompts to continue installing WinPcap. If the following warning message is displayed, click on **OK**.



   c. Follow the prompts to complete WinPcap installation.

By default, Connection Manager is installed in C:\Program Files\Scalable\EXata\5.1 (on 32-bit platforms) and in C:\Program Files (x86)\Scalable\EXata\5.1 (for 64-bit platforms).

Note: Some firewall programs may prevent Connection Manager from running. You may need to add it to the exception list of your firewall program. Check the documentation of your firewall program for details on adding a program to the exception list or contact your system administrator. If you are using Microsoft Windows firewall, visit the Microsoft website for details of adding a program to the exception list.

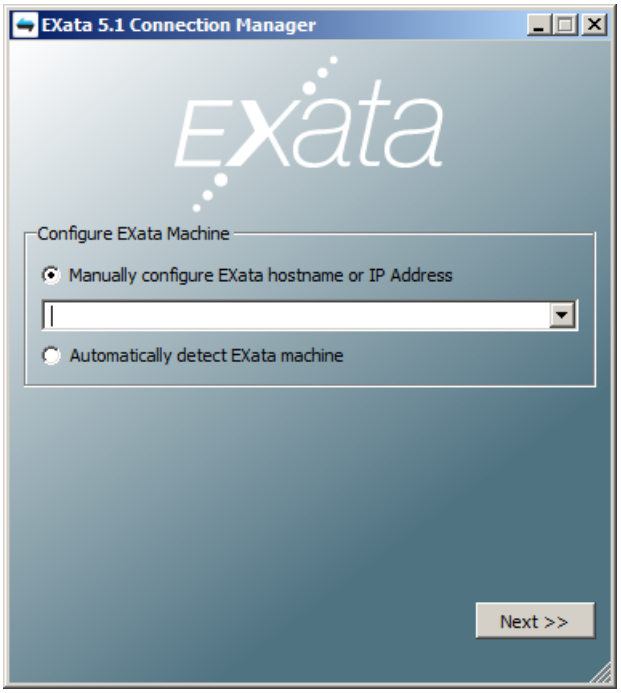
3.3 Testing Connection Manager on Windows

To test the Connection Manager installation, start Connection Manager by doing one of the following:

- Double-click the Connection Manager icon on the Windows desktop.

- Select **Start > All Programs > Scalable > EXata-Connection-Manager 5.1 > Connection Manager 5.1**.
- Navigate to the directory where Connection Manger is installed, right click on exata-connection-manager.exe and select **Run as administrator**.

The following startup screen is displayed when Connection Manager starts:



4 Installing Connection Manager on Linux

This chapter describes how to install and test Connection Manager on Linux platforms.

4.1 Supported Platforms

EXata Connection Manager is supported on 32-bit (x86 compatible) and 64-bit (x86-64 compatible) platforms running one of the following Linux distributions:

- CentOS 5.9
- Red Hat Enterprise Linux 5.9
- Ubuntu 12.04 LTS

Note: If you need to run EXata Connection Manager on a Linux platform not listed above, contact support@scalable-networks.com.

4.2 Installing Connection Manager on Linux

This section describes how to install Connection Manager on a Linux system.

Note:
1. Connection Manager should be installed on an operational host, *not* the emulation server (i.e., the machine running EXata).
2. Connection Manager is small enough that each user can install a separate copy of the software in their home directory. It need not be installed in /usr/local or other shared directories.
3. For help with installation procedures or problems, contact support@scalable-networks.com.

To install Connection Manager on a Linux system, perform the following steps:

1. Download the installation package from the EXata download page or load it from the installation CD.
   - The installation package for 32-bit platforms is exata-5.1-connection-manager-linux-installer-32bit.
   - The installation package for 64-bit platforms is exata-5.1-connection-manager-linux-installer-64bit.

2. Double-click on the installation package and follow the prompts.

By default, Connection Manager is installed in /home/<user>/Scalable/EXata-Connection-Manager/5.1.

4.3 Testing Connection Manager on Linux

To test Connection Manager installation in Linux, do the following:

- Open a command-line window, and navigate to the directory where Connection Manger is installed.
- Type the following command:

```
./exata-connection-manager
```

Note: You need root privileges to run Connection Manager.

If you are logged in as a non-root account on Linux, you can launch Connection Manager by typing **`sudo ./exata-connection-manager`** and providing the root password.

The following startup screen is displayed when Connection Manager starts: