Summary:

This article describes how to install the 32 bit Network Connect client on 64 bit Linux platforms.

Problem or Goal:

- This article provides information on how to install the 32 bit Network Connect client on 64 bit Linux platforms.

- A native Network Connect 64 bit client is not available at this time

Solution:

From 7.3 onwards, Juniper SA devices support 64-bit Linux (Redhat, OpenSuse, and Ubuntu) for Network Connect. Refer to the relevant Release Notes for the correct supported platforms (Secure Access (SA) Series).

Note: Juniper made changes in the existing 32 bit Network Connect client to launch it on 64 bit Linux platforms, which has all the necessary components/dependencies for 32 bit NC to work.

To launch Network Connect on 64 bit Linux, you must have the 64 bit Mozilla Firefox browser, with the Java plug-in already configured. You can use both the Oracle and OpenJDK JRE. If the user installs the OpenJDK JRE, then the version of IcedTea-Web plug-in (Java plug-in) should be 1.2 or higher.

You also must perform the following procedure:

1. Install the 32 bit Java version: (Need to be a root user to perform the steps)
   - 32 bit Java installation (Oracle JRE 6/ Oracle JRE 7, OpenJDK JRE 6/OpenJDK JRE 6):
     - Download jre-7u3-linux-i586.tar.gz and copy it to a folder (for example,/usr/java32).

   - Run the tar -xvf jre-7u3-linux-i586.tar.gz.
2. Update the **alternatives** link for Java (please use appropriate commands for your flavor of Linux):
   - Use the `sudo update-alternatives --install /usr/bin/java java <32 bit java path> <priority>` command.
   - For example: `sudo update-alternatives --install /usr/bin/java /usr/java32/jre1.7.0_03/bin/java 10`.
   - Ensure that the default Java version is still 64 bit. This can be checked by looking at the **link currently points to** string in the output of the `update-alternatives --display java` command.
   - If the default Java version is 32 bit, then change it to 64 bit, by using the `sudo update-alternatives --config java` command.
   - After performing the above steps, alternative links will look as illustrated in the following image (the highlighted rows show both the 32 bit Java path and the default Java version):

   ![Image](image.png)

   **Note:** If 32 bit Java is installed via package managers, such as apt-get, yum or zypper, the 'alternatives' link may get automatically updated. In such a case, you can skip Step 2.

3. Install the standard 32 bit libraries and components:
   - **Ubuntu:**
**How to Install the 32-bit Network Connect Client on 64-bit Linux Platforms**

```
sudo apt-get install ia32-libs
```

- **RedHat/Fedora:**
  - yum -y install xterm
  - yum -y ld-linux.so.2
  - yum -y libstdc++.so.6
  - yum -y libz.so.1
  - yum -y libXext.so.6
  - yum -y libXrender.so.1
  - yum -y libXtst.so.6

- **OpenSUSE:**

```
zypper install libXi.so.6
```

Now you can connect to the VPN server and click the start button to launch Network Connect. If the Network Connect launcher applet can find the 32 bit Java path in the alternatives links, Network Connect will successfully launch. Otherwise, the following error message is generated:

![Network Connect error message]

To launch Network Connect via the command line, use the following command:

```
<java_path> -cp NC.jar -h <ivehostname> -u <username> -p <password> [-r <realm>]
-f <ivecertificate_in_der_format> [-l <gui_log_level> [-L <ncsvc_log_level>] [-y <proxy>]
-z <proxy_port> [-s <proxy_username> -a <proxy_password> [-d <proxy_domain>]]
```

*<java_path>* is the path to the 32 bit Java version.

**Note:**

- The IcedTeaPlugin will display the error *Start: Applet not initialized* if the common name (CN) of the VPN’s web server certificate does not match with the host name, which is typed in the address bar.
• This is not a issue with the Juniper VPN. To resolve this, you can add the common name (CN) in /etc/hosts and access the VPN server via the common name instead of the IP address.