

# NX Access to the NSLS-II Controls Network

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v.2.0, [Robert Petkus](#)

## **May 20, 2014 Update:**

Our current gateway systems are in the process of being upgraded and are migrating to NX Server v.4.x, the version detailed in this document. Only box32-1 and box64-1 presently use this version of NX.

## **Notes**

- This document supersedes earlier NX documentation for the group.

## **Background**

The NSLS-II Controls Network is private (isolated from the BNL campus network) and is accessible via the following interactive gateway systems:

Box32-1.nsls2.bnl.gov (32-bit Debian 7)

Box32-2.nsls2.bnl.gov (32-bit Debian 6)

Box32-3.nsls2.bnl.gov (32-bit Debian 6)

Box64-1.nsls2.bnl.gov (64-bit Debian 7)

SSH and NX access are available on these systems from the campus network, BNL SSH gateways, and VPN. This document concerns NX, which is used to provide a remote virtual desktop environment.

## **NX Client Installation and Configuration**

1) Download and install the latest NX client for your system (Windows, OS X, and Linux clients are available) from the NoMachine website:

<https://www.nomachine.com/download>

2) Launch the NoMachine NX client application and configure your first connection (subsequent connections follow the same procedure).

Figure 1: Select “New”

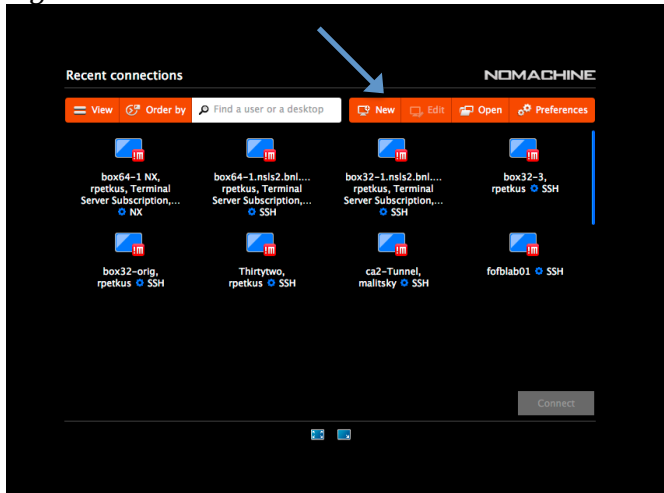


Figure 2: Choose protocol “NX”, continue

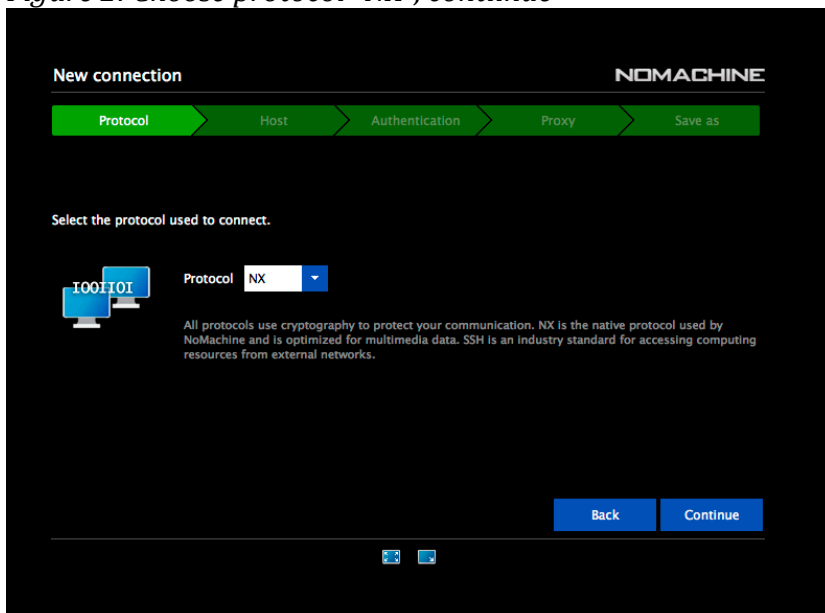



Figure 3: Enter hostname, port 4000, continue

New connection NOMACHINE

Protocol > Host > Authentication > Proxy > Save as

Insert the hostname or IP and port where you want to connect.



Host  Port

The port was chosen automatically based on the default for the protocol. If the remote computer was configured to listen on a different port, please insert it above.

☒ Use UDP communication for multimedia data


Back Continue

Figure 4: Authentication method "password", continue


New connection NOMACHINE

Protocol > Host > Authentication > Proxy > Save as

Choose which authentication method you want to use.



☒ Password  
Use password authentication.



☐ Private key  
Use key-based authentication with a key you provide.


Back Continue

Figure 5: No Proxy, continue


New connection NOMACHINE

Protocol > Host > Authentication > Proxy > Save as

Use a HTTP proxy for the network connection.



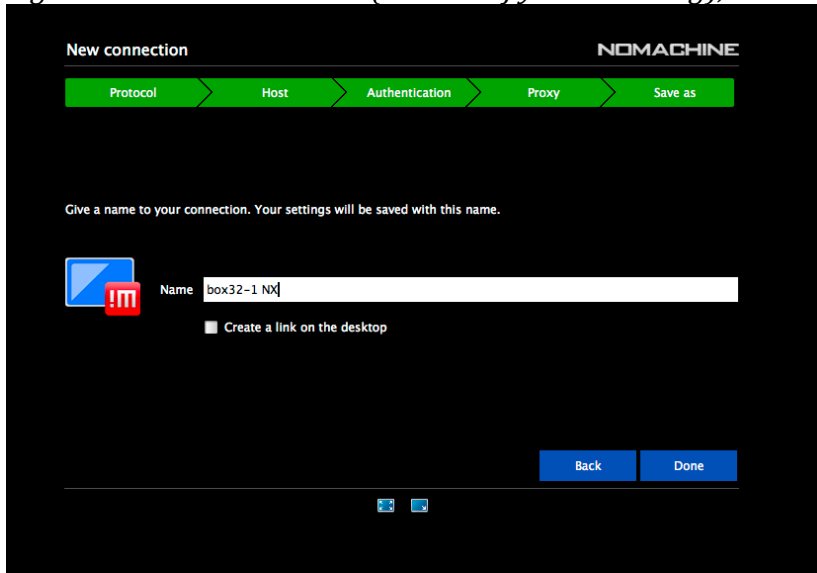
☒ Don't use a proxy  
Choose this if you are connecting to a computer on your same LAN or if you are on a residential broadband connection.



☐ Connect using a HTTP proxy  
Use a proxy if you are connecting to a computer outside your LAN from a corporate network where external access is protected by a firewall.

Back Continue

*Figure 6: Name connection (a name of your choosing), Done*



3) The NX client is now set-up for connection. Double-click on the newly created system icon (in our example, box32-1)

*Figure 7: Verify host authenticity (only needed once)*

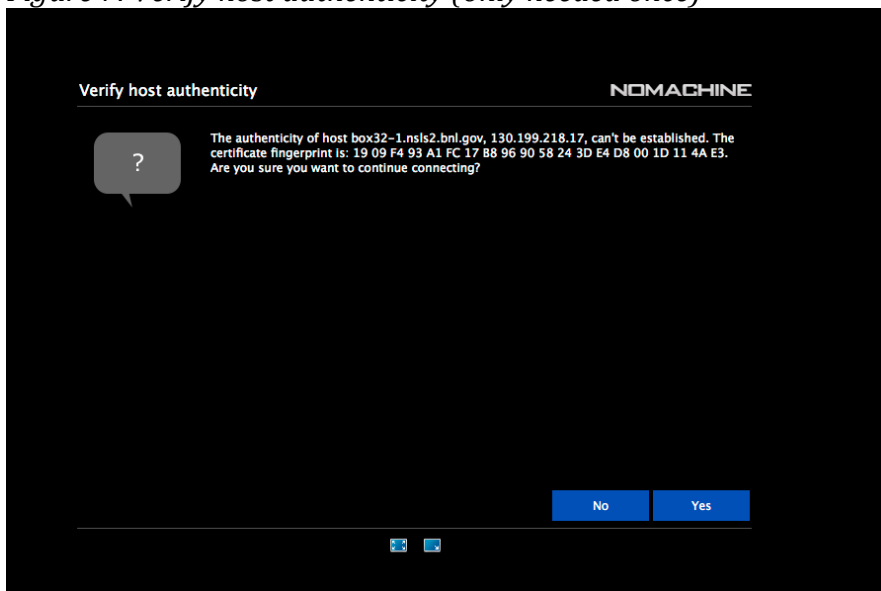


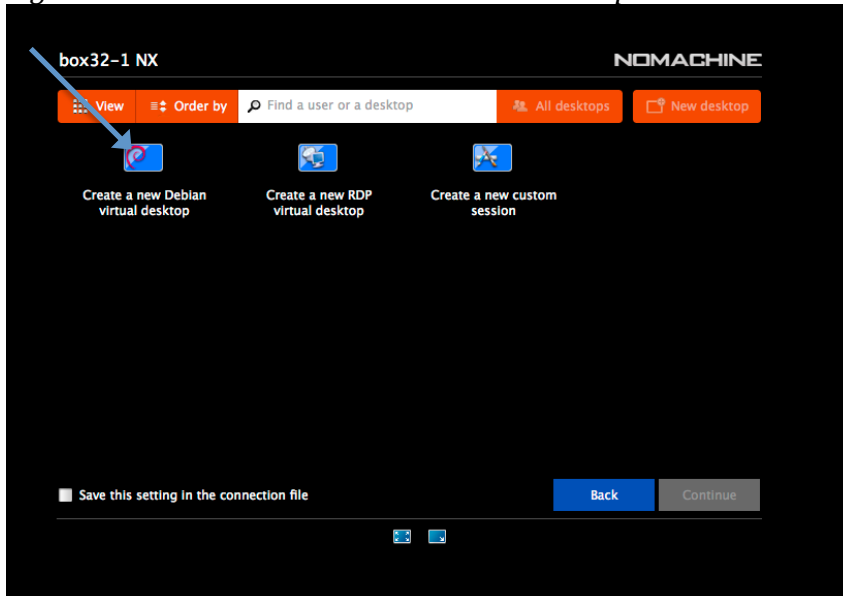
Figure 8: Enter LDAP credentials

The screenshot shows the login screen for 'box32-1 NX' on the 'NOMACHINE' platform. The interface is dark-themed. At the top left, it says 'box32-1 NX' and at the top right, 'NOMACHINE'. Below the title bar, a message reads 'Please type your username and password to login.' To the left of the input fields is a user icon (a person in a blue shirt) and a green lock icon. There are two white input fields: 'Username' and 'Password'. Below the 'Password' field is a checkbox labeled 'Save this password in the connection file'. At the bottom right, there are two blue buttons: 'Back' and 'OK'. At the very bottom center, there are two small window control icons (minimize and maximize).

Figure 9: Create a new virtual desktop

The screenshot shows the desktop management interface for 'box32-1 NX' on the 'NOMACHINE' platform. The interface is dark-themed. At the top left, it says 'box32-1 NX' and at the top right, 'NOMACHINE'. Below the title bar, there is a toolbar with several buttons: 'View', 'Order by', a search bar with the placeholder 'Find a user or a desktop', 'All desktops', and 'New desktop'. Below the toolbar, the text '<New virtual desktop or custom session>' is displayed. At the bottom left, it says 'Logged as: rpetkus' with a user icon and a 'Logout' button. At the bottom right, there are two blue buttons: 'Back' and 'Connect'. At the very bottom center, there are two small window control icons (minimize and maximize).

Figure 10: Create a new Debian virtual desktop Text



4) Adjusting the display. It may be the case that the entire workspace is not displayed properly; e.g., the edges are cut-off. The display can be re-rendered from the client.

Press control+alt+0

Select Display

Select "Fit to window" and/or "Resize remote screen"

Figure 11: Display preferences

