NETOP™

# RemoteControl

Secure Remote Management and Support

## Secure tunnel for remote application port access and control

Netop

# Contents

1 Introduction ..... 1
2 Illustration of workflow ..... 2
3 Technical requirements and recommendations ..... 3
4 Set up a system with a secure Tunnel ..... 4
5 Connect using the Tunnel ..... 5

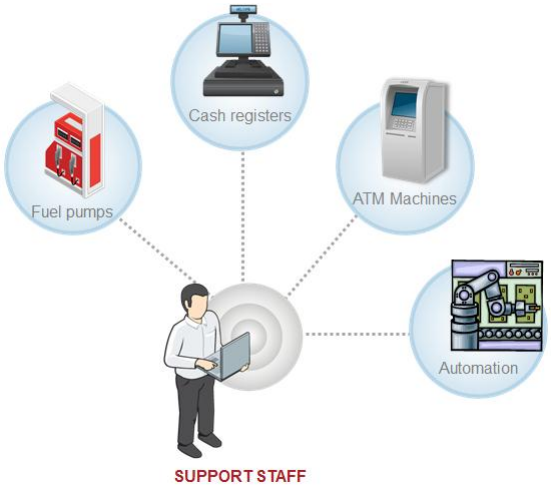
# 1 Introduction

To extend the support and management capabilities within the Netop Remote Control solution, a new Tunnel function has been implemented. The Tunnel establishes a secure connection between the Guest and Host and allows application ports to be redirected from the Host to the Guest through the Tunnel.

This allows the Guest to run local applications while interacting with the connected Host and without having to remote control the Host machine.

While not exclusive to such environments, the Tunnel is ideally suited to environments where no traditional desktop is available for use with standard remote control (screen, keyboard and mouse control); however support and system administrative tasks can still be carried out remotely while conforming to industry regulatory standards such as PCI-DSS, HIPAA and FIPS.

Examples of such environments include embedded Linux systems where operating machinery and hardware contains a streamlined version of a Linux operating system, for example, fuel dispensers and retail systems. In addition, enterprises can also take advantage of the Tunnel for managing and supporting their Linux Desktops and Servers using common applications and services such as Shell clients, HTTP and SFTP.




The Guest's ability to use the Tunnel along with the associated ports can be governed by the central Netop Security Server solution. This allows organizations to apply granular access privileges. Even when remote systems have a desktop, it may not be required to give Guest users full remote control access on certain machines but limit their ability to use certain application ports through the Netop Tunnel.

Any traffic sent through the established Tunnel can be secured with up to 256-bit AES encryption.

Identity management can be centrally governed using Directory Services, RSA SecurID, Smartcards, RADIUS or Netop proprietary authentication.

Granular access permissions controlled centrally using Netop Security Server.

A full audit trail can be maintained centrally, including physical session recordings.

This technical paper lists the technical requirements, describes how to set up the Tunnel and how to establish a Tunnel session. For basic information about the Netop Remote Control solution, please refer to Netop Remote Control User's Guide <add link> and Netop Remote Control Administrator's Guide <add link>

# 2 Illustration of workflow

**Step 1** **Guest initiates Secure Tunnel to any Windows, Linux or Mac machine running the Host**

Data within the Netop Tunnel is secured with 256-bit AES encryption for **confidentiality**, **integrity** checking using 256-bit SHA HMAC and **authenticity** using key exchanges via a combination of 2048-bit Diffie-Hellman, 256-bit AES and 512-bit SHA.

---

**Step 2** **Host authenticates Guest using Security Server**

When using the Security Server, the Guest can be validated against a variety of authentication

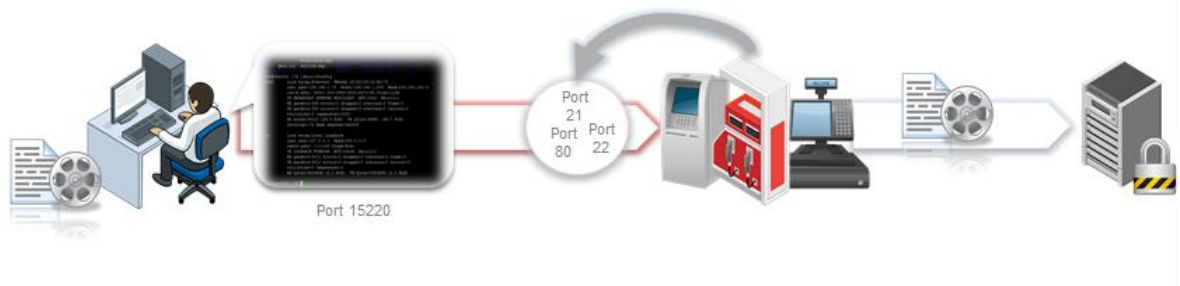
Methods including Directory Services, Windows Security Management, Netop proprietary, Smart Cards and RSA SecurID.

---

**Step 3** **After successful authentication and appropriate permissions assigned, the Guest can use applications through the Secure Tunnel**


After the Guest is authenticated, the Security Server dictates which local ports on the Host machine can be redirected to the Guest through the Tunnel. For each port redirected from the Host, a random available local port is assigned to the Guest.

**Step 4** **Guest sessions are auditable through log events and physical recordings using Security Server**



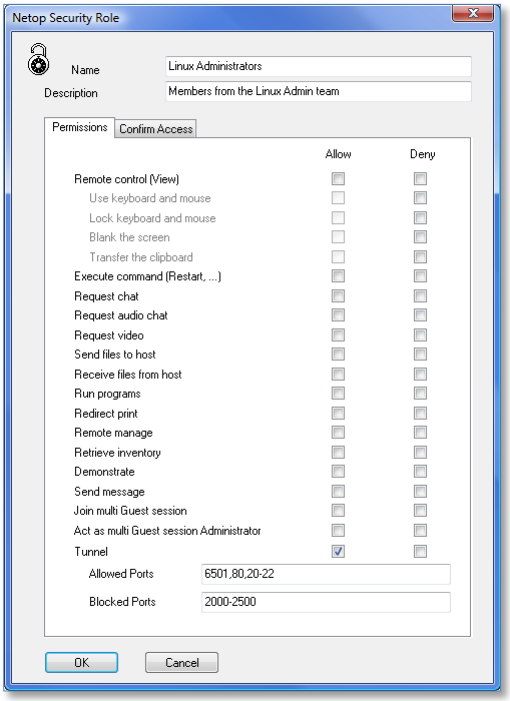

The Netop applications can log audit data to multiple locations including local log files or centrally including the Security Server. Optional physical recordings are created by the Guest and stored in a pre-define location for later playback.

# 3 Technical requirements and recommendations

| | |
|---|---|
| Netop Remote Control Guest | The Tunnel functionality is available in the Windows, Linux and Mac Guest. |
| Netop Remote Control Host | The Guest can establish a Tunnel with a Host running on Windows, Linux and Mac. |
| Communication profiles | The Tunnel can be established using WebConnect, TCP and UDP. |
| Netop Security Server | While the Tunnel session functionality is available in the basic Host for Linux and Mac, we highly recommend using Netop Security Server for centralized identity management, audit trails and granular control over port assignments.<br>The Security Server is also a pre-requisite when using the Tunnel with Hosts running in a Windows environment |

# 4 Set up a system with a secure Tunnel

In Netop Security Manager, create a role with the appropriate permissions.



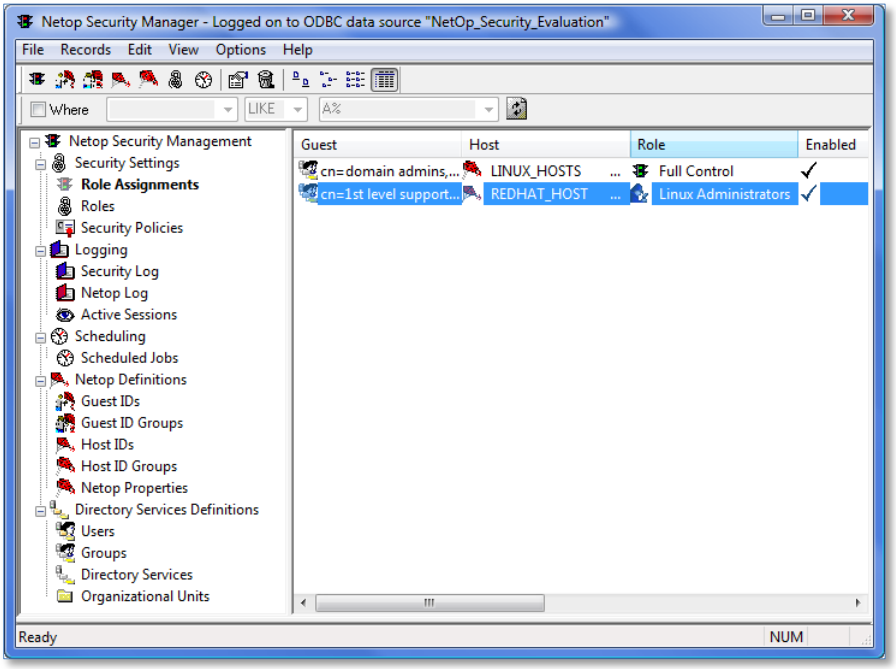

Select the **Tunnel** option to enable the port fields.

Only the **Allowed Ports** field is mandatory. Type one or more individual ports separated by comma or a range of ports with a hyphen.

These are the ports that the Guest user will be allowed to control through a secure tunnel. By default any other ports are not allowed.

If you specify a wide range or ports, say 2000-2500, you can use the **Blocked Ports** to specify exceptions to the allowed ports list. For example, you could specify 2300-2350 to indicate that these ports cannot be controlled.

Next make the role assignment and identify Guest computer, Host computer and role.

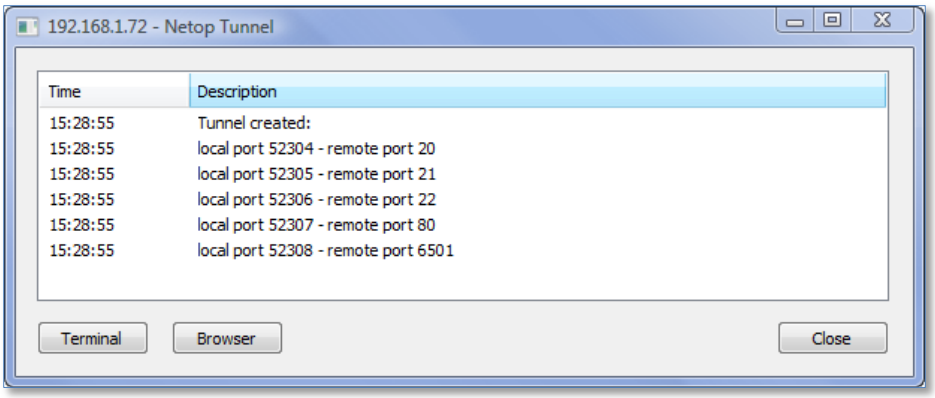



**Note** For general information on Netop Security Server and Netop Security Manager, refer to Netop Remote Control Administrator's Guide, section 2 <add link>

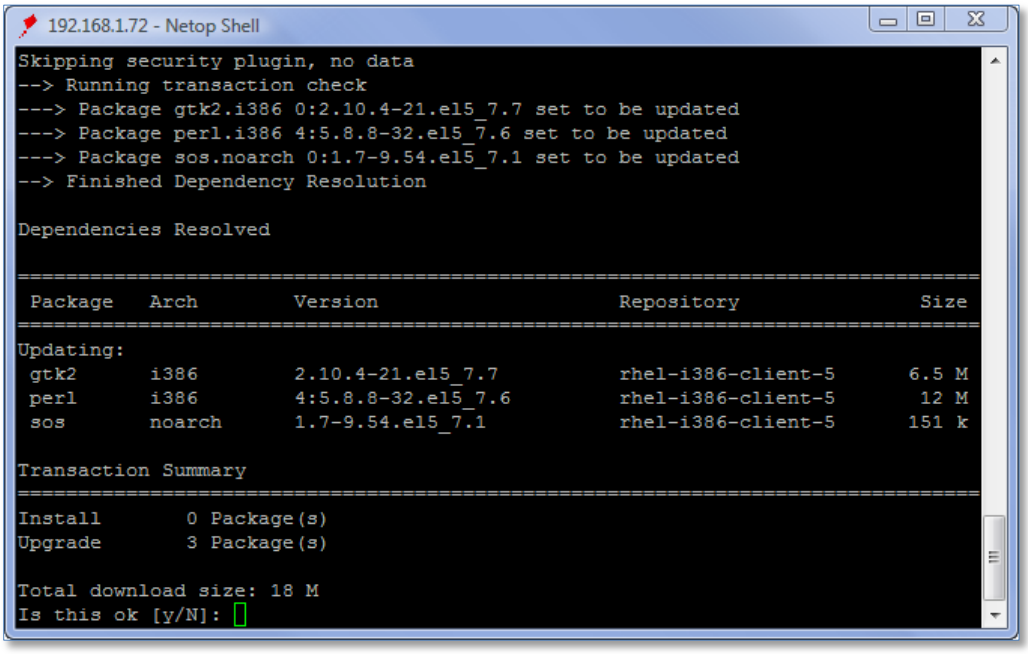
# 5 Connect using the Tunnel

Select the Host you want to connect to and click the **Tunnel** icon on the toolbar:

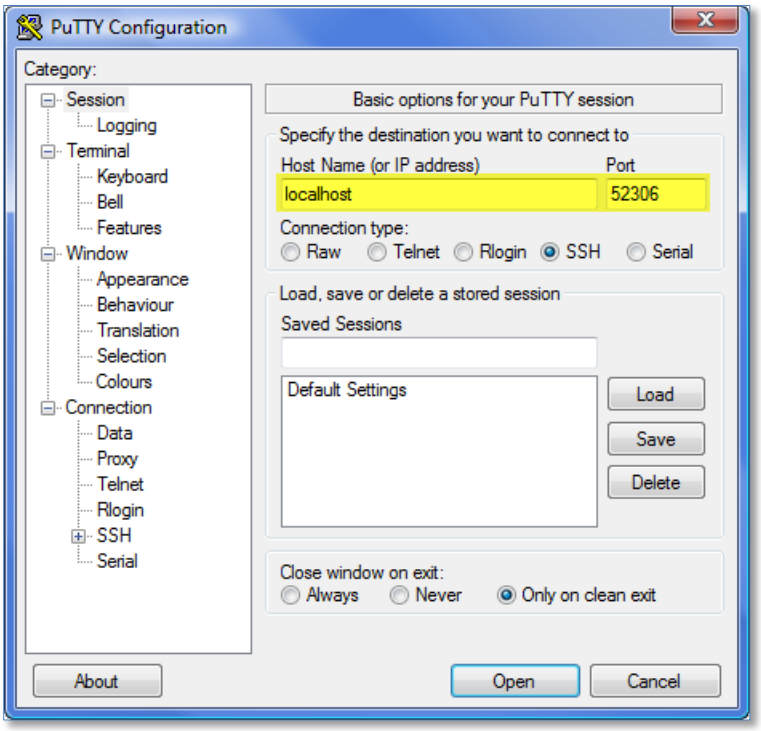
Once the Guest has been authenticated, the Tunnel console will appear confirming which remote ports are available (as set up in the Security Manager) and what randomly assigned local ports can be used by the Guest:



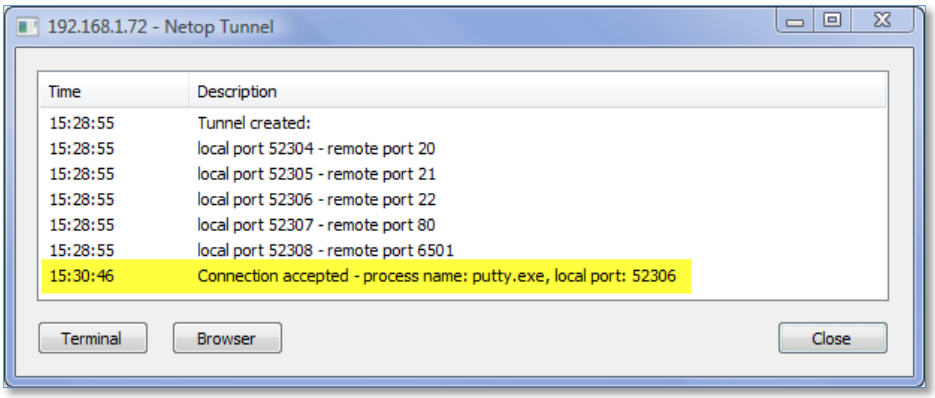

If ports 80 or 6501 are allowed when connecting to a Linux Host, the Tunnel console will display shortcut buttons to the Guest's default web browser and the built-it Netop Shell client (SSH), for example:




Third-party Shell access is still available when port 22 is redirected through the Tunnel. For example, the above connection also allows a local Shell client, i.e. Putty, to be used to administer the Host machine through the local port 52306:




The Tunnel console will continue to update with any processes or applications that are using ports through the active Tunnel session:




Netop Tunnel activity is logged to the previous locations including the Security Server for centralized management. When using the Tunnel with the Recording feature enabled on the Guest, the Guest will capture a full screen recording and store this in the location defined by the Guest settings.