



# Netop Remote Access for Embedded Systems

## Product Brief

### ABSTRACT

Traditional remote control is based on the transfer of screen data and control over the remote keyboard and mouse allowing support personnel to assist the end user without having to make an on-site visit. But embedded systems outnumber PCs by at least five to one and the numbers are growing. The proliferation of remote access, compliance requirements, increasing threats and an expanding network perimeter is making system security and data privacy difficult to characterize and control. Security for embedded systems is often poorly defined, even while they handle crucial information.

Netop, the leading provider of highly secure remote control solutions for enterprise environments, has developed a secure communication tunnel for running specific applications and managing remote systems on non-graphic and embedded systems without the need to transfer the screen data and interact with the keyboard and mouse.

- ▶ **Increase Productivity**
  - Access anywhere and anytime
  - No interruption of remote users
  - Easy to maintain access control
  - Support embedded systems
  - Windows and Linux compatible
- ▶ **Improve Security**
  - Reduce security risks & liability
  - Industry compliant encryption
  - Centralized authentication
  - Limit access to specific ports
  - Restrict access to applications
- ▶ **Strengthen Cost Efficiency**
  - Reduce travel costs and time
  - Increase support efficiencies
  - Ease administrative overhead

## What is it?

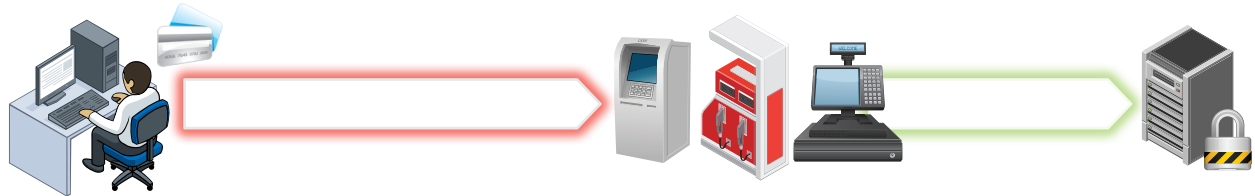
- Secure remote management and support of non-graphic and embedded systems.
- Allows administrators the ability to limit access to specific ports and applications.
- Supports both Windows and Linux systems.

## STEP-BY-STEP

- ① Guest initiates Secure Tunnel to any machine running the Host...



- ② Host authenticates Guest using Security Server...



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



- ④ Guest sessions are auditable through log events and physical recordings using Security Server...



### **How does it work?**

- The Secure Tunnel offers administrators and support personnel the ability to provide remote support and management of disparate systems without the need to transfer the screen data and interact with the keyboard and mouse as with traditional remote control solutions.
- Administrators can utilize communication paths (ports) tunneling into an operating system and communicate via the ports that are open. What data is seen on which ports can be specified and access can be restricted based on that rather than traditional user rights.

For example, if an administrator wanted to allow users to log in to a device and only be able to perform an FTP transfer, the secure tunnel would only allow that traffic visible on that specific port.

- Netop Host software redirects any pre-configured port through the Secure Tunnel allowing the Guest software to manage the target machine using local applications and functions such as Terminal Sessions, SSH, FTP, HTTP and Telnet.
- The solutions support standard functions on standard implemented operating systems, but can also be configured to remotely support custom built applications on custom built operating systems.
- Netop has extensive experience in supporting embedded Windows and Linux environments that have been stripped down to a minimum. Our expert development team can work directly with customer engineering groups to participate in the delivery of custom implementations needed for hardened or production environments including gas pumps, cash registers and industrial units.

### **Connectivity**

- Netop is designed to work in the most complex environments and offers flexible connectivity options between Netop applications. Direct local connectivity can be achieved using the TCP or UDP connections with customizable ports as well as secure, internet-based connectivity using the Netop WebConnect solution.
- Offering cross-platform connectivity and the ability to use one intuitive interface, the Secure Tunnel can be established from the Guest software running on Windows based operating systems and can establish a session with any Netop Host running on the supported versions of both Windows and Linux.

### **How about security?**

- Netop security begins with industry-leading 256-bit AES encryption and 2048-bit dynamic key exchange using the Diffie-Hellman method.
- Netop Security Server then employs an additional three layers of security defining who has access, what they are allowed to do once they have access and finally documenting what happened during a remote support session.
- Detailed information of encryption, authentication, authorization as well as logging and recording can be found at [www.netop.com/security](http://www.netop.com/security)
- The solutions meets the most stringent regulatory requirements for PCI, HIPAA and FIPS as described in white papers located at [www.netop.com/compliance](http://www.netop.com/compliance)

## **About Netop**

Since our emergence as one of the original architects of remote control technology 25 years ago, our vision has been to erase the barrier of geographical distances and create a world where people connect with anyone, anywhere, anytime. Netop is the leading provider of secure remote engagement tools for global communication, teaching, customer service and e-commerce in over 80 countries.

## **Secure Remote Control**

Used by half of the Fortune 100, our advanced solutions are designed for remote access in complex environments where security is essential, such as healthcare, the finance industry, point of sale systems and the public sector. Our software meets the most stringent requirements of all major remote access security standards, such as PCI, HIPAA and FIPS.

Headquartered in Denmark, Netop employs 130 people and has subsidiaries in the United States, Great Britain, China, Romania and Switzerland. Netop Solutions A/S shares are listed on the Copenhagen Stock Exchange OMX.



[www.netop.com](http://www.netop.com)

Copyright © 2011 Netop Business Solutions A/S (Netop). All rights reserved. All trademarks, trade names, service marks and logos referenced herein belong to their respective companies. This document is for your informational purposes only. To the extent permitted by applicable law, Netop provides this document "AS IS" without warranty of any kind, including, without limitation, any implied warranties of merchantability, fitness for a particular purpose, or non-infringement. In no event will Netop be liable for any loss or damage, direct or indirect, from the use of this document, including, without limitation, lost profits, business interruption, goodwill or lost data, even if Netop is expressly advised of such damages.