HEXAGO Gateway6™

GATEWAY6™ CLIENT RELEASE NOTES

Gateway6™ Client
Version 5.1
Release Notes

Table of Contents

About This Guide

This document provides information on Gateway6 Client releases, such as new features, bug fixes and changes. This document together with the other Release Notes should be read first.

Gateway6 Documents

This table presents the Gateway6 documentation package.

Title	Part-Number	Content
Gateway6 HexOS Release Notes	*HEX-DC-0006-19*	Provides information on HexOS releases, such as new features, bug fixes and changes.
Gateway6 Client Release Notes (This document)	*HEX-DC-0007-06*	Provides information on Gateway6 Client releases, such as new features, bug fixes and changes.
Gateway6 Client with HAP6 Release Notes	*HEX-DC-0009-02*	Provides information on Gateway6 Client with HAP6 releases, such as new features, bug fixes and changes. This document, together with the *Gateway6 HexOS Release Notes* and the *Gateway6 Client Release Notes*, should be read first.
Gateway6 Documentation Guide	*HEX-DC-0002-08*	Describes the Gateway6 documentation package, introduces the HexOS software, and describes the CLI (Command Line Interface) command modes and basic features.
Gateway6 Quick Setup Guide	*HEX-DC-0001-08*	Provides hardware installation procedures and minimal software configuration procedures.
Gateway6 HexOS Configuration Guide	*HEX-DC-0004-10*	Shows you how to configure the Gateway6 using the CLI.
Gateway6 HexOS Command Reference	*HEX-DC-0003-11*	Describes the four main types of Gateway6 commands: ▸ Management and protocol-independent commands ▸ Interface and access list commands ▸ Tunnel broker commands ▸ Logging and troubleshooting commands
Gateway6 Client Guide	*HEX-DC-0005-08*	Explains how to configure and use the Gateway6 Client.
Gateway6 Client with HAP6 Guide	*HEX-DC-0008-02*	Explains how to configure and use the Home Access Platform.
Dongle6 User Guide	*HEX-DC-0010-01*	Provides a combination of hardware- and software-related information for product users.
Dongle6 Release Notes	*HEX-DC-0011-01*	Provides information on releases of the Dongle6 such as new features, bug fixes and changes.

Obtaining Documentation

The Gateway6 documents are supplied as Portable Document Format (PDF) files on the Gateway6 Software & Documentation CD-ROM. Printed copies of these documents are also available.

The Software & Documentation CD-ROM also contains HexOS image files, Gateway6 Client software, the latest documentation updates, as well as HexOS software and copyright information, as applicable. You can browse these items on the Hexago corporate Web site.

Document Revision

This document describes the Gateway6 Client version 5.1.

The revision number of this document is 06.

Introduction

This document lists the key information regarding the new releases of the Gateway6 Client.

When listing a bug fix or enhancement, the Hexago ticket number is displayed whenever possible.

Please contact the Hexago support team if you notice any issues or wish to obtain an updated image: support@hexago.com.

Supported Operating Systems

Users access the tunnel broker service via the Gateway6 Client software running on their local computer. Available to them is the Hexago Gateway6 Client software provided on the Gateway6 CD-ROM (this software can be freely distributed to users). Another option is the Freenet6 client available from the http://www.freenet6.net; this client is also included in many opensource operating system distributions such as FreeBSD and Linux Debian.

The Gateway6 Client software is available for the following operating systems:

- ‣ Windows Vista
- ‣ Windows XP Service Pack 2
- ‣ Windows Server 2003
- ‣ MacOS X
- ‣ FreeBSD
- ‣ NetBSD
- ‣ OpenBSD
- ‣ Linux

The client software is installed on the host operating system, following the environment-specific instructions included in the client software distribution.

CD-ROM Content

The *Gateway6 Software and Documentation CD-ROM* contains HexOS image files, Gateway6 client software, Gateway6 documentation, and HexOS software and copyright information. The CD-ROM content is also available in an archive format on the Hexago corporate Web site.

The CD-ROM structure is described in this table.

File or Directory	Description
Hexago_Gateway6_Notes.pdf	This file contains important information to be read before installing the software.
Documentation/	This directory contains the documentation files in PDF format.
HexOS/	This directory contains the HexOS image files to be installed on the Gateway6.
Client/	This directory contains the Gateway6 Client software (source and binary for most platforms).
template_html/	This directory contains a copy of the HTML files used by the HTTP server to provide the Web interface for user and tunnel creation.

Gateway6 Client Version 5.1 (2007-12-21)

New Features

Windows 64-bit support (#3740)

The Gateway6 Client now offers 64-bit support for Windows. The following Windows operating systems are thus compatible with this release of the Gateway6 Client:

▸ Windows Vista (64-bit)
▸ Windows 2003 Server (64-bit)
▸ Windows XP Professional (64-bit)

Improved user assistance (#3822)

The Gateway6 Client GUI Utility Help file was enhanced with additional topics covering the HAP6 features Home Access and Home Web, as well as a troubleshooter. To access this file, press the F1 key while inside the utility or click the *Start → Programs → Hexago Gateway6 Client → Gateway6 Client Utility Help* shortcut in the Windows Start Menu.

Changes and Improvements

▸ The following parts of the Windows version of the Gateway6 Client are now signed by the *Hexago Inc.* certificate (#3827):

  ☞ The installer executable
  ☞ The Gateway6 Client Utility executable
  ☞ The Hexago Multi-Tunnel Virtual Adapter kernel driver (`hextun.sys`)

▸ When launching the Gateway6 Client, additional information related to the operating system environment is now displayed in the log output device to assist with debugging (#1710).

  ☞ Starting the Gateway6 Client under Windows will record the following information in the log file (if "output to file" has been set): Windows major/minor version and service pack, if applicable.
  ☞ Starting the Gateway6 Client on other platforms will display a static snapshot that was taken at time of compilation.

▸ Tunnel establishment in DSTM mode with the Gateway6 Client running Microsoft Windows Vista has been fortified for the current release to correct the following issues (#3849).

  ☞ Reports had been received that occasionally no traffic was transmitted from the Gateway6 Client to the Gateway6 in IPv4-in-IPv6 mode, even though the DSTM connection was correctly set up.
  ☞ It was also observed that once a successful connection to the Gateway6 was achieved, Windows Vista would periodically display a pop-up message stating that an IP address conflict had been detected.

  In both these circumstances, the tunnel end-points were unreachable via ping.

▸ Clarifications have been made to the wording of the error message displayed by the Gateway6 Client if the HexTun driver has not been installed (or cannot be found) and the user attempts to establish an IPv6-in-UDP-in-IPv4 tunnel. Instead of simply declaring that the `windows.bat` script did not execute properly, the error message now states, "Hexago Multi-Tunnel Virtual Adapter is missing and is required for V6UDPV4 tunneling" (#3716).

➤ Error messages recorded in the Gateway6 Client Utility log file are now clearly identified according to their severity. Under Windows, log entries are colored in the on-screen display to indicate the severity and facilitate pinpointing errors (errors are displayed in red, warnings in yellow; the highlight shade has been changed to green). On Linux/BSD platforms, a qualifier (E=Error, W=Warning, I=Info) is prepended to log messages to tag them as informative, a warning or an error (#3774).

➤ If unsaved changes have been made to the configuration of the Gateway6 Client Utility when the user clicks the *Connect* button to establish a tunnel with the Gateway6, the Gateway6 Client will now display a message box or task dialog prompting for confirmation to save the modifications (#3831).

　　☞ If the user clicks the *Save* button, the new configuration is saved and a connection with the Gateway6 is initiated using the new settings.

　　☞ If the user elects not to save, the Gateway6 Client will attempt to connect using the unsaved configuration. Bear in mind that these unsaved modifications will be lost if they are not applied before closing the Gateway6 Client Utility.

➤ The Gateway6 Client executable (`gw6c.exe`) now displays additional information such as the application name, copyright and current version in the *Details* tab of the "Properties" dialog box (#3857).

➤ The default Gateway6 name was removed from the standard configuration file shipped with the Gateway6 Client Utility. Furthermore, the Utility's configuration load routine was modified to include a validation by the Client to check for an empty Gateway6 name field (#3882).

➤ The width of the Utility's status columns were expanded in order to display more information for IP address endpoints (#3882).

➤ When the host quits or is disconnected from the Gateway6, the Gateway6 Client now restores the host to the state it was in prior to being invoked. More precisely, the tunnel and routes added to the Client when the TSP connection was established are removed (#3836).

➤ The Gateway6 Client username and password formats were revised and clarified. For details, refer to the "Guidelines for Creating Usernames and Passwords" section of the *Software Configuration Guide* (#3880).

➤ The Gateway6 Client can now be configured to delete client log files once they have been rotated via the new configuration element, `log_rotation_delete` (#3895).

Bug Fixes

➤ All compilation warnings in the Gateway6 Client build were fixed for all platforms (#3795).

➤ A linkage issue that occurred only under OpenBSD 4.1 was corrected (#3829).

➤ A random defect in the keepalive feature that could occasionally lead to a timeout was resolved (#3825).

➤ With the Gateway6 Client, it is now possible to establish a viable IPv6-in-IPv4 tunnel after previously connecting to the Gateway6 using the IPv6-in-UDP-in-IPv4 tunnel encapsulation mode. It had been reported in previous releases that changing the tunnel encapsulation mode from IPv6-in-UDP-in-IPv4 to IPv6-in-IPv4 (ex: executing `tspc` using the v6anyv4 encapsulation mode from behind a NAT, disconnecting then running it again without a NAT) would occasionally yield an unusable tunnel (#2168).

➤ Users running the Gateway6 Client GUI Utility under Windows Vista can now reconnect to the Gateway6 service when switching from IPv6-in-UDP-in-IPv4 tunnel mode to IPv6-in-IPv4 tunnel mode (#3748).

▸ The Darwin template now deletes the IPv6 default route, if it exists. Previous releases of the Gateway6 Client did not update the default route (#2046).

▸ The Pass DSS 3DES-1 authentication method is now functioning as expected under Linux (#2649).

▸ A "% Description is too long" error message is now displayed when the Gateway6 Client encounters a description that exceeds the defined field-specific character limit. In previous releases of the Gateway6 Client, long descriptions were truncated by the Gateway6 without issuing a warning to alert the user (#647).

▸ The situation whereby an invalid Windows Start Menu shortcut was created when the Gateway6 Client was installed without the optional documentation component (by unselecting it during installation) has been corrected. (#3820).

▸ Interface names can now contain the '/' character, such as "FastEthernet0/1", in the `if_prefix` configuration element of the Gateway6 Client (#3891).

▸ The Gateway6 Client tunnel setup script has been modified to support the upcoming FreeBSD 7 release. The behavior of the `putenv` command was updated for FreeBSD 7 (#3934)

▸ A socket leak that occurred upon reconnection in the Linux/BSD IPv6-in-UDP-in-IPv4 Gateway6 Client implementation has been resolved (#3936).

▸ In previous versions of the Gateway6 Client under Windows, high-traffic tunnels would occasionally cause the HexTun driver to stop responding after a period of several days. This unexpected behavior from the driver could severely impact the current session of the operating system and require a restart (#3881).

▸ A minor memory leak in the Gateway6 Client that occurred during reconnection was corrected (#1867).

▸ An issue whereby the redirect feature did not attempt to connect to any of the entries of a redirection list comprised of multiple DSTM (IPv4-in-IPv6) Gateway6 units has been resolved. (#3888).

Known Issues

▸ No known issues have been detected at this time. Please contact Hexago Technical Support if you have any incidents to report.

Gateway6 Client Version 5.0 (2007-05-14)

New Features

Linksys WRT and OpenWRT Whiterussian RC6 Support (#2321)

The Gateway6 Client has been ported from OpenWRT (a Linux distribution for embedded devices) to the Linksys WRT platform. You can now use the Linksys WRT54G(S) line of home gateways to obtain an IPv6 connection through the Freenet6 service or any other Hexago Gateway6 TSP tunnel service.

A readme is provided at http://www.go6.net/4105/file.asp?file_id=126, and the product downloads are available at http://www.go6.net/4105/download.asp.

The Gateway6 Client has also been ported to the OpenWRT Whiterussian RC6 platform. More information can be found at http://www.openwrt.org.

Gateway6 Client Utility for Windows Vista (#3633)

A new Windows Vista application has been developed to configure the Gateway6 Client and perform relatively simple tasks for non-technical users, such as viewing and changing configuration settings, starting/stopping the Gateway6 Client, monitoring a local Gateway6 Client and displaying status information. Many enhancements and new features have been added, including online Help.

Changes and Improvements

▸ The text in the log window of the Gateway6 Client Utility for Windows can now be selected and copied to the clipboard for your convenience (#3446).

▸ A minimize button has been added to the interface of the Gateway6 Client Utility for Windows (#3502).

▸ The status messages and colors used in the Gateway6 Client Utility for Windows have been reworked to more accurately reflect the status of the Gateway6 Client (#3570).

▸ The keepalive feature used by IPv6-in-UDP-in-IPv4 tunnels is now supported by Windows Vista (#3601).

▸ The Gateway6 Client distribution manual pages for the UNIX distribution of the Gateway6 Client have been updated (#975).

▸ The product README now includes information regarding operating system-specific dependencies (#3672).

▸ Clients now have the option of requesting a prefix whose length is shorter than the length offered by the tunnel server. It is not possible, however, to request a prefix longer than that offered by the tunnel server (#3741).

▸ The terms *TSP Listener* and *HTTP Listener* are deprecated and have since been replaced throughout the Gateway6 and HexOS documentation and source code by the equivalents *TSP Server* and *HTTP Server*, respectively (#3766).

▸ If the retry_delay option is not specified in the Gateway6 configuration file, the client now has a default value of 30 seconds. In previous versions of the Gateway6 Client, the default was only 1 second (#3458).

▸ French language support has been added to the Gateway6 Client Utility setup (#3755).

Bug Fixes

▸ The automatic reconnection feature is now user controlled for the Gateway6 Client Utility for Windows. As such, when a tunnel expires due to a keepalive timeout, a popup window is displayed allowing the user to choose whether or not to reconnect. Behavior in previous versions, whereby multiple clients using the same login credentials and broker clashed to gain control over the same connection, has been corrected. (#3685).

▸ The UDP socket is now properly connected and bound to a local IPv6 source address when requesting an IPv4-in-IPv6 tunnel under Windows. Note that this issue does not apply to IPv6-in-IPv4 tunnels or to other operating systems (#3354).

▸ In instances where the Gateway6 is unavailable to establish a tunnel, the Gateway6 Client Utility no longer needlessly reserves a Windows handle for reconnection purposes (#3622).

▸ A memory leak issue that occurred when a Gateway6 Client attempted to reconnect after a keepalive timeout has been corrected (#3724).

▸ The Gateway6 Client must send a tunnel creation acknowledgment string (`"<tunnel action='accept'/>"`) to the Gateway6 as part of the tunnel negotiation process. If authentication by the Gateway6 was delayed for whatever reason (ex: ambient network conditions or sluggish reaction time by the RADIUS server), the Gateway6 Client reported the error as "Not able to write TSP request to server socket" in previous versions of the Gateway6 Client. This situation is now reported as "No RUDP Reply" (#3658).

▸ In previous versions of the Gateway6 Client, once a delegated prefix had been requested, the tunnel server always sent it as part of subsequent tunnel establishments, even if it were no longer requested. The prefix is now sent only if explicitly requested (#3666).

▸ If a previous version of the Gateway6 Client fell back to TCP, it would not make any subsequent attempts to use RUDP. A condition on the retry delay has since been added so the process no longer sleeps between UDP and TCP attempts. It now only sleeps following the TCP attempt, before UDP is potentially tried again (#3459).

Known Issues

▸ Broker list occasionally ignored (#3555).

It has been reported that, when presented with a list of potential brokers with which to create a tunnel, the Gateway6 Client will not always successfully select the following server on the list if the session with the first server entry fails.

WORKAROUND

None.

▸ Windows Vista 64-bit support (#3740).

The Gateway6 Client does not currently offer 64-bit support for Windows Vista.

WORKAROUND

None. This issue will be addressed in a future release.

‣ Windows Vista reconnection behavior (#3748).

Some users running Windows Vista may discover they are unable to reconnect to the Gateway6 service when switching from IPv6-in-UDP-in-IPv4 tunnel mode to IPv6-in-IPv4 tunnel mode. This issue will be addressed in an upcoming release of the Gateway6 Client.

WORKAROUND

In such circumstances, full functionality can be restored simply by rebooting the computer running the Gateway6 Client. As an alternative, advanced users can choose instead to manually reconfigure the tunneling interface, as described below.

1. Open the *Windows Network and Sharing Center* and identify Hexago's Virtual Multi-Tunnel Adapter on your computer. This is the `<interface name>` you will need for the rest of the workaround.

2. Open a command prompt with administrator privileges.

3. List the addresses configured on this interface by issuing the following command:

```
netsh interface ipv6 show address interface="<interface name>"
```

4. Delete the IPv6 address assigned to the interface by issuing the following command at the command prompt (on a single line):

```
netsh.exe interface ipv6 delete address
interface="<interface name>" address=<IPv6 address to delete>
```

Gateway6 Client Version 4.2.1 (2006-10-30)

Bug Fix

‣ Current Windows Gateway6 client (v2) does not support Windows Server 2003 (#2344).

Gateway6 Client Version 4.2 (2006-09-15)

New Features

Multi-Site Operation

Gives access the closest broker site and provides redundancy.

NAT Traversal Support to MacOS X (Darwin) (#3400)

This table lists the encapsulation modes supported by the Gateway6 Client on the supported operating systems:

Client Operating System	IPv6-in-IPv4 encapsulation (v6v4)	IPv6-over-UDP-IPv4 encapsulation (IPv4 NAT traversal) (v6udpv4)	IPv4-in-IPv6 encapsulation (v4v6)
Windows: NT, 2000	Yes	No	No
Windows: XP, 2003	Yes	Yes	Yes
MacOSX 10.3+	Yes	Yes	No
Linux (Kernel 2.4+)	Yes	Yes	No
FreeBSD 5.0+	Yes	Yes	Yes
NetBSD 1.6+	Yes	No	No
OpenBSD 3.0+	Yes	No	No
Solaris 9+	Yes	No	No

Other platforms and operating systems not listed above might work, but are not officially supported.

IPv4-in-IPv6 Tunnel Encapsulation Support (#3256)

The DTD of the current TSP protocol version (2.0.0) already supports IPv4 in IPv6 encapsulation, using the **v4v6** keyword. This implementation conforms to the IETF draft-blanchet-v6ops-tunnelbroker-tsp-03.txt and draft-bound-dstm-exp-04.txt specifications. Refer to the *Gateway6 Client Configuration Guide* for additional information.

Changes

‣ Migration Broker becomes Gateway6.
‣ TSP Client becomes Gateway6 Client.

Bug Fix

‣ In Windows GUI, logs were not displayed after a clear, and in some instances, log rotation would not be caught by the GUI application (#3484) (#3494).

Known Issues

▶ Prefix advertisement not implemented

If the Gateway6 Client is configured as an IPv4 router and requests an IPv4 prefix for its attached network, the prefix is negotiated by the client and the tunnel broker, but the Gateway6 Client does not yet implement advertiseing this prefix on the attached network, for example, by configuring a DHCP server.

WORKAROUND

None. This issue will be addressed in a future release.

TSP Client Version 4.1 (2006-05-26)

Bug Fixes

- Added support for rotating log files. Instead of growing the log file and using disk space, the client will now create timestamped log files to allow for a better management of the logging (#3443).

- Clean up logging messages. A lot of work has been done to improve the wording of log messages and levels in order to simplify troubleshooting. We also removed the -v option and included it in the configuration file. Under Windows, those using the Graphical User Interface will be able to control the logging from the advanced configuration (#3121).

TSP Client Version 4.0 (2005-11-28)

New Features

IPv4-in-IPv6 Tunnel Encapsulation

The IPv4 in IPv6 tunnel encapsulation method (v4v6), also known as Dual-Stack Transition Mechanism (DSTM), is now supported on some client platforms, as shown in this table. HexOS 4.0 supports IPv4 in IPv6 tunnel encapsulation on the broker side.

The TSP Client `tspc.conf` file is enhanced for v4v6 by these variables:

Variable	Value	Description
tunnel_mode	v4v6	To request a v4v6 tunnel, set the `tunnel_mode` variable to "v4v6".
if_tunnel_v4v6	*interface name*	Specify the OS interface name for v4v6 tunnels. Specific to the Client operating system. For Windows, this variable is ignored since Windows uses dynamic allocation of interfaces.
server_address	*IPv6 address*	Specify the IPv6 address (and optionally the port number) of the TSP server on the broker. The format is an IPv6 address. If a port number is specified, the IPv6 address must be inside brackets, such as `[2001:db8:1:1::1]:3999`, as per RFC 2732.
client_v6	*ipv6 address* auto	Specify the IPv6 address used by the client for its tunnel endpoint. If the variable is set to auto, the TSP Client uses the address provided by the operating system.

This table lists the encapsulation modes supported by the TSP Client on the supported operating systems:

Client Operating System	IPv6-in-IPv4 encapsulation (v6v4)	IPv6-over-UDP IPv4 encapsulation (IPv4 NAT traversal) (v6udpv4)	IPv4-in-IPv6 encapsulation (v4v6)
Windows: NT, 2000	Yes	No	No
Windows: XP, 2003	Yes	Yes	Yes
MacOSX 10.3+	Yes	No	No
Linux (Kernel 2.4+)	Yes	Yes	No
FreeBSD 5.0+	Yes	Yes	Yes
NetBSD 1.6+	Yes	No	No
OpenBSD 3.0+	Yes	No	No
Solaris 9+	Yes	No	No

Other platforms and operating systems not listed above might work, but are not officially supported.

IPv4-in-IPv6 Tunnel Encapsulation Support (#3256)

The DTD of the current TSP protocol version (2.0.0) already supports IPv4 in IPv6 encapsulation, using the **v4v6** keyword. This implementation conforms to the IETF draft-blanchet-v6ops-tunnelbroker-tsp-03.txt and draft-bound-dstm-exp-04.txt specifications. Refer to the *TSP Client Configuration Guide* for additional information.

Windows Graphical User Interface (#1610)

The Windows TSP Client now has a graphical user interface (GUI) to configure and manage the TSP Client. Refer to the *TSP Client Configuration Guide* for additional information.

Changes

- ‣ When the client is running as a Windows service, it cannot request user input. When using the PASSDSS-3DES-1 authentication mode, the mode requires the client to accept the broker keys the first time it connects to the broker. When the client runs as a Windows service, is using the PASSDSS-3DES-1 authentication mode, and is connecting the first time to a new broker, it now automatically accepts the broker keys and writes a logging record (#3096, 3407).
- ‣ The Windows installer no longer offers to open the `tspc.conf` configuration file. Instead, it offers to open the graphical user interface to configure the client (#3362, 3364).
- ‣ The Windows installer for TSP Client 4.0 refuses to install on Windows 2000, since Windows 2000 does not have the facilities to support the 4.0 features. For Windows 2000 support, use the TSP Client version 3.0 (#3429).

Bug Fixes

- ‣ TCP fragmented packets are now correctly handled by the client (#3164).
- ‣ Byte-ordering for IPv6-UDP-IPv4 tunnels on big-endian platforms, such as PowerPC(MacOSX) and Sparc(Solaris), is now correctly handled by the client (#2603, 3334).
- ‣ The "=" character is now correctly supported in a user password (#3389).
- ‣ Openbsd was missing as a target in the make help message(#3422).Under Windows, the IPv6 stack is no longer reset each time a tunnel is negotiated, so the IPv6 configuration of other interfaces remains unchanged. However, when switching from v4v6 to v6anyv4, the v4 addresses on the v4v6 interface are not removed and no reset is done on the v6v4 interface on Windows XP without service pack (#3348).

Known Issues

- ‣ Prefix advertisement not implemented

  If the Gateway6 Client is configured as an IPv4 router and requests an IPv4 prefix for its attached network, the prefix is negotiated by the client and the tunnel broker, but the Gateway6 Client does not yet implement advertiseing this prefix on the attached network, for example, by configuring a DHCP server.

  WORKAROUND

  None. This issue will be addressed in a future release.

TSP Client Version 3.0 (2005-03-31)

Documentation Change

The HexOS and TSP Client now have separate Release Notes documents, titled: *Hexago Gateway6 HexOS Release Notes* and *Hexago Gateway6 TSP Client Release Notes.* This will enable different release paths for these components. Please read both documents.

New Features

PassDSS Authentication Mechanism (#2821)

A new authentication mechanism between the TSP Client and the broker, named PASSDSS, is added to the existing mechanisms (anonymous, plain, digest-md5). This PASSDSS mechanism is useful for RADIUS deployments where the RADIUS server does not support the authentication mechanism of the TSP Client.

The PassDSS authentication mechanism is implemented in the TSP Client and HexOS (Advanced version). The auth_method variable in the `tspc.conf` configuration file can be set to passdss-3des-1 to force this authentication mechanism (#2821). Since the certificate of the broker is sent and verified by the TSP Client, the TSP Client user is prompted to accept the broker certificate the first time it connects to that broker.

The authentication method is documented in the IETF draft-newman-sasl-passdss-01.txt.

Windows Service (#2319)

The Windows version is now implemented as a Windows service. It installs itself as a Windows service by default. Starting the client manually is no longer required and the DOS box of the client is no longer shown. When running as a service, the client starts automatically at boot. This behavior can be changed in the Services area of the Control Panel. To start or stop the client manually, use the Services panel or the command line "net {start | stop} tsp".

TSP Client Version 2.1.1 (2004-12-06)

Bug Fixes

- Added support for Windows XP Service Pack 2 (#2233, 2406, 2529).
- Windows TSP Client as an IPv6 router on the same link was not forwarding packets (#2485).
- Windows TSP Client as an IPv6 router was not setting the IPv6 address properly (#2486).

TSP Client Version 2.1 (2004-07-21)

New Features

- ▸ Keepalive was only for v6udpv4 tunnels. It is now available for v6v4 tunnels (#2166).
- ▸ Windows installer has a new flag (/S) to do unattended installation without user interaction (#2424).
- ▸ By default, the `tspc.conf` file now points to anon.freenet6.net as the default broker for anonymous mode (#2353).

Bug Fixes

- ▸ OS implementations differ on setting MTU on tunnel interface. Now client forces to 1280 (#273, 1991, 1983).
- ▸ Fixed checksums of ICMP echo packets were not computed correctly on some platforms (#1992, 1993).
- ▸ Man pages are updated (#2051).
- ▸ Improved information on log output and error messages (#1730, 1731, 1884, 1709, 2399).
- ▸ Handling changes in Microsoft Windows netsh syntax between releases and SPs (#1630, 2426, 2125).
- ▸ Fixed Solaris script. It did not work if run twice (#2022).
- ▸ Fixed Windows script. Now the script reports errors correctly to the TSP Client (#2154).
- ▸ Source code for all platforms is now synched with new client code architecture (#2052, 2210, 2212, 2213, 2214).
- ▸ Loopback route is now correctly handled in all cases (#2351).
- ▸ Fixed Windows forwarding when using a prefix (#2351).
- ▸ Removed RIPng execution and NDP when in host mode on Solaris (#2351).
- ▸ Linux template fails when the tunnel interface does not exist (#2381).
- ▸ Case sensitivity of a template keyword disabled use of router mode (#2043, 2061).
- ▸ tsp_version variable in configuration file was not useful, so was removed (#2030).
- ▸ Client crashes when receiving keepalive=0 by the broker (#2186).
- ▸ Improved makefile (#2017, 2027).
- ▸ Merged all Windows versions templates to a single template (#1986).
- ▸ Merged all freebsd versions templates to a single template (#1976).
- ▸ Improved error processing in the freebsd template script (#1721).
- ▸ Improved comments and instructions in the `tspc.conf` configuration file (#1711).
- ▸ template variable in tspc.conf was ignored when trying to use another template script file (#1925).
- ▸ Extraneous messages are removed from the windows installer process (#2219).
- ▸ Improved handling of keepalive messaging (#2348).
- ▸ Improved handling and error messages on Linux when the kernel does not support IPv6 (#2384).
- ▸ Improved handling and error messages on the Windows 2000 client template (#2434).
- ▸ Improved handling of case in templates (#2301).
- ▸ Specified port number in `tspc.conf` file was not working properly on Windows (#2354).
- ▸ Improved error message when missing user information in `tspc.conf` file (#1980).
- ▸ Improved handling of errors by the Windows installer (#2151, 2158).

TSP Client Version 2.0 (2004-02-13)

Documentation Change

The *Migration Broker TSP Client Guide* is new document that describes how to configure and use the TSP Client software. It also provides various deployment scenarios and describes advanced features you may wish to implement.

New Features

NAT Traversal

▸ Available for FreeBSD and Linux. Labeled as v2.0.

▸ For the other platforms, use the previous versions of the client.

Windows TSP Client

The TSP Client on Windows is now packaged in an executable installer. The installer uncompresses the TSP Client executable and configuration files on disk and also installs a new Windows interface driver. That interface is displayed as "TUN interface" in the network elements and is used for NAT traversal only. It is normal that this interface is disconnected if NAT traversal is not used. The installer now also checks for previously installed versions of the TSP Client. Please also note that the warning concerning the driver signature upon installation is normal.

Changes and Improvements

The FreeBSD template script (freebsd.sh) has been consolidated. Note that the **template** variable in the `tspc.conf` file must be updated to **freebsd (template=freebsd)**.

Bug Fixes

▸ Fixed Windows XP with Update (IPv6 firewall is on by default) (#1600).

▸ Fixed Windows XP persistent routes (#1887).

▸ Enhanced debug messages and logging.

▸ Fixed FreeBSD 5.X script (changed gifconfig to ifconfig) (#1637).

▸ Fixed FreeBSD/Linux/Windows loopback route install with wrong prefix (#1722).

▸ Fixed FreeBSD/Linux/Windows route advertisement with wrong prefix (#1722).

▸ Fixed FreeBSD/Linux/Windows/NetBSD MTU mismatch (#1983).

▸ Fixed `tspc.conf` template information (#1711).

▸ Fixed Windows configuring prefix in router mode (#1923, 1924).

▸ Improved Linux requirements on modprobe ipv6 (#2012).

Tunnel Setup Protocol (TSP) Changes

▸   The DTD of the TSP is enhanced to support NAT traversal and the TSP protocol version is now 2.0.0. XML changes are:

☞   New tunnel encapsulation mode: `v6udpv4`. The client can request a `v6anyv4` encapsulation mode.

☞   New `keepalive` request and response parameter.

TSP Client Version 1.2 (2003-09-10)

Bug Fixes

- Fixed bug in handling IPv4 address over `127.0.0.0/8` in the TSP Client.
- Fixed the usage of ping6 under Windows Server 2003.
- Fixed wrong route command in TSP Client NetBSD shell script.
- Fixed ping operation for Windows client with no DNS resolution.
- Fixed HTML pages display using Just checkingLynx browser.

TSP Client Version 1.1 (2003-08-13)

New Features

‣ Added a client template for Windows Server 2003.

Bug Fixes

‣ Fixed crash for some configurations of static tunnels.
‣ Fixed **show startup-config** problem in Rescue mode.
‣ Fixed problem of HTTP/TSP server not responding.
‣ Fixed hang in TSP processing of aborted sessions.
‣ Fixed bad handling of parsable characters in CLI.
‣ Fixed index mismatch in **show ipv6 route**.

TSP Client Version 1.0 (2003-05-21)

New Features

‣ Initial release.

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