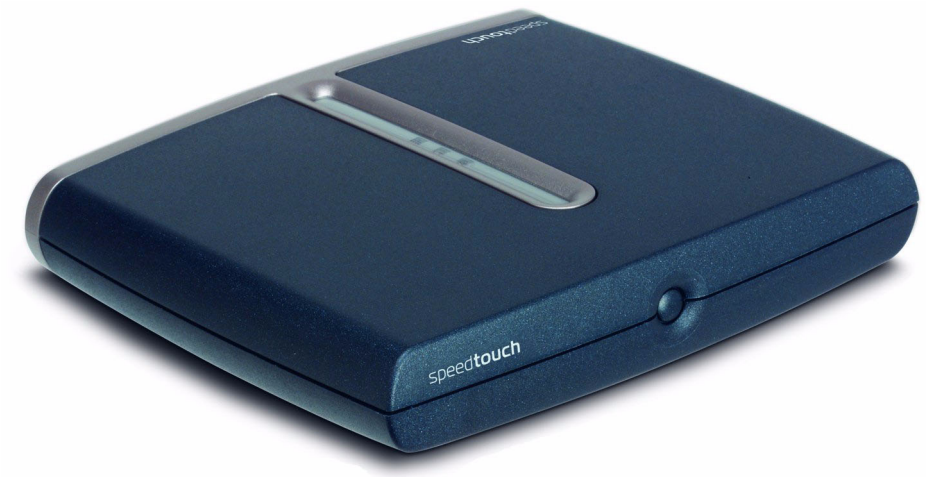
speedtouch™

SpeedTouch™510

Multi-User ADSL Gateways

Customer Release Note

Release R4.2.7



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THOMSON

SpeedTouch™ 510

Customer Release Note

R4.2.7

speedtouch™

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Contents

About this Customer Release Note

Used Symbols

A ***note*** provides additional information about a topic.

A ***tip*** provides an alternative method or shortcut to perform an action.

A ***caution*** warns you about potential problems or specific precautions that need to be taken.

Terminology

Generally, the SpeedTouch™510 will be referred to as SpeedTouch™ throughout this Customer Release Note.

Documentation and software updates

THOMSON continuously develops new solutions, but is also committed to improve its existing products.

For more information on THOMSON's latest technological innovations, documents and software releases, visit us at:

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1 Release Description

Introduction

The purpose of this Customer Release Note is to provide delivery information and to define the released items of the R4.2.7 maintenance release of the SpeedTouch™510 Multi-User ADSL Gateways.

Introducing Release R4.2

The Release R4.2 adds many new key features to the SpeedTouch™510, including new tools, applications and means to further enhance the services delivered by the SpeedTouch™ and to improve its long-term reliability for Internet/WAN services.

All these come in addition to the already extended set of features provided in the preceding Release R4.0.x of the SpeedTouch™510.

Introducing the Maintenance Release R4.2.7

This maintenance release adds several new features to the SpeedTouch™510, and solves in addition several caveats that were detected in the previous R4.2.x software releases.

Applicability of this Customer Release Note

This Customer Release Note applies to the following SpeedTouch™ DSL products:

- The SpeedTouch™510 ADSL/POTS Multi-User ADSL Gateway
  The SpeedTouch™510 Switch ADSL/POTS Multi-User ADSL Gateway

- and -

- The SpeedTouch™510i ADSL/ISDN Multi-User ADSL Gateway
  The SpeedTouch™510i Switch ADSL/ISDN Multi-User ADSL Gateway.

1.1 Feature Overview

ADSL features

- Simultaneous high-speed Internet access over ADSL, on top of existing POTS or ISDN services on the same copper line
- ADSL throughput performances of:
  - Up to 8Mb/s downstream
  - Up to 832kb/s upstream for ADSL/POTS, 640kb/s upstream for ADSL/ISDN
- Supported ADSL spectral shaping (versus widely deployed Alcatel DSLAM ADSL line cards)
- Proven ADSL/POTS and ADSL/ISDN standards compliancy

Operation and management features

- Operating System independent Multi-User ADSL Gateway
- UPnP™ certified, full Internet Gateway Device model compliant

  - Configurable UPnP policy
    By default the UPnP policy is set for maximum convenience:
    - UPnP is enabled
    - Connect/disconnect of the SpeedTouch™ IGD Internet Connection is allowed
    - Write/read NAPT entry permissions are not restricted
- User-friendly HTTP web-based management
- Advanced Command Line Interface (CLI) management
- FTP access, allowing for
  - Configuration management
  - Language packs management

Networking

- Equipped with:
  - Managed four-port 10/100Base-T auto-sensing MDI/MDI-X Ethernet switch

  - or -

  - Single 10/100Base-T auto-sensing MDI/MDI-X Ethernet port

Note Also available as dual-port Ethernet/USB device (SpeedTouch™530).

Ethernet networking

- Operating System independent Ethernet networking connectivity
- Auto or fixed communication speed and duplex mode configuration (per Ethernet port)
- Full configuration of Ethernet switch functionality, allowing for:
  - Per Ethernet port, port enable/disable
  - Ethernet port monitoring
  - Ethernet port isolation

System software management

- System software upgradeable
- Fail-safe SpeedTouch™ system software management via:
  - Easy to use SpeedTouch™ Upgrade Wizard for MS Windows OSs and Mac OS X
  - Operating System independent secure BootP system software upgrade mechanism
- Digitally signed system software
- Secure system software Internet download support

Configuration management

- Fail-safe configuration management via:
  - Easy to use SpeedTouch™ Setup Wizard for MS Windows OSs
  - Operating System independent easy to use embedded HTTP-driven SpeedTouch™ Easy Setup wizard
- Support for advanced configuration backup, restore and embedded storage of configurations

Performance and service monitoring

- Dr SpeedTouch™ for MS Windows OSs to allow continuous service and performance monitoring and user-friendly troubleshooting
- Basic and advanced diagnostics and monitoring, available from both web pages and CLI.
- Basic remote management via:
  - SNMPv1, supporting:
    - Interface MIB in line with RFC2863
    - MIB-II Interface in line with IETF RFC1213 and IETF RFC1573
  - Web-based system logging

Multi-lingual support

- Selectable multi-lingual graphical user interface supported by:
  - SpeedTouch™ CD Menu
  - SpeedTouch™ Setup Wizard
  - Embedded HTTP-driven SpeedTouch™ Easy Setup wizard
  - Dr SpeedTouch™
  - SpeedTouch™ Upgrade Wizard
  - SpeedTouch™ NAPT manager
- Operating System independent SpeedTouch™ HTTP web-based management and online help pages
- Support for Unicode UTF-8 encoded languages

Product security

- System password authentication for all access methods and levels
- Support for HTTP digest authentication
- Integrated full programmable packet firewalling

Routing services

- IP address multi-homing of the SpeedTouch™:
  - Auto-IP configuration
  - Unnumbered addressing and routing
- Simultaneous IP Routing to multiple destinations
- IGMP forwarding
- Extended IP Routing capabilities, allowing for:
  - Destination IP routing
  - Interface routing
  - Packet classified routing (via programmable packet classification)
  - IP Quality-Of-Service

Service transparency features

- Extended IPSec VPN pass-through functionality and transparency supporting simultaneous access from any number of IPSec VPN clients to any number of IPSec VPN servers
- Improved NAPT experience via service specific NAPT algorithms for:
  - ESP
  - FTP (including passive FTP)
  - GRE
  - H.323
  - IKE / IPSec pass-through
  - ILS
  - IPv6-to-IPv4
  - IRC
  - JABBER (for the purpose of e.g. instant messaging Voilà Messenger)
  - PPTP
  - RAUDIO(PNA)
  - RTSP
  - SIP
- Support for Multi-NAT (Basic NAT)
- Static NAT configuration
- Default NAPT server configuration
- Transparent NAT
- Secured UPnP NAPT traversal
- Configuration via SpeedTouch™ NAPT Manager

ATM services

- Over ATM automatic service configuration support:
  - ILMI 4.0
  - Auto configuration of Bridged Ethernet on auto-configured PVCs
  - Auto configuration of PPPoE Relay on auto-configured PVCs
  - Upstream shaping on existing terminated PVCs
- Extended F4/F5 ATM OAM features:
  - Configurable ATM loopback identifier
  - ATM ping command
  - Triggered ATM Continuity Check configuration and initiation

SLA services

- SLA monitoring via CLI:
  - IP ping functionality
  - Extended IP traceroute

Quality of Service

- ATM Quality of Service
  - CBR, VBR-rt, VBR-nrt, UBR ATM QoS categories
  - Per VC queuing and SAR
  - Per VC shaping:
    - PCR shaping for UBR and CBR
    - PCR, SCR, MBS shaping for VBR
  - Per QoS category queuing and strict priority scheduling
  - Connection Admission Control for resource reservation
- IP Quality of Service
  - VLAN 802.1p User Priority Mapping
  - IP, TCP, UDP, ICMP header based packet classification, prioritization and forwarding
  - IP header TOS byte / DSCP field marking
  - IP QoS queues instantiated per upstream interface (ATM VP/VC)
  - 4 fixed queue topology:
    - real-time queue with strict priority over all other queues
    - high queue with strict and fixed priority over medium queue and best effort queue
    - medium queue with strict and fixed priority over best effort queue
    - best effort queue
  - Strict queue priority scheduling algorithms
  - Packet Discard Strategies:
    - Tail Drop
    - Early Packet Discard active queue management (BLUE algorithm)
  - Configurable queue propagation to enqueue in lower priority queue in case of congestion
  - Prioritization of upstream TCP ACK segments
  - RFC2475/3260 Differentiated Services Architecture
  - RFC2474 Differentiated Services Field and Best Effort (BE) and Class Selector Per-Hop Behaviour (PHB)
  - RFC2983 Differentiated Services and Tunnels
  - RFC2309 Queue management and Congestion avoidance (BLUE algorithm)

WAN protocol and Internet services

- Supports following Connection Services:
  - Ethernet over ATM
  - PPP over ATM
  - IP over ATM
- Simultaneous support:
  - Bridged Ethernet
  - Routed Ethernet
  - Relayed PPPoA
  - Routed PPPoA
  - Routed IPoA
  - Classical IP over ATM
- Support for PPPoE:
  - Basic Bridged PPPoE
  - Basic Routed PPPoE
  - PPPoE server mode or client mode
- PPPoE Relay extended support:
  - (Multi-) PPPoE pass-through
  - (Multi-) Routed PPPoE
  - PPPoE towards local network.
- Bridge port filtering with pre-defined bridge filters

Local network services

- DHCP server support:
  - Auto-sensing DHCP server start/stop mechanism
  - Per WAN interface DHCP pool configuration and selection
  - IPCP subnet mask DHCP pool propagation support for Routed PPPoA and Routed PPPoE
- DHCP Relay extended support with support for DHCP Relay Agent Information Option
- Network aware auto-IP configuration
- DNS server and forwarding

LED functionality control

- Configurable LED functionality

1.2 New Features

1.2.1 General Release R4.2.x New Features

Introduction

In the following the extensive list of new and improved features, functionalities and tools provided by Release R4.2.x is presented as compared to Release R4.0.x.

Managed Ethernet switch

Each of the Ethernet ports of the managed four-port Ethernet switch can be configured:

- 10/100Base-T, Half/Full Duplex, Negotiation on/off, enabled/disabled
- Isolation of Ethernet ports such that no direct (bridged / switched) traffic between Ethernet ports of different groups is possible
- Mirroring of a port such that one port can monitor the traffic sent to another port

Management and monitoring of the Ethernet switch is provided via:

- Diagnostics on SpeedTouch™ web pages and CLI

ATM QoS, monitoring and management

- In addition to the already supported CBR, VBR-nt, and UBR ATM QoS classes, now also VBR-rt is supported (as required for ILMI).
- ATM ping command via ATM F5 loopback cells
- Improved ATM statistics via CLI (at port, virtual channel and AAL5 connection)

ADSL dedicated features

ADSL features:

- Support of SpeedTouch™ identification over ADSL EOC protocol
- UR-2 compliancy (ADSL/ISDN variants only)

Auto-PVC and ILMI 4.0

The SpeedTouch™ is able to retrieve information from the network to set up its functionality and protocol stacks without user intervention.

- Auto-PVC
  Allows detection of virtual channels via the Alcatel proprietary mechanism for communicating ATM Layer information from DSLAM to the SpeedTouch™.
- ILMI
  Allows for automatic configuration by means of PVC Auto-configuration and ILMI Auto Addendum:
  - Bridging on new PVCs
    The SpeedTouch™ can automatically add new PVCs learned via Auto-PVC or ILMI 4.0 to the bridge function, and can perform correct upstream shaping in line with the QoS parameters received via Auto-PVC or ILMI 4.0.
  - PPPoE relay on new PVCs
    The SpeedTouch™ can automatically add new PVCs learned via Auto-PVC or ILMI 4.0 to the PPPoE relay function, and can perform correct upstream shaping in line with the QoS parameters received via Auto-PVC or ILMI 4.0.
  - Upstream shaping on existing terminated PVCs
    The SpeedTouch™ can automatically adapt the upstream shaping parameters of existing terminated PVCs, in line with the QoS parameters received via Auto-PVC or ILMI 4.0.
- Monitoring and maintenance of the Auto-PVC and ILMI 4.0 functionality is provided via the CLI.

PPPoE Relay and PPPoE pass-through

The SpeedTouch™ is equipped with PPPoE Relay functionality to allow:

- PPPoE pass-through
- Multi-PPPoE pass-through + Multi-Routed PPPoE + IPoE / MER on one PVC
  The SpeedTouch™ simultaneously supports multiple PPPoE sessions from the LAN in parallel to multiple Routed PPPoE sessions from the SpeedTouch™ and optionally one Routed Ethernet (MER) / IP over Ethernet connection from the SpeedTouch™ on the same virtual channel.
- Bridging + Multi-Routed PPPoE on one PVC
  The SpeedTouch™ simultaneously supports bridging from the LAN in parallel to multiple Routed PPPoE sessions from the SpeedTouch™ on the same bridging PVC.
- PPPoE client/server towards the local network
  The SpeedTouch™ supports multiple Routed PPPoE sessions from the SpeedTouch™ over the Ethernet LAN to the network.

Bridge filtering

The SpeedTouch™ supports bridge filtering with three pre-defined operation modes: no filtering, no broadcast messages from OBC to the WAN, only PPPoE to the WAN.

PPP authentication configuration

The SpeedTouch™ allows following PPP authentication modes to be configured by the user:

- Preferred CHAP, allowed PAP
- Force CHAP
- Force PAP

PPP idle session trigger

The SpeedTouch™ allows to configure whether the session should be considered idle, hence terminated, in case:

- RxTx: no traffic is received and no traffic is sent during idle time
- Rx: no traffic is received during idle time
- Tx: no traffic is sent during idle time

Redundancy support

- Systemlog message generation for changed default gateway to track switching to/from redundant back-up connection
- Supports redundant back-up connection trigger by DSL physical layer failure
- Supports redundant back-up connection trigger by F4/F5 AIS/RDI
- Seamless interoperability with SpeedTouch™210i ISDN Back-up Router for ISDN

IGMP forwarding

The SpeedTouch™ supports stateless forwarding of video-related IGMP zapping requests to a dedicated private virtual channel towards the video zapping handler.

Therefor the SpeedTouch™ allows to be configure for:

- Polling of multi-cast IGMP zapping Ethernet addresses
- IP Time-To-Live overruling via packet classified routing to allow routing/ forwarding of IGMP packets with TTL field equalling 1 (one).

Packet classified IP Routing and SLA/QoS monitoring

- The existing IP Routing functionality of the SpeedTouch™ has been extended to full packet classified IP Routing.
  - Label configuration via CLI
    Allows to create a set of criteria to classify a traffic stream. The set of criteria is fully to be determined by the user (chains and rules model), and is referred to as ‘label’.
  - Packet Classification
    Allows to associate a label to a traffic stream based on source interface, source and/or destination IP address and/or port, protocol and/or DSCP/ TOS (Type Of Service) bits or any combination of, as defined by the user in the label configuration.
  - Packet classified IP Routing
    Packet classified routing can be used to send high priority traffic to a high Quality of Service PVC. Packet classified routing extends upon and replaces source routing (since source IP address is one of the criteria that can be used by packet classification to assign a label to a traffic stream).
  - Label-based DSCP/TOS marking
    The SpeedTouch™ is able to mark the DSCP/TOS bits of routed IP packets based on the label assigned to a traffic stream.
- The SpeedTouch™ supports Service Level Agreement SLA/QoS monitoring on a one-shot basis by launching an extended trace route command on the CLI from the SpeedTouch™ to another node in the worldwide IP network, to measure the QoS (round-trip delay) to this other node and all intermediate nodes.
- Allows now for up to 256 IP Routing entries

NAPT algorithms

The SpeedTouch™ provides new NAPT algorithms for application transparency through the SpeedTouch™ NAPT engine:

- IPv4-to-IPv6
- Jabber (for the purpose of e.g. Instant Messaging Voilà Messenger)
- FTP algorithm extension for Passive FTP
- SIP

NAPT traversal and Multi-NAT

- NAPT traversal using UPnP
- Multi-NAT
  NAT with n public IP addresses (in the context of the PPP IPCP subnet mask option or of IPoA / CIP) allowing for:
  - Basic NAT is performed on n public IP addresses, for n servers (with a static NAT entry per server) - no NAT/PAT is performed
  - Basic NAT is performed on n-1 public IP addresses, for n-1 servers (with a static NAT entry per server), and NAT/PAT is performed on 1 public IP address (typically the first IP address of the range) for all other web surfing computers
- Transparent NAT
  If an outgoing packet has a source IP address that is a public IP address, then the source address is not translated.

NAPT manager

The SpeedTouch™ supports automatic NAPT port configuration for popular Internet applications via the SpeedTouch™ NAPT Manager MS Windows application.

DHCP Relay functionality

The SpeedTouch™ supports DHCP relay:

- A DHCP request received (using broadcast) over the LAN can be relayed via Unicast or Broadcast to a DHCP server on the WAN-side of the SpeedTouch™. Multiple simultaneous DHCP unicast destinations are supported to provide DHCP server redundancy.
- DHCP Relay Agent Information Option
  The SpeedTouch™ supports the DHCP Relay Agent Information Option.
- DHCP server lease lock
  The SpeedTouch™ allows to “lock” a dynamic DHCP leases to a static DHCP lease.

UPnP IGD and UPnP security

- The SpeedTouch™ is a UPnP™ certified Internet Gateway Device.
- For additional UPnP security the SpeedTouch™ allows to:
  - Disable UPnP functionality
  - Enable UPnP functionality with - for MS Windows XP systems - following configuration options:
    - Connect/disconnect of the SpeedTouch™ Internet connection is permitted or not
    - Configuration access for UPnP NAPT entries
    - Read-write permission of NAPT entries

Note By default the SpeedTouch™ has UPnP enabled, connect/disconnect allowed, no read/write restrictions on NAPT entries.

Auto-IP configuration

The SpeedTouch™ supports auto-IP configuration, to support UPnP functionality.

Embedded Easy Setup wizard

The SpeedTouch™ features an embedded Easy Setup wizard, available from its web pages, by default providing three standard configuration templates:

- Bridged Ethernet
  User specified Bridged Ethernet configuration using a fixed IP address for the host computers.
- Routed PPPoE
  Routed PPPoE Packet Service configuration using always-on session connectivity, with enabled PPPoE Relay functionality for PPPoE pass-through.
- Routed PPPoA
  Routed PPPoA Packet Service configuration using always-on session connectivity.

Multiple template files, stored on the SpeedTouch™ permanent storage provide for additional configuration setups.

Multiple configurations and configuration management

The SpeedTouch™ allows to store multiple configuration files on its permanent storage.

Configuration via the CLI provides for:

- Save of configuration in custom configuration files
- Applying stored configuration files
- Stored configuration dump

Web-based and CLI Diagnostics

- The SpeedTouch™ provides layer-by-layer Diagnostics via its web pages. Detailed information is provided for:
  - System variables
  - WAN
    - DSL Statistics and properties
    - Per WAN interface [Routed IPoA, Routed Ethernet, Routed PPPoE, routed PPPoA, PPPoE relay, Bridged Ethernet, Classical IP] type, traffic counters, general settings, IP connectivity check information
  - LAN
    Ethernet, Ethernet switch statistics and properties
- The SpeedTouch™ provides for system monitoring via the CLI:
  - SpeedTouch™ memory and processor load counters

Dr SpeedTouch

The SpeedTouch™ supports monitoring and troubleshooting via Dr SpeedTouch™.

Dr SpeedTouch™ allows for:

- Status dialog to monitor current network activity
- Systray icon displaying the current device and network status
- Computer, SpeedTouch™, ISP, internet connectivity diagnosis
- Script-based troubleshooting allowing powerful problem testing and troubleshooting
- Creation of a XML log-file with system and device information
- Sending of log-file to help-desk via e-mail
- Extended monitoring of servers, internet connectivity
- Extended host system information and testing

Customization and internationalisation

- The SpeedTouch™ CD Menu, SpeedTouch™ Setup Wizard, SpeedTouch™ Upgrade Wizard, Dr SpeedTouch™, SpeedTouch™ NAPT Manager and the SpeedTouch™ web pages (including the embedded Easy Setup wizard and the online help pages) are provided with following language support:
  - English
  - Dutch
  - French
  - German
  - Italian
  - [Brazilian] Portuguese
  - Spanish
  - Swedish.
- The SpeedTouch™ CD Menu, SpeedTouch™ Setup Wizard, SpeedTouch™ Upgrade Wizard, Dr SpeedTouch™ and SpeedTouch™ NAPT Manager allow for customization of functionality and behaviour, and graphical appearance.

1.2.2 R4.2.7 New Features

Introduction

In the following an extensive list of new and improved features, functionalities and tools provided by this specific maintenance Release R4.2.7 is presented and described.

Modem label updates

The SpeedTouch™ features updated ADSL/POTS and ADSL/ISDN modem labels, providing for:

- improved performance in certain scenarios
- improved stability versus certain DSLAMs
- ADSL spectral shaping, allowing to reduce the upstream bandwidth in favour of downstream bandwidth on long loops. This is done by shaping the upstream power of ADSL, anticipating on the spectral compatibility rules of ADSL2 Annex L.

  Note Proven interoperability against widely deployed Alcatel DSLAM ADSL line cards.

Extended multi-lingual graphical user interface support

The SpeedTouch™ web pages and online help pages support the use of Unicode UTF-8 encoded language translations.

System LED control

Via the CLI it is possible to change the behaviour of the Pwr/Alarm system LED of the SpeedTouch™.

IPSec NAPT algorithm

The functionality of the IPSec NAPT algorithm has been extended to allow the operation of the algorithm to be interoperable with the Nortel IPSec VPN client/server using propriety NAT-T mechanisms.

IP Quality of Service

- VLAN 802.1p User Priority Mapping
- IP, TCP, UDP, ICMP header based packet classification, prioritization and forwarding
- IP header TOS byte / DSCP field marking
- IP QoS queues instantiated per upstream interface (ATM VP/VC)
- 4 fixed queue topology:
  - real-time queue with strict priority over all other queues
  - high queue with strict and fixed priority over medium queue and best effort queue
  - medium queue with strict and fixed priority over best effort queue
  - best effort queue
- Strict queue priority scheduling algorithms
- Packet Discard Strategies:
  - Tail Drop
  - Early Packet Discard active queue management (BLUE algorithm)
- Configurable queue propagation to enqueue in lower priority queue in case of congestion
- Prioritization of upstream TCP ACK segments
- RFC2475/3260 Differentiated Services Architecture
- RFC2474 Differentiated Services Field and Best Effort (BE) and Class Selector Per-Hop Behaviour (PHB)
- RFC2983 Differentiated Services and Tunnels: the DHCP/TOS bits of a packet that is being encrypted are copied to the outer header.
- RFC2309 Queue management and Congestion avoidance (BLUE algorithm)

1.3 Solved Caveats and Restrictions

Solved R4.0 caveats

Following caveats and restrictions that were detected in the R4.0 initial release have been solved in the new release R4.2:

1. Incoming passive FTP connections do not work in case NAPT is enabled.
2. Corrupt fragmentation of outgoing ICMP packets with payload sizes bigger than 2952 bytes using a routed interface.

Solved R4.2 caveats

Following caveats and restrictions that were detected in the previous R4.2 system software release have been solved in maintenance release R4.2.3:

1. Sending a crafted fragmented ICMP echo-request (“ping”) from a host on the local network through the SpeedTouch™ may cause the device to fail service under some circumstances.
2. DHCP NACKs are not sent by the SpeedTouch™ if it answers to a DHCP renewal for an IP address being not part of any SpeedTouch™ DHCP address pool.

Solved R4.2.3 caveats

Following caveats and restrictions that were detected in the previous R4.2.3 system software release have been solved in maintenance release R4.2.7:

1. The SIP NAPT algorithm is not translating the local IP address in the Connection Info field of SDP unless the local IP address is in the default IP subnet (10.0.0.0/24) of the SpeedTouch™. As a consequence, connections can be established, but voice packets - having the non-translated local IP address as destination - will be dropped on the WAN.

R4.2.7 improvements

Following improvements have been implemented in this release R4.2.7:

1. In the previous releases the SpeedTouch™ system software supported THOMSON’s existing Organizational Unique Identifier (OUI) only.
   A new OUI has been assigned for THOMSON’s SpeedTouch™ DSL products, which is supported by the SpeedTouch™ system software in extension to the existing OUI.
2. The SIP NAPT algorithm is able to handle simultaneous usage of multiple SIP phones and multiple Messenger clients.
3. The SpeedTouch™ IPSec NAPT algorithm has been improved to support the Nortel Contivity IPSec VPN client - using proprietary NAPT traversal mechanisms - for traversing the algorithm.
4. Improved embedded PPPoE client with better compatibility with certain BASs (PADI/PADR retransmission time-out has been increased from 200ms to 1s)
5. The PPP password fields for Routed PPPoE and Routed PPPoA entries on the SpeedTouch™ web pages have been extended to comply with UR-2 requirements.
6. In case the SpeedTouch™ is configured for the Classical IP packet service the WAN LED is green (meaning WAN connectivity achieved) instead of orange (suggesting pending WAN connectivity.

7 The SpeedTouch™ Setup Wizard has been improved:

- Support of 'hex' type variables to allow input of hexadecimal values.
- In case no language packs are transferred to the SpeedTouch™ by the SpeedTouch™ Setup Wizard, existing language packs on the SpeedTouch™ are not flushed.
- Inputs for fixed-length string, password and hexadecimal variables are checked for validity (of length).
- Future-proof extended SpeedTouch™ product interoperability.

8 The SpeedTouch™ Upgrade Wizard has been improved for ensuring future-proof extended SpeedTouch™ product interoperability.

9 A new hardware has been introduced for the replacement of a hardware component by a second-source component. This replacement is fully transparent regarding any aspect of the product.

2 Release History

Release overview

The existing SpeedTouch™510 releases are listed in following table:

Release	Identifications	Remarks
R4.0.0	Platform: ADNT-Q	Introduction and initial release
	System software: LLT6AA4.0090 Setup Wizard version: v1.2.0.11 Upgrade Wizard version: v1.0.0.33	
R4.0.2	Platform: ADNT-Q	Maintenance release
	System software: LLT6AA4.0200 Setup Wizard version: v1.2.0.11 Upgrade Wizard version: v1.0.0.33	
R4.2	Platform: ADNT-Q	New release
	System software: LLT6AA4.20N Setup Wizard version: v4.2.0.15 Upgrade Wizard version: v4.2.0.15 SpeedTouch™ NAPT Manager version: v4.2.0.24 Dr SpeedTouch™ version: v1.0.0.17	
R4.2.3	Platform: ADNT-Q	Maintenance release
	System software: LLT6AA4.230 Setup Wizard version: v4.2.0.15 Upgrade Wizard version: v4.2.0.15 SpeedTouch™ NAPT Manager version: v4.2.0.24 Dr SpeedTouch™ version: v1.0.0.17	
R4.2.7	Platform: ADNT-Q	Maintenance release
	System software: LLT6AA4.27G Setup Wizard version: v4.2.1.4 Upgrade Wizard version: v4.2.1.0 SpeedTouch™ NAPT Manager version: v4.2.0.24 Dr SpeedTouch™ version: v1.0.0.17	

3 Delivered Media

Introductory Note

SpeedTouch™ DSL products offer full customizability and internationalization possibilities, both regarding configuration profile files, wizard settings and the contents of the delivery package.

The SpeedTouch™ Setup CD allows immediate use by the end customer without the need for customization. It contains the fully functional SpeedTouch™ CD Menu, all SpeedTouch™ tools and user documentation, as well as a basic set of templates expressly tailored to the SpeedTouch™ product.

For more information contact your local sales contact.

3.1 Product Codes

ADSL/POTS variants

Area	Item number	Description
Bulk	DSLBA604PACAA1	SpeedTouch™510 ADSL/POTS Single Ethernet
Bulk	DSLBA603PACAA1	SpeedTouch™510 ADSL/POTS Ethernet switch

ADSL/ISDN variants

Area	Item number	Description
Bulk	DSLBA624PACAA1	SpeedTouch™510i ADSL/ISDN Single Ethernet
Bulk	DSLBA623PACAA1	SpeedTouch™510i ADSL/ISDN Ethernet switch

3.2 Documentation

Operator documentation

Item number	Description
E-DOC-CRN-20040405-0002 v2.0	SpeedTouch™510 Customer Release Note Release R4.2.7
E-SIT-CTC-20030415-0001 v6.0	SpeedTouch™ Operator's Customization Guide Release R4.2 Generic
E-DOC-CTC-20040210-0030 v1.0	SpeedTouch™510/530 CLI Reference Guide Release R4.2.7

Customer documentation

Item number	Description
E-SIT-CTC-20030306-0003 v3.0	SpeedTouch™510/530 Setup and User's Guide - English
E-SIT-CTC-20030430-0004 v3.0	SpeedTouch™510/530 Setup and User's Guide - French
E-SIT-CTC-20030430-0005 v3.0	SpeedTouch™510/530 Setup and User's Guide - German
E-SIT-CTC-20030430-0006 v3.0	SpeedTouch™510/530 Setup and User's Guide - Spanish
E-SIT-CTC-20030430-0007 v3.0	SpeedTouch™510/530 Setup and User's Guide - Portuguese
E-SIT-CTC-20030430-0008 v3.0	SpeedTouch™510/530 Setup and User's Guide - Italian
E-SIT-CTC-20030430-0009 v3.0	SpeedTouch™510/530 Setup and User's Guide - Swedish
E-SIT-CTC-20030430-0010 v3.0	SpeedTouch™510/530 Setup and User's Guide - Dutch

Miscellaneous documents

An extensive number of application notes, white papers, reports and other kinds of informative documents are made available from the SpeedTouch™ web site. As existing documents are updated regularly and new documents are made available, check the SpeedTouch™ web pages at www.speedtouch.com or contact your local Sales contact.

Certifications

SpeedTouch™ products may have been submitted to several certification and patent programs, resulting in a number of formal certificates and patents.

For more information regarding these certificates and patents, check the SpeedTouch™ web pages at www.speedtouch.com or contact your local Sales contact.

3.3 System Software Versions

Platform Software

ADNT-Q Software Components			
Component	Identification		Remarks
System software	image file	LLS6_427G.bin	BootP
	operational	LLT6AA4.27G	File System
Modem Label	MOD_SACHEM_SEA_CPE_V2.11.36		
Tag Parser	v1.2.0		-

Single file upgrade components

Single file SpeedTouch™510 System software upgrade applications:

Single File Upgrade Software		
Software	Version	Remarks
For MS Windows	4.2.1.0	Incl. R4.2.7.G binary
For Mac OS X	4.2.1.0	Incl. R4.2.7.G binary

CD components

CD Components		
ZZYM version v4.2.7.9		
Software Component	Version	Remarks
CD Menu	4.2.0.15	-
Setup Wizard	4.2.1.4	-
Upgrade Wizard	4.2.1.0	-
NAPT manager	4.2.0.24	-
Dr SpeedTouch™	1.0.0.17	Installer
tpl-files version	-	R4.2.7.16
System software	4.2.7.G	Image file

4 R4.2.7 Caveats and Restrictions

4.1 Common System Restrictions

Common system restriction 1

When using managed Ethernet switch port mirroring in case both ingress and egress are configured at the same time, reconfiguring those parameters won't have any result.

Workaround Don't use ingress and egress at the same time

4.2 NAPT Algorithms Restrictions

NAPT algorithms restriction 1

Some IPSec VPN clients that use proprietary NAPT traversal mechanisms cannot traverse the SpeedTouch™ IPSec NAPT algorithm.

Workaround This problem has been resolved for the Nortel Contivity IPSec VPN client.

Workaround In general, use standard-compliant IPSec VPN clients, or unbind the SpeedTouch™ IPSec NAPT algorithm.

NAPT algorithms restriction 2

Due to differences in the authentication packet sent by different SIP softswitches, the authentication packet received from some softswitches (for example NetCentrex, Asterisk, Sipphire and Cisco CA) may be dropped, due to a parsing error on the WWW-Authentication field in a SIP message by the SpeedTouch™ SIP NAPT algorithm.

Workaround None.

NAPT algorithms restriction 3

Due to a parsing error on the SIP-OPTION field by the SpeedTouch™ SIP NAPT algorithm, packets from an SIP server may be dropped instead of being transparently forwarded.
An application on which this behaviour has been observed is the ASTERISK SIP server

Workaround None.

NAPT algorithms restriction 4

The SpeedTouch™ SIP NAPT algorithm is unable to recognize the SIP SDP Owner option e- (e-mail) and i- (information) fields. As a consequence the SpeedTouch™ SIP NAPT algorithm will not translate private IP addresses into public IP addresses and as a final result the c- (connection) field is not translated as well, resulting in the RTP stream being sent to private IP addresses instead of the correct public IP addresses.
An application on which this behaviour has been observed is the eConf SIP software client (RADvision).

Workaround None.

NAPT algorithms restriction 5

The SpeedTouch™ is unable to handle NULL IPs and NULL RTP ports during establishment of SIP calls. As a consequence, upon call establishment the new INVITE message, containing the final RTP port, is not handled, i.e. the new port number is not set by the SIP NAPT algorithm, resulting in one-way voice calls.

Workaround None.

NAPT algorithms restriction 6

The SpeedTouch™ SIP NAPT algorithm is unable to recognize port 65535 as port NULL. As a consequence, a dynamic NAPT entry may be created for port 65535 by the algorithm, which can not be overwritten later on when needed (for example when using a CirPack SIP server, during the second INVITE message for establishing the RTP on the correct ports.

Workaround None.

NAPT algorithms restriction 7

The SpeedTouch™ SIP NAPT algorithm erroneously adapts SIP packets who are using a NAPT entry which have been created by a STUN server. STUN server will exchange the necessary information to the UA and only basic IP address translation (i.e. NAT) is required.

Workaround None.

4.3 SpeedTouch™ Upgrade Wizard Restrictions

Upgrade wizard restriction 1

In case a previous version of the SpeedTouch™ Upgrade Wizard was installed on a Mac OS X v10.2 system, after installation of the v4.2.1.0 version of the SpeedTouch™ Upgrade Wizard it is not possible anymore for the user to run the application.

Workaround Make sure any previous version of the SpeedTouch™ Upgrade Wizard is removed from your system prior to installing this version.

Upgrade Wizard restriction 1

Users using a Mac OS X v10.1 system cannot use the SpeedTouch™ Upgrade Wizard to upgrade the SpeedTouch™ as it requires the Operating System's reserved root account privileges.

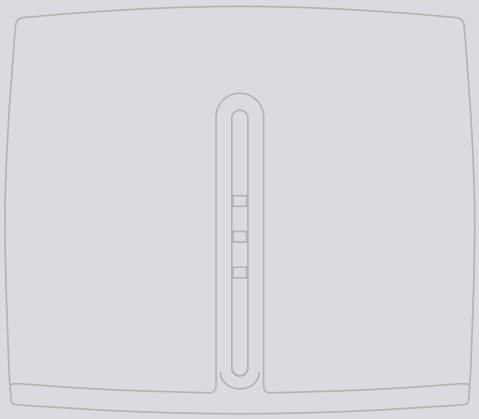
Workaround None. Regular users should not be allowed to use the Operating System's reserved root account for running applications on their system.

4.4 Dr SpeedTouch™ Restrictions

Dr SpeedTouch™ restriction 1

The MS Windows Operating System must run Internet Explorer 5 or a newer version.

Workaround None. If Internet Explorer 4 or an older version is used, an update to Internet Explorer 5 or a newer version is mandatory.



Need more help?

Additional help is available online at www.speedtouch.com