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Customer Deliverable Documentation  
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# SmartWare R5.3 Release Notes

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## Build Series 2009-11-17

SmartWare is the embedded application software of the SmartNode™ series of VoIP Gateways and Gateway Routers. SmartWare provides a full set of IP routing features, advanced Quality of Service and traffic management features plus industry leading Voice over IP functionality including SIP and H.323

## Released Build Numbers

SmartNode 4110 Series R5.3 Build 2009-11-17  
SmartNode 4400 Series R5.3 Build 2009-11-17  
SmartNode 4520 Series R5.3 Build 2009-11-17  
SmartNode 4630 Series R5.3 Build 2009-11-17  
SmartNode 4830 Series R5.3 Build 2009-11-17  
SmartNode 4900 Series R5.3 Build 2009-11-17  
SmartNode 4960 Series R5.3 Build 2009-11-17  
SmartNode 4552 R5.3 SIP Build 2009-11-17  
SmartNode 4552 R5.3 H.323 Build 2009-11-17  
SmartNode 4554 R5.3 SIP Build 2009-11-17  
Smart-DTA R5.3 SIP Build 2009-11-17  
Smart-DTA R5.3 H.323 Build 2009-11-17

## About this Release

R5.3 is a SmartWare Maintenance Release. Please see the White Paper about SmartWare software releases <http://www.patton.com/solutions/SmartWare%20Release%20Strategy%20White%20Paper.pdf> for more information about this terminology.

R5.3 was spawned in February 2009. Bugs are fixed until February 2010. End of customer support is in August 2010.

## Supported Products

SmartNode 4110 Series (HW Version: 1.x, 2.x, 4.x)  
SmartNode 4400 Series (HW Version: 2.x)  
SmartNode 4520 Series (HW Version: 1.x, 2.x, 4.x)  
SmartNode 4552, 4562 Series (HW Version: 1.x, 2.x, 3.x, 4.x, 5.x)  
SmartNode 4554, 4564 Series (HW Version: 2.x, 3.x, 4.x, 5.x)  
SmartNode 4600 Series (HW Version: 1.x)  
SmartNode 4600 Large Series (HW Version: 1.x, 2.x)  
SmartNode 4830 Series (HW Version: 1.x, 2.x, 4.x)  
SmartNode 4830 Large Series (HW Version: 1.x, 2.x)  
SmartNode 4900 JS Series (HW Version: 1.x, 2.x)  
SmartNode 4900 JO Series (HW Version: 1.x)  
SmartNode 4960 Series (HW Version: 1.x, 2.x, 3.x, 4.x)  
Smart-DTA Series (HW Version: 2.x, 3.x, 4.x, 5.x)

## History of Solved CTS Cases

The following list refers to open cases in the Change Tracking System 'CTS'.

### **This Build Series 2009-11-17**

#### **11155 Possible cause of software watchdog**

A mal performed cryptographic transformation could cause a software watchdog. The problem was solved.

#### **11175 Calling party number missing in ISDN SETUP request from network side**

When the ISDN port is configured as network, the calling party number is always included in the SETUP request, no matter what the current presentation indicator's value is.

### **Build Series 2009-09-14**

#### **11088 Crash on unregistering non-existent user**

It is now possible to try to unregister an Identity which was not yet configured or registered in the location service without causing the SmartNode to reload.

#### **11122 Sending ACK request to retransmitted 200 OK response**

When SmartWare is establishing a SIP call with an INVITE request, and it gets a response "200 OK", it acknowledges this with an ACK request to the remote unit. Now, when this ACK request is lost the remote side must resend the "200 OK" response until it is acknowledged. Upon reception of the second and further "200 OK" responses SmartWare did not send an ACK request. This is now fixed and SmartWare sends ACK requests to retransmitted "200 OK" responses.

### **Build Series 2009-07-14**

#### **Software Support for enhanced Products**

To support improved Products there is the need for internal changes in the SmartWare. This was done for SmartNode 4552, SmartNode 4562, SmartNode 4554 and Smart-DTA.

#### **11109 Loosing memory on INFO messages**

On receiving an INFO message during a SIP call each time some memory was lost. After some time the SmartNode could no more operate properly because there was no more free memory available.

#### **11110 Crash on broken IP connection during debugging**

If during an open telnet session that has switched-on debug monitors the IP connection went down, the device crashed. It only happened if the connection was broken somewhere in the

network, behind the next active device connected to the SmartNode. A link down directly at the SmartNode's port didn't force the problem.

## **11115 Accounting start trigger SETUP does not work**

Fixed a bug which caused the accounting data not to be send to the server when the start trigger is set to "setup" and the call is immediately connected.

## **11118 Static on E1/T1 during dial procedure**

During ISDN digit collection procedure on the SN4960 devices, under certain circumstances a disturbing noise could be heard. It appeared after dial tone in the phase between the first digit and number completion.

## **11121 Caller Name does not match in mapping-table**

When getting a display name with quotes from a SIP header this name was translated from SIP without removing the quotes. Such names with quotes did never match its configured pendant without quotes in the called-name or the caller-name mapping-table. Now, such quotes are always removed from names when translating into call-control.

## **11129 Hanging ISDN resources**

A release-complete message while the SmartNode's ISDN NET port is in alerting state caused a hanging ISDN resource. As a result, the next call that selected the b-channel has been referenced with the hanging resource will fail.

## **Build Series 2009-05-20**

### **10887 SIP registration status of show context sip-gateway**

The Sip Registration Manager showed the state registering, even its identities were registered. This is now fixed.

### **10996 Removing PVC**

It was not possible to remove a PVC from the G.SHDSL interface without rebooting the device. With this fix PVCs can be added and removed during operation.

### **11067 Comma in SIP display name**

When forwarding a caller name from ISDN to SIP the name was set without modifications as display-name in the from header. When the caller name contained some special characters which are not allowed in the display-name the request was not accepted from the user agent. SmartWare now checks the name to fill in the display-name for validity of the according alphabet. When it is not valid the name is set into quotes and transported as address specification in the from header.

### **11074 SN4400 introduced**

The new SN4400 platform was introduced.

## **11077 Allowed content size in SIP too small**

SIP requests with content larger than 1024 characters were rejected with “513 Message Too Large”. Because SIP applications tend to send more and more information within requests this limitation is increased now up to 2048 characters.

## **11081 SIP codec negotiation**

If multiple answers were received to an SDP offer, the codec set of each answer was negotiated with the remaining codec set of the previous negotiation. Thus, the SmartNode did not accept a codec of an answer, which the previously received answer did not contain, even if the codec was contained in the offer.

This problem is solved, since now the codecs of each answer are negotiated with the initially offered codec set.

## **11085 Missing V.21-Preamble**

In FAX transmission scenarios where a SmartNode started a T.38 re-negotiation based on detected v.21-preamble flags, the T.38 v21-preamble indicator message has not been sent out. One of these scenarios could be forced by configuring ‘fax detection fax-frames’ on a called SmartNode. This problem occurred on all SmartNode series except the SN4960.

## **11087 Refused Register Requests with default port**

SmartWare refused registration requests if the host part of request-uri and the host part of the to header did not match exactly. This was even the case for requests containing the SIP default port 5060 at one place and implicitly using the default port by omitting it at the other place. Now SmartWare accepts register requests containing default ports.

## **11094 V.34 to G.3 fallback didn't work**

A Fax transmission between a V.34 fax machine and a fax server that directly opened a T.38 session version <= 2 potentially failed. The transmission started correctly with capability negotiation and a following training indicator. But after starting the training phase, the SmartNode never sent any training data. This problem occurred on all SmartNode series.

## **11098 Sending SIP REFER for different IP networks**

When doing SIP to SIP calls from one IP network to another IP network through a single sip-gateway, SmartWare invoked after establishing the call a REFER request to the calling user agent. The new INVITE request from that user agent directly to the called user agent failed because there has not to be a routing path between both IP networks. SmartWare sends now REFER requests only when both user agents are located in the same IP network and are reached through the same Ethernet port.

## **Build Series 2009-03-18**

## **11043 Caller Name not parsed in ISDN**

On reception of an ISDN message with a "Facility Information Element" containing multiple "Remote Operation Service Components" only the first of these Components was parsed. SmartWare now parses all "Remote Operation Service Components" contained in a "Facility Information Element".

## **11048 Call toggle not working in Ringing state**

When an analog phone on an fxs port answered a call, put it on hold and dialed a new number, it was not possible to toggle back to the original call when the second call was in ringing state and nobody answered it. This is now possible.

## **11066 T.38 version indication**

Currently, all SmartNode devices support only T.38 version 0. Because the version has not been indicated and negotiated through SDP, other gateways could initiate a T.38 session with a higher version than 0 and the FAX transmission failed.

New behavior: the T.38 version attribute is included in SDP and is getting negotiated.

## **11078 Possible Crash on AOC handling in SIP**

Fixed a potential crash, which could have occurred when parsing an incoming INFO request in SIP containing "application/QSIG" in case at the same time the peer side initiated a disconnect request.

## **11079 Crash on malformed Diversion Header in SIP**

Fixed a crash, which occurred when parsing an incoming message with a malformed diversion-header.

## **Build Series 2009-01-15**

### **11000 Web GUI Cleanup**

A number of Web GUI inconsistencies were cleaned up, including DSL PVC and TCP port configuration.

### **11011 Case sensitive comparing**

When receiving a "401 Unauthorized" answer the "algorithm" attribute in the "WWW-Authenticate" header is compared case sensitive with the accepted algorithm strings. On not matching this leads to ignorance of the "WWW-Authenticate" header and the request is not re-issued again with authentication credentials. Now this comparison is case insensitive and the stack accepts the algorithms in any casing.

### **11019 No RTP after re-invite back to voice**

After a fax connection the SmartNode is usually detecting voice and a re-invite will be sent to negotiate the voice capabilities again. On the SN4960 device the RTP transmission could possibly be broken after such a voice switch-back. It appeared after a Fax-Bypass transmission with G.711 if the re-negotiation for the following voice session resulted in the same G.711 coder.

## **11022 Static-Data de jitter-buffer for Transparent/Clearmode coder**

If the Transparent or the Clearmode coder will be negotiated, the de jitter-buffer will now automatically be set to the static-data mode. Configuration parameters like max-delay will be taken from the modem de jitter-buffer to be configured in the VoIP profile.

## **11026 Lost inband information on hunt-group**

When an outgoing call of a hunt-group was disconnected by the remote party, the huntgroup just released the call on the incoming and outgoing connection. Therefore the inband-information sent by the remote-party was lost. This is now fixed.

## **11029 T.38 CED-Packet is not transmitted**

In a situation where a calling gateway detected a Fax connection based on the CNG tone and started T.38 re-negotiation, the SmartNode located on the called side didn't send out the T.38 CED packet.

## **11030 SIP over TCP doesn't work**

If an identity has been configured to use TCP as preferred transport protocol, SIP failed to establish the connection. This problem has been fixed and SIP over TCP is now working as expected.

## **11033 SIP Cancel/200 OK mid-air collision**

In case the peer sent a 200 OK message after the SmartNode sent out a CANCEL message, the respective call was not fully destroyed. As a consequence, there were orphaned SIP calls hanging in the call-control system.

## **11034 Losing direction information in SIP SDP media**

When receiving an SDP answer with a direction attribute in the media description this is not handled properly and may get lost. For example if it contains an "a=sendonly" the DSP is disabled like on a "a=inactive". This is now handled properly and the DSP acts like negotiated.

## **11037 FXS-profile ww53rt**

Added the fxs-profile ww53rt. It delivers the maximum ringing voltage (rms) the SmartNode can produce.

```
port fxs 0 0
use profile fxs ww53rt
```

## **11038 SIP Stack upgrade to 4.0.28**

The upgrading to a newer SIP stack version solves the following two issues our customers experienced.

### **Sending 200 Ok for CANCEL request to wrong port**

When receiving a CANCEL request from a SIP Client the “200 Ok” answer to that request is sent to the configured port for that destination instead of sending it to the originating port of the CANCEL request. The new Stack version sends the “200 Ok” to the originating port of the CANCEL request.

## **11041 Media reconfiguration disturbs Fax transmission**

Due to a fix for another problem, an unnecessary reconfiguration of the media stream has been applied. This could disturb an already detected Fax transmission. As a result, the T.38 CED packet has not been sent out even the SmartNode re-invited the session based on the detected CED tone.

## **11045 DSCP full match doesn't work in ACL**

A full matching ACL rule applied to the DSCP (Differentiated Services Code Point) value has never been executed. Full match mean, the user has entered one specific DSCP value without a mask for specifying a DSCP range.

## **11046 ADSL Annex B not working**

As a side effect of the introduction of ADSL Annex M (CTS 10967), the ADSL Annex B mode could not be enabled anymore.

## **11050 Wrong DTMF detection**

On the SmartNode SN4960 wrong DTMF detection occurred due to background noise coincidentally contained DTMF frequencies. The DTMF detection mechanism of the SN4960 is now configured to react less sensitively.

## **11051 Webserver cannot be disabled**

The Webserver could not be disabled anymore and during startup a confusing error message occurred that let users suppose the Webserver wouldn't run. Both problems have been fixed.



## Caveat - Known Limitations

The following list refers to open cases in the Change Tracking System 'CTS'

### **CTS2236**

Only G.723 high rate (6.3kbps) supported by H.323 (receive and transmit).

### **CTS2702**

TFTP may not work with certain TFTP servers, namely the ones that change the port number in the reply. When using the SolarWinds TFTP server on the CD-ROM this problem will not occur.

### **CTS2980**

With 10bT Ethernet ports, only the half duplex mode works. (With 10/100bT Ethernet ports, all combinations work.)

### **CTS3233**

The SolarWinds TFTP server version 2.2.0 (1999) does not correctly handle file sizes of  $n * 512$  Bytes. Use version 3.0.9 (2000) or higher.

### **CTS3760**

The SIP penalty-box feature does not work with TCP. When the penalty box feature is enabled, the TCP transport protocol must be disabled using the 'no transport tcp' command in the SIP gateway configuration mode.

### **CTS3924**

Changing a call-progress tone has no effect. Adding a new call-progress tone and using it from the tone set profile works however.

### **CTS4031**

The Caller-ID message length on FXS hardware with Chip Revision numbers below V1.5 is restricted to 32 bytes. If the message is longer the message will be truncated. The FXS Chip Revision can be displayed using the 'show port fxs detail 5' CLI command.

### **CTS4038**

When doing 'shutdown' and then 'no shutdown' on an ethernet port that is bound to an IP interface that receives its IP address over DHCP, the IP interface does not renew the lease.

### **CTS4077**

Using the command 'terminal monitor-filter' with regular expressions on systems under heavy load can cause a reboot.

### **CTS4335**

The duration of an on-hook pulse declared as flash-hook has been raised from 20ms to 1000ms, to cover the most country specific flash hook durations. Existing installations should not be affected, as all on-hook pulses *lower than 1000ms* are declared as flash-hook, including the previous default of 20ms.

However, care should be taken in analog line extension applications, to make sure that the flash-hook event is allowed to be relayed over SIP or H.323. This can be achieved by disabling all local call features in the fxs interface on context cs: no call-waiting, no additional-call-offering, no call-hold.

## **CTS10392**

The internal timer configuration command is only able to execute commands that produce an immediate result. Some commands that execute asynchronously cannot be executed by the timer. The following commands (among others) cannot be executed by the timer:

- **ping**
- **traceroute**
- **dns-lookup**
- **copy** any kind of files from or to a TFTP server
- **reload** without the **forced** option

## **CTS10553**

The command “no debug all” does not fully disable the ISDN debug logs. As soon as any other ISDN debug monitor is enabled, all the ISDN monitors that were disabled by “no debug all” are re-enabled.

## **CTS10586**

The codecs G.723 and G.729 cannot be used at the same time on all platforms, except on the SmartNode 4960.

## **CTS10610**

SmartNode 4960 Gigabit Ethernet does not properly work with Dell 2708 Gigabit Ethernet Switch. A work-around is to configure 100Mbit.

## **CTS10730**

Due to memory limitations it is not possible to download a software image to the SN4552 when two SIP gateways are active.

## **CTS11114**

On SN46xx units it can happen that there are more open phone calls requiring a DSP channel than DSP channels are available. This leads to the situation where a phone connected on a bri port rings and has no voice after the user picks it up. To limit the number of calls using DSP channels it is suggested to create a limiter service where each call from and to a bri port has to pass. When the total number of calls on the bri ports is limited to the number of DSP channels each call is going to have audio on picking up.

## General Notes

### Factory Configuration and Default Startup Configuration

The SmartNodes as delivered from the factory contain both a **factory configuration** and a default **startup configuration**. While the factory configuration contains only basic IP connectivity settings, the default startup configuration includes settings for most SmartWare functions. Note that if you press and hold the system button (Reset) for 5 seconds the factory configuration is copied onto the startup configuration (overwrite). The default startup config is then lost.

### IP Addresses in the Factory Configuration

The factory configuration contains the following IP interfaces and address configurations bound by the Ethernet ports 0/0 and 0/1.

```
interface eth0
    ipaddress dhcp
    mtu 1500
interface eth1
    ipaddress 192.168.1.1 255.255.255.0
    mtu 1500
```

## New Configuration Commands

The commands documented in the Release Notes only cover new additions which are not yet included in the Software Configuration Guide for R5.3, available from [www.patton.com](http://www.patton.com) .

### **Current Revision:**

Part Number: *07MSWR53\_SCG, Rev. A*

Revised: January 2, 2009

## Documentation

### CD-ROM

The CD-ROM that is delivered with SmartNodes includes user documentation and tools for SmartWare R5.3:

- Software Configuration Guide SmartWare Release R5.3
- SmartNode Hardware Installation Guide
- TFTP Server
- Telnet
- Acrobat Reader

### WWW

Please refer to the following online resources:

- Software Configuration Guide SmartWare Release R5.3:  
<http://www.patton.com/manuals/SCG-r53.pdf>
- SmartWare Configuration Library:  
<http://www.patton.com/voip/confignotes.asp>

## How to Upgrade

1. You have the choice to upgrade to R5.3 with or without the GUI functionality.

To upgrade to R5.3 without the GUI functionality, enter the following command (telnet, console):

```
copy tftp://<tftp_server_address>/<server path>/b flash:
```

To upgrade to R5.3 with the GUI functionality, enter the following command (telnet, console):

```
copy tftp://<tftp_server_address>/<server path>/bw flash:
```

2. Load Patton-specific settings (preferences), if available:

Extract the files 'b\_Patton\_prefs' and 'Patton\_prefs' into the same directory on the TFTP-server.

```
copy tftp://<tftp_server_address>/<server path>/ b_Patton_prefs flash:
```

3. Reboot the SmartNode afterwards:

```
reload
```

## Notes about Upgrading from Earlier Releases

Note that SmartWare Release R5.3 **introduces some changes in the configuration** compared to Release R4.xx, especially in the domain of SIP.

Please refer to the SmartWare Migration Notes R4 to R5 available at [upgrades.patton.com](http://upgrades.patton.com).

## How to submit Trouble Reports

Patton makes every effort to ensure that the products achieve a supreme level of quality. However due to the wealth of functionality and complexity of the products there remains a certain number of problems, either pertaining to the Patton product or the interoperability with other vendor's products. The following set of guidelines will help us in pinpointing the problem and accordingly find a solution to cure it.

<b>Problem Description:</b>
Add a description of the problem. If possible and applicable, include a diagram of the network setup (with Microsoft tools).
<b>Product Description:</b>
When reporting a problem, always submit the product name, release and build number. Example: SmartNode 2400 V1 R5.3 Build 2009-11-17 This will help us in identifying the correct software version. In the unlikely case of a suspected hardware problem also submit the serial number of the SmartNode (s) and/or interface cards.
<b>Running Configuration:</b>
With the Command Line Interface command 'show running-configuration' you can display the currently active configuration of the system (in a telnet and/or console session). When added to the submitted trouble report, this will help us analyze the configuration and preclude possible configuration problems.
<b>Logs and Protocol Monitors:</b>
Protocol traces contain a wealth of additional information, which may be very helpful in finding or at least pinpointing the problem. Various protocol monitors with different levels of detail are an integral part of SmartWare and can be started (in a telnet and/or console session) individually ('debug' command). <b>N.B.:</b> In order to correlate the protocol monitors at the different levels in SmartWare (e.g. ISDN layer3 and Session-Router monitors) run the monitors concurrently.
<b>Network Traffic Traces:</b>
In certain cases it may be helpful to have a trace of the traffic on the IP network in order to inspect packet contents. Please use one of the following tools (supporting trace file formats which our tools can read):      Ethereal (freeware; <a href="http://www.ethereal.com">www.ethereal.com</a> )
<b>Your Coordinates:</b>
For further enquiries please add your email address and phone number.