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Customer Deliverable Documentation
Revision 1.00, October 10, 2012

SmartWare R6.1 Release Notes

Build Series 2012-09-11

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 R6.1 Build 2012-09-11
SmartNode 4120 Series R6.1 Build 2012-09-11
SmartNode 4300 Series R6.1 Build 2012-09-11
SmartNode 4400 Series R6.1 Build 2012-09-11
SmartNode 4520 Series R6.1 Build 2012-09-11
SmartNode 4600 Series R6.1 Build 2012-09-11
SmartNode 4600 Series R6.1 DSL Build 2012-09-11
SmartNode 4660 Series R6.1 Build 2012-09-11
SmartNode 4670 Series R6.1 Build 2012-09-11
SmartNode 4830 Series R6.1 Build 2012-09-11
SmartNode 4830 Series R6.1 DSL Build 2012-09-11
SmartNode 4900 Series R6.1 Build 2012-09-11
SmartNode 4940 Series R6.1 Build 2012-09-11
SmartNode 4950 Series R6.1 Build 2012-09-11
SmartNode 4960 Series R6.1 Build 2012-09-11
SmartNode 5200 Series R6.1 Build 2012-09-11
SmartNode 5400 Series R6.1 Build 2012-09-11
SmartNode 4552 R6.1 SIP Build 2012-09-11
SmartNode 4554 R6.1 SIP Build 2012-09-11
Smart-DTA R6.1 SIP Build 2012-09-11
SmartNode DTA Series R6.1 Build 2012-09-11

About this Release

R6.1 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.

R6.1 was spawned in February 2012. Bugs are fixed until December 2012. End of customer support is in June 2013.

Supported Products

SmartNode 4110 Series (HW Version: 1.x, 2.x, 4.x)
SmartNode 4120 Series (HW Version: 1.x, 2.x)
SmartNode 4300 Series (HW Version: 2.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: 5.x)
SmartNode 4554, 4564 Series (HW Version: 5.x)
SmartNode 4600 Series (HW Version: 1.x)
SmartNode 4600 Large Series (HW Version: 1.x, 2.x)
SmartNode 4660, 4670 Series (HW Version: 1.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 4940 Series (HW Version: 5.x)
SmartNode 4950 Series (HW Version: 5.x)
SmartNode 4960 Series (HW Version: 1.x, 2.x, 3.x, 4.x, 5.x)
SmartNode 5200 Series (HW Version: 5.x, 6.x)
SmartNode 5400 Series (HW Version: 5.x)
Smart-DTA Series (HW Version: 5.x)
SmartNode DTA Series (HW Version: 1.x, 2.x)

History of Solved CTS Cases

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

This Build Series 2012-09-11

11999 New Patton corporate style applied to web interface

New Patton look and feel has been applied to the SmartWare web interface. This transition is one way and the old look and feel is not reachable anymore. Custom web interfaces can be ordered with an OEM build.

12014 Wrong help text for blink command

A wrong help text was shown for the *blink* command. Now the help text has been changed in order to show the proper explanation.

12040 SIP *register back-to-back* command removed

The *register back-to-back* command has been removed from the *registration outbound* face in the location service since it did not have any effect.

12055 Flash hook on FXO interface broken

The flash hook behavior was broken on FXO interfaces. In fact the interface would hang in the flash hook state and ignore any subsequent events on that interface. This has been corrected.

Build Series 2012-07-17

11811 ISDN status errors on Web UI

All the ISDN capable network ports (BRI, E1T1) showed a DISPLAY_CMD error on their status page on the Web UI. This problem has been fixed and the related ISDN information is appearing again.

11835 MWI on FXS not working

On 6.T releases the Message-Waiting-Indication on FXS ports was not working anymore. This has been fixed.

11929 SN-DTA clock synchronization

On the SN-DTA device a problem related to ISDN clock synchronization has been fixed. It occurred if an external TE device was configured to get its reference clock from the SN-DTA's NT port. Especially if the connected device was a PBX which itself served FAX machines, the problem resulted in failing FAX transmissions.

11937 MWI Subscription failing

Caused by a software bug the contact address in SIP Subscription messages was containing an unnecessary trailing comma character. This has been fixed in the current software release.

12019 Invalid SDP offer in SIP provisional response

If the SmartNode receives an SIP INVITE without SDP information, forwards the call to an ISDN interface and later receives an ALERTING message with inband info from the ISDN peer, it would then create an SDP offer in the 180 RINGING provisional response. This works but goes against the SIP standard. Such a scenario later failed in the call setup process when the SmartNode finally realized that this was going against the standard's definition. This has now been corrected and SmartWare does no longer create any SDP offer in a provisional response in such a scenario.

Build Series 2012-05-09

11716 Crash when a '#' character is present in SIP contact header

According to RFC 2396 the '#' is not allowed in SIP URI. SmartWare did crash if such a character is present in the URI of the contact header. This scenario is now handled correctly and the crash does not occur anymore.

11889 No final answer when receiving BYE

SmartWare behaves incorrectly in the following SIP scenario. SmartWare receives an incoming INVITE request on a SIP interface. The call is forwarded through call-control and reaches the state of an early dialog at some point by sending a provisional answer "180 alerting" or "183 proceeding". Now the originator of the INVITE request terminates the call by sending a BYE request within this early dialog. SmartWare sends back a "200 OK" to the BYE request, but does not send any final answer to the INVITE request. This is now corrected and SmartWare sends in addition to the "200 OK" to the BYE also a "487 Request Terminated" answer in response to the original INVITE request.

11929 SN-DTA clock synchronization

On the SN-DTA device a problem related to ISDN clock synchronization has been fixed. It occurred if an external TE device was configured to get its reference clock from the SN-DTA's NT port. Especially if the connected device was a PBX which itself served FAX machines, the problem resulted in failing FAX transmissions.

11954 FXS hanging calls

If an 'interface fxs' in 'context cs' was configured for 'signal disconnect' by loop-break, the call has never been completely terminated. Consequently, on an interface configured for loop-break it was not possible anymore to setup further calls after dropping the first connection.

11957 Basic PRACK scenario broken

SmartWare behaves incorrectly in the following PRACK scenario. SmartWare receives an incoming INVITE request on a SIP interface. This request states that the remote device

supports PRACK. It also contains a body with SDP description. SmartWare sends a provisional response with an SDP description too. In this response the acknowledgement with PRACK is requested. When the remote device now sends the PRACK request to acknowledge the provisional response, and this PRACK request does not contain a SDP description, SmartWare terminates the call with a “488 Not Acceptable Here”. This misbehavior is now fixed and the call is continued after receiving the PRACK request.

11968 Missing command ‘payload-rate’ on SN4660/SN4670

The command ‘payload-rate’ in the ‘port dsl’ mode was missing on SN4660/SN4670 devices when using tab completion. It was successfully executed when typed manually though. The command is now fully supported also on SN4660/SN4670.

11987 Removed support for hardware version 4.x for SN4552, SN4562, SN4554, S-DTA

Due to limited memory resources this software build cannot be downloaded anymore to SN4552, SN4562, SN4554 and S-DTA devices with hardware version 4.x or lower.

Build Series 2012-03-07

11560 Web interface generates a new identity

An issue arises on the SmartWare web interface when a user clicks the hyperlink of a newly created identity containing special characters like ‘+’ etc. This causes creation of a duplicate identity with a name identical to the originally created identity but with its special character (here ‘+’) replaced by a space character. This issue is now fixed and identity names on SmartWare web pages may now contain such special characters (+, # etc.).

11722 SN-Web page refresh causing reboot

In case of a web page reboot the process got stuck at the page “reboot-prog.html”. This page is responsible for executing the “reload forced” SmartNode command. If somebody tries to reload this page in the browser (e.g. with the F5 button) the reboot will happen over and over again. Now after executing the restart command the browser will immediately go to the home page where reloading the page will not result in a reboot anymore.

11766 Enhance DSL status display

When the “show dsl status” command was executed on a SmartNode with a G.S interface, then the parameter name “Cell Delineation” was misleading. It has now been renamed to “Loss Of Cell Delineation”. Additionally in 4-wire mode the state of the second port was not displayed even if it holds valuable information. The original “Port State” parameter has been renamed to “Port State 1” and the new second port state has been introduced as “Port State 2”.

11803 HTTP download failure blocks the SmartNode

Whenever an HTTP download job fails on a SmartNode, it causes the SmartNode to halt or block. In order to get the SmartNode up and running again, it must be restarted. The problem is

fixed and from now on any unsuccessful HTTP jobs on SmartNodes will terminate in a graceful manner.

11804 T.38 Fax transmission killed by CNG tone

In this specific scenario a Fax transmission is detected based on the CED tone. The configured T.38 fax relay protocol is negotiated and established between both SIP peers. Now SmartWare received a T.38 CNG packet from the peer and killed its own T.38 transmission by misbehavior. This misbehavior is now fixed and the T.38 CNG packet does not kill the Fax transmission anymore.

11810 Auto-provisioning: redirection target reordering

When an auto-provisioning request to a location URI results in a redirection to another URI, the SmartNode instead of trying the redirected URI tries the next location in the list. This was an incorrect behavior and has now been fixed. From now on, the SmartNode will immediately try the redirected URL first and only when this redirection fails will it continue with the next location in its list of auto-provisioning locations.

11832 Wrong G.S port state displayed

When the “show dsl all” command was executed on a SmartNode with a G.S interface the “State” parameter always showed the wrong value. This came actually from “PeerPortState”. Now the proper value is shown.

11842 SN5200 hardware-version 6.X support

For the SN5200 device, hardware-version 6.X support has been added.

11850 Abnormal call termination due to misinterpreted SDP data

The SIP state machine in SmartWare had been modified to be stricter concerning the presence of SDP in the following scenario:

- The SmartNode acts as a SIP UA client and send an INVITE
- An 1xx provisional response containing SDP is received (which allows for early media to be set up)
- Any consecutive 1xx provisional response is then expected to contain SDP as well. If it does not, the SDP offer/answer state machine is reset. This behavior results in an abnormal call termination.

This behavior has been corrected and SmartWare does not expect any 1xx provisional response to contain SDP anymore.

Build Series 2012-01-24

11256 Echo Cancellation with RBS

Under some circumstances the PSTN profile was not applied to the RBS endpoint resulting in a noticeable echo. This behavior has been fixed.

11409 ETSI Caller-ID not detected on FXO

When the SmartNode received a caller-ID on the FXO interface that is exactly three digits long it was not accepted as a valid ETSI caller-ID and therefore rejected. This is now fixed and ETSI caller-IDs are correctly validated.

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.

CTS11214

SmartWare supports on Ethernet ports only the full functionality when the remote device does auto negotiation for link speed and duplex mode. Even when there is a setting configured auto negotiation is proceeded, but only with the configured capabilities. If connected switches do not auto negotiation there can be limited speed or even no link.

CTS11786

On older SmartNodes the two debug monitors *debug media-gateway rtp* and *debug call-control* print out incorrect RTCP jitter values.

CTS11816

The command ‘call-control call drop <call>’ is not behaving as expected. It drops all calls but does not completely teardown all internal structures. Consequently the call numbers of the dropped call cannot be used anymore for further calls after executing this command. The same is true for the “Drop all” button on the web interface on the “Active Calls” tab of the Call-Router section.

CTS12027

The following configuration may create duplicate packets: If one physical ethernet port is bound to two IP interfaces with different IP addresses and on both IP interfaces a SIP gateway is bound and some static routes are configured, then the SIP gateways may receive duplicate UDP packets.

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 R6.1, available from www.patton.com .

http://www.patton.com/manuals/SCG-r61.pdf

Current Revision:

Part Number: *07MSWR61_SCG, Rev. A*
Revised: February 6, 2012

Documentation

CD-ROM

The CD-ROM that is delivered with SmartNodes includes user documentation and tools for SmartWare R6.1:

- Software Configuration Guide SmartWare Release R6.1
- SmartNode Hardware Installation Guide
- TFTP Server
- Telnet
- Acrobat Reader

WWW

Please refer to the following online resources:

- Software Configuration Guide SmartWare Release R6.1: http://www.patton.com/manuals/SCG-r61.pdf
- SmartWare Configuration Library: http://www.patton.com/voip/configNotes.asp

How to Upgrade

1. You have the choice to upgrade to R6.1 with or without the GUI functionality.

To upgrade to R6.1 without the GUI functionality, enter the following command (telnet, console):

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

To upgrade to R6.1 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 R6.1 **introduces some changes in the configuration** compared to Release R5.x, especially in the domain of FXO and ISDN.

Please refer to the SmartWare Migration Notes R5 to R6 available at 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.

Problem Description:
Add a description of the problem. If possible and applicable, include a diagram of the network setup (with Microsoft tools).
Product Description:
When reporting a problem, always submit the product name, release and build number. Example: SmartNode 4960 *V1 R6.1 Build 2012-09-11* 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.
Running Configuration:
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.
Logs and Protocol Monitors:
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). **N.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.
Network Traffic Traces:
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; www.ethereal.com)
Your Coordinates:
For further enquiries please add your email address and phone number.