

TelScale jSS7 Stack

Release Notes

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TelScale jSS7 Stack: Release Notes

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Abstract

These release notes contain important information related to TelScale jSS7 Stack 6.1.3.GA-TelScale. You must ensure that you read the Release Notes in its entirety before installing and using TelScale jSS7 Stack.

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Chapter 1. Introduction

TeleStax is pleased to announce the release of TelScale jSS7 Stack 6.1.3.GA-TelScale. The Release Notes will provide you with information about what is included, new features, resolved issues and known issues in this release.

1.1. Overview

TelScale jSS7 Stack is the first and only Java based Open Source implementation of the SS7 protocol stack that is fully tested and supported by TeleStax. It provides implementation for MTP2, MTP3, ISUP, SCCP, TCAP, CAMEL (Phase I and Phase II) and MAP protocols for a dedicated equipment and also has in-built support for SIGTRAN (M3UA) over IP. TelScale jSS7 Stack strictly adheres to the standards and specifications defined by the International Telecommunications Union (ITU). The platform offers developers with a flexible API set that hides the lower layer details (legacy SS7 links or SIGTRAN) and therefore makes it simple and easy to develop SS7 applications.

Enterprises can now use TelScale jSS7 Stack to develop SS7 applications with the added assurance that the product is fully supported by TeleStax.

Chapter 2. Important Notes

2.1. Download

The binary release is available for download from the TeleStax Customer Support Portal at <https://telestax.zendesk.com/home>.

2.2. Documentation

When you download the binary release and extract the contents of the zip file, you will notice that the top level directory is named `TelScale-jss7-6.1.3.GA-TelScale` and within the `TelScale-jss7-6.1.3.GA-TelScale/_docs/` folder you will find the TelScale jSS7 Stack Installation Guide and User Guide. For installation and usage guidance, please refer to these guides that will help you install and set up the SS7 Stack and use it.

2.3. What's Included?

This release includes:

- ASN
- SCTP
- SS7

2.4. Support

TelScale jSS7 Stack 6.1.3.GA-TelScale is fully supported by TeleStax. For help with the software or to raise bugs please login to your account at <https://telestax.zendesk.com/home> and follow the instructions.

2.5. Upgrade Notes

If you are upgrading to TelScale jSS7 Stack 6.1.3.GA-TelScale from an older version, make sure you delete the `SccpStack_sccpresource.xml` and `SccpStack_sccprouter.xml` files from the persist directory. These are the files where SCCP persists configurations. You must delete these files and execute the SCCP commands again from CLI. This is because XML tags of the persist directory has now been changed to use nouns (similar to M3UA and SCTP) instead of fully qualified class names.

You will also notice that folder names of the modules are changed to `TelScale-ss7-sgw`, `TelScale-ss7-service` and `TelScale-ss7-simulator`.

Chapter 3. New Features

TelScale jSS7 Stack 6.1.3.GA-TelScale includes many new features. Below is a list of major features implemented in this release. For more details about each of the individual features, refer to the corresponding URL of the feature in the Issue Tracker.

Issue 9: [<https://bitbucket.org/telestax/telscale-jss7/issue/9>] M3UA Load Balancing

In the past, M3UA layer did not provide Load Balancing for Application Servers or for Application Server Processes within an AS. Now this is implemented. Depending on the configuration, either the most significant bit or the least significant bit of SLS is used for load balancing between Application Servers. The remaining bits are used for load balancing between ASPs.

Issue 16 [<https://bitbucket.org/telestax/telscale-jss7/issue/16>], Issue 27 [<https://bitbucket.org/telestax/telscale-jss7/issue/27>], Issue 35: [<https://bitbucket.org/telestax/telscale-jss7/issue/35>] Listeners for M3UA, SCTP and SCCP Management Events

A listener for M3UA Management has been added, listening for the below events:

- Adding/Removing AS
- Adding/Removing ASP

A listener for SCCP Management Events has been added.

A listener for SCTP Management Events has been added.

Issue 34: [<https://bitbucket.org/telestax/telscale-jss7/issue/34>] SCCP Load Balancing is now configurable

At the SCCP layer, the load balancing between primary and backup address is now configurable for bits 0,1,2,3 and 4 of SLS.

Issue 1: [<https://bitbucket.org/telestax/telscale-jss7/issue/1>] CLI - Authentication and Audit logs

CLI is now secured using JBoss Security module and also logs audit records. For more details refer to the TelScale jSS7 Stack User Guide.

Issue 18: [<https://bitbucket.org/telestax/telscale-jss7/issue/18>] Implementation for all MAP and CAP Error Messages

All CAP and MAP error messages are fully implemented now.

Issue 17 [<https://bitbucket.org/telestax/telscale-jss7/issue/17>], Issue 14: [<https://bitbucket.org/telestax/telscale-jss7/issue/14>] Implementation for MAP messages - `cancelLocation`, `provideRoamingNumber` and `sendRoutingInfo`

These MAP messages are now implemented:

- `cancelLocation` (Application Context Name : `locationCancellationContext`) from Mobility Service
- `provideRoamingNumber` (Application Context Name : `roamingNumberEnquiryContext`) from Call Handling Service

- `sendRoutingInfo` (Application Context Name : `locationInfoRetrievalContext`) from Call Handling Service. For a list of unimplemented parts, refer to Issue 15 in Chapter 5, *Known Issues*.

Issue 20: [<https://bitbucket.org/telestax/telscale-jss7/issue/20>] Implementation of Huawei extension for `checkIMEI` MAP Message carrying IMSI

There is a possibility to enable Huawei MSC to send IMSI within a `checkIMEI` MAP message. TelScale Stack now implements Huawei extension for this and will be able to decode this IMSI.

Issue 23: [<https://bitbucket.org/telestax/telscale-jss7/issue/23>] Implementation of some MAP primitives according to live trace

Refer to the Issue Tracker for details on the list of messages implemented or updated.

Issue 19: [<https://bitbucket.org/telestax/telscale-jss7/issue/19>] Validate the number of "/"s when a new Rule is created and throw an Exception if invalid

You will not be allowed to create a new Rule if the number of "/"s in the mask and the pattern do not match. The Management module will now throw an Exception if there is no match. In addition it will also check the `primary_add` (primary address) and `backup_add` (backup address) for matching number of "/"s.

Issue 21: [<https://bitbucket.org/telestax/telscale-jss7/issue/21>] Handle IMEI less than 15 digits

There are some real-time scenarios where fake mobiles may have an IMEI less than 15 digits. The Stack should be able to handle this and a decision on how to handle these cases should be taken by the application (SBB). To implement this IMEI length validation has been removed now and will allow less than 15 digits.

Issue 22: [<https://bitbucket.org/telestax/telscale-jss7/issue/22>] Support for UCS2 and GSM8 encoding schemes for USSD Messages

In the past, USSD messages (`USSDString`) supported only GSM7 (default) encoding scheme. Now there is support for UCS2 and GSM8 encoding as well.

Issue 24: [<https://bitbucket.org/telestax/telscale-jss7/issue/24>] Number of minimum active ASPs (min-asp) for load shared AS is now configurable

When an AS is in 'loadshared' mode (where two or more ASPs are sharing the load), the number of minimum ASPs required to be active before the AS goes into ACTIVE state is defined by the parameter `min-asp` which is now configurable.

Issue 25: [<https://bitbucket.org/telestax/telscale-jss7/issue/25>] Method for checking if a String (SMS or USSD message) contains only GSM7 charset symbols

A new method is now provided to check if a String (to be sent as SMS or USSD message) contains only GSM7 characters and can be encoded by GSM7 charset or not.

Issue 26: [<https://bitbucket.org/telestax/telscale-jss7/issue/26>] Implementation of geo primitives for MAP location services

Most geo primitives for MAP location services are now implemented except for very rare cases.

Issue 36: [<https://bitbucket.org/telestax/telscale-jss7/issue/36>] XML tags of SCCP persist directory changed

In the past, the XML files created by SCCP layer had class names included with packages. This made them hard to read and not flexible for future changes. To make it in line with SCTP and M3UA, they now use nouns instead of fully qualified class names. You must delete the files and execute the commands from CLI again if you are upgrading from an older version.

Chapter 4. Resolved Issues

TelScale jSS7 Stack 6.1.3.GA-TelScale includes many bug fixes. Below is a list of the major bugs fixed in this release. For more details about each of the individual bugs, refer to the corresponding URL of the bug in the Issue Tracker.

Issue 28: [<https://bitbucket.org/telestax/telscale-jss7/issue/28>] PDPCContext primitive should be updated

PDPCContext primitive
(org.mobicients.protocols.ss7.map.api.service.mobility.subscriberInformation.PDPCContext)
has now been updated and "byte[]" parameters are now replaced with concrete primitives.

Issue 29: [<https://bitbucket.org/telestax/telscale-jss7/issue/29>] Retain byte structure of remote transactioId for TCAP Dialog

In the past TelScale Stack did not retain the byte structure. But some equipments demand the local (equipment) and remote (TelScale) transactioId structure (byte lengths) to remain equal. So now the incoming remote transactioId is retained in its original form and sent without altering the byte structure.

Issue 30: [<https://bitbucket.org/telestax/telscale-jss7/issue/30>] Invoke Timeout call

If invokeTimeout is set to be higher than dialogTimeout, then invokeTimeout is called after the dialog is released.

Issue 33: [<https://bitbucket.org/telestax/telscale-jss7/issue/33>] MAP/load tests

In the previous release, MAP/load tests were broken. This has been fixed now.

Issue 43: [<https://bitbucket.org/telestax/telscale-jss7/issue/43>] Decoding org.mobicients.ss7.management.transceiver.Message fails if empty data is sent

For example, if the message sent is "" (empty), MessageFactory decodes this message only in the second call. This has been fixed now.

Issue 44: [<https://bitbucket.org/telestax/telscale-jss7/issue/44>] The ss7-cli.bat file does not start CLI console (Windows OS)

The ss7-cli.bat file was using incorrect paths for launching jar files. This has been fixed now.

Issue 45: [<https://bitbucket.org/telestax/telscale-jss7/issue/45>] Deployment error: mobicients-sgw throws CNF ShellServer

"ShellExecutor" was throwing deployment errors. This has been fixed now.

Chapter 5. Known Issues

TelScale jSS7 Stack 6.1.3.GA-TelScale has few known issues. Below is a list of major know issues in this release. For more details about each of the individual bugs, refer to the corresponding URL of the bug in the Issue Tracker.

Issue 15: [<https://bitbucket.org/telestax/telscale-jss7/issue/15>] Missing primitives for `sendRoutingInfo` MAP operation

Some primitives are not yet implemented for `sendRoutingInfo` MAP operation.

Issue 31: [<https://bitbucket.org/telestax/telscale-jss7/issue/31>] SCCP does not respect point-code for incoming messages

Consider a scenario where SCCP stack is configured with multiple `rsp`, SCCP Rule1 is configured to use PC1 as primary and PC2 as secondary. Now if messages are received from PC2 and consumed by SCCP-User and replies back, if the GT matches for Rule1 then it will use PC1 for outgoing message instead of PC2. This is a known issue and will be fixed in future release.

Appendix A. Revision History

Revision History

Revision 1.0	June 18 2012	Vinu SRenish
6.1.2 G.A Release		
Revision 2.0	Nov 28 2012	Vinu SRenish
6.1.3 G.A Release		

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