# Oracle® Communications

# DSR Automated Test Suite (ATS) Installation and User's Guide

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Oracle Communications DSR Automated Test Suite (ATS) Installation and User's Guide, Release 8.4

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# 1
# Overview

## Introduction

The Automated Test Script (ATS) is a software that is used on the system under test to check if the system is functioning as expected. This software performs testing of the features offered by OC-DSR through automation decreasing the manual test effort. This software is flexible enough that the user can create additional test cases with ease using the APIs provided by the framework.

### Limitations

Currently only a single site DSR and SDS can be used as the test environment.

## Acronyms

**Table 1-1 Acronyms**

| Term | Definition |
|---|---|
| API | Application programming interface |
| ATS | Automated Test Script |
| DSR | Diameter Signaling Router |
| SDS | Subscriber Data Server |
| OS | Operating System |
| NTP | Network Time Protocol |
| VNFM | Virtual Network Functions Manager |

## How to use this document

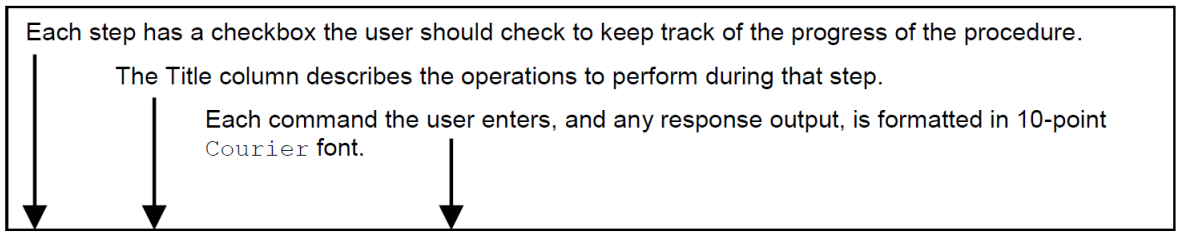
Although this document is primarily to be used as an initial installation guide, its secondary purpose is to be used as a reference for Disaster Recovery procedures.

When executing this document for either purpose, there are a few points which help to ensure that the user understands the author's intent. These points are as follows:

1. Before beginning a procedure, completely read the instructional text (it will appear immediately after the Section heading for each procedure) and all associated procedural WARNINGS or NOTES.
2. Before execution of a STEP within a procedure, completely read the left and right columns including any STEP specific WARNINGS or NOTES.

If a procedural STEP fails to execute successfully, STOP and contact Oracle's Customer Service for assistance before attempting to continue. My Oracle Support for information on contacting Oracle Customer Support.

**Figure 1-1 Example of a Procedure Steps Used in This Document**




| | Title | Directive/Result Step |
|---|---|---|
| 1. ☐ | Change directory | Change to the backout directory.<br>`$ cd /var/TKLC/backout` |
| 2. ☐ | **ServerX**: Connect to the console of the server | Establish a connection to the server using cu on the terminal server/console.<br>`$ cu -l /dev/ttyS7` |
| 3. ☐ | Verify Network Element data | View the Network Elements configuration data; verify the data; save and print report.<br>3. Select **Configuration > Network Elements** to view Network Elements Configuration screen. |

# Documentation Admonishments

Admonishments are icons and text throughout this manual that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

**Table 1-2 Admonishments**

| Icon | Description |
|---|---|
|  | Danger:<br>(This icon and text indicate the possibility of personal injury.) |
|  | Warning:<br>(This icon and text indicate the possibility of equipment damage.) |
|  | Caution:<br>(This icon and text indicate the possibility of service interruption.) |

# Locate Product Documentation on the Oracle Help Center Site

Oracle Communications customer documentation is available on the web at the Oracle Help Center site, http://docs.oracle.com. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at http://www.adobe.com.

1. Access the Oracle Help Center site at http://docs.oracle.com.
2. Click **Industries**.
3. Under the Oracle Communications subheading, click **Oracle Communications documentation** link.

   The Communications Documentation page displays. Most products covered by these documentation sets display under the headings Network Session Delivery and Control Infrastructure and Platforms.
4. Click on your product and then the release number.

   A list of the documentation set for the selected product and release displays.
5. To download a file to your location, right-click the **PDF** link, select **Save target as** (or similar command based on your browser), and save to a local folder.

# Customer Training

Oracle University offers training for service providers and enterprises. Visit our web site to view, and register for, Oracle Communications training at http://education.oracle.com/communication.

To obtain contact phone numbers for countries or regions, visit the Oracle University Education web site at www.oracle.com/education/contacts.

# My Oracle Support

My Oracle Support (https://support.oracle.com) is your initial point of contact for all product support and training needs. A representative at Customer Access Support can assist you with My Oracle Support registration.

Call the Customer Access Support main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select **2** for New Service Request.
2. Select **3** for Hardware, Networking and Solaris Operating System Support.
3. Select one of the following options:
   - For Technical issues such as creating a new Service Request (SR), select **1**.
   - For Non-technical issues such as registration or assistance with My Oracle Support, select **2**.

You are connected to a live agent who can assist you with My Oracle Support registration and opening a support ticket.

My Oracle Support is available 24 hours a day, 7 days a week, 365 days a year.

# Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at 1-800-223-1711 (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle.

# 2
# Installation Overview

## Prerequisites

Following are the prerequisites for ATS installation:

1. Oracle Linux version 7.5 (4.14.35-1818.0.9.el7uek.x86_64) virtual machine must be available (version V979992-01 should be downloaded from Oracle edelivery and set up by the user before proceeding)
2. It must be possible for the system to connect to internet to download the necessary packages
3. Seagull packages must be available
4. Test cases are executed as the default user 'cloud-user' that is present in Oracle Linux. SCTP requires root user permissions (refer http://gull.sourceforge.net/doc/core.html#SCTP+transport) so only the SCTP test case is run as sudo permissions.
5. The private key of the VM cloud-user should be present in the home directory path '`/home/cloud-user/.ssh/id_rsa`'
6. DSR ATS VM flavor/specs used for creation:

```
Security Group configuration:
          ALLOW IPv6 from default
          ALLOW IPv4 from default
          ALLOW IPv4 3868/tcp to 0.0.0.0/0
          ALLOW IPv4 1-65535/udp from 0.0.0.0/0
          ALLOW IPv4 17401/udp from 0.0.0.0/0
          ALLOW IPv4 icmp from 0.0.0.0/0
          ALLOW IPv4 ip_proto=132 from 0.0.0.0/0
          ALLOW IPv4 to 0.0.0.0/0
          ALLOW IPv4 1-65535/tcp from 0.0.0.0/0
          ALLOW IPv4 ip_proto=132 to 0.0.0.0/0
          ALLOW IPv6 to ::/0
          ALLOW IPv4 3868/tcp from 0.0.0.0/0
```

> **Note:**
>
> The deployment of DSR ATS is done via openstack GUI. There are no supported Heat Orchestration Template (HOT) available as of now for deployment. Refer to DSR Cloud Benchmarking Guide for more information on configuration.

7. A single site DSR and SDS system should be installed and reachable from the ATS Server.
   - The DSR Topology should consist: NOAM(A), NOAM(S), SOAM(A), SOAM(S), DA-MP, IPFE,
   - The SDS Topology should consist: NOAM(A), NOAM(S), SOAM(A), SOAM(S), DP Server

8. The DSR Applications like RBAR, FABR should be activated and enabled by the user before running the test cases. Diameter specific configurations for these applications will be performed by the ATS test cases during test execution so no additional configuration is required.

# 3
# ATS Installation

Following sections explain the procedure to install ATS.

## Installation Preparation

**Table 3-1 Installation Preparation**

| Sl No | Procedure | Description |
|---|---|---|
| 1 ☐ | Download the ATS package from OSDC | Customers are required to download the ATS package file from Oracle Software Delivery Cloud (OSDC).<br>Make sure the cloud-user login is working with a private key. Generally direct **root** login is disabled on Oracle Linux and is not used the test suite at any point. Whenever required the test framework will use **sudo** to execute test cases that require privilege escalation. |
| 2 ☐ | Verify Oracle Linux version | Verify the version of Oracle Linux as the same in prerequisite. |
| 3 ☐ | Verify network interfaces | The Oracle Linux VM should have atleast two network interfaces that should be in the same subnet (XMI and XSI) as used by the DSR under test. |
| 4 ☐ | Disable IPtables in the Oracle Linux VM if its running. | Execute the below commands to disable IPtables:<br>`sudo systemctl disable iptables`<br>`sudo systemctl stop iptables` |

## Configure Oracle Linux VM

Following table explains the procedure to configure Oracle Linux VM:

**Table 3-2 Configure Oracle Linux VM**

| Sl No | Procedure | Description |
|---|---|---|
| 1. ☐ | Install yum utilities and enable repositories | Execute the following commands:<br>`sudo yum install -y yum-utils`<br>`sudo yum-config-manager --enable ol7_openstack_extras`<br>`sudo yum-config-manager --enable ol7_latest`<br>**Note**: Configure http_proxy and https_proxy for yum to connect to internet if the server is behind a corporate firewall.<br>Edit the file `/etc/yum.conf` to add the **proxy** url<br>Configure proper DNS server IPs so that the server is able to connect to the repositories over the internet. |
| 2. ☐ | Install Python package manager, network time service and ksh | Install Python package manager pip for linux, install ntp service for configuring time service, install ksh<br>`sudo yum install -y python-pip ntp ksh`<br>**Note**: Configure http_proxy and https_proxy for yum to connect to internet if the server is behind a corporate firewall. |

# Configure NTP Server

Following table describes the procedure to configure NTP server:

**Table 3-3 Configure NTP Server**

| Sl. No | Procedure | Description |
|---|---|---|
| 1. ☐ | Edit config file | Edit the file `/etc/ntp.conf` as root and set the **NTP Server IP**. |
| 2. ☐ | Enable and Start the NTP service | Enable and Start the NTP service by running the below commands:<br>`sudo systemctl enable ntpd`<br>`sudo systemctl start ntpd` |
| 3. ☐ | Set the timezone | Set the timezone for the server by following the Oracle Linux guide https://docs.oracle.com/cd/E52668_01/E54669/html/ol7-system-datetime.html<br>**Note**: Configure http_proxy and https_proxy for yum to connect to internet if the server is behind a corporate firewall. |

# Install Python packages

Install the python packaging library setuptools==40.8.0 using the pip command

```
sudo pip install -U setuptools
```

> **Note:**
>
> Configure http_proxy and https_proxy for pip to connect to internet if the server is behind a corporate firewall. If the setuptools is already up-to-date, ignore the below step.

```
sudo http_proxy=http://www-proxy.us.oracle.com:80 https_proxy=$http_proxy pip install -U
setuptools
```

# Install VNC Server

**Table 3-4 Install VNC Server**

| Sl No. | Procedure | Description |
|---|---|---|
| 1. ☐ | Install the Tiger VNC Server | Execute the following command to install VNC server:<br>`yum install tigervnc-server` |
| 2. ☐ | Create VNC password | Use the vncpasswd command to create a password for the VNC desktop. The password must be created by the user that runs the VNC server and not root<br>`# su - cloud-user`<br>`$ vncpasswd`<br>`Password: password`<br>`Verify: password`<br>**Note**: cloud-user is the user to whom the VM is entitled. |
| 3. ☐ | Copy the vncserver@.service template file | Execute the following command to copy the template file:<br>`# cp /lib/systemd/system/ vncserver@.service /etc/systemd/system/ vncserver-vncuser@\:display.service`<br>where display is the unique display number of the VNC desktop starting from 1<br>Example: `# cp /lib/systemd/system/ vncserver@.service /etc/systemd/system/ vncserver-cloud-user@\:1.service` |

**Table 3-4 (Cont.) Install VNC Server**

| | | |
|---|---|---|
| 4. ☐ | Edit the vncuser in the following lines of the above copied file | `ExecStart=/sbin/runuser -l <USER> -c "/usr/bin/vncserver %i" PIDFile=/home/<USER>/.vnc/%H%i.pid`<br>**Note**: Replace <USER> with the user name that will run the VNC desktop.<br>For example:<br>`ExecStart=/sbin/runuser -l cloud-user -c "/usr/bin/vncserver %i" PIDFile=/home/cloud-user/.vnc/%H%i.pid`<br>**Note**: In the above example, the <USER> is "cloud-user" of the Virtual Machine where the VNC server is being installed. |
| 5. ☐ | Start the VNC desktops | 1. Make `systemd` reload its configuration files:<br>`# systemctl daemon-reload`<br>2. For each VNC desktop, start the service, and configure the service to start following a system reboot. Remember that if you specified a username in the name of the service unit configuration file, you must specify this. Equally, you should use the same display number that you specified for the service unit configuration file name. For example:<br>`# systemctl start vncserver-vncuser@\:1.service`<br>`# systemctl enable vncserver-vncuser@\:1.service` |
| 6. ☐ | Configure the VNC desktops | `# yum update grub2-common`<br>`# rpm -q grub2-common`<br>`# yum install fwupdate-efi`<br>`# yum groupinstall "server with gui" --skip-broken`<br>**Note**: This might take around 10-15 minutes for downloading and installing of VNC desktop to get completed. |

**Table 3-4 (Cont.) Install VNC Server**

| | | |
|---|---|---|
| 7. ☐ | Enable the IPtables acceptance for Port on which VNC runs i.e 5900 series | 1. Open the file:--<br>`#vi /etc/sysconfig/iptables`<br>2. Add following line of code in the above file →<br>`-A INPUT -p tcp -m state --state NEW -m tcp --dport 5901 -j ACCEPT`<br>this piece of code to enable iptable acceptance for Port 5900 series should be added right below<br>`-A INPUT -p tcp -m state --state NEW -m tcp --dport 22 -j ACCEPT`<br>3. Restart the iptables by executing below command-<br>`#systemctl restart iptables` |
| 8. ☐ | Verify VNC Configurations | Run command →<br>`#vncserver -list`<br>If the above command gives an output , then configuration was successful. Incase, no server is listed in the output , then manually start the vnc by running the below command :-<br>`#vncserver`<br>If the above command, prompts user to setup the password, then kindly setup the password. |
| 9. ☐ | Installing VNC viewer on windows | Open the VNC session<br>Start the TigerVNC client and connect to a desktop.<br>To connect directly to a VNC desktop, you can start the TigerVNC client and enter host:display to specify the host name or IP address of the VNC server and the display number of the VNC desktop to connect to. Alternatively, you can specify the VNC desktop as an argument for the vncviewer command.<br>For example:<br>`$ vncviewer 10.10.10.0.com:1` |

# Install Seagull packages

Install the latest open source seagull rpm from https://sourceforge.net/projects/gull/files/seagull/. Following table describes the procedure to install seagull packages:

**Table 3-5 Install Seagull Packages**

| Sl No | Procedure | Description |
|---|---|---|
| 1. ☐ | Upload package to oracle server | Execute the following commands:<br>`cd /var/tmp`<br>`ls -al` |
| 2. ☐ | Unzip the file | Unzip the package using the following command:<br>`gunzip seagull-1.8.2-Linux_RHEL6U1_X86_64.tar.gz` |
| 3. ☐ | Untar the file | Untar the package using the following command:<br>`# tar -xvf seagull-1.8.2-Linux_RHEL6U1_X86_64.tar` |
| 4. ☐ | Verify the dependencies | Some of the packages have dependencies on other packages that may not be installed on your system, in which case you may see a load of error messages.<br>`# sudo rpm -ivh *.rpm`<br>`error: Failed dependencies:`<br>`libcrypto.so.0.9.8()(64bit) is needed by seagull-crypto-1.8.2-0.i386`<br>`libssl.so.0.9.8()(64bit) is needed by seagull-crypto-1.8.2-0.i386`<br>`libTTL.so.1()(64bit) is needed by seagull-octcap-protocol-1.8.2-0.i386`<br>`libTTLBase.so.1()(64bit) is needed by seagull-octcap-protocol-1.8.2-0.i386`<br>`libntl.so.1()(64bit) is needed by seagull-octcap-protocol-1.8.2-0.i386`<br>`libcrypto.so.0.9.8()(64bit) is needed by seagull-trans-tls-1.8.2-0.i386`<br>`libssl.so.0.9.8()(64bit) is needed by seagull-trans-tls-1.8.2-0.i386`<br>**Note**: Ignore the above mentioned errors. |
| 5. ☐ | Install seagull-core and seagull-diameter-protocol packages only | If you have experience this problem and you only want to use DIAMETER, then try just installing the seagull-core and seagull-diameter-protocol packages as follows:<br>`# rpm -ivh seagull-core-1.8.2-linux-2.6-intel.rpm`<br>`# rpm -ivh seagull-diameter-protocol-1.8.2-linux-2.6-intel.rpm` |
| 6. ☐ | Install Seagull external lib and trans for SCTP | In order to run SCTP test cases install:<br>`# rpm -ivh seagull-external-lib-sctp-1.8.2-linux-2.6-intel.rpm`<br>`# rpm -ivh seagull-trans-sctp-1.8.2-linux-2.6-intel.rpm`<br>You have installed Seagull and now you can start sending DIAMETER traffic. By default, Seagull is installed in the following directory: /opt/seagull |

# Enable SCTP Support

In order to run the SCTP transport based test case following configuration needs to be applied on the Oracle Linux VM:

1. Edit the below file as root:

   `/etc/modprobe.d/firewalld-sysctls.conf`

2. Add the following line to the file

   `install sctp /bin/false`

3. reboot the seagull server

> **Note:**
>
> After rebooting seagull server, restart the VNC server.

# ATS Installation

Run all the below commands as root user. Make sure to set proxy environment variables in case the server is behind a firewall.

**Table 3-6 ATS Installation**

| Sl. No. | Procedure | Description |
|---|---|---|
| 1. ☐ | Copy the ATS package and unpack the ATS tar in an empty directory | Once all the required dependencies are installed on the Oracle Linux 7.5 VM, download and unpack the test suite tar.<br>*tar -xvf <automated test suite package>* |
| 2. ☐ | Navigate to empty directory | Go into the empty directory<br>`cd <directory>` |
| 3. ☐ | Install the ATS framework | Run the python command to install the ATS framework library and sanity test case suite<br>`sudo python setup.py install`<br>Failure to install/upgrade setuptools can cause this command to fail. Incase the install command fails run 'pip install -U setuptools' and try the install command again<br>**Note**: Configure http_proxy and https_proxy for yum to connect to internet if the server is behind a corporate firewall.<br>Eg. sudo http_proxy= http://www-proxy.us.oracle.com:80 https_proxy=$http_proxy python setup.py install |

# 4
# Test Case Execution

**Table 4-1 Test Case Execution**

| Sl. No. | Procedure | Description |
|---|---|---|
| 1. ☐ | Once the installation is successfully completed a directory is created in the / home/cloud-user/ named as tests | [cloud-user@dsrautomationol7vm1 tests]$ cd / home/cloud-user/<br>[cloud-user@dsrautomationol7vm1 tests]$ ls -lrth<br>total 44K<br>drwxr-xr-x. 5 cloud-user cloud-user 4.0K Mar 28 01:57 ats<br>-rwx------. 1 cloud-user cloud-user 46 Apr 1 02:44 environment.py<br>-rwx------. 1 cloud-user cloud-user 444 Apr 1 07:29 dut.yaml<br>drwxr-xr-x. 2 cloud-user cloud-user 4.0K Apr 1 07:29 steps<br>drwxr-xr-x. 2 cloud-user cloud-user 4.0K Apr 1 07:29 passwords<br>drwxr-xr-x. 2 cloud-user cloud-user 4.0K Apr 1 07:29 examples |

**Table 4-1 (Cont.) Test Case Execution**

| Sl. No. | Procedure | Description |
|---|---|---|
| 2. ☐ | Navigate to this folder and edit the dut.yaml to provide the DSR, SDS and Local IPs to be used. | DSRVIP:<br>- name: DSRNOVIP<br>IP: <Provide DSR NO VIP here><br>- name: DSRSOVIP<br>IP: <Provide DSR SO VIP here><br>SIGNALING_IPs:<br>- IP: <provide MP Signaling IP #1 here><br>type: LocalIp<provide the IP Type (LocalIp or IpfeTsa)><br>- IP: <provide MP Signaling IP #2 here><br>type: LocalIp<provide the IP Type (LocalIp or IpfeTsa)><br>- IP: <provide TSA Signaling IP #1 here><br>type: IpfeTsa<provide the IP Type (LocalIp or IpfeTsa)><br>- IP: <provide TSA Signaling IP #2 here><br>type: IpfeTsa<provide the IP Type (LocalIp or IpfeTsa)><br>ipfeInitiatorDampIp:<br>- IP: <IP of the MP to be used as Initiator MP while configuring IPFE Initiator type connections><br>SDSVIP:<br>- name: SDSNOVIP<br>IP: <provide SDS NOAM VIP here><br>- name: SDSSOVIP<br>IP: <provide SDS SOAM VIP here><br>LOCAL:<br>- SIGNALING_IPs:<br>- <Provide Local signaling IP of the current server here> |
| 3. ☐ | Edit the file passwords/ auth.yaml and provide the DSR GUI password and Command Line interface password. | ---<br>SERVERS:<br>- name: NOAM<br>username: guiadmin<br>password: <provide the NOAM GUI Password here><br>dsr_mmi_version: v3.0<br>sds_mmi_version: v1.0<br>cli_username: admusr<br>cli_password: <provide the command line interface password here><br>- name: TRAFFICSERVER<br>username: root<br>password: <provide the password of the local server><br>ip: <IP of the local server> |

**Table 4-1 (Cont.) Test Case Execution**

| Sl. No. | Procedure | Description |
|---|---|---|
| 4. ☐ | Navigate to this folder and execute the below command to execute the sample test case. | `[cloud-user@nftest-worker01 tests]$ behave -i examples/sample.feature -c`<br>`[cloud-user@nftest-worker01 tests]$ behave -i examples/sample.feature -c`<br>`Feature: Sample Feature File # examples/sample.feature:1`<br><br>`  Scenario: Sample Scenario   # examples/sample.feature:2`<br><br>`  Then Sample Step For Pass # ../../../usr/lib/python2.7/site-packages/ocdsr_automation-0.0.1-py2.7.egg/ocdsrautomation/ocdsr_steps.py:108`<br>`2019-03-11 06:03:19,294     INFO LOG.STEP | Sample Step passed`<br>`2019-03-11 06:03:19,294  WARNING LOG.STEP | Sample Step passed`<br>`2019-03-11 06:03:19,294    DEBUG LOG.STEP | Sample Step passed`<br>`2019-03-11 06:03:19,294    ERROR LOG.STEP | Sample Step passed`<br><br>`1 feature passed, 0 failed, 0 skipped`<br>`1 scenario passed, 0 failed, 0 skipped`<br>`1 step passed, 0 failed, 0 skipped, 0 undefined`<br>`Took 0m0.001s`<br><br>The sample test case should run and complete successfully. |

**Table 4-1 (Cont.) Test Case Execution**

| Sl. No. | Procedure | Description |
|---|---|---|
| 5. ☐ | The test cases are located in the folder ats/features folder. In the 8.4 ATS, the mentioned test cases are provided. | `[cloud-user@dsrautomationol7vm1 behave_test_framework]$ ls -lrth ats/featurefile/`<br>`total 64K`<br>`-rw-rw-r--. 1 cloud-user cloud-user 2.0K Apr 1 02:44 Test_REROUTEANSWER1.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1.6K Apr 1 02:44 Test_REROUTE3.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1.7K Apr 1 02:44 Test_RBAR3.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1.7K Apr 1 02:44 Test_PRT1.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 988 Apr 1 02:44 Test_IPFE1.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1.8K Apr 1 02:44 Test_FABR3.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 995 Apr 1 02:44 Test_EMRT1.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1.1K Apr 1 02:44 Test_DESTHOST1.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 728 Apr 1 05:35 Test_AAA2.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1.2K Apr 1 05:40 Test_AAA1.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1.6K Apr 1 06:57 Test_DCL9.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1.2K Apr 1 07:29 Test_ECC3.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1.7K Apr 1 08:14 Test_RARG2.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1.6K Apr 1 08:28 Test_DRMP1.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 2.4K Apr 1 08:38 Test_MSGPRIORITY3.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1001 Apr 2 04:56 Test_SCTP1.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1001 Apr 2 04:56 Test_NOAM_GUIAutomation.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1001 Apr 2 04:56 Test_SOAM_GUIAutomation.feature`<br>`-rw-rw-r--. 1 cloud-user cloud-user 1001 Apr 2 04:56 Test_Regression_GUIAutomation.feature` |
| 6. ☐ | To execute any test case in the above list use the below command. Test cases should only executed from the /home/cloud-user/tests folder | `[cloud-user@dsrautomationol7vm1 tests]$ behave -i ats/featurefile/Test_DCL9.feature -c` |
| 7. ☐ | To execute all test case use the below command. Test cases should only executed from the /home/cloud-user/tests folder | `[cloud-user@dsrautomationol7vm1 tests]$ behave -i ats/featurefile/Test_Signaling_ALL.feature -c` |

**Table 4-1 (Cont.) Test Case Execution**

| Sl. No. | Procedure | Description |
|---|---|---|
| 8. ☐ | To execute SCTP test case use the below command. Test cases should only executed from the /home/cloud-user/tests folder | `[cloud-user@dsrautomationol7vm1 tests]$ sudo behave -i ats/featurefile/Test_SCTP1.feature -c` |
| 9. ☐ | To execute feature files related to GUI automation | Open a VNC session in the tiger VNC installed. To open a VNC session , give VNC server to be hostname:display and password will be the password set while installing VNC server. |
| 10. ☐ | The test execution produces logs that are printed on the standard output and can be redirected to any file for storage. | |