# Oracle® Communications DSR Automated Test Suite Installation and User Guide





Oracle Communications DSR Automated Test Suite Installation and User Guide, Release 9.2.0.0.0

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## **Preface**

- <u>Documentation Accessibility</u>
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### Conventions

The following text conventions are used in this document:

Convention	Meaning	
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.	
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.	
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.	

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- 2. Select **3** for Hardware, Networking and Solaris Operating System Support.
- 3. Select one of the following options:
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# What's New in this Release

This section introduces the documentation updates for Release 9.2.0.0.0.

#### Release 9.2.0.0.0 - G29145-01, October 2025

- Updated <u>Prerequisites</u> section to provide information about Bulk Peer Node.
- Updated <u>Prerequisites for Test Case Execution</u>.
- Updated <u>Test Case Execution Process</u> to provide information about MDS test cases.

## 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.

## 1.1 Limitations

Only a single Multiprotocol Routing Agent (MRA) and Multimedia Policy Engine (MPE) cluster can be used in the test environment.

## 1.2 Acronyms

Table 1-1 Acronyms

Term	Definition
API	Application programming interface
ATS	Automated Test Suit
DSR	Diameter Signaling Router
NTP	Network Time Protocol
os	Operating System
SDS	Subscriber Data Server
SUT	System Under Test
VNFM	Virtual Network Functions Manager
vSTP	Virtual Signaling Transfer Point

## 1.3 How to use this document

Read the following instructions before performing any procedure documented in this guide:

- Read the instructional text and all associated procedural Warnings or Notes.
- If a procedural step fails to execute, contact Oracle's Customer Service for assistance before attempting to continue. <u>My Oracle Support</u> for information on contacting Oracle Customer Support.

## 1.4 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:
	(This icon and text indicate the possibility of personal injury.)
DANGER	
<u>^</u>	Warning:
WARNING	(This icon and text indicate the possibility of equipment damage.)
^	Caution:
CALITION	(This icon and text indicate the possibility of service interruption.)
CAUTION	

## 1.5 Customer Training

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- Select one of the following options:
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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 system 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.

# Prerequisites

- Download the ATS Image from Oracle Software Delivery Cloud (OSDC). Example of an ATS image: ats-9.2.0-1.0.15.tgz.
- Ensure that ATS and DSR are on the same network.
- Create the BulkPeerNode\_160.csv file by using touch command in Regression folder. Path to the Regression folder:

/var/lib/jenkins/workspace/Regression

#### Touch command:

touch BulkPeerNode\_160.csv

# **ATS Server Deployment Overview**

The ATS server is deployed using Virtual Network Functions Manager (VNFM). It has features for Rf\_Routing, Gy\_S6b\_Stateless\_Routing, Rx\_Gateway\_MCPTT, and Radius\_Routing. It has a separate cleanup pipeline.

# Deploying ATS Using VNFM

The ATS primary VNF supports dynamic and fixed IP deployment models.



#### (i) Note

ATS supports both IPv4 and IPv6 suites at the time of deployment.

To deploy the ATS primary VNF, you must have the following pieces of information:

- The VNF ID for a previously created ATS primary VNF instance.
- Information about the OpenStack instance on which the VNF must be deployed:
  - OpenStack Controller URI
  - **User Domain Name**
  - Project Domain Id
  - Username
  - Password
  - Tenant name
- The name of a public network in the selected OpenStack instance that will carry the ATS primary traffic.
- The IP of an NTP server accessible by VMs within the selected OpenStack instance. The OpenStack controller that controls the selected OpenStack instance hosts an NTP server.

For more information about the list of all the inputs and possible outputs of the command instantiate VNF, refer to ETSI NFV-SOL 003, section 5.4.4.3.1, or the DSR VNFM Swagger specification.



#### (i) Note

It is mandatory to add two XSI Networks in ATS primary to instantiate a stack.

Sample Request for instantiating ATS primary Dynamic IP deployment model:

URL: https://<<VNFM HOST IP>>:8443/vnflcm/v1/vnf\_instances/< VNF ID received from create request>/instantiate

```
Accept: application/json
Content-Type: application/json
X-Token: Token generated after login
"flavourId": "master",
"instantiationLevelId": "small",
```



```
"extVirtualLinks": "extVirtualLinks",
"extManagedVirtualLinks": [],
"vimConnectionInfo":[ {
"id": "vimid",
"vimType": "OpenStack",
"interfaceInfo": {
"controllerUri": "https://oortcloud.us.oracle.com:5000/v3"
"accessInfo": {
"username": "dsrci.user",
"password": "xxxxx",
"userDomain": "Default",
"projectDomain": "default",
"tenant": "DSR CI"
}],
"localizationLanguage": "localizationLanguage",
"additionalParams": {
"xmiNetwork": {
"name": "ext-net8",
"ipVersion": "IPv4",
"xmiSubnetName": "ext-net8-subnet"
"xsiNetwork": [{
"name": "ext-net7",
"ipVersion": "IPv4",
"xsiSubnetName": "ext-net7-subnet"
"name": "ext-net6",
"ipVersion": "IPv4",
"xsiSubnetName": "ext-net6-subnet"
}],
"ntpServerIp": "10.250.32.10",
"dnsServerIp": "10.250.32.10",
"atsKeyName": "atsKeypair",
"atsMasterFlavor": "ats.master",
"atsMasterImage": "ATS BOX.gcow2",
"atsAvailabilityZone": "nova"
```

#### Sample request for initiating ATS primary Request for Fixed IP deployment model:



```
"flavourId": "master",
"instantiationLevelId": "small",
"extVirtualLinks": "extVirtualLinks",
"extManagedVirtualLinks": [],
"vimConnectionInfo":[ {
"id": "vimid",
"vimType": "OpenStack",
"interfaceInfo": {
"controllerUri": "https://oortcloud.us.oracle.com:5000/v3"
"accessInfo": {
"username": "dsrci.user",
"password": "xxxxx",
"userDomain": "Default",
"projectDomain": "default",
"tenant": "DSR CI"
}],
"localizationLanguage": "localizationLanguage",
"additionalParams": {
"xmiNetwork": {
"name": "ext-net8",
"ipVersion": "IPv4",
"xmiSubnetName": "ext-net8-subnet",
"fixedIps": {
"masterXmiIp":"10.75.123.16"
},
"xsiNetwork": [{
"name": "ext-net7",
"ipVersion": "IPv4",
"xsiSubnetName": "ext-net7-subnet",
"fixedIps":
"xsiIp": "10.75.195.21"
},
"name": "ext-net6",
"ipVersion": "IPv4",
"xsiSubnetName": "ext-net6-subnet",
"fixedIps":
"xsiIp": "10.75.195.22"
}],
"ntpServerIp": "10.250.32.10",
"dnsServerIp": "10.250.32.10",
"atsKeyName": "atsKeypair",
"atsMasterFlavor": "ats.master",
"atsMasterImage": "ATS_BOX.qcow2",
"atsAvailabilityZone": "nova"
```



#### Sample Response

Instantiating the ATS primary VNF response

The following table describes the parameters for ATS primary:

**Table 4-1 ATS Primary Parameters** 

Parameter	Definitions
flavourId	Identifier of the VNF deployment flavor to be instantiated.
xmiNetwork	Network used to provide access to master VM communication.
ntpServerIp	IP of the NTP server.
dnsServerIp (optional)	IP of the DNS server. If not provided, NTP server IP will be considered as DNS server IP.
atsKeyName	Key pair name for ATS. To log in to the ATS instance, use same key pair.
masterXmiIp	In case of fixed IP scenario, the IP of master will be provided.
xsiNetwork	Network used for DSR signaling traffic.
atsMasterFlavor (optional)	Flavor used for OpenStack deploys.
atsMasterImage (optional)	Image used for OpenStack deploys.
atsAvailabilityZone (optional)	Name of logical partitioning in case of host aggregate.

#### (i) Note

The atsKeyName pair is created dynamically through VNFM. The same public key is put into all the ATS instances (primary, core & tools), and the private key is in the ATS primary stack output. Use the same private key to log in to the ATS instance (primary, core & tools) by executing the following command:

ssh -i <ats private key> <username>@<ats master Ip>

Example: ssh -i atskey.pem cloud-user@10.75.189.120



## 4.1 Custom Folder Implementation

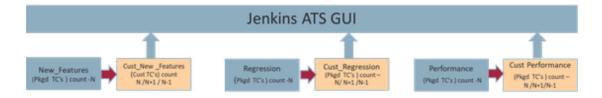
New custom test cases folders (cust\_newfeatures, cust\_regression and cust\_performance) have been introduced to accommodate the customization's to original product packaged test cases. These folders carry the customized test cases (any new test cases added by customers or subset of test cases from the original product supplied test cases or modified test cases).

Initially when packaged and released, both the product test case folders (newfeatures, regression and performance) and the custom test case folders (cust\_newfeatures, cust\_regression and cust\_performance) carries same set of test cases. Subsequently, customers can use the custom test case folders to carry out any customization's from their side (updates, additions, or deletions of test cases) without disturbing the original product packaged test cases or folders. Jenkins always pick the test cases from the custom test cases folders.

Custom Folder Structure is implemented in the Performance Job where Performance-Suite and Cust-Performance-Suite contain the same set of test cases. Customization, such as updates, additions, or deletions of test cases, without disturbing the original product packaged test cases or folders can be done in Cust-Performance-Suite.

Custom Folder Structure is implemented in the Health-Check Job where HealthCheck and Cust-HealthCheck contain the same set of test cases. Customization, such as updates, additions, or deletions of test cases, without disturbing the original product packaged test cases or folders can be done in Cust-HealthCheck.

Figure 4-1 Summary of Custom Folder Implementation



# **Enhancing Security using HTTPS**

With the introduction of this feature, HTTPS adds a layer of encryption that helps the user to secure connection between server and clients.

When accessing a website enabled with HTTPS, users can trust that their connection is secure, ensuring the confidentiality of their data. For Jenkins to operate over HTTPS, it requires SSL certificate.

This certificate is converted into Public-Key Cryptography Standards (PKCS) 12 industry standard format and then to JKS format, which Jenkins readily accepts. The JKS format certificate is then stored in the Jenkins path, enabling the certificate to operate over HTTPS.

#### **Prerequisites**

The user needs to obtain an SSL certificate and a key from a certificate authority.

#### **Uploading SSL Certificate**

There are two methods to upload SSL certificate for running Jenkins over HTTPS:

- Upload SSL certificate in DSR NOAM
- Upload SSL certificate in ATS

An SSL certificate can be obtained from a certificate authority. After obtaining the certificate, perform the following steps to upload the certificate:

- Log in to the DSR NOAM GUI.
- 2. Navigate to Administration, then Access Control and Certificate Management.
- Upload the SSL certificate and key.

#### **Configuring JKS.YAML Properties**

Configure the following properties as listed below:

- Certificate\_uploaded\_DSR: To select the model, enter either 1 or 0 for yes or no.
- Certificate\_uploaded\_ATS: To select the model, enter either 1 or 0 for yes or no.
- Dsrcertfilename: Provide the certificate file name located in the DSR NOAM /usr/TKLC/appworks/etc/ssl/ path. Mandatory if Certificate\_uploaded\_DSR is selected.
- Dsrkeyfilename: Provide the key file name located in DSR NOAM /usr/TKLC/ appworks/etc/ssl/ path. Mandatory if Certificate\_uploaded\_DSR is selected.
- Atscertfilename: Provide the file name of the ATS certificate that has been uploaded.
   Mandatory if Certificate\_uploaded\_ATS is selected
- Atskeyfilename: Provide the file name of the ATS key that has been uploaded. Mandatory
  if Certificate uploaded ATS is selected
- Atscertstorepath: Provide the folder path where the SSL certificate and private key has been uploaded in ATS.
- Dsrnoip: Provide the DSR NOAM IP address (if the certificate has been uploaded in DSR).
   Mandatory if Certificate\_uploaded\_DSR is selected.



- Dsrusername: Provide the DSR NOAM CLI username (Default is "admusr"). Mandatory if Certificate\_uploaded\_DSR is selected.
- Dsrpassword: Provide the DSR NOAM CLI password (Default is "Dukw1@m?") User can change the password, after which it will be encrypted again. Mandatory if Certificate uploaded DSR is selected.
- httpsKeyStorePassword: Provide the password required for the certificate file (Default is "Welcome@123"). It will be stored in the encrypted form.

#### Figure 5-1 jks.yaml file

```
#Please enter either 1 or 0 in the models field : 1 for True/Yes 0 for False/No
#Please ensure that only one model runs at a time
MODELS:
    Certificate_uploaded_DSR: 0
    Certificate_uploaded_ATS: 1
FILES:
    dsrcertfilename: wildcard.crt
    dsrkeyfilename: wildcard.pem
    atscertfilename: wildcard.crt
    atskeyfilename: wildcard.pem
    atscertstorepath: /home/cloud-user/
dsrnoip: 10.75.250.54
dsrusername: admusr
dsrpassword: +UmXAjbVtnN8BJll+S3v7A= P2oeFgDK8T6BP874 mJE+VQxE2eR6JoGfD4kzSg=
```

#### Running the JKS.PY File

Run the jks.py file by using the following command:

```
python jks.py
```



The user cannot select yes for both Certificate\_uploaded\_DSR and Certificate\_uploaded\_ATS at the same time.

#### Figure 5-2 python jks.py

```
[cloud-user@mavvsskn-ats-jenkins ~j$ python jks.py
Running Pre-validation checks ...
!!!PRE-VALIDATION CHECK SUCCESSFUL!!!
Files /home/cloud-user/wildcard.crt and /home/cloud-user/wildcard.pem already exists i.e. True True
File /var/lib/jenkins/jenkinsserver.jks already exists i.e. True
Importing keystore /home/cloud-user/certificate.p12 to /var/lib/jenkins/jenkinsserver.jks ...
Entry for alias 1 successfully imported.
Import command completed: 1 entries successfully imported, 0 entries failed or cancelled

Warning:
The JKS keystore uses a proprietary format. It is recommended to migrate to PKCS12 which is an industry standard format using "k eytool -importkeystore -srckeystore /var/lib/jenkins/jenkinsserver.jks -destkeystore /var/lib/jenkins/jenkinsserver.jks -destkeystore /var/lib/jenkins/jenkinsserver.jks -deststoretype pkcs12".

Stop and restart of jenkins
[cloud-user@mavvsskn-ats-jenkins ~]$ 

[cloud-user@mavvsskn-ats-jenkins ~]$
```

#### **Configuring HTTPS File**

The files https\_config, jks.yaml and jks.py are required for running Jenkins and must not be deleted under any circumstances.



- httpPort: The current value of this parameter is -1, which should not be altered to run Jenkins through HTTPS.
- httpsPort: The current value of this parameter is 8443, which should not be altered to run Jenkins through HTTPS.
- httpsKeyStore: The current default value of this parameter is /var/lib/jenkins/ jenkinsserver.jks and is advised not to be changed unless the .jks certificate file is relocated.
- httpsKeyStorePassword: This parameter should remain the same as the password in jks.yaml file and it needs to be modified only in the jks.yaml.

#### Results after Running JKS.PY File

The python jks.py file generates output in 6 stages, which include:

- Prevalidation checks
- Checking the availability of ATS certificate and key files
- Checking the availability of Jenkinsserver.jks file
- Conversion to JKS format
- Warning for PKCS 12 format
- Restart of Jenkins

#### **Prevalidation Checks**

The console displays **PRE-VALIDATION CHECK SUCCESSFUL!!!** when the parameters in the model selection within the jks.yaml are in the correct format.

#### Figure 5-3 Prevalidation

```
[cloud-user@mavvsskn-ats-jenkins ~]$ python jks.py
Running Pre-validation checks...
!!!PRE-VALIDATION CHECK SUCCESSFUL!!!
```

#### Checking the availability of ATS certificate and key files

The result specifically focuses on the certificate uploaded in the ATS model. The script checks whether the ATS uploaded certificate and key files exist in the ATS uploaded folder path provided in the jks.yaml file.

#### Figure 5-4 ATS certificate

```
[cloud-user@mavvsskn-ats-jenkins ~]$ python jks.py
Running Pre-validation checks...
!!!PRE-VALIDATION CHECK SUCCESSFUL!!!
Files /home/cloud-user/wildcard.crt and /home/cloud-user/wildcard.pem already exists i.e. True True
```

#### Checking the availability of Jenkinsserver. jks file

The script confirms the availability of the <code>jenkinsserver.jks</code> file and removes it from the Jenkins home path to place the newly created <code>jks</code> file.



#### Figure 5-5 Jenkinsserver.jks

```
[cloud-user@mavvsskn-ats-jenkins ~]$ python jks.py
Running Pre-validation checks...
!!!PRE-VALIDATION CHECK SUCCESSFUL!!!
Files /home/cloud-user/wildcard.crt and /home/cloud-user/wildcard.pem already exists i.e. True True
File /var/lib/jenkins/jenkinsserver.jks already exists i.e. True
```

#### **Conversion to JKS format**

The script generates a confirmation message indicating the creation of the jks format file:

#### Figure 5-6 JKS format conversion

```
Importing keystore /home/cloud-user/certificaté.p12 to /var/lib/jenkins/jenkinsserver.jks...
Entry for alias 1 successfully imported.
Import command completed: 1 entries successfully imported, 0 entries failed or cancelled
```



The console displays a warning message during the conversion to jks format, as PKCS 12 is the recommended industry standard. It can be ignored, as jks format is required for Jenkins to run over HTTPS.

#### Figure 5-7 Warning

```
Warning:

The JKS keystore uses a proprietary format. It is recommended to migrate to PKCS12 which is an industry standard format using "k eytool -importkeystore -srckeystore /var/lib/jenkins/jenkinsserver.jks -destkeystore /var/lib/jenkins/jenkinsserver.jks -destkeystore /var/lib/jenkins/jenkinsserver.jks -deststoretype pkcs12".
```

#### **Restart of Jenkins**

Restarting Jenkins results in displaying the Jenkins home path.

#### Figure 5-8 Restart of jenkins

```
Stop and restart of jenkins
/var/lib/jenkins
```

#### Conclusion

By configuring SSL certification, Jenkins can operate over HTTPS, ensuring secure communication between client and the Jenkins web interface. The Jenkins server is securely accessible through HTTPS port using the following URL: https://cats ip>:8443.



Figure 5-9 HTTPS Enabled Log in Screen



## **Test Case Execution**

## 6.1 Prerequisites for Test Case Execution

This section provides information about the prerequisites that must be met in the following sequence before running the test cases:

1. Ensure no hyphen is present in the stack name of NOAM and SOAM while deploying the VDSR stack through VNFM.

#### 2. Location of the Test Cases

- The Cust-Roaming-Suite directory path is /var/lib/jenkins/workspace/ Regression/Cust-Roaming-Suite.
- The Cust-Core-DSR directory path is /var/lib/jenkins/workspace/ Regression/Cust-Core-DSR.
- The New-Features are located in /var/lib/jenkins/workspace/New-Features
- The Performance test cases are located in /var/lib/jenkins/workspace/ Performance/Radius\_Traffic
- All Cleanup pipeline test cases are located in /var/lib/jenkins/workspace/ Cleanup/Cust-Cleanup-DSR
- All DSA stateless and stateful pipeline test cases are located in the /var/lib/ jenkins/workspace/DSA file.
- All MDS pipeline test cases are located in the /var/lib/jenkins/workspace/MDS file
- All vSTP test cases are divided into four different suites:

```
/var/lib/jenkins/workspace/vSTP_Regression/
behave_test_framework/vSTP-Suite1/
```

/var/lib/jenkins/workspace/vSTP\_Regression/
behave\_test\_framework/Cust-vSTP-Suite2/

/var/lib/jenkins/workspace/vSTP\_Regression/
behave\_test\_framework/Cust-vSTP-Suite3/

/var/lib/jenkins/workspace/vSTP\_Regression/
behave\_test\_framework/Cust-vSTP-Suite4/

/var/lib/jenkins/workspace/vSTP\_Regression/
behave test framework/Cust-vSTP-Suite5/

/var/lib/jenkins/workspace/vSTP\_Regression/
behave\_test\_framework/Cust-vSTP-Suite6/

#### 3. SUT Requirements



Table 6-1 DSR and SDS SUT Details

Server	Quantity	
DSR SUT		
DSR NOAM Active	1	
DSR NOAM Standby	1	
DSR Signaling SOAM Active	1	
DSR Signaling SOAM Standby	1	
DA-MP	2	
IPFE	2	
SDS SUT		
SDS NOAM Active	1	
SDS NOAM Standby	1	
Query Server	1	
SDS Signaling SOAM Active	1	
SDS Signaling SOAM Standby	1	
DP Server	1	

#### Table 6-2 vSTP SUT Details

Server	Quantity
vSTP SUT	
vSTP NOAM Active	1
vSTP NOAM Standby	1
vSTP Signaling SOAM Active	1
vSTP Signaling SOAM Standby	1
MP	2

#### (i) Note

When the SUT is created using VNFM, ensure that Mediation, FABR, and RBAR features are enabled.

#### 4. Update SUT Information in ATS

Following are the mandatory steps for Cleanup, New-Features, Performance, Regression, DSA, MDS, VDSR-HealthCheck suites:

a. Update /home/cloud-user/Verizon-drop1/dsr-atsV2/dut.yaml with the SUT details. The same will be automatically copied to the required location when the execution starts from Jenkins.

Update dut.yaml file by referring to the following file:

#### DSRVIP:

name: DSRNOVIPIP: 10.75.191.136name: DSRSOVIPIP: 10.75.191.222

#Pick the DSR XMI/XSI IPv6/ipv4 addresses from Main Menu:
Configuration -> Networking -> Devices GUI screen



```
SIGNALING IPs:
      - IP: 10.196.14.175
        type: LocalIp
      - IP: 10.196.15.170
        type: LocalIp
      - IP: 10.196.14.124
        type: IpfeTsa
      - IP: 10.196.14.124
        type: IpfeTsa
    ipfeInitiatorDampIp:
      - IP: 10.196.14.175
    MP_XMI:
      - IP: 10.75.191.133
        type: LocalIp
      - IP: 10.75.191.115
        type: LocalIp
   MP_IMI:
      - IP: 192.167.1.125
        type: LocalIp
      - IP: 192.167.1.203
        type: LocalIp
# If DSR ips are ipv6, entire dut file should be updated with ipv6 ips.
# If Ipv6 SDS is not available, make sure to comment each parameter in
SDS or remove ipv4
  ips from yaml file.
   SDSVIP:
    - name: SDSNOVIP
    IP: 10.75.191.130
    - name: SDSSOVIP
   IP: 10.75.191.45
    - name: SDSQS
   IP: 10.75.191.168
   SDS IMI:
    - name: SDP00imi
      IP: 192.167.1.4
    - name: SDP01imi
      IP: 192.167.1.108
   UDR_IMI:
    - name: UDR00imi
      IP: 192.167.1.3
    - name: UDR01imi IP: 192.167.1.10
   UDR:
    - name: udr
```

#DSR/SDS NOAM host and SOAM host IPs should be VIPs.

- IP:10.75.157.241



#If host IPs are in IPv6 format, IP address should be enclosed with [].

```
UI data:
- name: UIData
 PassWordUI: #######
 UserNameUI: #######
 UDR: https://10.75.157.242
 noamHost: http://10.75.191.136
 soamHost: http://10.75.191.222
 StandBysoamHost: http://10.75.191.33
 StandBynoamHost: http://10.75.191.92
 sdsnoamHost: http://10.75.191.130
 sdssoamHost: http://10.75.191.45
 StandBysdssoamHost: http://10.75.191.85
 StandBysdsnoamHost: http://10.75.191.85
 ATSIP:
  - name: ATSXMIIP
   IP: 10.75.157.102
```

- b. Update /home/cloud-user/Verizon-drop1/dsr-atsV2/auth.yaml file. The same is automatically copied to the required location when the execution starts from Jenkins. Server credentials, such as username and password, displayed in the following image can be updated if required.
- c. Perform the following command to verify if the jenkins is running:

```
ps -eaf | grep jenkins
```

#### **Output:**

#### Figure 6-1 Output

```
cloud-u+ 53219 1 51 03:12 pts/0 00:00:04 /usr/bin/java -Dhudson.model.WorkspaceCleanupThread.disabled=true -jar /us r/lib/jenkins/jenkins.war --config=/home/cloud-user/https_config cloud-u+ 53326 1253 0 03:12 pts/0 00:00:00 grep --color=auto jenkins
```

If not, run the following command:

```
./jenkins_start.sh
```

- d. The rerun functionality in the roaming suite can be changed by updating the following values in the dut.yaml file:
  - RERUN\_COUNT: 1
  - SDS ENABLE: N

Following are the mandatory tasks for vSTP-Regression suite:

a. Update /home/cloud-user/Verizon-drop1/vSTP-ats/ vstp\_signalling\_ips.yaml with the SUT details for vSTP test cases. The same will be automatically copied to the required location when the execution starts from



Jenkins. Edit the vstp\_signalling\_ips.yaml file. Update the vstp\_signalling\_ips.yaml file by referring to the following file:

```
VSTP SIGNALLING IP:
# MP XSI IP on which traffic is to be run
  - name: XSI1
    IP: 121.131.152.209
MEAT_SIGNALLING_IP:
# MEAT XSI IP from which traffic is to be run
  - name: meat1
    IP: 121.131.152.207
ACTIVE_SO_IPS:
#Current active SO XMI IP
  - name: so sq1
    IP: 10.75.162.138
  - name: so sq2
    IP: 10.75.162.245
ACTIVE NO IP:
#Current active NO XMI IP
   IP: 10.75.162.199
VSTP TPCs:
#TPC not to be changed to be kept as such
  - vstp_tpc_itui: 3-45-4
   vstp_tpc_itun: '8734'
   vstp tpc ansi: 5-44-8
# XMI IP of meat machine from which traffic is to run
MEAT IP: 10.75.162.228
UDR:
#UDR IP for future use
  - name: udr1
   IP: 10.75.218.250
NUM MP PER SITE: 2
ALL_SITE_XSI1_IP:
# Name and XMI IP of all MP's present
  - name: so1mp1
    IP: 121.131.152.209
  - name: so1mp2
    IP: 121.131.152.140
```

- b. Update /home/cloud-user/Verizon-drop1/vSTP-ats/passwords/ auth.yaml. The same will be automatically copied to the required location when the execution starts from Jenkins. Server credentials, such as username and password, displayed in the following image can be updated if required.
- c. Perform the following command to verify:

```
ps -eaf | grep jenkins
```

Output:

#### Figure 6-2 Output

```
cloud-u+ 53219 1 51 03:12 pts/0 00:00:04 /usr/bin/java -Dhudson.model.WorkspaceCleanupThread.disabled=true -jar /us
r/lib/jenkins/jenkins.war --config=/home/cloud-user/https_config
cloud-u+ 53326 1253 0 03:12 pts/0 00:00:00 grep --color=auto jenkins
```



If not, run the following command:

- ./jenkins\_start.sh
- d. Disable firewall from an active SOAM of vSTP as shown in the below image.



e. To access the MPs from the ATS machine, the user must run the vSTP suite with the following command for each MP. Replace <stp ip> with XMI IP of one MP at a time.

```
cat ~/.ssh/id_rsa.pub | ssh admusr@<stp ip> "mkdir -p ~/.ssh && chmod
700 ~/.ssh && cat >> ~/.ssh/authorized_keys"
```

#### 5. Enabling the Feature on SUT

Below is the list of suites in ATS 9.0.2 and later, along with their corresponding mandatory DSR features that must be activated:

Table 6-3 list of the suites in ATS 9.0.2

Suit Name	DSR's Features Required to be activated
Regression	Custom Roaming RBAR, Mediation Custom- Core FABR, Mediation, RBAR
New -Features	RSA, RBAR
DSA	DCA
Performance	FABR

#### (i) Note

Before activating and deactivating RSA and DSA using Jenkins GUI, delete both the files /root/.ssh/known hosts and /home/cloud-user/known hosts files.

#### Activation through automation

Before starting the execution of any test suites, its required to activate RBAR, FABR, and Mediation. The activation process for these features must be carried out through the Regression Suite. User can either select *All* option as shown below or, you can select to run each feature (RBAR, FABR, and Mediation) individually.



Figure 6-3 Choosing a Suite

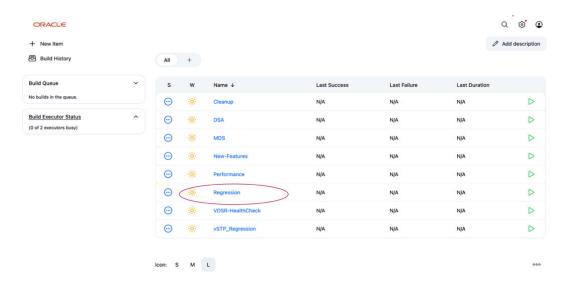
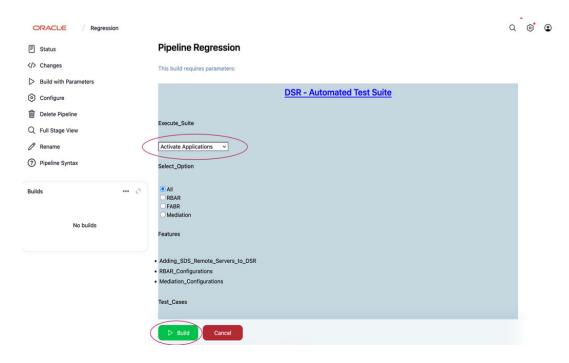


Figure 6-4 Activate application



Location of all the activation related feature files:

- RBAR, FABR and Mediation
  - The feature activation file is located in the following directory path:/var/lib/ jenkins/workspace/Regression/Cust-Roaming-Suite/ Activation.feature
- RSA



The RSA activation file is located in the following directory path:

/var/lib/jenkins/workspace/New-Features/Activate\_RSA.feature

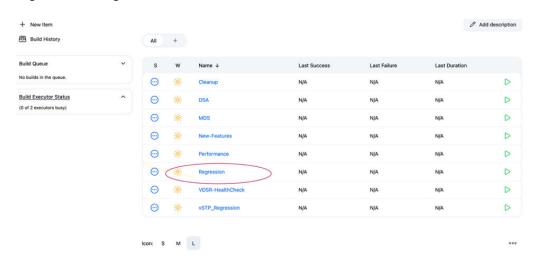
- DSA
  - The DSA activation file is located in the following directory path: /var/lib/ jenkins/workspace/DSA/Activate\_DSA.feature

#### Activating the features

**RBAR FABR Mediation:** 

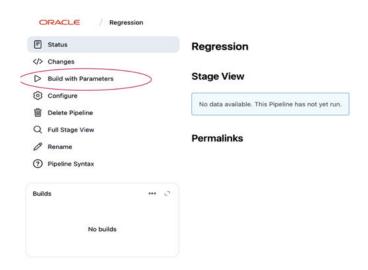
- a. Log in to ATS Jenkins GUI https://<ATS IP>:8443.
- b. To activate ATS Jenkins GUI, click **Regression**, as shown in the following image:

Figure 6-5 Regression



c. Click **Build with Parameters** to build the parameters required for the activation.

Figure 6-6 Build with parameters





- d. You can either select the All option as shown below or, you can select to run each feature (RBAR, FABR, and Mediation) individually.
- e. Click Build to Activate Applications.

Figure 6-7 Build

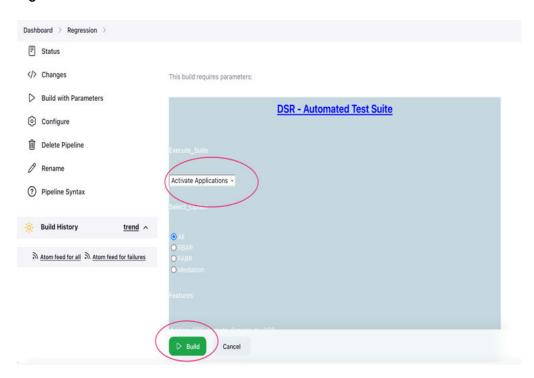
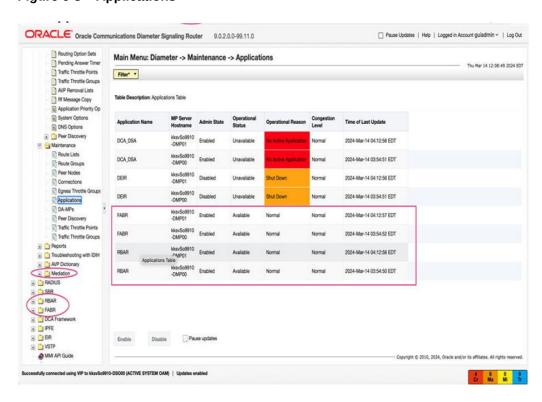


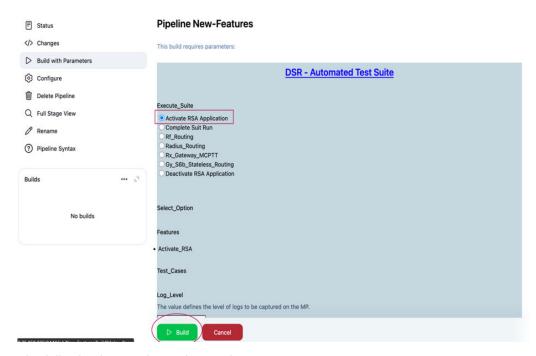
Figure 6-8 Applications





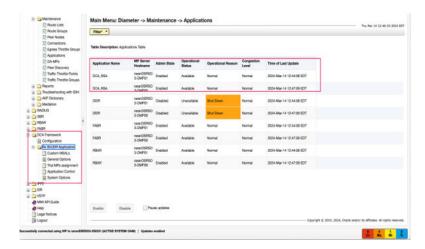
- f. RSA:
  - i. Log in to ATS Jenkins GUI https://<ATS IP>:8443.
  - ii. Select New-Features, and then click Build with Parameters.
- g. Select Activate RSA Application, and click Build.

Figure 6-9 Activate RSA



The following image shows the result

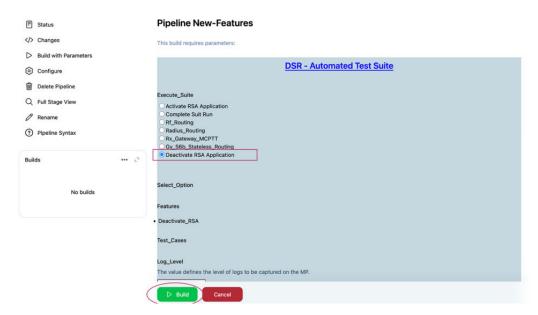
Figure 6-10 Result



To deactivate, select Deactivate RSA Application, and click Build.



Figure 6-11 Deactivate



- j. To configure DSA:
  - i. Log in to ATS Jenkins GUI https://<ATS IP>:8443.
  - ii. Select **DSA**, as shown in the following image, and then click **Build with Parameters**

Figure 6-12 DSA

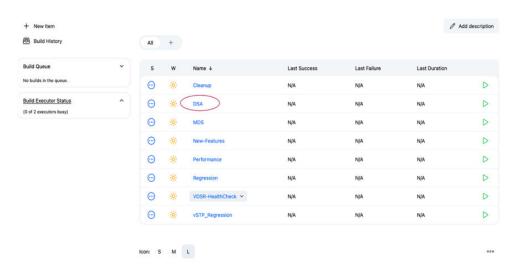
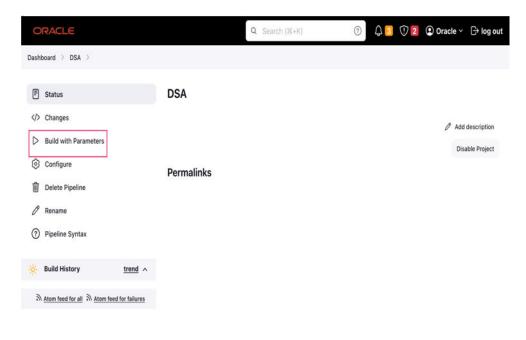


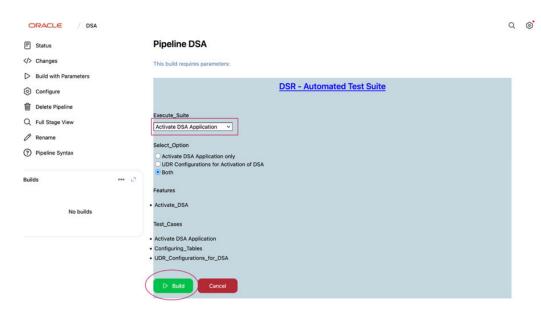


Figure 6-13 DSA



k. To activate, select **Activate DSA Application**, and then click **Build**.

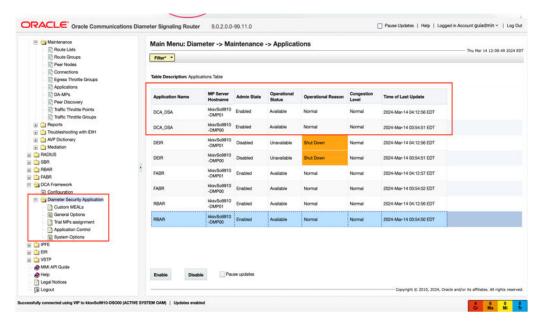
Figure 6-14 Activate DSA Application



I. Following is the result shown in the image:

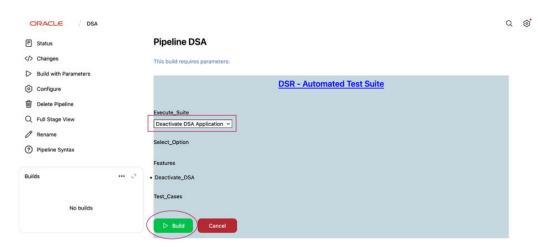


Figure 6-15 Result



m. To deactivate, select **Deactivate DSA Application**, and then click **Build**.

Figure 6-16 Deactivate DSA Application



#### To configure MDS:

Login to ATS Jenkins GUI.

https://<ATSIP>:8443

Select MDS, as shown in the following image, and click Build with Parameters.



Figure 6-17 MDS Selection

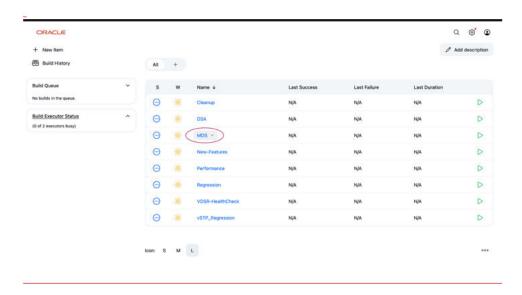


Figure 6-18 Build with Parameters



To activate, select Activate MDS Application, and click Build.



Figure 6-19 Activate MDS



Figure 6-20 Result



To deactivate, select Deactivate MDS Application, and click Build.



Figure 6-21 Deactivate MDS Application



#### (i) Note

- Deactivate DSA before activating RSA, and vice versa.
- Activation and Deactivation option for respective suites are available in DSA, MDS, and New Features Suites respectively.
- For FABR, RBAR, and Mediation, there is no **Deactivate** option, since they serve as prerequisites for multiple suites.

#### Activation Manually (As done in release 9.0.1 and before Excluding DSA)

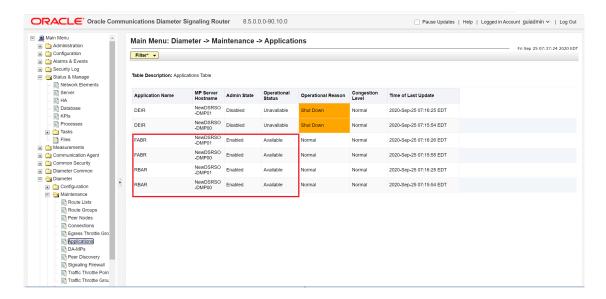
#### (i) Note

Ensure there are no backup files in the /var/TKLC/db/filemgmt/backup location while running the database restore test case on SOAM. If there are backup files, then the Mediation feature must be enabled in each backup file. Otherwise, the Mediation feature might get disabled.

Ensure RBAR and FABR are enabled as displayed in the following image:

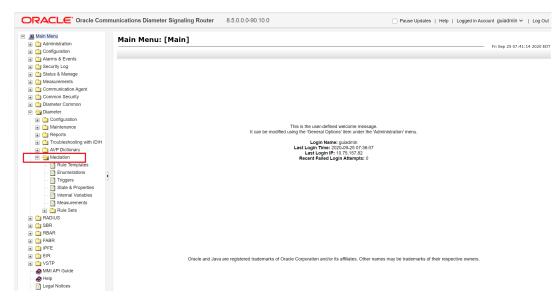


Figure 6-22 RBAR and FABR Enabled on the DSR GUI



Ensure Mediation is enabled as displayed in the following image:

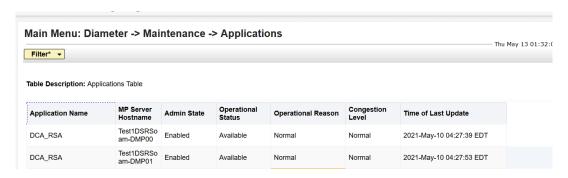
Figure 6-23 Mediation Enabled on the DSR GUI



Ensure DCA is enabled as displayed in the following image:



Figure 6-24 DCA Enabled on the DSR GUI



 Configure ComAgent connections on DSR by referring to Diameter Signaling Router Cloud Installation Guide.

(i) Note

DSR BUG 29035530 may lead to ATS GUI case failure due to a Security Violation error when the user performs any common GUI operation. This issue can be identified in the /var/TKLC/appw/logs/Process/AppWorksGui.log file by searching for the keyword" Security violation by a user".

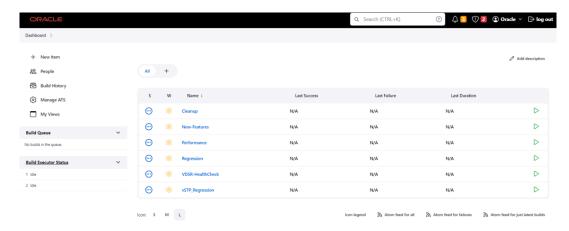
## **6.2 Test Case Execution Process**

Perform the following procedure to run the test cases and check the VDSR health status. Complete the tasks described in Prerequisites for Test Case Execution.

- Go to https://<ATS\_IP>:8443/.
- 2. Log in to the Jenkins GUI using valid credentials.

The system displays the Jenkins GUI.

Figure 6-25 Jenkins GUI



3. To run the required test cases, in the Fav column, click the corresponding

 $\triangleright$ 



- vSTP\_Regression: This suite runs vSTP related regression test cases. It has four in suites which are sets of features related to vSTP functionality. If a single feature must run, it can run only through CLI.
- New-Features: This suite contains the following new features:
  - Rf\_Routing
  - Radius Routing
  - Rx\_Gateway\_MCPTT
  - Gy\_S6b\_Stateless\_Routing
- **Performance**: This suite verifies whether the performance testcases are passed on the current DSR build. It runs the Relay and FABR traffic. This suite consists of Diameter Traffic and Radius Traffic execution suites.
- **Regression**: This suite consists of all the Roaming and Core testcases. It contains all the testcases as per the requirement document.
- VDSR-HealthCheck: This suite verifies the status of VDSR. This suite checks whether all the prerequisites are completed.
- Cleanup: This suite consists of cleanup feature to perform cleanup on SUT.
- DSA: Contains two suites of DSA stateful and stateless test cases.
- MDS consists three suites of test cases: MDS Basic Calls, MDS DSA Stateless, and MDS DSA Stateful.

#### ① Note

- Running MDS suites requires both UDR and SDS.
- User can run these suites in any sequence, however, it is recommended to run the VDSR-HealthCheck suite.
- 4. To perform the VDSR health check, click the corresponding  $^{\triangleright}$  button.



a. In the lower-left corner of the GUI, in the Build History area, click



to verify the log in Console Output.



The following image provides an example of a console output:



Figure 6-26 Console Output



b. If the log contains DSR alarms, clear the alarm and then perform the VDSR health check again by clicking the corresponding health check button (



).







If the build is successful, in the Build History area, the

5. To perform Regression, click the corresponding

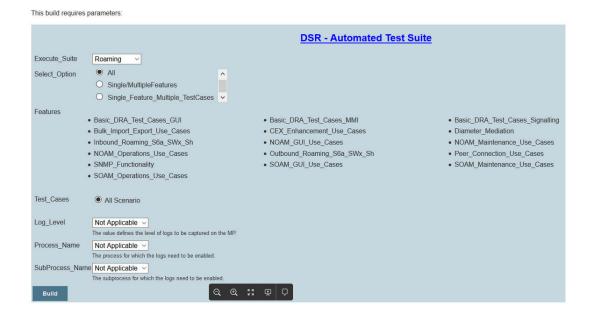


button.

The DSR - Automated Test Suite page appears.



#### Figure 6-27 Regression Parameters



a. Configure the parameters as described in Regression Parameters.

User can change the rerun count in the  $\var/\lib/\jenkins/\workspace/\$  Regression directory.

b. Click Build.



In the lower-left corner of the GUI, in the Build History area, click



to verify the log in Console Output.

6. To verify the performance, click corresponding

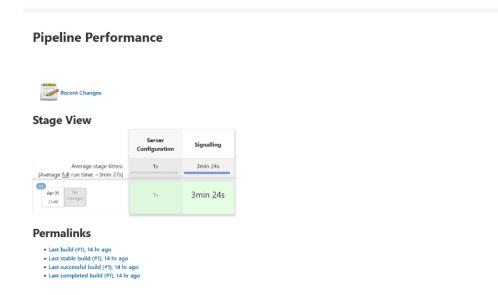


button.

The following image provides an example of a Performance build.



Figure 6-28 Performance Build



In the lower-left corner of the GUI, in the Build History area, click



The lower-left corner of the GOI, in the Build Histo

to verify the log in Console Output.

6.2.1 Regression Parameters

The following table describes regression build parameters:

Table 6-4 Regression Build Parameters

Parameter	Description
Execute_Suite	By default, the value of this parameter is <b>Roaming</b> . You can run either <b>Roaming</b> or <b>Core_DSR</b> suite.
Select_Option	<ul> <li>This parameter has three radio buttons to perform the following tasks:</li> <li>All: To run all the Roaming cases.</li> <li>Single/MultipleFeatures: To run multiple feature files together but not all. You must enable the check box of the required features to be executed under the Features parameter.</li> <li>Single_Feature_Multiple_TestCases: To run single or multiple testcases within the same feature file. You must enable the radio button of the required features to be executed under the Features parameter. When it is completed, select the check box of the desired testcase to be executed under the Test_Cases parameter on the Jenkins GUI.</li> </ul>



Table 6-4 (Cont.) Regression Build Parameters

Parameter	Description
Log_Level	This parameter defines the log level of DSR that can be enabled on the MP. It provides a drop-down of pre-defined log levels. The default value is <b>Not Applicable</b> . This parameter works only when the Single_Feature_Multiple_TestCases option is selected.
Process_Name	This parameter allows users to define the process name for which the logs are being enabled. It provides a drop-down of pre-defined processes in DSR. The default value is <b>Not Applicable</b> . This parameter works only when the Single_Feature_Multiple_TestCases option is selected.
SubProcess_Name	This is a string parameter. Users can parse the value of sub process for which the logs are enabled, for example, DRL, DCL, FBR, RBR, and so on. The default value is <b>Not Applicable</b> . This parameter works only when the Single_Feature_Multiple_TestCases option is selected.