



# **Signaling Delivery Controller**

## **Release Notes**

### **5.2 CF 6**

Catalog Number: RG-024-52-2 Ver. 2

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## About this Document

Document Name: F5 Signaling Delivery Controller Release Notes

Catalog Number: RG-024-52-2 Ver. 2

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## Document Objectives

This document provides information about the features introduced, known issues, and limitations included in the F5 SDC 5.2 release.


## Document History

| Revision Number | Change Description | Change Location            |
|-----------------|--------------------|----------------------------|
| V.2             | Update versions    | <i>Release Information</i> |
|                 |                    |                            |


## Conventions

The style conventions used in this document are detailed in Table 1.

**Table 1: Conventions**

| Convention  | Use   |
|---|---|
| <b>Normal Text Bold</b>   | Names of menus, commands, buttons, user-initiated CLI commands and other elements of the user interface |
| <i>Normal Text Italic</i>   | Links to figures, tables, and sections in the document, as well as references to other documents        |
| Script  | Language scripts  |
| Courier   | File names  |
|  Note: | Notes which offer an additional explanation or a hint on how to overcome a common problem               |



| Convention   | Use  |
|--|--|
|  Warning: | Warnings which indicate potentially damaging user operations and explain how to avoid them |



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## 1. Release Information

This build consists of the following F5 SDC product software packages:

- salt-srv5.2\_6-4.noarch.rpm
- SDC Software: sdc5.2\_6\_1-5.2\_6-1.x86\_64.rpm
- Tripo: 1.5.0-57.x86\_64.rpm

### 1.1 ISO Image Information (Bare Metal Installations)

The F5 SDC software for bare metal installations is packaged and supplied as an ISO image.

The following information describes the ISO image provided to install this release:

- Filename: iso-5.2\_6-4.iso
- MD5: 9025e2536e19774df06c0f2c399297c3
- Date: Jan 11, 2024 07:47:10 AM
- Size: 2,639,572,992 bytes

### 1.2 QCOW2 Image Information (OpenStack Virtual Installations)

The F5 SDC software for virtual OpenStack installations is packaged and supplied as two QCOW images – master and minion.

The following information describes the two QCOW images provided to install this release:

- Filename: master-5.2\_6-4.qcow2
- MD5: b2dc4c1d23c6ec32e44fa3d7c4e67a0a
- Date: Jan 11, 2024 07:55:18 AM



- Size: 4,540,071,936 bytes
- Filename: minion-5.2\_6-4.qcow2
- MD5: 36713aea795155dd542b5cbef05bfe1a
- Date: Jan 11, 2024 07:54:32 AM
- Size: 2,449,997,824 bytes

### 1.3 Supported Browsers

The F5 SDC Web UI is supported by the following browsers:

- Internet Explorer: Version 1909 OS build 18363.1316
- Microsoft Edge: Version 88.0.705.56 (Official build) (64-bit)
- Mozilla Firefox 85.0
- Google Chrome: Version 88.0.4324.104 (Official Build) (64-bit)

### 1.4 Supported Operating Systems

Bare Metal deployments of SDC 5.2 are certified to run on the following operating system:

- Red Hat Enterprise Linux (RHEL) 8.8 64 bit

### 1.5 Java Version

SDC supports openjdk-1.8.0.392.b08-4.

### 1.6 Tomcat Version

The supported Tomcat version is 8.5.96-24.x86\_64.

### 1.7 Cassandra Version

The installed Cassandra version is 4.0.5.

### 1.8 ELK Component Versions

The current supported packages and versions are:



- Elastic search: elasticsearch-7.17.8-1.x86\_64
- Kibana: kibana-7.17.8-1.x86\_64
- Fluent: td-agent-3.8.0-0.el8.x86\_64

## 1.9 Supported Firmware Versions



Note: F5 will not support HPE hardware that is no longer supported by the vendor.

This is due to HPE and RedHat Life Cycle Policy changes:

[https://techlibrary.hpe.com/us/en/enterprise/servers/supportmatrix/redhat\\_linux.aspx](https://techlibrary.hpe.com/us/en/enterprise/servers/supportmatrix/redhat_linux.aspx)

The following firmware is certified to run with BL Gen10-Synergy 480 Plus:

| Firmware Type                    | Version                |
|----------------------------------|------------------------|
| Synergy 4820C 10/20/25Gb CNA     | 8.55.22                |
| iLO5                             | 2.44                   |
| HPE Smart Array P204i-c SR Gen10 | 3.53                   |
| System ROM                       | I44 v1.40 (04/28/2021) |

The following firmware is certified to run with DL Gen9:

| Firmware Type                              | Version          |
|--|------------------|
| HPE Ethernet 1Gb 4-port 331FLR Adapter -   | 20.19.51         |
| HPE Ethernet 1Gb 4-port 331i Adapter - NIC | 20.19.51         |
| iLO  | 2.80 Jan 25 2022 |
| Server Platform Services (SPS) Firmware    | 3.0.6.267.1      |
| Smart Array P440ar Controller              | 7.00             |





| Firmware Type | Version                |
|---------------|------------------------|
| System ROM    | P89 v2.92 (11/23/2021) |

The following firmware is certified to run with DL Gen10:

| Firmware Type                              | Version                |
|--|------------------------|
| HP Ethernet 1Gb 4- port 331FLR Adapter     | 20.19.51               |
| HP Ethernet 1Gb 4- port 331T Adapter       | 20.19.51               |
| HPE Ethernet 1Gb 4-port 331i Adapter - NIC | 20.19.51               |
| HPE Smart Array P408i-a SR Gen10           | 3.53                   |
| iLO 5                                      | 2.44 Apr 30 2021       |
| Server Platform Services (SPS) Firmware    | 4.1.4.423              |
| System ROM                                 | U30 v2.42 (01/23/2021) |



## 2. What's New in This Release?

This section describes the changes implemented in the F5<sup>®</sup> Traffic<sup>®</sup> Signaling Delivery Controller<sup>™</sup> (SDC) 5.2 release.

### 2.1 Redhat Upgrade

The Redhat operation system was upgraded to version 8.8.

### 2.2 Tomcat Upgrade

The Apache Tomcat was upgraded to version 8.5.96-24.



## 3. Fixed Bugs

This section describes the bug fixes that are included in Release 5.2.

### 3.1 Bug Fixes in CF 6

| ID       | Description   | Related ID |
|----------|---|------------|
| SDC-2347 | Previously, Kibana logrotate was disabled.<br>Now, Kibana logrotate is enabled. |            |

### 3.2 Bug Fixes in CF 5

| ID       | Description   | Related ID |
|----------|---|------------|
| SDC-2253 | Previously, when editing a virtual server using a SOAP UI request the below warnings appear at<br><code>/var/log/rsyslog/&lt;NODE NAME&gt;.tomcat.webuilog.log</code> :<br><br>2023-03-21 10:57:41,390 ERROR<br>[MgmtConsoleCpfConnector] - Internal warning:<br>protocol Unknown is not supported.<br><br>2023-03-21 10:57:45,308 ERROR<br>[MgmtConsoleCpfConnector] - Internal warning:<br>protocol SIGTRAN is not supported.<br><br>2023-03-21 10:57:47,495 ERROR<br>[MgmtConsoleCpfConnector] - Internal warning:<br>protocol GTP is not supported.<br><br>2023-03-21 10:57:48,770 ERROR<br>[MgmtConsoleCpfConnector] - Internal warning:<br>protocol EAP is not supported. |            |



| ID       | Description  | Related ID |
|----------|--|------------|
|          | <p>2023-03-21 10:57:51,802 ERROR</p> <p>[MgmtConsoleCpfConnector] - Internal warning: protocol DiameterTest is not supported.</p> <p>Now, the SOAP request is handled properly and there are no warnings.</p>  |            |
| SDC-2299 | <p>Previously, when trying to access the Tripo WebMgrStat using Telnet to port 5555 or using an empty SOAP request, the WebMgrStat failes and all Tripo processes are restarted.</p> <p>Now, the invalid requests are handled and the Tripo process are not restarted.</p> | SDC-374    |

### 3.3 Bug Fixes in CF 4

| ID                   | Description  | Related ID |
|----------------------|--|------------|
| SDC-2081<br>SDC-2254 | <p>Previously, Catalina log files were not managed by the logrotate.</p> <p>Now, Catalina log files are managed by the logrotate.</p>  |            |
| SDC-2207             | <p>Previously, in case the site topology is configured with 2 networks (public and private/local network) for the same interface, configuration files that are created during the installation process were causing a conflict which causes the VIP to fail/failover every hour – when the Salt reimplemented the configuration (“salt highstate”).</p> <p>Now, the configuration is created properly.</p> |            |
| SDC-2220             | <p>Previously, the Tripo start script was failing to delete the <code>/dev/shm/Tripo_*.m</code> files due.</p> <p>Now, the files are deleted properly and Tripo starts es expected.</p>  |            |



| ID       | Description   | Related ID |
|----------|---|------------|
| SDC-2221 | <p>Previously, the Cassandra was printing the below warning at startup:</p> <p>Maximum number of memory map areas per process (vm.max_map_count) 262144 is too low.</p> <p>Now, the vm.max_map_count is correct and the warning is not printed.</p>   |            |
| SDC-2222 | <p>Previously, the Salt Master was negotiating the CQL connection protocol version when connecting to the Cassandra DB.</p> <p>Leading to these warnings:</p> <p>Downgrading core protocol version from 66 to 65</p> <p>Downgrading core protocol version from 65 to 5</p> <p>Now, the version is set to 5.</p>   |            |
| SDC-2225 | <p>Previously, “<b>sysctl -a</b>” output may show different values then <b>/etc/sysctl.conf</b>.</p> <p>Now, the configuration is loaded properly.</p>  |            |
| SDC-2234 | <p>Previously, the “<b>defaultGateway</b>” field was marked as ”optional” and in case the field was missing int the topology.xml, the installation was completed successfully with partial network configuration (all interfaces except MGMT and IC were missing IPs).</p> <p>Now, the “<b>defaultGateway</b>” field in the topology.xsd is marked as ”required”.</p> |            |
| SDC-2240 | <p>Previously, when adding a new peer profile using the Soap-API, the peer profile is created with wrong Transport Layer SCTP configurations.</p> <p>Now, the peer profile is created correctly.</p>  |            |



| ID       | Description  | Related ID |
|----------|--|------------|
| SDC-2250 | <p>Previously, The NMS's occasionally fail to write counters and statistics to the Cassandra DB, leading to missing records in the WebUI reports.</p> <p>Now, NMS's are writing counters and statistics to the Cassandra DB as expected.</p> |            |

### 3.4 Bug Fixes in CF 3

| ID       | Description  | Related ID |
|----------|--|------------|
| SDC-2022 | FEP OutOfDirectMemoryError   |            |
| SDC-1948 | Multi-connection peers appearing with wrong IPs in webUI after reconnecting.                           |            |
| SDC-1949 | When a client peer re-connects with either a new IP or a new port, it is not updated in the PeerTable. |            |
| SDC-1951 | Client peer port not updating in webUI after re-connecting with a different port.                      |            |
| SDC-2007 | A disconnection between salt minion and master sometimes caused rolling upgrade failure.               |            |

### 3.5 Bug Fixes in CF 2

| ID       | Description   | Related ID |
|----------|---|------------|
| SDC-1312 | <p>Previously, when rebooting a server, all Monit processes started automatically regardless to their previous state.</p> <p>Now, the Monit process's state is kept after reboot.</p> |            |
| SDC-1314 | <p>Previously, ELK data was stored at /opt/elk.</p> <p>Now, the data is stored at /data/elk.</p>  |            |



| ID       | Description  | Related ID |
|----------|--|------------|
| SDC-1333 | <p>Previously, there were no dedicated logs for keepalived &amp; firewallld.</p> <p>Now, there are dedicated logs at /var/log/ directory.</p>  |            |
| SDC-1347 | <p>Previously, when setting the peer profile for an existing peer, the new peer profile configuration from the parent - peer profile was not inherited. Now, the default creation of "DualStackEnabled=false" from DiameterConfigurationHandler.java has been removed and the inherited peer profile configuration is enabled.</p>   |            |
| SDC-1445 | <p>Previously, in a multi-site setting, a session may have expired prematurely when the Tripo reset the session timeout timer using a wrong value, leading to CCR-U requests failures.</p> <p>Now, the timer mechanism is improved so that the original session timeout timer resets correctly upon each GET for session updates, such as CCR-U/RAR requests.</p>  |            |
| SDC-1634 | <p>Previously, during a Rolling Upgrade, in case one node is successfully completed the <b>tomcatUpgrade</b> phase and fail to upgrade the second for any reason, there was no option to continue/resume the upgrade since the <b>tomcatUpgrade</b> method is identifying the first node was upgraded and exit.</p> <p>Now, the method will continue to check the second node and will upgrade it if needed.</p> |            |

## 3.6 Bug Fixes in CF 1

There were no fixed bugs in CF1.







## 4. Known Issues

This section describes the known issues that are included in Release 5.2.

### 4.1 Known Issues in CF 5 (or lower)

| ID       | Description  | Related ID |
|----------|--|------------|
| SDC-2422 | Rolling Upgrade failed when upgrading from CF5 (or lower) to CF6.<br><br>See <i>F5 SDC 5.2 Bare Metal System Upgrade</i> - section <i>Upgrade from CF-5 or lower to CF-6 or higher</i> . |            |

### 4.2 Known Issues in CF 2

| ID       | Description   | Related ID |
|----------|---|------------|
| SDC-1974 | Installing Security Bulletin for CF2 fails when running<br><br><i>/opt/traffic/scripts/osRollingUpgrade.sh -l</i> .<br><br>See SDC-1974 for the workaround. |            |

### 4.3 Known Issues in CF 1

| ID        | Description   | Related ID |
|-----------|---|------------|
| SDC-965   | Occasionally, upon first installation, the Master server may not recognize the Traffic pillar, causing the installation to stop.<br><br>The following error is generated "Pillar failed to render with the following messages:", "Failed to load ext_pillar traffic_pillar: 'traffic'"'<br><br>Workaround: Run high state manually: salt '*' state.highstate queue=True |            |
| SDC- 1277 | Currently, ss command does not show sctp statistics by default. To enable this, run <b>modprobe sctp_diag</b>   |            |



| ID | Description   | Related ID |
|----|---|------------|
|    | You can opt to use netstat instead of the ss command. |            |



## 5. Limitations

This section describes the limitations that are included in Release 5.2.

### 5.1 Limitations in CF 2

| ID       | Description   | Related ID |
|----------|---|------------|
| SDC-1324 | The network name should not exceed 17 characters due to the firewall zone name length.<br><br>A validation was added to the <code>/srv/traffix/pillar/traffix_validate.py</code> script.  |            |
| SDC-1430 | When configuring <code>rhel-system-roles</code> routes (in Bare Metal or Open Stack environments), blackhole routing types will be configured with <code>keepalived</code> routes and will not be supported for static routes. This is due to a third-party limitation with Red Hat and a case has been opened to address this issue. |            |

### 5.2 Limitations in CF 1

There were no limitations detected in Release CF 1.



## Glossary

The following tables list the common terms and abbreviations used in this document.

**Table 2: Common Terms**

| Term             | Definition  |
|------------------|---|
| Answer           | A message sent from one Client/Server Peer to the other following a request message   |
| Client Peer      | A physical or virtual addressable entity which consumes AAA services  |
| Data Dictionary  | Defines the format of a protocol's message and its validation parameters: structure, number of fields, data format, etc.  |
| Destination Peer | The Client/Server peer to which the message is sent   |
| Geo Redundancy   | A mode of operation in which more than one geographical location is used in case one site fails   |
| Master Session   | The session for which the routing selection is performed based on the routing rules (Slave Sessions are applied with routing rules inherited from the Master Session) |
| Orchestrator     | A workflow management solution to automate the creation, monitoring, and deployment of resources in your environment  |
| Origin Peer      | The peer from which the message is received   |
| Pool             | A group of Server Peers   |
| QCOW2            | A file format for disk image files  |
| RADIUS           | Remote Authentication Dial In User Service  |
| REST             | Representation of a resource between a client and server ( <b>Representational State Transfer</b> )   |
| Request          | A message sent from one Client/Server peer to the other, followed by an answer message  |
| RPM              | RPM Package Manager   |



| Term                  | Definition   |
|-----------------------|--|
| Salt-API              | Manages and communicates between an Orchestrator and network master and minion servers |
| SDC Site              | The entire list of entities working in a single site                                   |
| Server Peer           | A physical or virtual addressable entity which provides AAA services                   |
| Session               | An interactive information interchange between entities                                |
| Slave (Bound) Session | A session which inherits properties from a master session                              |
| Transaction           | A request message followed by an answer message  |
| Tripo                 | Session data repository  |
| Virtual Server        | A binding point used by SDC to communicate with the Remote Peers (Clients and Servers) |

**Table 3: Abbreviations**

| Term | Definition                                   |
|------|--|
| AAA  | Authentication, Authorization and Accounting |
| ACL  | Access Control List                          |
| AF   | Application Function                         |
| API  | Application Programming Interface            |
| AVP  | Attribute Value Pair                         |
| CLI  | Command Line Interface                       |
| CPF  | Control Plane Function                       |
| DEA  | Diameter Edge Agent                          |
| DRA  | Diameter Routing Agent                       |



| Term     | Definition                                |
|----------|---|
| EMS Site | Element Management System Site            |
| FEP-In   | In-Front End Proxy                        |
| FEP-Out  | Out-Front End Proxy                       |
| HA       | High Availability                         |
| HSS      | Home Subscriber Server                    |
| HTTP     | Hypertext Transfer Protocol               |
| IaaS     | Infrastructure as a Service               |
| IMS      | IP Multimedia Subsystem                   |
| JMS      | Java Message Service                      |
| KPI      | Key Performance Indicator                 |
| LDAP     | Lightweight Directory Access Protocol     |
| LTE      | Long Term Evolution                       |
| MME      | Mobility Management Entity                |
| NGN      | Next Generation Networking                |
| Node     | Physical or virtual addressable entity    |
| OAM      | Operation, Administration and Maintenance |
| OCS      | Online Charging System                    |
| PCEF     | Policy and Charging Enforcement Function  |
| PCRF     | Policy and Charging Rules Function        |
| PLMN     | Public Land Mobile Network                |
| SCCP     | Signaling Connection Control Part         |
| SCTP     | Stream Control Transmission Protocol      |
| SDC      | Signaling Delivery Controller             |



| Term     | Definition   |
|----------|--|
| SDC Site | The entire list of entities working in a single site |
| SNMP     | Simple Network Management Protocol                   |
| SS7      | Signaling System No. 7                               |
| TCP      | Transmission Control Protocol                        |
| TLS      | Transport Layer Security                             |
| UDP      | User Datagram Protocol                               |
| UE       | User Equipment                                       |
| URI      | Universal Resource Identification.                   |
| VIP      | Virtual IP   |
| VNFC     | Virtualized Network Function Component               |
| VPLMN    | Visited Public Land Mobile Network                   |
| Web UI   | Web User Interface                                   |
| WS       | Web Service  |