

**Requirement Plan**

Plan Name: Reqs-LTE\_OTADM

Plan Id: LTEOTADM

Version Number: 44

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## Revision History

Author	Description of Changes	Date
Verizon Wireless	Version 1.0: Initial version	11/12/2009
Verizon Wireless	Version 2.0: 1.) Section 4.1.3.2.2 Information on Certificates added.	12/17/2009
Verizon Wireless	Version 3.0:  1. Added requirements for handset form factor devices. 2. Added user initiated device management requirements. 3. Updates to section 4.3.	02/11/2010
Verizon Wireless	Version 4.0:  1. Added IMS node. 2. Modified References 3. High Severity changed to Mandatory and Low to Optional	03/25/2010
Verizon Wireless	Version 5.0:  1. Changed server password in DMAcc Subtree. 2. Changed APN inactivity timer from infinity to 130min.  1. Changes server domain for LTE devices 2. Minor clarifications	06/25/2010
Verizon	Version 6.0:	12/17/2011

Wireless	<ol style="list-style-type: none"> <li>Updated to Release 9 (1.2)</li> <li>changed SMS format from optional to mandatory (4.1.1.2),</li> <li>Updated RSSI nodes on DiagMon (4.3.2.2),</li> <li>Added APN operation nodes for ConnMO (4.3.2.3),</li> <li>Clarifications on auth key (4.1.3.3.2),</li> <li>Added XML Element for LocURI (4.1.5.2.5),</li> <li>Changed "paired mode" to "discovery mode" (4.3.2.1)</li> </ol>	0
Verizon Wireless	<p>Version 7.0:</p> <ol style="list-style-type: none"> <li>Added DM Commands Functionality (4.3.2),</li> <li>Point APNs Factory Provisioning requirements (4.1.3.1);</li> <li>Added a column of value type in all DM tree nodes (4.3.2),</li> <li>Clarified device password (4.1.3.3.2),</li> <li>Added IMEI definitions to glossary (1.3),</li> <li>Removed some LAWMO nodes not currently required (4.3.2.7);</li> <li>Added references (Chapter 5),</li> <li>Removed timer for optional download (3.1.1.1)</li> <li>Duplicated /operation nodes for all APNs, added "secs" to some timer nodes (4.2.3.5)</li> <li>Added connMO nodes replace command requirement (4.3.2.5.1).</li> </ol>	02/2011
Verizon Wireless	<p>Version 8.0:</p> <ol style="list-style-type: none"> <li>Clarified APN Inactivity Timer unit. (4.3.2.6)</li> </ol>	03/2011



	<p>2. Added APN status node (4.3.2.5, 4.3.2.6)</p> <p>3. Added GPS nodes for Android OS devices (4.3.2.1) and their associated function descriptions (4.3.2.2.2.1).</p>	
Verizon Wireless	<p>Version 9.0:</p> <p>1. Changed DevID to DevId (4.1.4.5),</p> <p>2. Changed home domain name to vzims.com (4.2.2.2)</p> <p>3. Added root certification information (4.1.3.2.2 )</p> <p>4. Updated DevDetail node (4.1.4.6)</p> <p>8. Added notes to domain name format (4.1.3.1)</p> <p>9. Added ADD feature and flow chart ( 4.3.2.7)</p> <p>10. Removed glossary terms : DMA, DiagMon, DCMO, FOTC</p> <p>11. Removed User Experience sections, except interruption Requirements (3.1)</p> <p>12. Removed Add/Copy/Delete command types (4.1.4.1)</p> <p>13. Removed "multiple DMAcc are required (4.1.4.4)</p> <p>14. Removed managed applications (4.1.4.8)</p> <p>15. Removed DCMO, LAWMO, DiagMon, FOTA throughout the document</p> <p>16. Added software version note (4.1.4.6)</p> <p>17. Removed non-factory bootstrapping (4.1.3.1)</p> <p>18. Added APN management requirements (4.2.2.1)</p>	06/2011
Verizon Wireless	<p>Version 10.0:</p> <p>1. General cleanups on inconsistencies and ambiguities,</p>	09/2011

s	2. Clarify AAuth name format (4.1.4.4 ) 3. Added Chapter 5 Information and Use Cases, 4. Removed APN Inactivity Timer (4.1.5, 4.2) 5. APN Id command changed to read only (4.2.2.2) 6. Added deployment plan section	
Verizon Wireless	Version 11.0: Added requirements to have capabilities/tools available to restore Enable a Class 1 or Class 2 APN once Disabled, for OTADM IOT testing purposes	12/2011
Verizon Wireless	Version 12.0: Removed requirements for Digital Signature	4/2012
Verizon Wireless	Version 13.0: Clarification on SMS over IMS	6/2012
Verizon Wireless	Version 14.0: 1. Removed Package o SMS message requirements 2. Removed references to Client Initiated Sessions 3. Updated SIP Session Timer values	10/8/2012
Verizon Wireless	Version 15.0: Added IPv6 connectivity support requirements Added APN Data Retry parameter nodes Corrected SIP Timer format from int to float	02/2014

	<p>Class 1 APN should be replaceable</p> <p>IP Support for APN shall report IPv4 and IPv6 if both technologies are supported</p>	
Verizon Wireless	<p>Version 16.0:</p> <p>Added ICCID Extension node requirements</p> <p>Replaced * with explicit values of 1 through 4 for each Class of APN in ConnMo tree</p> <p>Updated Root SSL Certificate requirements</p>	06/2014
Verizon Wireless	<p>Version 17.0:</p> <p>Server and Client password information removed. Can be obtained from VZW OTADM IOT team.</p> <p>Updated: Client-Server Connection Failure During The SDM Session</p>	10/2014
Verizon Wireless	<p>Version 18.0:</p> <p>Added support for TLS transport layer security protocol</p> <p>Added requirements around Over The Air update capability</p>	2/2015
Verizon Wireless	<p>Version 19.0:</p> <p>Added support for SHA-256 certificate</p>	6/2015
Verizon Wireless	<p>Version 20.0:</p> <p>Remove requirements for data retry parameters</p> <p>Remove requirements for SIP timers</p>	2/2016

Verizon Wireless	Version 21.0 Updated requirements with new URL support for SHA-2 certificates	6/2016
Verizon Wireless	Version 22.0 Specified commands for all Nodes	10/2016
Verizon Wireless	Version 23.0 Updated VZWIMS APN name to "IMS" Updated dual stack IP support for 4g2.vzwdm.com	06/2017
Verizon Wireless	Version 24.0 Retired few requirements Removed ability to disable APN1 and APN2 in ConnMo tree Misc. updates	October 2017
Verizon Wireless	Version 25.0 Updated VZ_REQ_LTEOTADM_7672 to add a note for Mod to be the device model number instead of the commercial name of the device. Added VZ_REQ_LTEOTADM_7332288 to define Configuration Update	February 2018
Verizon Wireless	Version 26.0 Retired the following requirements: 1. Disable Testing VZ_REQ_LTEOTADM_7715 Added or Updated following requirements:	June 2018

	<ol style="list-style-type: none"> <li>Updated -- Root Certificate requirements VZ_REQ_LTEOTADM_36249</li> <li>Added new requirement -- APN Management after SIM change VZ_REQ_LTEOTADM_8312636</li> <li>Updated VZ_REQ_LTEOTADM_36249 to remove reference to Symantec and also added list of recommended Root Certificates</li> </ol>	
Verizon Wireless	<p>Version 27.0</p> <p>Added Cipher Suite information to requirements VZ_REQ_LTEOTADM_36249</p>	October 2018
Verizon Wireless	<p>Version 28.0</p> <p>Removed the Digicert Global Root G3 certificate from requirement VZ_REQ_LTEOTADM_36249</p>	February 2019
Verizon Wireless	<p>Version 29.0</p> <p>Removed VeriSign Universal Root CA certificate from requirement VZ_REQ_LTEOTADM_36249</p>	February 2020
Verizon Wireless	<p>Version 30.0</p> <p>1.4.1.2.3 Added Requirements to support device initiated check-in upon VZWOTADM Client Disablement and Enablement</p> <p>1.4.1.3.1.1 Removed Symantec link in Root Certificate Requirements</p> <p>1.4.1.3.9.1 Specified Nodes that should be supported under DevDetail Subtree for devices and embedded modules</p> <p>Updated VZ_REQ_LTEOTADM_37788 to apply to OD devices only</p>	June 2020
Verizon Wireless	<p>Version 31.0</p> <p>No Changes, document revision number for October Release.</p>	October 2020
Verizon Wireless	<p>Version 32.0</p> <ul style="list-style-type: none"> <li>Removed CBC Cipher suites from Root Certificate requirements</li> </ul>	Feb 2021

	<p>(VZ_REQ_LTEOTADM_36249)</p> <ul style="list-style-type: none"> <li>Updated DMACC Subtree pointer for Authentication(VZ_REQ_LTEOTADM_7671)</li> <li>Changed timer from 5 minutes to 2 minutes for APN Management after SIM Change (VZ_REQ_LTEOTADM_8312636)</li> </ul>	
Verizon Wireless	<p>Version 33.0</p> <ul style="list-style-type: none"> <li>Added Factory Data Reset Persistence VZ_REQ_LTEOTADM_4105999311949611</li> <li>Added Reset to Original Values VZ_REQ_LTEOTADM_4105999311949612</li> <li>Updated DevDetail Subtree VZ_REQ_LTEOTADM_7673 to specify device types</li> </ul>	June 2021
Verizon Wireless	<p>Version 34</p> <p>No changes in document, Version updated for October Release</p>	October 2021
Verizon Wireless	<p>Version 35.0</p> <ul style="list-style-type: none"> <li>OEM responsible for maintaining Root Certificate and to update it to the latest revision before device End of Life (VZ_REQ_LTEOTADM_36249).</li> </ul>	February 2022
Verizon Wireless	<p>Version 36</p> <ul style="list-style-type: none"> <li>Added requirement indicating device must support both 3GPP and 3GPP2 SMS formats. VZ_REQ_LTEOTADM_4105999311951449 1.1</li> <li>Added HTTP Header function requirement to specify device must support x-session-type header. VZ_REQ_LTEOTADM_4105999311951432</li> </ul>	June 2022
Verizon Wireless	<ul style="list-style-type: none"> <li>Updated Root Certificates Root Certificate</li> </ul>	October 2022

s	<p>requirements VZ_REQ_LTEOTADM_36249</p> <ul style="list-style-type: none"> <li>Updated DevInfo Subtree VZ_REQ_LTEOTADM_7672</li> </ul>	
Verizon Wireless	<ul style="list-style-type: none"> <li>Added requirement VZ_REQ_LTEOTADM_4105999311951848 to add support for pMSISDN</li> <li>Updated requirement Enable and Disable APN 1 and 2 will return a 405 result code.</li> </ul>	February 2023
Verizon Wireless	<ul style="list-style-type: none"> <li>Removed "Operations" internal node from APN 1 and APN 2 Connectivity Management VZ_REQ_LTEOTADM_7684</li> <li>Removed ./ManagedObjects/ConnMO/IMS/Setting/sms_over_IP_network_indication Connectivity Management VZ_REQ_LTEOTADM_7684</li> <li>Clarified requirements around pMSISDN</li> </ul>	June 2023
Verizon Wireless	<ul style="list-style-type: none"> <li>No changes in release.</li> </ul>	October 2023
Verizon Wireless	<ul style="list-style-type: none"> <li>No changes in release.</li> </ul>	February 2024
Verizon Wireless	<ul style="list-style-type: none"> <li>Clarified result code for VZ_REQ_LTEOTADM_7697</li> <li>Clarified result code for VZ_REQ_LTEOTADM_7698</li> <li>New DMACC URL VZ_REQ_LTEOTADM_7671</li> </ul>	June 2024
Verizon Wireless	<ul style="list-style-type: none"> <li>Added TF_Branded tag</li> </ul>	October 2024
Verizon Wireless	<ul style="list-style-type: none"> <li>Retired IP Indication for SMS: VZ_REQ_LTEOTADM_23000</li> </ul>	February 2025

## 1.2 INTRODUCTION VZ\_REQ\_LTEOTADM\_2395

Verizon Wireless has launched LTE network service in the 3GPP Band 13 frequency band (700 MHz C Block). This document includes an Over-The-Air (OTA) device management solution for devices on this network. This publication is part of Verizon Wireless compliance with the FCCs rules for 700 MHz C Block (47 C.F.R. § 27.16), as explained in the FCCs Second Report and Order in WT Docket No. 06-150, "Service Rules for the 698-746, 747-762 and 777-792 MHz Bands" released on August 10, 2007.

In this document, the terms LTE (Long Term Evolution) and E-UTRA (Evolved Universal Terrestrial Radio Access) are considered equivalent.

### 1.2.1 APPLICABILITY VZ\_REQ\_LTEOTADM\_2396

These requirements apply to all devices designed to operate on the Verizon Wireless LTE 3GPP Band 13 network. 3GPP Band 13 is per 3GPP TS 36.101: *Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception*.

This document covers APN management, a part of SDM technology. Specifically, this document doesn't include any Firmware Updating mechanism. Please see Section on "APN Management".

For any questions related to this document, please contact Verizon Wireless through the Verizon Wireless Open Development website.

### 1.2.2 3GPP Specifications VZ\_REQ\_LTEOTADM\_7654

Refer to the 3GPP Specifications section of the Verizon Wireless LTE 3GPP Band 13 Network Access Requirements.

### 1.2.3 GLOSSARY/DEFINITIONS/ACRONYMS VZ\_REQ\_LTEOTADM\_2398

This section defines acronyms and terms used throughout the document.

Acronym/ Term	Definition
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ADD	Automatic Device Detection
APN	Access Point Name
ConnMO	Connectivity Management Object
DDF	Device Description Framework
DTD	Document Type Definition
FWA	Fixed Wireless Access
HMAC	Hash-based Mutual Authentication Code
IMEI	International Mobile Equipment Identity, a 14 digit value plus 1 digit checksum value computed as per the 3GPP requirements.
IMEI SV	The International Mobile Equipment Identity and Software Version Number, a 14 digit value plus 2 digits software version number.
OMA	Open Mobile Alliance
OMA-DM	Open Mobile Alliance Device Management
OTA	Over-the-Air
OTADM	Over the Air Device Management
PST	Product Support Tool
SDM	Subscriber Device Management- in this document, SDM refers to APN Management and Device "profiling"
UI	User Interface
UE	User Equipment
WAP	Wireless Application Protocol
VZW	Verizon Wireless

#### 1.2.4 REQUIREMENTS LANGUAGE VZ\_REQ\_LTEOTADM\_2399

This document uses the following verbal forms in conjunction with requirements:

- "*Shall*" or "*Shall not*" indicates the requirement is mandatory
- "*Should*" indicates the requirement is recommended but not mandatory
- "*May*" indicates the requirement is optional

#### 1.2.5 DEPLOYMENT PLANS VZ\_REQ\_LTEOTADM\_2400

### 1.3 HARDWARE SPECIFICATIONS VZ\_REQ\_LTEOTADM\_2401

#### 1.3.1 MECHANICAL VZ\_REQ\_LTEOTADM\_2402

#### 1.3.2 ELECTRICAL VZ\_REQ\_LTEOTADM\_2403

## 1.4 USER EXPERIENCE AND INTERACTIONS VZ\_REQ-LTEOTADM\_2404

Devices shall implement a mechanism so the end-user can alter or set the Class 3 APN name (only the name, and no other APN parameter) manually. In this case, the end-user can manually change that APN name on the device. The APN Management Requirements of this document shall apply in this manual PDN change case.

Please refer to Verizon Wireless Device Requirements for LTE 3GPP Band 13 network Access for more details on APN parameters alteration rules.

### 1.4.1 User Experience (Device) VZ\_REQ-LTEOTADM\_7655

#### 1.4.1.1 INTERRUPTIONS DURING APN MANAGEMENT ACTIVITY VZ\_REQ-LTEOTADM\_2405

##### 1.4.1.1.1 LTE Network (Bearer) Available VZ\_REQ-LTEOTADM\_7656

#### ***1.4.1.1.2 Client-Server Connection Failure During The SDM Session*** VZ\_REQ\_LTEOTADM\_7657

#### ***1.4.1.1.3 DM Fatal Error*** VZ\_REQ\_LTEOTADM\_22978

#### ***1.4.1.1.4 Accessory Interaction (Applicable on to Handset form Factor Devices)*** VZ\_REQ\_LTEOTADM\_7658

#### ***1.4.1.2 Subscriber Device Management*** VZ\_REQ\_LTEOTADM\_7659

#### ***1.4.1.3 Network Initiated SDM Sessions*** VZ\_REQ\_LTEOTADM\_7660

## 1.4.2 USER INTERFACE (DEVICE) VZ\_REQ\_LTEOTADM\_2406

### 1.4.2.1 Network Initiated SDM Session VZ\_REQ\_LTEOTADM\_7661

### 1.4.2.2 User Initiated SDM Session—Manual PDN Name Change VZ\_REQ\_LTEOTADM\_7662

#### 1.4.2.2.1 Instructions VZ\_REQ\_LTEOTADM\_7663

## 1.5 OTA-DM SPECIFICATIONS VZ\_REQ\_LTEOTADM\_2407

## 1.5.1 COMMON REQUIREMENTS FOR OTADM - STANDARDS COMPLIANCE VZ\_REQ\_LTEOTADM\_2408

This informational section will have references to Industry Standards and Requirements as well as VZW-defined Requirements available to Open Access/ODI manufacturers. The device shall comply with the following Industry Requirements, as well as any VZW Requirements stated herein. If a conflict exists between this document and an Industry Standard, this document takes precedence. However, please contact VZW if there are additional questions.

The requirements stated in this section *will have information needed for implementation*. However, in each of the requirements stated throughout this document, the specific references will not be repeated. All references needed are in this section of this document.

In order for devices to have compatibility with Verizon Wireless LTE 3GPP Band 13 network for Device Management and support SDM, the following OMA DM requirements must be met.

Refer to "LTE 3GPP Band 13 Network Access" and "LTE SMS" requirements for details.

### 1.5.1.1 COMPLIANCE WITH VZW REQUIREMENTS VZ\_REQ\_LTEOTADM\_22979

1. LTE 3GPP Band 13 Network Access
2. LTE SMS Requirements

### 1.5.1.1.1 OTHER INDUSTRY STANDARDS VZ\_REQ\_LTEOTADM\_22980

1. WAP Push OTA Specification (for notification using SMS\*)
2. HTTP V1.1
3. WAP-230-WSP Specification (Package 0 SMS\* header detail)
4. WAP-259-WDP Specification (Package 0 SMS\* header detail)
5. The device shall support the 3GPP2 SMS format as defined in 3GPP2 C.S0015-A V1.0 "Short Message Service (SMS) for Wideband Spread Spectrum Systems". The support for the 3GPP format, as defined in TS 23.040 "Technical realization of the Short Message Service (SMS)" shall be supported.
6. APN domain names shall employ domain formats as specified in RFC 3986

### 1.5.1.1.2 OMA Standards Compliance VZ\_REQ\_LTEOTADM\_7664

LTEOTADM116 The device shall support the OMA-DM standard and the sections as outlined in the following documents:

Document	Reference Section
OMA Device Management Bootstrap, Version 1.2. <a href="http://www.openmobilealliance.org">URL:http://www.openmobilealliance.org</a>	5.1.2.1 Customized Bootstrap 5.1.2.2 Server-Initiated Bootstrap
OMA DM Device Description Framework DTD, Version 1.2. <a href="http://www.openmobilealliance.org">URL:http://www.openmobilealliance.org</a>	N/A
OMA Device Management Notification Initiated Session, Version 1.2. <a href="http://www.openmobilealliance.org">URL:http://www.openmobilealliance.org</a>	5 Server Alerted Management Session 6 Structure of General Notification Initiated Session Alert 7.1 Package #0 delivered using WAP Push
OMA Device Management Protocol, Version 1.2. <a href="http://www.openmobilealliance.org">URL:http://www.openmobilealliance.org</a>	6.2 Multiple Messages In Package Requirements 8.1.2 Session Abort Requirement 8.2 Package 0: Management Initiation Alert from server to client 8.3 Package 1: Initialization from client to server 8.4 Package 2: Initialization from server to client 8.5 Package 3: Client response sent to server 8.6 Package 4: Further server management operations 8.7 Generic Alert 9 Authentication (9.1, 9.2)
OMA Device Management Requirements Document, Version 1.2. <a href="http://www.openmobilealliance.org">URL:http://www.openmobilealliance.org</a>	6.1.1 Security 6.4 Usability 6.3.1 System Elements Device
OMA Device Management Representation Protocol, Version 1.2. <a href="http://www.openmobilealliance.org">URL:http://www.openmobilealliance.org</a>	5.1 MIME Usage 6 Mark-Up Language Description
OMA Device Management Security, Version 1.2.	5.1 Credentials

<a href="http://www.openmobilealliance.org">URL:http://www.openmobilealliance.org</a>	5.3 Authentication 5.4 Integrity 5.5 Confidentiality 5.6 Notification Initiated Session
OMA Device Management Standardized Objects, Version 1.2. <a href="http://www.openmobilealliance.org">URL:http://www.openmobilealliance.org</a>	5 Standardized Objects
OMA Device Management Tree and Description, Version 1.2.	5 The Management Tree 6 Nodes 7 Properties of nodes 8 Device Management Tree Exchange 9 Device Description Framework*
OMA Device Management Tree and Description Serialization, Version 1.2. <a href="http://www.openmobilealliance.org">URL:http://www.openmobilealliance.org</a>	5 TND Serialization Definition 6 TNDS Syntax
WAP-230-WSP Specification	8.2.4 Push and Confirmed Push Facilities
WAP-259-WDP Specification	6.5 Mapping WDP to CDMA SMS

### 1.5.1.2 OTADM CLIENT VZ\_REQ\_LTEOTADM\_22981

The device shall support an OTADM client that supports OMA-DM protocols defined in this document. The client shall correctly interpret OMA-DM commands, execute commands sent by the server administrator and send back relevant responses to the issuing management server as defined in the OMA DM standards referenced above.

#### 1.5.1.2.1 OTADM CLIENT PROVISIONING VZ\_REQ\_LTEOTADM\_22982

##### 1.5.1.2.1.1 Factory Bootstrapping VZ\_REQ\_LTEOTADM\_7699



Devices shall implement Customized (Factory) Bootstrapping in accordance with "OMA Device Management Bootstrap, Vs 1.2" requirements

Additionally, all devices shall be Factorybootstrapped with DM parameters prior to coming on the LTE network. The FactoryBootstrap parameters shall be pre-populated with the settings. See requirements traceability.

- " Devices using VZW OTADM solution shall not support OTA Bootstrap (Network Initiated Bootstrap).
- " Devices using VZW OTADM solution shall not support OMA-CP (OMA Client Provisioning).

### 1.5.1.2.1.2 PDN Provisioning for OTADM Device Management Traffic

VZ\_REQ\_LTEOTADM\_7701

Devices shall use the Admin PDN dedicated to DM related traffic. The VZW IMS PDN shall be used for SMS push.

For APNs factory provisioning requirements, refer to the latest version of VZW Device Requirements - LTE 3GPP Band 13 Network Access.

### 1.5.1.2.2 OTA-DM (Emergency Mode) VZ\_REQ\_LTEOTADM\_5965111

The device and/or OMA-DM client shall ensure that the device is in idle mode prior to starting a PPP session for the purposes of DM.

Devices shall not attempt to initiate a DM data session until the emergency procedure is complete and they return to idle.

Network Initiated: Valid DM Notification messages (via SMS) shall be ignored when the device is in the Emergency mode.

Client-initiated: Refer to VZW Feature Definitions/Requirements document for emergency calling procedures.

User-initiated: For feature phones, refer to VZW Feature Definitions/Requirements document for emergency calling procedures. See UI requirements for additional details. For converged devices, refer to Converged Device Requirements document for emergency calling procedures.

### 1.5.1.2.3 OTADM Client Change Alerts VZ\_REQ\_LTEOTADM\_4105999311947508

#### 1.5.1.2.3.1 OTADM Client Change Disabled Alert VZ\_REQ\_LTEOTADM\_4105999311947509

#### 1.5.1.2.3.2 OTADM Client Change Enabled Alert VZ\_REQ\_LTEOTADM\_4105999311947510

### 1.5.1.3 OTADM TRANSPORT SECURITY REQUIREMENTS VZ\_REQ\_LTEOTADM\_22983

Due to recent security vulnerability with SSL transport layer protocols, the device must only support TLS transport layer protocol (version 1.2 & higher). It is recommended that device vendors provide the ability to install additional root certificates over the air if a need arise.

- Device vendors must support SHA-256 SSL server certificates.
- Device vendor must use below URL for their new devices and SUs which supports SHA-256 SSL server certificates.

./DMAcc/AppAddr/Addr	<a href="https://4g3.vzwadm.com">https://4g3.vzwadm.com</a>
./DMAcc/AppAddr/AddrType	URI
./DMAcc/AppAddr/Port	443

### 1.5.1.3.1 Confidentiality (Data Encryption) VZ\_REQ\_LTEOTADM\_7703

All Device Management interaction between the device and the OTADM Server shall be performed using HTTPS transport protocol to ensure proper protection of OMA DM messages.

### 1.5.1.3.1.1 Root Certificate requirements VZ\_REQ\_LTEOTADM\_36249

The device vendor shall pre-install the following root certificates required to support the SSL server certificate and its certificate chain installed on the OTADM server.

- DigiCert Global Root CA (Serial #: 08:3B:E0:56:90:42:46:B1:A1:75:6A:C9:59:91:C7:4A)
- DigiCert Global Root G2 (Serial #: 03:3A:F1:E6:A7:11:A9:A0:BB:28:64:B1:1D:09:FA:E5)
- DigiCert Trusted Root G4 (Serial #: 05:9B:1B:57:9E:8E:21:32:E2:39:07:BD:A7:77:75:5C)
- DigiCert TLS ECC P384 Root G5 (Serial #: 09:E0:93:65:AC:F7:D9:C8:B9:3E:1C:0B:04:2A:2E:F3)
- DigiCert TLS RSA4096 Root G5 (Serial #: 08:F9:B4:78:A8:FA:7E:DA:6A:33:37:89:DE:7C:CF:8A)

The device vendor shall also support required signature algorithm, key size and cypher suites of the SSL server certificate.

The device vendor shall also verify that a server certificate currently installed on the OTADM server is chained to the root certificates pre-installed on the device.

The device vendor may use the openssl tool or the following links to check the SSL server certificate and its certificate chain on the OTADM server:

<https://www.digicert.com/help/>

The Root Certificates can be downloaded from the following links:

- DigiCert root certs: <https://www.digicert.com/digicert-root-certificates.htm>

It is recommended that the device pre-installs prevalent root certificates to support other certificate authorities such as DigiCert, Comodo, GoDaddy, and Entrust.

OEM is responsible for ensuring the root certificates do not expire during the life cycle of the device. If certificates are set to expire, OEM should work back with Verizon marketing leads for support on updating the certificates to align with the server. Additionally, before the device is considered to be End of Life, OEM must submit an update package to bring the device up to the latest certificate requirements revision.

Along with the root certificates the device shall support all of the following Cipher Suites:

- TLS\_ECDHE\_RSA\_WITH\_AES\_128\_GCM\_SHA256 (0xC02F)
- TLS\_ECDHE\_RSA\_WITH\_AES\_256\_GCM\_SHA384 (0xC030)

### 1.5.1.3.2 AUTHENTICATION VZ\_REQ\_LTEOTADM\_22984

#### 1.5.1.3.2.1 Package o Authentication (Notification Initiation Session Message) VZ\_REQ\_LTEOTADM\_7705

The device shall support Package o authentication for bootstrap messages, including 'stale nonce' retry. For details, please refer to "OMA Device Management Security", Version 1.2

Devices shall confirmreplace()

#### 1.5.1.3.2.2 Mutual Authentication VZ\_REQ\_LTEOTADM\_7707

Devices shall support mutual authentication at the DM layer. Digest authentication shall be used for all Device Management-related authentication sessions. Digest authentication shall be implemented for all messages (i.e. Notification Messages) between the OTADM Server and Device. Authentication and its challenge shall follow the specifications as defined in "OMA Device Management Security, Version 1.2", "OMA Device Management Protocol V1.2", and "OMA Device Management Initiation Session V1.2".

#### 1.5.1.3.2.3 Failed Authentication Attempt Handling VZ\_REQ\_LTEOTADM\_7665

For details, please refer to "OMA Device Management Security Protocol V1.2", and "OMA Device Management Notification Initiation Session V1.2" documents.

#### 1.5.1.3.2.4 Authentication Key VZ\_REQ\_LTEOTADM\_7666

Instructions on how to generate Server and Client password will be provided by VZW when vendor submits a request to gain access to VZW OTADM IOT self-test environment (IOT Handshake tool).

Reference: OMA Device Management Security V1.2: Section 5.3.3 Authentication/Password and Nonce Usage

#### 1.5.1.3.3 Integrity VZ\_REQ\_LTEOTADM\_7667

The device shall utilize HMAC for integrity protection of Device Management messages, as specified in "OMA Device Management Security V1.2", and "OMA Device Management Protocol V1.2": Section 9 Authentication, OMA Device Management Security V1.2: Section 5.4 Integrity.

#### 1.5.1.3.4 OTA Device Management Tree Support VZ\_REQ\_LTEOTADM\_7668

The OMA DM Tree shall conform to the OMA-DM standard. URI and node names in a Device Management tree shall be treated as case sensitive as per OMA DM Tree and Description specs (OMA-TS-DM\_TND-V1\_2\_1-20080617-A).

#### 1.5.1.3.4.1 Commands VZ\_REQ\_LTEOTADM\_7669

LTEOTADM129 Nodes in the DM Tree shall support the following standard commands as defined below:

- Exec
- Get
- Replace

For details on the commands, please refer to OMA Device Management Protocol V1.

#### 1.5.1.3.4.2 Correlator ID VZ\_REQ\_LTEOTADM\_38690

The device may support Correlator ID in asynchronous response to an asynchronous Exec command from the DM server. In the asynchronous response, the device shall include the same Correlator ID that it has received in an Exec command. The device shall omit Correlator ID in all other instances. The Correlator ID is an optional field and device must not fail if the field is not present from the server.

For details on the commands, please refer to OMA Device Management Protocol V1.x.

#### 1.5.1.3.5 ACCESS CONTROL LIST (ACL) VZ\_REQ\_LTEOTADM\_22985

For details on ACL support, please refer to OMA Device Management Tree and Description V1.2

#### 1.5.1.3.6 Verizon Wireless Defined Base DM Tree VZ\_REQ\_LTEOTADM\_7670

LTEOTADM131 The device shall support the following basenode and sub-tree nodes for DM operations.

\* DDF provided by the DeviceOEMs contains all information needed for the OMA-DM nodes.

<i>OMA-DM Node</i>	<i>Description</i>
.	Base Node
./DMAcc	Root Node for all DM Account items
./DevInfo	Root Node for all Device Information items
./DevDetail	Root Node for all Device Detail items
./ManagedObjects	Root Node for all Managed Object items

#### 1.5.1.3.6.1 Factory Data Reset Persistence VZ\_REQ\_LTEOTADM\_4105999311949611

All values in the DM trees (DMAcc, DevInfo, DevDetail, ManagedObjects) listed in this document shall persist through a Factory Data Reset unless otherwise specified.

#### 1.5.1.3.6.2 Reset to Original Values VZ\_REQ\_LTEOTADM\_4105999311949612

All values in the DM trees (DMAcc, DevInfo, DevDetail, ManagedObjects) shall be reset to their original values in the current binary upon software flash with the service support tool or OEM provided APK.

#### 1.5.1.3.7 DMAcc Subtree VZ\_REQ\_LTEOTADM\_7671

The device shall support the following DMAcc nodes for DM operations.

<i>DMAcc Subtree</i>			
<i>DMAcc Subtree</i>	<i>Value</i>	<i>Value Type</i>	<i>Commands</i>
./DMAcc/AppID	W7	Char	Get
./DMAcc/ServerID	com.vzwdmserver	Char	Get
./DMAcc/Name	VZW DM Server	Char	Get
./DMAcc/AppAddr	Node	Char	Get
./DMAcc/AppAddr/Addr	<a href="https://4g3.vzwdm.com">https://4g3.vzwdm.com</a> ***	Char	Get, Replace
./DMAcc/AppAddr/AddrType	URI	Char	Get, Replace
./DMAcc/AppAddr/Port	443	Char	Get, Replace
./DMAcc/AAAuthPref	syncml:auth-md5	Char	Get
./DMAcc/AppAuth	Node		Get
./DMAcc/AppAuth/Client	Node		Get
./DMAcc/AppAuth/Client/AAAuthLevel	CLCRED	Char	Get
./DMAcc/AppAuth/Client/AAAuthType	Digest	Char	Get



./DMAcc/AppAuth/Client/AAuthName	IMEI (see note)	Char	Get
./DMAcc/AppAuth/Client/AAuthSecret	<VZW Defined>*	Char	No Get
./DMAcc/AppAuth/Client/AAuthData	See note below**	Char	No Get
./DMAcc/AppAuth/Server	Node		Get
./DMAcc/AppAuth/Server/AAuthLevel	SRVCRED	Char	Get
./DMAcc/AppAuth/Server/AAuthType	Digest	Char	Get
./DMAcc/AppAuth/Server/AAuthName	com.vzwdmserver	Char	Get
./DMAcc/AppAuth/Server/AAuthSecret	See note below**	Char	No Get
./DMAcc/AppAuth/Server/AAuthData	See note below**	Char	No Get

\* See requirements traceability to set value as defined

\*\* The initial values for these nodes are defined in the Authentication Key requirements section of the VZOTADM (VZ\_REQ\_MMOTADM\_36870) and OD\_OTADM (VZ\_REQ\_ODOTADM\_40121) document. If further information is required, contact Verizon Wireless or Motive IOT team.

\*\*\*All new devices and all SUs must support this new URL with SHA-2 cert support.

Reference: OMA Device Management Standardized Objects V1.2

Note: AAuthName shall be in the format of characters without any prefix or postfix, for example, "123456789012345", and not "IMEI:123456789012345".

**1.5.1.3.8 DevInfo Subtree** VZ\_REQ\_LTEOTADM\_7672

The DevInfo subtree shall be as defined in the OMA Device Management Standardized Objects V1.2. The Device shall implement the following node values:

<i>DevInfo Nodes</i>	<i>Value</i>	<i>Value Type</i>	<i>Command</i>
./DevInfo/DevId	IMEI (see Note)	Char	Get
./DevInfo/DmV	1.2	Char	Get
./DevInfo/Lang	English	Char	Get
./DevInfo/Man	<Manufacturer Name>	Char	Get
./DevInfo/Mod	<Model Number> (see Note)	Char	Get
./DevInfo/Ext	Node		Get

Note: DevId format shall be "IMEI:x", with x being the value of the IMEI (without quotes).

Mod shall be the Model Number of the device instead of the commercial name of the device. This value shall be unique for each device that intends to receive individual SU updates from VZ. A common model name across devices will result in common updates provided by the server.

**1.5.1.3.9 DevDetail Subtree** VZ\_REQ\_LTEOTADM\_7673

LTEOTADM<sub>134</sub> The DevDetail subtree shall be as defined in the OMA Device Management Standardized Objects V1.2. The Device shall implement the following node values of the DevDetail subtree:

<i>DevDetail Nodes</i>	<i>Value</i>	<i>Value type</i>	<i>Command</i>
./DevDetail/URI	Node	Char	Get
./DevDetail/URI/MaxDepth	12	Char	Get
./DevDetail/URI/MaxSegLen	32	Char	Get
./DevDetail/URI/MaxTotLen	127	Char	Get
./DevDetail/DevTyp	<value> Smartphone Tablet Basic Phone Home Mobile Hotspot Connected Device Wearable	Char	Get
./DevDetail/FwV	<value> (See Note)	Char	Get
./DevDetail/HwV	<value>	Char	Get

./DevDetail/LrgObj	True, False	Char	Get
./DevDetail/OEM	<value>	Char	Get
./DevDetail/SwV	<value>	Char	Get

Note: APN Management and ADD flow requires that ./DevDetail/FwV be an implemented and populated leaf node.

#### 1.5.1.3.10 NAI VZ\_REQ\_LTEOTADM\_5965085

Devices the support 3G CDMA technologies shall use the current data NAI <MDN>@vzw3g.com

#### 1.5.1.3.11 Support for MSISDN VZ\_REQ\_LTEOTADM\_4105999311951848

The device shall support a MSISDN which may be up to 15 digits long. If the assigned MSISDN is 11 digits long with the leading digit of 1 (e.g., 15551234567), then the least significant 10 digits shall be used. Otherwise, full MSISDN shall be used (e.g., 9991234567890, 35312345678).

Additionally, for devices using a pMSISDN (pseudo MSISDN) shall be defined with 13 digits and always start with 999 for the Country Code. As an example, this may be used for devices in a private network environment that do not support a traditional MSISDN.

### 1.5.1.4 DM CONNECTIVITY REQUIREMENTS VZ\_REQ\_LTEOTADM\_22986

#### **1.5.1.4.1 NETWORK INITIATED DM SESSIONS** VZ\_REQ\_LTEOTADM\_22988

##### **1.5.1.4.1.1 DM Notification via SMS message (Trigger)** VZ\_REQ\_LTEOTADM\_7708

OTADM compliant devices shall receive and process Device Management notifications delivered to the device via an SMS message.

NOTE: SMS messages are configured and sent by the OTADM Server over the IMS PDN. Network-Initiated functionality is triggered by these SMS.

##### **1.5.1.4.1.2 3GPP and 3GPP2 SMS Format Support** VZ\_REQ\_LTEOTADM\_4105999311951449

All 4G and 5G device shall be capable of receiving SMS messages in both 3GPP and 3GPP2 SMS formats. The device shall inspect the incoming SMS message, determine the SMS format, decode the SMS format, and respond per the applicable standard.

##### **1.5.1.4.1.3 LTE Service Required** VZ\_REQ\_LTEOTADM\_7674

##### **1.5.1.4.1.4 Network Initiated (NI) Retry** VZ\_REQ\_LTEOTADM\_7675

If the device is in adequate LTE coverage area, but the network-initiated DM session fails to connect to the server for any reason, the device shall fail the session and not retry.

#### 1.5.1.4.2 USER INITIATED DM SESSIONS VZ\_REQ\_LTEOTADM\_22989

##### 1.5.1.4.2.1 Manual PDN Change VZ\_REQ\_LTEOTADM\_7676

##### 1.5.1.4.2.2 LTE Service Required VZ\_REQ\_LTEOTADM\_7677

##### 1.5.1.4.2.3 XML ELEMENTS VZ\_REQ\_LTEOTADM\_22990

##### 1.5.1.4.2.4 VZ\_REQ\_LTEOTADM\_7678

#### 1.5.1.4.2.5 Elements and Formatting VZ\_REQ\_LTEOTADM\_7679

Data Elements shall only contain the formatted characters of that element.

For example, if the Format of a Data Element is int (integer), and the Data element represents a timer in seconds, then the data element shall only include integer characters, e.g. 0-9., and not include the unit (sec) within its field. Thus, for a timer value of 25 seconds, the required data element would be <data> 25 </data> and not <data> 25 sec </data>.

### 1.5.1.4.3 SUPPORT FOR IPV6 CONNECTIVITY VZ\_REQ\_LTEOTADM\_31775

#### 1.5.1.4.3.1 IPv6 Connection VZ\_REQ\_LTEOTADM\_31776

- The DM Client on the device shall support IPv6 connectivity with the OMADM server over Class 2 APN's PDN Connection.
  - This functionality is in addition to the IPv4 support that exists today on each client.
- If an IPv6 address is returned by the DNS server for an AAAA (quad-A) query, then the device will prefer IPv6 mode connectivity versus IPv4 mode connectivity with the DM Server over the Class 2 APN's PDN Connection.
  - If an IPv6 address is not returned by the DNS server, then the device shall use IPv4 address received from the "A" DNS query result to connect to the DM server (over the Class 2 APN's PDN Connection).
- As such, IPv6 connection shall be supported for all aspects of OMADM communication (over an IP network) as described in this requirements document.

#### 1.5.1.4.3.2 Connection Setup Failure VZ\_REQ\_LTEOTADM\_31777

- If the device is not in adequate LTE coverage where a Class 2 PDN connection cannot be established, then the requirements outlined in this document (See requirements traceability) shall be followed.
- If the device is in adequate LTE coverage with Class 2 PDN connection established and if the DM Client is unable to connect to the DM server over an IPv6 connection through the Class 2 APN's PDN connection for any reason; then the device shall not disconnect the PDN connection. Instead the device shall fall back to the available IPv4 connection and attempt to connect to the DM server at most once.
  - If the communication still cannot be established, then the device shall follow Retry requirements outlined in this document (See requirements traceability)

#### 1.5.1.4.3.3 Connection Failure During a DM Session VZ\_REQ\_LTEOTADM\_31778

#### 1.5.1.4.4 HTTP Header functional requirement VZ\_REQ\_LTEOTADM\_4105999311951432

The HTTP Header used in a DM transaction with the DM Server shall include the additional attribute: "X-Session-Type". The attribute value shall be the session type. For device initiated session it should be "device". For Network initiated session, it should be "network". For User initiated session, it should be "user" for a user initiated Vital SU session it should be "sui". The format of the attribute value shall be "X-Session-Type: x", with x being the session type.

(Example:

X-Session-Type: device

X-Session-Type: network

X-Session-Type: user

X-Session-Type: sui)



## 1.5.1.5 OMA-DM TREE AND STANDARD COMMANDS VZ\_REQ\_LTEOTADM\_22992

### 1.5.1.5.1 APN MANAGEMENT VZ\_REQ\_LTEOTADM\_22993

By APN management, VZW means a mechanism for changing the current APNs defined in this document. There are three cases where changing the APN occurs in this document. One case is when the device has its APN changed manually, e.g. Class 3 APN is changed by the end-user. The second case is where the APN change is directed by the OTADM Server during Network provisioning or insertion of a new SIM card. The third case is when the OTADM Server directs the device to modify an APN for additional end-user services.

APN management can occur in two distinct ways: through an SDM session initiated specifically to change a targeted APN value, or through a Mobile Automatic Device Detection (ADD) session.

APN management is enabled through the ConnMo tree (read and writing of the APN parameter values) and its manipulation.

### 1.5.1.5.1.1 MOBILE AUTOMATIC DEVICE DETECTION (ADD): BACKGROUND AND DESCRIPTION VZ\_REQ\_LTEOTADM\_22994

Mobile Automatic Device Detection is an APN Management server process which happens when a new UICC card is associated with a device from out-of-box condition, or existing UICC card (activated on another Device) and then inserted into current mobile device. Both situations, the out of the box or the current device, having the SIM newly inserted and powered on, triggers a UICC card activation, results the SIMOTA server to send ADD (Automatic Device Detection) message to the SDM server; the SDM server, upon receiving the ADD message, will associate the device IMEI to the current activated MDN, and send a Package o (SMS) to initiate the following tasks:

1. Read LTE APN parameters, including APN Id, name, and IP, for all 4 APN classes, from the device, and replace these parameters with network required values, Read functionality is performed via OMA specification as a "Get" command. Write functionality is performed via OMA specification as "Replace" command. After the "Replace" command is sent to the device, the Server will send an Execute command to the device, as per OMA specifications, which triggers the device to enable the APN changes.

2. Upon successful read and replacement of APN values, there is a check performed by the OTADM server to determine if there is a firmware-update package available for the device.
  - a. If the device supports a Proprietary Firmware, the ADD process will still determine if the device requires a firmware update by checking the "FwV" field in the Device Detail tree. In the Proprietary Firmware support case, the VZW OTADM Server will not initiate a firmware update.
  - b. All devices, whether utilizing VZW-FOTA or Proprietary FOTA, shall populate the FwV leaf node.

#### 1.5.1.5.1.2 ADD Flow Requirements VZ\_REQ\_LTEOTADM\_7683

VZW does not specify the number, type, or sequence of APNs that may be read or written during an ADD session, as per OMA Specifications. The device shall be prepared to respond to any request made by the server for reading and writing the APN parameters during that ADD session.

#### 1.5.1.5.1.3 APN SERVICE AVAILABILITY VZ\_REQ\_LTEOTADM\_22995

#### 1.5.1.5.1.4 INFORMATIONAL BACKGROUND VZ\_REQ\_LTEOTADM\_22996

APN Service Availability refers to the ability of the device to connect to a newly modified APN without noticeable delay.

To illustrate, suppose the current Class 3 APN name is www.changeme.com and the user manually changes the Class 3 Internet APN to www.vzw.com. The user expects to be able to initiate a session with the network through invoking the browser and have the device attach to the www.vzw.com without noticeable delay (of service/connectivity to the Internet) or requiring the device to reboot. The browser launch and connection to the APN, e.g. www.vzw.com, is expected to be less than 10 seconds in good RF conditions. However, quantification of this requirement is nearly impossible. Thus, in the time it takes for a user to attempt to connect

to the changed APN, the device should have the new APN enabled. In other words, when the device is next requested to utilize the new APN, the APN must be enabled.

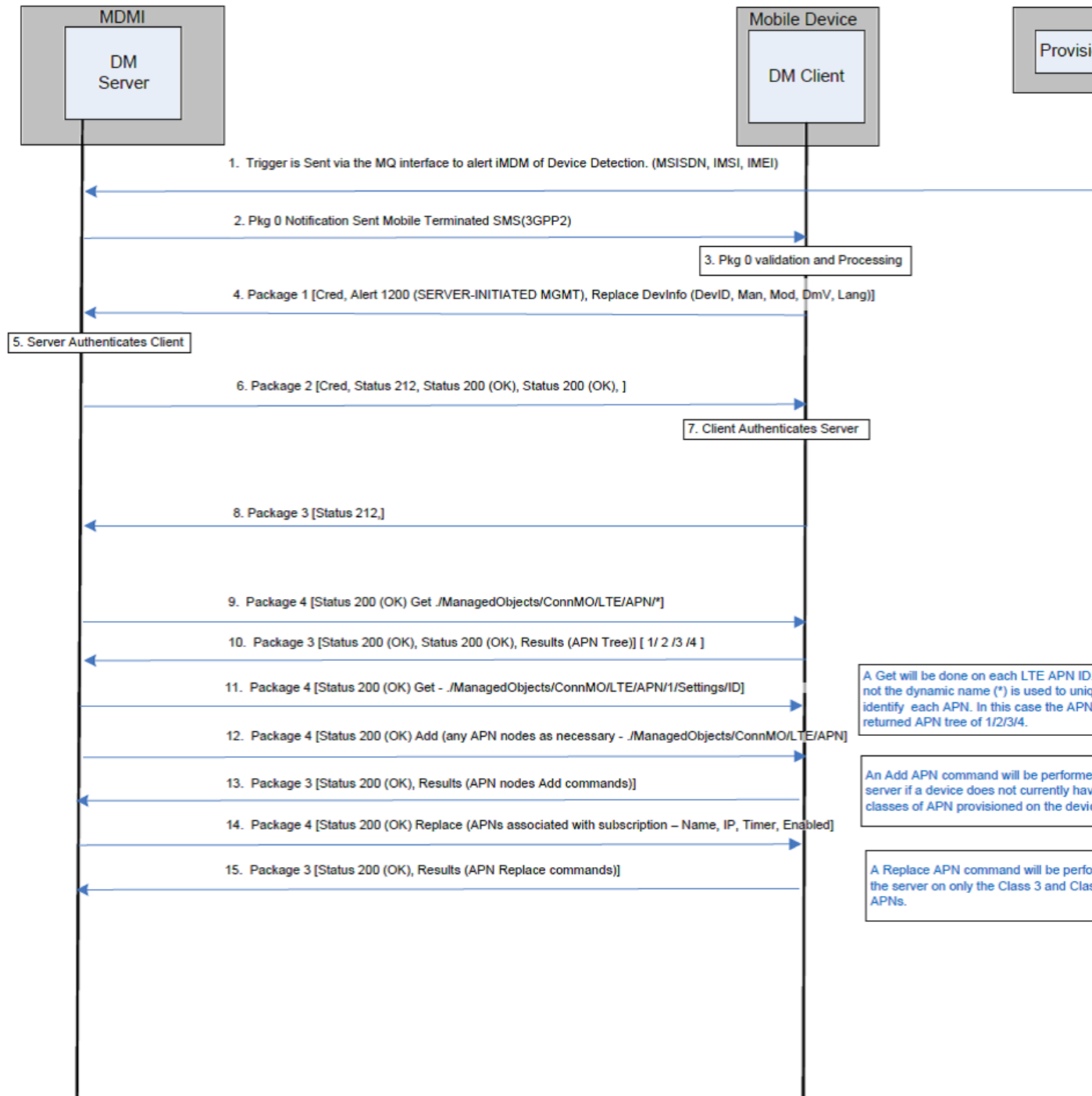
This concept defines "APN service availability"

#### 1.5.1.5.1.5 Service Availability for APN Parameter Changes SVZ\_REQ\_LTEOTADM\_7688

#### 1.5.1.5.1.6 ADD FLOW DIAGRAM VZ\_REQ\_LTEOTADM\_22998

The following diagram shows the ADD flow that is utilized by VZW. This is for information only.

# LTE ODI Activation Call flow



#### 1.5.1.5.1.7 APN Management after SIM change VZ\_REQ\_LTEOTADM\_8312636

When the Device is initiating a DM session with the server due to a SIM change detection, the device shall perform the following activities:

- Device (DM client) detects SIM change and starts a timer for 2 minutes
- If WAP PUSH from server is received before 2 minutes, the timer is cancelled and device sets up the session with the server
- If WAP PUSH is not received within 2 minutes (use case of ADD miss, two SIMs and 1 device scenario, etc...) and the timer expires, then the device shall initiate the session with the server after the expiry

#### 1.5.1.5.2 Connectivity Management VZ\_REQ\_LTEOTADM\_7684

The device shall support the following Connectivity Subtree and operations:

<i>Connectivity Node</i>	<i>Description</i>	<i>Value</i>	<i>Value Type</i>	<i>Commands</i>
./ManagedObjects/ConnMO/LTE	Internal Node	node		Get
./ManagedObjects/ConnMO/LTE/APN/I	Internal Node	node		Get
./ManagedObjects/ConnMO/LTE/APN/I/Setting	Internal Node	node		Get
./ManagedObjects/ConnMO/LTE/APN/I/Setting/Id	APN Id	I	int	Get
./ManagedObjects/ConnMO/LTE/APN/I/Setting/Name	APN Name	IMS	char	Get, Replace
./ManagedObjects/ConnMO/LTE/APN/I/Setting/IP	IP Version. Defined by Standards but not used by Verizon	IPv4 or IPv6 or IPv4 and IPv6	char	Get, Replace

	Wireless			
./ManagedObjects/ConnMO/LTE/APN/1/Setting/Enabled	Return APN /1/s status of Enabled (True), or Disabled (False)	True	Bool	Get
./ManagedObjects/ConnMO/LTE/APN/2/Setting/Id	APN Id	2	int	Get,
./ManagedObjects/ConnMO/LTE/APN/2/Setting/Name	APN Name	VZWADMIN	char	Get, Replace
./ManagedObjects/ConnMO/LTE/APN/2/Setting/IP	IP Version. Defined by Standards but not used by Verizon Wireless	Ipv4 or Ipv6 or Ipv4 and Ipv6	char	Get, Replace
./ManagedObjects/ConnMO/LTE/APN/2/Setting/Enabled	Return APN /2/s status of Enabled (True), or Disabled (False)	True	Bool	Get
./ManagedObjects/ConnMO/LTE/APN/3/Setting/Id	APN Id	3	int	Get,
./ManagedObjects/ConnMO/LTE/APN/3/Setting/Name	APN Name	VZWINTER NET	char	Get, Replace
./ManagedObjects/ConnMO/LTE/APN/3/Setting/IP	IP Version. Defined by Standards but not used by Verizon Wireless	Ipv4 or Ipv6 or Ipv4 and Ipv6	char	Get, Replace
./ManagedObjects/ConnMO/LTE/APN/3/Setting/Enabled	Return APN /3/s status of Enabled (True), or Disabled (False)	True, False	Bool	Get

./ManagedObjects/ConnMO/LTE/APN/3/Setting/Operations	Internal Node	Enable/Disable		Get
./ManagedObjects/ConnMO/LTE/APN/3/Setting/Operations/Enable	Enable APN	Null		Exec
./ManagedObjects/ConnMO/LTE/APN/3/Setting/Operations/Disable	Disable APN	Null		Exec
./ManagedObjects/ConnMO/LTE/APN/4/Setting/Id	APN Id	4	int	Get,
./ManagedObjects/ConnMO/LTE/APN/4/Setting/Name	APN Name	VZWAPP	char	Get, Replace
./ManagedObjects/ConnMO/LTE/APN/4/Setting/IP	IP Version. Defined by Standards but not used by Verizon Wireless	Ipv4 or Ipv6 or Ipv4 and Ipv6	char	Get, Replace
./ManagedObjects/ConnMO/LTE/APN/4/Setting/Enabled	Return APN /4/s status of Enabled (True), or Disabled (False)	True, False	Bool	Get
./ManagedObjects/ConnMO/LTE/APN/4/Setting/Operations	Internal Node	Enable/Disable		Get
./ManagedObjects/ConnMO/LTE/APN/4/Setting/Operations/Enable	Enable APN	Null		Exec
./ManagedObjects/ConnMO/LTE/APN/4/Setting/Operations/Disable	Disable APN	Null		Exec
./ManagedObjects/ConnMO/IMS	Interior Node	Node		Get
./ManagedObjects/ConnMO/IMS/Setting	Interior Node	Node		Get
./ManagedObjects/ConnMO/IMS/Setting/Domain	Home Domain Name for the device to populate the request URI for REGISTRAT	vzims.com	char	Get

	ION			
./ManagedObjects/ConnMO/IMS/Setting/smsformat	Device Outgoing SMS based on either 3GPP or 3GPP2 standards	3GPP or 3GPP2	char	Get, Replace

#### 1.5.1.5.2.1 ConnMO Replace Command - Values not case sensitive VZ\_REQ\_LTEOTADM\_7685

All writeable node values shall not be case sensitive, ie, device shall be able to write/replace the node values either in lower cases or upper cases.



### 1.5.1.5.3 Functionality For Device Connectivity Management VZ\_REQ\_LTEOTADM\_7686

Note: All Timer values in the above table have units associated, e.g. seconds or minutes; and the values shall be integer type; It is imperative that the server and the device interpret the value in the same units. If the units are specified in the above table as, e.g. seconds, then the device shall interpret any value received by the network as the same units (e.g. seconds). Similarly, if the device is going to populate a value in the tree, it shall assume the value the network will receive is the units in the above table.

Device shall allow the remote capture of connectivity settings and attributes based on OMA DM commands sent from the VZW DM server system.

The following node commands shall result in the listed functionality:

#### 1.5.1.5.3.1 APN Name Format VZ\_REQ\_LTEOTADM\_7702

Devices shall support the APN domain names which shall employ the domain formats as specified in RFC 3986

#### 1.5.1.5.3.2 APN ID VZ\_REQ\_LTEOTADM\_7687

APN Id get command on this node returns the Network Identifier of the associated Access Point Name (APN), for IMS APN, Id = 1; for Admin APN, Id = 2; for Internet APN, Id = 3; for VZW Applications APN, Id = 4; replace command changes the value;

#### 1.5.1.5.3.3 APN Name VZ\_REQ\_LTEOTADM\_7689

APN Name get command on this node returns the associated APN name, for IMS, the APN name = IMS; for Admin, the APN name = VZWADMIN; for Internet, the APN name = VZWINTERNET;

for VZW Application, the APN name = VZWAPP; replace command, where stated in the CONNMO tree, changes the value;

#### 1.5.1.5.3.4 IP VZ\_REQ\_LTEOTADM\_7690

IP get command on this node returns the associated APNs IP Type, which is one of: IPv4, IPv6, or IPv4 and IPv6; replace command changes the value.

#### 1.5.1.5.3.5 Enabled VZ\_REQ\_LTEOTADM\_7691

Enabled get command on this node returns the APN enabled (True) or disabled (False) status for all APNs;

#### 1.5.1.5.3.6 IMS Domain VZ\_REQ\_LTEOTADM\_7692

IMS Domain get command on this node returns the home domain name for the device to populate the request URI for registration; replace command changes the value;

#### 1.5.1.5.3.7 SIP T1 Timer VZ\_REQ\_LTEOTADM\_7693

#### 1.5.1.5.3.8 SIP T2 Timer VZ\_REQ\_LTEOTADM\_7694

### 1.5.1.5.3.9 SIP T2 Timer VZ\_REQ\_LTEOTADM\_7695

### 1.5.1.5.3.10 SMS Format VZ\_REQ\_LTEOTADM\_7696

### 1.5.1.5.3.11 Enable VZ\_REQ\_LTEOTADM\_7697

Enable exec command on this node turns an APN on, applicable only to APN Id = 3 and 4.

Enable is applicable to neither APN ID = 1 nor APN ID = 2 is due to the required device behavior specified in LTE\_3GPP\_Band13\_Network Access requirements.

If the server sends an EXEC command on APN ID = 1 or APN ID = 2, the device shall respond to the server with a 404 to indicate the the Exec node not found

### 1.5.1.5.3.12 Disable VZ\_REQ\_LTEOTADM\_7698

Disable exec command on this node shall turn the specified APN off, applicable to all APNs except APN<sub>1</sub> and APN<sub>2</sub>.

If the server sends an EXEC command on APN ID = 1 or APN ID = 2, the device shall respond to the server with a 404 to indicate the the Exec node not found

1.5.1.5.3.13 ~~Disable Testing~~ SVZ\_REQ\_LTEOTADM\_7715

1.5.1.5.3.14 ~~IP Indication for SMS~~ SVZ\_REQ\_LTEOTADM\_23000

1.5.1.5.3.15 ~~Factory Rest & Default APN values: Class 2 Disable~~ SVZ\_REQ\_LTEOTADM\_7709

1.5.1.5.3.16 ~~Functionality for Data Retry Connectivity Management~~  
~~Objects~~ SVZ\_REQ\_LTEOTADM\_26496

1.5.1.5.3.17 ~~MAX\_CONN\_T~~ SVZ\_REQ\_LTEOTADM\_26500

1.5.1.5.3.18 **MAX\_CONN** VZ\_REQ\_LTEOTADM\_26502

1.5.1.5.3.19 **WAIT\_TIME** VZ\_REQ\_LTEOTADM\_26505

1.5.1.5.3.20 **Factory Reset & Default APN values: Class 3** VZ\_REQ\_LTEOTADM\_38539

Factory reset shall not change Class 3 settings to the default values.

1.5.1.6 **Configuration Update** VZ\_REQ\_LTEOTADM\_7332288

1.5.2 **SDM REQUIREMENTS** VZ\_REQ\_LTEOTADM\_2409

### 1.5.3 Firmware Over The Air (FOTA) VZ\_REQ\_LTEOTADM\_37788

The device must support over the air software update. Open Access and Open Development device vendors may use their own FOTA system to update device software (firmware) over the air or use the Verizon Wireless FOTA system.

To obtain more information about Verizon FOTA Service, contact VZW.FOTA-Services@VerizonWireless.com.

## 1.5.4 SUPPORT FOR INDUSTRY STANDARDS AND VERIZON WIRELESS REQUIREMENTS VZ\_REQ\_LTEOTADM\_22991

### 1.5.4.1 OMA Defined Managed Objects VZ\_REQ\_LTEOTADM\_7680

#### 1.5.4.1.1 Update Result Reporting VZ\_REQ\_LTEOTADM\_7681

All devices shall send a final DM notification message to the server following the update in accordance with OMA DM standards and the following requirements.

#### 1.5.4.1.2 Update - Fatal Error VZ\_REQ\_LTEOTADM\_7682

If the update process experiences a fatal error (i.e. checksum of final image invalid), the device shall reset.

## 1.6 DEVINFO SUBTREE EXTENSION VZ\_REQ\_MMOTADM\_3103

### 1.6.1 ICCID Extended Node Support VZ\_REQ\_MMOTADM\_8081

- In addition to the Dev Info node that is supported from the LTE OTADM and Reqs-OTADM Requirements documents, the device shall support ICCID extension node as described below

<i>DevInfo Nodes</i>	<i>Description</i>	<i>Value</i>	<i>Value Type</i>	<i>Commands</i>
1.6.1.1.1.1./DevInfo/Ext/ICCID	UICCs ICCID Value	NULL or <ICCID> (See description below)	Char	Get

- ICCID Extension node is a Read Only node with Type Char. The Device shall not allow a Replace command from DM server on the ICCID Extension node. The Device shall be able to perform Read/Write operations on the ICCID Extension Node.
- This node shall be of Length 20 and shall only allow the following values:
  - NULL If UICC is not present in the Device or the Device is unable to reach the UICC due to some fault in the OS
  - This node shall only populate ICCID value retrieved from the UICC present in the device and only allow the following characters (0, 1, 2, 3, 4, 5, 6, 7, 8, or 9). Example:  
8914812345678901234

### 1.6.2 Device Functionality VZ\_REQ\_MMOTADM\_8083

- The Device shall attempt to read the value of ICCID everytime the Device is powered on

1. If a UICC is present and an ICCID value is retrieved, then the device shall check the existing value in the ICCID Extension Node. If the value is different than what is retrieved, then the retrieved value should be written in place of the pre-existing value
  2. If a UICC is not present, then the device shall write a NULL in place of the ICCID Value.
- The Device shall make use of the available OS APIs to be able to listen for UICC Changes/Removal while device is powered on. If a UICC change/removal is detected, then the device shall use the following logic:
    1. If UICC change is detected, then the Device shall retrieve the new ICCID value from the UICC and overwrite the existing value in the ICCID Extension node with the new Value
    2. If a UICC removal is detected, then the Device shall overwrite the existing value with NULL
  - The device shall report the ICCID Extension Node value during a Device Management Package 1 session along with all the other DevInfo node values. The device shall follow the rules specified above for value of ICCID Extension Node (NULL or actual ICCID value of a UICC in the Device).
  - The Device shall not send any value other than what is described in this sub section for the ICCID extension node
  - The Device shall not allow a Replace command from DM server on the ICCID Extension node.

## 1.7 INFORMATION AND USE CASES VZ\_REQ-LTEOTADM\_2410

### 1.7.1 APN CLASS USAGE - INFORMATIONAL VZ\_REQ-LTEOTADM\_2411

#### 1.7.1.1 CLASS 1 (APN 1) VZ\_REQ-LTEOTADM\_23001



#### 1.7.1.2 CLASS 2 (APN 2) VZ\_REQ\_LTEOTADM\_23002

#### 1.7.1.3 CLASS 3 (APN 3) VZ\_REQ\_LTEOTADM\_23003

#### 1.7.1.4 CLASS 4 (APN 4) VZ\_REQ\_LTEOTADM\_23004

### 1.8 REFERENCES VZ\_REQ\_LTEOTADM\_2412

#### <Industry Standards References>

Change requests may cause modification to the specifications listed below. Please refer to [www.3gpp.org](http://www.3gpp.org) for the latest version of the 3GPP specifications. Verizon Wireless LTE 3GPP Band 13 specifications are available at [www.verizonwireless-opendevelopment.com](http://www.verizonwireless-opendevelopment.com).

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2. IP Based Over-the-Air Device Management (IOTA-DM) for cdma2000 Systems, PN-3-0187, To be published as TIA-1059, January 14, 2005
3. The TLS Protocol Version 1.0, RFC 2246, January 1999

[www.ietf.org/rfc/rfc2068.txt](http://www.ietf.org/rfc/rfc2068.txt)

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8. OMA Device Management Protocol, Version 1.2 dated August 26, 2005.  
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9. OMA Device Management Requirements Document, Version 1.2 dated June 7, 2005.  
[http://www.openmobilealliance.org/technical/release\\_program/docs/copyrightclick.aspx?pk=DM&file=V1\\_2-20050607-C/OMA-RD-DM-V1\\_2-20050607-C.pdf](http://www.openmobilealliance.org/technical/release_program/docs/copyrightclick.aspx?pk=DM&file=V1_2-20050607-C/OMA-RD-DM-V1_2-20050607-C.pdf)
10. OMA Device Management Representation Protocol, Version 1.2 dated July 29, 2005.  
[http://www.openmobilealliance.org/technical/release\\_program/docs/copyrightclick.aspx?pk=DM&file=V1\\_2-20050607-C/OMA-RD-DM-V1\\_2-20050607-C.pdf](http://www.openmobilealliance.org/technical/release_program/docs/copyrightclick.aspx?pk=DM&file=V1_2-20050607-C/OMA-RD-DM-V1_2-20050607-C.pdf)
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22. Device Connectivity Management Object (DCMO) Specification  
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23. 3GPP TS 23.003: Technical Specifications Group Core Network and Terminals: Numbering, addressing and identification V9.0.0
24. The Internet Assigned Number Authority (IANA) Header Field Parameter Registry for the Session Initiation Protocol (SIP), RFC 3986,  
<http://www.ietf.org/rfc/rfc3968.txt>

## TestPlanCoverageForRequirement

### 3GPP Specifications VZ\_REQ\_LTEOTADM\_7654

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

### GLOSSARY/DEFINITIONS/ACRONYMS VZ\_REQ\_LTEOTADM\_2398

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

### User Experience (Device) VZ\_REQ\_LTEOTADM\_7655

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL	CLASS3APN	Admin User	01-02-2015 00:00:00

UPDATE VALIDATION			
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP-UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP-UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

LTE Network (Bearer) Available VZ\_REQ\_LTEOTADM\_7656

Test Case Name	Test Plan Id	Created By	Created Date
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Client-Server Connection Failure During The SDM Session VZ\_REQ\_LTEOTADM\_7657

Test Case Name	Test Plan Id	Created By	Created Date
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

DM Fatal Error VZ\_REQ\_LTEOTADM\_22978

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Accessory Interaction (Applicable on to Handset form Factor Devices)

VZ\_REQ\_LTEOTADM\_7658

Test Case Name	Test Plan Id	Created By	Created Date

VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00
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Subscriber Device Management VZ\_REQ\_LTEOTADM\_7659

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Network Initiated SDM Sessions VZ\_REQ\_LTEOTADM\_7660

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Network Initiated SDM Session VZ\_REQ\_LTEOTADM\_7661

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

User Initiated SDM Session - Manual PDN Name Change VZ\_REQ\_LTEOTADM\_7662

Test Case Name	Test Plan Id	Created By	Created Date
SIM SWAP - CHANGING SIMS WITHIN ONE	CLASS3APN	Admin	01-02-2015

DEVICE		User	00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW INTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00



## Instructions VZ\_REQ\_LTEOTADM\_7663

Test Case Name	Test Plan Id	Created By	Created Date
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP-UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP-UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00

VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

OMA Standards Compliance VZ\_REQ\_LTEOTADM\_7664

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Factory Bootstrapping VZ\_REQ\_LTEOTADM\_7699

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

PDN Provisioning for OTADM Device Management Traffic VZ\_REQ\_LTEOTADM\_7701

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin	01-08-2015

		User	00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Confidentiality (Data Encryption) VZ\_REQ\_LTEOTADM\_7703

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELD OA	Admin User	01-08-2015 00:00:00
Root Certificate Verification	LTEFIELD OA	James Paxton	06-12-2018 08:31:50
TLS Protocol for DM sessions	LTEFIELD OA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Root Certificate requirements VZ\_REQ\_LTEOTADM\_36249

Test Case Name	Test Plan Id	Created By	Created Date
Root Certificate Verification	LTEFIELDQA	James Paxton	06-12-2018 08:31:50
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Package o Authentication (Notification Initiation Session Message) VZ\_REQ\_LTEOTADM\_7705

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
NONCE ReSync Test - Server Credentials Change	VZOTADM	Admin User	11-08-2013 00:00:00
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Mutual Authentication VZ\_REQ\_LTEOTADM\_7707

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin	01-08-2015

		User	00:00:00
NONCE ReSync Test - Factory Reset	VZOTADM	Admin User	11-08-2013 00:00:00
NONCE ReSync Test - Server Credentials Change	VZOTADM	Admin User	11-08-2013 00:00:00
Package 2 Authentication	VZOTADM	Admin User	11-08-2013 00:00:00
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Failed Authentication Attempt Handling VZ\_REQ\_LTEOTADM\_7665

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
Package 2 Authentication	VZOTADM	Admin User	11-08-2013 00:00:00
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Authentication Key VZ\_REQ\_LTEOTADM\_7666

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
NONCE ReSync Test - Factory Reset	VZOTADM	Admin User	11-08-2013 00:00:00
NONCE ReSync Test - Server Credentials Change	VZOTADM	Admin User	11-08-2013 00:00:00
Package 2 Authentication	VZOTADM	Admin User	11-08-2013 00:00:00
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Integrity VZ\_REQ\_LTEOTADM\_7667

Test Case Name	Test Plan Id	Created By	Created Date
Invalid Package Integrity	VZOTADM	Admin User	11-08-2013 00:00:00
NONCE ReSync Test - Server Credentials Change	VZOTADM	Admin User	11-08-2013 00:00:00
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00

VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00
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OTA Device Management Tree Support VZ\_REQ\_LTEOTADM\_7668

Test Case Name	Test Plan Id	Created By	Created Date
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Commands VZ\_REQ\_LTEOTADM\_7669

Test Case Name	Test Plan Id	Created By	Created Date
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Verizon Wireless Defined Base DM Tree VZ\_REQ\_LTEOTADM\_7670

Test Case Name	Test Plan Id	Created By	Created Date
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE	CLASS3APN	Admin	01-02-2015

FEATURE WHEN DEVICE IS POWERED OFF		User	00:00:00
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DMAcc Subtree VZ\_REQ\_LTEOTADM\_7671

Test Case Name	Test Plan Id	Created By	Created Date
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

DevInfo Subtree VZ\_REQ\_LTEOTADM\_7672

Test Case Name	Test Plan Id	Created By	Created Date
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00
Verify the DevInfo nodes	LTEFIELDQA	Vipul Patel	02-20-2018 17:48:51

DevDetail Subtree VZ\_REQ\_LTEOTADM\_7673

Test Case Name	Test Plan Id	Created By	Created Date
TLS Protocol for DM sessions	LTEFIELDQA	Admin User	02-05-2015 00:00:00



VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00
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DM Notification via SMS message (Trigger) VZ\_REQ\_LTEOTADM\_7708

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
AUTHENTICATION SECURITY KEY MISMATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

LTE Service Required VZ\_REQ\_LTEOTADM\_7674

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
AUTHENTICATION SECURITY KEY MISMATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Network Initiated (NI) Retry VZ\_REQ\_LTEOTADM\_7675

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
AUTHENTICATION SECURITY KEY MISMATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Manual PDN Change VZ\_REQ\_LTEOTADM\_7676

Test Case Name	Test Plan Id	Created By	Created Date
APN Data Retry Parameters Value Persistence Through SU	TELEOTADM	Admin User	07-29-2014 00:00:00
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK	CLASS3APN	Admin	01-02-2015

IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT		User	00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

LTE Service Required VZ\_REQ\_LTEOTADM\_7677

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
AUTHENTICATION SECURITY KEY MISMATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

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<LocURI> VZ\_REQ\_LTEOTADM\_7678

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

<Data> Elements and Formatting VZ\_REQ\_LTEOTADM\_7679

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

IPv6 Connection VZ\_REQ\_LTEOTADM\_31776

Test Case Name	Test Plan Id	Created By	Created Date
IPv6 connectivity test to FOTA Download Server	TELEOTADM	Admin User	07-29-2014 00:00:00
OTADM-013-IPv6 Successful Connectivity Testing	LTEFIELDQA	Admin User	01-08-2015 00:00:00
OTADM-014-IPv4 Successful Connectivity Testing	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

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### Connection Setup Failure VZ\_REQ\_LTEOTADM\_31777

Test Case Name	Test Plan Id	Created By	Created Date
IPv4 fallback when IPv6 connectivity attempt fails	VZOTADM	James Paxton	06-08-2023 15:56:35
OTADM-013-IPv6 Successful Connectivity Testing	LTEFIELDQA	Admin User	01-08-2015 00:00:00
OTADM-014-IPv4 Successful Connectivity Testing	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

### Connection Failure During a DM Session VZ\_REQ\_LTEOTADM\_31778

Test Case Name	Test Plan Id	Created By	Created Date
OTADM-013-IPv6 Successful Connectivity Testing	LTEFIELDQA	Admin User	01-08-2015 00:00:00
OTADM-014-IPv4 Successful Connectivity Testing	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

### ADD Flow Requirements VZ\_REQ\_LTEOTADM\_7683

Test Case Name	Test Plan Id	Created	Created
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		By	Date
01.0401.0401.04VOID OTADM-012-Set Value for APN Data Retry Parameters	LTEFIELD OA	Admin User	01-08-2015 00:00:00
APN MANAGEMENT TRIGGERED BY MOBILE AUTOMATIC DEVICE DETECTION (ADD)	LTEFIELD OA	Admin User	01-08-2015 00:00:00
APN Management by OTADM server	LTEFIELD OA	Admin User	01-08-2015 00:00:00
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW INTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00

VERIFY LTE CONNMO DM TREES	LTEFIELD OA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Service Availability for APN Parameter Changes VZ\_REQ\_LTEOTADM\_7688

Test Case Name	Test Plan Id	Created By	Created Date
01.0401.0401.04VOID OTADM-012-Set Value for APN Data Retry Parameters	LTEFIELD OA	Admin User	01-08-2015 00:00:00
APN MANAGEMENT TRIGGERED BY MOBILE AUTOMATIC DEVICE DETECTION (ADD)	LTEFIELD OA	Admin User	01-08-2015 00:00:00
APN Management by OTADM server	LTEFIELD OA	Admin User	01-08-2015 00:00:00
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00

VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFY LTE CONNMO DM TREES	LTEFIELD OA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00



## Connectivity Management VZ\_REQ\_LTEOTADM\_7684

Test Case Name	Test Plan Id	Created By	Created Date
APN MANAGEMENT TRIGGERED BY MOBILE AUTOMATIC DEVICE DETECTION (ADD)	LTEFIELDQA	Admin User	01-08-2015 00:00:00
APN NAMES CASE INSENSITIVE TEST	LTEFIELDQA	Admin User	01-08-2015 00:00:00
Basic Parameters	VZOTADM	Admin User	11-08-2013 00:00:00
CONNMO TREE ADMIN APN VERIFICATION AND OPERATION	LTEFIELDQA	Admin User	01-08-2015 00:00:00
CONNMO TREE APP APN VERIFICATION AND OPERATION	LTEFIELDQA	Admin User	01-08-2015 00:00:00
CONNMO TREE IMS APN VERIFICATION AND OPERATION	LTEFIELDQA	Admin User	01-08-2015 00:00:00
CONNMO TREE INTERNET APN VERIFICATION AND OPERATION	LTEFIELDQA	Admin User	01-08-2015 00:00:00
CONNMO TREE SMS OVER IMS VERIFICATION AND OPERATION	LTEFIELDQA	Admin User	01-08-2015 00:00:00
OTADM-013-IPv6 Successful Connectivity Testing	LTEFIELDQA	Admin User	01-08-2015 00:00:00
OTADM-014-IPv4 Successful Connectivity Testing	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00

VERIFY LTE CONNMO DM TREES	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VOID Get Value for APN Data Retry Parameters	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

ConnMO Replace Command - Values not case sensitive VZ\_REQ\_LTEOTADM\_7685

Test Case Name	Test Plan Id	Created By	Created Date
APN NAMES CASE INSENSITIVE TEST	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Functionality For Device Connectivity Management VZ\_REQ\_LTEOTADM\_7686

Test Case Name	Test Plan Id	Created By	Created Date
APN Data Retry Parameters Value Persistence Through SU	TELEOTADM	Admin User	07-29-2014 00:00:00
IMS APN Operations at eHRPD Mode (Regression	TELEOTADM	Admin	07-29-2014

Test)		User	00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00

APN Name Format VZ\_REQ\_LTEOTADM\_7702

Test Case Name	Test Plan Id	Created By	Created Date
01.0401.0401.04VOID OTADM-012-Set Value for APN Data Retry Parameters	LTEFIELDQA	Admin User	01-08-2015 00:00:00
APN Data Retry Parameters Value Persistence Through SU	TELEOTADM	Admin User	07-29-2014 00:00:00
APN MANAGEMENT TRIGGERED BY MOBILE AUTOMATIC DEVICE DETECTION (ADD)	LTEFIELDQA	Admin User	01-08-2015 00:00:00
Basic Parameters	VZOTADM	Admin User	11-08-2013 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VERIFY LTE CONNMO DM TREES	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00

APN ID VZ\_REQ\_LTEOTADM\_7687

Test Case Name	Test Plan Id	Created	Created
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		By	Date
01.0401.0401.04VOID OTADM-012-Set Value for APN Data Retry Parameters	LTEFIELD OA	Admin User	01-08-2015 00:00:00
APN Data Retry Parameters Value Persistence Through SU	TELEOTADM	Admin User	07-29-2014 00:00:00
APN MANAGEMENT TRIGGERED BY MOBILE AUTOMATIC DEVICE DETECTION (ADD)	LTEFIELD OA	Admin User	01-08-2015 00:00:00
Basic Parameters	VZOTADM	Admin User	11-08-2013 00:00:00
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00

VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFY LTE CONNMO DM TREES	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

APN Name VZ\_REQ\_LTEOTADM\_7689

Test Case Name	Test Plan Id	Created By	Created Date
01.0401.0401.04 VOID OTADM-012-Set Value for APN Data Retry Parameters	LTEFIELDQA	Admin User	01-08-2015 00:00:00
APN Data Retry Parameters Value Persistence Through SU	TELEOTADM	Admin User	07-29-2014 00:00:00
APN MANAGEMENT TRIGGERED BY MOBILE AUTOMATIC DEVICE DETECTION (ADD)	LTEFIELDQA	Admin User	01-08-2015 00:00:00

Basic Parameters	VZOTADM	Admin User	11-08-2013 00:00:00
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFY LTE CONNMO DM TREES	LTEFIELDQA	Admin User	01-08-2015 00:00:00

VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

IP VZ\_REQ\_LTEOTADM\_7690

Test Case Name	Test Plan Id	Created By	Created Date
01.0401.0401.04VOID OTADM-012-Set Value for APN Data Retry Parameters	LTEFIELDQA	Admin User	01-08-2015 00:00:00
APN MANAGEMENT TRIGGERED BY MOBILE AUTOMATIC DEVICE DETECTION (ADD)	LTEFIELDQA	Admin User	01-08-2015 00:00:00
Basic Parameters	VZOTADM	Admin User	11-08-2013 00:00:00
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) EHRPD	CLASS3APN	Admin User	01-02-2015 00:00:00

ENVIRONMENT			
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFY LTE CONNMO DM TREES	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Enabled VZ\_REQ\_LTEOTADM\_7691

Test Case Name	Test Plan Id	Created	Created
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		By	Date
01.0401.0401.04VOID OTADM-012-Set Value for APN Data Retry Parameters	LTEFIELD OA	Admin User	01-08-2015 00:00:00
APN MANAGEMENT TRIGGERED BY MOBILE AUTOMATIC DEVICE DETECTION (ADD)	LTEFIELD OA	Admin User	01-08-2015 00:00:00
Basic Parameters	VZOTADM	Admin User	11-08-2013 00:00:00
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE	CLASS3APN	Admin User	01-02-2015 00:00:00

BROADBAND			
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFY LTE CONNMO DM TREES	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

IMS Domain VZ\_REQ\_LTEOTADM\_7692

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

SIP T1 Timer VZ\_REQ\_LTEOTADM\_7693

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

VoLTE DM SIP Session Timer	TELEOTADM	Admin User	07-29-2014 00:00:00
VoLTE Timer - SIPT <sub>1</sub>	TELEOTADM	Admin User	07-29-2014 00:00:00

SIP TF Timer VZ\_REQ\_LTEOTADM\_7694

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VoLTE DM SIP Session Timer	TELEOTADM	Admin User	07-29-2014 00:00:00
VoLTE Timer - SIPT <sub>f</sub>	TELEOTADM	Admin User	07-29-2014 00:00:00

SIP T<sub>2</sub> Timer VZ\_REQ\_LTEOTADM\_7695

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS <sub>3</sub> APN	Admin User	01-02-2015 00:00:00
VoLTE DM SIP Session Timer	TELEOTADM	Admin User	07-29-2014 00:00:00
VoLTE Timer - SIPT <sub>2</sub>	TELEOTADM	Admin User	07-29-2014 00:00:00

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SMS Format VZ\_REQ\_LTEOTADM\_7696

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Enable VZ\_REQ\_LTEOTADM\_7697

Test Case Name	Test Plan Id	Created By	Created Date
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00

VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Disable VZ\_REQ\_LTEOTADM\_7698

Test Case Name	Test Plan Id	Created By	Created Date
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP	CLASS3APN	Admin	01-02-2015

APN DYNAMIC (SFO 73578) EHRPD ENVIRONMENT		User	00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN 4G ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Disable Testing VZ\_REQ\_LTEOTADM\_7715

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

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IP Indication for SMS VZ\_REQ\_LTEOTADM\_23000

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Factory Rest & Default APN values: Class 2 Disable VZ\_REQ\_LTEOTADM\_7709

Test Case Name	Test Plan Id	Created By	Created Date
APN Data Retry Parameters Value Persistence Through SU	TELEOTADM	Admin User	07-29-2014 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Functionality for Data Retry Connectivity Management Objects VZ\_REQ\_LTEOTADM\_26496

Test Case Name	Test Plan Id	Created By	Created Date
01.0401.0401.04 VOID OTADM-012-Set Value for APN Data Retry Parameters	LTEFIELD OA	Admin User	01-08-2015 00:00:00
VOID Get Value for APN Data Retry Parameters	LTEFIELD OA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

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MAX\_CONN\_TVZ\_REQ\_LTEOTADM\_26500

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

MAX\_CONN VZ\_REQ\_LTEOTADM\_26502

Test Case Name	Test Plan Id	Created By	Created Date
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR NEW DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00



VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

WAIT\_TIME VZ\_REQ\_LTEOTADM\_26505

Test Case Name	Test Plan Id	Created By	Created Date
SIM SWAP - CHANGING SIMS WITHIN ONE DEVICE	CLASS3APN	Admin User	01-02-2015 00:00:00
SIM SWAP BETWEEN DEVICES CHANGING APN ASSIGNMENT (NORMAL TO STATIC IP) ON DEVICES	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN DYNAMIC (SFO 73578) APN MANUAL UPDATE VALIDATION	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW PRIVATE NETWORK IP APN STATIC (SFO 73584) IN EHRPD ENVIRONMENT	CLASS3APN	Admin User	01-02-2015 00:00:00
VERIFICATION OF VZW STATIC IP APN FOR STATIC IP- UNRESTRICTED (SFO 76443) FOR EXISTING DEVICE WITH MOBILE BROADBAND	CLASS3APN	Admin User	01-02-2015 00:00:00

VERIFICATION OF VZWINTERNET SERVICE FOR PRIVATE, DYNAMIC (NATD) IP	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS INSERTED INTO LAPTOP AND POWERED BUT NOT CONNECTED	CLASS3APN	Admin User	01-02-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

OMA Defined Managed Objects VZ\_REQ\_LTEOTADM\_7680

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Update Result Reporting VZ\_REQ\_LTEOTADM\_7681

Test Case Name	Test Plan Id	Created By	Created Date
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Update - Fatal Error VZ\_REQ\_LTEOTADM\_7682

Test Case Name	Test Plan Id	Created By	Created Date
AUTHENTICATION SECURITY KEY MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00

AUTHENTICATION SECURITY KEY MIS-MATCH	LTEFIELDQA	Admin User	01-08-2015 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

ICCID Extended Node Support VZ\_REQ\_MMOTADM\_8081

Test Case Name	Test Plan Id	Created By	Created Date
DEVINFO EXTENSION NODE TEST	LTEFIELDQA	Admin User	01-08-2015 00:00:00
Multimode DM Tree Nodes	VZOTADM	Admin User	11-08-2013 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00

Device Functionality VZ\_REQ\_MMOTADM\_8083

Test Case Name	Test Plan Id	Created By	Created Date
Multimode DM Tree Nodes	VZOTADM	Admin User	11-08-2013 00:00:00
VZW STATIC IP APN ADD AND REMOVE FEATURE WHEN DEVICE IS POWERED OFF	CLASS3APN	Admin User	01-02-2015 00:00:00