###### Telemetry

***Objective:***

Objective is to verify Telemetry with PKIX certificates. This testcase is related to the PKIX testcase.

***Procedure:***

* Setup a gnmi-client on a linux server. For this test, the gnmi-client is setup on the server/VM 10.181.65.91.
* Download the certificates from CA server to the node.

pkix-certificates install login-id ftpuser password ciena123 cert-name cert-openssl-1.1.1 cert-passphrase ciena remote-file-uri <ftp://10.181.65.91/~/gnmi/ValimarDevServer-openssl-1.1.1.p12> cert-only false

pkix-ca install login-id ftpuser password ciena123 ca-cert-name ValimarCa remote-file-uri [ftp://10.181.65.91/~/gnmi/ValimarDevCa-](ftp://10.181.65.91/~/gnmi/ValimarDevCa-openssl-1.1.1.cert.pem) [openssl-1.1.1.cert.pem](ftp://10.181.65.91/~/gnmi/ValimarDevCa-openssl-1.1.1.cert.pem)

* Validate that the certificates have been downloaded:

3928-003> show pkix

+ CA CERTIFICATES +

| Name | Value |

+ + +

| CA Name | ValimarCa |

| Subject Common Name | |

| Issuer Common Name | |

| Valid Until | Aug 8 23:19:19 2040 UTC (19 years) |

+ + +

+---- CERTIFICATE REVOCATION LISTS ---+

| Name | Value |

+ + +

| No Entries |

+ + +

+ DEVICE CERTIFICATES +

| Name | Value |

+ + +

| Certificate Name | cert-openssl-1.1.1 |

| Algorithm ID | - |

| Private Key | present |

| Subject Common Name | ValimarDevServer-openssl-1.1.1-rsa4096 |

| Issuer Common Name | - |

| Valid Until | Aug 24 21:40:12 2021 UTC (10 months) |

+ + +

* Setup TLS, PKIX, and Telemetry server.

hello-params tls-profile cipher-suites cipher-suite ecdhe-rsa- with-aes-128-cbc-sha

hello-params tls-profile elliptic-curves elliptic-curve ciena- tls-types:secp256r1

hello-params tls-profile session-resumption-timeout 3600 pkix peer-auth-profiles peer-auth-profile peer-auth-profile check-cert-expiry true

tls-service-profiles test tls-profile-name tls-profile

tls-service-profiles test tls-peer-auth-profile-name peer-auth- profile

tls-service-profiles test tls-certificate-name cert-openssl- 1.1.1

telemetry-system server config enable true

telemetry-system server config tls-service-profile test exit

* Validate TLS setup:

3928-003> show tls

+------------ TLS SERVICE PROFILES +

| Name | Value |

+ + +

| Service Profile Name | test |

| TLS Profile Name | tls-profile |

| Peer Auth Profile Name | peer-auth-profile |

| Certificate Name | cert-openssl-1.1.1 |

+ + +

+---------- PEER AUTH PROFILES +

| Name | Value |

+ + +

| Profile Name | peer-auth-profile |

| Check Expiry | True |

| Check IP/Host | - |

| Check Fingerprint | - |

| Fingerprint List | - |

+ + +

+ HELLO PARAMS +

| Name | Value |

+ + +

| Profile Name | tls-profile |

| Protocol Versions | tls-1.2 |

| Cipher Suites | ecdhe-rsa-with-aes-128-cbc-sha |

| Elliptic Curves | secp256r1 |

| Sess. Resumption Timeout (s) | 3600 |

| OCSP State | disabled |

| NONCE State | enabled |

| Default OCSP Responder URL | - |

+ + +

* Subscribe to a sensor from the gnmi-client and validate that messages are being received. Output from GNMI-client on remote server polling for 10x node system memory:

ftpuser@ftpuser:~/gnmi$

gnmi\_cli -a 10.181.102.165:6702 -updates\_only -qt s -dt s - sample\_interval 50000 -client\_types gnmi -insecure -client\_crt Vali marDevClient-openssl-1.1.1.cert.pem -client\_key ValimarDevClient- openssl-1.1.1.key.pem -with\_user\_pass -q **/ciena-sys-tmet:system- state/memory**

username: diag password:

Ciena/ciena-sys-tmet:system-state/memory/active, 2189152256

Ciena/ciena-sys-tmet:system-state/memory/available, 1533530112

Ciena/ciena-sys-tmet:system-state/memory/buffers, 684834816

Ciena/ciena-sys-tmet:system-state/memory/cached, 895356928

Ciena/ciena-sys-tmet:system-state/memory/free, 213032960

Ciena/ciena-sys-tmet:system-state/memory/inactive, 697450496

Ciena/ciena-sys-tmet:system-state/memory/total, 4113903616

Ciena/ciena-sys-tmet:system-state/memory/used, 2320678912

Ciena/ciena-sys-tmet:system-state/memory/used-percent, 62.7

Ciena/ciena-sys-tmet:system-state/memory/active, 2189561856

Ciena/ciena-sys-tmet:system-state/memory/available, 1534181376

Ciena/ciena-sys-tmet:system-state/memory/buffers, 684843008

Ciena/ciena-sys-tmet:system-state/memory/cached, 895713280

Ciena/ciena-sys-tmet:system-state/memory/free, 213442560

* Verify telemetry sensor subscription:

3928-003> show telemetry subscriptions

+--------------------------- TELEMETRY SUBSCRIPTIONS +

| Index | Name | Value |

+ + + +

| 1 | Subscription: | |

| | Subscription-ID | 4ca324bf-db60-48ea-9e3b-6325346268e0 |

| | Subscription State | |

| | User Name | diag |

| | Subscription Mode | stream |

| | Update Only | True |

| | Sample Interval | 5000000000 |

| | Subscription Message | |

| | Telemetry Sensor Paths | |

| | Telemetry Sensor Path | /ciena-sys-tmet:system-state/memory |

| | Telemetry Sensor ID | 17435055178426406752 |

| | Telemetry Sensor Sub-Mode | target-defined |

+ + + +

Test Case Results:

Passed: Yes No Verified by Date/Time Comments