

Altan Networks

APRIL 2023

VoLTE Evolution

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ALTAN
REDES

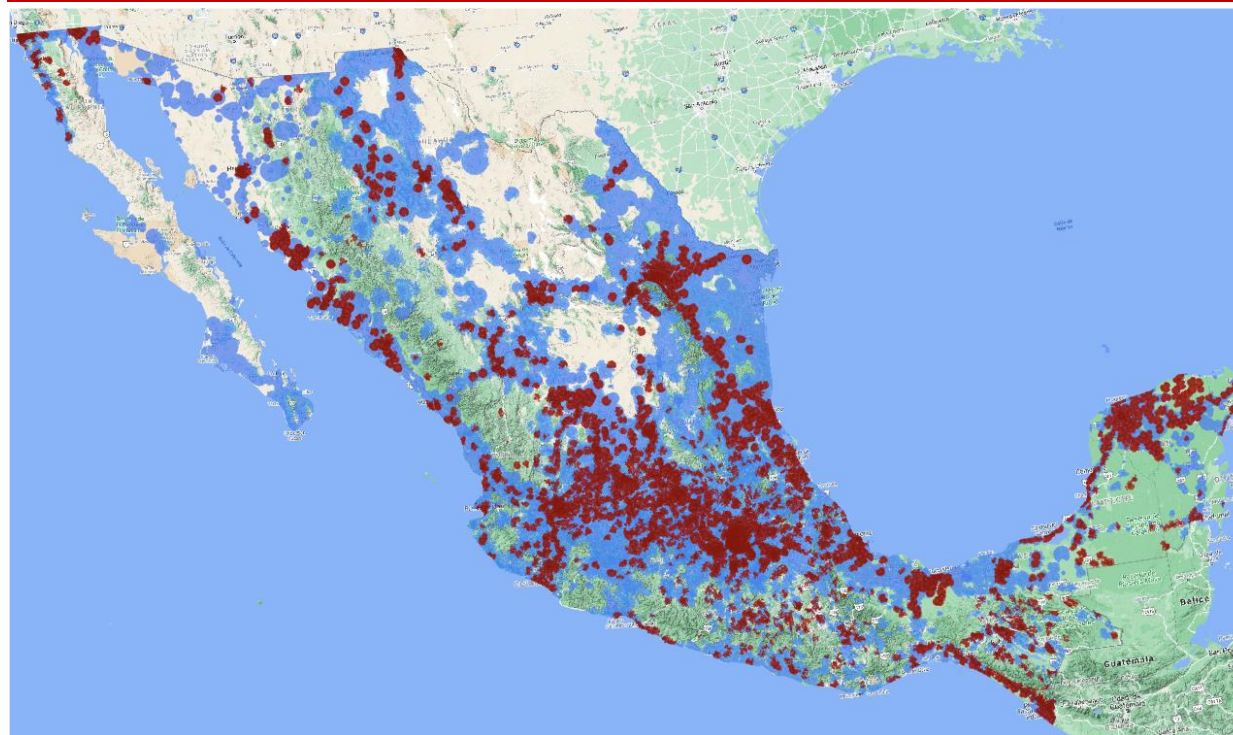
Altán
La red de todos

The Wholesale Network is a **unique project in Mexico**, whose objective is to transform telecommunications in the country, close the digital way and promote competitiveness

¿Who is Altán?

- Mexican company responsible for deploying and operating the Network under the terms and conditions established in the **Public-Private Association (APP)**
- **Main Goal:** Connect 100% of Mexicans, reduce the digital way, promote competition and provide a neutral, non-discriminatory service.

Red Compartida has national coverage



Current deployment of own Population coverage
70.66%

Altán + Partners
2023: **94.3%**

- Cobertura Altan
- Cobertura Roaming Nacional

Social Coverage

- Unique provider with 4G in more than 60K locations.
- Unique single provider in 30K locations.

- **8.4M** active end users currently.
- Presence in **87** Magic Towns.
- Coverage of more than **50%** of the Social Coverage Plan.
- More than **95,000** communities with fewer than **5,000** citizens already have coverage.

How do we operate?

We convert the 700MHz spectrum into capacity, which is sold to virtual mobile operators for marketing to their end users

Public sector

**ALTÁN
Wholesale Network**

**Customers
Virtual Operators
(115 MVNOs)**

**End
User**

Spectrum

Fibre



8.4Mill EU

Spectrum and infrastructure at the service of EVERYONE to improve the population's access to broadband

- Next Generation 4.5LTE network that allows rapid evolution to 5G
- Speed up to 100Mbps per end user for a superior internet experience
- We support all the business models that an MVNO requires, from Full MVNO to resale models

VoLTE Interoperability Testing

We are pleased to share that the capability set out in GSMA PRD IR.25 was successfully demonstrated and the GSMA.

VoLTE Interoperability Network Test passed.

Definition of a test matrix covering all network type combinations and IMS profiles

- Type-0 – LTE launched
- Type-1 – VoLTE launched
- Type-2 – VoLTE & SMSoIP launched (CS-emergency)
- Type-3 – VoLTE & IMS Emergency call (legacy SMS)
- Type-4 – All IMS based services

Operador de red	MCC/MNC	Tipo de red	Perfil IMS	Fecha de finalización de la prueba	Certificado
Altan Redes	334 140	Tipo 4 - VoLTE, SMSoIP e IMS de emergencia	Voz y SMS-2	16/12/2022	2022-NT-4599

Test Overview: Test Success Details - 2022-12-15 20:00 to 2022-12-15 21:00 UTC+01:00

Testcase	Timestamp	Verdict	errorText	Cause_L3	a_UsedPMN	b_UsedPMN	c_UsedPMN	d_UsedPMN	a_imsi	a_number	a_location	b_imsi	b_number	b_location
IMS_Register	2022-12-15 20:41:57	PASS			mx altan				334140142680496	+525646585696	Mexico-Altan-CDMX			
VoLTE_MO_External	2022-12-15 20:42:29	PASS			mx altan				334140142680498	+525646580608	Mexico-Altan-Merida			
VoLTE_EmergencyCall	2022-12-15 20:46:18	PASS			mx altan				334140142680499	+525646587016	Mexico-Altan-Hermosillo			
SMSoIP_MO_MT	2022-12-15 20:46:43	PASS			mx altan	mx altan			334140142680498	+525646580608	Mexico-Altan-CDMX	334140142680496	+525646585696	Mexico-Altan-Tijuana
VoLTE_MO_MT	2022-12-15 20:50:16	PASS			mx altan	mx altan			334140142680499	+525646587016	Mexico-Altan-Hermosillo	334140142680497	+525646585707	Mexico-Altan-CDMX

Interoperability Testing
NETWORK TEST CERTIFICATE

This is to certify that **Altan Redes** on **16 12 2022** has successfully demonstrated the capability laid out in GSMA PRD IR.25 and passed the Network Test to facilitate the deployment of VoLTE.

Identity of Network: **Network-334/140**

The network was successfully proven to be a **Type 4** Network

The network was tested using **NG Service Profile Voice & SMS-2 (Profile#4)**

Certificate Number: **2022-NT-4599**

Supplementary information: There are minor differences from the Voice & SMS-2 profile :- i) Ut is not used, ii) USSI is not used, iii) SMSoIP is used irrespective of voice, and iv) a mode set of (0,2,4,7) is used for the AMR codec.

Signature: *Alex Sinclair*
Alex Sinclair, Chief Technology Officer, GSMA

W: gsma.com E: interop@gsma.com
GSMA Association, 1 Angel Lane, London, EC4R 3AB, UK

GSMA NSX experience

NSX was used to fix Automatic APN configuration in Apple devices

NETWORK SETTINGS EXCHANGE

Account Settings
Settings Management
Registered OEMs

Edit Settings File

File Name : TS.32-v9.1 Upload2.xlsx
File Uploaded Date : 29 Apr 2022 12:07

Index	Setting Name	Permissible Setting Value	GSMA Default Value	MNO Recommended Value
Other 1.02	Supports IPv4	Activate/Deactivate	Activate	Activate
Other 1.03	Supports IPv4v6	Activate/Deactivate	Activate	Deactivate
Other 1.04	Supports IPv6	Activate/Deactivate	Activate	Deactivate
Other 1.05	46XLAT	Activate/Deactivate	Activate	Deactivate
Other 1.06	SMS default alphabet	Activate/Deactivate	Activate	Activate
Other 1.07	MTU size	Value		1900
Other 1.08	TD-SCDMA	Activate/Deactivate		Deactivate
Other 1.09	CDMA-2000	Activate/Deactivate		Deactivate
Other 1.10	Fast higher priority PLMN search upon entering VPLMN	Activate/Deactivate	Activate	Activate
Other 1.14	Voice Mail Numbers	Numerical value	Void	*99
Other 1.22	APN in Initial Attach	No APN/APN Name	No APN	internet.altan

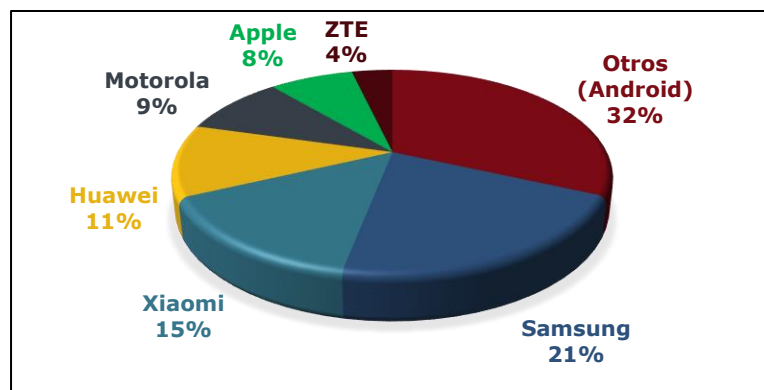
Index	Setting Name	Permissible Setting Value	GSMA Default Value	MNO Recommended Value
APN 1.27	ACSP Reference	Yes/No	Yes	Yes
APN 1.28	APN1: APN name	String	Void	internet.altan
APN 1.29	APN1: APN	String	Void	internet.altan
APN 1.30	APN1: Authentication	PAP/CHAP/Normal	Void	Normal
APN 1.31	APN1: Username	String	Void	Void
APN 1.32	APN1: Password	String	Void	Void
APN 1.33	APN1: APN type	default,wap,mms,wap,icap	default	default
APN 1.34	APN1: Gateway / Proxy server IP address	IP address	Void	Void
APN 1.35	APN1: Gateway / Proxy server port number	Integer	Void	Void
APN 1.36	APN1: APN protocol	IPv4,IPv6,IPv6v6	IPv4	IPv4
APN 1.37	APN1: APN roaming protocol	IPv4,IPv6,IPv6v6	IPv4	IPv4
APN 1.38	APN1: MMS URL	String	Void	Void
APN 1.39	APN1: MMS proxy address	String	Void	Void
APN 1.40	APN1: MMSC port number	Integer	Void	Void
APN 1.41	APN2: APN name	String	Void	internet.altan
APN 1.42	APN2: APN	String	Void	internet.altan
APN 1.43	APN2: Authentication	PAP/CHAP/Normal	Void	Normal
APN 1.44	APN2: Username	String	Void	Void
APN 1.45	APN2: Password	String	Void	Void
APN 1.46	APN2: APN type	default,wap,mms,wap,icap	Void	Void

Scenario: Apple devices have no data service or internet sharing if you don't set the APN manually.

Resolution: The APNs were uploaded on the GSMA NSX platform, Altán uploaded on April 29 and was verified and tested on June 24 in validation of Apple devices.

Apple requested to validate the fixes included in the Beta version of iOS 15.6, Altán validated calls waiting, data APNs were corrected, and internet sharing APNs were added.

Apple indicated all fixes would be included in the next release of iOS starting on September 22.



This service enabled 8% of our active fleet with automatic configuration

THANK YOU



If you have any questions, please contact us

oswaldo.montes@altanredes.com