

CLI authentication in France

Customer Q&A

Introduction

Please find below the important steps you & Colt need to take in order to comply with the Regulatory changes in France.

On 25th January 2024 APNF informed all operators registered for CLI authentication on the MAN portal that they had agreed the following with ARCEP:-

- From 1st June 2024 :
 - All operators must have deployed CLI authentication on all SIP interconnects, with no disconnection of unauthenticated calls at this stage
 - All operators must be providing reports (traces & volumetrics) to the CLI authentication (MAN) platform as planned, so that data can be consolidated and the system monitored
- From 1st October 2024 :
 - Operators must start blocking calls which are not signed with no exception. Calls which are signed but fail validation checks such as calls with an invalid signature (wrong iat, wrong certificate, wrong format etc) must also be blocked

Today Colt is authenticating calls over our direct interconnects in France e.g. with Orange, SFR etc and we will be ready to sign, verify & report calls to APNF from 1st June 2024. We are also on track to block calls from 1st October 2024.

This document only covers the voice calls. Messages are out of scope.

This document is in a Q&A format and is for guidance purposes only. It is not legally binding.

This document is valid as of February 2024.

We will update and publish the Q&A following updates and regulatory information received from APNF and/or ARCEP.

Version Control

Version	Notes / Updates	Date
1.0	First issue	20 Feb 2023
2.0	Q&A has been restructured to explain what we will support from 25 th July 2023 and explain what you need to do if you have your own numbers from ARCEP or numbers ported into you as a registered operator with APNF.	12 April 2023
3.0	Updates include:- <ol style="list-style-type: none">1) Clarification on the information required in APNF's letter and whom to send it to – see Q&A-32) Clarification on what the AEROPE app supports – see Q&A-33) Further information on the impacts of CLI authentication if you have IN (freephone, tollfree, shared cost, 'IN Geo' numbers hosted by Colt) – see Q&A-3 & 5. Attestation levels for IN calls – see Q&A-6	18 May 2023

	4) Update post the go-live of the MAN portal on 8 th May – see Q&A-10	
4.0	<p>Updates include:-</p> <ol style="list-style-type: none"> 1) Emphasis that we will be authenticating, i.e. signing & verifying calls on behalf of ALL customers for ALL voice products. If you wish to sign calls then please advise your Account Executive as we will target support for this in 2H23 – see Q&A-3 & 5 2) Further information on how to select Colt in the MAN portal, apply for certificates and final steps – see Q&A-3 & Appendix A 3) Clarifications regarding treatment of inbound calls in Q&A-14 	9 June 2023
5.0	<p>Updates include:-</p> <ol style="list-style-type: none"> 1) Update from APNF on the postponement of the CLI authentication effective date – see Introduction above 2) Clarification in the attestation level section regarding how calls will be signed when originating from numbers which are not activated on the Colt network – see Q&A-6 	10 Aug 2023
6.0	<p>Updates include:-</p> <ol style="list-style-type: none"> 1) Confirmation of the launch date for CLI authentication from ARCEP & APNF – see Introduction 2) New requirement for resellers using the tri-partite agreement to register with APNF, obtain indirect certificates and mandate Colt to sign & verify calls on their behalf, or sign calls themselves – see Q&A-2 & 3 3) The steps required if you wish to sign calls yourself – see Q&A-3 4) Please contact Colt if you wish to revoke your certificates – see Q&A-3 5) For reference – see Q&A covering the Regulatory changes in France in EN & FR 	12 Feb 2024

Customer Q&A

1. Is this regulation related to the removal of reselling of numbers in France?

This regulation is distinct from the regulatory change in France where the resale of numbers is now forbidden and all Operators (including resellers) are expected to source their own numbers from ARCEP to provide services to their end customers (as of Jan 2023). For more information on how Colt can host your own numbers in France or use of an alternative tri-partite agreement, please contact your Colt Account Manager or refer to the Q&A here in [EN](#) & [FR](#).

The CLI Authentication Regulation (see [link to IV of Article L.44 of the French Post and Electronic Communications Code](#)) which goes live on 1st October 2024 is concerned with ensuring that French voice calls are authenticated and signed at the call origin so that the call can be trusted by downstream operators.

2. As a Colt customer, will I be impacted?

You are impacted if you provide voice services to end customers in France and you must take action now.

- If you provide voice services to your end customers on numbers allocated to you by ARCEP, or on numbers ported into you then you are accountable for the authentication and verification of the calls. You can either sign calls yourself or allow Colt to manage the signature and verification of calls from/to your own numbers and ported numbers on your behalf, and/or
- If you provide voice services to your customers on numbers allocated to Colt by ARCEP, or on numbers ported into Colt as the Operator (for example under a tri-partite agreement) and send traffic to Colt for termination from non-Colt numbers or from numbers not ported into Colt, then you must apply for an Operator code from ARCEP as you are providing electronic communication services in France – see: <https://extranet.ARCEP.fr/portail/Communications%C3%A9lectroniques/IdentifiantCE/DemanderunidentifiantCE.aspx>. You can either sign calls yourself or allow Colt to manage the signature and verification of calls on your behalf

In both of the above cases you must register with APNF for CLI authentication - see Q&A-3.

3. What are the critical tasks that I need to do now?

If you wish to sign calls yourself, then please advise your Account Executive. In summary:-

1. You must apply for your own direct certificate(s) from APNF.
2. Colt must configure your SIP trunks and you may also wish to test the changes with us.
3. It is also important to ensure that both Colt & you update APNF's MAN portal to reflect the status of CLI authentication on the SIP trunk/interconnect (e.g. Not, Partial or Full MAN) – see Appendix B.
4. Further responsibilities are detailed in APNF's CLI authentication documentation.
5. We only support the ability for you to sign calls yourself with our Number Hosting service. If you have SIP Trunking or Voice Line (v), then you will need to mandate Colt to sign calls on your behalf – see below.

If you are a Number Hosting customer or a reseller and want Colt to manage the signature and verification of calls on your behalf, please complete these administrative tasks as soon as possible:-

1. You must sign either the [EN](#) or [FR TSO/TVO Mandate](#) to allow Colt to manage the signature and verification of calls from/to your own or Colt numbers and ported numbers on your behalf – this mandate is only shared with Colt (and not with APNF). On receipt of your signed and validated mandate, we will map you to Colt in the CLI authentication (MAN) portal
2. You must subscribe to the CLI authentication (MAN) service managed by APNF – this includes access to the MAN portal. If you are subscribing to APNF's services for the first time, please use this [APNF letter](#) & [Colt input \(la fiche de renseignements\)](#). If you have already subscribed to an APNF service such as portability or RSVA, then please use this [letter](#) and the [Colt input \(la fiche de renseignements\)](#).
 - a. Please edit the Colt input to cover only the services you are subscribing to with APNF.
 - b. APNF's letter asks for your Legal Admin contact details. When you then have a call with APNF to validate your Legal Admin contact's identity you can request an additional account for your operational admin user. Once setup, your operational admin user will be able to manage users in the MAN portal, read/modify/write your operator details and configure your APNF services (credentials, email notification addresses)
 - c. The completed & signed APNF letter & 'la fiche de renseignements' should be sent via email to Mme Roussel, danielle.roussel@apnf.fr who can be contacted in French language only
 - d. Please note you can select to have >1 operator as your TSO & TVO
3. Once APNF have processed your subscription, then you will have access to the CLI authentication (MAN) portal
 - a. After the above steps 1 & 2a-d are completed, you will be able to select Colt as your TSO in the MAN portal. You must request an indirect certificate and an optional indirect backup certificate and as part of

that request you should select Colt as your TSO. See screenshots of the MAN portal in appendix A below – please note you can also contact APNF for the operational guide for the MAN portal.

- b. APNF will notify us via email post the creation of your certificates and we will finalise these in the MAN portal.
- c. We will notify you via email that we have linked your certificates to the signing profile of your SIP trunks
- d. Your certificate will then be used to sign calls.
- e. Please note we support one indirect certificate and one indirect back up certificate on your behalf.

Calls made from French numbers without an authenticated certificate will be blocked from 1st October 2024.

We will offer more flexible CLI authentication features in a future phase.

Please note that if you revoke your direct or indirect primary and backup certificate(s) without prior advance notice to Colt, then this will lead to call failures after 1st October 2024. If you revoke your primary certificate, your backup certificate will automatically be revoked as well. Please notify your Account Manager or raise a service request to Colt Customer Services to manage the revocation of your certificates providing a minimum of 1 month's notice.

4. How are responsibilities split between you and Colt ?

When you nominate Colt as your TSO & TVO, then the table below summarizes the split of responsibilities:-

Area of responsibility		You	Colt
Certificate management	Request for certificate ¹	✓	
	Certificate creation ²		✓
	Revocation of certificate	✓	✓
	Renewal request of certificate ³	✓	
	Renewal of certificate ⁴		✓
Authentication	Attestation of the call		✓
	Sign the call		✓
Verification	Verify signed call		✓
	Break the call / Classify as breakable		✓
Reporting	Send traces to APNF		✓
	Send volumes to APNF		✓
	Alerts and Incidents ⁵		✓

As you will be the owner of the certificate, the request for an indirect certificate and the request for the renewal of the certificate should originate from you. Either you (as the owner of the certificate) or Colt (as the TSO) can opt to revoke the certificate.

All the rest of the responsibilities listed above will be performed by Colt.

In a later phase, Colt will provide more capabilities to mix and match where you can opt to perform a few of the responsibilities yourself and request Colt to perform the rest.

5. How will CLI authentication work?

Colt defines a level of trust – the attestation level. This attestation level and the call details in the header are encrypted and signed using your indirect certificate.

¹ Refers to the process of requesting a certificate from APNF and specifying that Colt is the TSO

² Refers to providing the keys for the certificate creation

³ Refers to the process of requesting for the renewal of the certificate for which Colt is the TSO.

⁴ Refers to providing the keys for the certificate renewal

⁵ The traces for your calls dropped by the terminating operator cannot be accessed by Colt directly. You will need to retrieve the traces from the APNF platform and provide it to Colt for investigation

- The successful decryption of the signature provides the downstream operators with assurance that the call has been authenticated by the originating operator. **A mismatch or discrepancies between the signature and the SIP header will result in calls being rejected by the terminating operator.**
- The attestation (trust level) provides the downstream operators information regarding the authenticity of the caller (based on the SIP from header) – see Q&A-6

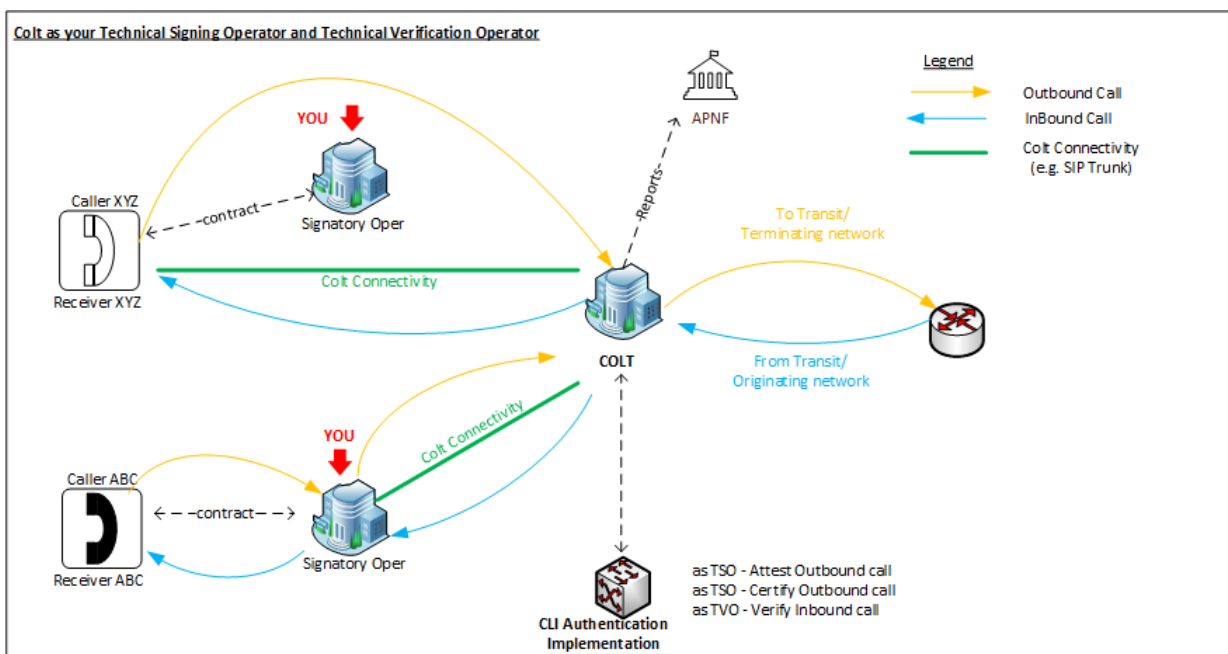
In France the number provided in the SIP From header is authenticated and not the number in the SIP PAI header .

- The SIP from header contains the number displayed to the called party - this CLI authentication principle is to protect called parties from receiving fraudulent/spam calls by authenticating the SIP from header
- In case the SIP from header is not provided, authentication is still performed with a low level of attestation

For IN services, Colt collects calls to IN numbers (freephone/tollfree, shared cost & 'IN Geo') and redirects the calls. To comply with CLI Authentication, Colt:

- Acts as a Terminating Operator (when the IN number is a Colt number) or as a Technical Verification Operator (when the IN number is a hosted number) and performs the verification of the signature for the first leg of the call
- Acts as a signatory operator (signature/attestation) for the 2nd leg of the call. Colt will sign with Colt's certificate only with attestation C.

The diagram below illustrates how CLI authentication works for both a reseller of SIP Trunking and IN (freephone etc) numbers, and a Number Hosting / IN over SIP interconnect customer:-



6. Is there any aspect of the Attestation that I need to be aware of (when Colt is the TSO)?

Important : The attestation level will not be used to block any calls by French Operators

When you mandate Colt to be your TSO, you will apply to APNF for an Indirect Certificate and a backup indirect Certificate. Colt will be responsible for signing the calls including the attestation; however, you will be accountable for it.

There are three levels of attestation:

- Complete attestation: the signatory operator meets all of the following conditions:
 - is accountable for sending the call over the VoIP network
 - has an authenticated direct relationship with the end-customer and can identify the end-customer
 - established a verified association between the end-customer and the telephone number used for display to the called party
- Partial attestation: the signatory operator meets all of the following conditions:
 - is accountable for sending the call over the VoIP network
 - has an authenticated direct relationship with the end customer and the telephone number for display to the called party
 - has NOT established a verified association between the end-customer and the telephone number displayed to the called party
- Gateway attestation: the signatory operator meets the following condition:
 - has no relationship with the call originator (e.g. international origin, other..)

Colt will apply the attestation levels in a phased manner. In the initial phase Colt will apply the attestation levels as follows:

France CLI attestation levels	Customer role	Colt role	Certificate	Responsibility	Attestation A	Attestation B	Attestation C
SIP Trunking & Voice Line with Colt own/ported-in numbers <u>only</u> (inc. tri-partite agreement)							
CLI Option : CLIP Screening / CLIP Main Number (Voice Line)	Depository operator	Signatory operator	Colt certificate	Colt		if From <> anonymous or unavailable	if From = anonymous or unavailable
CLI Option : CLIP No Screening / Presentation Number	Depository operator	Signatory operator	Colt certificate	Colt			Always
Colt Intelligent Communications with Colt own/ported-in numbers <u>only</u> (inc. tri-partite agreement)							
All CLI options	Depository operator	Signatory operator	Colt certificate	Colt			Always
SIP Trunking & Voice Line with Reseller's own/ported-in numbers <u>only</u>							
CLI Option : CLIP Screening / CLIP Main Number (Voice Line)	Signatory operator	Technical Signing Operator (TSO)	Reseller's certificate	Reseller	if From <> anonymous or unavailable		if From = anonymous or unavailable
CLI Option : CLIP No Screening / Presentation Number	Signatory operator	Technical Signing Operator (TSO)	Reseller's certificate	Reseller		if From <> anonymous or unavailable	if From = anonymous or unavailable
Colt Intelligent Communications with Reseller's own/ported-in numbers <u>only</u>							
All CLI options	Signatory operator	Technical Signing Operator (TSO)	Reseller's certificate	Reseller		if From <> anonymous or unavailable	if From = anonymous or unavailable
SIP Trunking & Voice Line with Reseller's own/ported-in numbers <u>AND</u> Colt own/ported-in numbers							
CLI Option : CLIP Screening / CLIP Main Number (VLv)	Signatory operator	Technical Signing Operator (TSO)	Reseller's certificate	Reseller	if From <> anonymous or unavailable		if From = anonymous or unavailable
CLI Option : CLIP No Screening / Presentation Number	Signatory operator	Technical Signing Operator (TSO)	Reseller's certificate	Reseller		if From <> anonymous or unavailable	if From = anonymous or unavailable
Colt Intelligent Communications with Reseller's own/ported-in numbers <u>AND</u> Colt own/ported-in numbers							
All CLI options	Signatory operator	Technical Signing Operator (TSO)	Reseller's certificate	Reseller		if From <> anonymous or unavailable	if From = anonymous or unavailable
Number Hosting Customer with Colt own/ported-in numbers <u>only</u> (inc tri-partite agreement)							
	Depository operator	Signatory operator	Colt certificate	Colt			Always
Number Hosting Customer with customer's own/ported-in numbers <u>only</u>							
	Signatory operator	Technical Signing Operator (TSO)	NH customer's certificate	NH customer		if From <> anonymous or unavailable	if From = anonymous or unavailable
Number Hosting Customer with customer's own/ported-in numbers <u>AND</u> Colt own/ported in numbers							
	Signatory operator	Technical Signing Operator (TSO)	NH customer's certificate	NH customer		if From <> anonymous or unavailable	if From = anonymous or unavailable
IN resellers with their own / ported-in numbers							
	Terminating	OPTV Signatory operator	Colt certificate	Colt			Always
IN resellers with Colt numbers & ported-in numbers to Colt							
		Terminating & Signatory operator	Colt certificate	Colt			Always
IN over SIP Interconnect customers with their own / ported-in numbers							
	Terminating	OPTV					
IN over SIP Interconnect customers with Colt numbers & ported-in numbers to Colt							
		Terminating					

Handling of calls from numbers not activated on the Colt network i.e. French numbers not hosted by Colt and not ported-in to either Colt or you on the Colt network:

- If you do not have your own numbers in France, then Colt will sign these calls from numbers not activated on the Colt network with the Colt certificate with attestation level C
- If you have your own numbers hosted by another operator (not Colt) in France, then you can request Colt to be your OPTS and we will use your indirect certificate to sign ALL calls with attestation level B if From <> anonymous or unavailable, else attestation level C
- If you plan to sign ALL calls with your own certificate, then you will apply the attestation levels defined by APNF and Colt will transit your calls

Depository operator refers to an operator who only uses Colt numbers or numbers ported-in to Colt.

In a later phase:

- Colt will also provide you with an option to signal the attestation level of your outbound call, signed with your own certificate,

If you forward calls to other French operators for termination – please advise your Account Executive of the use cases for review with our Engineering team as we want to avoid un-signed calls from being blocked

7. What does reporting of 'Traces' mean?

The Terminating Operator is expected to verify all incoming calls (STI-VS functionality). If a call fails the verification, the terminating operator should reject the call and create a record of the call rejection. This record is called a 'Trace'. The Trace contains details of the call, the operators involved and the rejection reason.

Emergency calls cannot be rejected even if they fail the verification. The details of these calls are also recorded as traces.

Colt, as your TVO will report these Traces to APNF on your behalf as stipulated by APNF.

8. What does reporting of 'Volumes' mean?

All Operators are expected to send reports on the volume of voice calls (Inbound, transit and outbound) as specified by APNF.

Colt as your TSO and TVO will report these volumes to APNF, as stipulated by APNF.

9. What does 'Alerts' and 'Incidents' mean?

APNF has categorised the issues related to MAN into 'Alerts' and 'Incidents'.

These issues are to be managed on APNF's MAN GUI so that other operators are informed and can investigate the issues.

As your Technical Signing and Verification Operator, Colt will take care of logging incidents and alerts related to your inbound/outbound calls. You may also contact Colt for issues related to your calls. Colt will investigate the issues, and if required create the necessary tickets and manage the tickets on your behalf.

However, Colt will not be able to view the traces of your calls dropped by the Terminating Operator. You will have to retrieve them and provide them to Colt if Colt needs to investigate them.

10. What are the future plans?

These are on our roadmap for future development – some are dependent on the outcome of the industry-wide discussion & development:-

- Allow you to apply an attestation value to a call
- Colt & other technical operators will be allowed to provide a delegate certificate to enable you to attest calls from numbers that you do not own with attestation level A (as you know & trust the caller/user of the number)
- In the first phase of the introduction of CLI Authentication the attestation level value will not be used to reject the call during the call verification.

11. What are the differences between CLI authentication in France and the US/Canada?

These are the main differences between CLI authentication in France and the US/Canada:-

- French API access to the MAN platform to get certificates uses a different type of access token and protocol: OAuth 2.0 protocol to authenticate API, HTTPs
- In France, it is not possible for an operator to choose the period of validity of a certificate, except for the test certificates and for the indirect certificates used by the TSO
- The TSO and TVO concept is specific to French model
- In France there are no short-lived certificates. Terminating and TVO operators must get a local copy of the list of certificates
- The French certification authority only uses the ECDSA P-256 algorithm to encrypt
- In France, authentication is performed on the SIP FROM Header whereas the "P-Asserted-Identity" header is used in US/Canada
- There is no reciprocity – i.e. US certificates cannot be used to sign France calls
- There is only one certificate authority: APNF

12. Do I need to register if I am a reseller with Inbound traffic only?

If you provide inbound services to your end-customers using your own numbers (allocated to you by ARCEP or ported-in to you as an operator) and you have already subscribed to some of the APNF's services, you need to:

1. subscribe to APNF's CLI authentication (MAN) service
2. sign the OPTS/OPTV mandate with Colt which includes provision of your APNF code

For more information on these 2 steps please see Q&A-3.

Upon successful completion of the above steps, Colt, on your behalf, will:

- Verify the call before routing the call to you
- Report traces and volumetric information to comply with the CLI authentication requirements

In a future phase we will introduce more flexibility e.g. allowing you to verify inbound calls yourself and to fulfil the reporting requirements to APNF yourself.

13. If the resale of numbers is no longer allowed, then how can I support my indirect/reseller channel?

'Sub-reselling' is not allowed and we recommend that you apply to ARCEP for your own number blocks which you then provide to your resellers and their end-customers under a tri-partite agreement.

14. Do my resellers have to apply for number blocks from ARCEP and can I host those for them on my Colt trunk as well?

Colt does not have a contractual relationship with your resellers - our contract is with you and that is why we recommend you source number blocks from ARCEP which we can host and you put a tri-partite agreement in place with your reseller & your reseller's end-customer.

Under the current CLI authentication design, the range holder/owner of the numbers can sign a mandate with a Technical Signing Operator, who will sign calls on their behalf - only one level of mandate for signing is permitted. If your resellers have their own numbers from ARCEP, this means that you will be responsible for signing calls from your resellers' numbers and to do this you will need to invest in becoming an Operator that is able to sign and verify calls, implementing the full stir/shaken functionality in your network (i.e supporting STI-AS, STI-VS, Reporting services), which is a significant investment.

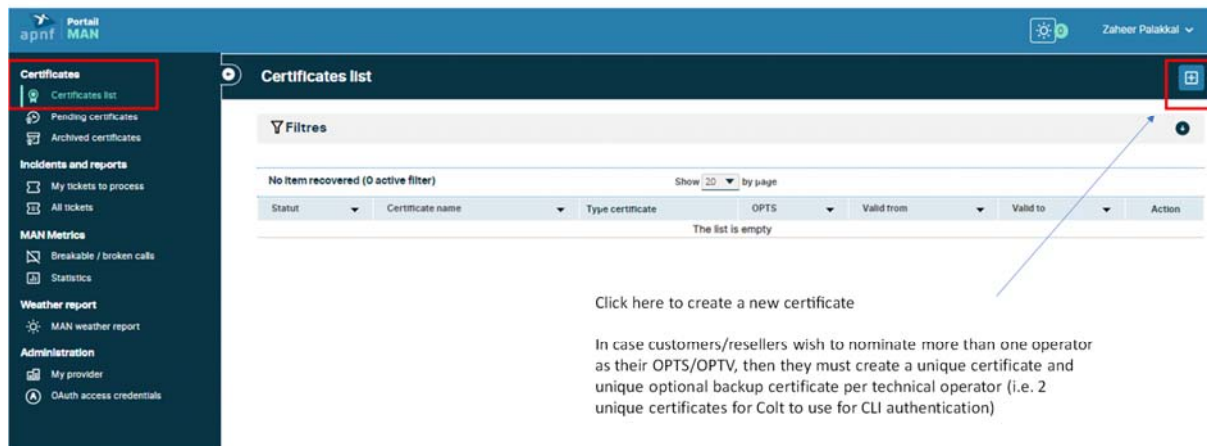
15. Does this mean that if my reseller mandates me to sign their calls, I cannot pass the mandate to Colt to sign on my behalf?

That is correct. The regulation does not support a cascade of TSO. If your reseller mandates you to be the technical operator (TSO&TVO) on its behalf, you should have the necessary infrastructure to sign and verify calls.

Appendix A

Please see these screenshots showing how to apply for certificates in APNF's MAN portal.

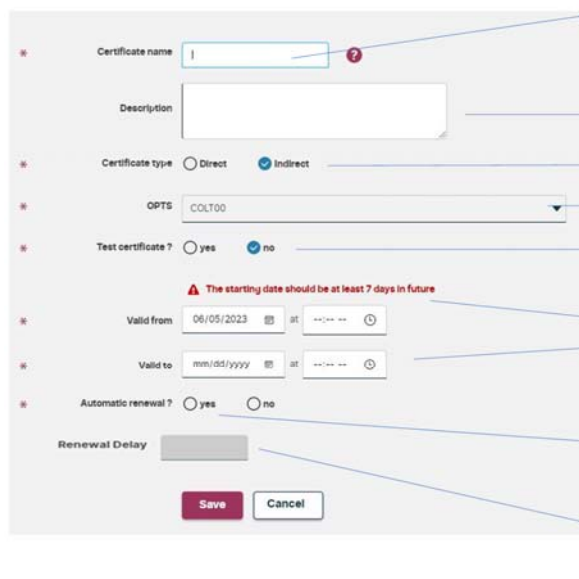
Please note you can also contact APNF for the operational guide for the MAN portal.



Click here to create a new certificate

In case customers/resellers wish to nominate more than one operator as their OPTS/OPTV, then they must create a unique certificate and unique optional backup certificate per technical operator (i.e. 2 unique certificates for Colt to use for CLI authentication)

Operators (including resellers) to follow these steps to apply for a production certificate and an optional backup certificate



Provide a name to identify this certificate from any other certificates that you may have requested for, or may request for in future. Recommended format is <Operator APNFID><OperatorName><Main/Secondary><shortDesc> without spaces-Eg. MXDE00MeriticoMainConferencing where MXDE00 is the APNF ID of Meritico limited. Main reflects that it is the primary certificate. 'Conferencing' is an optional description to denote the use (if you wish to define)

Optional description of the certificate – recommend you indicate if it is a production or a backup certificate if not obvious in the certificate name

Select as 'Indirect'

Select 'COLT00/Colt technologies' as your OPTS

Use 'No'

Note the test period for CLI authentication has concluded so there is no need for a test certificate. i.e.. no Need to select 'Yes'

The start date must be a minimum of +7 days from today's date

We recommend that the end date is in 1 year's time (which is the limit)

Select Yes for auto-renew to avoid missing a notification to renew the certificate. Note auto-renew is not applicable for a test certificate

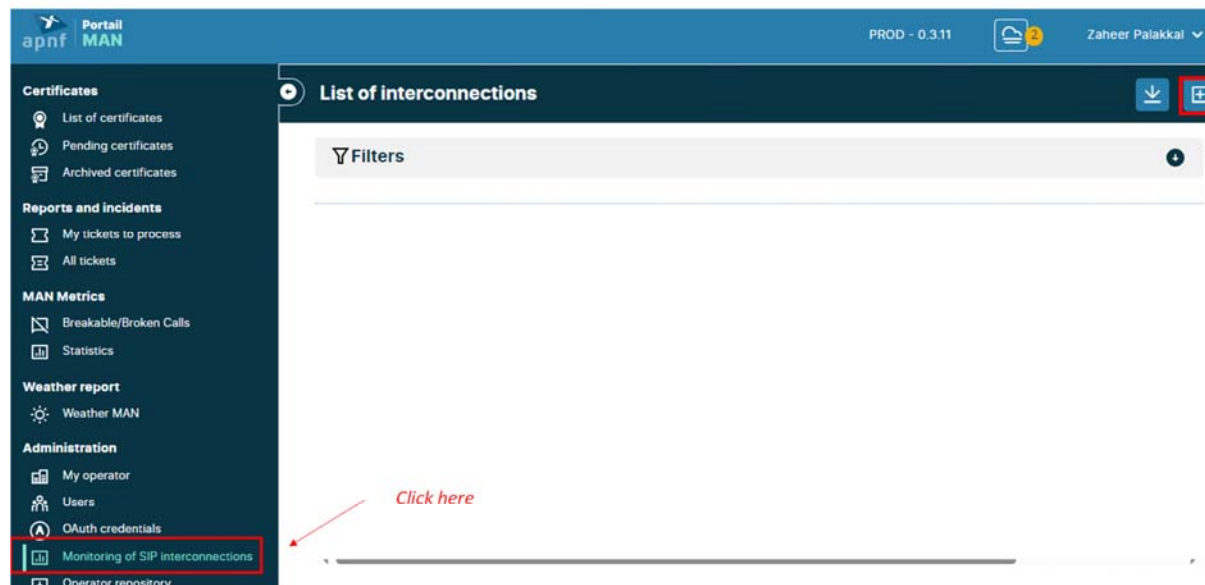
If auto-renewal selected. Populate value as '340' so that certificate is renewed after 340 days from start date of certificate. This still leave the operator and Colt around 25 days (roughly 1 month to clear and issues with auto-renewal)

Appendix B

This menu should only be used if you are signing your own calls. If you have nominated Colt as your TSO/TVO, then you do NOT use this.

Please see these screenshots showing how to view and update the status of your SIP trunks/interconnects with Colt.

Please note you can also contact APNF for the operational guide for the MAN portal.



Your Operator details are auto-populated here

The form displays the following fields and options:

- Provider emitter name: ABC Comms Ltd
- Provider emitter code: ABCC00
- Provider emitter status: ☐ FULL MAN, ☐ PARTIAL MAN, ☒ NOT MAN
- Provider receiver name: COLT TECHNOLOGY SERVICES
- Provider receiver code: COLT00
- Provider receiver status: ☐ FULL MAN, ☐ PARTIAL MAN, ☒ NOT MAN, ☐ OUT OF BOUNDS, ☐ DISABLED
- Description: (empty text field)
- Buttons: Confirm, Cancel

Annotations with red arrows:

- Points to the Provider emitter name and code fields: "Your Operator details are auto-populated here"
- Points to the Provider emitter status selection: "You must indicate the status of your SIP trunk/interconnect here"
- Points to the Provider receiver name field: "Select Colt from the list/drop down menu"
- Points to the Provider receiver status selection: "Colt will update the status of the SIP trunk/interconnect with you here"

FULL: all calls are authenticated

PARTIAL: calls are partially authenticated

NOT MAN: no calls are authenticated

OUT OF BOUNDS (for receiver only): the SIP Interconnect is out of scope of the CLI authentication monitoring

DISABLED (for receiver only): verification disabled

Abbreviation	Description
APNF	Association for the standardisation of inter-operator flows in France
ARCEP	National Regulatory body in France
Attestation	When a call is signed, the Signatory Operator defines a level of trust mapped to the ownership of the calling number. There are three levels of attestation: <ul style="list-style-type: none"> • A (full trust) • B (partial trust) • C (no trust)
Authentication	This is the process to ensure that the end-customer using the number is authorized to use the calling number
BSM	MAN monitoring database
End-customer / End-user	End-Customer refers to the third party to whom the Operator sells the Colt voices services. The end-customer makes and/or receives calls
EOF	Colt's electronic order form
GEO	Geographic / fixed line (telephone numbers) e.g. numbers that start with 01-05 or 09
iat	Timestamp in the identity header of a call. In addition, if the iat does not match with the invite time +/- 60 sec, then the call will fail with 403 stale date
MAN (in French)	Number Authentication Mechanism which specifies how calls are signed, verified, and monitored. MAN must be implemented by all operators in France. APNF will provide access to the MAN GUI /extranet which will give registered operators access to APNF functions such as BSM.
Operator	Colt customer that are cloud providers, resellers, carriers & wholesalers who sell Colt voice services under their own brand to their end-customers
Q&A	Question & Answer
Signatory Operator	Operator to whom the numbers are assigned by ARCEP. A Signatory Operator is accountable for the signature of its outbound voice calls as per the MAN rules. Calls are signed with the Signatory Operator's certificate delivered by APNF. If you are a Colt customer with your own numbers from ARCEP, you are considered to be a Signatory Operator
STI-AS	Secure Telephony Interface – Authentication Service
STI-VS	Secure Telephony Interface – Verification Service
Technical Signing Operator (TSO / OPTS in French)	Operator who has been mandated by a Signatory Operator to sign the Signatory Operator's calls on the Signatory Operator's behalf. As a Signatory Operator, you can choose to: <ul style="list-style-type: none"> • Mandate Colt to perform the signing of your outbound calls on your behalf, then Colt is (one of) your TSO/OPTS and there will be a contractual agreement shared by Colt to be signed by you, or • Provide the mandate to another TSO/OPTS, or • Sign all your outbound calls yourself
Technical Verification Operator (TVO / OPTV in French)	Operator mandated by a Terminating Operator to verify the authenticity of incoming calls on the Terminating Operator's behalf. As a Terminating Operator, you can choose to: <ul style="list-style-type: none"> • mandate Colt to perform the verification of your inbound calls on your behalf, then Colt is (one of) your TVO/OPTV and there will be a contractual agreement shared by Colt to be signed by you, or • provide a mandate to another TVO/OPTV, or • perform the verification of all incoming calls yourself
Terminating Operator	Operator who provides voice services to end-customers where voice calls are terminated. A terminating Operator is accountable for the verification of its inbound voice calls as per the MAN rules