TransNexus®

STIR/SHAKEN in France

Presenters

Jim Dalton

Chief Executive Officer
TransNexus

Marc St-Onge

Customer Success Executive
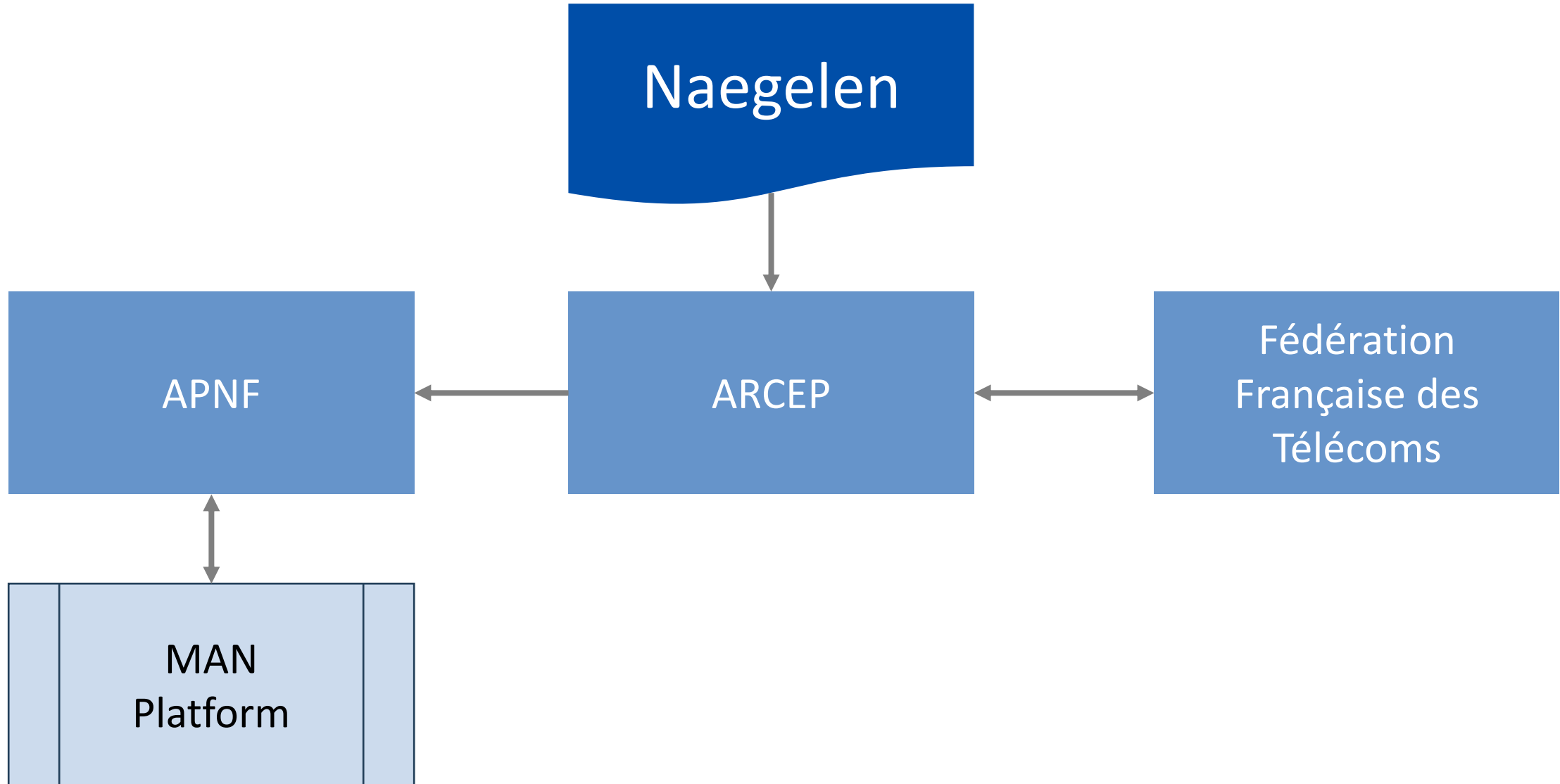TransNexus

About TransNexus

- A leader in developing innovative software to manage and protect telecommunications networks since 1997

- Active participant with telecommunications industry standards work groups

- STIR/SHAKEN solutions used in the United States, Canada, and France

- STIR/SHAKEN

- SHAKEN Certificates

- Out-of-Band Call Placement Service

- Branded Calling

- Robocall Mitigation and Prevention

- TDoS Prevention

- Toll Fraud Prevention

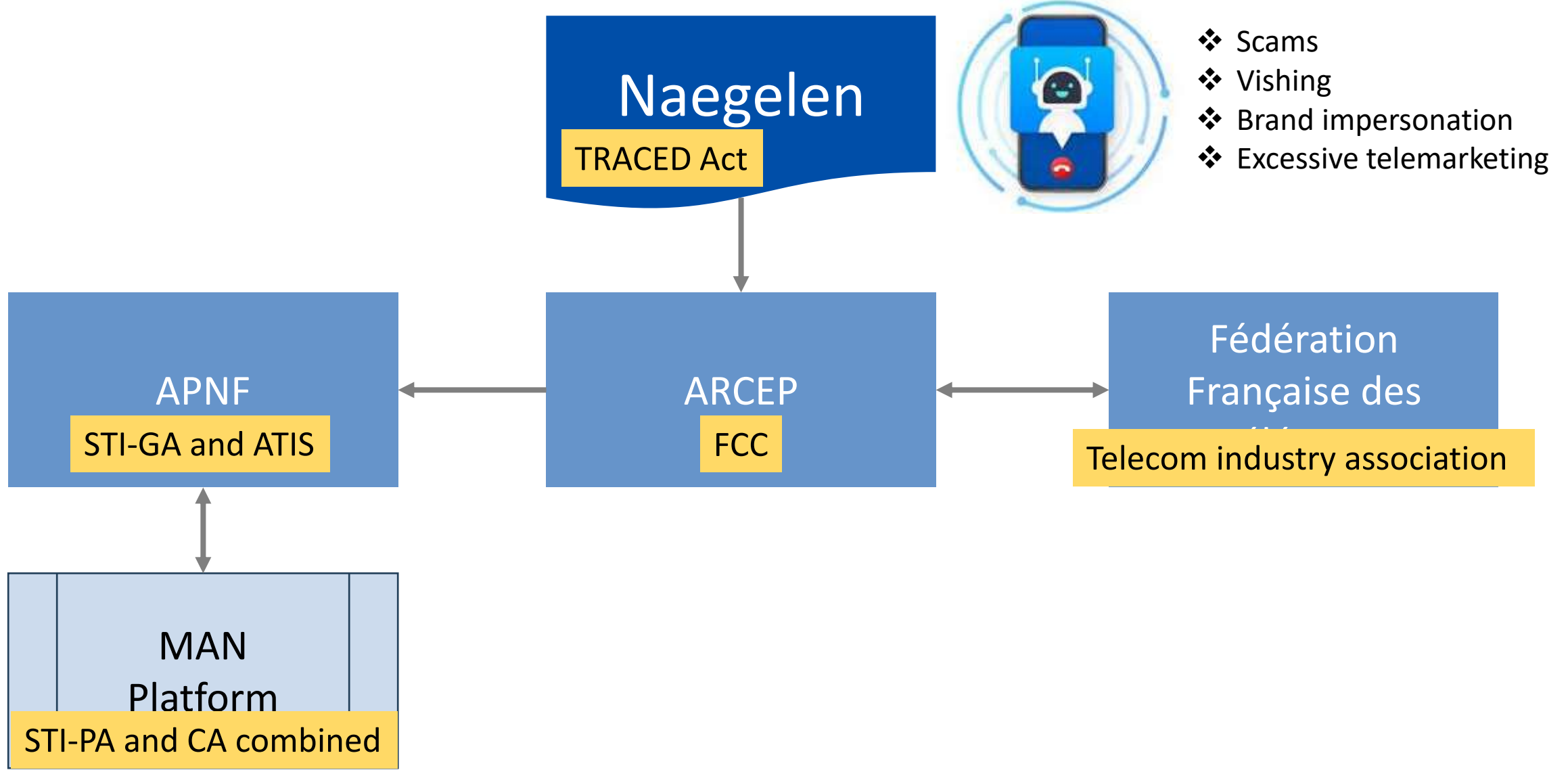- Least Cost Routing

- Analytics

- Billing Support

Agenda

- French call authentication ecosystem

- STIR/SHAKEN compliance deadlines

- Requirements

- Key differences with other countries

- TransNexus STIR/SHAKEN for France

- Questions and answers
  - Enter your questions in the Q&A panel (not the chat!) during the webinar

Ecosystem

Ecosystem – Similarities with The United States

Naegelen
TRACED Act

- ❖ Scams
- ❖ Vishing
- ❖ Brand impersonation
- ❖ Excessive telemarketing

APNF
STI-GA and ATIS

ARCEP
FCC

Fédération Française des
Telecom industry association

MAN Platform
STI-PA and CA combined

Ecosystem

Naegelen

- ❖ Scams
- ❖ Vishing
- ❖ Brand impersonation
- ❖ Excessive telemarketing

APNF ← **ARCEP** ↔ **Fédération Française des Télécoms**

MAN Platform

- Issues SHAKEN certificates
- Manages the certificate repository
- Collects statistics, incidents and tracebacks

Deadlines

- **July 24, 2020**
  - Loi Naegelen

- **January 1, 2023**
  - Special number blocks for automated dialers (NPV)

- **March 1, 2023**
  - Fixed days, times and frequency of telemarketing calls

- **June 1, 2024**
  - STIR/SHAKEN deployment
  - Report call authentication statistics to the MAN platform

- **October 1, 2024**
  - Block unauthenticated calls and calls that fail STIR/SHAKEN verification
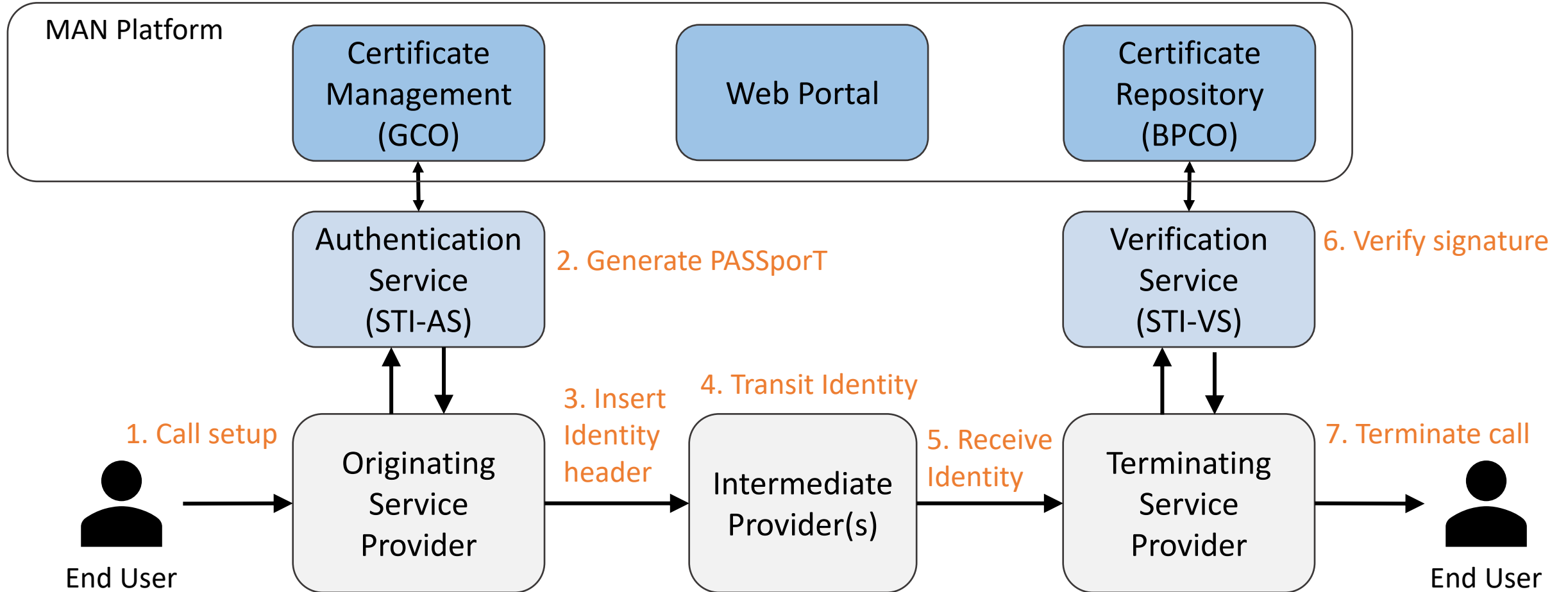
French Service Provider Compliance

- Register on the MAN Platform

- Update leadership and/or ownership changes

- Adhere to attestation guidelines

- Apply blocked call rules

- Upload statistics according to specifications

- Maintain list and status of SIP interconnections on the portal

- Reply promptly to traceback requests

Brief Overview of STIR/SHAKEN

Call flow

SIP INVITE with Identity header

INVITE sip:+33623456789@example.com:5060 SIP/2.0

Via: SIP/2.0/UDP example.com:5060

From: "Alice" <sip:+33198765432@5.6.7.8:5060>;tag=123456789

To: "Bob" <sip:+33623456789@1.2.3.4:5060>

Call-ID: 1-12345@5.6.7.8

CSeq: 1 INVITE

Max-Forwards: 70

Identity:

eyJhbGciOiAiRVMyNTYiLCJwcHQiOiAic2hha2VuIiwidHlwIjogInBhc3Nwb3J0IiwieDV1IjogImh0dHBzOi8vY2VydGlmaWNhdGVzLmNsZWFyaXxuY29tL2IxNWQ3Y2M5LTBmMjYtNDZjMi04M2VhLWEzYTYzYTgyZWMzYS83Y2M0ZGI2OTVkMTNlZGFkYTRkMWY5ODYxYjliODBmZS5jcnQifQ.eyJhdHRlc3QiOiAiQSIsImRlc3QiOiB7InRuIjogWyIxNDA0NTI2NjA2MCJdfSwiaWF0IjogMTU0ODk1OTk4Miwib3JpZyI6IHsidG4iOiAiMTgwMDEyMzQ1NjcifSwib3JpZ2lkIjogIjNhNDdjYTIzLWQ3YWItNDQ2Yi04MjFkLTMzZDVkZWVkYmVkNCJ9.S_vqkgCk88ee9rtk89P6a6ru0ncDfSrdb1GyK_mJj-10hsLW-dMF7eCjDYARLR7EZSZwiu0fd4H_QD_9Z5U2bg;info=https://domain-bpco/certs/ope100/sn-certificate.cer;ppt=shaken;alg=ES256
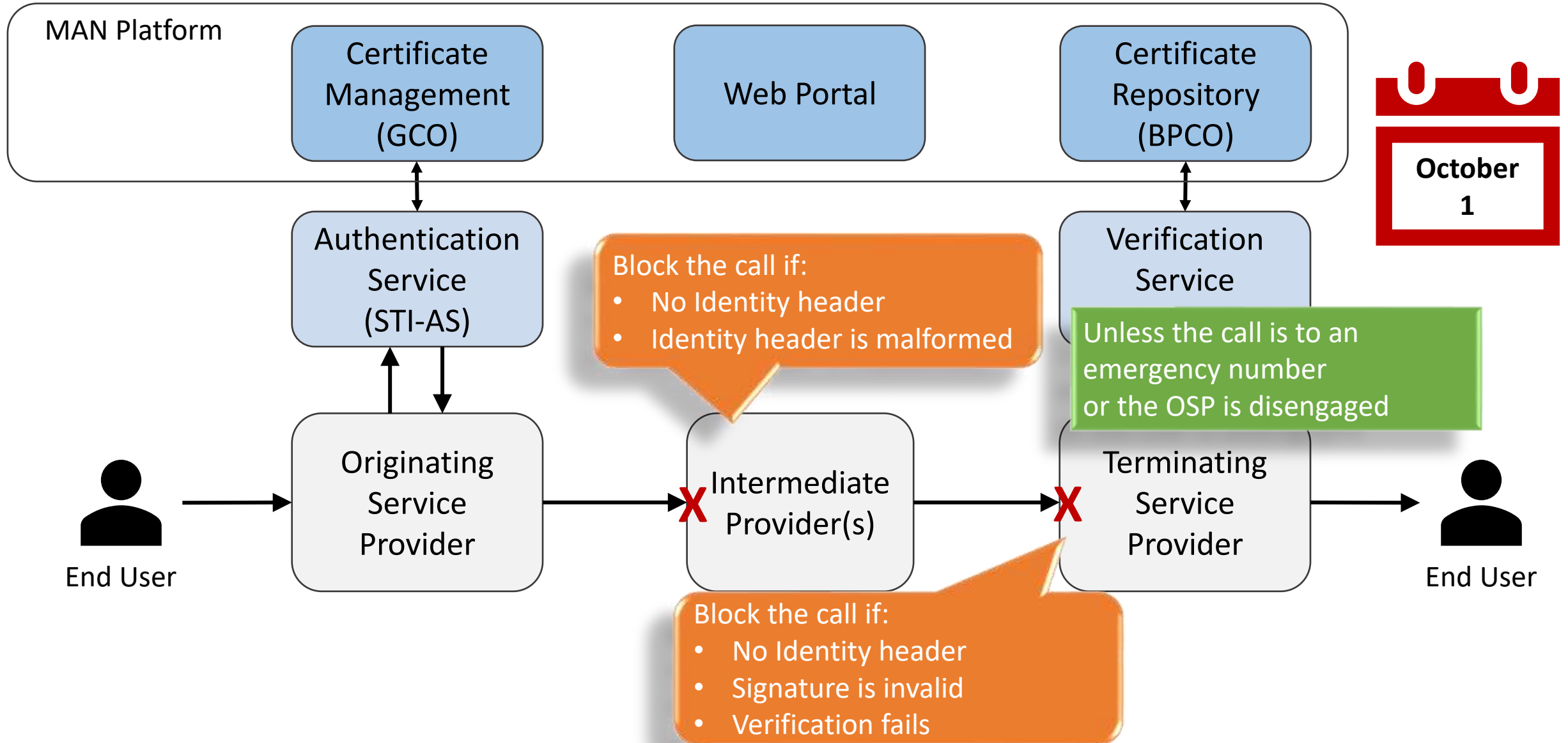
Decoded Identity header

```
"header":
    "alg": "ES256"
    "typ": "passport"
    "ppt": "shaken"
    "x5u": "https://domain-bpco/certs/ope100/sn-certificate.cer"
"payload":
    "attest": "A"                                           ← Attestation level
    "dest": { "tn": ["33623456789" ] }                     ← Called number
    "iat": 1529071382                                      ← Timestamp
    "orig": { "tn": "33198765432" }                        ← Calling number
    "origid": "4aec94e2-508c-4c1c-907b-3737bac0a80e"       ← Origination identifier
```
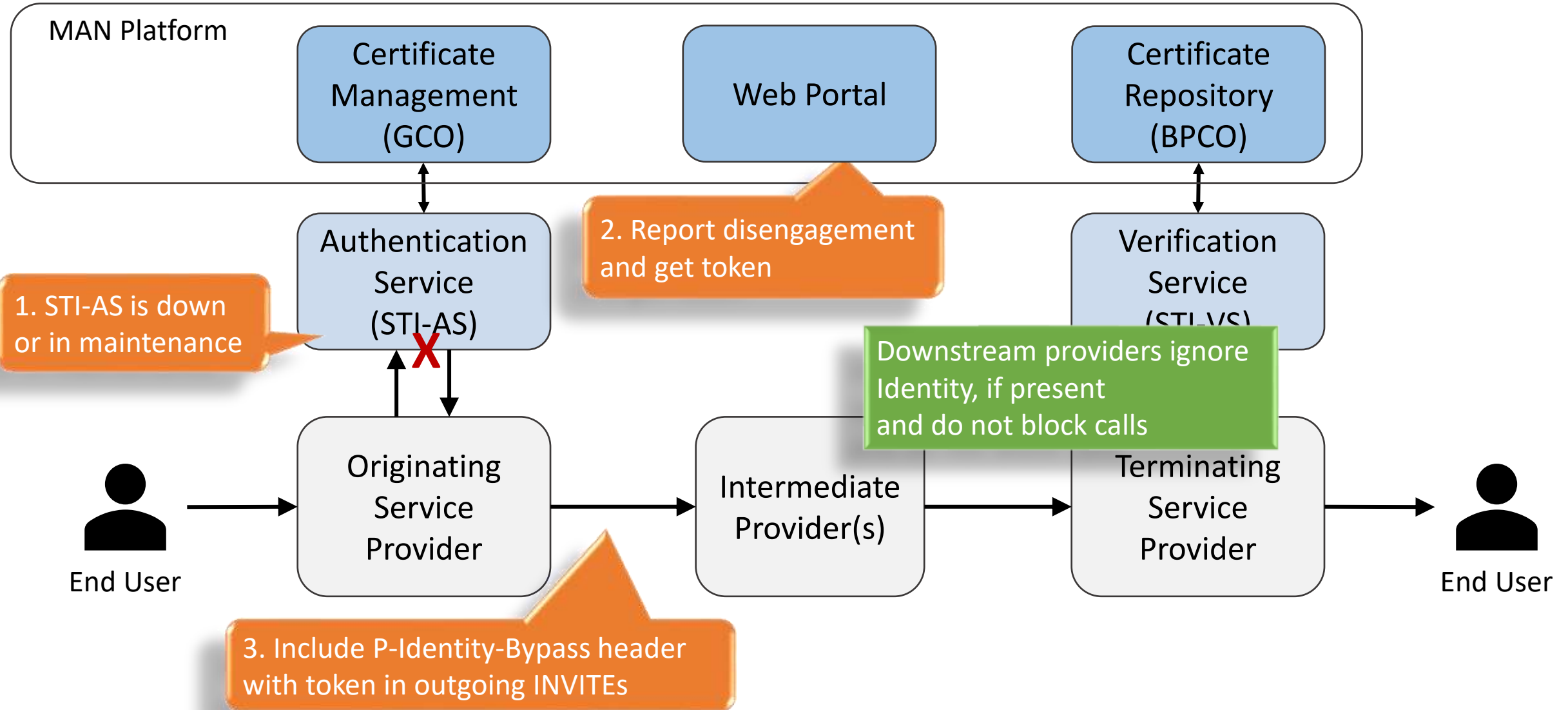
STIR/SHAKEN in France is Unique!

Key difference #1: Block calls

MAN Platform

Certificate Management (GCO)

Web Portal

Certificate Repository (BPCO)

October 1

Authentication Service (STI-AS)

Verification Service

Block the call if:
- No Identity header
- Identity header is malformed

Unless the call is to an emergency number or the OSP is disengaged

End User

Originating Service Provider

Intermediate Provider(s)

Terminating Service Provider

End User

Block the call if:
- No Identity header
- Signature is invalid
- Verification fails

Key difference #2: Service provider disengagement

MAN Platform

Certificate Management (GCO)	Web Portal	Certificate Repository (BPCO)

1. STI-AS is down or in maintenance

Authentication Service (STI-AS)

2. Report disengagement and get token

Verification Service (STI-VS)

Downstream providers ignore Identity, if present and do not block calls

Originating Service Provider → Intermediate Provider(s) → Terminating Service Provider

End User → Originating Service Provider

Terminating Service Provider → End User

3. Include P-Identity-Bypass header with token in outgoing INVITEs

Key difference #3: Report statistics and issues on MAN Platform

Blocked/blockable calls

- Daily

- SFTP files to MAN

- One row per blocked/blockable call
  - Reporting provider
  - Operator's role
  - Who is the ingress provider
  - Calling and called numbers
  - Fixed, mobile or other
  - Disengagement, emergency, attestation
  - And more…

Call statistics

- Weekly

- SFTP files to MAN

- Number of outbound calls (17 statistics)
  - Calls using mobile calling number
  - Calls using a fixed calling number
  - Calls using anonymous
  - …

- Number of inbound calls (19 statistics)
  - Calls using mobile calling number
  - Calls using fixed calling number
  - Calls to emergency numbers
  - Calls using mobile calling number with attestation A
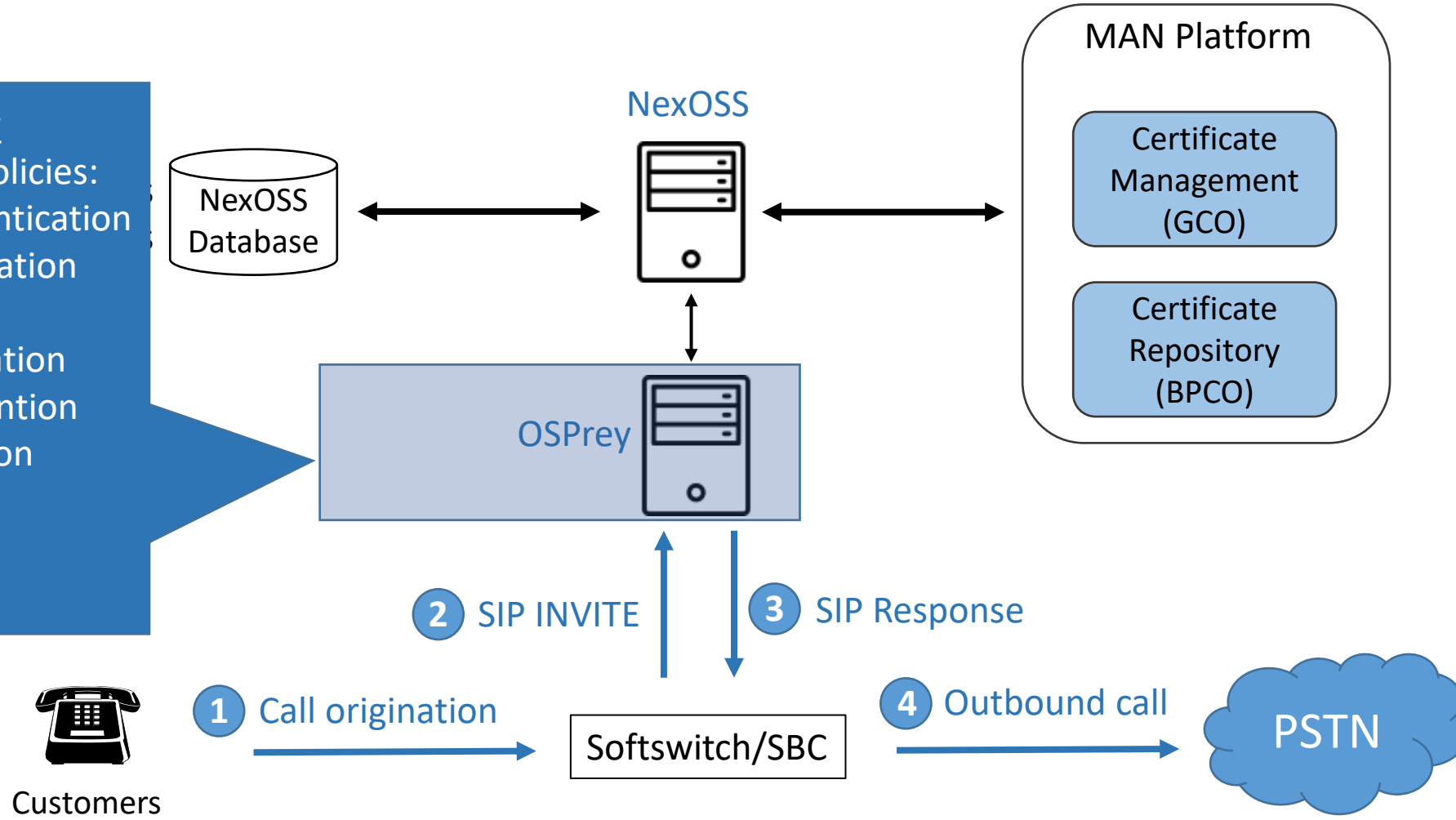 - …

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  - Calls to emergency numbers
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  - …

Open tickets to report an issue:
- Call was wrongfully blocked
- Dispute an attestation level
- Reports calls with invalid calling numbers
- And more…
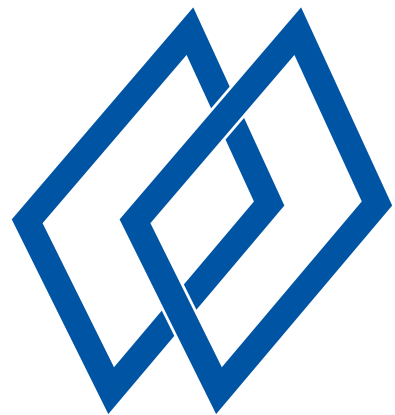
NexOSS is deployed in France!

Questions and answers

- Please type your questions in the Q&A panel

We will be pleased to design your STIR/SHAKEN solution for France!

www.transnexus.com

Thank you!

TransNexus®