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UK Interoperability Standards

Open Forum 2017



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N-CLI working group activity

- ND1439 : Guidance on ND1016 for SIP networks
- ND1522 : Report into implementation of STIR





What is STIR?

- Digital signing of CLI by originator
- Terminating network checks the signature to determine who originated & that they have rights of use of that number
- Our report examines a phased implementation
 - Interim Stage
 - Final Stage





What is the problem space?

- Network Numbers are assigned by host networks to customers
- Type 1 and Type 2 Presentation Numbers might not belong to host network, but are (effectively) verified by that host network before usage
- Types 3-5 Presentation Numbers are provided by originating enterprise customer. Checking is contractual, not call-by-call
 - Options such as disallowing Types 3-5 are out of scope: too many valid use cases rely on these CLIs





Interim Stage

- Network Number CLI is signed by originating network
- This provides assurance of number to be displayed
 - Even if this is the Presentation Number!
- Why NN?
 - The NN is unique to an originating network and uniquely identifies the NTP originating the call
 - In contrast the same PN may be used on multiple networks



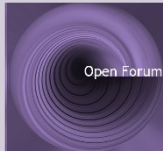
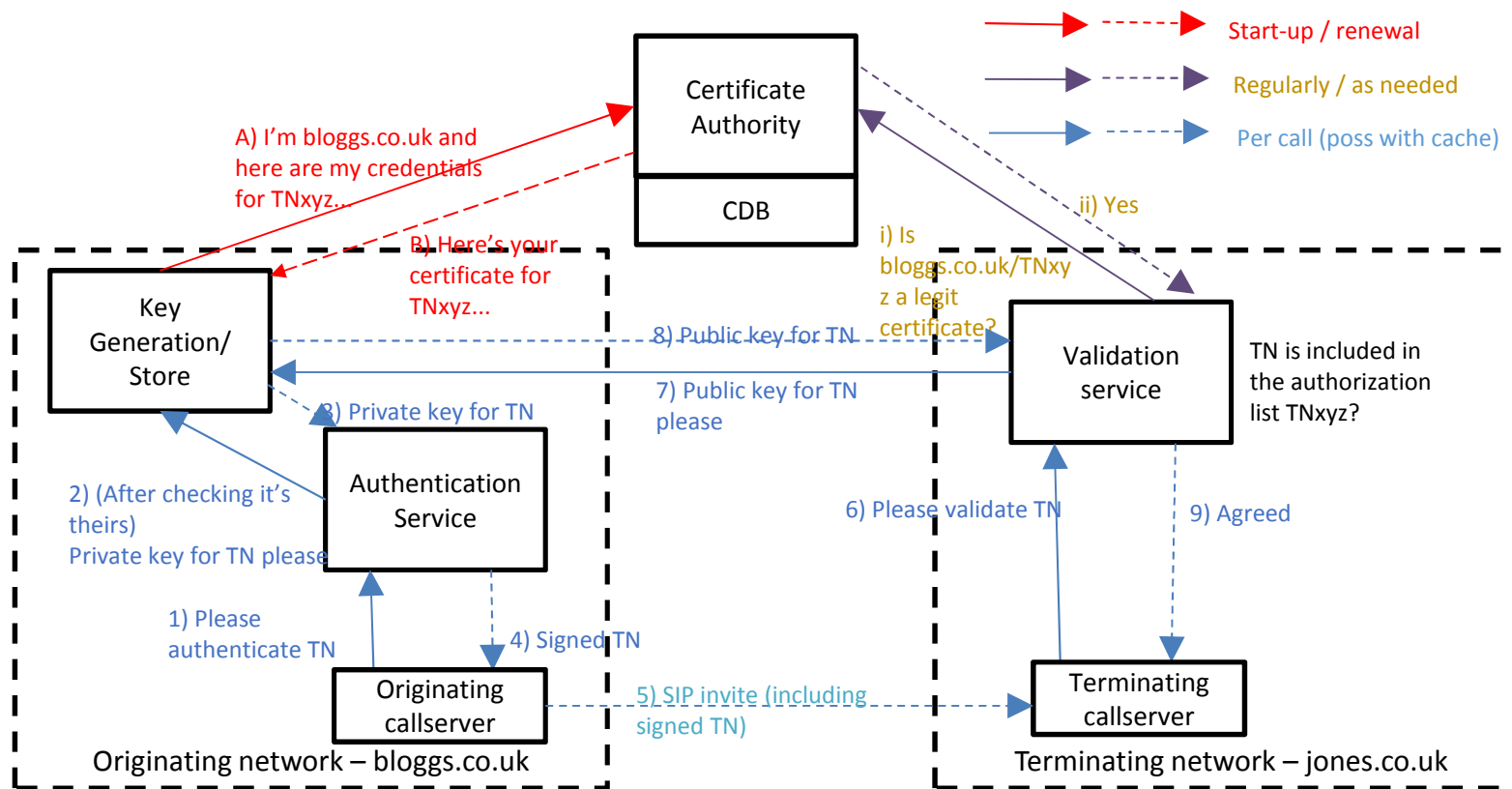


Illustration of Interim Stage





What do you need for the interim stage?

- End-end SIP
- Certificate Authority that incorporates individual number database

What does it give you?

- Assurance of which network originated call
- For resi and Types 1-2 Presentation Numbers, assurance the display CLI is true
- For Types 3-5 Presentation Numbers, assurance of who accepted the CLI into the network

What doesn't it give you?

- Absolute assurance that Types 3-5 PNs are trustworthy
- Assurance of CLIs received from outside "trust domain"

So would this interim stage be enough?





If the interim stage isn't sufficient, what are the options?

- Final stage variant I
 - Compel originating network to whitelist PN CLIs
- Final stage variant II
 - Digital signing of PNs between enterprise and originating networks
- Final stage variant III
 - Digital signing of PNs by enterprise, validated at terminating network





Thank You