dots implementation report

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Implementation Summary

• NTT Communications is developing a DOTS client and server software with specifications on:
  • draft-reddy-dots-signal-channel
  • draft-reddy-dots-data-channel
• It works well 😊
• It will be open-sourced
• It is aimed to implement full DOTS protocol specification in accordance with maturing of DOTS protocol itself
Demo

- We can show you a demo
- Please contact us
Application

- Capability of DOTS client:
  - sending DOTS message to DOTS server in CoAP over DTLS as dots-signal

- Capability of DOTS server:
  - receiving and validating dots-signal
  - starting mitigation by handing over the dots-signal to pluggable blockers
Implementation experience

• It is implemented in go-lang.
• Core specification of signaling is mature to be implemented
• Finding good libraries (CoAP, RESTCONF, especially DTLS) is rather difficult.
  • We are trying several DTLS libraries, but we haven’t found any good DTLS library which fully work with full specification of DOTS signal channel.
Issue 1: Coupling of data-channel & signal-channel

• Two drafts require the same CN (CommonName) for client side in DTLS (signal-channel) and TLS (data-channel)
  • 5.3.1 “The DOTS server couples the DOTS signal and data channel sessions using the DOTS client identity”

• If DOTS is going to use other mutual authentication technologies, it needs generalized concept of CN
  • Should it be included in signal and data messages in order to couple them?
Issue 2: data-channel only host & signal-channel only host

- Do you think there is a use case of a separated DOTS signal-channel clients and data-channel clients?
  - Data channel only controller and other small signal-channel only devices
Thank you!

• Q and A
• Comments