CELTIC-NEXT Proposers Day

26th of January 2022, Online via WebEx

Pitch of the Project Proposal

TrustVPN

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Teaser

Fast and Verified VPN-enabled Switch based on

- *State Of the Art platform for Software Defined Network*
- *Verified and verifiable*
- *Secure independently of host malfunctions*

Organisation Profile

KTH Royal Institute of Technology
Division of Theoretical Computer Science

- *Focus on formal (mathematical) verification and testing of SW and Systems*
- *Proposing group: 2 Associate professors, 2 postdocs, 10 PhD students*
- *Members of Center for Cyber Defense and Information Security*
  - *collaboration with Swedish Armed forces*
- *Many collaborations with SAAB*

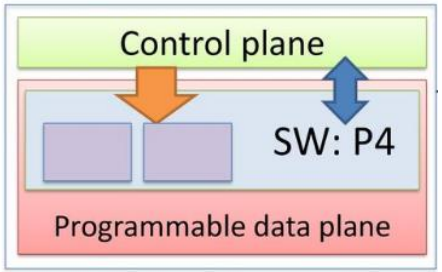
Proposal Introduction

Wireguard

\+ *Fast, Modern, Secure, Small (4 K LOC), VPN tunnel*

\+ *Policies/routes = crypto keys*

\- *4 Linux (no multiplatform)*



P4 Programmable Switches

\+ *High speed, programmable (new protocols), data plane*

\+ *Policies reconfigurable by a controller*

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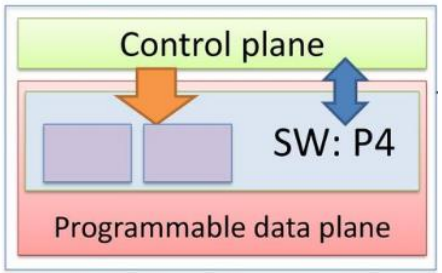

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Proposal Introduction

- *Month 6: Selection of Programmable Switch platform*
- *Month 12:*
  - *Prototype Static P4 wireguard implementation*
  - *Control plane API for reconfigurable VPN routes*
- *Month 18: Deployment of P4 wireguard on the target platform*
- *Month 24: Control plane for reconfigurable VPN routes*
- *Month 30: Verification of the P4 implementation*
- *Month 36: Run time monitoring of VPN routes*

Partners

KTH (Sweden): expertise on verification, testing, and monitoring

Collaborations:
SAAB (Sweden): expertise on Software Defined Networking
DTU (Denmark): expertise on distributed software analysis

YOU: expertise on

- *SDNs*
- *Usage of VPN in critical environments*
- *System Security*

CELTIC-NEXT
Next Generation Telecommunications

eureka
innovation beyond borders

1st February 10.00-10:30 CET

Join the Follow-up Telco

Join meeting

Join by meeting number
Meeting number (access code): 2740 094 6066
Meeting password: aGNfsmgG298

Join by phone
+49-6925511-4400 Germany toll
Global call-in numbers

Can't join the meeting?

Contact Info

For more information and for interest to participate please contact:

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Presentation available via: