OpenTAP: Plugin Development Training

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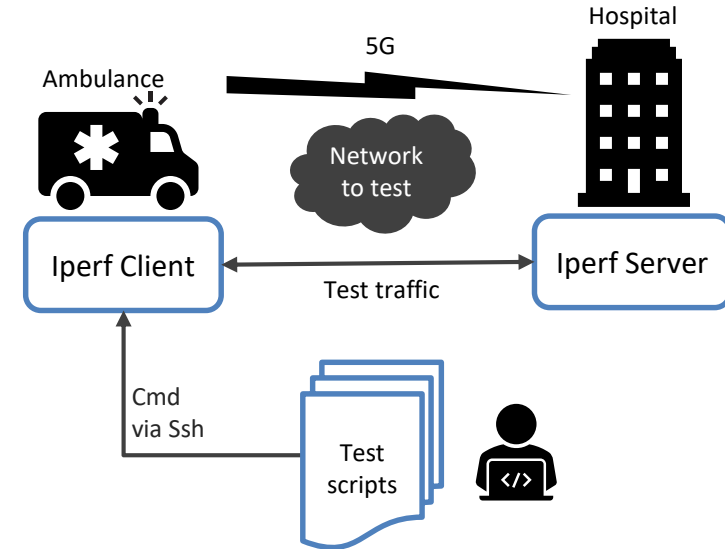
Agenda

- Use case
  - Network measurement
  - Iperf tool
- OpenTAP plugin development
  - Development resources
  - Tools and prerequisites

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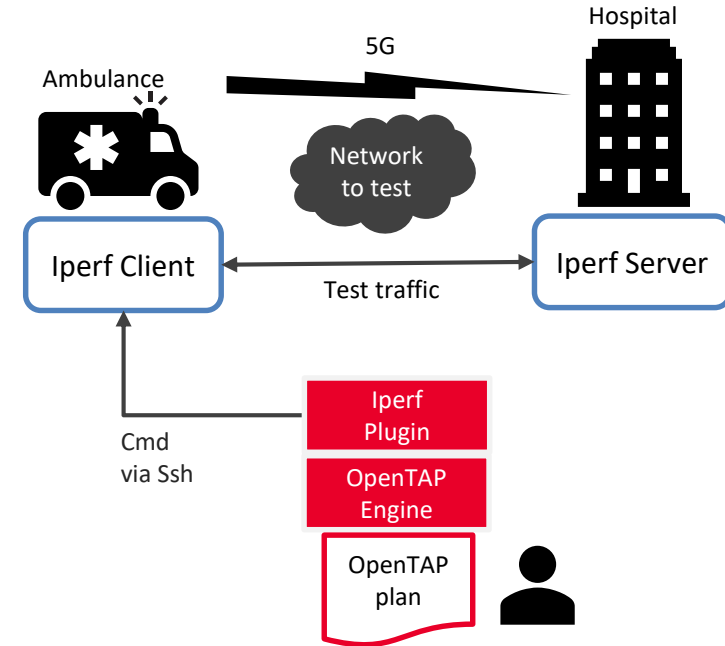OpenTAP Plugin Development

USE CASE

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Use Case - Iperf Tool

- Use case: measure connection performance between two entities
  - Example from Introduction to OpenTAP: Ambulance and hospital
  - Previously showed how it could be done using Hawkeye
- Using the tool Iperf
  - Measure connection performance between Iperf server and client
  - Measurements configured and initiated from client
  - Controlled via command line
- Control remotely using Ssh
  - Control multiple clients
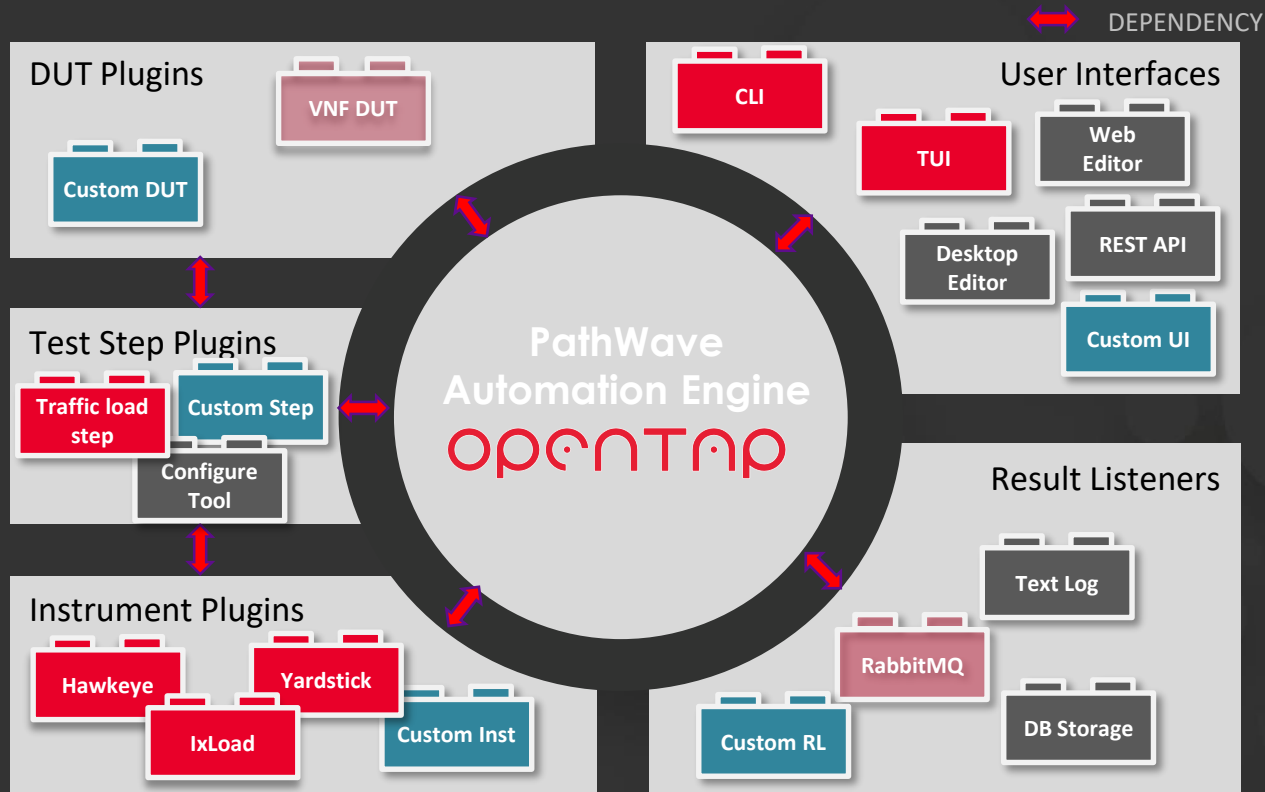 - Automate measurements

Use Case - Iperf Tool - OpenTAP

- Control Iperf via OpenTAP
- Iperf OpenTAP plugin
  – Control the iperf client "instrument"
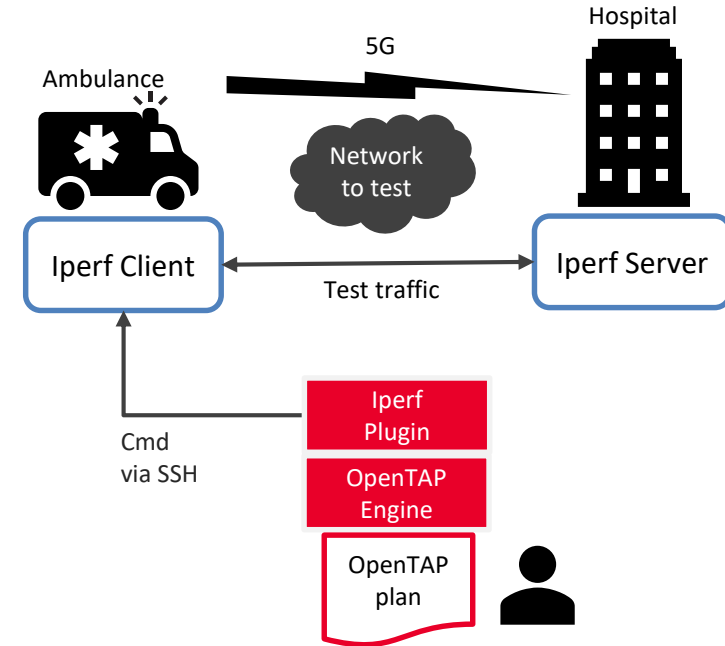 – Provide test steps to run tests
  – Easy reusability

The OpenTAP architecture

OpenTAP Plugin – Development process

- Prototype – Ssh Plugin
  - Single test step setting up connection and performing command
- Ongoing development – Ssh Plugin
  - A step to handle the connection
  - A step to execute a command
- Optimized plugin – Ssh Plugin
  - An instrument to manage the connection
  - A step to execute a command
- Packaged for user / customer – Iperf PLugin
  - Iperf instrument inherit from Ssh instrument
  - Iperf run measurement step

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OPENTAP PLUGIN DEVELOPMENT

OpenTAP Development Resources

- Project page
  - https://www.opentap.io/
- Getting started and Developers guide
  - https://doc.opentap.io/#what-is-opentap
- Gitlab
  - https://gitlab.com/OpenTAP/opentap

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Prerequisites for Development

- Visual Studio
    - C# .NET Standard
- OpenTAP
    - The sequencing engine running the plugin and execute test steps
- Developer's System CE (Bundle)
    - Editor CE – To compose test plans using the developed plugins
    - SDK – Containing code examples
    - Visual Studio SDK CE – Containing templates and integrates with Visual Studio
- Iperf server and client
    - Iperf documentation: https://iperf.fr/
    - IP and user information
    - Ssh key to Iperf client
- Renci SshNet
    - Ssh client library (Nugent package)

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DEMO

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Thank you for your attention

Q&A