octoScope scriptMachine datasheet

scriptMachine improves control of the octoBox testbeds, accelerates test automation development, and enables synchroSniffing

Increasing complexity in Wi-Fi test management drives the need for an easier way to perform testing and to deploy test scripts across testbeds. A single scriptMachine™ allows running scripts on any testbed or on multiple testbeds at once. The scriptMachine enables customers to develop their own customized test automation sequences and comes with Python libraries and script examples.

Figure 1 scriptMachine

scriptMachine comes installed with octoScope's synchroSniffer® Wireshark enabling multiprobe sniffing and OFDMA captures on an octoScope testbed.

scriptMachine is required to run any octoScope® test suites such as TR.398.

FEATURES

- Preconfigured for accessing one or more octoBox testbeds
- Execution environment for running test scripts
- Includes tools for advanced packet captures
- Test script development environment
- Includes all the necessary Python libraries to develop test scripts on the octoScope testbeds
- Sample script examples to start development quickly

BENEFITS

- Control any octoBox® testbed
- Run scripts on any testbed
- Develop your own test automation sequences
- Perform wireless captures in an octoScope testbed

SOFTWARE SOLUTION OVERVIEW

The scriptMachine comes with software that enables remote control of testbeds, running synchroSniffer traces and developing test automation sequences:

1. Web browser to control any testbed
2. octoScope's version of Wireshark for synchroSniffing
3. Test automation environment including:
    a. octoScope's python library that can be used to implement test scripts that run on an octoBox testbed. Library includes documentation.
    b. Python interpreter
    c. scriptManager, a User Interface for configuring and running scripts
4. Script examples: Throughput, Rate versus Range, Rate versus Range versus Orientation, Rate versus Orientation versus Range

SOFTWARE DEVELOPMENT TOOLS AND DOCUMENTATION

The scriptMachine bundles all necessary tools remotely control any octoBox testbed as well as to develop test scripts for the octoBox testbed. While the octoBox testbed supports a REST API, the scriptMachine come with Python libraries that implement those APIs and can be used develop test automation scripts.

The scriptMachine includes the necessary documentation to use the octoScope Python libraries (see Figure 2). The scriptMachine also comes bundled with script examples to jump start test automation development.

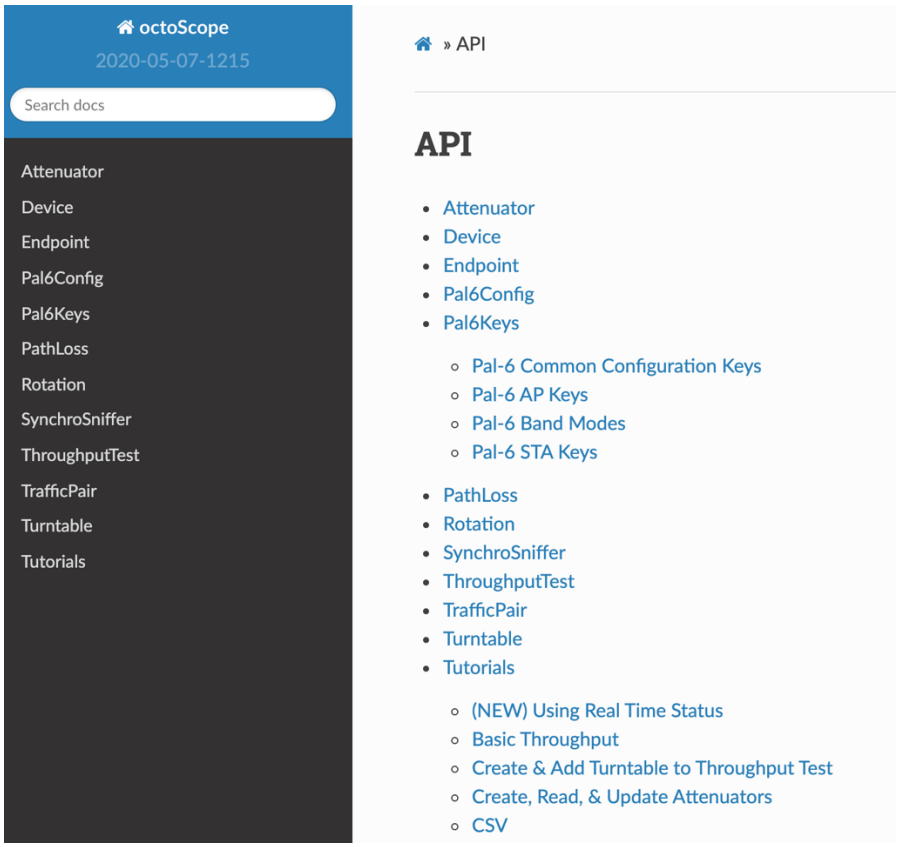

Figure 2 API documentation available on the scriptMachine

SCRIPT MANAGER, EXECUTION ENVIRONMENT FOR SCRIPTS

All available scripts appear in the Script Manager (see Figure 3). Script Manager can be used to edit parameters related to each script. Script Manager includes a sequencer which allows the user to select scripts to be run. Any script can be run many times.

While the user is running test scripts, the Script Manager presents a console window indicating progress during the test.

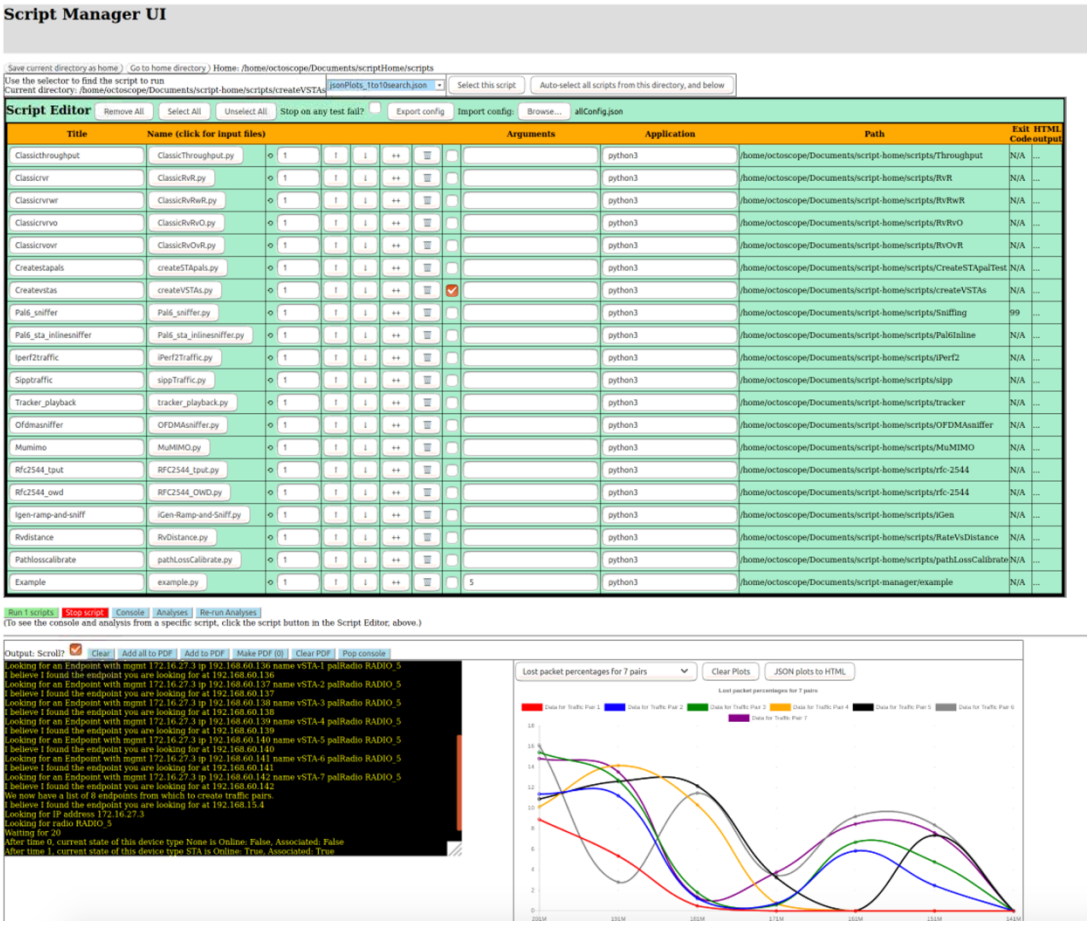

Figure 3 Script Manager

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SYNCHROSNIFFING

octoScope testbed supports multiple sniffer probes that can capture and stream packets in PCAP format to the Wireshark running on the scriptMachine in real-time.

All the Pal® radios in an octoScope testbed are synchronized via Precision Time Protocol (PTP) (see Figure 4). The captures from each radio in the octoBox testbed are combined by the synchroSniffer engine running on the scriptMachine into a common PCAP stream viewable in the octoScope customized version of Wireshark for easy analysis.

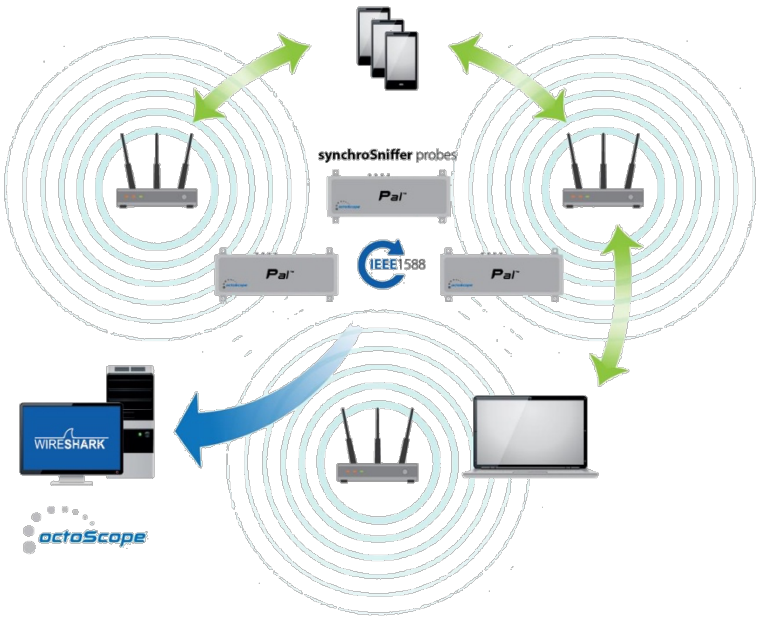

Figure 4 synchroSniffer

In this custom Wireshark application running on the scriptMachine, you can identify captures by probe (i.e. Pal radio). Such an aggregate multiprobe view helps analyze complex band steering, roaming and mesh behavior in the presence of motion, interference, path loss, multipath and DUT orientation. synchroSniffing is required for OFDMA – to simultaneously capture traffic on multiple AIDs (association IDs) that are assigned to different RUs (resource units).

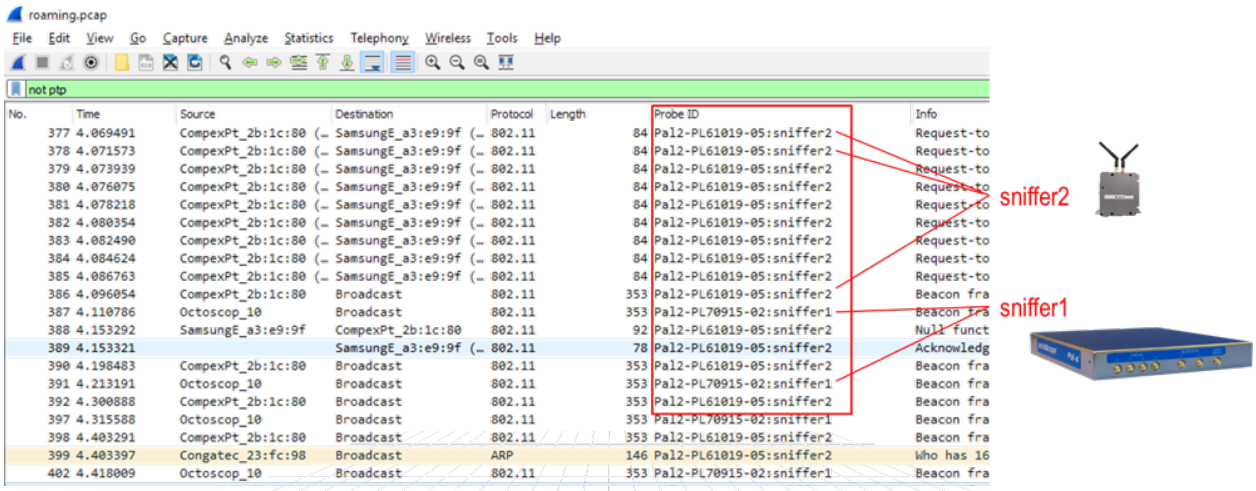

Figure 5 Wireshark user interface for synchroSniffer

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synchroSniffer capability is particularly helpful when testing OFDMA links with multiple stations operating on different resource units (RUs) because a single sniffer can only monitor a single AID. For an OFDMA link with 4 stations, you may need 4 sniffer probes, one on each station. The palBox™ can assign a STApal® sniffer to each STApal endpoint. The sniffer captures from each Pal are aggregated via the synchroSniffer engine for powerful KPI analysis of the entire complex OFDMA link. In addition to conventional monitor mode sniffing, Pal-6E radios can also work as in-line sniffer probes when configured as an AP or a STA. Thus, Pal-6E radios can be synchroSniffer probes in two modes: monitor (capture all packets), inline AP/STA (capture packets addressed to the AP/STA).

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