Pluma

- Microprocessor – Linux based
- Micro-controller – RTOS or OSless based
- Middleware, application and communication
- Cloud – Web API and Web site

*Your automated #full-stack #device centric **IoT testing** tool*

Developed with our vast knowledge and experience in designing, building and deploying IoT solutions, Pluma offers everything you need to test your IoT project. From automatic deployment to automatic testing, as well as a host of standard or custom tests.

Pluma enables continuous integration and deployment with your projects, meaning you can effortlessly discover bugs and performance issues fast. This is key to ensuring software quality and taking control of your project life cycle. Save your budget for new features - not long fixes.

FEATURES

Continuous testing for Real

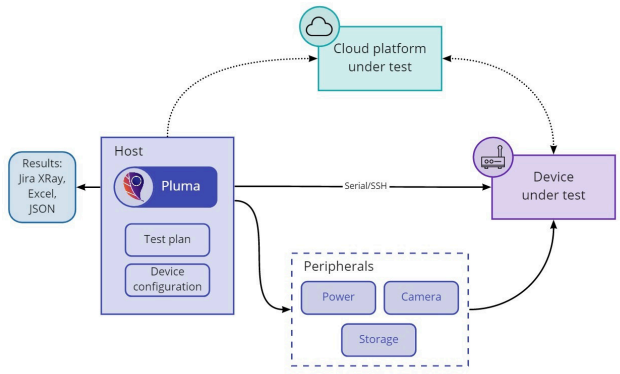
- Deployment to target system (Linux NFS, JTAG, file transfer, etc.)
- Easy to trigger from major command line tools like Gitlab, Jenkins, Github.

Intelligent report service

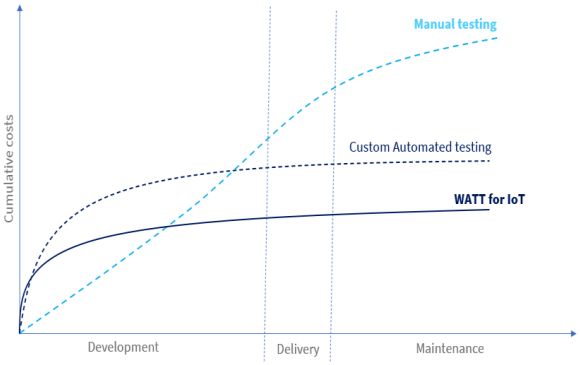
- Integration into Test Case Management app (XRay)
- Standard Excel export
- Simple and in-depth log level to analyze results efficiently

Test management

- Human readable test definition
- Manage plan and group of test
- Manage test resources and target settings easily
- Deploy and run test on devices
- Run test on host runner
- Multiple resources/IO supported for advanced testing scenario
- Metric test for performance follow up
- Simulate target action
- Web testing support
- Easy to extend with customs actions and resources development



AUTOMATED vs MANUAL TESTING



EXAMPLE SCENARIO

- Endurance testing
- Technical stress
- Benchmarks
- Metrics/Performance measurement
- Data connectivity
- Application features

and much more....

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BUILT IN ACTIONS

Console commands

Send: Send data or commands on a console. By default, this blindly send data without waiting for an answer.

Run: Run one or more commands on the device. Commands are expected to run from a POSIX shell.

Run_on_host: Run one or more commands on the host runner.

Variables and expressions

Set_variables: (or setvar:) Set one or more variables at runtime in the parent context.

Check: Check that the expression/value is True, or matches the expected attribute, if provided.

Match_any_line: Match a regex in a text/output.

Measurements and logging

Log: Log a message in the standard output, and global log file.

Metrics: Generate one or multiple metrics.

Take_picture: Use host connected camera to take a picture.

Take_screenshot: Take a screen shot of the target display.

Deployment and flashing

Deploy: Files to the target device to a specific destination**.**

Pull: Files from the target device to a specific destination.

Switch_sdwire_to_host/_to_board: Use SDWire device to emulate a physical SDCard.

Ocd_start/_end/_write/_reset: Deploy firmware and reset target with a JTAG probe.

Nfs/tftpd: New Linux firmware deployment.

Flow control

Wait: Wait for a specific duration. Duration can be a number in seconds (10 or 1.5) or a string like 1h 2m 3s.

Wait_for_pattern: Wait for a specific pattern on the console.

Break_sequence: Break the iteration of the parent group immediately.

External control

Power_on/_off/_cycle: Use the power controller defined to control the board power state.

Gpio_write/_read/_write (Raspi): Interact with gpio to perform an action or check state on the device under testing.

Bluetooth_low_energy: GATT interaction support.

UI control

Mouse_move/mouse_click: Control the mouse movement on the target board.

Keyboard: Simulate keyboard keystrokes on the target board.

Qt: Full interaction with Qt Qml graphical interface (click, get color, get text, etc.)

User interaction

Manual_action: Prints a message and waits for the user to press ENTER.

Manual_test: Prints a message, expected behavior, and wait for user's feedback.

Web

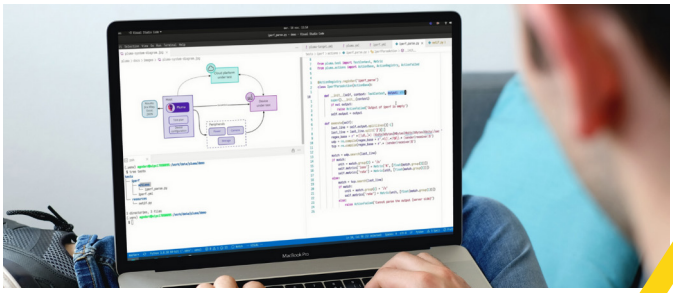
Http_request: perform a GET or POST http action to specific URL.

Postman_run: run a full postman collection and configure environment variable

EASILY EXTEND WITH CUSTOM ACTIONS

Create new actions/keywords that can be used in your plan in few minutes:

- **Create your own Python script** with a few lines of code. Use the provided sample for a quick start.
- **Integrate it** into your test file.
- **Start using your custom test actions.**



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Pluma ADD-ON
Linux Advanced Test Suite

*An integrated solution for Linux automated **testing***

- **Microprocessor – Linux based**
- **Yocto Integrated**
- **Driver, Kernel and Communication**

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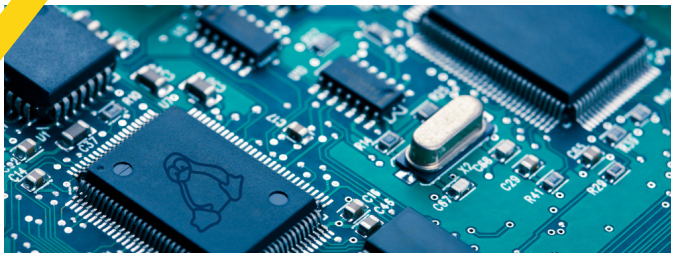
OVERVIEW



Developed with years of experience in Linux kernel and driver development, system image creation and customization, the **Pluma Linux Advanced Test Suite** offers a vast set of tests specialized for your Linux projects.

The add-on is easy to set up and run with the Pluma automated testing tool and includes more than 10,000 tests - ensuring your Linux system is issue free.

TESTS

Boot tests

Boot: boot a board and execute a command on the device.

Power failure: test the resilience of the board when the power is cut during a stressful command.

Reboot: reboot a board and execute a command on the device.

12C tests

I2C detect: detect the I^2C buses and verify that required devices are present.

System tests

LTP: the Linux Test Project integration.

Ptests: run ptests suite on the board.

Physical RAM regions: verify that user-specified RAM regions are found in /proc/iomem.

Random Number Generator Test: rng performance test.

System services: system service presence check.

PCI tests

PCI enumeration: check required devices on the device.

Network tests

Ping: ping between host and device.

Iperf: iperf between host and device.

SSH: cryptographic algorithms | no password authentication | SSH password authentication.

Wi-Fi tests

AP Connect: connect to an Access Point on a set of frequency/channel width/standard.

AP Scan: scan an Access Point on a set of frequency/channel width/standard.

Authentication: configure a specific authentication on an access point and verify that the target under test can (or cannot) connect to it.

Latency: test the ping latency of the Wi-Fi link.

Performance: test the performance (bandwidth, link speed) of the Wi-Fi link.

Robustness AP on/off: test the robustness of the target when the access point is disabled and re-enabled.

And more...

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