

Packet Tracer 7.0

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PACKET TRACER

has grown
massively

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Mind Wide Open™

Cisco Packet Tracer



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it bildungsnetz



New Protocols
New Devices
New Services
Programming
Physical Workspace

But most important.

Internet of
Things

New Protocols - look at samples

- SPAN/RSPAN span/span_local_and_remote.pkt
- REP (resilient ethernet protocol) rep/rep_two_devices.pkt
<http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/lanswitch/configuration/xe-3s/lsw-cfg-rep.html>
- LLDP lldp/lldp_sample.pkt
https://en.wikipedia.org/wiki/Link_Layer_Discovery_Protocol
- DHCP Port-Based Address Allocation dhcp/dhcp_port_based_address_allocation.pkt
- L2NAT ie2000/l2nat_vlan.pkt
http://www.cisco.com/c/en/us/td/docs/switches/lan/cisco_ie2000/software/release/15_0_2_eb/configuration/guide/scg-ie2000/l2nat.html
- PTP ie2000/ptp_simple_boundary_clock.pkt

New Devices – see samples

- Router

- 819 IOX capable
- 829
- 1240

examples/7.0/819HG_4G_IOX and examples/HGW

examples/7.0/829

examples/7.0/cgr1240

- Switches

- IE2000

examples/7.0/ie2000

- Microprozessors

- Microcontroller Unit
- Single Board Computer

- Internet of Thing Devices

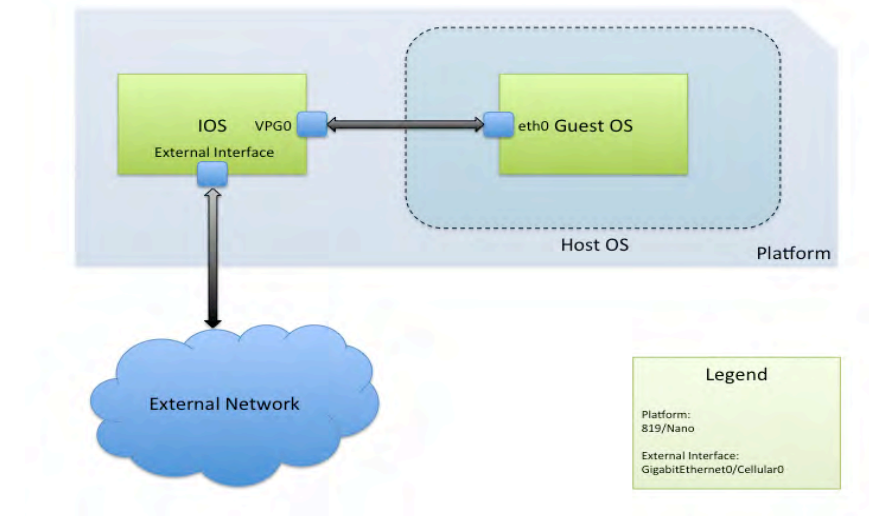
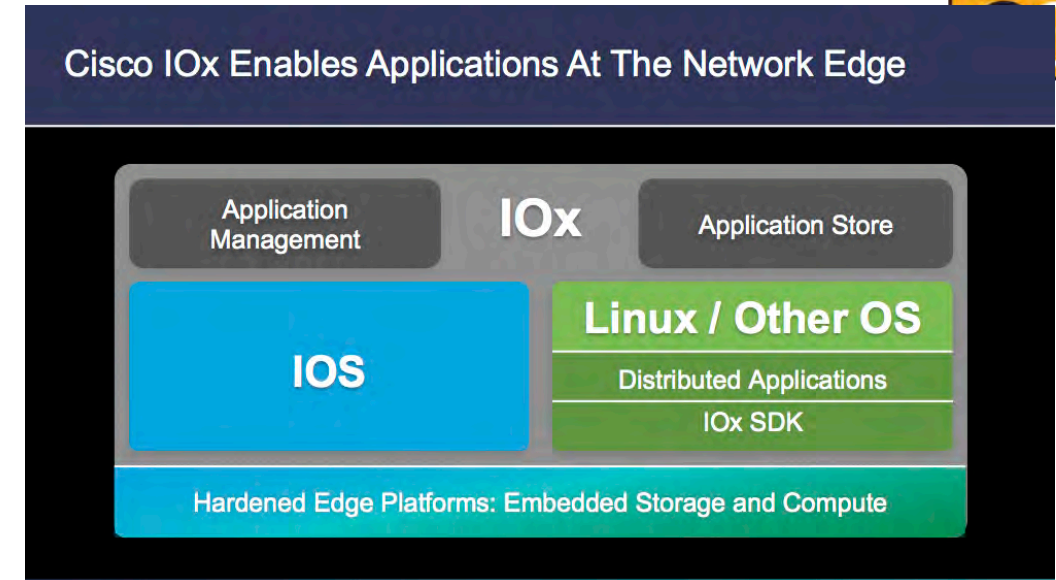
- Generic Thing
- IoT Home Gateway
- IoT Actuators, Sensors

examples/7.0/loE/ioe_home_gateway.pkt

examples/7.0/loE_devices

IOX – what's that

- Virtual Machine running with IOS
<https://developer.cisco.com/site/iox/>
- Create your own VM
<https://communities.cisco.com/docs/DOC-55808>
- Understand the different interfaces on the router
 - Physical outside interface
 - Internal interface to communicate with VM
819HG_4G_IOX/ basic_configuration_outside_nat.pkt



New Services

- Environment
- HTTP/FTP Server file import
examples/HTML/ import files and ftp to server.pkt
- Registration Server IoT

Cisco Packet Tracer - Environments

Location: Intercity **Edit**

Current Time: 08:30:00 **Edit** **Pause**

Environment Values **Edit**

Filter: **Search** **Reset**

- Earth Physical Features
 - Elevation 22.00 m
 - Soil pH 7.00 pH
- Gases
 - Argon 0.9340 %
 - CO 0.00 %
 - CO₂ 0.0360 %
 - He 0.0005240 %
 - H 0.00050 %
 - Methane 0.000150 %
 - Nitrogen 78.0840 %
 - O₂ 20.9460 %
- Gravity
 - Gravity 9.80 m/s²
- Light (Sun)
 - Electromagnetic Radiation 41.67 %

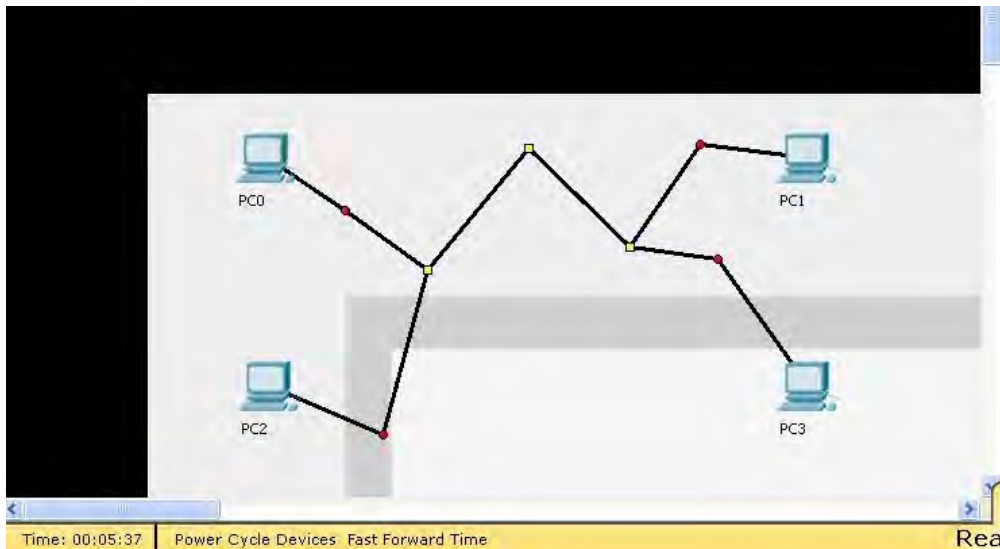
Programming

- HTTP Server
 - Javascript
 - CSS

- Wait for more to come immediately

Physical Workspace

- Create new locations
- Containers
- Wiring Closet
- Cable Group

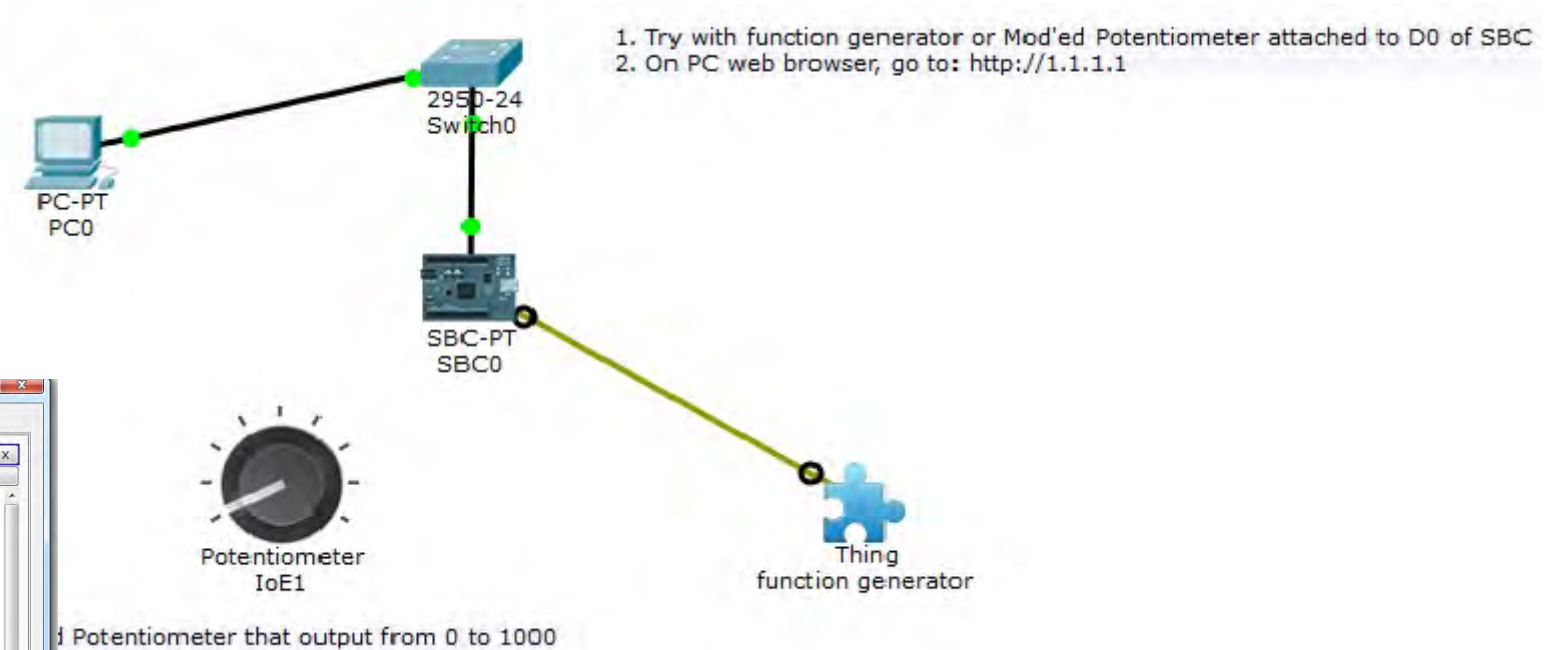
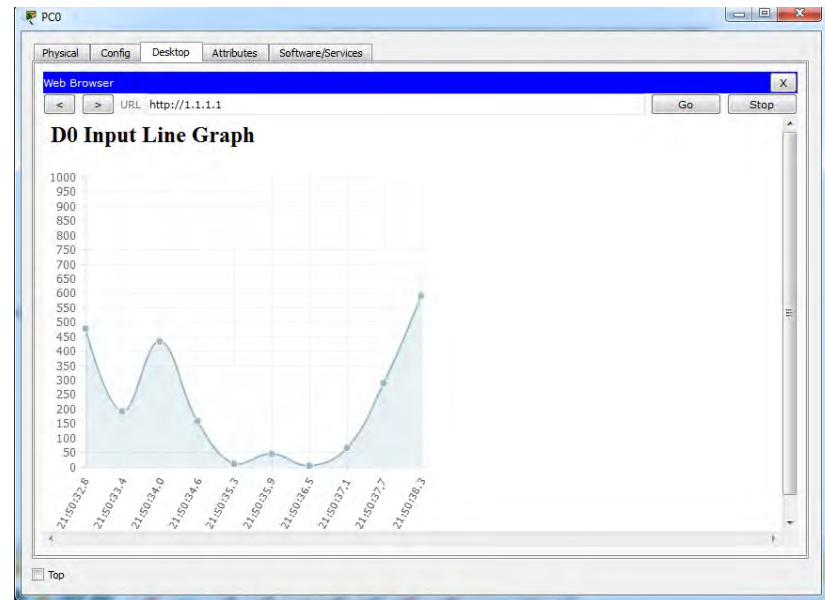


Internet of Things

- Bag full of new devices
 - Controllers
 - Actuators
 - Sensors
 - Home and Smart Devices
 - Power Grid
- Programming
 - Javascript
 - Python
 - Blockly (what's that?)

Javascript example – part 1

- Start from Boiler Plate !
7.0/IoE/graphing.pkt
- Modify !
- Enjoy !



Javascript example – Part 2

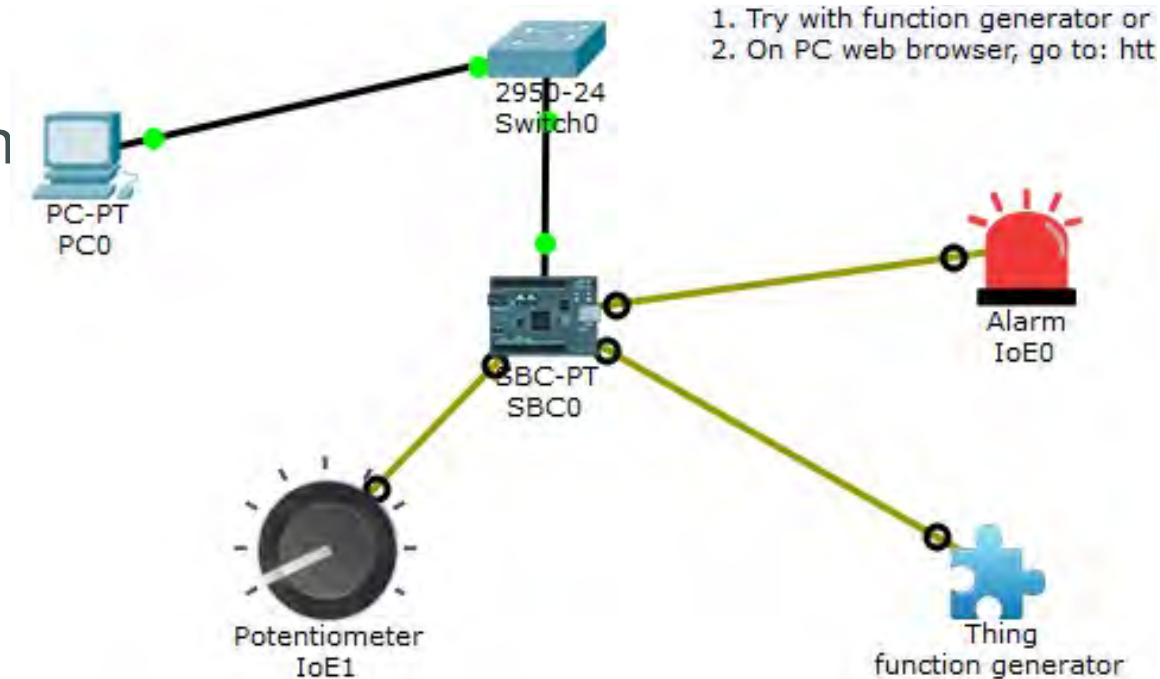
- Connect the Potentiometer to the SBC Port D2
- Find the place in the code to change input from D0 to D2:
 - Click on the SBC
 - Choose tab Programming
 - Select Project *NewProject (Javascript)
 - Select main.js
 - Scroll down to „function loop()“
 - Change CustomRead(0) to CustomRead(2)
- Use the Potentiometer and observe results
 - ALT + click and drag

Python Example

- Understand a Python Project

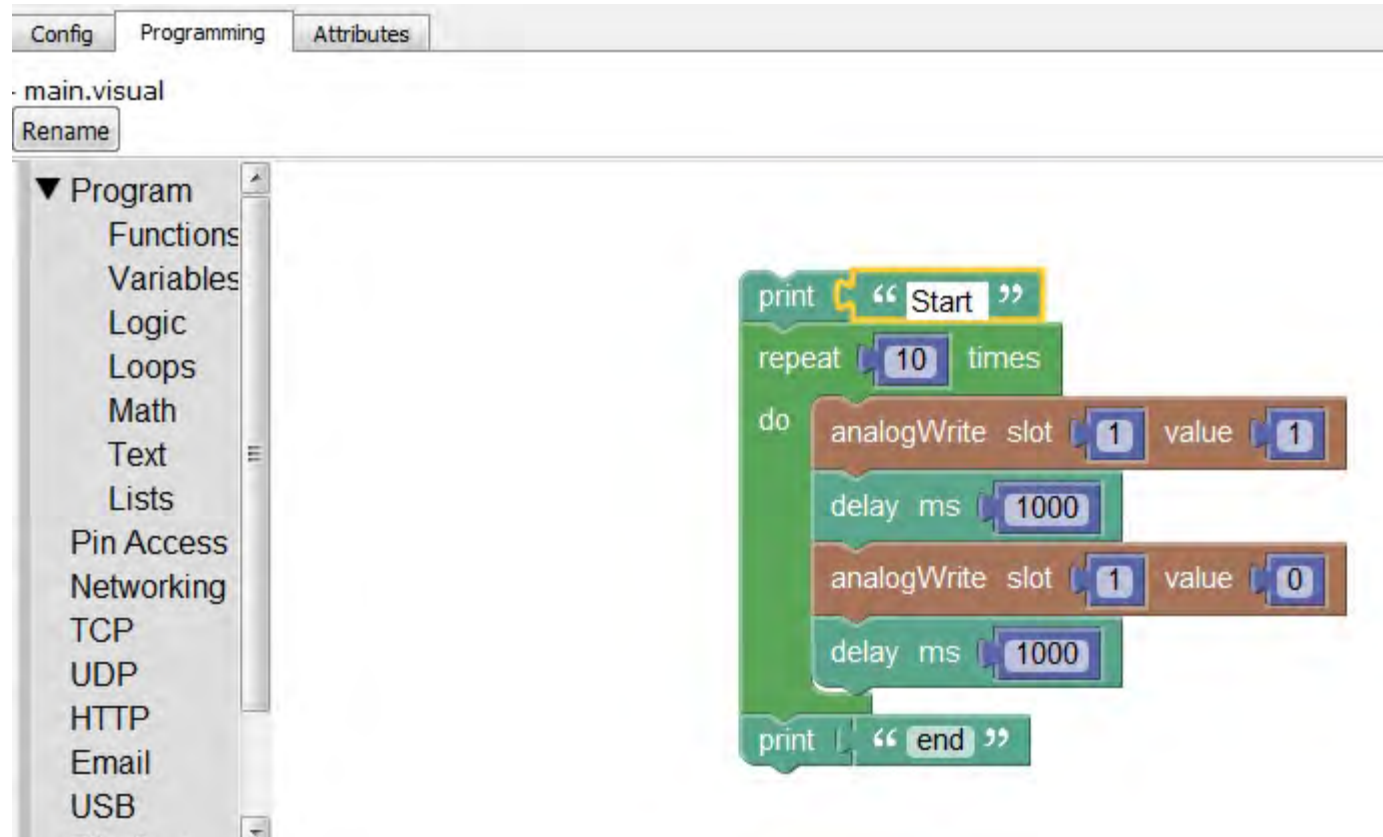
Select Project Blink(Python)
Select File main.py
Describe what it does...

- Make it Blink !!



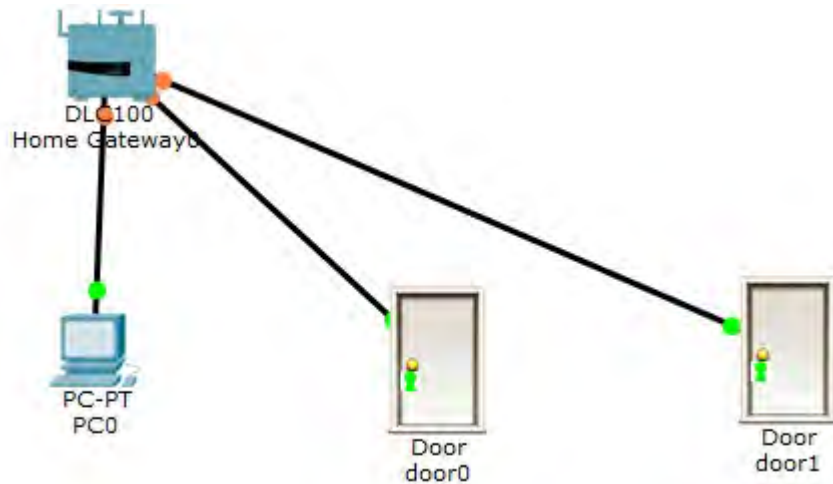
Blockly Example

- Give yourself a kick.....!

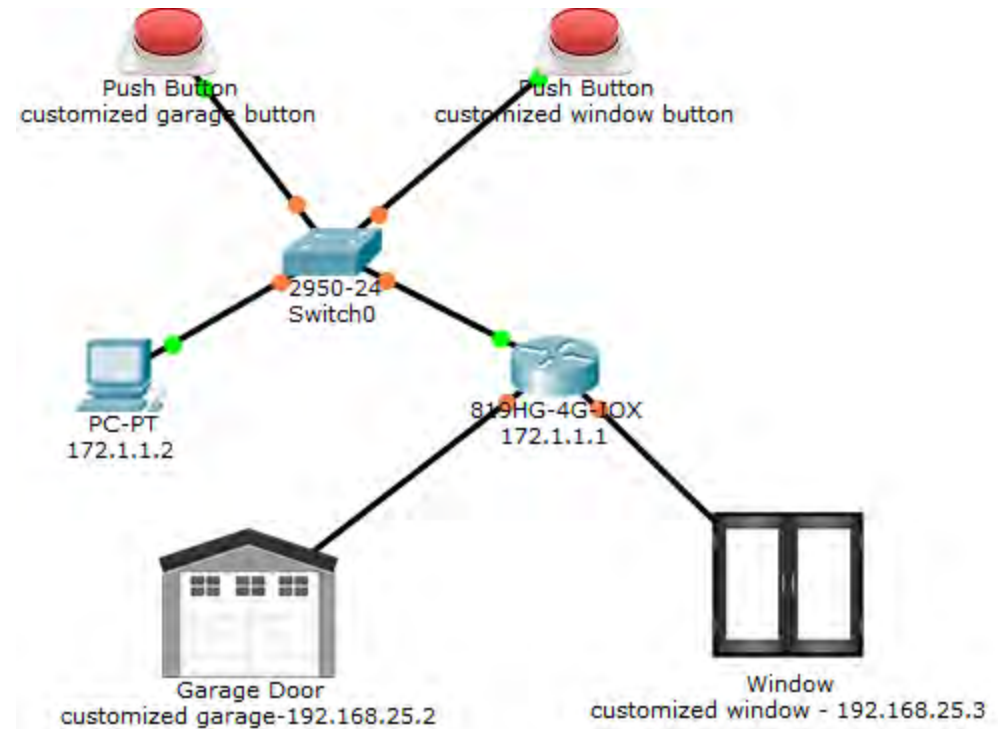


Two more Examples

- IoT Home Gateway
7.0/IoE/ioe_home_gateway.pkt



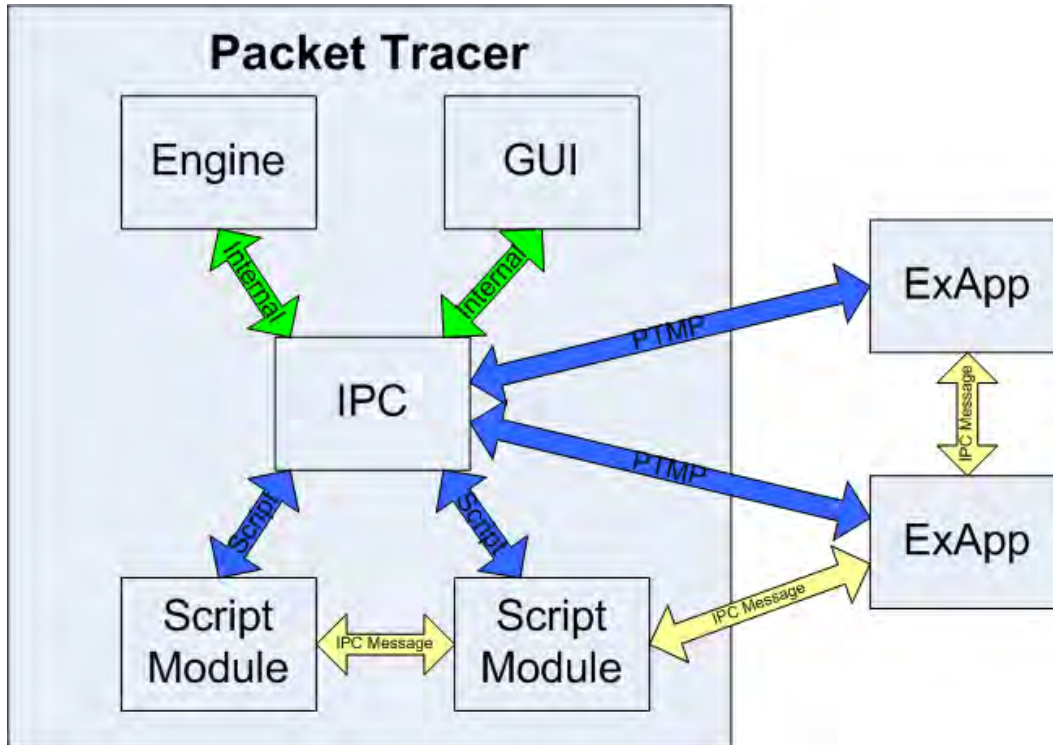
- IoE with IOX
7.0/IoE/ioe_with_iox.pkt



Not enough programming ?

- Have a look into scripting

- In PT Help:



Script Modules

Scripting Interface
Script Engine
Web Views
Data Store
Data Store Editor
Custom UDP Processes
Tips

Thank you.

I'm still with you.... stefan.platzek@it-bildungsnetz.de



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