Open Source Dependency Injection Framework for LabVIEW

GDevCon ANZ 2023

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What is ViPER?

ViPER is an OO Framework that allows you to build systems that Implement Dependency Injection. ViPER based systems assemble themselves at runtime from a collection of pre-built and pre-verified components.

Why create ViPER?

ViPER was developed to minimize the effort spent on software verification & validation activities for systems used in mission critical applications or in regulated environments such as medical device manufacturing.

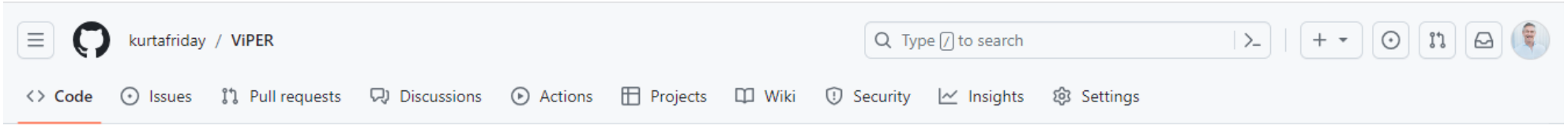
Previous Presentations

GLA 2021: Bengineer builds a test system in ViPER

https://labviewwiki.org/wiki/GLA_Summit_2021/Open_Source_ViPER

GLA 2020: Introducing ViPER

https://labviewwiki.org/wiki/GLA_Summit_2020/ViPER_-_A_LabVIEW_Dependency_Injection_Framework



ViPER Public template

Pin | Watch 1 | Fork 0 | Star 0

master | 1 branch | 0 tags | Go to file | Add file | Code | Use this template

kurtafriday Update README.md 9ba08b8 3 days ago 5 commits

LICENSE	Update LICENSE	5 years ago
README.md	Update README.md	3 days ago

README.md

ViPER

ViPER is an object oriented design framework that supports dependency injection and recursive object creation. Systems are assembled at runtime from a collection of pre-built components defined by an Object Definition Document.

How to get started:

Clone the repository and then copy the folder ViPER\Src\ProjectTemplates to your LabVIEW202X folder. Note this branch is built in LabVIEW 2022. Open LabVIEW and then select File -> Create Project... and then select the Medulla ViPER Component from the list of project templates.

More documentation to come.

Examples included.

About

ViPER is an object oriented design framework that supports dependency injection and recursive object creation. Systems are assembled at runtime from a collection of pre-built components defined by an Object Definition Document.

medulla.net/

oop | labview | plugin-system | dependancy-injection | goop

Readme
BSD-2-Clause license
Activity
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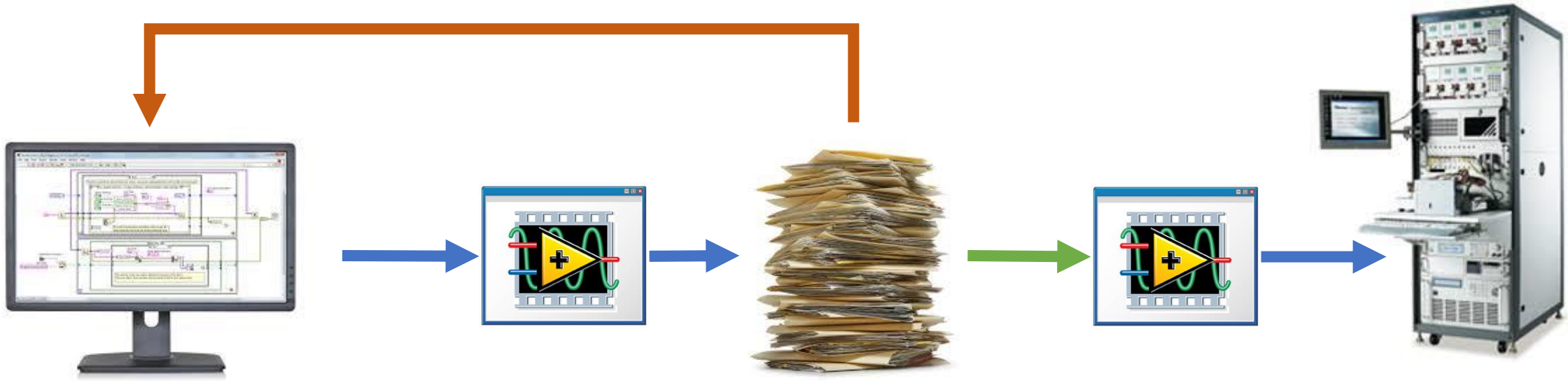
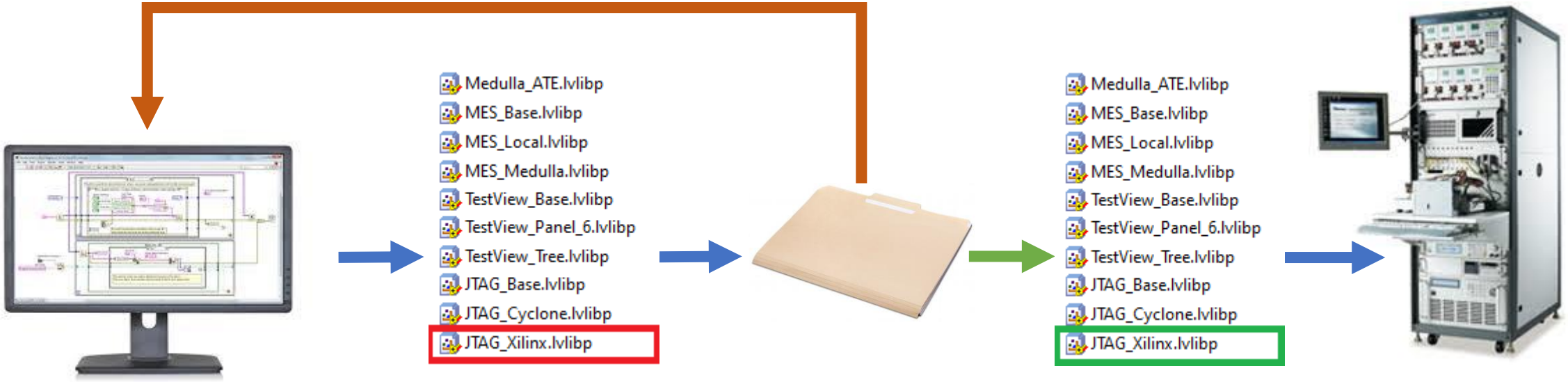
Releases

No releases published
Create a new release

Simplified process of updating a Xilinx JTAG driver for a conventional system



Simplified process of updating a Xilinx JTAG driver for a ViPER system



Software Development

JTAG_Xilinx Un-verified

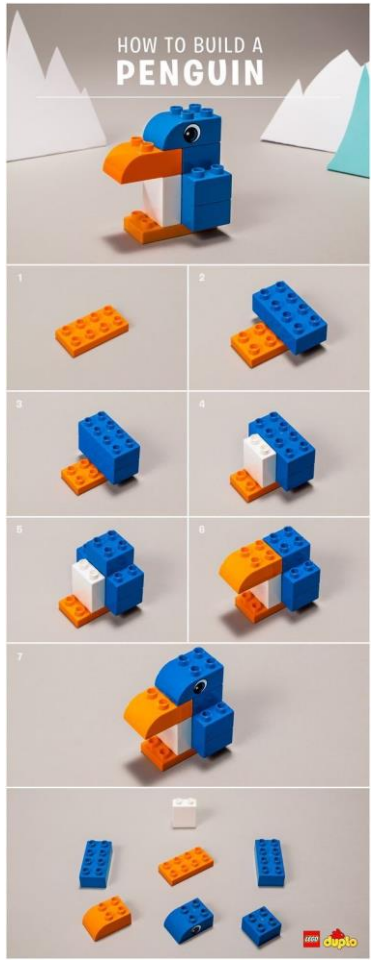
JTAG_Xilinx Verification Protocol

JTAG_Xilinx Verified

Test System

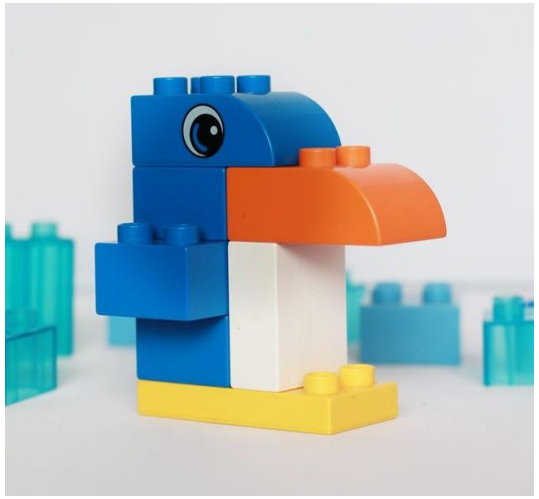
medulla

Object Definition Document



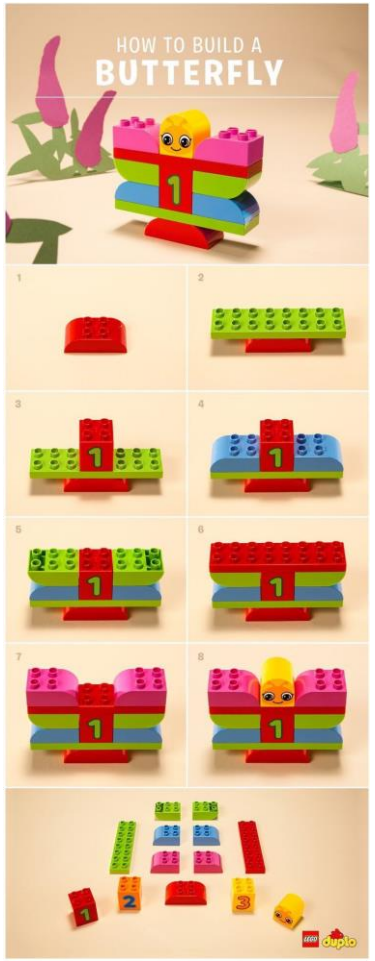
Constructor

Object



Components

Object Definition Document



Constructor

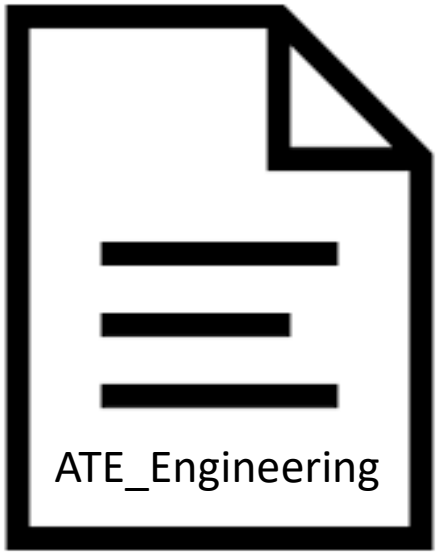
Object

Components

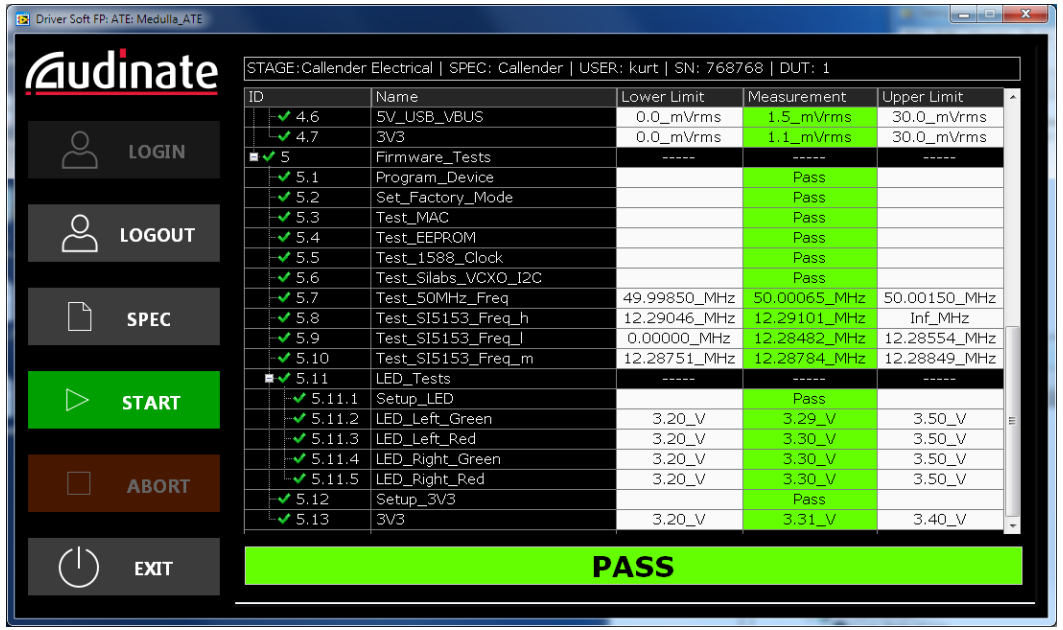
Object Definition Document

Constructor

Object



ViPER.lvlibp



ID	Name	Lower Limit	Measurement	Upper Limit
4.6	5V_USB_VBUS	0.0_mVrms	1.5_mVrms	30.0_mVrms
4.7	3V3	0.0_mVrms	1.1_mVrms	30.0_mVrms
5	Firmware_Tests	-----	-----	-----
5.1	Program_Device		Pass	
5.2	Set_Factory_Mode		Pass	
5.3	Test_MAC		Pass	
5.4	Test_EEPROM		Pass	
5.5	Test_1588_Clock		Pass	
5.6	Test_Silabs_VCXO_I2C		Pass	
5.7	Test_50MHz_Freq	49.99850_MHz	50.00065_MHz	50.00150_MHz
5.8	Test_SI5153_Freq_h	12.29046_MHz	12.29101_MHz	Inf_MHz
5.9	Test_SI5153_Freq_l	0.00000_MHz	12.28482_MHz	12.28554_MHz
5.10	Test_SI5153_Freq_m	12.28751_MHz	12.28784_MHz	12.28849_MHz
5.11	LED_Tests	-----	-----	-----
5.11.1	Setup_LED		Pass	
5.11.2	LED_Left_Green	3.20_V	3.29_V	3.50_V
5.11.3	LED_Left_Red	3.20_V	3.30_V	3.50_V
5.11.4	LED_Right_Green	3.20_V	3.30_V	3.50_V
5.11.5	LED_Right_Red	3.20_V	3.30_V	3.50_V
5.12	Setup_3V3		Pass	
5.13	3V3	3.20_V	3.31_V	3.40_V

Medulla_ATE.lvlibp
MES_Base.lvlibp
MES_Local.lvlibp
MES_Medulla.lvlibp
TestView_Base.lvlibp
TestView_Panel_6.lvlibp
TestView_Tree.lvlibp
JTAG_Base.lvlibp
JTAG_Cyclone.lvlibp
JTAG_Xilinx.lvlibp
Switch_2575.lvlibp
Switch_2739.lvlibp
SwitchBase.lvlibp
Test_Adapters.lvlibp
Test_Base.lvlibp
Test_Fremont.lvlibp
Test_Sim.lvlibp
Frequency_Counter_Base.lvlibp
Frequency_Counter_BK.lvlibp
Frequency_Counter_TTi.lvlibp

Components

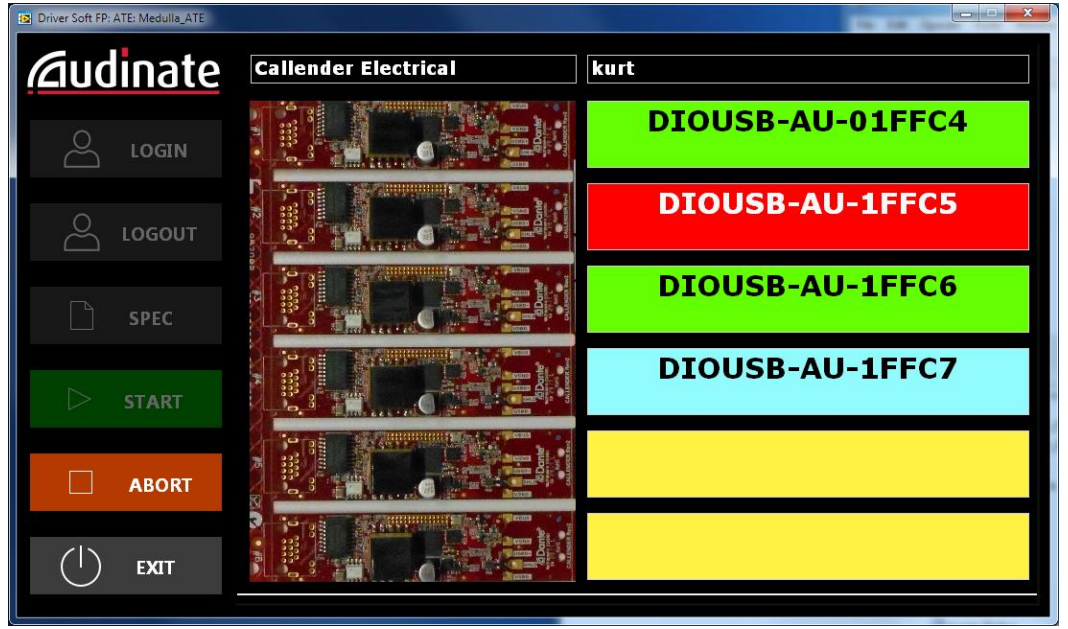
Object Definition Document

Constructor

Object

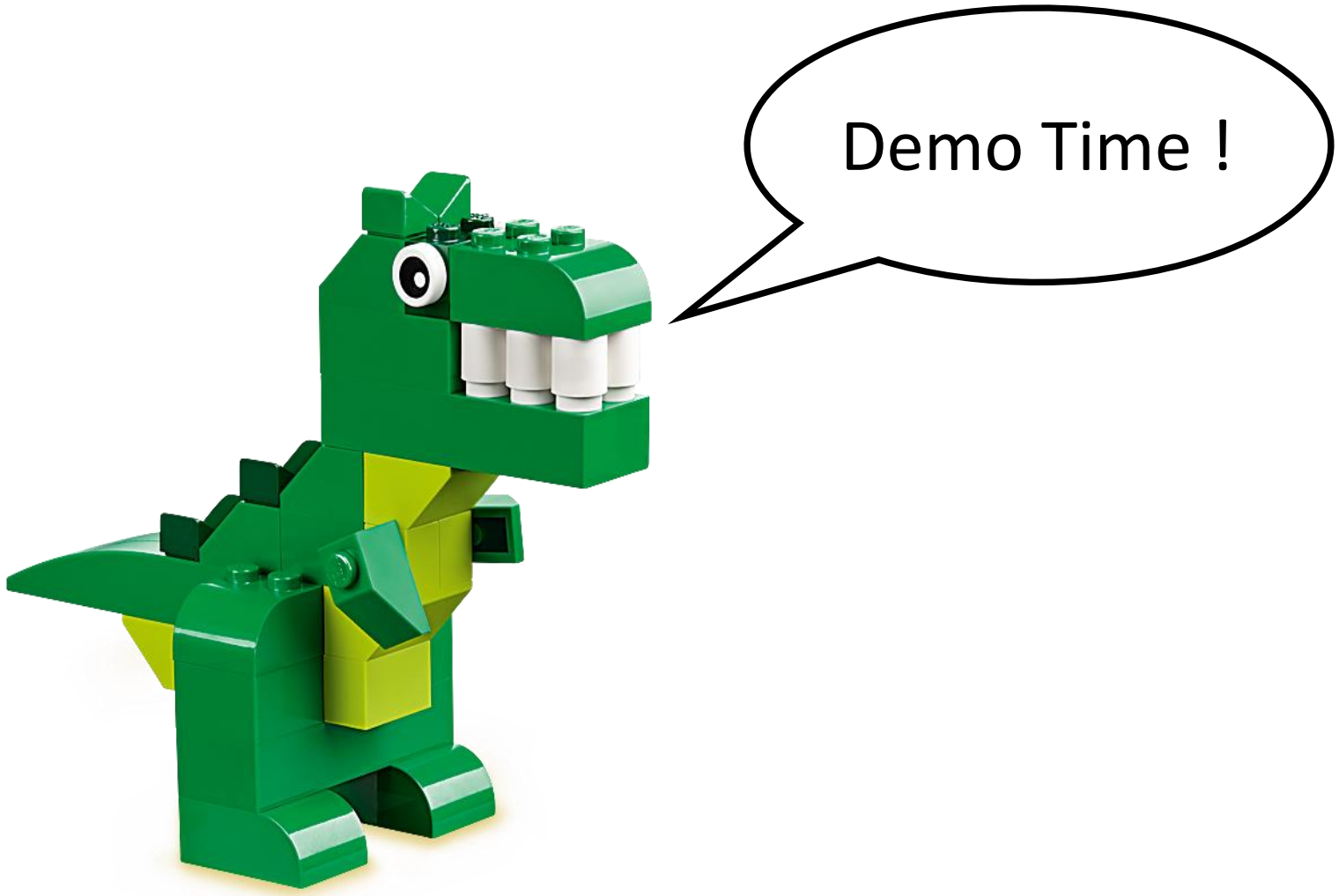
ATE_Production

ViPER.lvlibp



- Medulla_ATE.lvlibp
- MES_Base.lvlibp
- MES_Local.lvlibp
- MES_Medulla.lvlibp
- TestView_Base.lvlibp
- TestView_Panel_6.lvlibp
- TestView_Tree.lvlibp
- JTAG_Base.lvlibp
- JTAG_Cyclone.lvlibp
- JTAG_Xilinx.lvlibp
- Switch_2575.lvlibp
- Switch_2739.lvlibp
- SwitchBase.lvlibp
- Test_Adapters.lvlibp
- Test_Base.lvlibp
- Test_Fremont.lvlibp
- Test_Sim.lvlibp
- Frequency_Counter_Base.lvlibp
- Frequency_Counter_BK.lvlibp
- Frequency_Counter_TTi.lvlibp

Components


Demo Time !