

Control system based on a
Highly
Abstracted and
Open
Structure



WP2

C. Bisegni

WP2 Task

WP2 Alpha State

- Health System
- Metadata Server
- Metadata Server Client Lib
- Chaos Control Studio

Health System - CCS Monitoring

- Health System is used by cvs monitor view to detect the node state
- publishing of node state on CDS using a separate unique id {node_id}_healt

BTF_SIM/DHSTB001	
Status: Start	
BTF_SIM/DHSTB002	
Status: Start	
BTF_SIM/QUATB001	
Status: Start	
BTF_SIM/QUATB002	
Status: Start	
BTF_SIM/QUATB003	
Status: Start	
BTF_SIM/QUATB004	
Status: Start	
BTF_SIM/QUATB101	
Status: Start	
BTF_SIM/QUATB102	
Status: Start	

Qt

Form

Unique ID: BTF_SIM/QUATB004

Rpc info Address: 192.168.150.71:8888

Domain: abb0962a

Hosted on US: BTF_SIM

Healt: CU Status: Start

US Status: Load

Dataset

Command

Show live data for output channels

Name	Type	Description
dpck_ats	Int64	Acquisition timestamp

Chaos Control Studio

- health monitoring
- dataset(input/output) inspection and monitoring
- complete control unit control
- command template creation and submission
- dataservice configuration
- control unit instance creation and modification
- cu -> cds assocaition

Chaos Control Studio

Qt

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Healt: CU Status:

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US Status:

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Dataset

Command

Show live data for output channels

Name	Type	Description	Current value
dpck_ats	Int64	Acquisition timestamp	Thu Sep 10 12:15:01 2015
current	Double	current	25
current_sp	Double	current Set Point	25
voltage	Double	voltage	0
polarity	Int32	polarity	1
alarms	Int64	Alarms	0
status_id	Int32	status_id	2
status	String	status	on
dev_state	Int64	Bit field device state	0

Show live data for input channels

Name	Type	Description	Min	Max	Default	Set value	Current value
max_current	Double	The maximum...			100		100
slope_up	Double	The gain of th...	1	10	1		1
slope_down	Double	The gain of th...	1	10	1		1
driver_timeout	Int32	Driver timeout...					0
command_ti...	Int32	General com...					0
delta_setpoint	Int32	Delta of the s...					0
setpoint_affinity	Int32	Delta of the s...					0

Reset Change Set

Commit Change Set

Run Schedule Delay: Current set:

1000000

Apply

Plot

Load

Unload

Init

Deinit

Start

Stop

Chaos Control Studio

Qt

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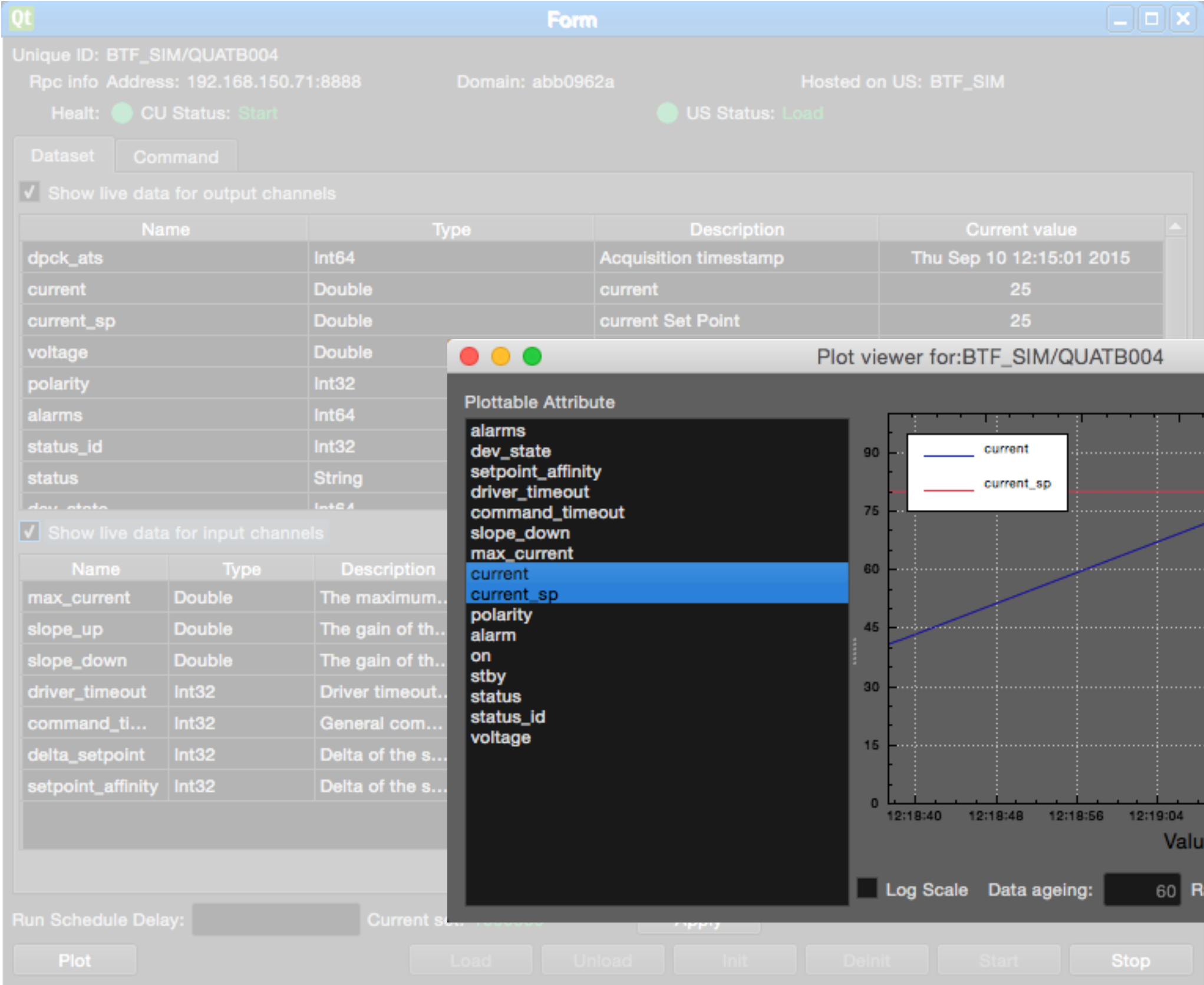
Init

Deinit

Start

Stop

Chaos Control Studio



Chaos Control Studio

Qt

Form

Data Services

	Unique Identifier	DirectIO Address	Endpoint
1	data_server0	192.168.150.21:1672:30175	0
2	data_server1	192.168.150.22:1672:30175	0
3	data_server2	192.168.150.23:1672:30175	0

update

remove

edit

add

Control unit associate to: selected data service

Unique Identifier	RPC Address	RPC Domain	State	State SM
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update

remove

add

Chaos Control Studio

Qt

BTF_SIM

Unit server unique id: BTF_SIM

Address: 192.168.150.71:8888

Last reg ts: FRI Sep 4 11:16:48 2015

Load

Control unit type

::driver::daq::libera::SCLiberaCU

::driver::powersupply::SCPowerSupplyCont

BasicSensor

ChaosMESS

DataImport

S7ControlUnit

Tektronicks

chaos::driver::modbus::ModbusControlUnit

chaos::driver::modbus::ModbusFemtoUnit

Control unit instances

	UID	Impl	RPC Addr	RPC Dom
1	BTF_SIM/DAQ/QDC0	::driver::daq::qdc	--nr--	--nr--
2	BTF_SIM/DAQ/QDC1	::driver::daq::qdc	--nr--	--nr--
3	BTF_SIM/DAQ/SCALER	::driver::daq::scaler	--nr--	--nr--
4	BTF_SIM/DHSTB001	::driver::powersupply::SCPo...	192.168.150.71:8888	f6c9d76c
5	BTF_SIM/DHSTB002	::driver::powersupply::SCPo...	192.168.150.71:8888	f1fae7f9
6	BTF_SIM/QUATB001	::driver::powersupply::SCPo...	192.168.150.71:8888	8217dd3c
7	BTF_SIM/QUATB002	::driver::powersupply::SCPo...	192.168.150.71:8888	541c8724
8	BTF_SIM/QUATB003	::driver::powersupply::SCPo...	192.168.150.71:8888	350df488
9	BTF_SIM/QUATB004	::driver::powersupply::SCPo...	192.168.150.71:8888	abb0962a
10	BTF_SIM/QUATB101	::driver::powersupply::SCPo...	192.168.150.71:8888	ad2a6da0
11	BTF_SIM/QUATB102	::driver::powersupply::SCPo...	192.168.150.71:8888	c5111de5

update

-

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<<

>>

remove

edit

add

Update All

Chaos Control Studio

Qt Control unit instance editing

Unit server host: **BTF_SIM**

Control unit type: **::driver::powersupply::SCPowerSupp** Choose Type

Unit server unique id: **BTF_SIM/QUATB004** check unique

configuration **dataset attributes default values**

☒ autoload

Load paramter: Initialization parameter

Driver specifications

	Name	Version	Init parameter
1	GenericPowerSupplyDD	1.0.0	SimPSupply:/dev/ttyr12,4,100:200,200:300,...

remove Edit add

save

Chaos Control Studio

Qt

Control unit instance editing

Unit server host: BTF_SIM

Control unit type: ::driver::powersupply::SCPowerSupp

Unit server unique id: BTF_SIM/QUATB004

Choose Type

check unique

configuration

dataset attributes default values

	Name	Default Value	Max Value	Min Value
1	max_current	100		
2	slope_down	1	10	1
3	slope_up	1	10	1

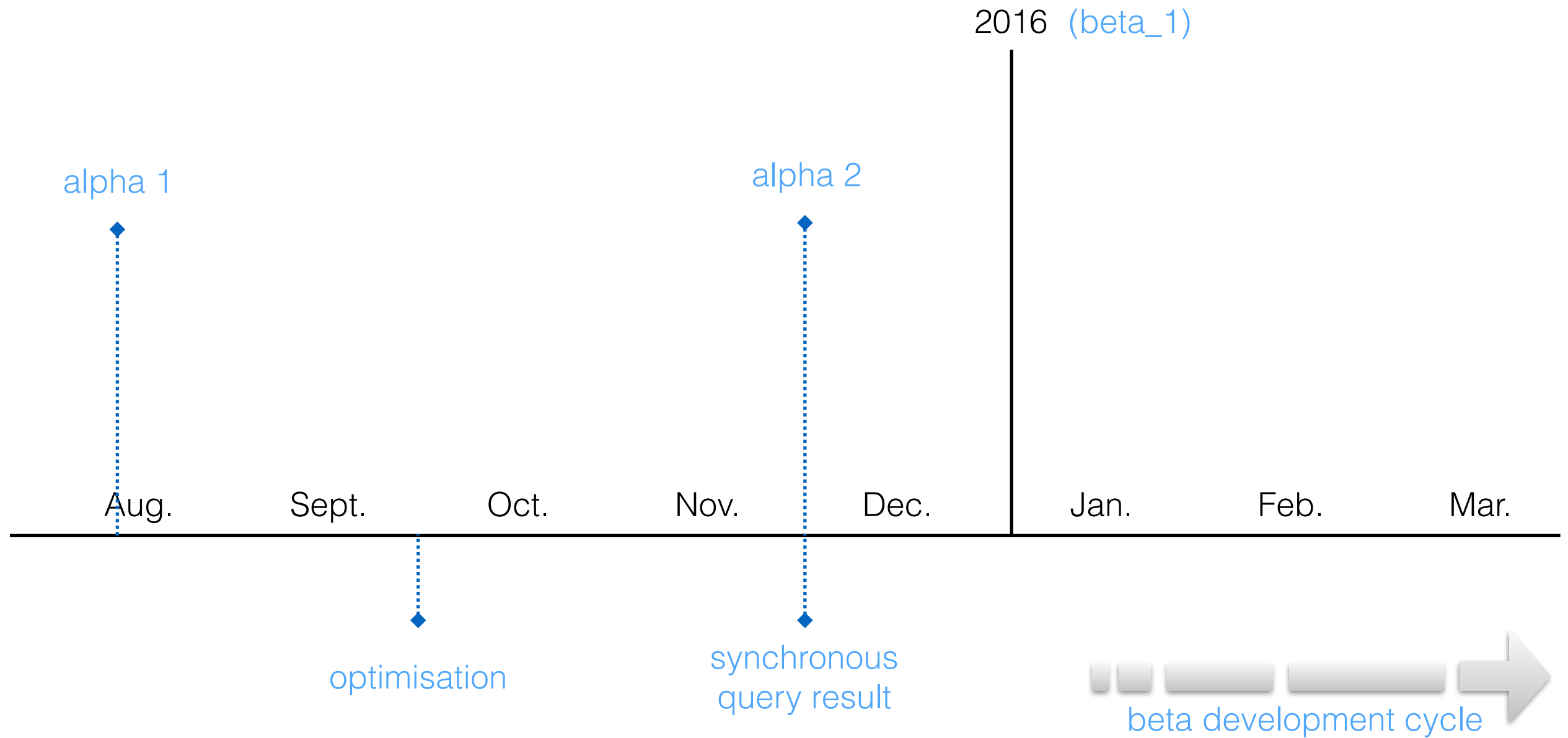
remove

edit

add

save

WP2 next step timeline





thanks you