

Control system based on a
Highly
Abstracted and
Open
Structure

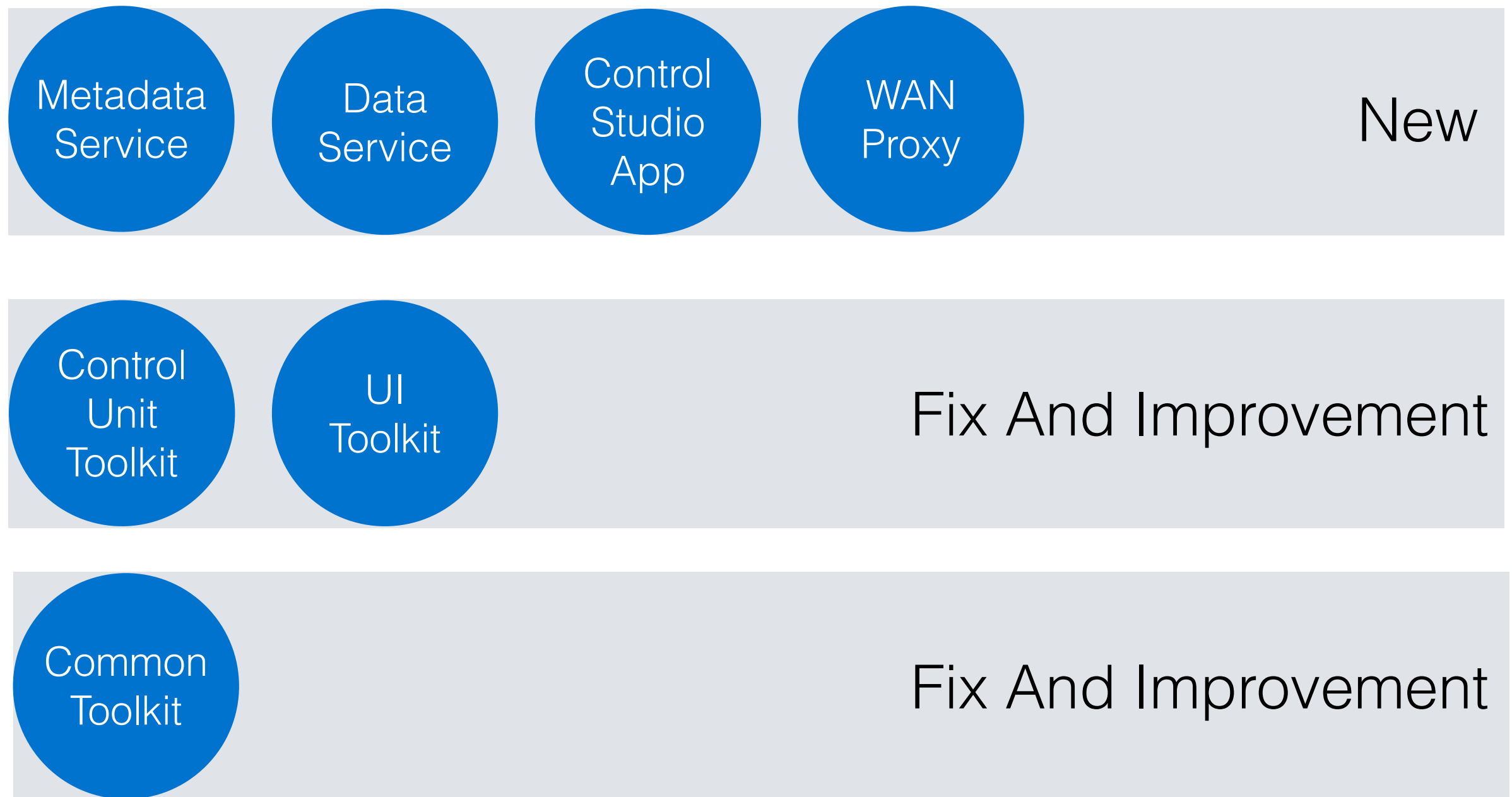
!CHΛOS

WP2

C. Bisegni

WP2 Task

All WP2 Range of development



WP2 Task



All WP2 Range of development

- DirectIO
- Fixed RPC socket pooling
- abstract health data infrastructure

WP2 Task



All WP2 Range of development

- finalized the control unit abstraction
 - declared attribute now live in internal cache
- 4 type of dataset
 - output, input, custom, system
- health data for US andCU
- rewrite of the data driver to use DirectIO instead Memcached

WP2 Task

All WP2 Range of development



- minor bug fix

WP2 Task



All WP2 Range of development

- DirectIO to answer to the query command
 - insert data pack (cache, hst, either)
 - get last data pack
 - query on device for id-from-to(date ofset) !!!!
Asinc!!!
- Development of the implementation of the driver for caching, database, filesystem

WP2 Task



All WP2 Range of development

- HST data management
 - write data on stage area (no optimization)
 - indexing process (no recovery for unfinished processed data)
 - write data on data area (no optimization)

WP2 Task



All WP2 Range of development

- Query
 - simple paging logic for data
 - async answering to client (to remove)

WP2 Task



All WP2 Range of development

- metadata management for:
 - data service
 - unit service
- control unit
 - configuration
 - read output dataset value
 - set input dataset value
 - command management
 - template management
 - send command

WP2 Task

All WP2 Range of development



- permit to create client that talk with mrs
- permit to monitor node using the 4-dataset and with new health information

WP2 Task

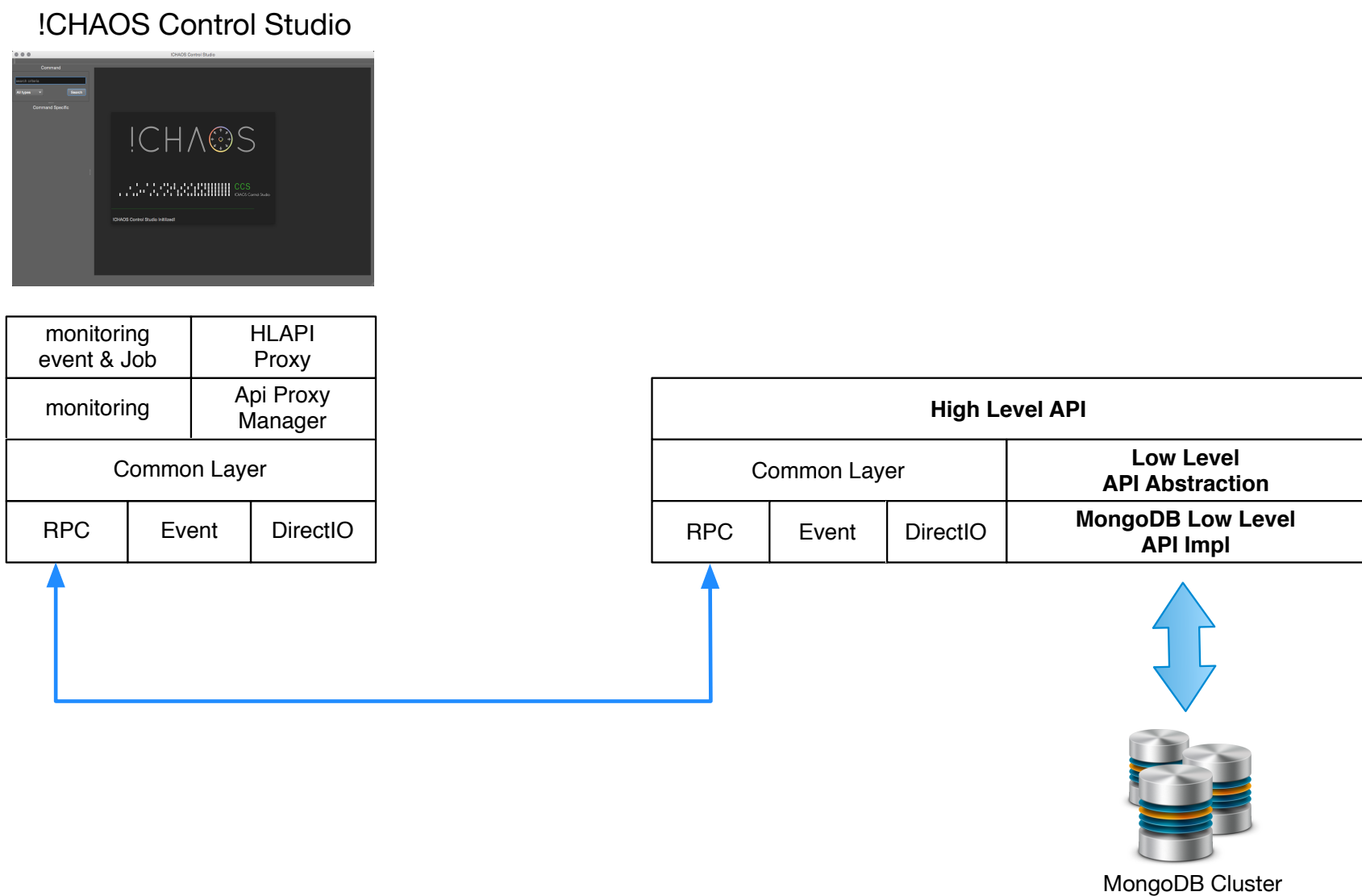
All WP2 Range of development



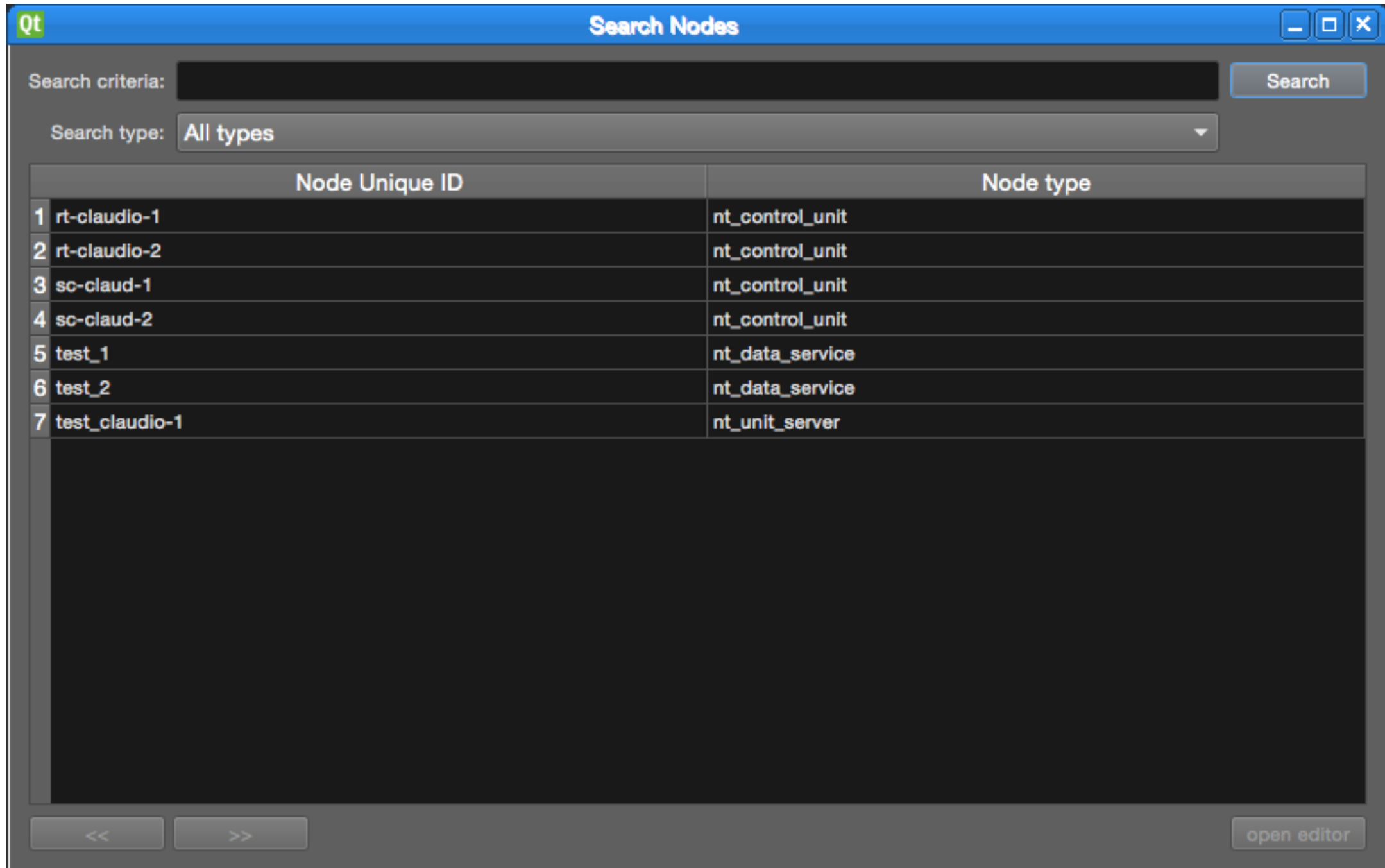
- permit, graphically, to the user to modify metadata and control and track node dataset attribute value

WP2 Task

New Metadata Service and Lib



WP2 Task



A screenshot of a Qt application window titled "Search Nodes". The window has a blue title bar with standard window controls. Below the title bar, there is a search interface. On the left, the text "Search criteria:" is followed by an empty text input field. To the right of this field is a "Search" button. Below the search criteria field, the text "Search type:" is followed by a dropdown menu currently showing "All types". The main area of the window is a table with two columns: "Node Unique ID" and "Node type". The table contains seven rows of data. Below the table, there are two buttons: "<<" and ">>". In the bottom right corner, there is an "open editor" button.

	Node Unique ID	Node type
1	rt-claudio-1	nt_control_unit
2	rt-claudio-2	nt_control_unit
3	sc-claud-1	nt_control_unit
4	sc-claud-2	nt_control_unit
5	test_1	nt_data_service
6	test_2	nt_data_service
7	test_claudio-1	nt_unit_server

WP2 Task

Qt

test_claudio-1

Unit server unique id: test_claudio-1

Address: 193.206.86.44:8888

Last reg ts Wed Apr 29 20:05:30 2015

Control unit type

RTWorkerCU
SCWorkerCU

Control unit instances

	UID	RPC Domain	State	State SM	5	6
1	sc-claud-1	SCWorkerCU	--nr--	--nr--	---	---
2	sc-claud-2	SCWorkerCU	193.206.86....	7ebe8858	---	---
3	rt-claudio-2	RTWorkerCU	193.206.86....	29d70705	---	---
4	rt-claudio-1	RTWorkerCU	193.206.86....	bcde37ea	---	---

update

<<

>>

remove

edit

add

Update All

WP2 Task

Qt Control unit instance editing — □ ×

Unit server host: **test_claudio-1**

Control unit type: **RTWorkerCU** Choose Type

Unit server unique id: **rt-claudio-2** check unique

configuration **dataset attributes default values**

☒ autoload

Load paramter: **lod param for claudio 1**

Driver specifications

	Name	Version	Init parameter
1	name	version	init

remove Edit add

save

WP2 Task

Qt Control unit instance editing — □ ×

Unit server host: **test_claudio-1**

Control unit type: **RTWorkerCU** Choose Type

Unit server unique id: **rt-claudio-2** check unique

configuration dataset attributes default values

	Name	Default Value	Max Value	Min Value
1	name	value		

remove edit add

save

WP2 Task

Qt

Form

Unique ID: sc-claud-1

Rpc Info Address: 193.206.84.25:8888

Domain: 85d27082

Hosted on US: test_claudio-1

Healt: CU Status: Load

US Status: Load

Dataset

Command

Show live data for output channels

Name	Type	Description
ndk_heartbeat	Int64	Acquisition timestamp
sin_wave	Binary	The sin waveform
run_counter	Int64	The number of run since last init phase

Show live data for input channels

Name	Type	Description	Min	Max	Default	Set value
points	Int32	The number of p...	30	3000	30	
frequency	Double	The frequency o...	0	1000	1	
bias	Double	The bias of the ...	0	10	0	
phase	Double	The phase of th...	0	10	0	
gain	Double	The gain of the ...	0	10	10	
gain_noise	Double	The gain of the ...	0	10	0.1	

Reset Change Set

Commit Change Set

Run Schedule Delay: Current set: 1000000

Apply

Plot

Load

Unload

Init

Deinit

Start

Stop

WP2 Task

Qt Form

Data Services

	Unique Identifier	DirectIO Address	Endpoint
1	pcbisegni	pcbisegni.lnf.infn.it:1672:30175	0

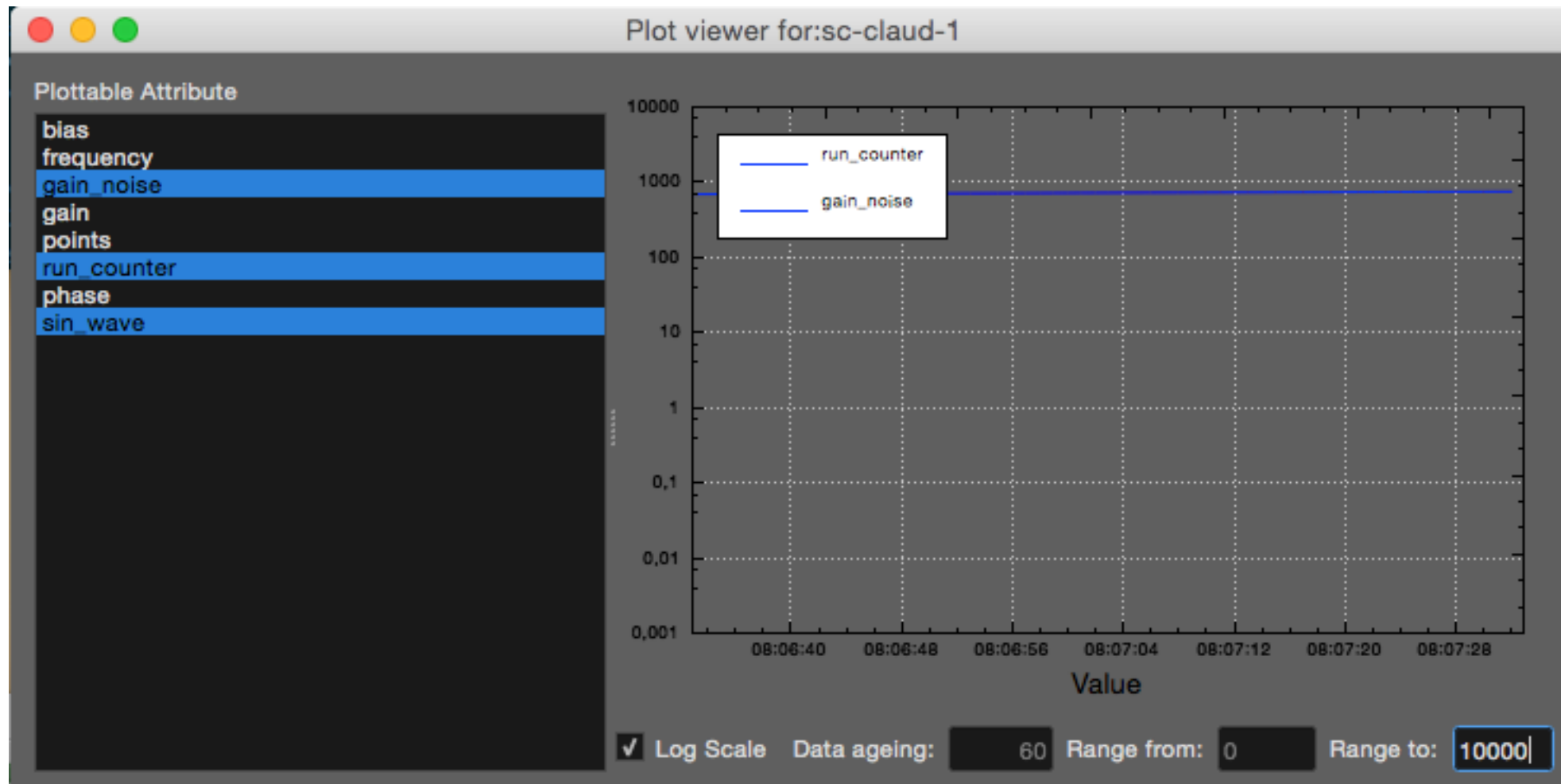
update remove edit add

Control unit associate to: selected data service

Unique Identifier	RPC Address	RPC Domain	State	State SM
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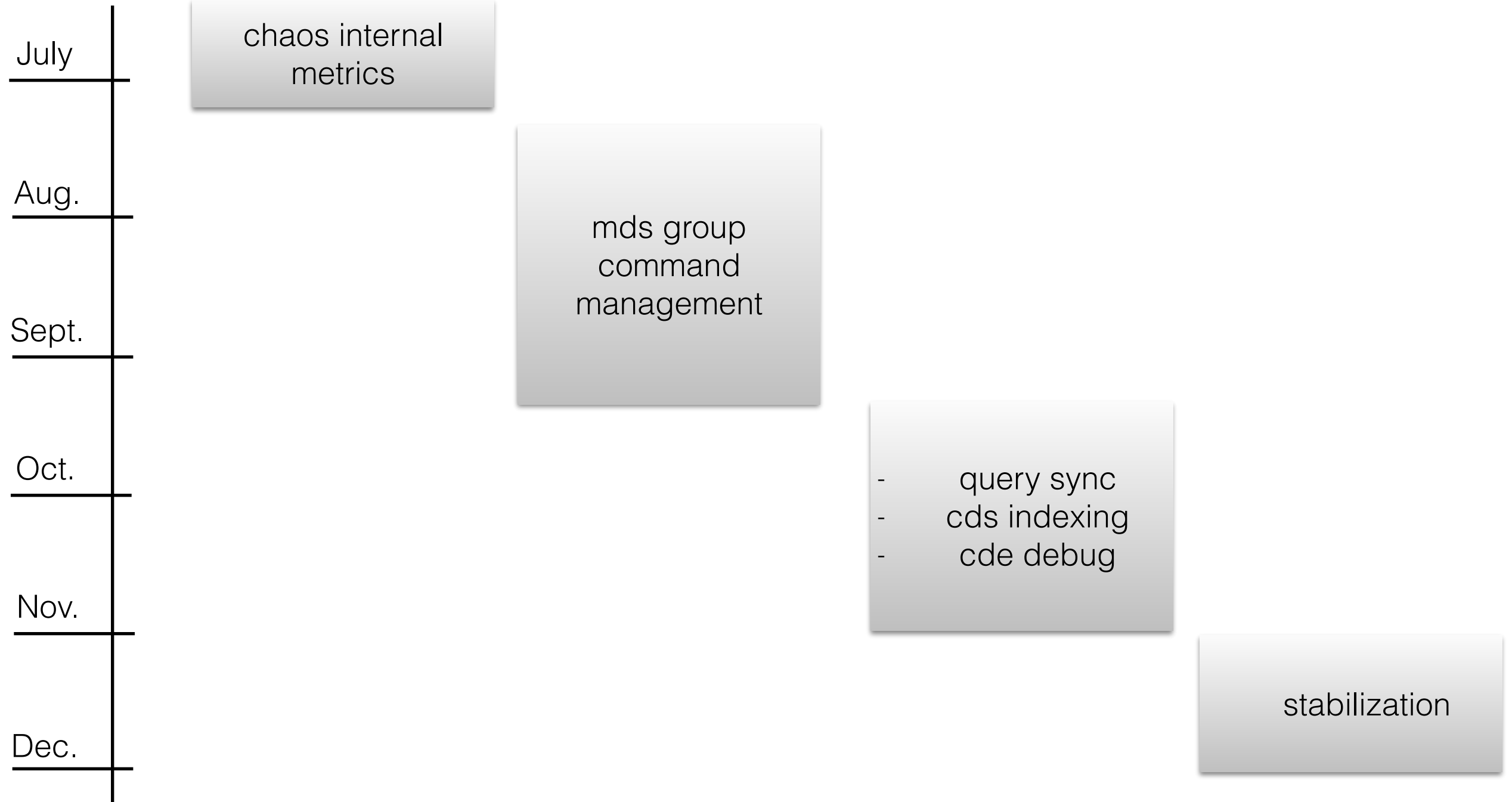
update remove add

WP2 Task



WP2 Task

All WP2 TO-DO



!CHΛS

thanks you

