C ontrol system based on a
H ighly
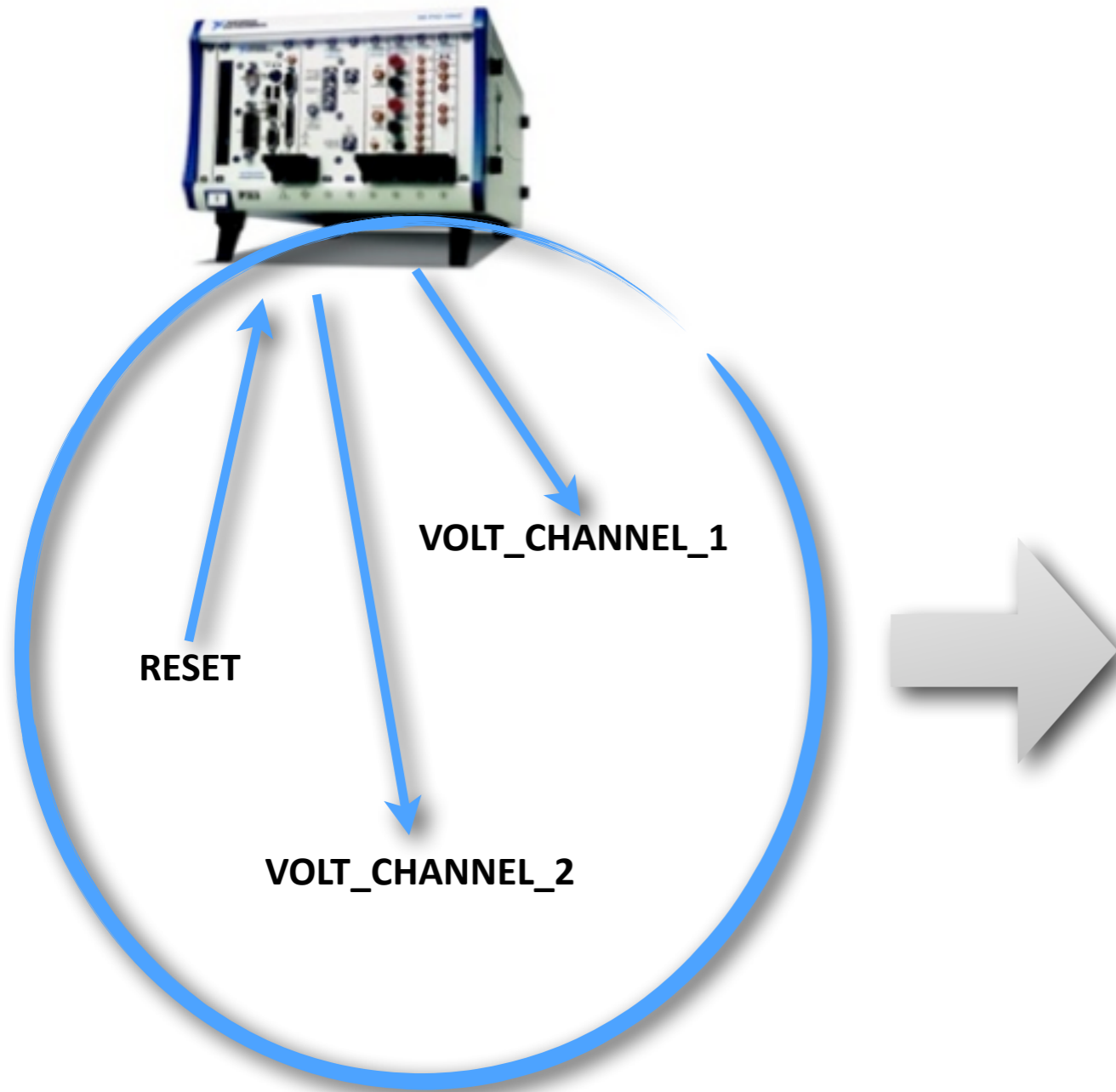**A** bstracted and
O pen
S tructure

!CHAOS

WP2

C. Bisegni

WP2 Task

- complete the !CHAOS Common Layer

- develop the !CHAOS Data Service, a scalable service for shared data and DAQ functionality.

- develop a proxy for push-only control unit(typically external and remote device that send data with a very long delay) -> "optional"
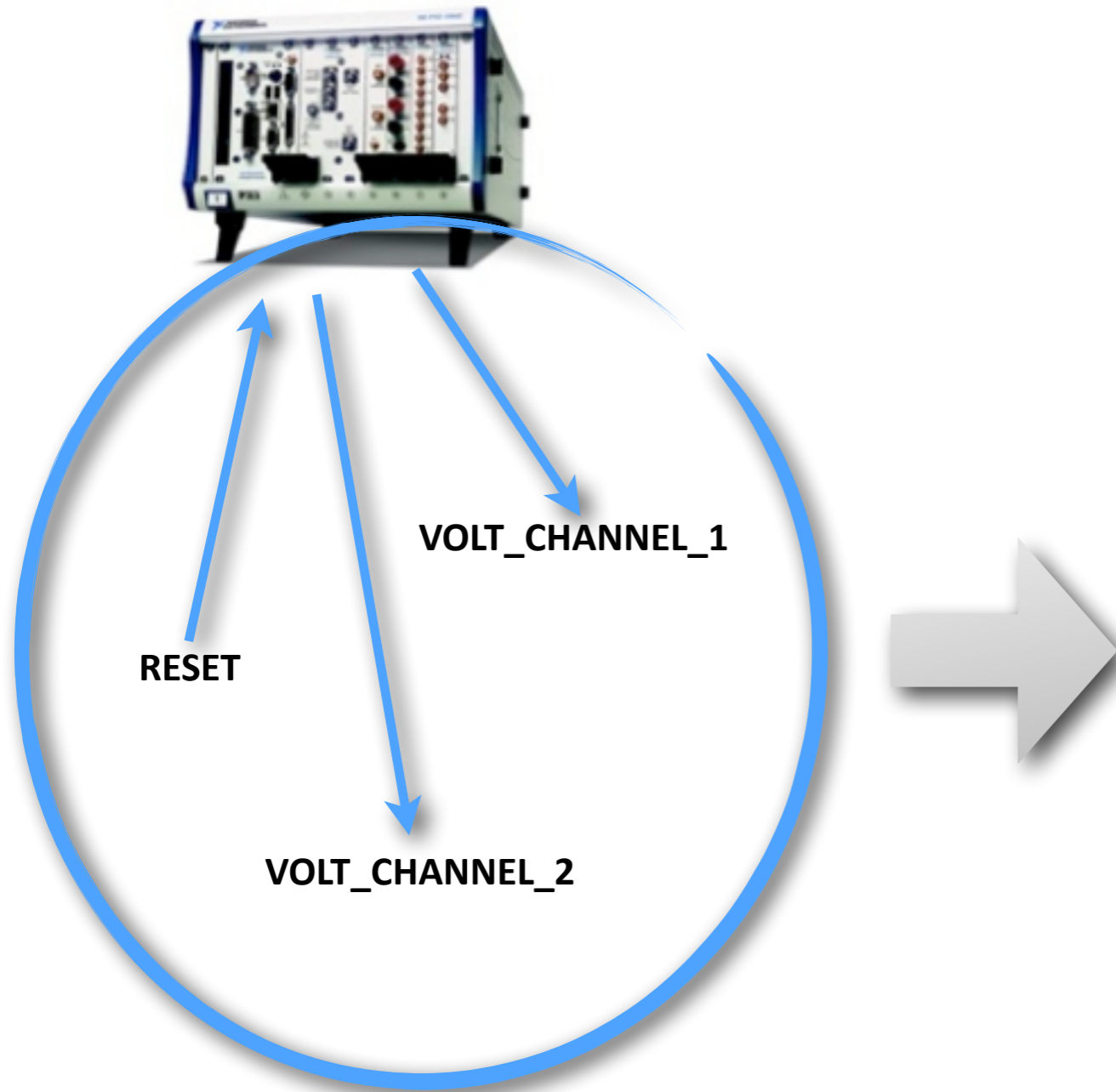
Hardware DATASET

VOLT_CHANNEL_1

RESET

VOLT_CHANNEL_2

DATASET
name:VOLT_CHANNEL_1
type:VOLT32
flow:output
range:1-20
card: 1

name:VOLT_CHANNEL_2
type:VOLT32
flow:output
range:1-20
card: 1

name: RESET
type: BYTE
flow: input
card: 1

!CHAOS

Hardware DATASET

RESET

VOLT_CHANNEL_1

VOLT_CHANNEL_2

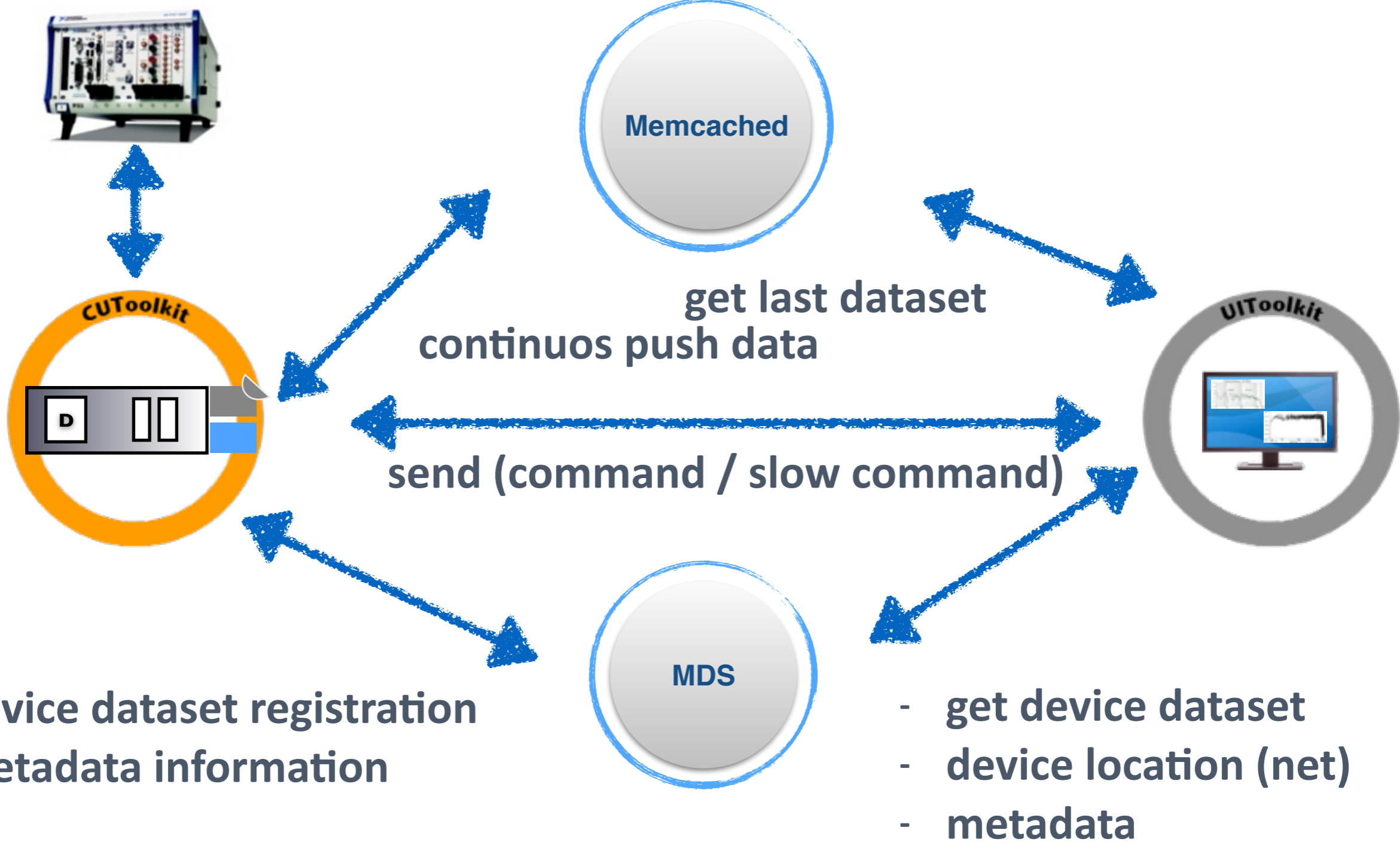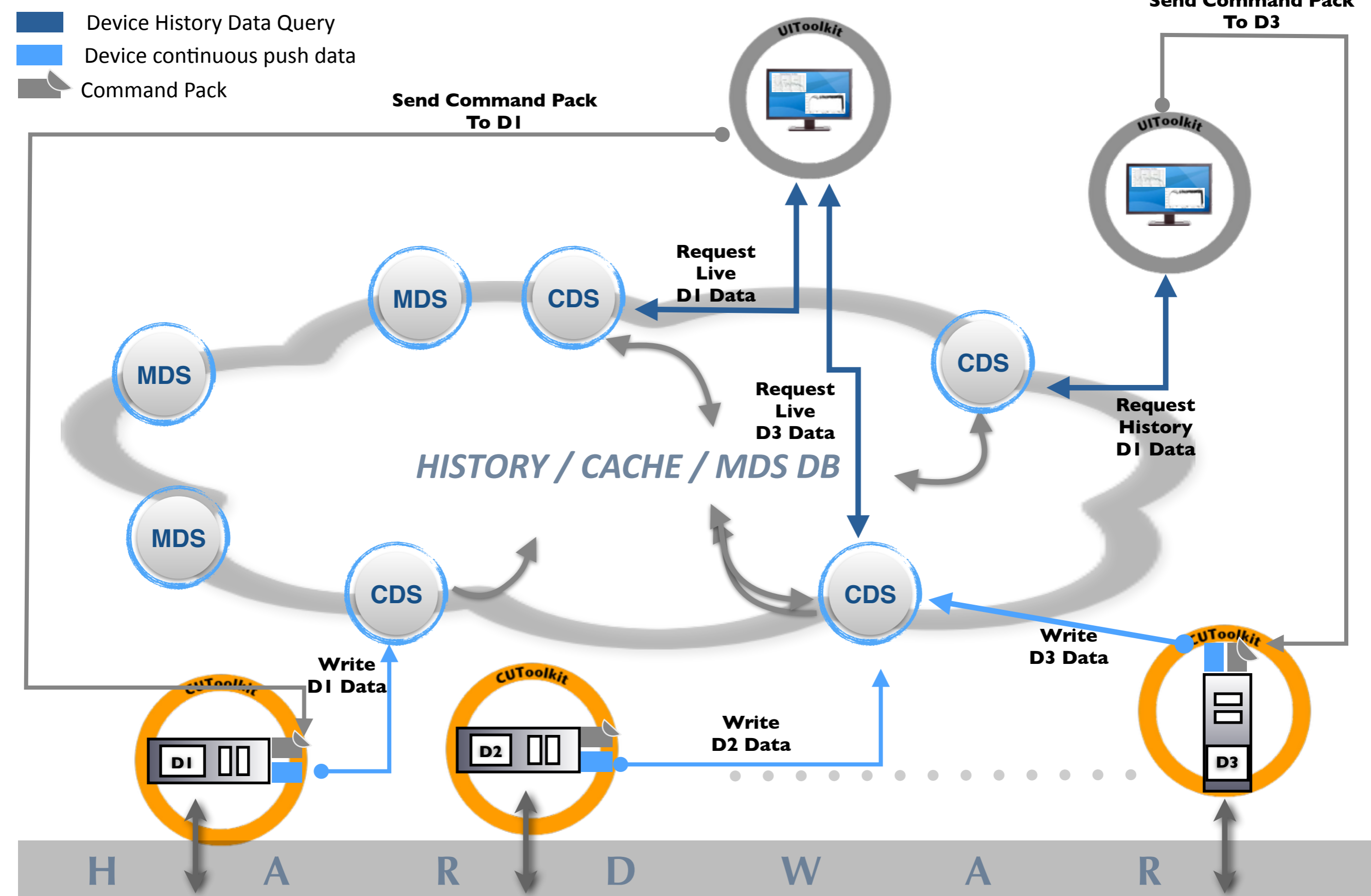## The JSON visualization of BSON DS representation

```
{"device_id": DEVICE_ID

 "device_ds": {

  "name"        : "VOLT_CHANNEL_1",
  "desc"        : "Output volt...",
  "attr_dir"    : 1,
  "type"        : 4,
  "cardinality" : 1
    }

....

}
```

Current !CHAOS topology

Memcached

CUToolkit

UIToolkit

MDS

get last dataset
continuos push data

send (command / slow command)

- **device dataset registration**
- **metadata information**

- **get device dataset**
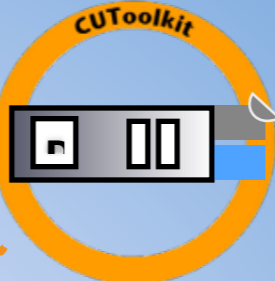- **device location (net)**
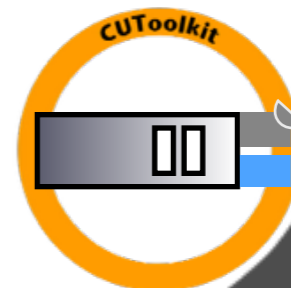- **metadata**

Push only Device

Chaos Push Proxy
UI-CU TK

- **remote control**
- **only transmission (not accessible by external connection)**
    - **send command**
    - **receive samples**
    - **receive dataset**

Chaos Push Proxy
UI-CU TK

Chaos Push Proxy
UI-CU TK

Chaos Push Proxy
UI-CU TK

- **external sensor(ambient sensor, etc..)**
- **only transmission (not accessible by external connection)**
    - **send bunch of samples of data**
    - **receive set of slow command**

query data

command

query metadata

push data

registration

CDS

MDS
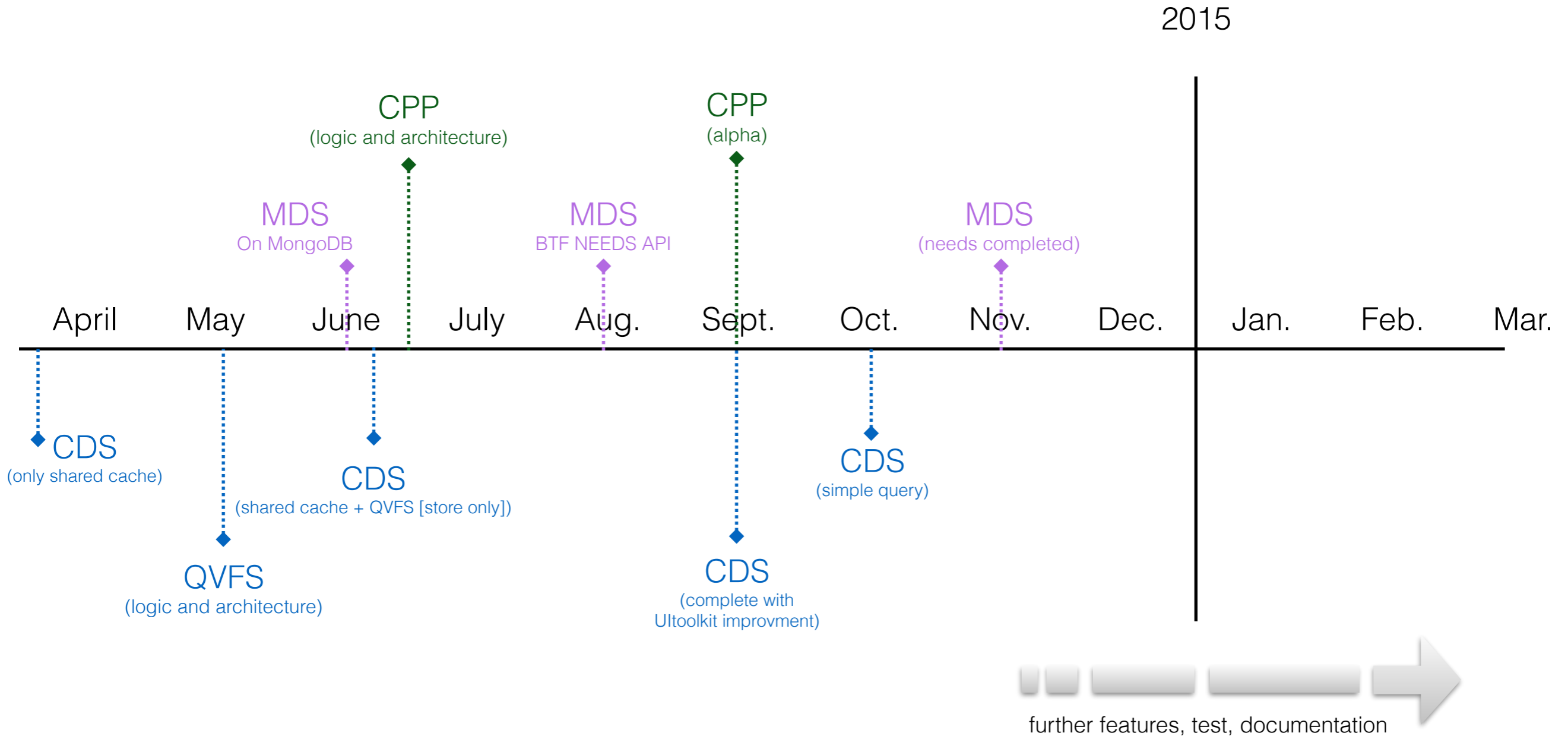
CDS

HISTORY / CACHE / MDS DB

WP2 Task personell

- Claudio Bisegni (Art.15 Software Architect and Main Developer), !CHAOS (Common, CU, UI) layer development, Chaos Data Service development, Help ChaosPushProxy;

- Eliana Gioscio(Ass.Ric. Developer), MDS Server (Java) porting to MongoDB and new api implementation, Documentation

- 1FT (Triennial or Magistral Degree, Expert Developer) ChaosPushProxy, MDS Help Development, Help Chaos Data Service development.

WP2 Task development line guide

- make the featureas as is with no frills(less automatism, possible crash, no documentation, etc...);

- **we want, in a short lapse of time, complete all the project overall needs, in the way that the overall system is able to show the expected behavior;**

- work on the extended features with more tranquillity.

WP2 timeline features

2015

CPP
(logic and architecture)

CPP
(alpha)

MDS
On MongoDB

MDS
BTF NEEDS API

MDS
(needs completed)

April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.

CDS
(only shared cache)

QVFS
(logic and architecture)

CDS
(shared cache + QVFS [store only])

CDS
(simple query)

CDS
(complete with
UItoolkit improvment)

further features, test, documentation

CDS - Chaos Data Proxy

MDS - Metadata Server in JAVA

QVFS - Querable Virtual File System

CPP - Chaos Push Proxy

Bisegni Claudio

Eliana Gioscio

1 FT

!CHAOS

WP2 for ESCO

2015

MDS
On MongoDB

April   May   June   July   Aug.   Sept.   Oct.   Nov.   Dec.   Jan.   Feb.   Mar.

CDS
(only shared cache)

CDS
(shared cache + QVFS [store only])

CDS
(simple query)

CDS
(complete with
UItoolkit improvment)

CAN BE USED RIGTH NOW

all needed features
- data sensor live&history
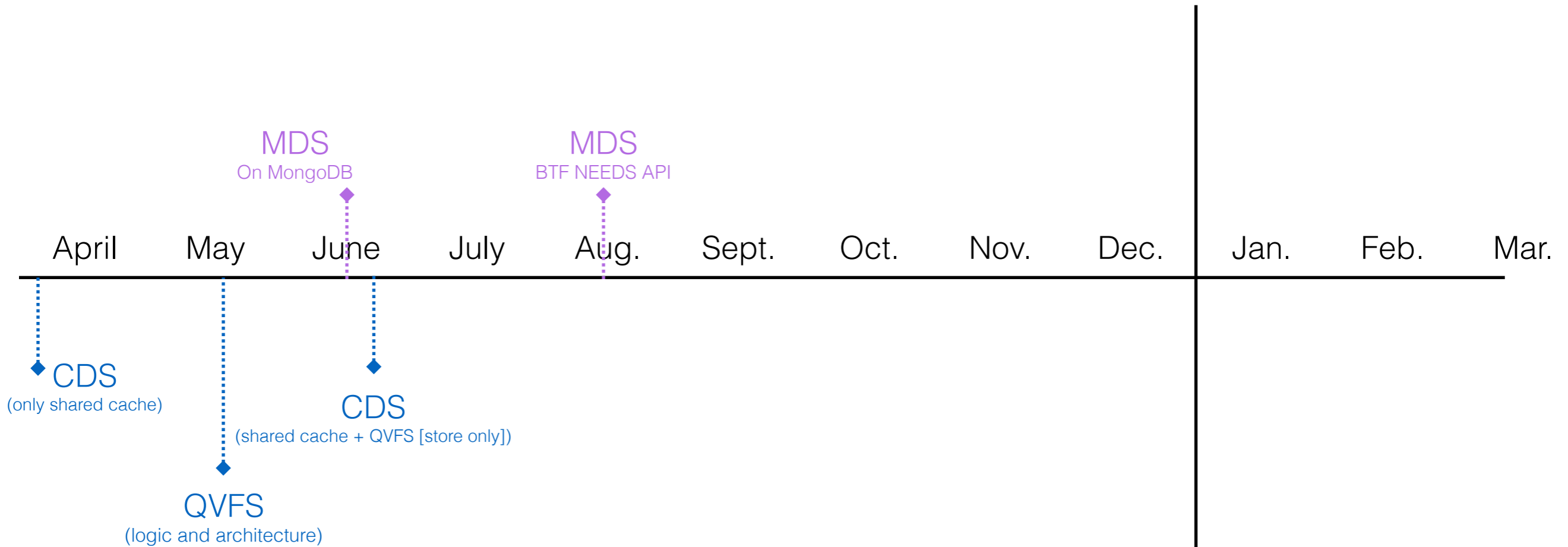- query on time [device-from-to]

CDS - Chaos Data Proxy

QVFS - Querable Virtual File System

MDS - Metadata Server in JAVA

CPP - Chaos Push Proxy

Bisegni Claudio

Eliana Gioscio

1 FT

WP2 for BTF

2015

April   May   June   July   Aug.   Sept.   Oct.   Nov.   Dec.   Jan.   Feb.   Mar.

MDS
On MongoDB

MDS
BTF NEEDS API

CDS
(only shared cache)

CDS
(shared cache + QVFS [store only])

QVFS
(logic and architecture)

CAN BE USED RIGTH NOW

all needed features
- device group
- management of set of command
- improvement on health of system

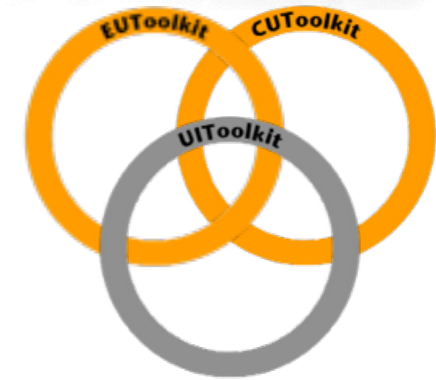CDS - Chaos Data Proxy

QVFS - Querable Virtual File System

MDS - Metadata Server in JAVA

CPP - Chaos Push Proxy

Bisegni Claudio

Eliana Gioscio

1 FT

thanks you