Tango2Epics Gateway
Tango device server
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Presentation by
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the   best   people   make   cosylab

Overview

- Integrate EPICS devices in TANGO framework
  - Control a set of EPICS variables
  - EPICS as a hardware layer of a Tango device
  - **No development needed**
  - Configuration only

- Expose EPICS PVs of a device with TANGO device
  - As attributes (map 1-1)
  - As commands (change the value of one or more PVs)
  - As states (state reflects the value of one or more PVs)

- Limitations
  - Commands: On, Off, Reset
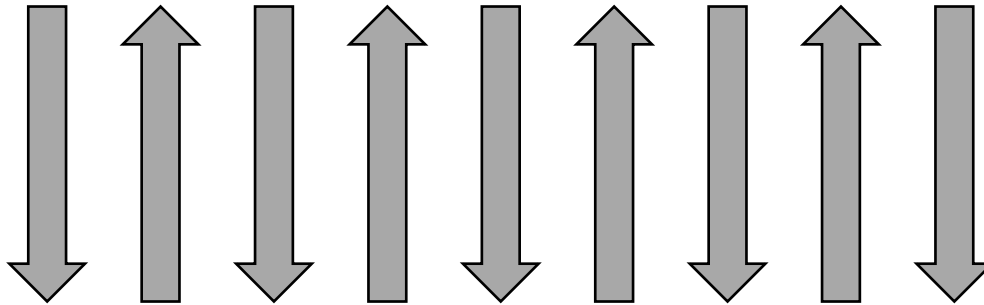   - No support yet in Tango for dynamic commands

EPICS

Channel Access Server: Process Variables

xxx: opened   xxx: open   xxx: close   xxx: current

TANGO

Device

State: _____   *Commands:*   On   Off   Reset

Attributes: _____   _____

EPICS

Channel Access Server: Process Variables

| xxx: opened | xxx: open | xxx: close | xxx: current |

Subscribe on change

== **X**

== **Y**

State to:
STATE1

State to:
STATE2

```
xxx:opened*Scalar*Int*READ_ONLY*
        STATE*X:STATE1.Y:STATE2
-----------------------------------
xxx:opened*Scalar*Int*READ_ONLY*
        STATE*0:CLOSED.1:OPENED
```

TANGO

Device

State: _____   *Commands:* | On | | Off | | Reset |

Attributes: _____   _____

EPICS

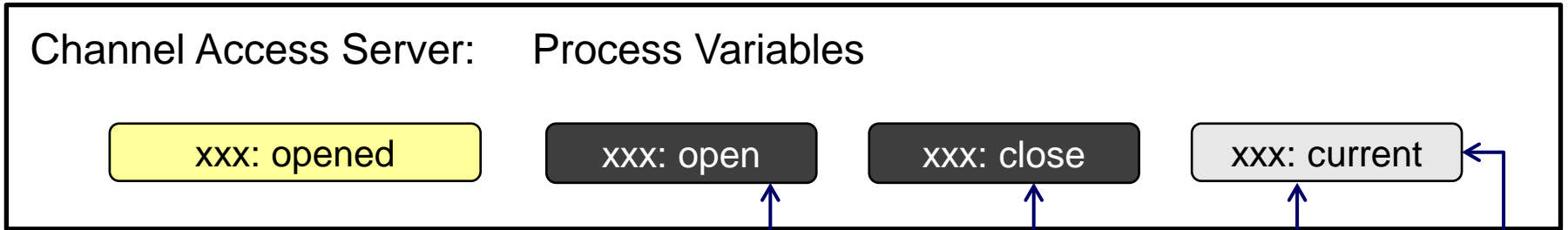Channel Access Server: Process Variables

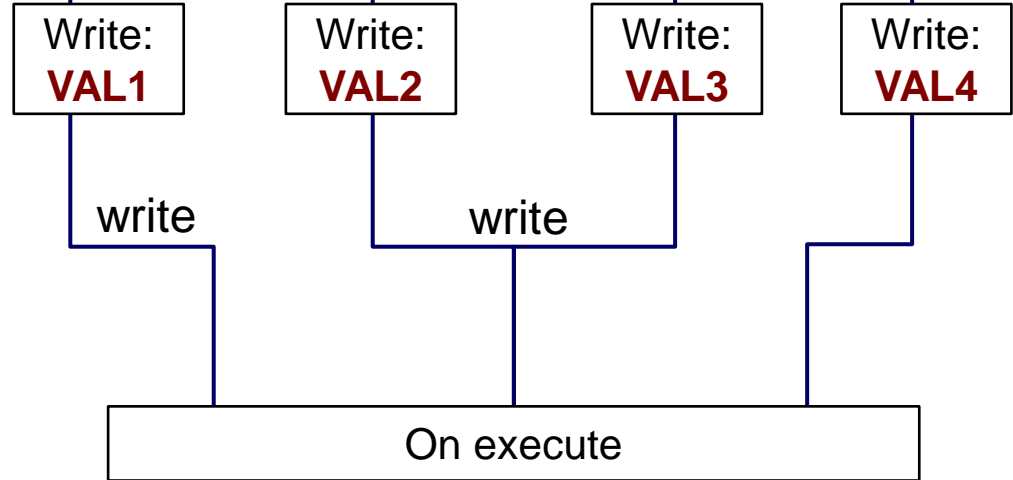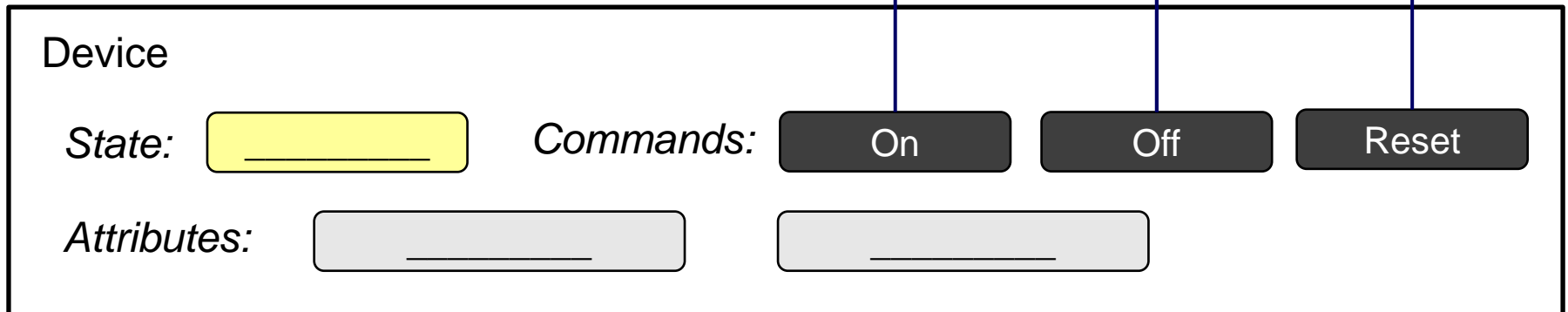| xxx: opened | xxx: open | xxx: close | xxx: current |

```
xxx:open*Scalar*Short*
WRITE_ONLY*COMMAND*VAL1:ON

 ...
xxx:current*Scalar*Int*
WRITE_ONLY*COMMAND*
VAL3:OFF.VAL4:RESET
```

Write: **VAL1**

Write: **VAL2**

Write: **VAL3**

Write: **VAL4**

write   write

On execute

TANGO

Device

State: _____   *Commands:*   On   Off   Reset

Attributes: _____   _____

EPICS

Channel Access Server: Process Variables

| xxx: opened | xxx: open | xxx: close | xxx: current |

```
xxx:current*Scalar*Double*READ_WRITE*
     ATTRIBUTE*Current
```

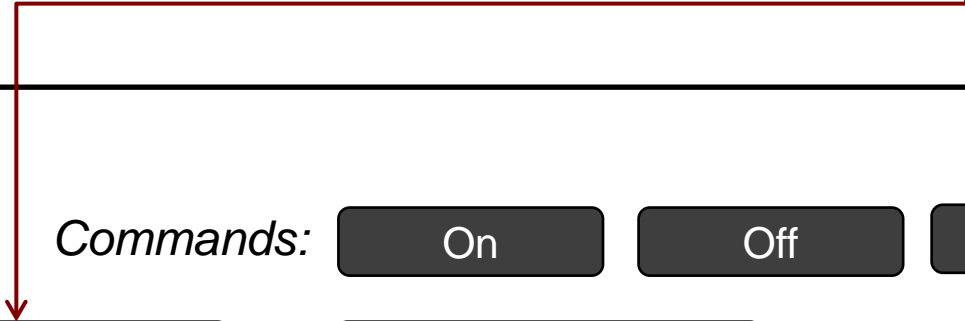Read_only /
write_only /
read_write

TANGO

Device

State: _____   *Commands:* On   Off   Reset

Attributes: **Current**   _____

Device integration

TANGO DATABASE

- Tango2Epics
  - INSTANCE
    - Tango2Epics

- Family/Domain/Member
  - Properties
    - Variables
    - ScalarAccessTimeout
    - ArrayAccessTimeout
    - SubsriptionCycle

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CONFIGURE DATABASE

- CSV File + dedicated import script
- Direct manual database population
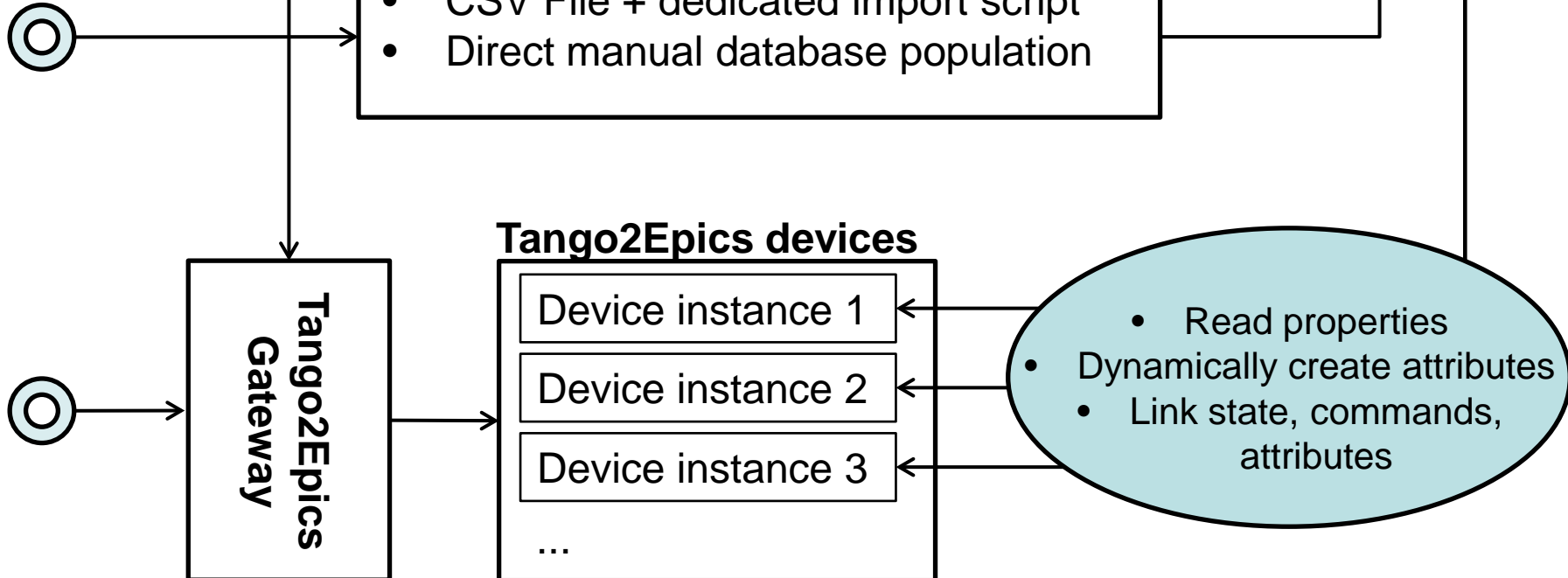
Tango2Epics devices

Tango2Epics Gateway

Device instance 1

Device instance 2

Device instance 3

...

- Read properties
- Dynamically create attributes
- Link state, commands, attributes

Future additions

- Alarms
- Events

Questions