UPDATES FROM THE CORE FRAMEWORK

ECLIPSE SMARTHOME TURNED INSIDE OUT

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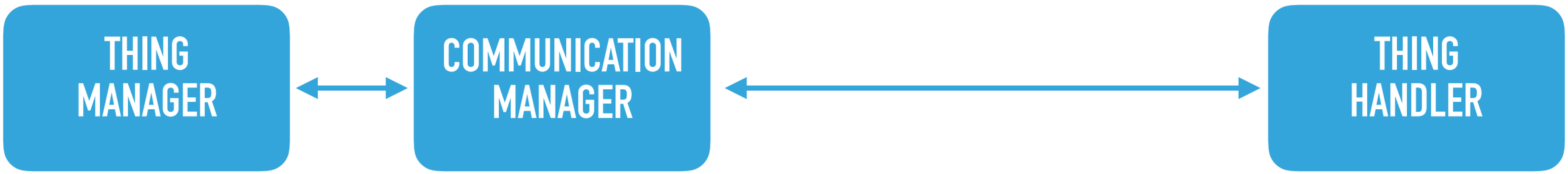
eclipse smarthome™

HELLO
My name is
@SJKA
SIMON KAUFMANN

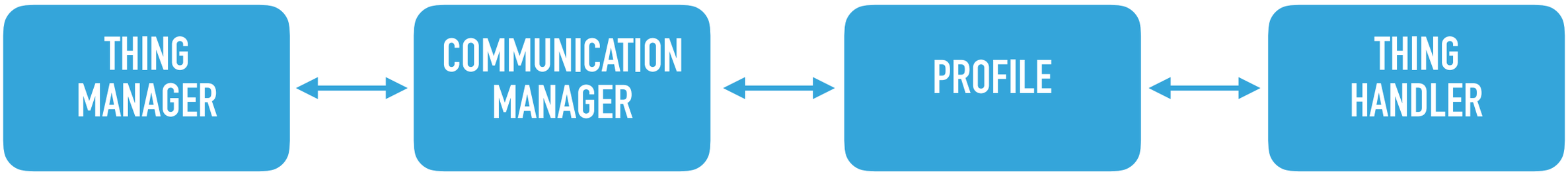
WTF ARE…

PROFILES

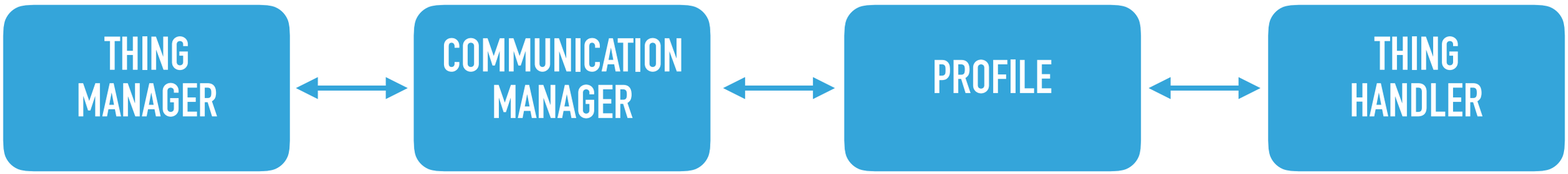
COMMUNICATION FLOW

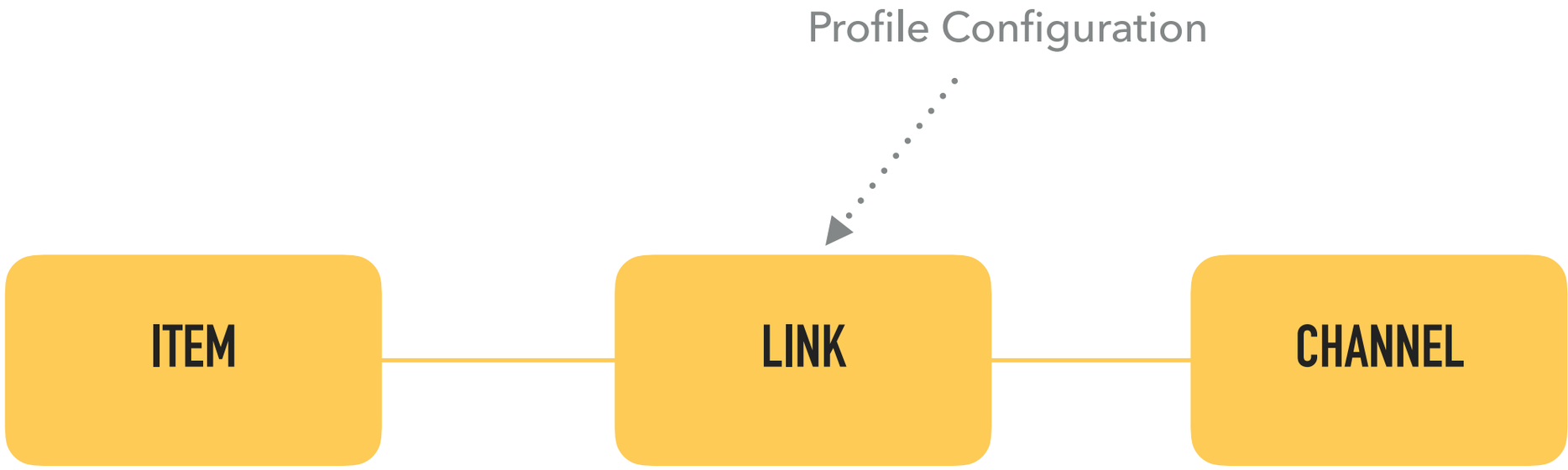


COMMUNICATION FLOW



COMMUNICATION FLOW





MASTER PROFILE

User

Item

Device

MASTER PROFILE

User

COMMAND

ON

OFF

Item

Device

MASTER PROFILE

User

Item

Device

MASTER PROFILE

User

Item

Device

MASTER PROFILE

User

Item

Device

MASTER PROFILE

User

Item

Device

SLAVE PROFILE

User

OFF

Item

Device

MASTER

SLAVE

Profile

SLAVE PROFILE

COMMAND

ON

OFF

MASTER

SLAVE

User Item Device Profile

SLAVE PROFILE

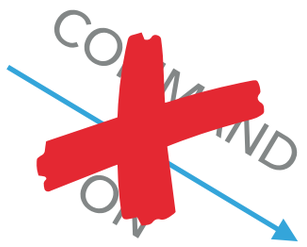
User

OFF

Item

COMMAND

ON



Device

MASTER

SLAVE

Profile

SLAVE PROFILE

User

OFF

Item

Device

MASTER

SLAVE

Profile

SLAVE PROFILE

User

OFF

Item

UPDATE

ON

Device

MASTER

SLAVE

Profile

SLAVE PROFILE

ON

MASTER

SLAVE

User Item Device Profile

SLAVE PROFILE

ON

-> COMMAND
ON

MASTER

SLAVE

User

Item

Device Profile

SLAVE PROFILE

ON

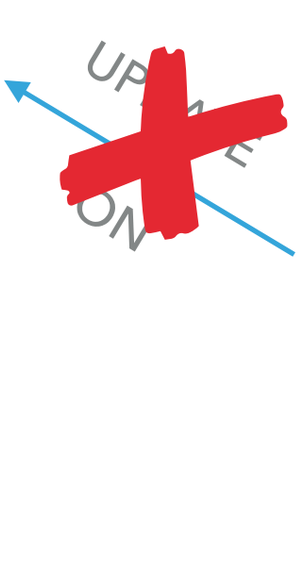
MASTER

SLAVE

User Item Device Profile

SLAVE PROFILE

ON



MASTER

SLAVE

User Item Device Profile

TRIGGER PROFILE

TOGGLE PROFILE

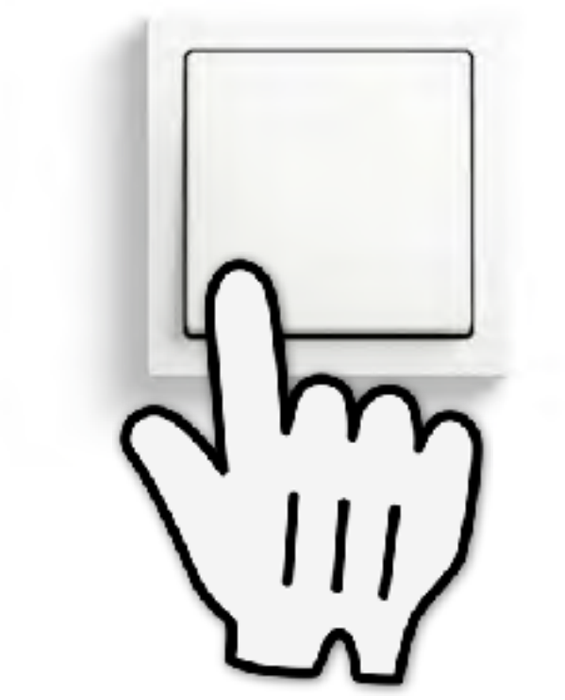
?

Device

Profile

Item

TRIGGER PROFILE



TOGGLE PROFILE

?

Device

Profile

Item

TRIGGER PROFILE

EVENT

PRESSED

TOGGLE PROFILE

?

Device

Profile

Item

TRIGGER PROFILE

TOGGLE PROFILE

COMMAND

ON

?

Device

Profile

Item

TRIGGER PROFILE

TOGGLE PROFILE

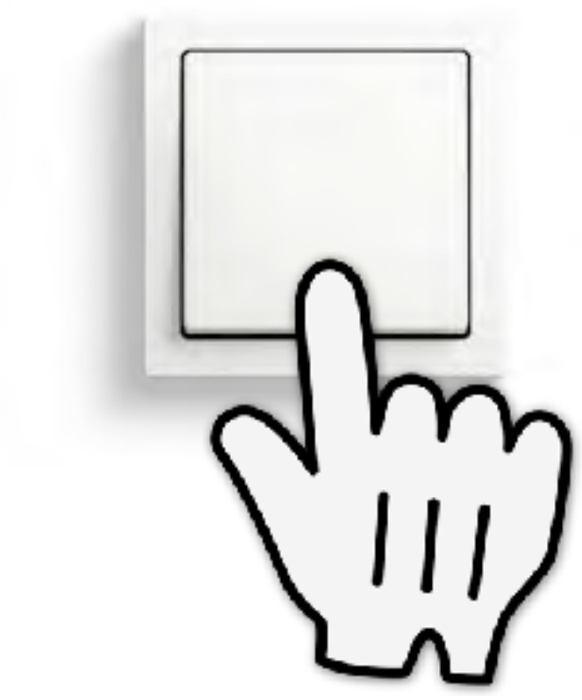
ON

Device

Profile

Item

TRIGGER PROFILE



TOGGLE PROFILE

ON

Device

Profile

Item

TRIGGER PROFILE

EVENT

PRESSED

TOGGLE PROFILE

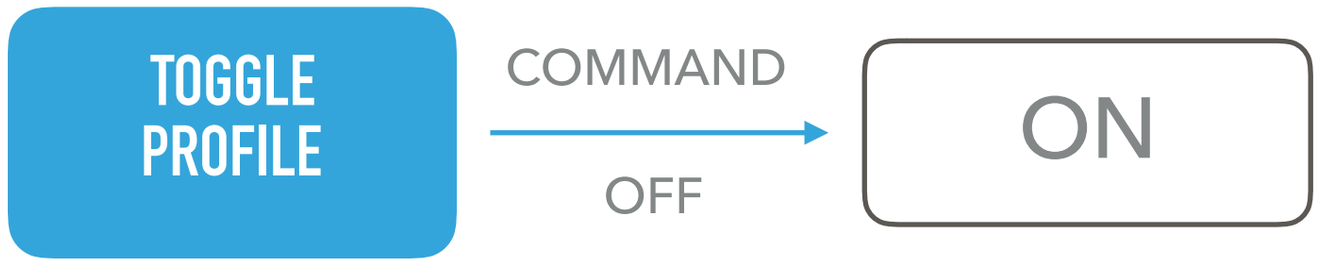
ON

Device

Profile

Item

TRIGGER PROFILE



Device

Profile

Item

TRIGGER PROFILE

TOGGLE PROFILE

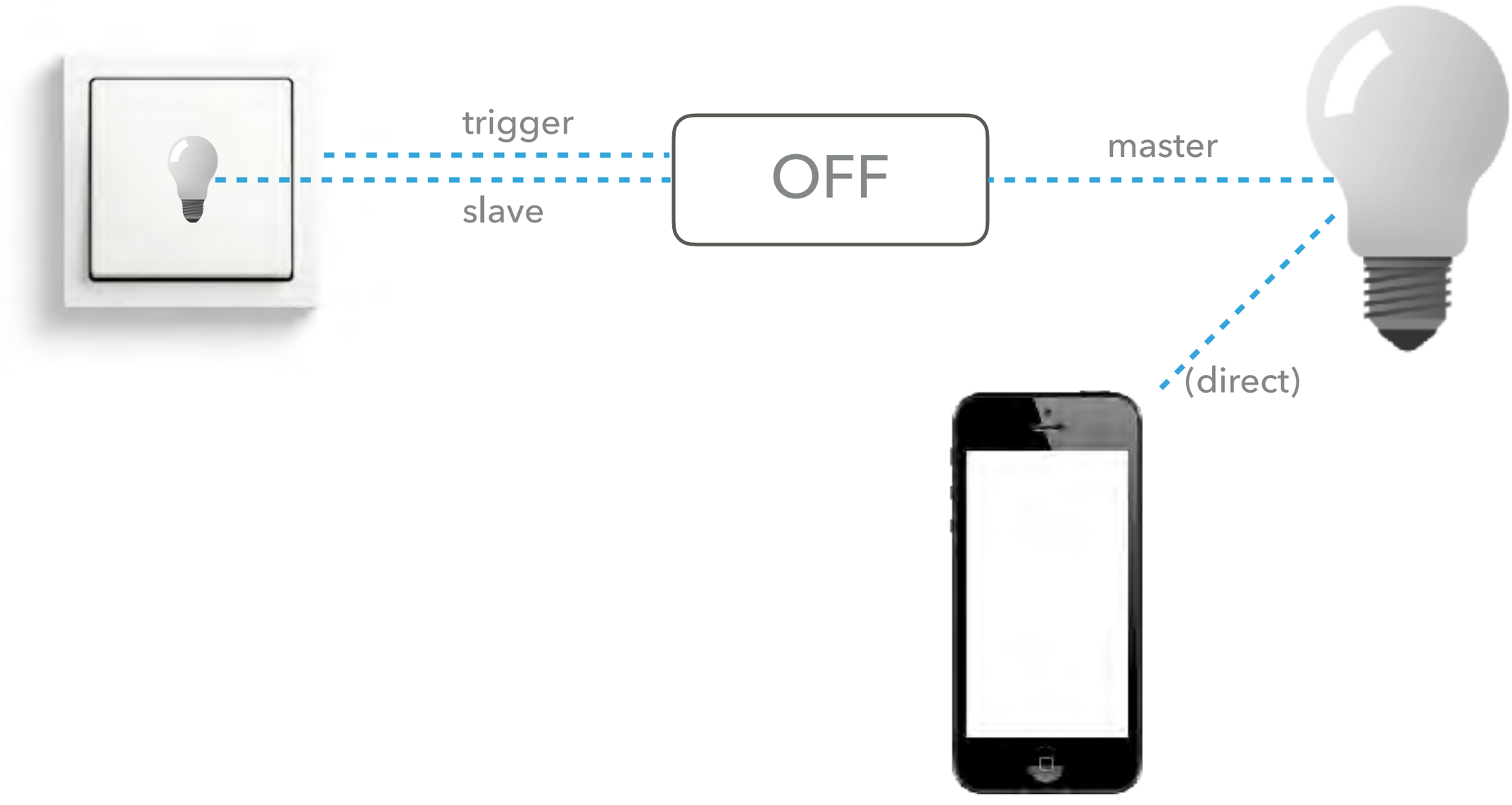
OFF

Device

Profile

Item

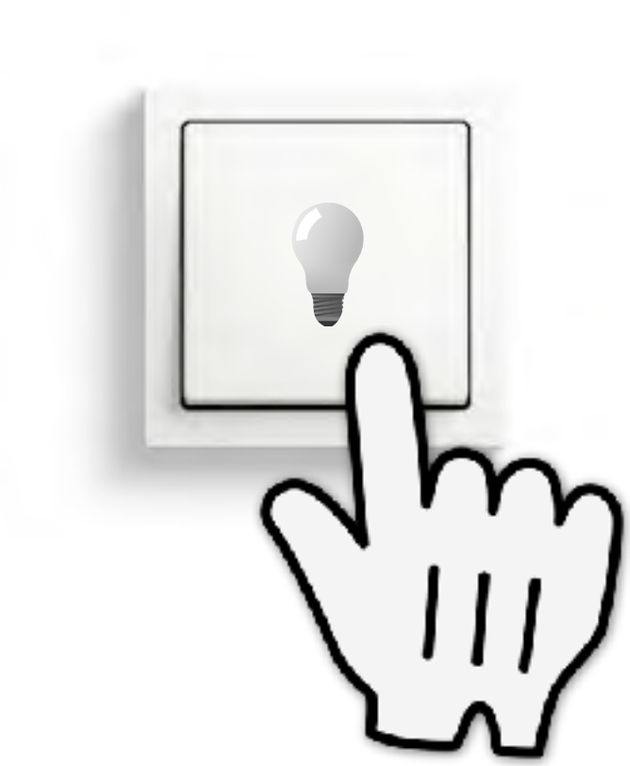
EXAMPLE USE-CASE



EXAMPLE USE-CASE

OFF

EXAMPLE USE-CASE



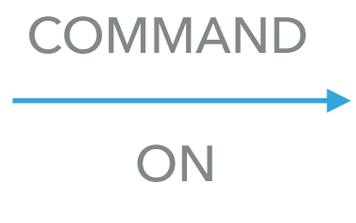
EXAMPLE USE-CASE

EVENT -> CMD

PRESSED -> ON

OFF

EXAMPLE USE-CASE



EXAMPLE USE-CASE

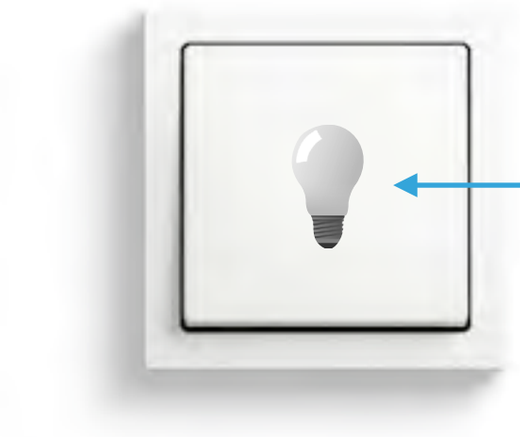
OFF

EXAMPLE USE-CASE

EXAMPLE USE-CASE

ON

EXAMPLE USE-CASE



UPDATE -> CMD

ON

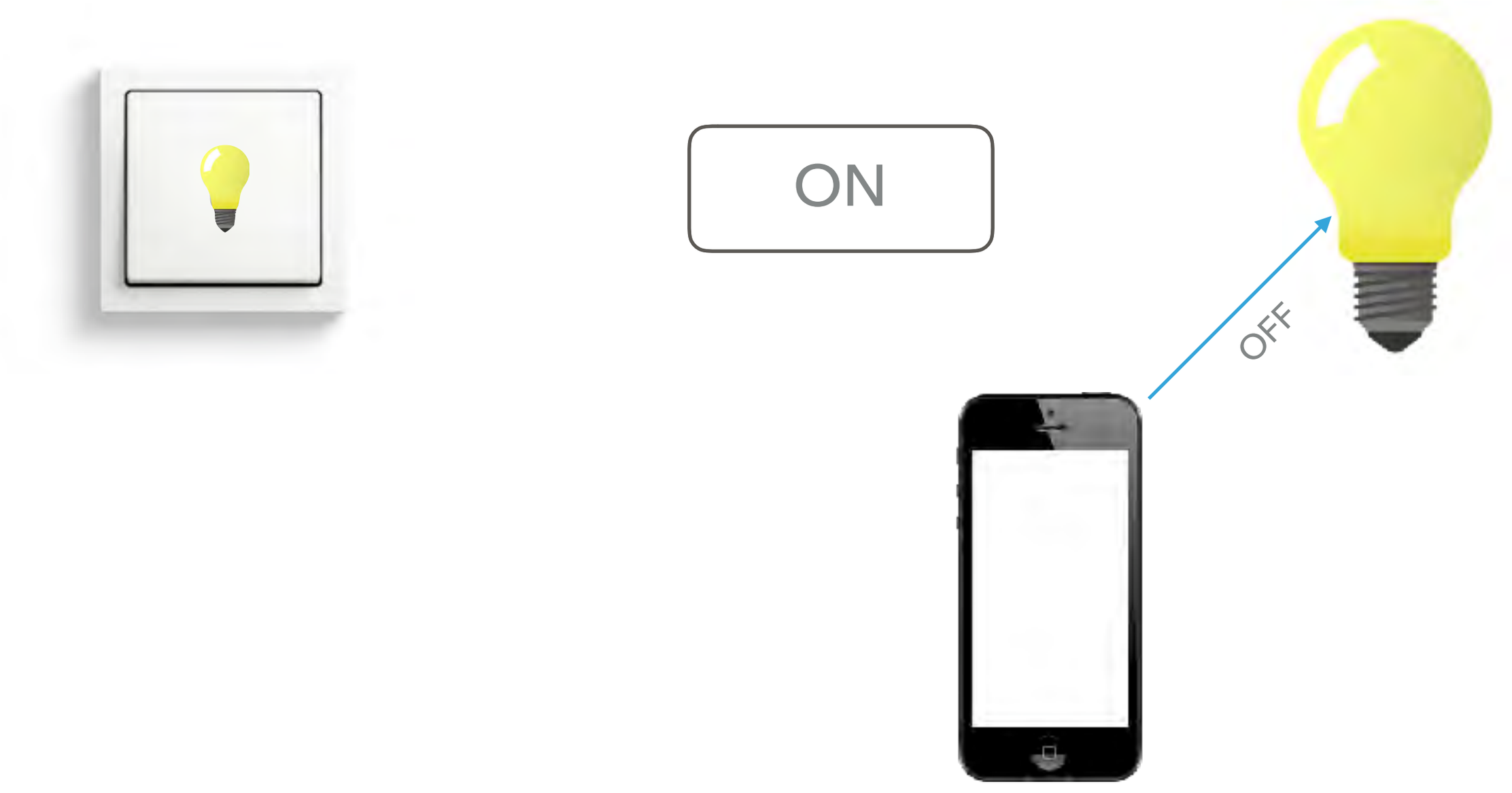
ON

EXAMPLE USE-CASE

ON

EXAMPLE USE-CASE

EXAMPLE USE-CASE



EXAMPLE USE-CASE

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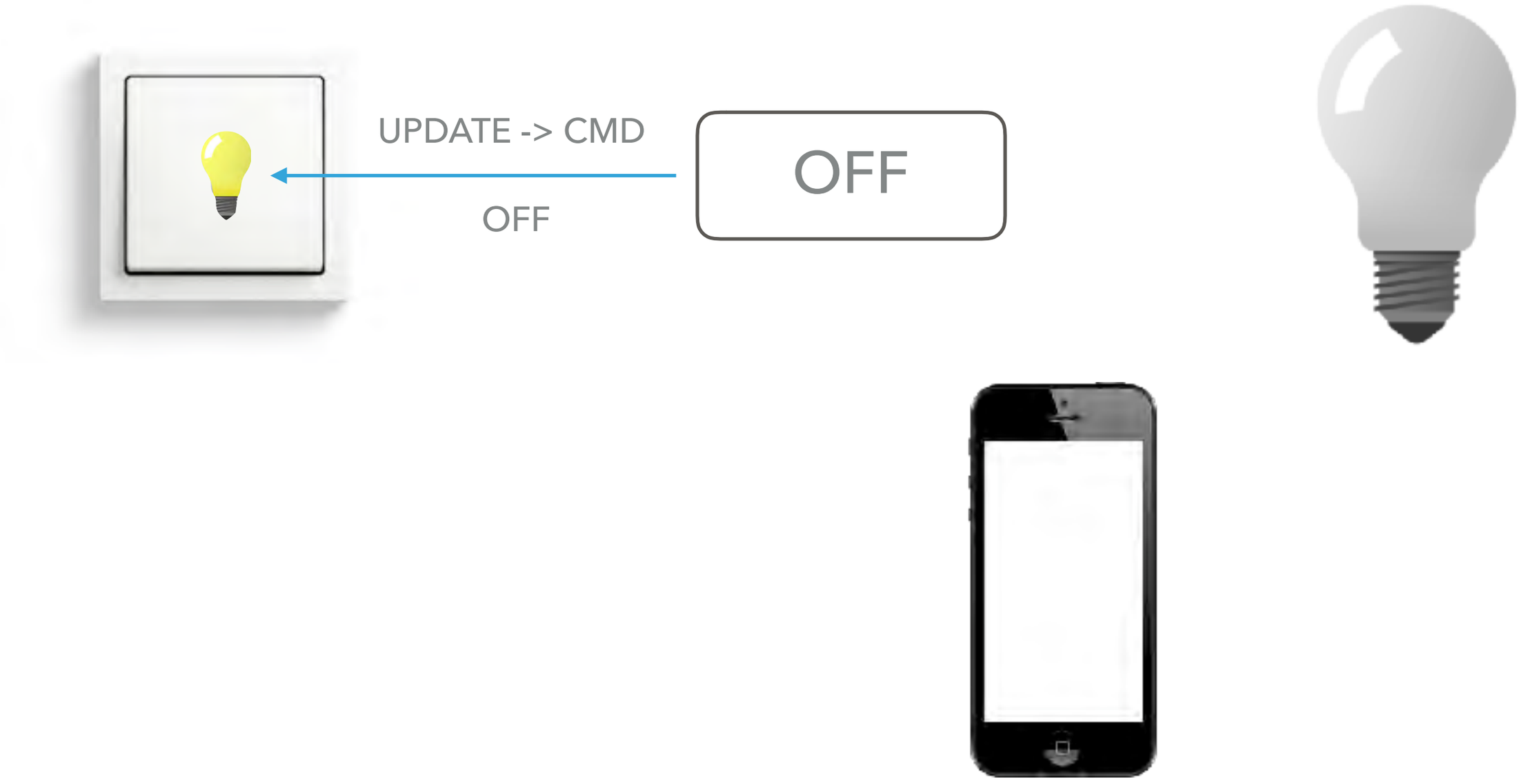


EXAMPLE USE-CASE

OFF

NEXT STEPS

- Integrate Auto-Update
- Implement further trigger profiles
- Documentation
- Export the API
- Reference binding(s)
- Paper UI support

ITEM STATES WITH…

UNITS

WORK IN PROGRESS

PR #1857

THE IDEA

To facilitate type determination, value formatting and calculations, an optional unit property should be introduced to number items.

AUTOMAGICAL CONVERSION

Widget:
unit=°F (optional)

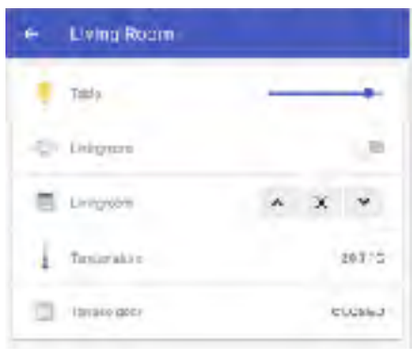
Item:
dimension=TEMPERATURE
unit=°F (optional)

ChannelType
dimension=TEMPERATURE

Text label="%.1f °F"

Number:TEMPERATURE label="%.1f K"

```
<channel-type id="temperature">
  <dimension>Temperature</dimension>
</channel-type
```



?

MASTER PROFILE

AUTOMAGICAL CONVERSION

Widget:
unit=°F (optional)

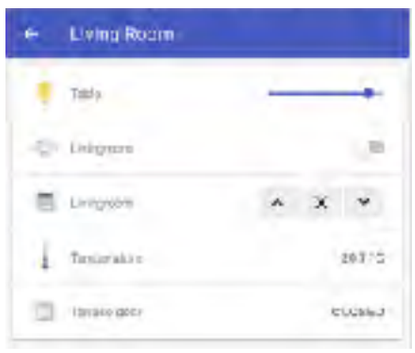
Item:
dimension=TEMPERATURE
unit=°F (optional)

ChannelType
dimension=TEMPERATURE

Text label="%.1f °F"

Number:TEMPERATURE label="%.1f K"

```
<channel-type id="temperature">
  <dimension>Temperature</dimension>
</channel-type
```

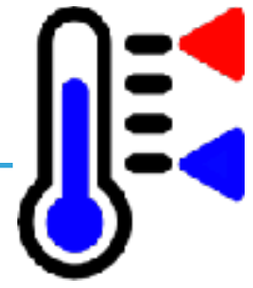


?

MASTER PROFILE

UPDATE

QuantityType
value=24,2
unit=°C



AUTOMAGICAL CONVERSION

Widget:
unit=°F (optional)

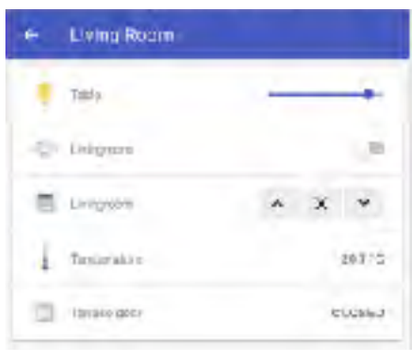
Item:
dimension=TEMPERATURE
unit=°F (optional)

ChannelType
dimension=TEMPERATURE

Text label="%.1f °F"

Number:TEMPERATURE label="%.1f K"

```
<channel-type id="temperature">
  <dimension>Temperature</dimension>
</channel-type
```



297.4 K

MASTER PROFILE

AUTOMAGICAL CONVERSION

Widget:
unit=°F (optional)

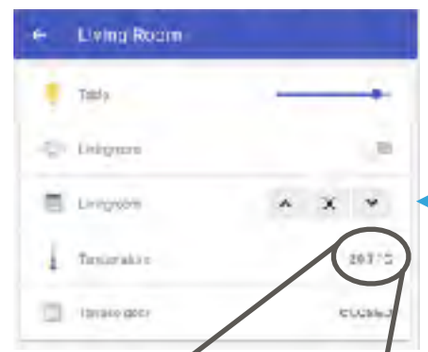
Item:
dimension=TEMPERATURE
unit=°F (optional)

ChannelType
dimension=TEMPERATURE

Text label="%.1f °F"

Number:TEMPERATURE label="%.1f K"

```
<channel-type id="temperature">
  <dimension>Temperature</dimension>
</channel-type
```



297.4 K

75.6 °F

MASTER PROFILE

ITEMS GET…

META-DATA

WORK IN PROGRESS

PR #4390

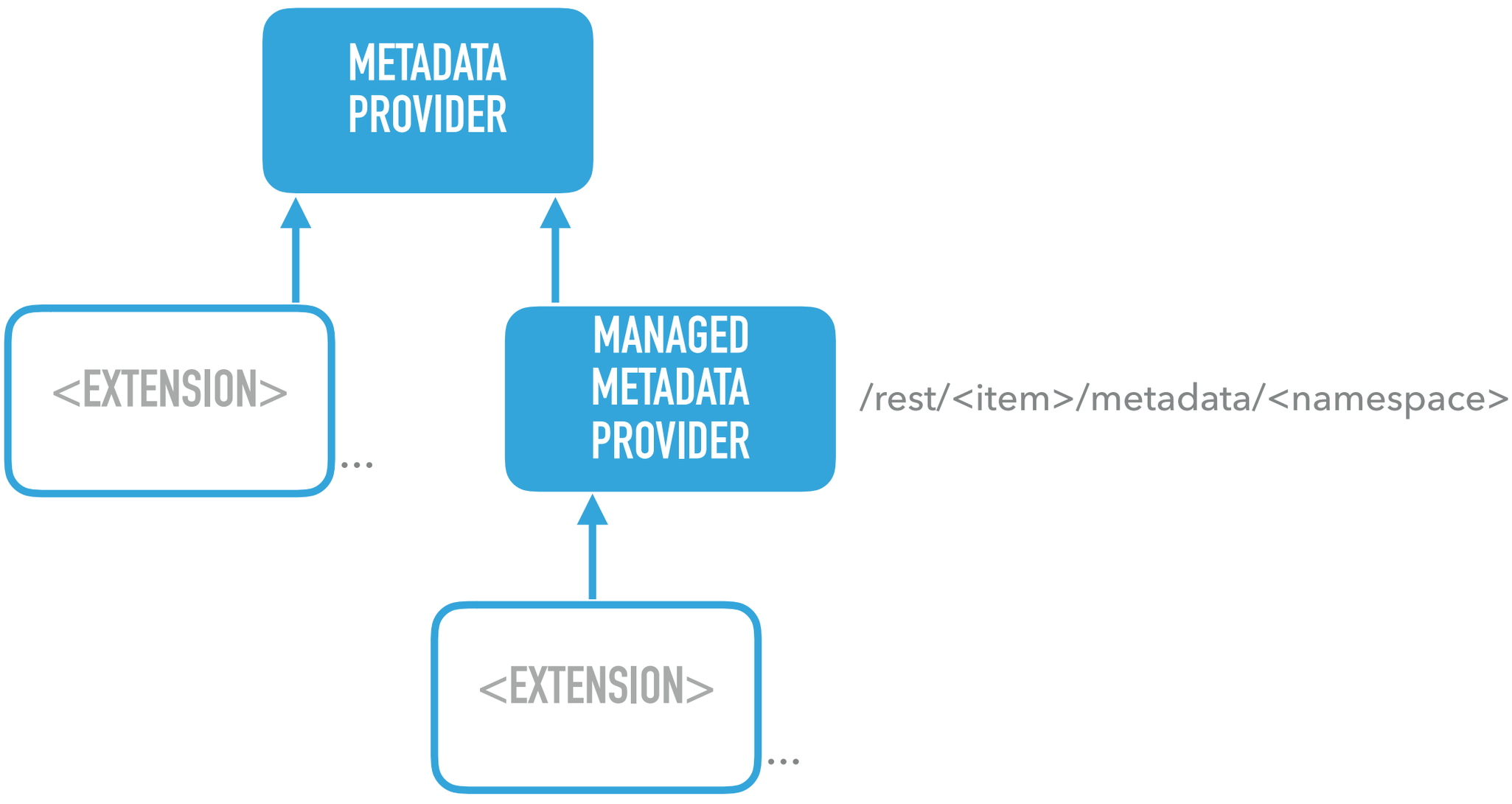
THE IDEA

Allow add-ons to provide custom meta-data on items.

=> Apple HomeKit Integration
=> Alexa Integration
=> Hue Emulation
=> ...

EASY INTEGRATION

Switch "My Fan" { homekit="Fan.v2", alexa="Fan"[type="oscillating", speedSteps=3] }



NEXT STEPS

- Gathering feedback
- Handling of exceptional cases
- Code polishing
- Unit tests
- Documentation
- Move tags' persistence there
- Config description & Paper UI support

REWORKING THE…

SCHEDULER

WORK IN PROGRESS

PR #4295

REASONING

- Reduce complexity
- Enhance maintainability
- Benefit from Java 8 features
- Leverage OSGi
- Support CRON (and others in future)
- Automatic Cleanup

LEVERAGE OSGI

```
@Component
public class DemoComponent {

    @Reference
    private Scheduler scheduler;

    @Activate
    public void activate() {
        scheduler.schedule(() -> {
            // do something
        }, "0 15 * * *“);

        scheduler.after(Duration.ofMinutes(10)).thenRun(() -> {
            // do something
        });
    }
}
```

LEVERAGE OSGI

```
@Component(property = { "cron=0 15 * * *" })
public class SimpleCronJob implements CronJob {

    @Override
    public void run(Map<String, Object> data) throws Exception {
        // do something
    }

}
```

NEXT STEPS

- Gathering feedback
- Merge into codebase
- Replace current usages of the old one
- Implement ISO 8601 date expression support

DISCUSSIONS

TONIGHT