NETx AUTOMATION

KNX

BACnet

MQTT

Modbus

OPC (DA/UA)

SNMP

Fidelio/Opera | Protel | Infor
RMS Cloud | CharPMS
VingCard Web | Kaba | Salto

DALI EnOcean
M-Bus DMX

Proprietary solutions

# All-in-one

**Building management software for medium-sized and enterprise building automation projects**

## NETx LaMPS
Lighting/DALI management

# Digital Addressable Lighting Interface (DALI)

Application specific protocol for lighting systems

## Advanced features for lighting control

- Tests of lamps and ballasts
- Special functionality for emergency lighting

## Pure field level protocol

- Mostly used in combination with system standards like KNX
- No standardized IP interface

# KNX & DALI

KNX is the most common way to integrate DALI

Some KNX/DALI gateways have multiple channels

Up to 64 DALI devices can be connected to 1 channel

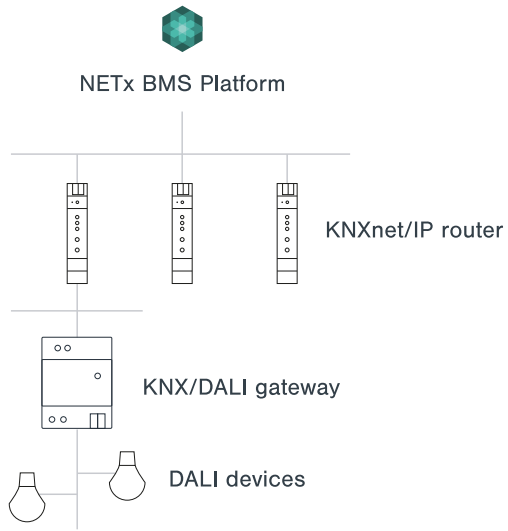
Using KNX, DALI can be connected to Building Management Systems (BMS)

Visualization, monitoring, maintenance of lighting control

KNX/DALI gateways are used to interconnect the DALI bus to KNX

DALI data and information are provided as KNX group objects

- Objects for lighting control (on/off, dimming, status, ...)
- Objects for maintenance (trigger tests, providing test results, ...)
- Objects for emergency lighting control (emergency status, emergency tests, ...)



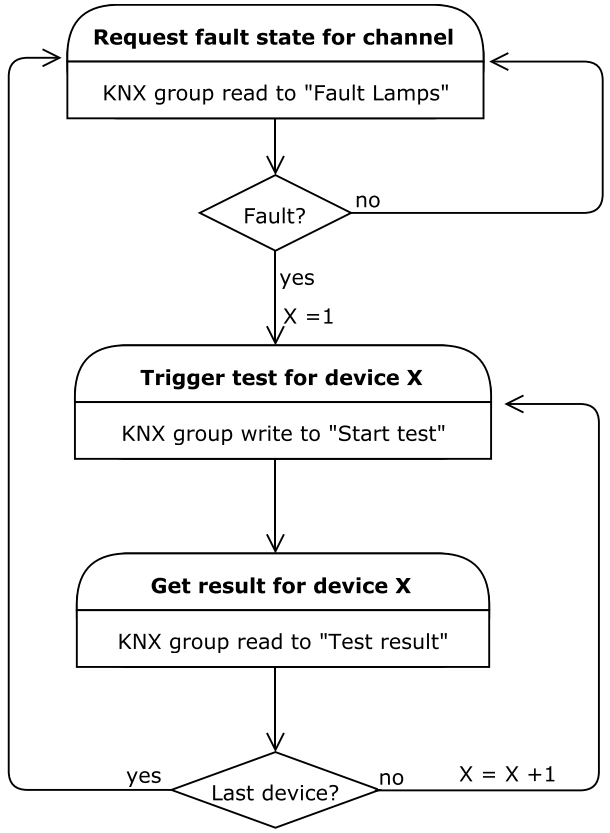
# KNX/DALI gateways: challenges - KNX group object mapping for DALI

High number of functions and high number of devices per gateway would result in a high number of KNX group objects at the gateway

To avoid this, only parts of the functionality are available for each DALI device

- Group objects per DALI device: on/off, dimming, status, ...
- Group object per channel: trigger function tests, test results, ...

Stateful communication is required to get all information per device, e.g. DALI tests



# KNX/DALI gateways: challenges - KNX data point types (DPTs) for DALI

Standard functions are available as standard DPTs (e.g. dimming)

Many KNX/DALI gateways use even non standardized DPTs

For enhanced functions like testing, complex DPTs are used, e.g. DPT_DALI_Control_Gear_Diagnostics

# KNX/DALI gateways: challenges - manufacturer-specific implementation

There are many different manufactures for KNX/DALI gateways

Only standard functionality is common to all DALI gateways (on/off, dimming, ...)

Advanced features like DALI testing are manufacturer-specific

- Manufacturer-specific non standardized DPTs
- Manufacturer-specific, stateful communication logics are required

Time-consuming and complex task for integrators and electrical engineers

# LaMPS Module for NETx BMS Platform

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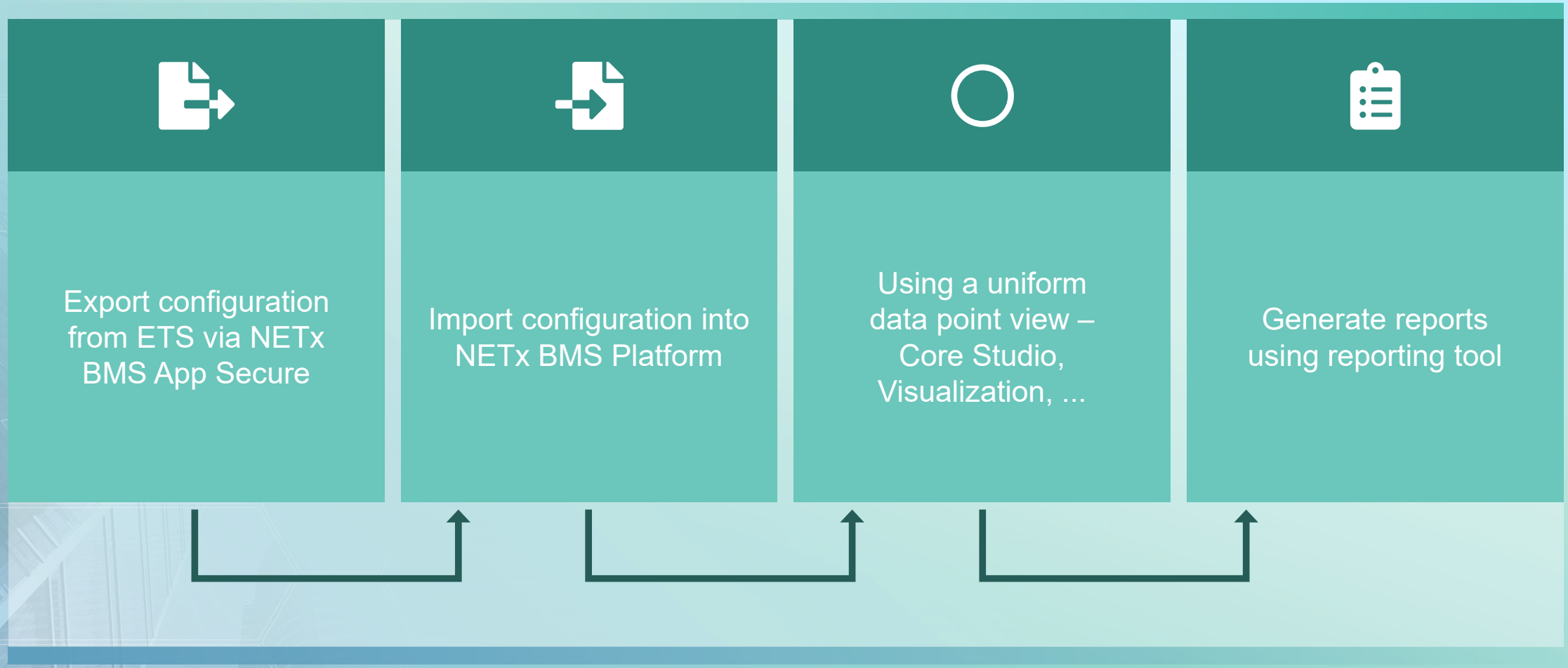
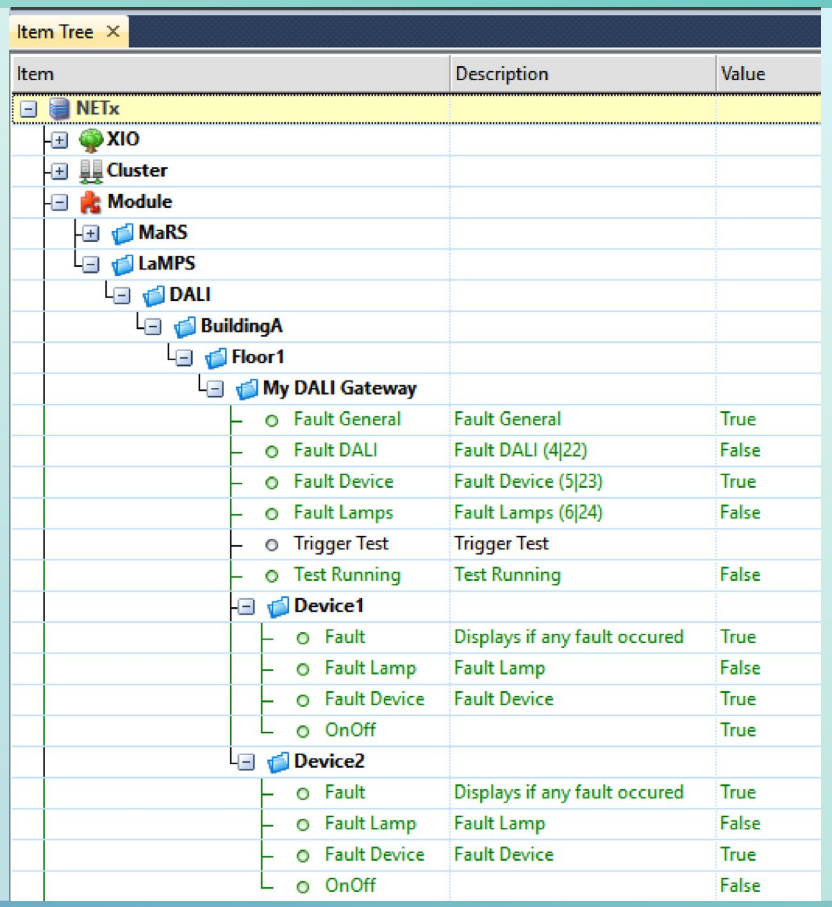
| | | | |
|---|---|---|---|
| Extension module for NETx BMS Platform | Provides manufacturer-independent view of KNX/DALI gateways | | Uniform data point view |
| Triggering DALI tests | Show common DALI errors and error for each device separately | Support for DALI emergency tests | Stores test results in SQL database |
| Reporting tool for generating customized reports | Automatic export from ETS using NETx BMS App Secure | Support for multiple KNX/DALI gateways: ABB, Gira, Hager, IPAS, Jung, MDT, Schneider, Siemens, Zennio, EAE, ... | |

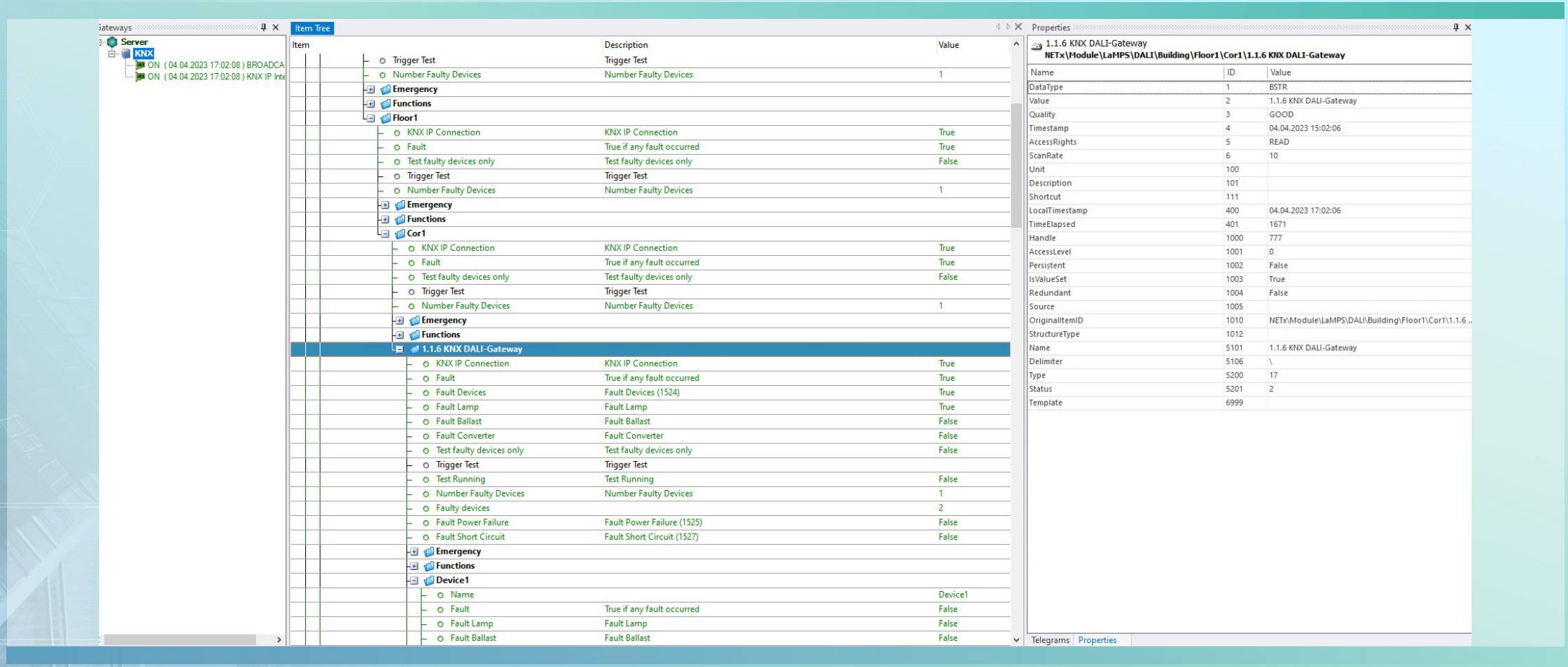
# LaMPS Module: workflow



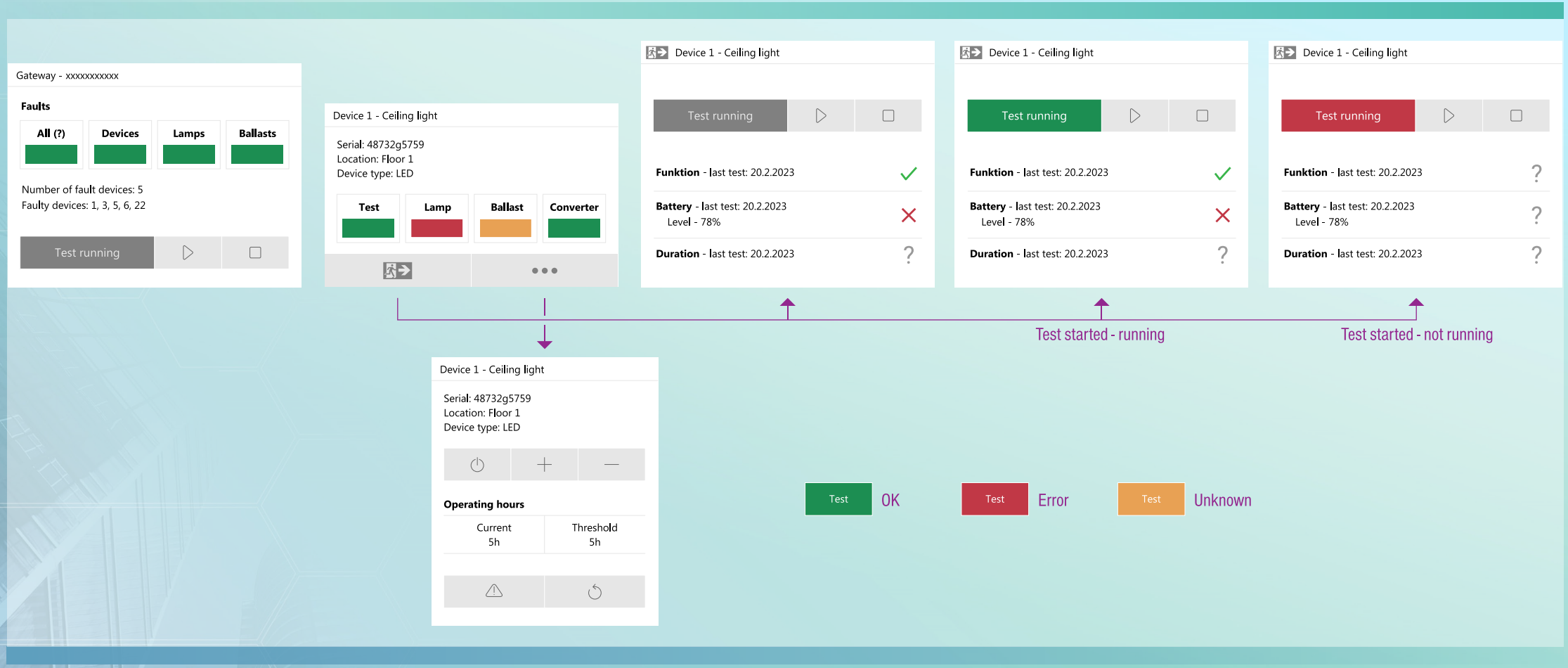
# LaMPS Module: uniform data point view



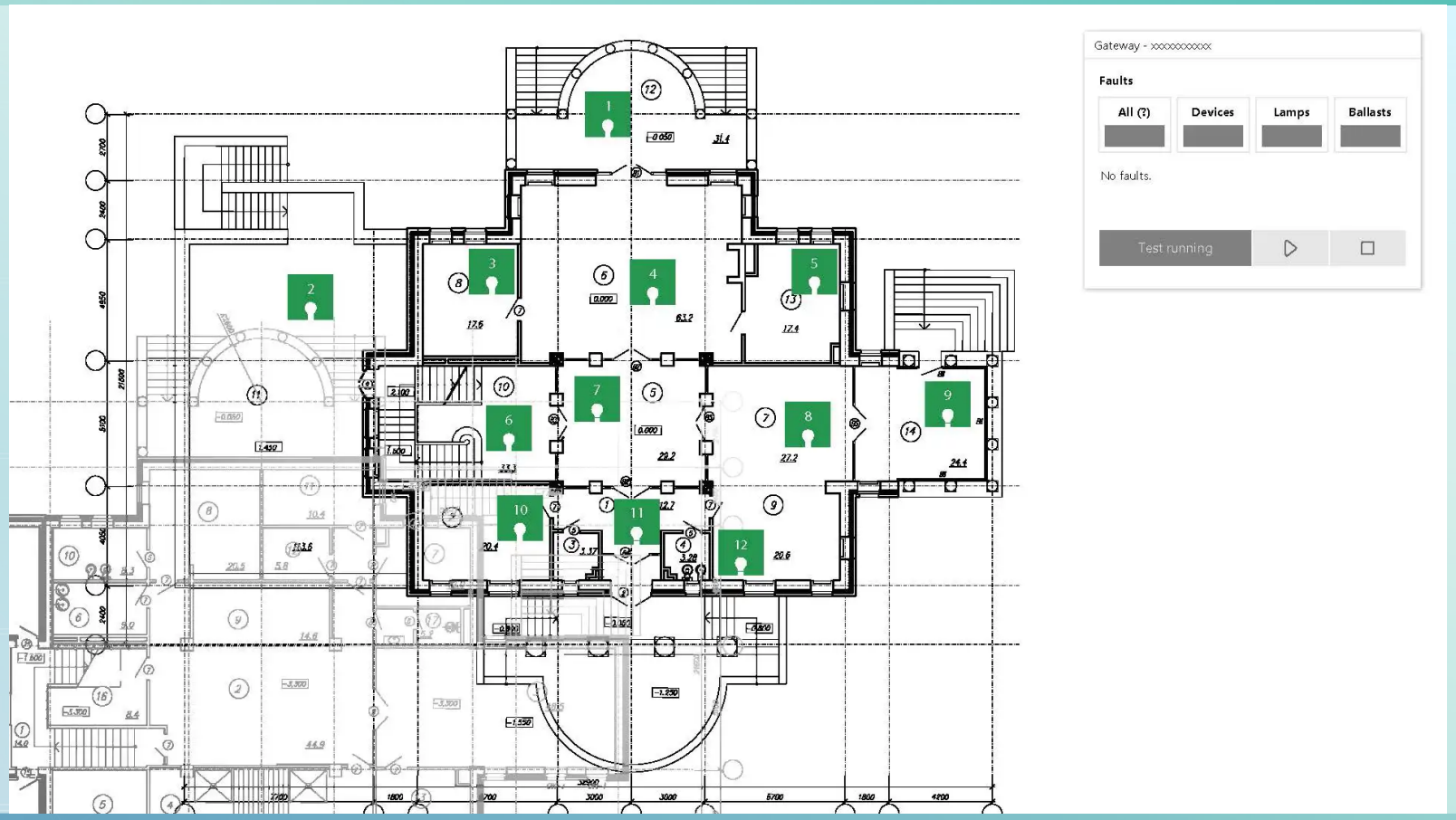
# LaMPS Module: uniform data point view



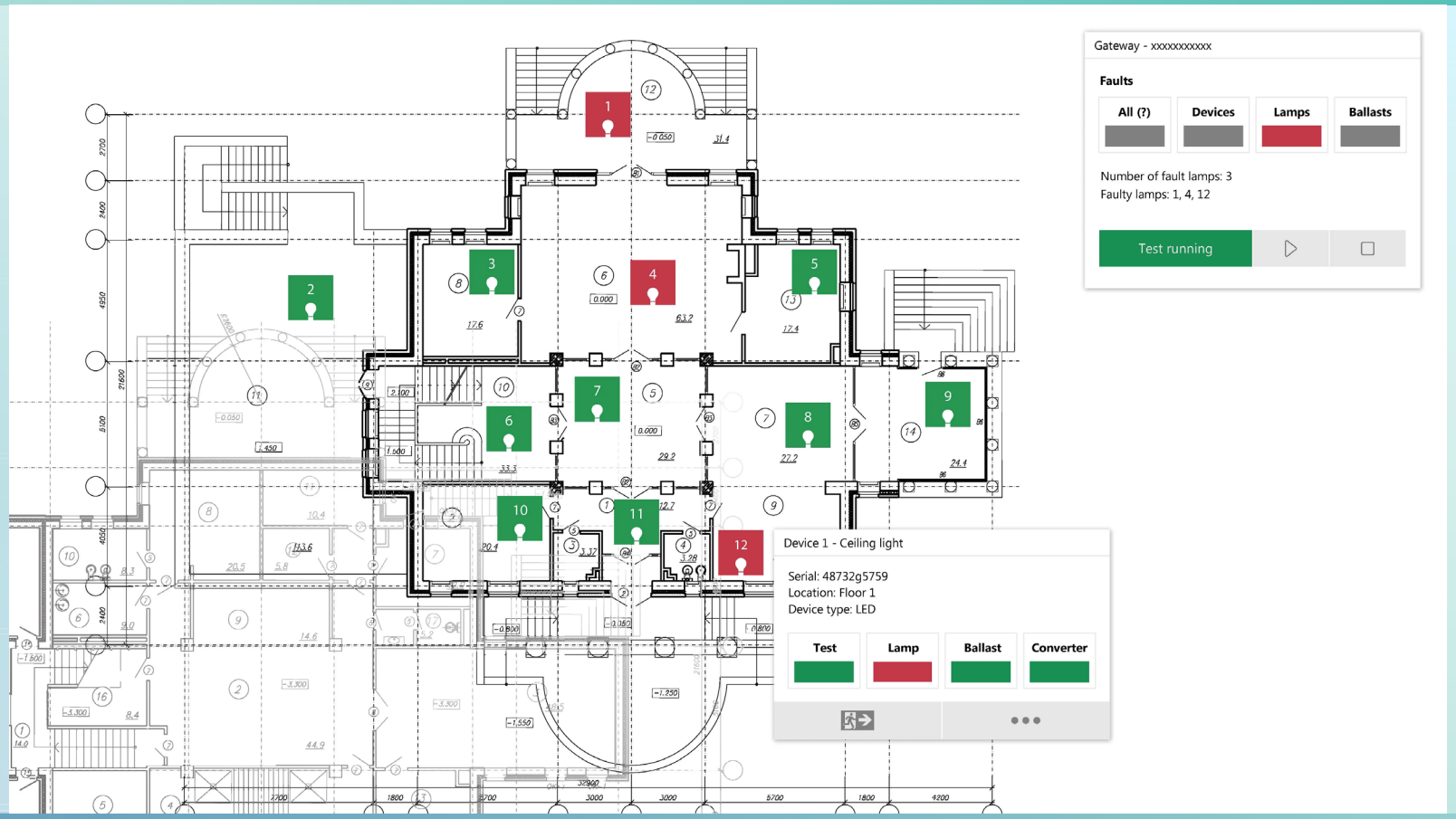
# Interface


Gateway - xxxxxxxxxx
Faults
All (?)
Devices
Lamps
Ballasts
Number of fault devices: 5
Faulty devices: 1, 3, 5, 6, 22
Test running
Device 1 - Ceiling light
Serial: 48732g5759
Location: Floor 1
Device type: LED
Test
Lamp
Ballast
Converter
Device 1 - Ceiling light
Serial: 48732g5759
Location: Floor 1
Device type: LED
Operating hours
Current
5h
Threshold
5h
Device 1 - Ceiling light
Test running
Funktion - last test: 20.2.2023
Battery - last test: 20.2.2023
Level - 78%
Duration - last test: 20.2.2023
Device 1 - Ceiling light
Test running
Funktion - last test: 20.2.2023
Battery - last test: 20.2.2023
Level - 78%
Duration - last test: 20.2.2023
Device 1 - Ceiling light
Test running
Funktion - last test: 20.2.2023
Battery - last test: 20.2.2023
Level - 78%
Duration - last test: 20.2.2023
Test started - running
Test started - not running
Test
OK
Test
Error
Test
Unknown

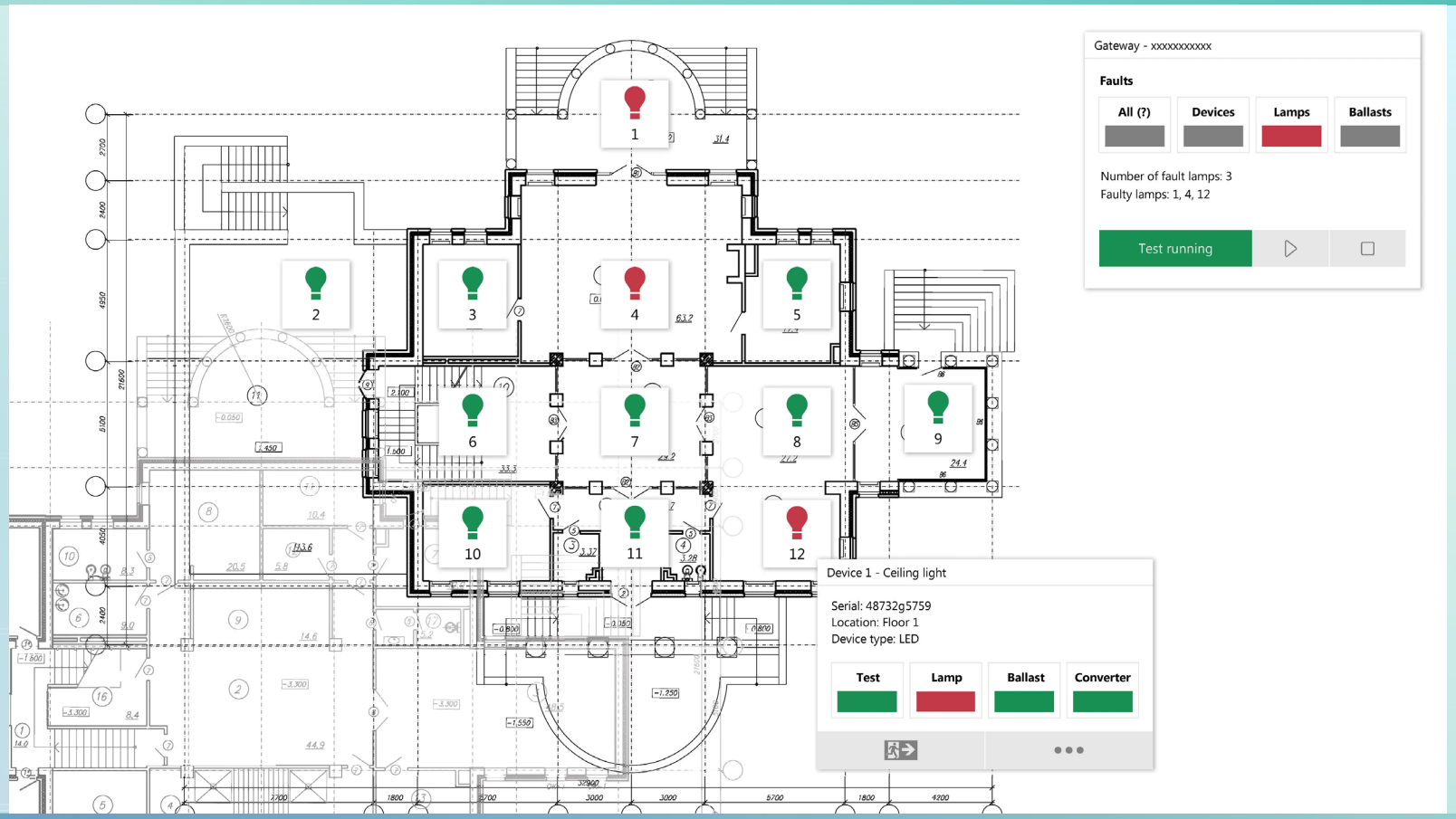
# Interface


Gateway - xxxxxxxxxx
Faults
All (?)
Devices
Lamps
Ballasts
No faults.
Test running

# Interface


Gateway - xxxxxxxxxx
Faults
All (?)
Devices
Lamps
Ballasts
Number of fault lamps: 3
Faulty lamps: 1, 4, 12
Test running
Device 1 - Ceiling light
Serial: 48732g5759
Location: Floor 1
Device type: LED
Test
Lamp
Ballast
Converter

# Interface


1
2
3
4
5
6
7
8
9
10
11
12
Gateway - xxxxxxxxxx
Faults
All (?)
Devices
Lamps
Ballasts
Number of fault lamps: 3
Faulty lamps: 1, 4, 12
Test running
Device 1 - Ceiling light
Serial: 48732g5759
Location: Floor 1
Device type: LED
Test
Lamp
Ballast
Converter

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