NETx AUTOMATION

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 and DALI

KNX is the most common way to integrate DALI

Some KNX/DALI gateways have multiple channels

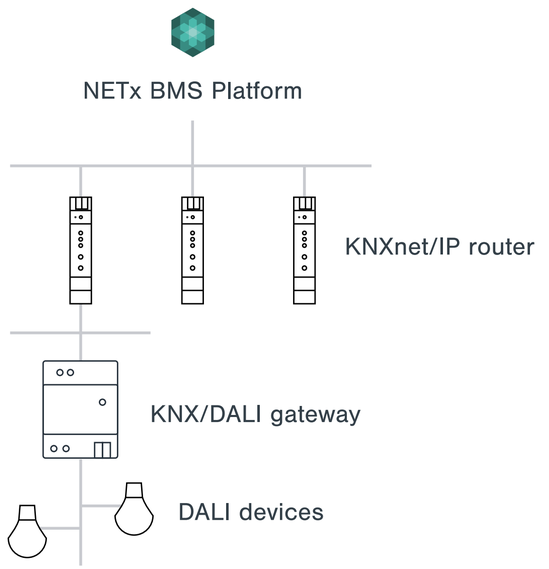
Up to 64 DALI devices can be connected to 1 channel

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

- Visualization, monitoring, maintenance of lighting control

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 are used to interconnect the DALI bus to KNX

KNX/DALI gateways: challenges

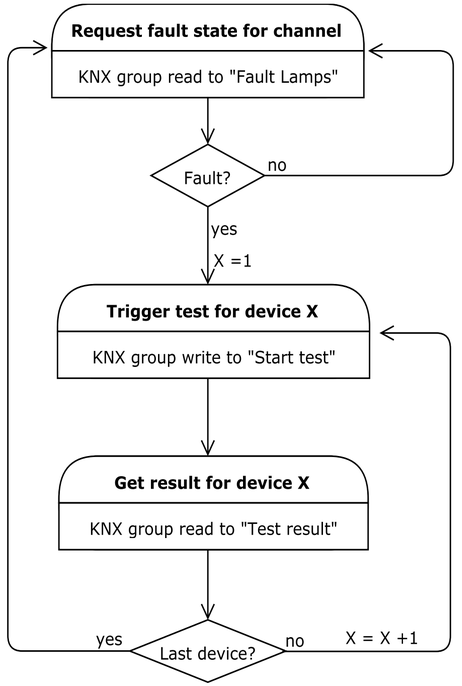
KNX group object mapping for DALI

High amount of functions and high amount of devices per gateway would result in a high amount 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

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

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LaMPS Module for NETx BMS Platform

Support for DALI emergency tests

Stores test results in SQL database

Reporting tool for generating customized reports

Automatic export from ETS5 using NETx BMS App Secure

Support for multiple KNX/DALI gateways: ABB, Gira, Hager, IPAS, Jung, MDT, Schneider, Siemens, Zennio, EAE, ...

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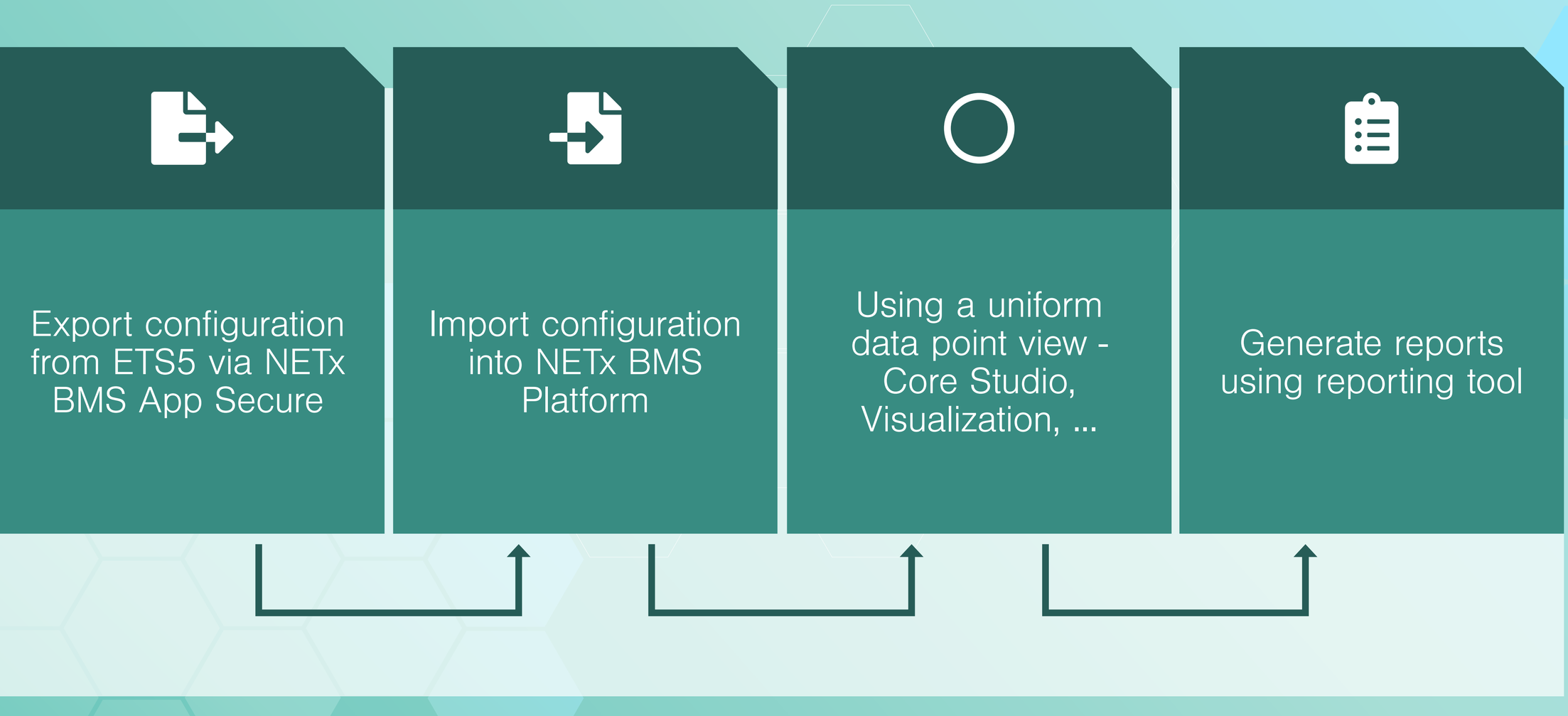
LaMPS Module: workflow



LaMPS Module: uniform data point view

1.1.6 DALI gateway		
KNX IP Connection	KNX IP Connection	True
Fault	True if any fault occurred	True
Fault Power Failure	Fault Power Failure (1525)	False
Fault Short Circuit	Fault Short Circuit (1527)	False
Fault Devices	Fault Devices (1524)	True
Fault Lamp	Fault Lamp	True
Fault Ballast	Fault Ballast	True
Fault Converter	Fault Converter	False
Trigger Test	Trigger Test	
Test Running	Test Running	False
Emergency		
Emergency Mode Active	Emergency Mode Active (1...	False
Emergency Lighting Failure	Emergency Lighting Failure...	False
Start Function Test		
Start Duration Test		
Start Partial Duration Test		
Start Battery Test		
Stop Test		
Emergency Lights test running		False

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