

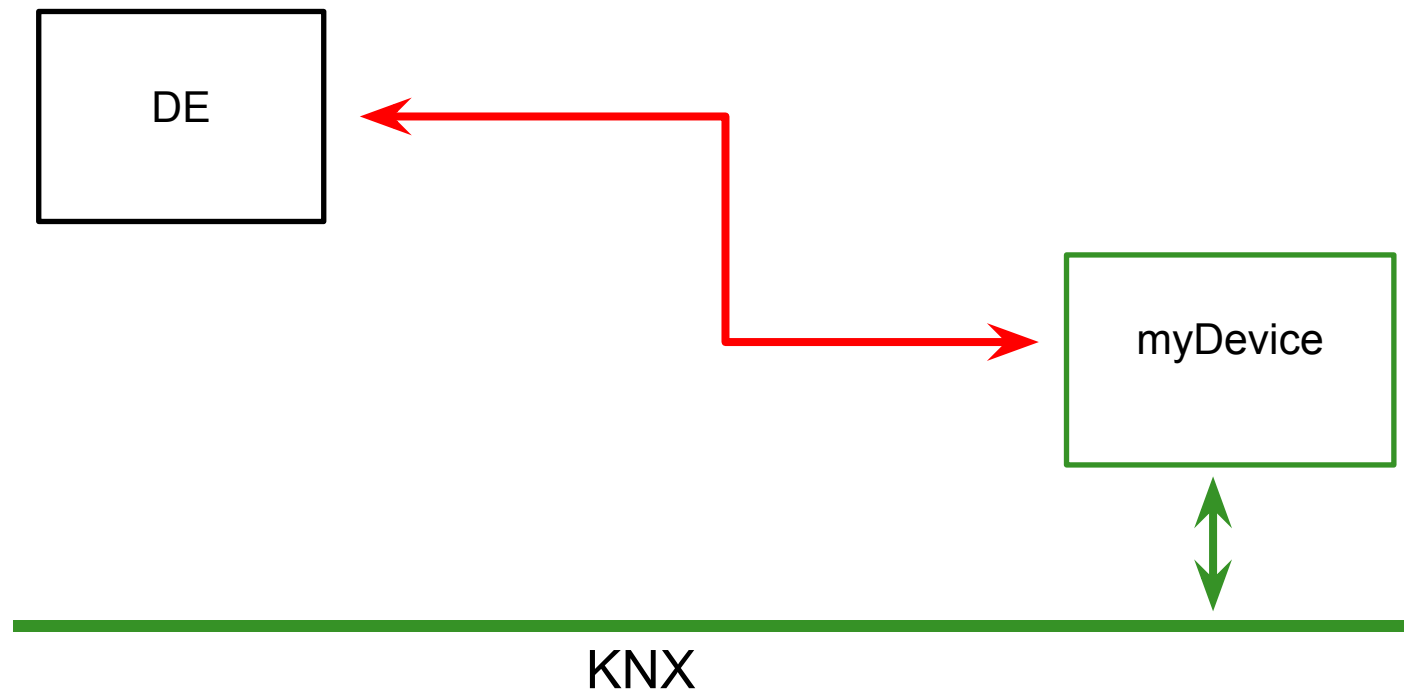


KNX Manufacturer Tool: agenda

- device commissioning
 - during development
 - with ETS
- scope
- device template
- ETS parameter dialog
- demonstration

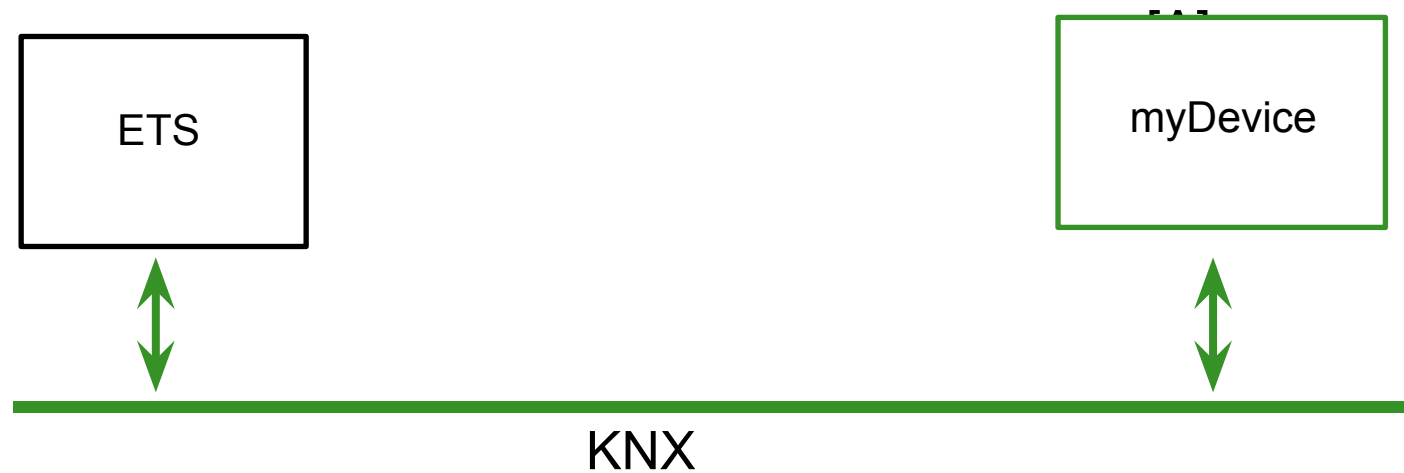


1st phase: device commissioning during development

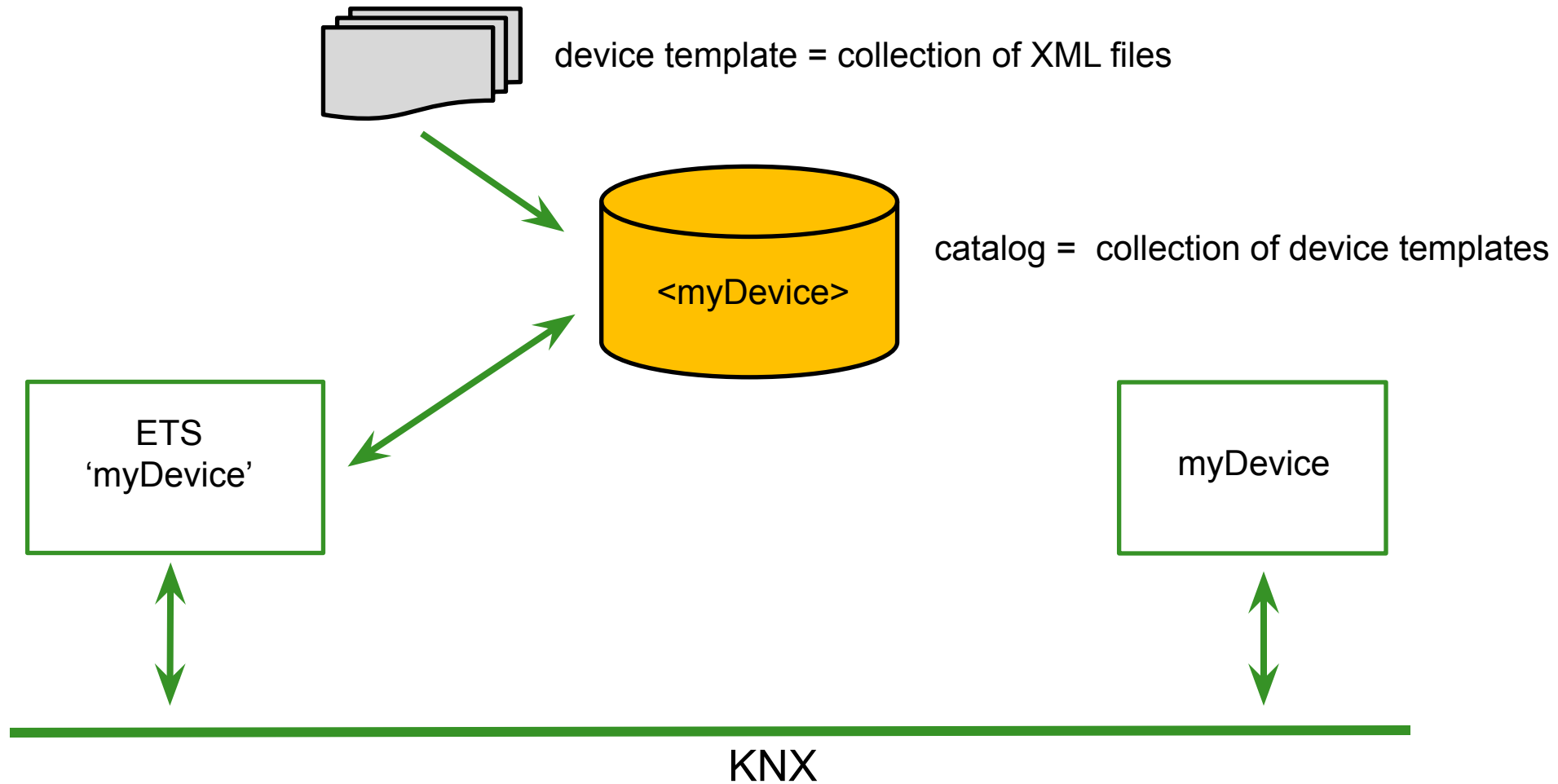




2nd phase: device commissioning with ETS



Scope





device template: most important data

- Hardware = system profile (V6), i.e. the mask version
- Catalog = ETS catalog search criteria
- Software = Application Program + PEI Program
 - memory image via binary
 - load procedures import
 - ETS parameter dialog manually



Parameter Dialog: example

Device = 1-fold push button with 3 available functions

1. function = on/off
 - Obj#0: on/off
 - Par#0: toggle or on/off or off/on
2. function = dimming
 - Obj#1: on/off
 - Obj#2: dimming
 - Par#1: toggle or on/off or off/on
 - Par#2: minimal duration for push
3. function = blinds
 - Obj#3: move up/down
 - Obj#4: step/stop
 - Par#3: minimal duration for push

=> Resources in device memory:

- 5 objects
- 4 parameters



Parameter Dialog: example

=> Resources in device memory:

- 5 objects
- 4 parameters

Steps

- 1) create parameter types
- 2) create Parameters (*)
- 3) create ComObjects (*)

static
part

- 4) create dialog logic
 - a) based on pages and choose/when elements
 - b) add Parameters and ComObjects to the pages (**)

dynamic
part

(*) automatically creates ParameterRefs & ComObjectRefs

(**) automatically creates ParameterRefRefs & ComObjectRefRefs



Channel concept

- Example: use a 1-fold push button as base for a 4-fold push button
- Channel = collection of pages, containing:
 - Parameters
 - ComObjects
 - logic (choose/when elements)
- Two options
 - create channels 'manually' in MT, i.e. copy/paste & smart copy/update
 - create modules in MT, i.e. ETS creates the channels dynamically



Ref...

Object: override value size

- Reserve memory for one Object (up to 14 bytes)
- Set the value size according to the 'situation'

Object: override DPT

- Reserve memory for one Object with fixed length
- Set the DPT according to the 'situation'
- E.g. 1 bit: on/off or up/down or open/close or enable/disable or...

Parameter: override default value

- Reserve memory for one parameter
- Set the default value according to the 'situation'



Setting up a KNX device template 1/2

- Solution Explorer = 'Starting Point'
- Hardware
- Application Program
 - Link with Hardware (via the 'Hardware2Program' attribute)
- Catalog:
 - How to find the product in the ETS product catalog
 - Has no actual technical signification
- Preview (under 'View')
- ETS test project (under 'Edit')



Setting up a KNX device template 2/2: 'regular'

1. Static Part:

- Based on (e.g. s19 file) import:
 - Code Segments
 - Address Table
 - Association Table
 - Load Procedures
- To be created manually:
 - Parameter Types
 - add Parameters + Ref
 - add ComObjects + Ref

2. Dynamic Part = the ETS parameter dialog

- Create pages + choose/when structure
- add objects (RefRef) accordingly
- add parameters (RefRef) accordingly



Setting up a KNX device template 2/2: modular (MAP)

1. Static Part:

- Based on (e.g. s19 file) import:
 - Code Segments
 - Address Table
 - Association Table
 - Load Procedures
- To be created manually:
 - Parameter Types

2. Modules

- Arguments
- Static Part
 - add Parameters + Ref
 - add ComObjects + Ref
- Dynamic Part
 - Create pages + choose/when structure
 - add objects (RefRef) accordingly
 - add parameters (RefRef) accordingly

3. Dynamic Part = the ETS parameter dialog

- instantiate the modules accordingly



Virtual Dimmer – specs 1/2

- TP1
- System B
- 8 channels

- Address Table : 256 bytes
- Association Table : 256 bytes

- Objects
 - 10/channel
 - numbering: ch1 : 1..5, ch2 : 11..15, ch3 : 21..25, etc.
 - +1 : OnOff → input, 1bit - 1.001
 - +2 : Dimming Control → input, 4bit - 3.007
 - +3 : Dimming Value → input, 8bit - 5.001
 - +4 : Info OnOff → output, 1bit - 1.001
 - +5 : Info Dimming Value → output, 8bit - 5.001



Virtual Dimmer – specs 2/2

- Parameters
 - 3/channel : p1 = 8bit, p2 = 8bit, p3 = 8bit
 - relative memory location
 - ch1 : 0000h → p1, 0001h → p2, 0002h → p3
 - ch2 : 0010h → p1, 0011h → p2, 0012h → p3
 - ch3 : 0020h → p1, 0021h → p2, 0022h → p3
 - etc.
 - p1
 - dimming speed : # dimming steps/second
 - default = 5
 - p2
 - # dimming steps encoding: 4..7
 - 4 = 8 steps, 5 = 16 steps, 6 = 32 steps, 7 = 64 steps
 - default = 7
 - p3
 - color encoding: 1..3
 - 1 = yellow, 2 = red, 3 = green
 - default = 1