UeiBridge suit users guide

# Introduction

UeiBridge controls a Uei-Cube which contains several I/O devices (cards).

UeiBridge might receive udp messages from and external producer. This messages, with predefined icd format, are translated to commands that are applied to one of the output devices.

From the other hand, it constantly reads the input devices, convert the samples to predefined icd format, and sends them through udp messages to remote consumer.

There are couple of tools which support the UeiBridge, they are also describes in this guide.

# UeiBridge (main application)

## Devices Configuration

As mentioned, a cube is composed from several devices, each device in a dedicated slot. There is a single configuration file for each cube. The naming convention of the configuration file is '**<file>.config**'.

In the configuration file (XML) there is an entry for each device (card). An entry might refer to input device, output device, or both.

When UeiBridge starts, it first search for a configuration which suits the connected cubes. If there is an exiting file, it reads it and use its settings. If it can't find a suitable file, it automatically generates[[1]](#footnote-1) new default file. This file might be edited later with the CubeDesign GUI application.

1.1.1 Startup

1. Upon startup, the main program checks to see if config file exists, if exists, load it.

2. If config files does not exist, the main program asks the Config modules to create default config according to device names, and saves it to file. This config shall be used for current session.

3.

### Settings of output device

Here is an example for minimal configuration of output device:

<DeviceSetup xsi:type="AO308Setup" IsEnabled="true">

<DeviceSlot>0</DeviceSlot>

<DeviceName>AO-308</DeviceName>

<LocalEndPoint>

<Address>227.3.1.10</Address>

<Port>50200</Port>

</LocalEndPoint>

</DeviceSetup>

Details:

**IsEnabled**: User can decide to disable a certain device. In this case UeiBridge will not refer to this device (as if it not exists).

**DeviceSlot**: Each device is laid in a specific slot in the cube/rack. Slot numbering starts from zero. Not that the slot number and the device name **must** match.

**DeviceName**: The name that is given to the device by the manufacture.

**LocalEndPoint**: This field is unique to output devices. It defines the multicast address in which UeiBridge listen to messages that are aimed to this device. Basically, UeiBridge listen to incoming udp messages from selected NIC (see "Selection of local network card for multicast"). An option to listen on all network interfaces is not defined yet.

### Input device

Here is an example for minimal configuration of input device

<DeviceSetup xsi:type="AI201100Setup" IsEnabled="true">

<DeviceSlot>2</DeviceSlot>

<DeviceName>AI-201-100</DeviceName>

<DestEndPoint>

<Address>227.2.1.10</Address>

<Port>50201</Port>

</DestEndPoint>

</DeviceSetup>

Details:

**IsEnabled** , **DeviceSlot**, **DeviceName**: Same definitions as for 'Output Device'.

**DestEndPoint**: This field is unique to input devices. It defines the multicast address into which UeiBridge shall send messages with samples read from this device. UeiBridge sends these messages through selected NIC (see "Selection of local network card for multicast").

## Selection of connected cube

## Selection of local network card for multicast

# StatusViewer

## How StatusViewer select network card for multicast

# ByteStreamer3

# CubeDesign

# CubeNet

1. Generation of default config is done only if there is **no** config file, but if config file exists but the program fails to load it (bad format etc..) the program terminates. [↑](#footnote-ref-1)