ASAM iLinkRT V3.0.1
Release Presentation

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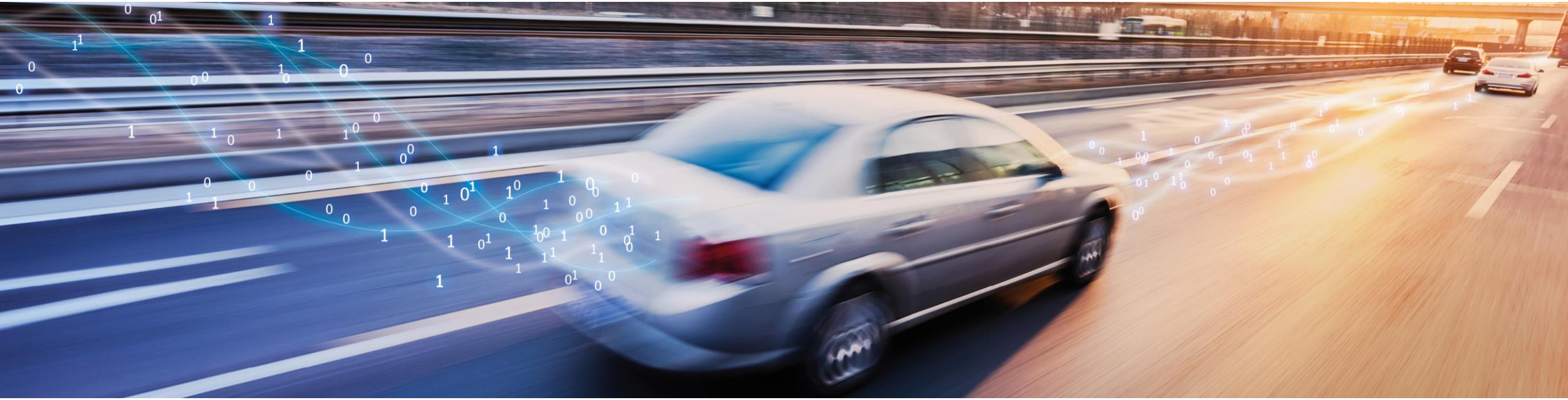

Agenda

ASAM iLinkRT

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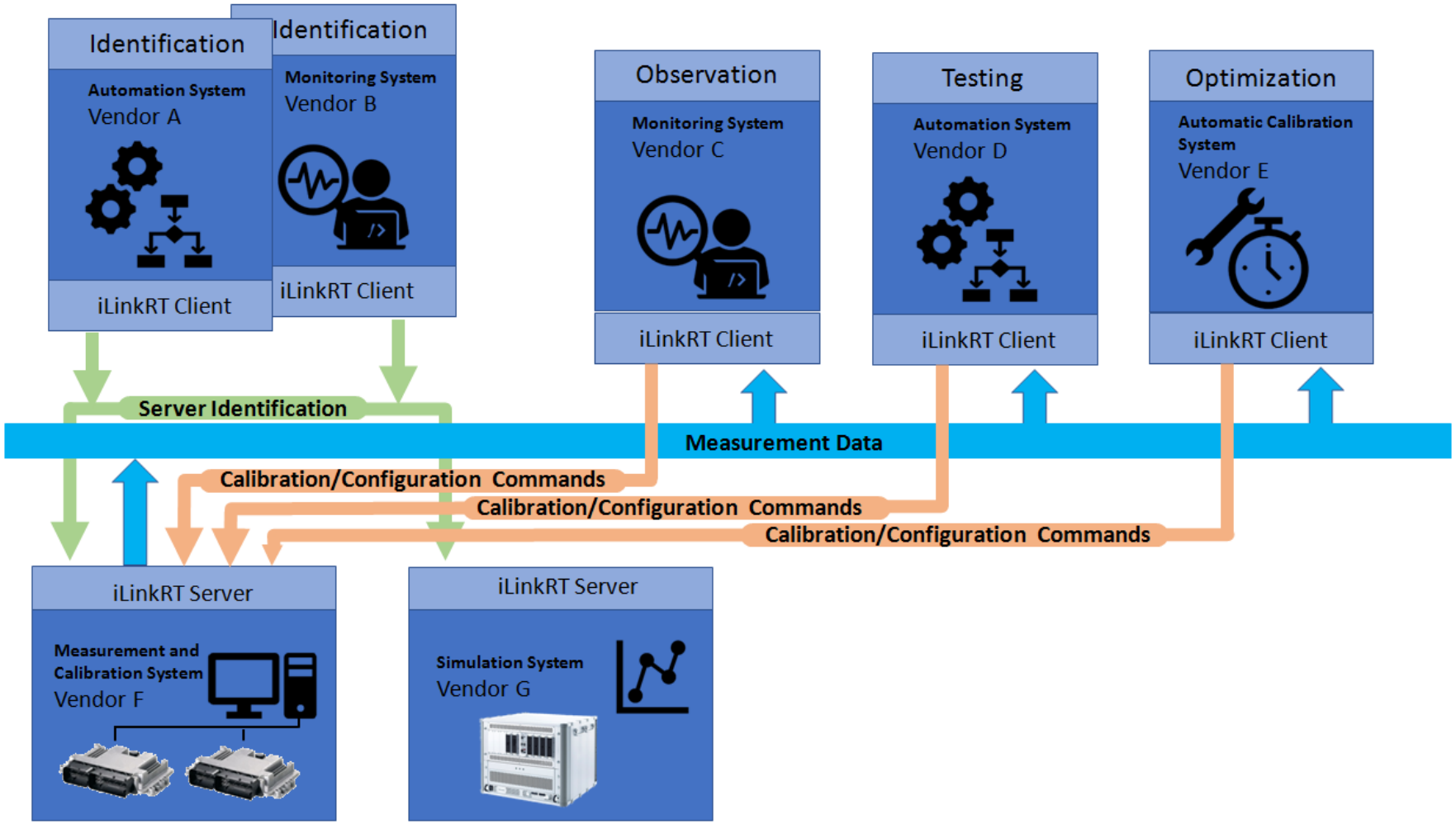
Introduction

- iLinkRT describes a multi-client / multi-server architecture for the purpose of fast channel based communication between MC-Servers (e.g. application system for electronic control units (ECU)) and MC-Clients (e.g. system for test automation).

- Main Topics
  - Support of configuration and parameterization.
  - Standardized handling of preselected Devices (e.g. an ECU), Measurements and Characteristics.
  - Data acquisition.
  - Recording.
  - Adjustment.

System Overview



Motivation

- Be independent of ASAP3.
- Reuse the advantages of ASAP3 like simple protocol, implementation independency, easy to understand.
- Reuse the performance aspect of the high speed iLinkRT standard like event driven measurement, calibration parallel to measurement.
- Provide multiple MC-Client / MC-Server communication to support use cases with simultaneous use of multiple tools.
- Support local and wide area networks with IPV4 and IPV6 architecture.
- Be open for collaboration with other standards like e.g. XIL.
- Easy to use Recorder concept.
- Easy extendable protocol for future demands.

Maintenance

RT_CONFIGURE_SERVER - state transition

- If a state change to MC-SERVER_STATE = CONFIGURABLE is requested by a MC-Client a running recorder shall now be stopped by the respective MC-Clients in advance otherwise the error 0x0061 is returned.

RT_CONFIGURE_SERVER - configurable

- Already selected devices will now stay "online" while MC-SERVER_STATE = CONFIGURABLE. New selected devices are "offline".

MC-SERVER_STATE - Commands allowed dependent on state

- Table added as addendum with all commands that shows which command is allowed in which MC-Server state

MEASURING_STATE / RECORDER_STATE - undefined

- When an "empty" device set is loaded its default state is UNDEFINED. A later state change to UNDEFINED is not possible.

Bug Fixing

- Minor corrections of the specification.
- Improvement of explanations

Maintenance

DYNAMIC mode for characteristics added

The DYNAMIC mode supports the possibility to transfer only numeric data. Verbal conversions are skipped.

- ASAP3 V3 supports it too
- The commands for calibration are functionally identical between ASAP3 V3.0 and iLinkRT V3.0
- Allows simple clients to work without string handling
- Affects the commands
  - RT_READ_CELL_VALUES
  - RT_WRITE_CELL_VALUES
  - RT_READ_CHARACTERISTIC
  - RT_WRITE_CHARACTERISTIC
- No side effects to other iLinkRT commands
- Same behavior for measurements and characteristics object

Maintenance

RT_STRING

The length of RT_STRING is now calculated by number of bytes instead of number of characters.

This simplifies the length calculation if UTF8 characters contain more than one byte.

Wireshark Plugin

Wireshark is a widely-used network protocol analyzer. It helps to analyze the data transfer on the Ethernet connection.

LUA Plugin for Wireshark to allow iLinkRT telegram interpretation

- Detects iLinkRT V3 frames on Ethernet
- Dissects the iLinkRT V3 frames and shows details of the frames
- Located at GitHub
- Mozilla Public License Version 2.0 (MPLv2)

Location

- Github (ASAM e.V. Open Source Platform)

To be replaced by real link

Backward Compatibility

The commands are backwards and forwards compatible to earlier iLinkRT V3.0.0. A server V3.0.0 can communicate with a Client V3.0.1 and vice versa.

Cross Test

Functional test of iLinkRT V3

- 2 MC-Servers, 3 MC-Clients
- 1 Network
- Tests done
  - ✓ Connect Clients
  - ✓ Measuring
  - ✓ Calibration
  - ✓ Multi Clients connect to one Server

iLinkRT Logo

iLinkRT Logo

- ASAM offers **ASAM iLinkRT Logo** in different sizes available: 16 x 16 px - 256 x 256 px
- See ASAM Logos

Relation to other Standards

ASAM MCD-2 MC (ASAP2)

- iLinkRT re-uses the characteristic types defined by ASAP2

Deliverables

Documents

- iLinkRT V3.0.1 Standard