



3rd 4DIAC Users' Workshop

**ETFA , Kraków, Poland
September 21, 2012**

www.fordiac.org

Agenda

- Welcome *A. Valentini*
- Overview & Update *A. Zoitl*
- Session Communication Integration and Interoperability
 - Integrating the IEC 61131-3 to C translator into 4DIAC *M. de Sousa*
 - Integration of IEC 61131-3 and IEC 61499 control logic using FORTE and ProConOS *S. Campanelli*
 - Automation Concept for a Smart Grid Laboratory using 4DIAC *F. Andren*
 - Demonstrating interoperability of forte runtime with synchronous execution environments *M. Sorouri*
- Session Application Modeling
 - IEC 61499/4DIAC Applications for the Power and Energy Domain *T. Strasser*
 - E3ICP - Embedded Energy Efficiency Industrial Controller Platform *A. Zoitl*
 - Automatic Generation of IEC 61499 Applications based on Workflow Models *G. Ebenhofer*
 - IEC 61499 Coordinated Object Pose Recognition using ReconstructMe Technology *G. Ebenhofer*
- Plenary Discussion - Future Development of 4DIAC:
Goals and Targets

Mission

The goal of the 4DIAC Initiative is to provide an open, IEC 61499 standard compliant foundation, that gives the opportunity to establish an automation and control environment, based on the targets

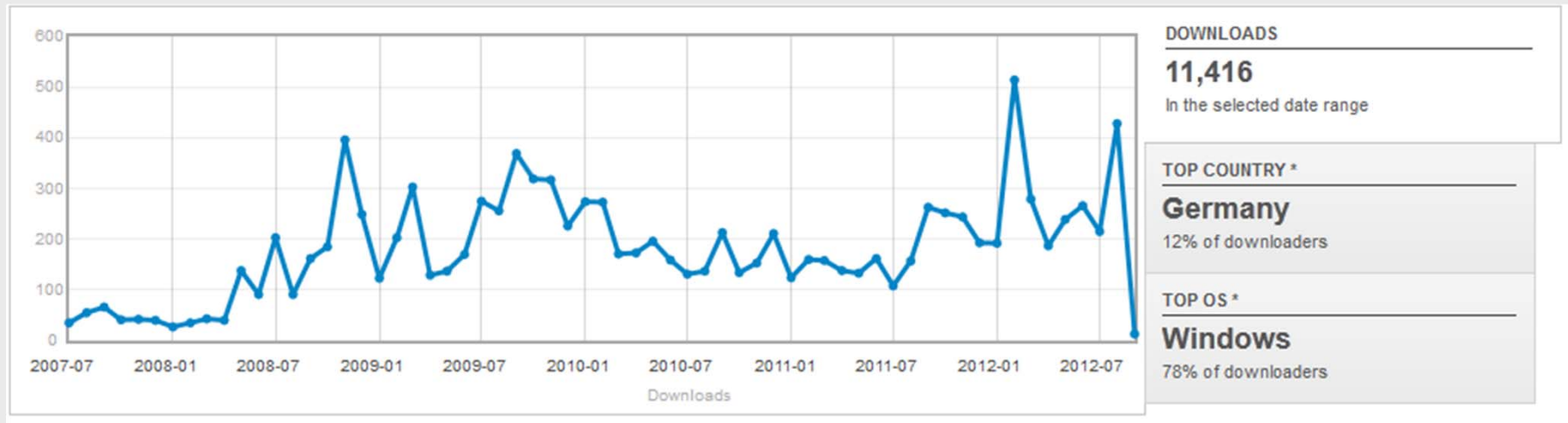
- **portability,**
- **configurability and**
- **interoperability.**

Current Projects

- FORTE (4DIAC-RTE)
 - IEC 61499 compliant run-time environment
 - C++ implementation
 - Portable to multiple platforms
- 4DIAC-IDE
 - IEC 61499 compliant engineering environment
 - Java-based implementation
 - Implementation as Eclipse plug-ins
- 4DIAC-LIB
 - Collection of function block libraries
- **NEW** 4DIAC-Systems
 - Collection of test applications

Some Statistics

- In the last year we had:
 - 3 major and 3 minor releases
 - 3283 downloads
 - 228 opened and 223 closed tickets
 - 431 commits

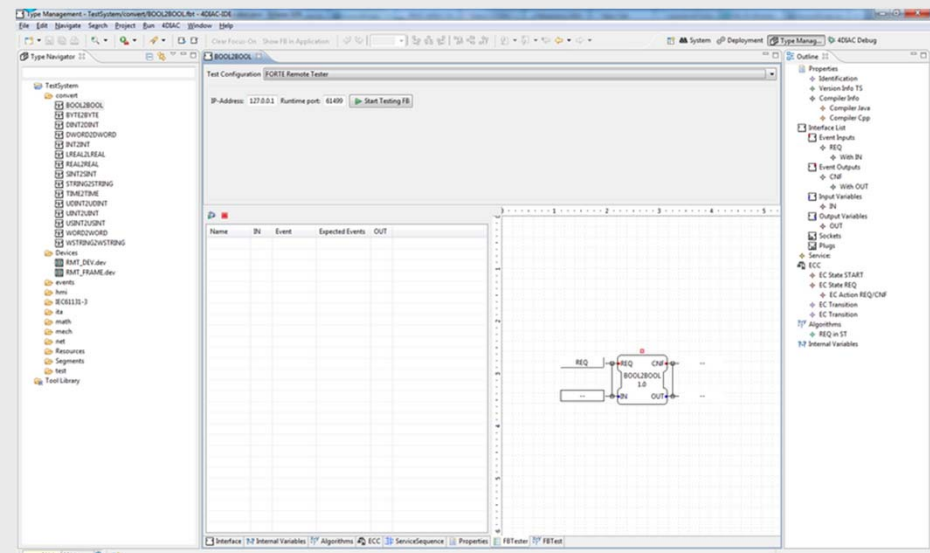


New Release Cycle

- New release cycle great success
- Two major releases per year
 - Feb. 15th
 - Sept. 15th
- Feature freeze two weeks upfront
- Extended by monthly minor releases
 - Bug fixes are introduced more early

Most recent changes 4DIAC-IDE

- Monitoring and debugging infrastructure
 - Watch and set data in- and outputs
 - Watch and trigger events
- FB Tester
- Unit tests with service sequences
- Type Navigator replaces Type Manager
 - Better Eclipse integration
 - Search of FBs in Type Navigator
 - Copy paste/drag-and-drop of FB Types from Explorer into Type Navigator
- Copy/paste support for FB Networks
- Improved appearance of FBs, Devices, and ECC
- Specify Order of Transitions in ECC

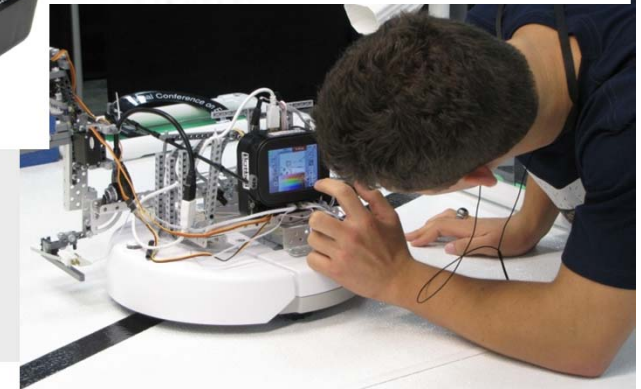


Most recent changes 4DIAC-LIB

- IEC 61131-3 library
 - Most IEC 61131-3 function blocks transformed to IEC 61499
 - Most of the convert functions
 - First set of IEC 61131-3 functions provided as IEC 61499 function blocks as well as functions usable in ST Algorithms of basic function blocks (see FORTE for details)
- OSCAT library
 - First set of useful function blocks adapted from the open source IEC 61131-3 function block library OSCAT (www.oscat.de/)
- Utility functions
 - Commonly needed helper functions like CVS file writing, event and data multiplexing, console output, etc.

Most recent changes FORTE

- Reduced memory usage of data types and event list management
- New logging infrastructure
- Monitoring and debugging infrastructure
 - Remote monitoring of data and event ports of FBs
 - Remote triggering of events
- New communication layer support
 - Modbus TCP
 - OPC DA Client
 - Ethernet Powerlink master
 - Serial communication on Posix
- New hardware platforms
 - Lego Mindstorms NXT
 - Kipr CBC (link)
 - Bachmann M1 PLC
- Load FORTE boot project files on FORTE startup
- Usage of constant values on ANY_ELEM inputs: Datatype#XYZ



- Hosted on SourceForge-Platform
- Bug-Tracker
- Feature requests
- Forum
- Wiki

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ID	Summary	Status	Opened	Assignee	Submitter	Resolution	Priority
3053007	Wrong connectDO connectDI in CCompositeFB	Closed	2010-08-25	all	nobody	Fixed	5
3052893	Green bar above the devices at the system configuration	Open	2010-08-25	gebenh	christiangerber	Fixed	5
3052099	System Import	Open	2010-08-24	gebenh	christiangerber	None	5
3048709	Adapter Type Import	Open	2010-08-19	nobody	christiangerber	None	5
3048527	Patch 3044202	Open	2010-08-19	nobody	christiangerber	Fixed	5
3046239	Save picture	Open	2010-08-16	gebenh	christiangerber	None	5
3044277	linux IDE projects not compatible with windows IDE ones	Open	2010-08-13	gebenh	anubis5080	None	5
3038269	Export of array in C++ doesn't work	Closed	2010-08-02	all	nobody	Fixed	5
3032467	New runtime launcher is not working with Eclipse 3.6 Helios	Open	2010-07-21	gebenh	tsbras	None	3

- PLEASE provide feedback, questions, etc. via the offered channels
- Feedback helps to improve quality



4DIAC likes to say thank you!

Many thanks to all bug reporters, feature requesters and patch submitters.

Getting Involved

- Bug-list / feature-requests as starting point for involvement
- Source code provided in distributed version control system "Mercurial"
 - 4DIAC-IDE:
[http://fordiac.hg.sourceforge.net:8000/hgroot/fordiac/fordiac - ide](http://fordiac.hg.sourceforge.net:8000/hgroot/fordiac/fordiac-ide)
 - FORTE:
<http://fordiac.hg.sourceforge.net:8000/hgroot/fordiac/forte>
 - 4DIAC-FBLIB:
<http://fordiac.hg.sourceforge.net:8000/hgroot/fordiac/fordiac-lib>
- Patches of collaborators will be reviewed and applied



Overview and Update

Contact Speaker

Alois Zoitl

Vienna University of Technology, ACIN

Gußhausstraße 27-29 / E376

1040 Wien, AUSTRIA

+43 1 5880137683

zoitl@acin.tuwien.ac.at

www.acin.tuwien.ac.at