

## ISaGRAF 5 embedded in new Kingfisher PLUS+™ Advanced RTUs for first-ever IEC 61499-compatible RTUs

CSE-Semaphore selected ISaGRAF 5 for their new Kingfisher PLUS+™ series of Advanced RTUs.

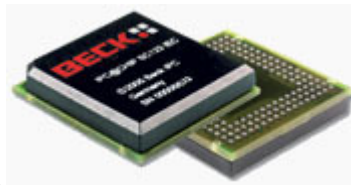


The Kingfisher PLUS+ Series fully embeds the ISaGRAF 5 control software environment, making it the first ever RTU to support both the IEC 61131-3 and IEC 61499 standards. The ability to apply the IEC 61499 standard is a powerful new feature that will change the way applications with multiple resources and projects are designed and managed. With ISaGRAF 5, Kingfisher PLUS+ RTU users have the ability to utilize the IEC 61499 standard to easily create distributed control applications.

## ISaGRAF 5 compatible with Beck IPC@CHIP® Embedded Web-Controller, allowing users to take advantage of IEC 61499 functionality

ISaGRAF 5 can now be used with Beck IPC GmbH's popular IPC@CHIP® SC123/SC143 series of embedded web-controllers. Local I/O drivers are available and additional drivers can be developed upon request.

With ISaGRAF 5, Beck IPC@CHIP® users have the option of using the IEC 61499 standard to easily create distributed control applications.



The ISaGRAF 5 automation software can also be used with the Beck DK61 IPC@CHIP® Development Kit and the DK60 Development Board, which are used for building applications based on the IPC@CHIP SC123/SC143.



The Beck IPC@CHIP® SC123/SC143 series of embedded web-controllers boasts features such as a 96 MHz CPU, 8 MB RAM, up to 8 MB Flash, 2 x Ethernet, 2 x CAN, USB, and preinstalled Beck RTOS. The Beck RTOS includes software functions such as: Security protocols (SSH, SSL, IPsec), Modbus TCP, Ethernet/IP, API for CAN controller, and API for elementary USB slave functions.

## Control Microsystems Offers ISaGRAF Technician License

Control Microsystems recently released an ISaGRAF Technician License for its SCADAPack and SCADAPack E-Series controllers.

The Technician License enhances the flexibility of Control Microsystems' ISaGRAF IEC 61131-3 programming platform and allows field technicians to download controller code and monitor process values in real time. The ISaGRAF Technician License provides most of the functionality of an I/O count-based license at a reduced price by disabling the commands required to build and edit ISaGRAF logic code. Code is developed and compiled on an ISaGRAF I/O-licensed Workbench and then provided to the technician who uses their Technician-Licensed Workbench to download the code to the controller.



## TÜV Rheinland confirms ISaGRAF 5 compliance with IEC 61499 and IEC 61131 standards

## ICS Triplex ISaGRAF presents IEC61499 and ISaGRAF 5.1 at IICA Sydney Technical Presentation

Stefan Mizera (Americas/Pacific Rim Sales Manager) was the keynote speaker at the IICA (Institute of Instrumentation Control and Automation Australia) Technical Presentation Evening on May 8th 2007 in Sydney, Australia. The IICA is the Australian equivalent of the ISA in North America.



ICS Triplex ISaGRAF gave a first-hand look at the theory behind IEC 61499, as well as a comparison to the IEC 61131, and implementation examples with the ISaGRAF 5.1 Workbench.

## upcoming events

### ICS Triplex ISaGRAF presenting at ETFA 2007 in Patras, Greece (September 25-28, 2007)

ICS Triplex ISaGRAF's General Manager, Julien Chouinard, will present an IEC 61499 related paper at the 12th IEEE Conference on Emerging Technology and Factory Automation during the special session *The IEC 61499 Function Block Model in Factory Automation*.

A copy of this discussion will be made available in a future issue of our newsletter.

## contact us

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TÜV Rheinland has recently confirmed that ISaGRAF 5 is compliant with both the IEC 61499 and IEC 61131 standards.

The IEC 61499 standard defines the method for designing and implementing robust and efficient cooperating systems, and presents guidelines for the use of function blocks in distributed industrial process, measurement and control systems. It provides a number of significant benefits to distributed applications.

Click on the links below for more information on the IEC 61499 and IEC 61131 standards:

- [ARC Advisory Group article: Setting the Stage for the Next Generation of Automation Control System Software: A Discussion of IEC 61499](#)
- [IEC 61499 Tech Notes](#)
- [More information on ISaGRAF's IEC 61131 compliance](#)

## success stories

### The creation of deterministic ISaGRAF applications in a distributed environment

## CIO Informatique Industrielle & ARION-Entreprise

### Overview:

- ARION Network is a distributed Data Base shared through a real time network
- Integration of ISaGRAF virtual machine within the Arion-Network communication coprocessor is designed by CIO Informatique Industrielle

### Hardware:

- PCI ARION-100\_ISaGRAF interface card & ARION-IO Multi-purpose Input/Output Module
- Use the PCI ARION-100\_ISaGRAF interface card and the ARION-IO multi-purpose Input/Output module for complete Input Output standardization

### Benefits:

- Distributed ISaGRAF applications can be developed without network timing consideration
- Binding is managed by the ARION Network coprocessor
- ISaGRAF virtual machines can be synchronized through the ARION Network (distributed cycle time)
- Bind data can be easily shared with user applications such as HMI
- The network is redundant, which simplifies the management of safety applications
- ISaGRAF is embedded within the ARION coprocessor

### PCI ARION-100\_ISaGRAF interface card features:

- Deterministic platform with system level services
- Distributed ISaGRAF application between remote equipment
- Complete independence between ISaGRAF applications and hardware/software platform
- System-level synchronization and data time stamping

### ARION-IO multi-purpose Input/Output module features:

- Benefit of ARION-Network™ capabilities
- Modular DIN Industrial 3U bay, 11 slots
- Easy front-panel access
- Full galvanic insulation, CEM-compliant
- Remote data access and programming
- Output electrical safety mechanisms
- Ability to load ISaGRAF applications in the module

### ARION-Network™ highlights:

- Ease of use: only two simple commands Read{} and Write{}
- Communication layers are processed directly at the ARION co-processor level
- Arion -Network™ object based communication mechanisms as well as data access simplicity ease the creation of distributed applications
- The "object" technology brings many advantages to the communication such as:
  - Separation and specification of data flows
  - Simplified application evolution due to a complete independence from communication and

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- location
  - The capability to use various operating systems sharing the same data without constrain

[Click to read the full article](#) (.pdf)

## tech feature

### Tech Note #5 - Application model

#### Overview

An Application Model represents parts included in a measurement and control application. Figure 1 shows these parts of a measurement and control application. Many function blocks are connected together with a data/event interface and are part of an application. The device is a self-contained hardware capable of executing an application distributed across one or multiple resources.

A resource is considered to be a functional unit contained in a device. The functions of a resource are to accept inputs from the process interface (IO driver) or the communication interface (Shared memory, communication network), process the data, and return outputs to these interfaces.

An automation and process control application runs in a resource or splits the load across multiple resources to use the special features of each resource.

An application may consist of one or more function blocks where the input sampling is performed in one function block, control processing is performed in a second function block, and output conversion is performed in a third function block. This distributed application may run function blocks within one resource or across multiple resources. These resources are part of one or many devices.

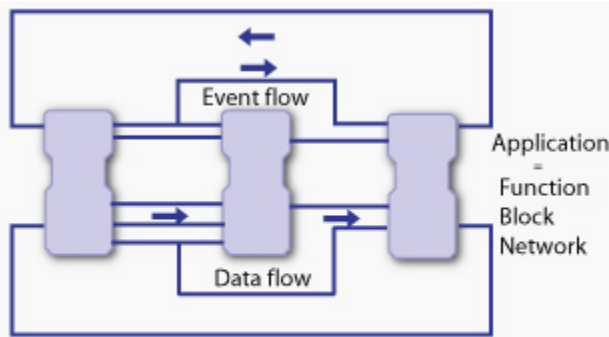


Figure 1: IEC 61499 Application Model

An application is defined by function block networks specifying event and data flow throughout function block instances. The event flow determines the scheduling and execution of the function blocks' algorithms.

In ISaGRAF, each program can be a distributed application. Figure 2 shows distributed function blocks within an application. This is the Application Model displayed by the ISaGRAF toolset.

[Click to read the full tech note](#) (.pdf)

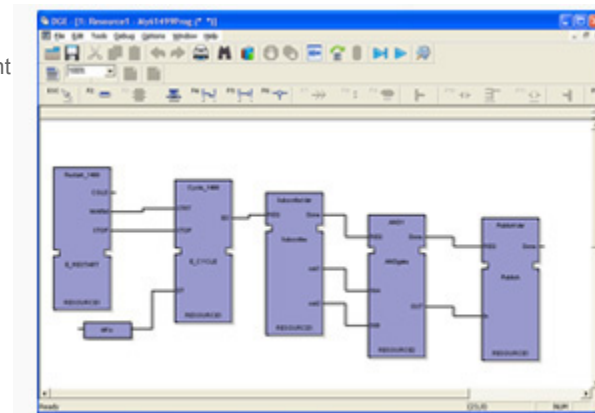


Figure 2: ISaGRAF Application Model Viewer

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