About CORFU Framework



CORFU is an IEC 61499 compliant environment for the development of Function Block based distributed Industrial-Process Measurement and Control Systems (IPMCSs).

CORFU Framework consists of:

-An Architecture (4-layer CORFU Architecture)



The 4-layer CORFU Architecture was defined to facilitate the application of the IEC FB model in the development process of distributed Industrial-Process Measurement and Control Systems (IPMCSs).

-A Development Process (CORFU development process)



A development process based on model transformations has been defined to address the requirements imposed by distributed IPMCSs.

-An Engineering Support System (CORFU ESS)



CORFU ESS is an IEC-61499 compliant Engineering Support System that extends the IEC61499 model to cover requirements specifications through the use of UML.



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► More information on **CORFU Framework**

For more information about CORFU framework, CORFU ESS, Archimedes System Platform and

downloaded material have a look at

http://seg.ece.upatras.gr

http://seg.ece.upatras.gr/Corfu

http://seq.ece.upatras.gr/MIM



CORFU ESS

IEC 61499 Compliant

A next generation prototype tool for the development of distributed Control Applications.

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CORFU Engineering Support System

CORFU ESS is an IEC-compliant Engineering Support System that extends the IEC61499 model to cover requirements specifications through the use of UML. An Engineering Support System (ESS), as defined in IEC61499, is a system that supports the implementation. commissionina desian. and operation of Industrial-Process Measurement and Control Systems (IPMCSs) (i.e. distributed control applications).



CORFU ESS

CORFU ESS adopts a hybrid approach for the development of IPMCSs that integrates UML with the Function Block concept. The current implementation integrates IBM's Rose with the CORFU FBDK, however any other general purpose CASE Tool that supports UML can be utilized with minimum effort.

CORFU ESS is fully compatible with the **Archimedes** System Platform that can be used for the deployment and execution of the created FB design models. The SISTEP case study demonstrates this integration.

The currently available prototype implementation of CORFU FBDK was developed with Borland's Delphi IDE and supports in co-operation with Archimedes System Platform almost all of the phases of the development process of IPMCSs.

CORFU FBDK Main Sub-systems

Function Block Type editor

A graphical user friendly editor for the definition and editing of Function Block types. Both textual and graphical IEC specifications are supported as well as an XML based specification for model interchange with other IEC-compliant tools.

specification

A graphical user friendly

editor for the definition

and editing of Execution

Graphical support for

A graphical user friendly

editor for the construction

and editing of System

layer diagrams as defined

in the 4-layer CORFU

Architecture. This editor is

underlying system that will

to model the

event and state definition.

Control Charts.





ECC editor



System Layer editor



be used for the deployment and execution of the control application. The System Layer Editor provides the infrastructure for the automation of the deployment process of the control application.

used

Function Block Network editor



Using specific toolbars the engineer can easily create in the design model FB instances of pre-defined FB types and define data and event connections between them and industrial process terminators (IPTs). Event FBs and SIFBs are supported (optional feature) in a way that results in simplified FB network diagrams and improves the performance of the corresponding implementation model.

FB design model Verifier



With the latest version of CORFU FBDK Function Block. FB network execution is supported as а means of verifying the design model.

Function Block network design diagrams can be animated due to the CORFU FBDK built-in runtime environment that supports the execution of both basic and composite function block types as defined by the IEC 61499 standard.

CORFU ESS can be downloaded for free at http://seq.ee.upatras.gr/Corfu

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