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SAP Communication Framework (CF)

■ General

AUCOTEC has developed a new software to couple the AUCOTEC Electro-CAE systems with the SAP R/3 system. For this purpose, the existing partnership with the SAP AG and the experiences with the certified interface of ELCAD/AUCOPLAN (available since May 1996) were used.

For the development of the Communication Framework, AUCOTEC runs its own SAP system which represents the corresponding customers' scenarios.

■ Concept

The Communication Framework is a standardized software component which acts between the AUCOTEC Electro-CAE systems and SAP R/3. The architecture of the interface software can be taken from Fig. 1 below.

The main advantage of this architecture is the uncoupling of the interface functionalities of the Electro-CAE systems and SAP R/3 which makes the Communication Framework independent of releases. Therefore, adaptations and extension in the Communication Framework can be quickly and flexibly executed without changing the releases of the Electro-CAE systems.

Furthermore, the Communication Framework guarantees the compatibility with the new SAP R/3 releases and their possibilities for all AUCOTEC Electro-CAE systems.

The Communication Framework is connected to the Electro-CAE systems by the COM technology. The SAP R/3 system uses the standard interface ALE (Application Link Enabling). The function components (BAPI) and, for the data, the format "Intermitted Document" (IDOC) is mainly used.

Via the use of this general interface structure of SAP/R3, the Communication Framework enables nearly all SAP functionalities.

Special Characteristics:

Use of all current SAP/R3 functionalities by most up-to-date interface technologies

Enables a very high integration level of AUCOTEC solutions and SAP R/3

Highly flexible and extendable due to "toolbox" principle

Visual Basic-script enables scripting functionality

Independent of major releases

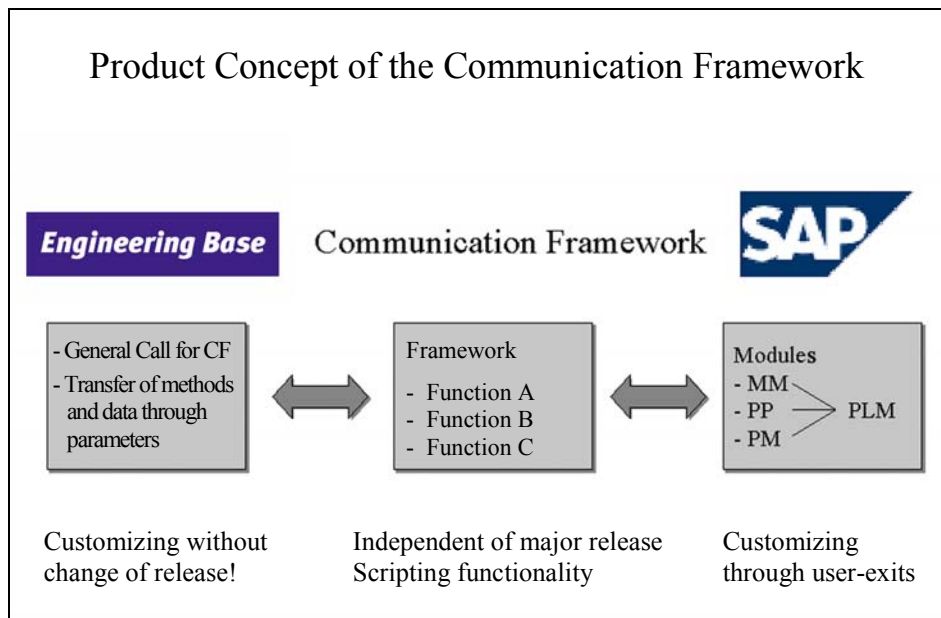


Fig. 1

By means of the "Toolbox" principle which is mainly realized by the continuous scripting possibilities of the Communication Framework, nearly all functionalities can be realized during coupling.

On the basis of experiences gained during previous integrations with the existing interface and during integrations with the Communication Framework together with specific pilot customers, AUCOTEC has developed a so-called standard functionality.

This standard functionality is supplied together with the Communication Framework.

Please note, that these standard functions only represent an expression of the possibilities of the Communication Framework.

By the so-called customer-solutions, Customizing extensions can be executed and so, other solutions can be realized without major costs for the customer.

In the following, the standard functionalities of the Communication Framework are briefly listed.

✦ **Standard Functionality of Material Master Data**

The key concept is the parallel keeping of master data both in the Electro-CAE system and in SAP.

Data Identification

- ◇ Identification via Match Code
- ◇ Identification via Classifying Features

■ Standard Functionality of Material Master Data

Data Creation

- ◇ Online insertion of a material master record from the Electro-CAE application to R/3
- ◇ Field mapping through own configuration

Data Adjustment

- ◇ Bidirectional data adjustment
- ◇ Field mapping with definition of the leading system for every data field
- ◇ Subdivision into several operations with individual configurations (Import, Export, one data record, several data records, specified filters, etc.)
- ◇ Both Electro-CAE specific and SAP data can be entered for changes
- ◇ Dynamic mapping for features corresponding to the classification in SAP
- ◇ Use of SAP indicators for changes to reduce the data quantity for adjustments

Delta Functions

- ◇ Analysis and output of the master records not available or not adjusted on both sides
- ◇ Scalable reporting functions for all operations

■ Standard Functionalities of Parts Lists

Data Creation

- ◇ Creation of parts lists of materials or orders
- ◇ Header data can be generated from the Electro-CAE system
- ◇ Creation of header material with and without classification
- ◇ Fields not available can be set via configurable defaults
- ◇ Item designation information can be written in sub-items
- ◇ Transfer of partial parts lists (multistage)

Data Adjustment

- ◇ Identification via Match Code or classification
- ◇ Changes can be entered with or without history requirements at item level
- ◇ Automatic creation of change numbers for history requirements

■ Standard Functionality of Document Management

Project-Related Document Information Set (DIS)

- ◇ Creation of a DIS related to a Electro-CAE project (DIS data stored in project header data)
- ◇ Formats are selectable (Electro-CAE format, TIFF, PDF ... etc.)
- ◇ The Electro-CAE application is started with the project (EDM function) when the original created for the DIS is activated
- ◇ On activating a foreign format, the associated application can be used

■ Standard Functionality of Document Management

Sheet-Related Document Information Set

- ◇ Creation of a DIS related to an Electro-CAE document (DIS data stored in the writing field data)
- ◇ Formats are selectable (Electro-CAE format, TIFF, PDF ... etc.)
- ◇ The Electro-CAE application is started with the linked document (EDM function) when the original created for the DIS is activated
- ◇ On activating a foreign format, the associated application can be used

■ Standard Functionality of Maintenance

Key concept is the bidirectional processing of tags (CAE) and functional locations (SAP).

- ◇ Online call (without the necessity to login anew) of the transactions to view/edit a functional location in R/3 from the CAE system
- ◇ Online call (without the necessity to restart) of the area to edit tags in the CAE system
- ◇ Creation and linkage of document information records of functional locations which contain in special originals the parameters for starting the CAE project including the corresponding tag

■ Availability

The Communication Framework is available from the versions Engineering Base 3.0, ELCAD/AUCOPLAN 7.1, AUCOPLAN 6.5 and RUPLAN 4.5 on.