DAIPAN

Glossary



Neutorstraße 13  
5020 Salzburg

AUSTRIA

Tel: +43 (662) 276198-11

Fax: +43 (662) 276198-98

Mail: [office@breanos.com](mailto:office@breanos.com)

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# Terminology

## BIKS

The initial name for the new framework

## DAIPAN

The current name for the entire framework

## PLC/SPS

Programmable logic controller. One type of hardware that can be used as data source

## Viewer

The thin, on its own “dumb” application for GUI display. Also known as PresenterViewer.

## Client/ModelClient

An instance of the model and controller for multiplexing updates onto 1 to n Viewers

## WorkerEngines

Called „workers“ in þe tongues of olde, they are a logical unit encapsulating the communication to a single PLC. They’re defined via a WorkerDefinition.xml file.

## EngineGroups

Originally called “WorkerGroups“ they aggregate 1 to n WorkerEngines into a grouping. They’re defined via a GroupDefinition.xml

## ProductDefinition.xml

Formerly known as “WorkerDefinition.xml”

~~The definition file for a WorkerEngine. It contains a structured description of the inputs and outputs of a Knowledge Processing Unit (KPU).~~

The definition of a product’s production path through the factory’s machinery as represented by the KPUs / Operations. Valid KPUs / Operations are defined in the FactoryDefinition.xml

## FactoryDefinition.xml

The definition of available KPUs / Operations for production in a factory.

## KPU / Knowledge Processing Unit

A microservice designed for automated reception, transformation and transmission of (possibly structured) data. A KPU is typically designed as a workflow. Currently employing Microsoft Workflow Foundation ~~which has long since fallen out of favor from Microsoft and should sooner or later be replaced by another workflow engine.~~ The workflow portion of KPUs will likely be implemented in Wexflow in the near future. KPUs encapsulate physical processes and integrate “dumb” machines into the DAIPAN framework, to supply the intelligence that Industry 4.0 expects of production machinery.

## Security

A component of the assistant containing the session management for the communication interface used by the viewers. Furthermore, contains the components to secure that communication against attacks.

## ****Init Handshake****

**The first information package sent by a viewer to the URI configured to be the communication endpoint of the assistant. This happens right at the start of the viewer for it to check the availability of the assistant / correct configuration of the URI**

**Login**

**The (usually manually triggered) step after the initial handshake to authenticate the viewer via user credentials entered by a user. The credentials are then routed and checked via communication -> security -> access control -> identity provider.**

## ****I.I.S.B.****

**Intelligence Industry System Breanos. Surrogate name for B.I.K.S. Was invented during a discussion.**

## ****I.D.A.M.****

**Industrial Dynamic Assistant Management. Surrogate name for A.D.A.M.**

**Was invented during a discussion.**

## ****SFA Service****

**Each component of the assistant is run as a (micro-)service in the Service Fabric application deployed onto the Azure Service Fabric by Microsoft.**

## ****SFA Application****

**All SFA services are deployed into a SFA Application. They can be reached via a fabric URL. A valid fabric URL can be e.g. “fabric:/Blackboard”.**

## ****“Session”****

**Connects one or several engine groups with one or several clients in a sort-of observer pattern so updates from the engine groups reach the clients.**

**External Communication / “ECOM”**

## ****ACS / Access Control Service****

**The micro service that handles permission checks, credentials and so on in conjunction with some Identity Provider, e.g. the Breanos Identity Provider (BIP)**

## ****BIP / Breanos Identity Provider****

**One implementation of the IdentityProvider interface which is used to encapsulate “user”- and “group”-semantics/concepts. There can be different identity providers but only one should be used at one time**

## ****Data Mart****

A database or small data warehouse for storing data relevant to production processes. Generally, every production line will have at least one Data Mart. In bigger enterprises, the content of multiple Data Marts will be regularly extracted, transformed and cumulated into a single enterprise-wide Data Warehouse. Data Marts are not intended for long-term storage of data.

## DWH / Data Warehouse

A special form of database that allows for storing huge amounts of data in a way that facilitates powerful analysis. DWHs are an integral part of Big Data and thus of Industry 4.0.

## PTS

Part Tracking System. A tracking system for production lines. A single PTS Server instance is capable of communicating with multiple PLCs at the same time, gathering data and supplying them with simple replies from a data source.

## TTS

Track and Trace System. The PTS is a subset of this.

## ****Data Unit****

A KPU for accessing Data Marts.

## Machine Unit

A KPU with drivers that allow it to communicate with production machinery. This may be only gathering of data for TTS purposes, supplying a machine with production jobs, or even actively controlling the entirety of processes within the machine.

## Logistics Unit

The Logistics Unit is a KPU that controls and directs logistical processes. It is meant to allow for Just In Time delivery of required materials or finished products, to minimize the need for warehouses, thus reducing costs. It mostly communicates with Machine Units and Transport Units to orchestrate the flow of materials.

## Transport Unit

A KPU that controls some manner of physical transport of goods, materials or workpieces. This may be a conveyor belt, a gantry or a delivery truck.

## BIS

Breanos Industry Systems.

## BIW

Breanos Industry Workflow.

BIWO Breanos Industry Workflow

BFC Breanos Flow Control

PENG Process Engine

BreFloC Breanos Flow Control.

10.9.2018 -> BIF is CWF CyPAN Workflow Foundation 1.0 now!