

Business Collaboration Module Overview

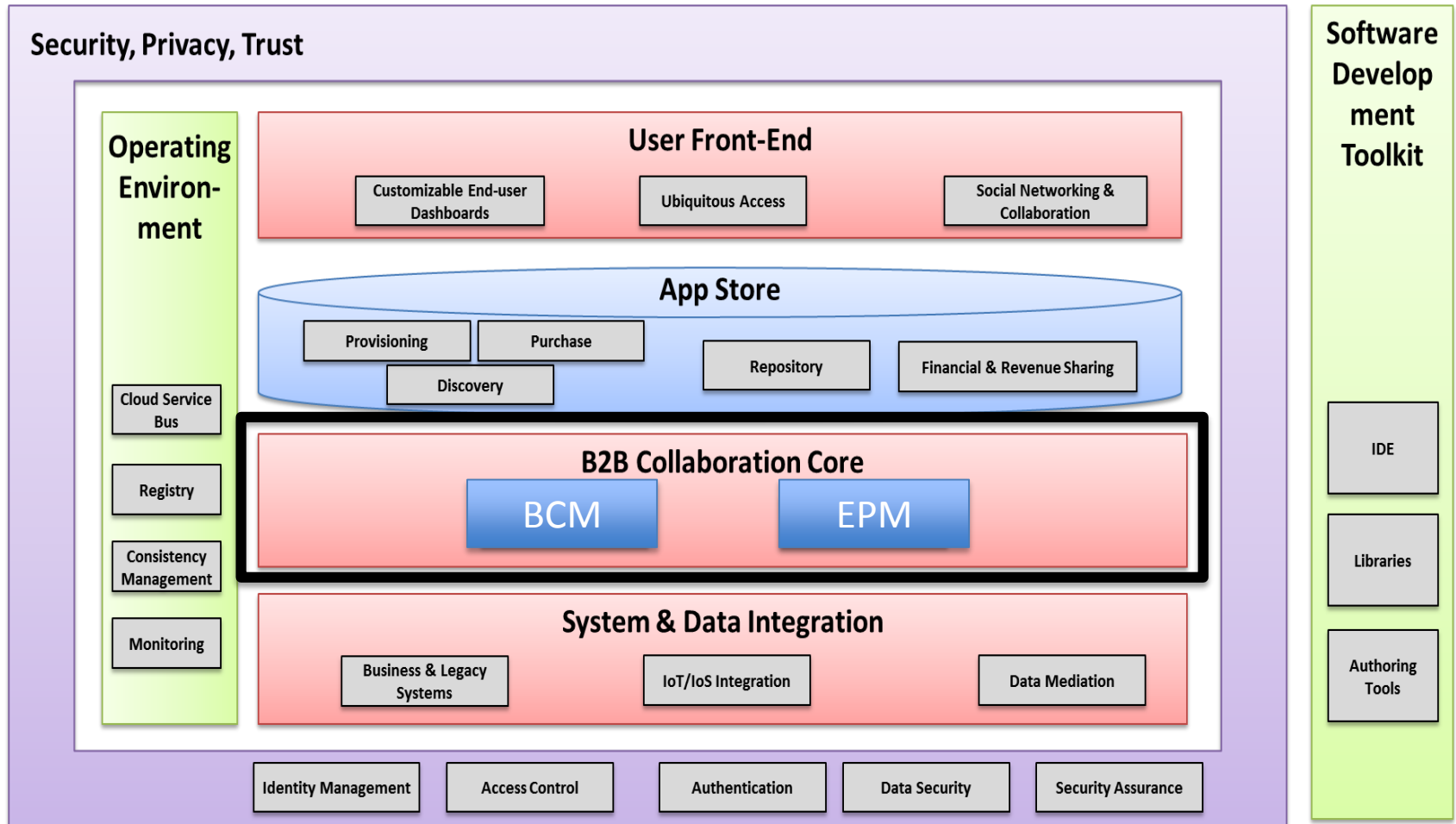


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B2B Core Modules – Position in Flspace platform





B2B component

- Composed of two complementary modules
 - BCM – Business Collaboration Module
 - EPM – Event Processing Module
- **BCM**
 - Enables the orchestration and execution of business collaborations in the Flspace platform
 - Holistic view of the entire supply chain by all involved stakeholders
 - Tool: BizArtifact (open source, outcome of the FP7 ACSI EU project) design and run-time
 - Target user: BizArchitect
- **EPM**
 - Monitors the actual execution of Flspace collaborations and alerts in case of exceptions in real-time
 - Tool: CEP GE (open source) design and run-time
 - Target user: BizArchitect



Business Collaboration Module (BCM)

- Based on the Entity-Centric approach
 - Holistic marriage of data and process
 - A Business Entity (BE, a.k.a. Artifact) is a key concept that evolves as it moves through a business (or other) process
 - An entity type includes both a data schema and a lifecycle schema
 - The data schema provides a view of the key data for this entity type.
 - The lifecycle schema of an entity type specifies the different ways that an entity instance might evolve as it moves through the overall process.



What is a Business Entity (BE)?

- A BE represents a concept with relevance for the execution of a business process (e.g. Order, Invoice, Greenhouse Advice)

Order

Invoice

Greenhouse
Advice



What forms a BE?

- A BE is defined by:
 - Its Data Model
 - Attributes
 - Data Attributes
 - State Attributes
 - And its Lifecycle Model (the process)
 - Instance of the Guard Stage Milestone (GSM) Meta Model



What is GSM? (I)

- GSM is a declarative language for describing data driven workflows
- Elements:
 - Guards
 - Stages
 - Milestones
 - Tasks



What is GSM? (II)

Stage: Cluster of activity intended to achieve milestones. Stages can contain sub-stages.

Substages can only become active if the parent stage is active.

Milestones: Correspond to business relevant objectives and can be achieved from an active stage

Stage Name

Sub-Stage Name

Task

Milestone 1

Milestone 2

Milestone 3

Guards: Define conditions under which the stage can become active

Task: Activity which is executed when its parent (atomic) stage becomes active



How to define a business collaboration?

First of all, identify the relevant BE(s) of your application.

Then,

1. Define attributes
2. Define relevant business events
3. Define relevant services
4. Define lifecycle model

Then, instantiate and execute...



Example: Greenhouse Scenario (1/3)

Two main business actors : the farmer/greenhouse manager and an advisory/expert system enterprise

The idea: In the case of sensor values out of predefined boundaries, a request for advice is sent to the advisory system. The farmer receives the recommended actions from the expert system via the respective Flspace app.



Example: Greenhouse Scenario (2/3)

BE: GreenhouseAdvice

GreenhouseAdvice Information Model data attributes

Attribute	Type
ID	Long
farmID	String
cropFieldID	String
greenhouseAdviceURL	String
sensorValues	DT_sensorValues

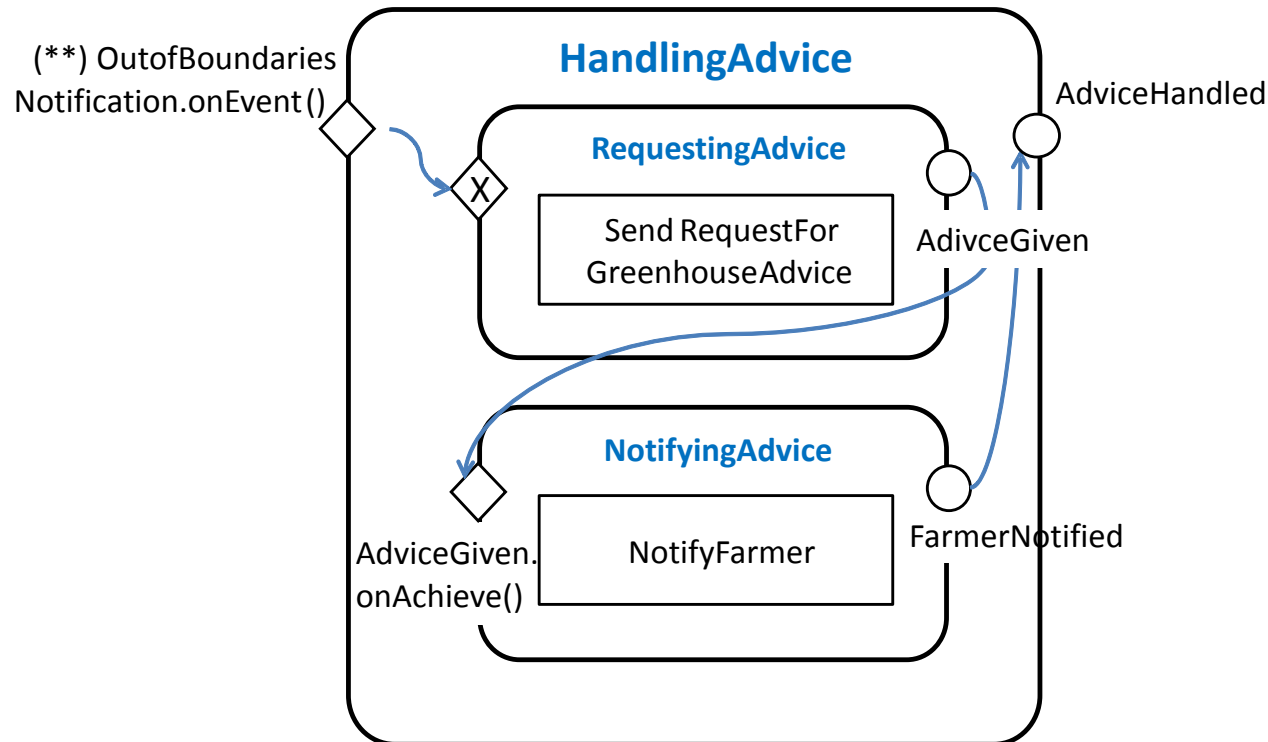
Attribute	Type
temperature	Double
luminosity	Double
airHumidity	Double
ph	Double
ec	Double
co2	Double
soilMoisture	Double

DT_sensorValues



Example: Greenhouse Scenario (3/3)

GreenhouseAdvice GSM



- (*) SendRequestForGreenhouseAdvice produces the RequestForGreenhouse message
AdviceGiven is achieved by GreenhouseAdviceonEvent()
FarmerNotified is achieved by NotifyFarmer.onTaskSuccess()
AdviceHandled is achieved by FarmerNotified

(**) emitted by the EPM



THANK YOU

