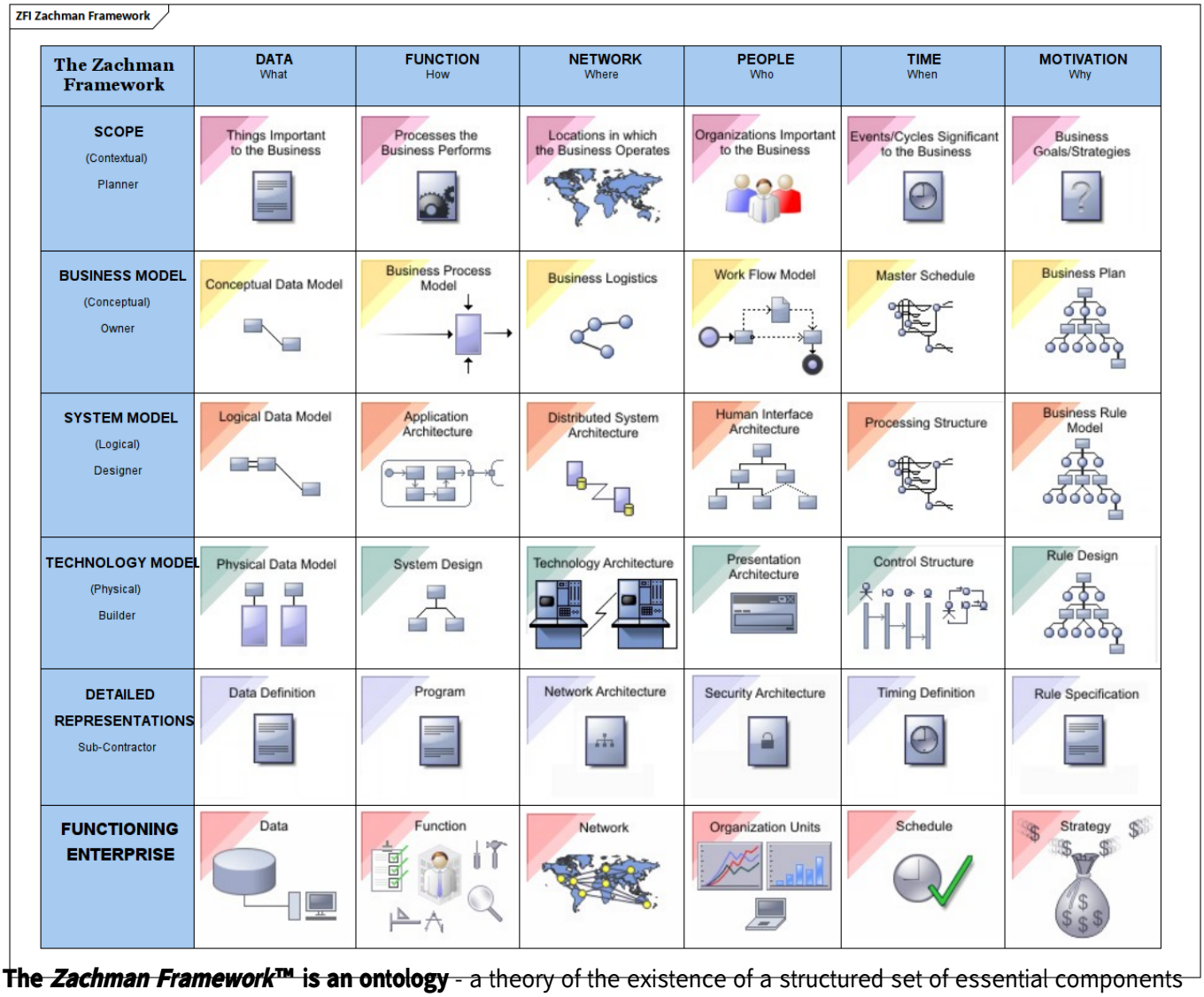
Article
Yuri Marx · Oct 29, 2021 6m read

Enterprise Architecture views with InterSystems IRIS and Zachman Framework



The *Zachman Framework*™ is an ontology - a theory of the existence of a structured set of essential components of an object for which explicit expressions is necessary and perhaps even mandatory for creating, operating, and changing the object (the object being an Enterprise, a department, a value chain, a " sliver, " a solution, a project, an airplane, a building, a product, a profession or whatever or whatever). Source: https://www.zachman.com/about-the-zachman-framework.

In this article I use the Zachman Framework to detail how can you use InterSystems IRIS to promote your enterprise architecture project.

The InterSystems IRIS can represent things important to the business using Persistent Classes with encapsulated reusable business logic that can be consumed as REST, Language Gateways (Python, Java, .Net and Node.js) or into IRIS productions (BPL, Business Services and

Business Operations).

The Analytics dashboards created with IRIS Analytics (Deepsee), IRIS Reports and IRIS Adaptative Analytics (AtScale) materialize business important things as dashboards for business staff.

Finally, the InterSystems IRIS Interoperability productions automate things important to the business with BPL, DTL, Business Rules and Business Services and Operations in a business component consumed as REST, HTTP resource and other popular formats and protocols.

The InterSystems IRIS automate business processes, including human tasks, using InterSystems IRIS productions with BPL. The business process indicators can be monitored using InterSystems Analytics capabilities (DeepSee, IRIS Reports and IRIS Adaptative Analytics)

The InterSystems IRIS supports the main languages (english, portuguese, spanish, japanese and other) to operate the business globally. The database, components and analytics artifacts can be deployed in a distributed network or in the cloud.

The InterSystems IRIS supports the definition of roles, people and resources with a integrated security model into the API Gateway (APIM) and in the database, interoperability and component layers, using OAuth, JWT, LDAP, RBAC and other models.

In the Analytics users can colaborate and share business artifacts, creating corporate insights.

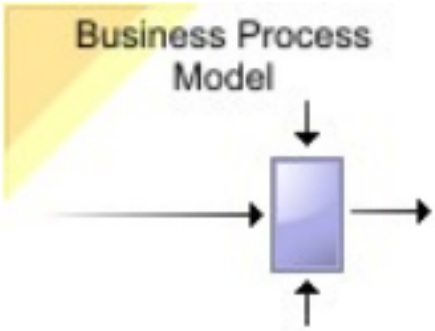
The InterSystems IRIS has support to the international time zones and support operate data and application as real time or batch schedule events as syncronous or asyncronous request or responses, using the most popular protocols (kafka, mqtt, rest, http, smtp, and other).

The data into these events can be monitored and analyzed with IRIS Analytics options (DeepSee, SAM, Adaptative Analytics and IRIS Reports).

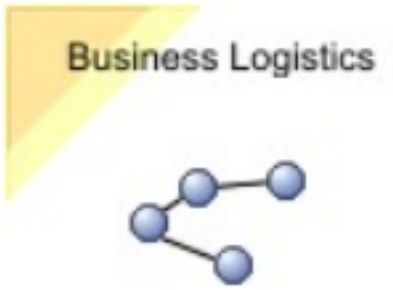
The IRIS Analytics options (Deepsee, IRIS Reports, Adaptative Analytics) allows you create KPIs to analyse the progress of business goals and strategies.

The IRIS API Management can map business goals and strategies to the corporate REST Services (digital business assets) and promote its reuse with InterSystems Interoperability productions (create compositions to realize the strategy).

The IRIS Multimodel Database is prepared to support relational, class oriented, analytics and document data models.

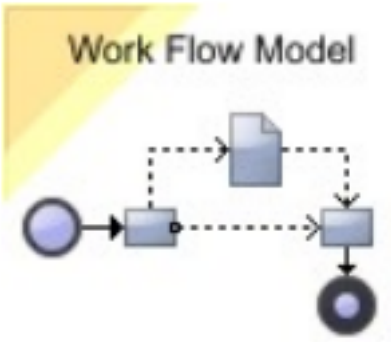


The IRIS Interoperability productions can use BPL to model and execute business processes and can compose the use of machine learning, Java, .Net, Python and Object Script components and other corporate digital assets consumed using adapters.



The IRIS deployment model supports creating business microsservices into docker services distributed into business services or technology services (ESB as service, Analytics as service, Database as service) into private and public clouds.

The InterSystems IRIS interoperability BPL can model and execute workflows with automated and human tasks.



With InterSystems IRIS you can schedule the deployment of reports (InterSystems Reports), dashboads output (DeepSee) and component/orchestration logic using the InterSystems BPL and Business Rules engine.

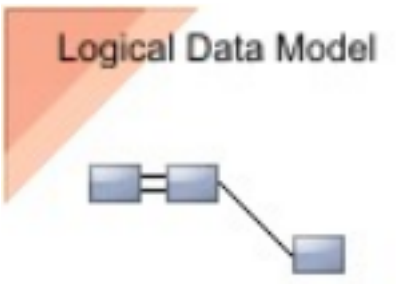
IRIS support produce and consume events and messages too, including MQTT (IoT), Kafka and JMS.

The Business Plan can be realized using IRIS Data Platform in all layers:

1. Data: planning to get, process and analyse data can be done with IRIS Interoperability BPL and Adapters with data storage in a multimodel database (SQL, Document/JSON, OLAP).

2. Application: create services and microservices using Java, .Net, Python and ObjectScript as REST services or interoperability services that realize the business requirements planned.

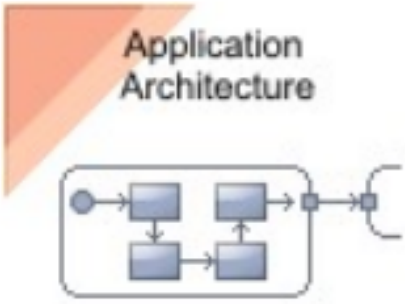
3. Technology: the business continuity is possible because IRIS supports HA and distributed computing in Data (shards), in Application (docker services) and in analytics (docker analytics services).



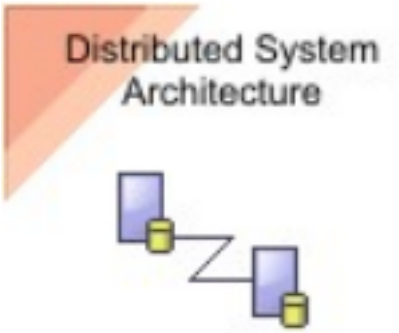
The InterSystems IRIS create your ORM model automatically (each class is a table and properties can be relations between classes). So your logical model is translated to pyshical model as SQL and Classes at same time.

The Application architecture in the InterSystems IRIS can be monolitic, as services or as microservices, because IRIS supports host, docker and kubernetes deployments.

The IRIS application architecture is open to the main languages (Java, .Net, Python, ObjectScript and Node.js/JavaScript).

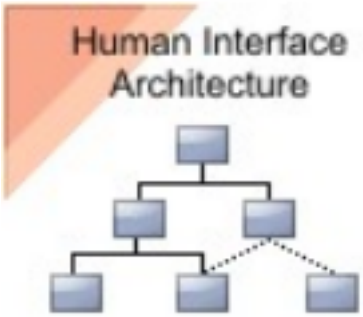


Finally the IRIS application architecture supports analytics, data and language services and microservices implementations.



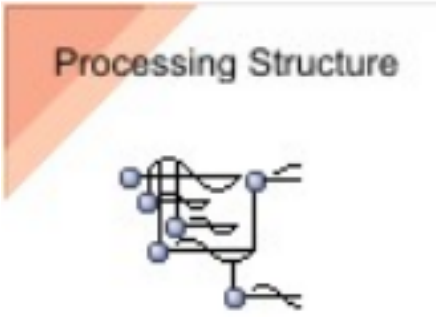
IRIS supports AWS, Azure, Google Cloud and other public and private distributed architectures.

IRIS supports sharding to distributed data repositories too.



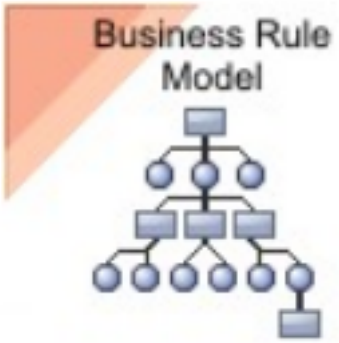
For applications, IRIS can serve data responses to Angular, Vue, React, React Native, Flutter and other popular UI options, including NPM package to allows the controller classes interact with IRIS components using Node.js/Javascript.

In the analytics area, IRIS deliver analytics insights to Power BI, Tableau and Excel (Adaptative Analytics).



The processing into IRIS can be asyncronous or syncronous. All processing can be orchestrated using APIM or using IRIS ESB/BPL.

The dashboards and reports can be processed into the User Portal or into the the applications (embedded).

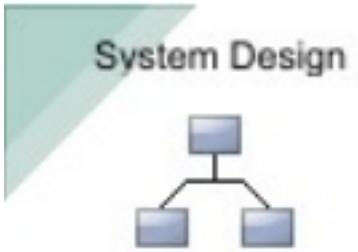


The InterSystems IRIS has a business rules engine integrated to the BPL workflow, allow you using the business rules with your business process or data/service workflows.

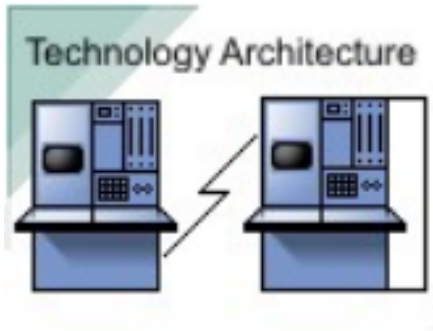
For AI business rules is possible compose with Python and R machine learning components inside the business process (BPL) or you can use IntegratedML too, to train and execute AI rules using SQL sentences.

The Physical Data Model in IRIS can be monolitic or distributed (shards) and the data is multimodel (SQL,

NoSQL (JSON), OLAP and Virtual Cubes (AtScale)).



The InterSystems IRIS allows you design analytical, data, interoperability and open language systems into monolitic or microservice deployments, using private or public clouds.



With IRIS the technology architeture is end-to-end, including:

1. API Management with InterSystems API Management;

2. ESB, Integration Adapters and Workflow with InterSystems Interoperability (Ensemble);

3. Business Services and Microservices using the most popular languages;

4. Analytics with IRIS Reports, IRIS Adaptative Analytics and DeepSee;

5. Advanced Analytics and Data Science with IntegratedML and Python/R gateways;

6. Deployment into VM, Docker, Kubernetes or hosts.

IRIS deliver responses and process requests using REST/API Gateway or using Node.js NPM package.

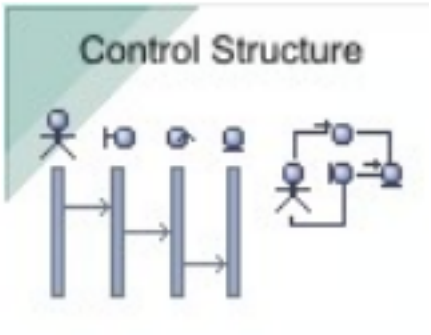
For analytical visualizations, IRIS deliver MDX or SQL data for PowerBI, Tableau and other.

The InterSystems IRIS allow you control:

1. API with InterSystems API Management;

2. Services and Microservices with InterSystems API Management and InterSystems Interoperability productions (BPL);

3. Services and Microservices with Language Gateways

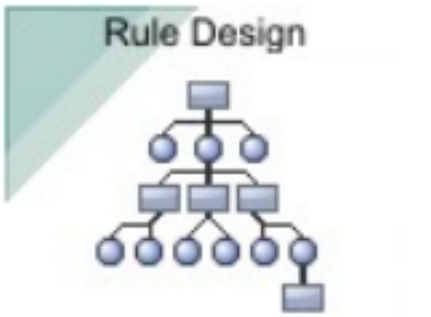


(for Java, Python, .Net and Javascript/Node.js);

4. Data as InterSystems IRIS multimodel database (SQL, NoSQL - JSON - DocDB, OLAP - DeepSee);

5. Analytical with IRIS Analytics and Adaptative Analytics (AtScale);

6. Cognitive with IRIS IntegratedML and Python/R language support.



The InterSystems IRIS has a rule engine inside InterSystems Interoperability.

#InterSystems Business Solutions and Architectures #InterSystems IRIS

Source URL:https://community.intersystems.com/post/enterprise-architecture-views-intersystems-iris-and-zachman-framework