PAAF Quality Review

EIRA with PAAF / PAAF with EIRA Alignment Guidelines

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Date: 31/01/2024 2 / 29 Doc. Version: 1.00

REVISION HISTORY

The following table shows the development of this document.

Version	Date	Description	Created by	Reviewed by
1.0	31/01/2024	Version for review	NTT DATA	Mario CABELLOS

Date: 31/01/2024 3 / 29 Doc. Version: 1.00

TABLE OF CONTENTS

1. INTRODUCTION	6
2. PAAF – EIRA MODELS	7
2.1. PAAF Metamodel	7
2.2. EIRA Metamodel	
2.3. PAAF <-> EIRA Alignment Guidelines	
2.3.1. Focal Public Administration	
2.3.2. Legal Compliance	12
2.3.3. Strategic Goal	13
2.3.4. Requirement	15
2.3.5. Principle	16
2.3.6. Outcome	18
2.3.7. Public Value	19
2.3.8. Beneficiaries	21
2.3.9. Public Policy	22
2.3.10. Business Capability	
2.3.11. Digital Public Service	24
3. Conclusion	27
Annex I - PAAF – EIRA Cheat Sheet	28

4 / 29

TABLE OF TABLES

Table 1 PAAF and EIRA definition	6
Table 2. PAAF – EIRA ABBs	9
Table 3. PAAF – EIRA Table Description	9
Table 4. Focal Public Administration	10
Table 5. Legal Compliance	12
Table 6. Strategic Goal	14
Table 7. Requirements	15
Table 8. Principle	16
Table 9. Outcome	18
Table 10. Pubic Value	19
Table 11. Beneficiaries	21
Table 12. Public Policy	22
Table 13. Business Capability	23
Table 14. Service / Digital Public Service	25
Table 15. PAAF – EIRA Cheat Sheet	28
TABLE OF FIGURES	
Figure 1. PAAF metamodel	7
Figure 2. EIRA metamodel	8

1. Introduction

This document entitled "EIRA with PAAF / PAAF with EIRA Alignment Guidelines" is focused on the elaboration of an analysis of the alignment between EIRA and PAAF, created for modelling public administrations.

Table 1 PAAF and EIRA definition

PAAF	The PAAF model is intended to be a starting point for developing an Enterprise Architecture for any Public Administration. The model is published by the Public Governance Institute of KU Leuven (https://soc.kuleuven.be/io/english) PAAF is aimed at modelling a complete Public Administration using an Enterprise Architecture Framework.
EIRA	European Interoperability Architecture (EIRA) aims for improving the interoperability between services and IT systems in the EU. This architecture supports the efficient collaboration between EU organisations in EU, defining principles and standards for interoperability. EIRA is a reference architecture focused on the End-to-End design of an interoperable digital public service

Although the scope of both is different, there exists a potential for alignment between these models as EIRA also uses motivation and strategic ABBs to model properly the architecture to define. Also, they use ArchiMate as modelling language.

This document analyses the potential alignment of PAAF and EIRA, offering a series of guidelines and examples explaining the usage of EIRA's ABB supporting the representation of PAAF model and vice versa.

This document has been structured with the following sections:

- **PAAF EIRA Models**: Depicts the complete view of the elements and their relationship of the ABBs in the scope of this alignment. There are diagrams for both PAAF and EIRA.
- PAAF <-> EIRA Alignment Guidelines: Identify the correspondences between ABBs on both models, considering the alignment in both directions. Contains guidelines and examples of how to use EIRA and PAAF ABBs.
- PAAF EIRA Cheat Sheet: A summary of the alignment between PAAF and EIRA ABBs for quick reference.

Date: 31/01/2024 6 / 29 Doc. Version: 1.00

2. PAAF - EIRA MODELS

As mentioned before, this section depicts the complete view of the elements and their relationship of the ABBs in the scope of this alignment. There are diagrams for both PAAF and EIRA.

2.1. PAAF Metamodel

The following is an extraction of PAAF metamodel. These elements have been identified as having a mapping with EIRA ABBs. Dimmed ABBs are out of the scope of this analysis and have been depicted to keep the consistency of the metamodel.

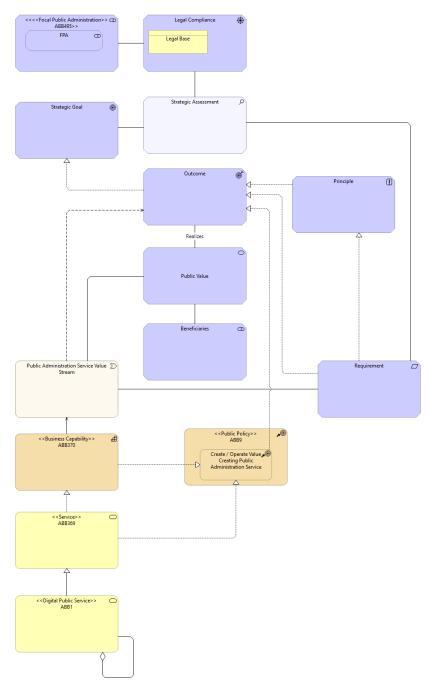


Figure 1. PAAF metamodel

2.2. EIRA Metamodel

The following metamodel depicts the ABBs of EIRA in the scope of this analysis. These ABBs have been identified having a mapping with PAAF.

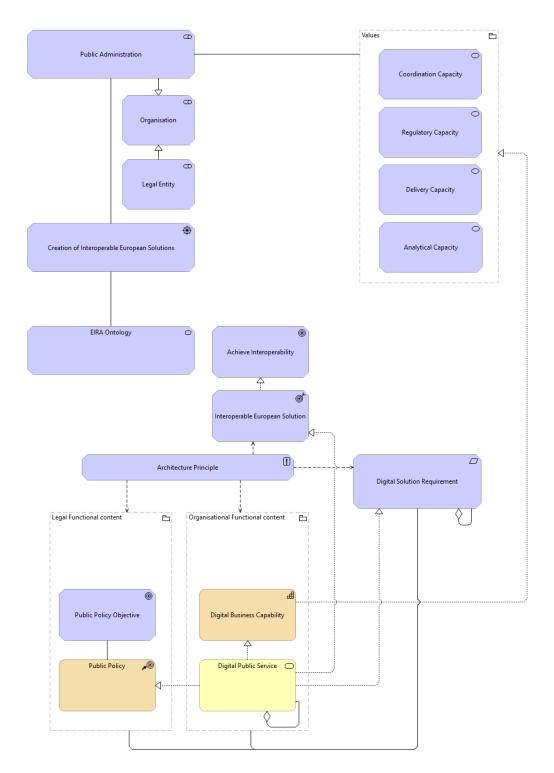


Figure 2. EIRA metamodel

2.3. PAAF <-> EIRA Alignment Guidelines

This section explains the correspondence of PAAF and EIRA for the following ABBs.

Table 2. PAAF - EIRA ABBs

PAAF ABB	EIRA ABB
PAAF:Focal Public Administration	EIRA:Public Administration
PAAF:Legal Compliance	EIRA:Creation of Interoperable European Solutions
PAAF:Strategic Goal	EIRA:Achieve Interoperability
PAAF:Requirement	EIRA:Digital Solution Requirement
PAAF:Principle	EIRA:Architecture Principle
PAAF:Outcome	EIRA:Interoperable European Solution
PAAF:Public Value	EIRA:Coordination Capacity EIRA:Regulatory Capacity EIRA:Delivery Capacity EIRA:Analytical Capacity
PAAF:Beneficiaries	EIRA:Individual EIRA:Legal Entity
PAAF:Public Policy	EIRA:Public Policy
PAAF:Business Capability	EIRA:Digital Business Capability
PAAF:Digital Public Service	EIRA:Digital Public Service

Each chapter contains a definition for the PAAF and EIRA ABBs and a guideline helping the reader to model properly the element.

Additionally, examples between ABBs are explained using tables and each table represents the correspondence between PAAF and EIRA element. The table contains two main rows:

- PAAF: Defining the ABB on PAAF side.
- EIRA: Defining the ABB on EIRA side.

Some additional rows have been added for the description of the element both in PAAF and EIRA, as depicted in the following table.

Table 3. PAAF - EIRA Table Description

P	PAAF	ABB	Name of the element on PAAF

	Concept	Concept from ArchiMate's metamodel
	ID	ID of the ABB on PAAF
	Description	Description of the ABB using PAAF as a source.
	Representation	Archimate's representation for PAAF
	ABB	Name of the element on EIRA
	Concept	Concept from ArchiMate's metamodel
EIRA	ID	ID of the ABB on EIRA
	Description	Description of the ABB using EIRA as a source.
	Example	Example of using the EIRA ABB.
Alignment Saliency PAAF2EIRA		Explanation of the reason for the PAAF to EIRA alignment point of view. Direct mapping between PAAF and EIRA ABBs will only contain one explanation for both.
Alignment Saliency EIRA2PAAF		Explanation of the reason for the EIRA to PAAF alignment point of view. Direct mapping between PAAF and EIRA ABBs will only contain one explanation for both.

2.3.1. Focal Public Administration

The PAAF:Focal Public Administration architectural building block (ABB) represents the Administration that is modelled in this Enterprise Architecture model.

It is a specialisation of the [EIRA:Public Administration] ABB495 from the European Interoperability Reference Architecture (EIRA).

All other ABB in this model have to be interpreted in the context of the Focal Public Administration, which is the central unit of analysis.

If the FPA is part of a larger organisation, that can be documented here or it can be made explicit in the model by including a ABB495 (EIRA:Public Administration) stakeholder.

The following list is a guideline for modelling this ABB:

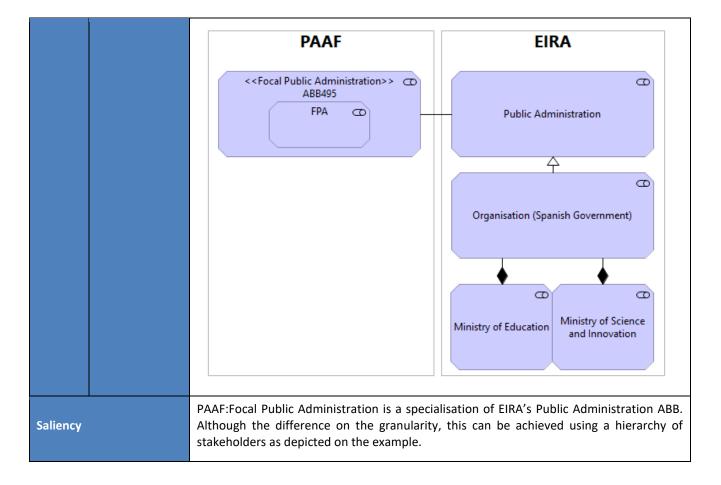
 What is the focal public administration (FPA) which provides the interoperable digital public service (IDPS)?

Table 4. Focal Public Administration

PAAF	ABB	Focal Public Administration
	Concept	Stakeholder
	ID	ABB495

Administration that is modelled in this Enterprise Architecture modelled in this Enterprise Architecture modelled in this Enterprise Architecture modelled in the control of the [EIRA:Public Administration] ABB49 Interoperability Reference Architecture (EIRA). All other ABB in this model have to be interpreted in the control of Administration, which is the central unit of analysis. If the FPA is part of a larger organisation, that can be documented.		All other ABB in this model have to be interpreted in the context of the Focal Public
	Representation	< <focal administration="" public="">></focal>
	ABB	Public Administration
	Concept	Stakeholder
EIRA	ID	http://data.europa.eu/dr8/PublicAdministrationStakeholder
	Description	Public Administration is linked to Stakeholder ABB from EIRA. As PAAF:FAP might represent a large organisation, more granularities can be added representing a hierarchy of sub elements, i.e. departments, administrations, etc.
	Example	The following Stakeholder viewpoint represents an example of the hierarchy:

Date: 31/01/2024 11 / 29 Doc. Version: 1.00



2.3.2. Legal Compliance

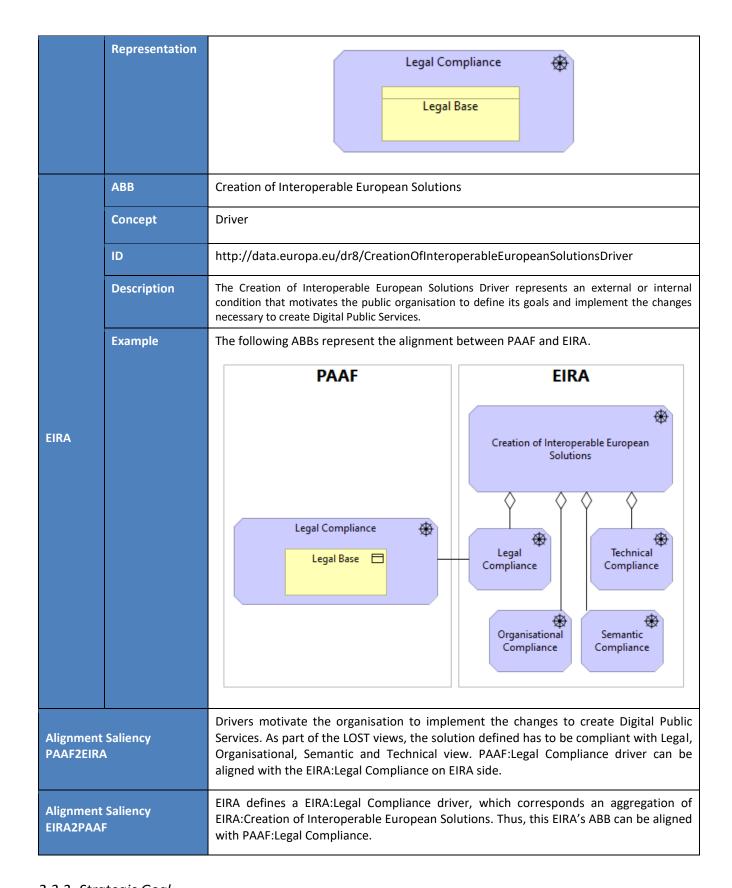
Legal Compliance is the result of an organization's commitment to a culture of integrity, good governance, and transparency.

The following list is a guideline for modelling this ABB:

- What is the legal base for the FPA for providing the IDPS?
- Are there other important drivers for providing the IDPS?
- Ensure including EU, national, regional and local legislation and/or policies as required.

Table 5. Legal Compliance

PAAF	ABB	Legal Compliance
	Concept	Driver
	ID	N/A
	Description	Legal Compliance is the result of an organization's commitment to a culture of integrity, good governance, and transparency.



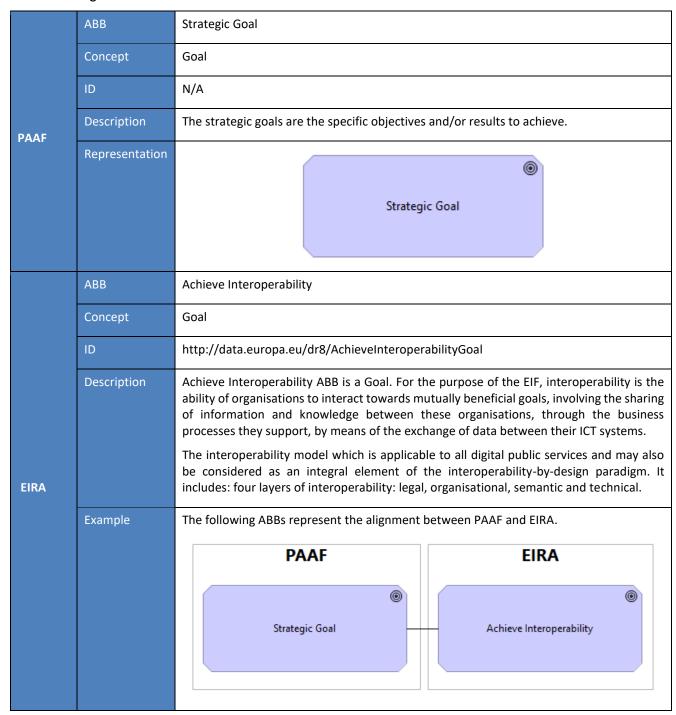
2.3.3. Strategic Goal

The strategic goals are the specific objectives and/or results to achieve.

The following list is a guideline for modelling this ABB:

- What is/are the FPAs strategic goal(s) that imply the need of providing the IDPS?
- Can these be linked to the operational goals of achieving interoperability?
 - ABB320
 - o ABB321
 - o ABB322
 - o ABB323

Table 6. Strategic Goal



Alignment Saliency PAAF2EIRA	PAAF:Strategic Goal aggregates more fine-grained goals, such as EIRA:Achieve Interoperability. Thus, PAAF and EIRA goals can be aligned.
Alignment Saliency EIRA2PAAF	PAAF:Strategic Goal aggregates more fine-grained operational goals, such as EIRA:Achieve Interoperability. Thus, EIRA goals can be aggregated as PAAF's Strategic Goals. As an example, for the purpose of the EIF, interoperability is the ability of organisations to interact towards mutually beneficial goals, involving the sharing of information and knowledge between these organisations, through the business processes they support, by means of the exchange of data between their ICT systems.

2.3.4. Requirement

A requirement represents a capability, functionality, or condition that a system or a solution has to meet to satisfy specifications. These specifications come from stakeholders, principles, contracts, or standards.

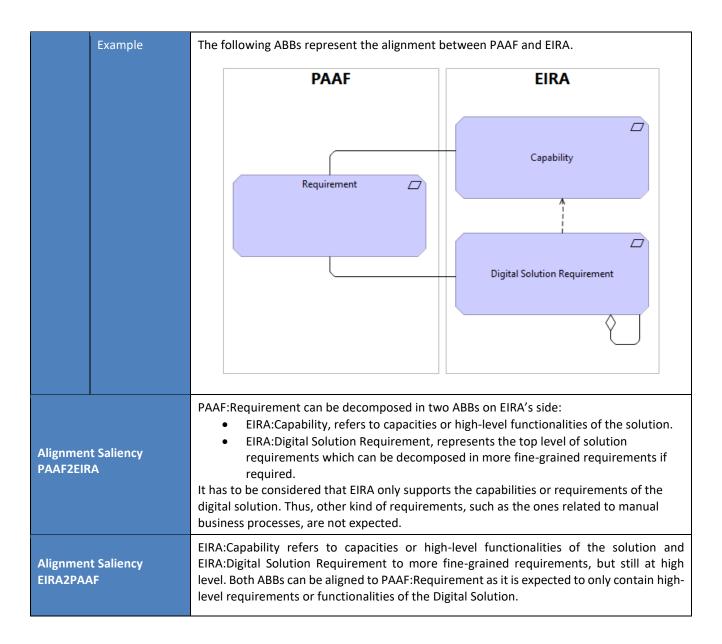
The following list is a guideline for modelling this ABB:

• What are the requirements for the interoperable digital public service (IDPS), i.e. how should the IDPS be realised?

Table 7. Requirements

PAAF	ABB	Requirement	
	Concept	Requirement	
	ID	N/A	
	Description	A requirement represents a capability, functionality or condition that a system or a solution has to meet to satisfy specifications. These specifications are coming from stakeholders, principles, contracts or standards.	
	Representation	Requirement	
	ABB	Digital Solution Requirement	
	Concept	Requirement	
EIRA	ID	http://data.europa.eu/dr8/ArchitectureBuildingBlockRequirement	
	Description	Architecture Building Block ABB is a Requirement constituting architecture model that describes a single aspect of the overall model. An Architecture Building Block describes generic characteristics and functionalities. Architecture Building Blocks are used to describe reference architectures, solution architecture templates or solution architectures of a specific solutions.	

Date: 31/01/2024 15 / 29 Doc. Version: 1.00



2.3.5. Principle

This artifact defines the underlying general rules and guidelines which are generic across the organisation. These principles can be attached to the four layers (Business, Data, Application, and Technology).

The following list is a guideline for modelling this ABB:

- What are principles that apply throughout the entire organisation?
- Can these be aligned with the EIF principles?
- Are the EIRA architecture principles relevant?

Table 8. Principle

PAAF	ABB	Principle
	Concept	Principle

	ID	N/A			
	Description	This ABB defines the underlying general rules and guidelines which are generic across the organisation. These principles can be attached to the four layers (Business, Data, Application, and Technology).			
	Representation	Principle			
	ABB	Architecture Principle			
	Concept	Principle			
	ID	http://data.europa.eu/dr8/ArchitecturePrinciple			
for the use and deployment of all IT resources a It is possible having several Principles and/or cr or aggregation.		Architecture Principle ABB is a Principle defining the underlying general rules and guidelines for the use and deployment of all IT resources and assets across the enterprise.			
		It is possible having several Principles and/or creating a hierarchy, such as a specialization or aggregation.			
		The following ABBs represent the alignment between PAAF and EIRA.			
EIRA		PAAF EIRA EIF Principle			
		Principle Architecture Principle European Library of Architecture Principles			

Alignment Saliency PAAF2EIRA	PAAF:Principle defines the guidelines and rules which are generic across the organisation, and EIRA:Architecture Principle defines the top level for principles in EIRA. Therefore, these ABB can be aligned on both sides. This can be decomposed in more fine-grained collections such as EIRA:EIF Principles as shown in the example.
Alignment Saliency EIRA2PAAF	PAAF:Principle defines de guidelines and rules which are generic across the organisation, and EIRA:Architecture Principle defines the top level for principles in EIRA. Therefore, these ABB can be aligned on both sides.

2.3.6. <u>Outcome</u>

Outcome is the end-result of the value generated through the Public Administration Service Value Stream. This outcome realizes the Strategic Goals identified.

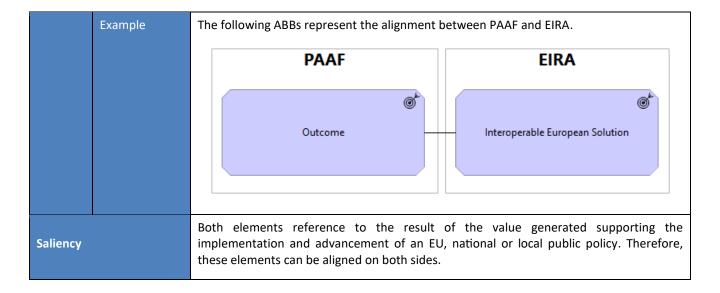
The following list is a guideline for modelling this ABB:

• What is the outcome or the desired outcome for the interoperable digital public service (IDPS) or for the policy decision to create the IDPS?

Table 9. Outcome

	ABB	Outcome		
	Concept	Outcome		
	ID	N/A		
PAAF	Description	Outcome is the end-result of the value generated through the Public Administration Service Value Stream. This outcome realizes the Strategic Goals identified.		
	Representation			
		Outcome		
	ABB	Interoperable European Solution		
	Concept	Outcome		
	ID	http://data.europa.eu/dr8/InteroperableEuropeanSolutionGoal		
EIRA	Description	It is an interoperable european solution, developed by, or in behalf of, an European public administration that enables the delivery of a digital public service, all of it, in fulfilment of a shared European legislation framework, being managed according a shared governance framework, accessing semantic assets in a shared knowledge base and using digital resources of a shared platform enabling cross-border/cross-organization exchange of data, information, and knowledge indistinctly between public administrations, businesses and citizens in support to the implementation and advancement of an EU, national or local public policy.		

Date: 31/01/2024 18 / 29 Doc. Version: 1.00



2.3.7. Public Value

Summarize the most important public value that is created by the Focal Public Administration (in the Name field) and describe this in detail.

The following list is a guideline for modelling this ABB:

• What is/are the public value(s) created by the interoperable digital public service (IDPS)?

Table 10. Pubic Value

	ABB	Public Value
	Concept	Value
	ID	N/A
PAAF	Description	Summarize the most important public value that is created by the Focal Public Administration (in the Name field) and describe this in detail.
	Representation	
		Public Value
ABB Coordination Capacity Regulatory Capacity Delivery Capacity Analytical Capacity		Regulatory CapacityDelivery Capacity
EIRA	Concept	Value
	ID	 http://data.europa.eu/dr8/CoordinationCapacityValue http://data.europa.eu/dr8/RegulatoryCapacityValue http://data.europa.eu/dr8/DeliveryCapacityValue

http://data.europa.eu/dr8/AnalyticalCapacityValue Description The Coordination Capacity Value ABB refers to mediating and bringing different administrative units and dispersed actors to work together to achieve joint actions. It is not only about vertical coordination by hierarchy but also about facilitating horizontal coordination across policy areas and organizations at the same administrative level. The Regulatory Capacity Value ABB relates to a government's ability to develop, implement, and enforce regulations and rules effectively. It involves having the necessary resources, expertise, and mechanisms in place to establish and enforce regulatory frameworks that protect public interests, promote compliance, and achieve desired outcomes. The Delivery Capacity Value ABB refers to the ability of public administrations to deliver public services, programs, and policies effectively and efficiently to citizens and stakeholders. It encompasses the overall performance, effectiveness, and responsiveness of public administration in meeting the needs and expectations of the public. The Analytical Capacity Value ABB refers to the ability of public administrations to gather, analyse, and utilize data and evidence in decision-making processes. It involves having the skills, tools, and institutional arrangements to collect, interpret, and apply data to inform policy development, program design, and performance monitoring. Example The following ABBs represent the alignment between PAAF and EIRA. PAAF EIRA Coordination Capacity 0 0 Regulatory Capacity Public Value 0 Delivery Capacity Analytical Capacity PAAF:Public Value refers to the value generated by the service value stream. EIRA divides the value on four capacities: **Coordination Capacity Regulatory Capacity Delivery Capacity Alignment Saliency Analytical Capacity PAAF2EIRA** PAAF: Public Value can be aligned with EIRA's values, but requires a categorisation into the four capacities mentioned. This categorisation has to be aligned with the explanation of each capacity in the EIRA->Description field of this table.

Date: 31/01/2024 20 / 29 Doc. Version: 1.00

	Consider that values on EIRA are implemented by the EIRA:Digital Business Capability, but in PAAF, PAAF:Public Value is implemented by the PAAF:Service Value Stream.
Alignment Saliency EIRA2PAAF	PAAF:Public Value represents a more generic value than the one presented on EIRA's side (4 capacities). Therefore, EIRA's values have to be modelled as more generic PAAF:Public Value.
EIRAZFAAF	Consider that values on EIRA are implemented by the EIRA:Digital Business Capability, but in PAAF, PAAF:Public Value is implemented by the PAAF:Service Value Stream.

2.3.8. Beneficiaries

This ABB depicts the beneficiary of the interoperable digital public service (IDPS). Using the form of a stakeholder it can represent an individual or organisation who receives the benefit of the value generated by the PAAF:Public Value.

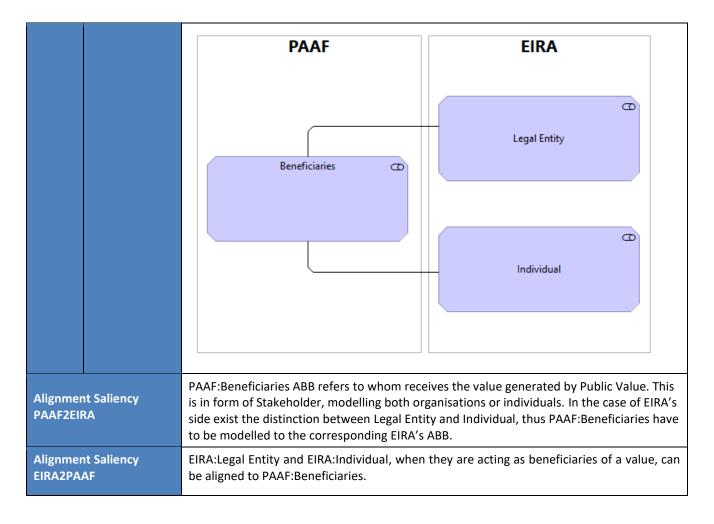
The following list is a guideline for modelling this ABB:

• Who benefits from the interoperable digital public service IDPS? These might be individuals, organisations, departments, etc. in form of Stakeholders.

Table 11. Beneficiaries

	ABB	Beneficiaries		
	Concept	Stakeholder		
	ID	N/A		
PAAF	Description	This ABB depicts the beneficiary of the interoperable digital public service (IDPS). Using the form of a stakeholder it can represent an individual or organisation who receives the benefit of the value generated by the PAAF:Public Value.		
	Representation	Beneficiaries		
	ABB	Legal Entity / Individual		
	Concept	Stakeholder		
	ID	http://data.europa.eu/dr8/PublicAdministrationStakeholder		
EIRA	Description	Legal Entity: It is a Stakeholder that is a self-empoyed person, company, or organization that has legal rights and obligations. Individual: It is a Stakeholder that is a human being who may be dead or alive, but not		
		imaginary.		
Example The following ABBs represent the alignment between		The following ABBs represent the alignment between PAAF and EIRA.		

Date: 31/01/2024 21 / 29 Doc. Version: 1.00



2.3.9. Public Policy

PAAF:Public Policy represents a set of principles followed by a public authority to bring about social change in the medium and long term in a given area. It is based on certain values and objectives and is implemented using a variety of methods. It applies on the territory within which the authority is authorised to act.

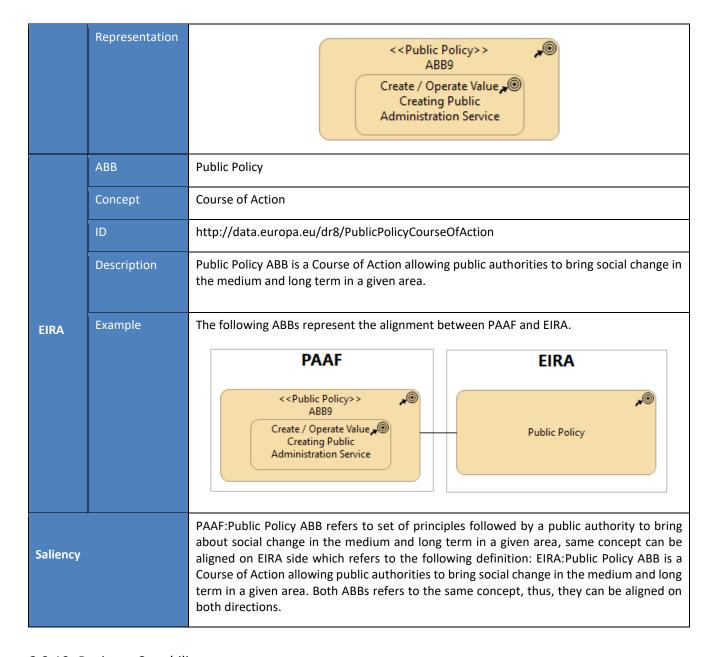
The following list is a guideline for modelling this ABB:

• What is the "course of action", project, change, public market, etc. that will lead to the outcome? In the Public Administration Architecture, the "Public Policy" (i.e. management or political responsible decision) that lies at the base of any such action (and time or money expenditure).

Table 12. Public Policy

l	PAAF	ABB	Public Policy
		Concept	Course of Action
P		ID	ABB9
		Description	Set of principles followed by a public authority to bring about social change in the medium and long term in a given area. It is based on certain values and objectives and is implemented using a variety of methods. It applies on the territory within which the authority is authorised to act.

Date: 31/01/2024 22 / 29 Doc.Version: 1.00



2.3.10. Business Capability

A business capability is the ability of a public administration to digitally perform an administrative function.

The following list is a guideline for modelling this ABB:

- What business capability is needed to "serve" the Public Administration Service Value Stream and/or to "realise" the Public Policy?
- What supporting capabilities are needed?
- What resources are needed?

Table 13. Business Capability

	PAAF	ABB	Business Capability
		Concept	Capability

li.	ID	ABB370		
	Description	A business capability is the ability of a public administration to digitally perform an administrative function.		
	Representation	< <business capability="">> ABB370</business>		
ABB Digital Business Capability		Digital Business Capability		
	Concept	Capability		
	ID	http://data.europa.eu/dr8/DigitalBusinessCapability		
	Description	Digital Business Capability ABB is a Capability, that corresponds to an ability implemented in a system to enable a public administration to perform an administrative function. Digital Business Capability supersedes Business Capability. However, in PAAF, the more generic Business Capability is preferred, because not all services in a PA are digital (and even Digital services might contain non-digital parts).		
EIRA	Example	The following ABBs represent the alignment between PAAF and EIRA.		
		PAAF EIRA <-Business Capability>> ABB370 Digital Business Capability		
Saliency		Both ABB (PAAF and EIRA) refers to the same meaning for the Digital Business Capability as the ability implemented in a system to enable a public administration to digitally perform an administrative function. Therefore, they can be aligned on both directions.		

2.3.11. <u>Digital Public Service</u>

It is an interoperable public service provisioned by or on behalf of a public administration in support to the realization of a Public Administration digital business capability. An European digital public service comprises any digital public service exposed to a cross-border dimension in the Union.

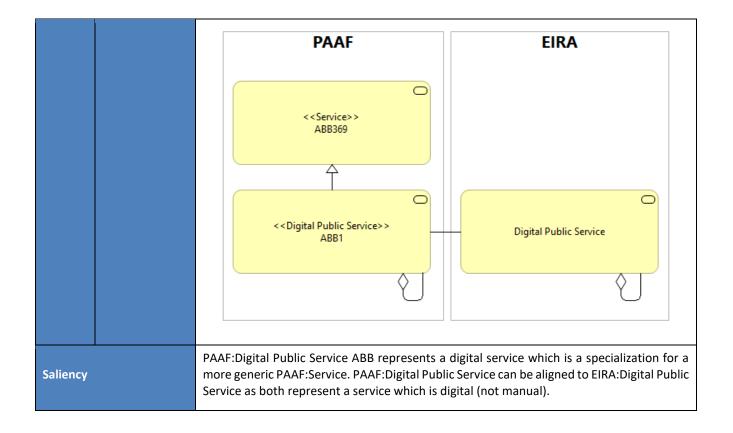
The following list is a guideline for modelling this ABB:

- What service is realising the Public policy?
- What service is realising the "Business Capability" to realise the Public Policy and to support the Public Administration Service Value Stream?

Date: 31/01/2024 24 / 29 Doc. Version: 1.00

Table 14. Service / Digital Public Service

	ABB	Digital Public Service		
	Concept	Business Service		
	ID	ABB1		
	Description	It is an interoperable public service provisioned by or on behalf of a public administration in support to the realization of a Public Administration digital business capability. An European digital public service comprises any digital public service exposed to a cross-border dimension in the Union.		
PAAF	Representation	< <service>></service>		
		< <digital public="" service="">></digital>		
	ABB	Digital Public Service		
	Concept	Business Service		
	ID	http://data.europa.eu/dr8/DigitalPublicBusinessService		
EIRA	Description	Digital Public Service ABB is a Business Service that enables the implementation of a Public Administration digital business capability, provisioned via a digital service delivery mode by, or on behalf of a public administration. A Digital Public Service comprises any digital public service exposed to a cross-border dimension in the European Union.		
	Example	The following ABBs represent the alignment between PAAF and EIRA.		



3. CONCLUSION

PAAF is a reference architecture which is designed to model Public Administration from the Enterprise Architecture point of view. On the other hand, EIRA is a reference architecture model that is used for digital services and can be used as part of the interoperability design paradigms on public administrations.

Although both reference architectures have been designed to support the definition of the architectures for Public Administrations, it is important to understand the differences:

- Level of Abstraction: PAAF is oriented to be a reference on the design of enterprise architectures which
 could include strategy, motivation, business processes and stakeholders concepts, among others. EIRA is a
 reference architecture intended to describe solution architectures for interoperability in the public
 administration. Although EIRA also utilises business, motivation, and strategy ABBs, they are oriented to
 the definition of solution architectures.
- Target audience: PAAF's main target audience are Enterprise Architects supporting the definition of
 enterprise architectures; However, EIRA target audience are Solution Architects, despite of Enterprise
 Architects can use EIRA Model for defining solution architectures.

Despite of these differences, there is a potential mapping between both reference architectures where PAAF's ABBs have some correspondence with EIRA's ABBs, and viceversa. However, in some cases, this is not a full or one to one correspondence. As an example, and taking into consideration differences between both reference architectures, PAAF model allows the definition of non-digital (manual) Public Services or capabilities, which is not the case on EIRA side, where the model allows to define digital public services or digital business capabilities with no room for non-digital ABBs, therefore, this example shows that for some ABBs exists a partial correspondence between both models.

Date: 31/01/2024 27 / 29 Doc. Version: 1.00

ANNEX I - PAAF - EIRA CHEAT SHEET

This is a summary of the alignment between PAAF and EIRA ABBs for quick reference.

Table 15. PAAF - EIRA Cheat Sheet

ArchiMate's Classes	PAAF ABB	EIRA Key Alignment Enabler ABB
Stakeholder	< <focal administration="" public="">></focal>	Public Administration
Driver	Legal Compliance Legal Base	Creation of Interoperable European Solutions
Goal	Strategic Goal	Achieve Interoperability
Requirement	Requirement	Digital Solution Requirement
Principle	Principle	Architecture Principle
Outcome	Outcome	Interoperable European Solution

Date: 31/01/2024 28 / 29 Doc. Version: 1.00

