D02.07: EIRA communications

Feedback public consultation

Comments and answers

SC 289 European Interoperability Architecture

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Disclaimer

Table of Contents

Introduction

The following document contains the received feedbacks from the public consultation on European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup in 2015. The public consultation was initiated in June 2015 and ran until end of September 2015. Three comments were received after this deadline, but due to their elaborate nature were also included in the list of feedback. The received comments are included as they were provided with some minor alterations in case a grammatical mistake was spotted.

Furthermore, suggestions for improvement, bug reports, and other issues can be received from several sources; for example within the context initiatives within Member States or EU institutions. To manage change in an open and controlled way, it is crucial to have a formal change management procedure to handle incoming changes, to process them and to make them part of future releases where relevant. This document follows the EIRA change management procedure.

Besides an overview of the initial comments, this document also includes the answers, which were communicated to each of the public consultation contributors.

1 Comment 1 - Pavel Hrabe

Name of contributor	Date of comment	Source
Pavel Hrabe	07 October 2015	https://joinup.ec.europa.eu/asset/eia/asset_release/eira-release-v090-beta#comment-17186

1.1 Original comment

To reference models

I fully agree that EIRA, which is only reference architecture for these parts of enterprises (agencies) in public administration, which are related to interoperability itself, should be aligned with EA methods and standards (frameworks) providing guidance in management of agencies and its IT support as whole and with reference models of these frameworks and reference models representing current best practice.

Reference model of FEAF is to me one of important original models, but currently I prefer its New Zealand modification, which seems to me much better.

For Czech Government EA we will use the same (similar) structure of domains like GEA-NZ 3.1, but would like to adjust the structure and content of all corresponding reference models. Would be good to discuss GEA reference models and other accelerators with all of you, who are interested.

1.2 Answer

Dear Mr. Hrabe,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

In fact, we will launch a study on the EIRA in relation to other existing frameworks (like the FEAF v2 / GEA-NZ 3.1 you mentioned) the results of which will be available later this year.

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA team

2 Comment 2 - NORA (the Dutch NIF) on EIRA

Name of contributor	Date of comment	Source
NORA (the Dutch NIF) on EIRA: Ludwig Oberendorff (BFS) Eric Brouwer (NORA)	22 September 2015	https://joinup.ec.europa.eu/site/eia/EIRA/EIRA_v0.9.0_beta/public-review-comments/comments%20on%20EIRA%200%209%20from%20NORA%20and%20BFS%20-English%20translation%2030-9-2015.pdf

2.1 Original comment

Dear Raul,

You asked us to review the European Interoperability Reference Architecture (EIRA) for the European Commission / ISA. NORA (the Dutch NIF) and the BFS (the Standardisation Forum Office), are happy to oblige. We hope to gain more insight in the manner and the extent to which the EIRA can help Dutch architects and designers, working to create and improve upon cross-border public services for the Dutch government agencies and applying standards for that purpose.

The following review findings and questions are the result of a consultation with a broad range of Dutch government agencies, including executive bodies at the national and regional level that deal with cross-border services. Our findings are primarily based on the document 'EIRA v0.9 beta overview' (the full EIRA required importing into architecture tooling, which wasn't feasible for many reviewers). We are very interested to hear your thoughts on our findings and what the impact of this process on the EIRA will be.

Sincerely,

Ludwig Oberendorff (BFS)

Eric Brouwer (NORA)

Review findings and remaining questions

1. We are very happy with the initiative to develop (reference) architecture on the EU-level. In our experience, many IT-solutions that are created on an EU level still lack, and could benefit from, a good underlying architecture. Developing good umbrella architecture with the right balance between standardisation and the necessary flexibility is indeed a difficult challenge. We want The Netherlands to be closely involved in this development. Our own respective roles at NORA and BSF come with large and varied networks within the relevant Dutch sectors, which enable us to coordinate and organize such close Dutch participation.

2. The document, as is, fails to properly express the necessity of European reference architecture. We struggle to discern the rationale guiding a substantial part of the metamodel. In the first three chapters, the authors have obviously devoted much energy into defining the goal and the target audience for the EIRA. The relationship between these chapters and the actual metamodel, however, is unclear. The model could be clarified with practical examples, like those in the Eicart project. Another question is whether modelling of policy, although valuable on its own, is served by using ArchiMate-like constructs.

Seen from the perspective of the member states, it is difficult to discern the joined vision on architecture of the European Committee as a whole. Different sectors seem to operate mainly on their own, which can lead to major interoperability issues on the national level. If we want the EIRA to become a powerful tool, it should project widespread support in the European Committee and represent a clear, joint vision on architecture. The need for such a vision is deeply felt in the Netherlands: if the different sectors keep working in a vacuum, we will all have to pay for the resulting lack of interoperability.

3. We also need more vision on the subject of public services by the member states: where do we benefit from cooperation and where are we better off operating separately. The first step towards such a vision is an overview of current practices. There is considerable added value to be gained from an overview per country of the current services, their 'maturity,' uniformity and major differences.

The knowledge models and formats that countries use to describe their own (cross-border) services should be a major input for developing a uniform description method for architectural elements. As is, the EIRA provides a very detailed description of elements that could be of importance for public services, but this description needs a stronger connection with the current practice in the different member states. Countries with a relatively high maturity in this area have already made considerable investments. The European Union should identify such front runners and involve them in the process. This ensures a widespread support, prevents unnecessary double investments and puts experience and expertise to good use.

4. In the Netherlands, we acknowledge the impact government choices in architecture can have on organisations that have relations with several government agencies. NORA serves as a national platform, where architectures of different domains (such as education, healthcare et cetera) come together to discuss generic architectural elements. Together, these architectures form the NORA-family. Members of the NORA-family strive to align IT-choices on generic elements, across sectors and domains. The potential impact on organisations is even greater when EU choices for generic elements and solutions such as authentication, building blocks, standards et cetera differ from the national choices. We therefore want to participate actively in the EU process to keep this concern high on the agenda.

5. Applying standards.

The NORA-family relates the Dutch solution building blocks of the electronic government to the applicable standards for information exchange, such as the 'comply-or-explain' list of the Standardisation Forum Office[1]. This relationship can be easily demonstrated in the EIRA as well, for instance at the element "machine 2 machine interface."

[1] https://www.forumstandaardisatie.nl/english/

Additional suggestion: At the European level, it would be good practice to register the standards that apply to existing (solution) building blocks with the Multi Stakeholder Platform on ICT Standardisation (MSP) and vice versa: developers of new European building blocks should check the list of existing MSP standards before making a decision on the standards they do or do not apply (parallel to the 'comply-or-explain' list in The Netherlands.)

6. EIRA has a strong focus on the mechanisms and building blocks for the exchange of data / information in Europe (the 'HOW?' question). However, the document does not explain how these mechanisms would connect to the existing infrastructures of the member states. What, for example, is the relationship between EIRA and the Dutch Gemeenschappelijke Digitale Infrastructuur[2] (GDI, Common Digital Infrastructure)? Could you clarify the added value of EIRA in relation to the GDI?

7. We would like to see a shift in attention from the HOW of data and information exchange to the reason WHY we need them in the first place, that is to the actual cross border services. A number of questions has high priority:

- Which actual cross border services exist?
- Where can the descriptions of these services be found and what commitments are made for quality control?
- What bottlenecks exist regarding these services, stemming from differences in the member states concerned?

8. This brings us to a fundamental question regarding Reference Architectures. These past few years, we - in the Netherlands - have strongly invested in bringing 'working with and within architecture' to maturity. In this effort, we transform 'template blueprints' into practical tools for architects and designers. Tools such as overviews of the current situation (services and infrastructure) and principles to guide them to various possible solutions and their impact. We see this movement away from reference architecture towards architecture in the entire NORA-family. We would like to see the EIRA develop towards an architecture that connects to the architectures of the member states.

Furthermore, we believe it more important at this point to gain experience with the EIRA through real applications, than to try to perfect the theoretical framework. By 'real applications,' we mean complete elaborations of ABBs and SBBs according to EIRA, not just superficial demonstrations or trials. The 'expected benefits' in the different sectors will only show in such real-world applications and they are the only way to discover flaws and omissions. Our advice to the ISA/EIRA Programmes is to be proactive in stimulating and realising such real applications, rather than to wait for further feedback before seeking application.

9. We also like to see some clarification of how the EIRA connects to the global architecture for public services. After all, each member state should be able to provide certain services to EU and non-EU countries alike. International (digital) cooperation cannot be limited to the EU, or countries would have to

[2] https://www.digicommissaris.nl/succesvol-digitaal-stel-mensen-centraal ; http://www.digitaleoverheid.nl/digitaal-2017/digitalisering-aanbod/gdi

apply different standards to communication with EU-partners, the United Nations, Asia and the United States. ISA should stimulate international harmonisation of standards.

10. Although we commend publication of the model in the .archi format, suitable for the open source tool "Archi," we recommend exchanging the .archi for "The Open Group ArchiMate Exchange format[3] ". This is an open standard, which also can be imported in Archi. You could also consider adopting commonly used standards to publish metamodels, such as the Web Ontology Language.

11. A number of elements – with great practical value in the NORA – are absent in the EIRA. The most important of these are the Principles (guiding statements). Principles are important elements in the NORA and the NORA-family: they provide a good description of the relationship between organisational architecture and technology. In the EIRA definition of 'Organisational Enablers' it is stated that these could contain principles, but their use in the model requires further clarification.

The relationship between Organisational Enablers and Business Rules remains unclear to us as well. Organisational Enablers appear the sole source for Business Rules. More and more processes tend to use Business Rules as a source for modelling their systems, yet in the EIRA Business Rules only influence 'Business Information,' not processes. Modelling processes therefore seems to be placed out of scope of EIRA, without a clear indication why this would be the case.

12. As a final question, we wonder how the agreements on architecture and standards will be enforced. A number of European standards, such as UMF, are not applied in practice, nor are they under (strict) auditing.

2.2 Answer

Dear Nora team,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

Some of the mentioned issues have been taken into account. For instance, the EIRA v1.0.0 will be released in the "Open Group ArchiMate Exchange File Format" and no longer in the Archi (the tool) proprietary format.

There are many other remarks for which we cannot provide an answer at the moment, they require further discussion. For example; you mention the explicit expression of the need of reference architecture and the link to the (missing) principles, the enforcement of agreements and the added value of the EIRA in relation to other architectures. These issues all fall in the realm of Governance and Architecture Vision, a topic that is under continuous discussions.

Since we cannot given an appropriate answer to some of the valuable remarks you made, we would like to invite you to actively participate in the evolution of the EIRA, and join our Change (and Configuration)

[3] http://www.opengroup.org/subjectareas/enterprise/archimate/model-exchange-file-format

management process as member of the workgroup, a process in which we monitor and steer the evolution of the EIRA, based on evolutions, feedback from the community, etc.

We will send more information on the process shortly afterwards,

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA Team

3 Comment 3 - CEN GITB on EIRA

Name of contributor	Date of comment	Source
CEN GITB on EIRA: Christine Legner	July 2015	https://joinup.ec.europa.eu/site/eira/EIRA/EIRA_v0.9.0_beta/public-review-comments/feedback%20from%20GITB%20EIRA_02%20cl.docx

3.1 Original comment

EIRA European Interoperability Reference Architecture v0.9.0 (EIRA)				Global eBusiness Interoperability Test Bed (GITB) Related concepts and definition → see GITB Glossary
Technical View - Application Concepts	ABB129	Test Component	A Test Component encapsulates the functionalities for the testing processes. **Suggestion by GITB:** A Test Component encapsulates the functionalities for *conformance and interoperability testing.*	GITB defines the notion of Test Bed that comprises a set of test components and provides test services for conformance and interoperability testing. **Test bed:** An actual test execution environment for Test Suites or Test Services. **Test component:** A component of a Test Bed that executes a function required for conformance and interoperability testing. It is either a core Test Bed component (fulfilling general core functions, e.g. Test Suite deployment) a user-facing component (supporting users in editing and managing tests, e.g. editors and management consoles), or a Testing Capability component (“plug-ins” that enable more directly the test execution, e.g. a Document Validator).

EIRA European Interoperability Reference Architecture v0.9.0 (EIRA)				Global eBusiness Interoperability Test Bed (GITB) Related concepts and definition → see GITB Glossary
Technical View - Application Concepts	ABB131	Test Report	A Test Report is the means of describing the results coming out of the Test Service, within this document the evaluation is made of the solution (based on the Test Scenario). **Suggestion by GITB:** A Test Report *documents the results of verifying the behavior of one or more test item(s) or system(s) under test. It is making a conformance or interoperability assessment.*	**Test report:** documents the results of verifying the behavior or output of one or more system(s) under test, or verifying Test Items such as Business Documents. It is making a conformance or interoperability assessment (see Conformance Testing and Interoperability Testing).
Technical View - Application Concepts	ABB130	Test Scenario	A Test Scenario defines the different test cases which need to be performed by the Test Service. Each scenario (actual) outcome is validated against the pre-defined expected outcome. **Suggestion by GITB:** **Define also "test case"; Check if test scenario = test suite?**	GITB defines only the terms **test cases** and **test suites**, but in GITB use cases test scenarios for interoperability and conformance testing have also been developed.

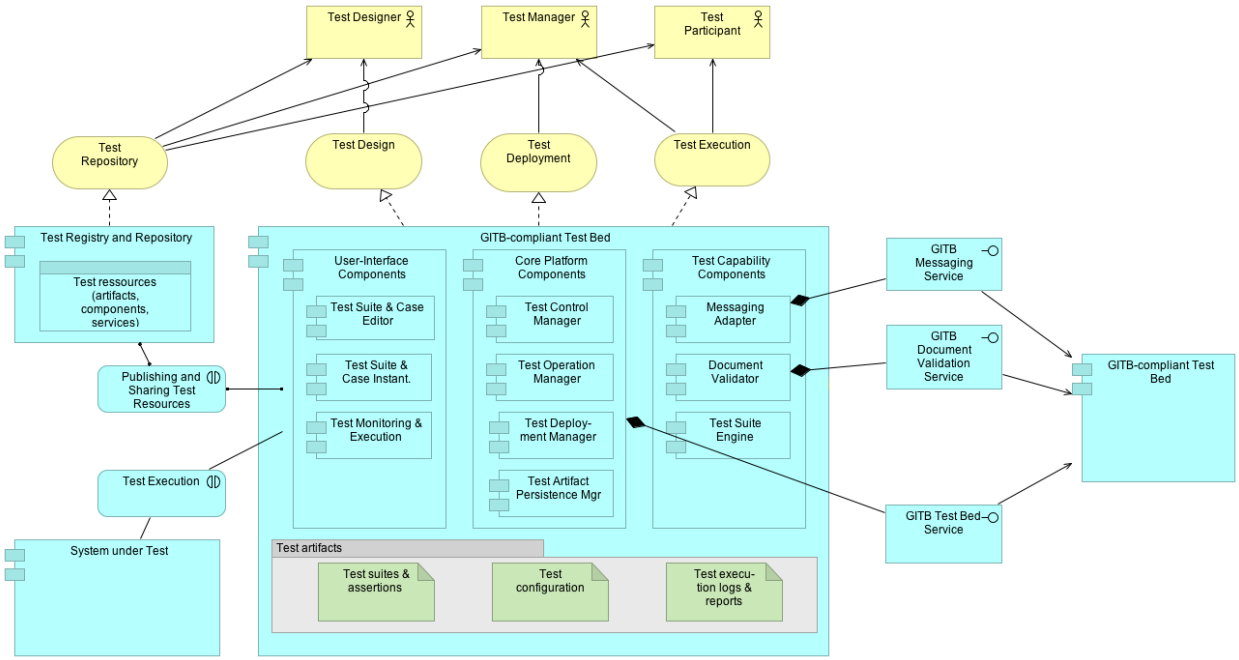
EIRA European Interoperability Reference Architecture v0.9.0 (EIRA)				Global eBusiness Interoperability Test Bed (GITB) Related concepts and definition → see GITB Glossary
Technical View - Application Concepts	ABB128	Test Service	A Test Service enables the execution of the test scenarios by following a number of sequential steps to validate the performance of a service, the accuracy, etc. A Test Service encapsulates Test Components. **Suggestion by GITB: You may want to use the term test suite and test service.** A Test Service enables the execution *of interoperability and conformance testing.* A Test Service *is realized by one or more Test Components*.	GITB distinguishes between test services and test suites. **Test suites** define a workflow of Test Case executions for verifying that an SUT conforms to a specification. It may be intended for verifying that an SUT conforms to a specification (conformance test suite) or for verifying that two or more SUTs can interoperate as expected according to a specification (interoperability test suite). **Test services**: GITB provides specifications of modular services that can be used between different testing setups regarding the execution of conformance and interoperability tests: • Content Validation Service • Messaging (Simulation) Service • TestBed Service

Amendments to EIRA European Interoperability Reference Architecture v0.9.0 (EIRA) from GITB Perspective				Comment
Technical View - Application Concepts		Test Bed	A Test Bed consists of a test execution environment for Test Suites or Test Services and the functionalities required for conformance and/or interoperability testing.	A **Test Bed** comprises a set of test components (see above).

Amendments to EIRA European Interoperability Reference Architecture v0.9.0 (EIRA) from GITB Perspective				Comment
Technical View - Application Concepts		Test Messaging Adapter Component (or Test Messaging Service)	A Test Messaging Adapter is a Test Component specialized in testing messaging protocol stacks such as ebXML Messaging, Web services with SOAP or REST, AS2/AS4, and the underlying transport protocols: SMTP, HTTP, etc.	The **Test Messaging Adapter** (as Test Component) provides a **Messaging Service** (as Test Service).
Technical View - Application Concepts		Test Document Validator Component (or Test Document /Content Validation Service)	A Test Document Validator is a Test Component responsible for validating the content of a document in terms of both structure and semantics. A Document Validator may be specialized for some type of validation assertion (e.g. XML schema validation, or semantic rules).	The **Test Document Validator** (as Test Component) provides a Content/Document Validation Service (as Test Service).
Technical View - Application Concepts		Test Artefact	A Test Artefact is a document used as input or output of a Test Bed.	**Test Artefacts** are – among others - test suites, test case, test assertions and test reports.

Amendments to EIRA European Interoperability Reference Architecture v0.9.0 (EIRA) from GITB Perspective				Comment
Technical View - Application Concepts		Test Suite	A Test Suite is a Test Artefact that defines a workflow of Test Case executions and/or Document Validator executions, with the intent of verifying one or more system(s) under test against one or more specifications.	
Technical View - Application Concepts		Test Case	A Test Case is an executable unit of verification and/or of interaction with an SUT, corresponding to a particular testing requirement.	
Technical View - Application Concepts		Test Assertion	A Test Assertion is a testable or measurable expression - usually in plain text or with a semi-formal representation - for evaluating the adherence of an implementation (or part of it) to a normative statement in a specification.	

Amendments to EIRA European Interoperability Reference Architecture v0.9.0 (EIRA) from GITB Perspective				Comment
Technical View - Application Concepts		Document Assertion	A Document Assertion is a package of artefacts used to validate a Business Document, typically including one or more of the following: a schema (XML), consistency rules, codelists, etc. These are machine-processable.	



3.2 Answer

Dear GITB Team,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

Thanks to your clarifications, we have decided to adapt our descriptions and align them with the ones you provided. On the question on adding new building blocks, we have decided to keep the current building blocks.

The EIRA includes the most salient Building Blocks needed to design an interoperable solution and we try to keep the number of Building Blocks to a minimum. We think that the additional Building Blocks you propose can be modelled using both the “Test Service” and “Test Component” as umbrella Building Blocks.

For the upcoming period, we are looking into the definition of Solution Architecture Templates, and your ArchiMate model seems to provide a lot of information that we might use. This will be investigated in the coming year.

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA Team

4 Comment 4 - Nicola Guarino

Name of contributor	Date of comment	Source
Nicola Guarino	03 August 2015	https://joinup.ec.europa.eu/asset/eia/asset_release/eira-release-v090-beta#comment-16987

4.1 Original comment

Comments to the EIRA

With respect to the Conceptual Model for Public Services developed as part of the EIF initiative, and reported in Fig. 10, this EIRA draft document makes an important step forward, by making explicit how the various EIRA building blocks belong to the different levels of the EIF interoperability hierarchy (reported in Fig. 3). In particular, a very important clarification introduced by the EIRA is that public services (differently than, say, Web services) are not software solutions, but they are business level entities that are realized with the help of software solutions. A further important clarification is the relationship between public services and public policies: public services are described as implementations of public policies. So, the explicit account for an organizational level and a legal level is in our opinion the most relevant contribution of this document.

However, despite the laudable intentions, the way this document accounts for the legal and (especially) the organization level makes it almost unusable to address the interoperability needs of European public services. In short, the main problems are the following ones:

1. The definition of public services is extremely problematic. Indeed, the definition reported at page 23 merges together three different definitions, all problematic. The first one sees a public service as an economic activity of particular importance that would have not be supplied if there were no public intervention. Suppose however that a particular administration, although recognizing the importance of a certain activity, does not have the money for implementing it. Would this activity count as a service provided by that administration? The second definition sees a public service as a capacity to carry out a certain procedure. What if the administration, although having a certain capacity, decides NOT to provide the corresponding service, for various reasons (e.g., saving money?). Finally, the third definition sees a public service as a set of deeds or acts performed for the benefit of the citizen. What about services such as snow removal, fire brigades, or social insurances, which are supposed to exist even when (under normal conditions) no actions are performed? All these examples show that public services should be based on a notion of commitment, which is absent in the EIRA.

2. No attempt is made to provide guidelines to describe the ***nature*** of the various public services (what they are about – e.g., what makes the difference between an emergency medical assistance service and a residence change service). In our opinion, the nature of a service is base –first of all– on the kind of action the provider commits to guarantee. Such actions should be explicitly put in the model. Among other advantages, modelling core actions associated to services explicitly would allow for the easy classification of the various technical infrastructure services appearing in Fig. 16.
3. Also the structure of public services is very poorly modelled: the roles of the various organizational units involved in a public service are poorly described, responsibilities and service level agreements are crucial for monitoring the quality of service, but they are not mentioned.
4. The crucial role of external providers is not taken into account. In many cases (typically for cloud services) software solutions are developed and provided by external providers, who sign a contract with a Public Administration as a result of a public auction. In these situations, complex relationships need to be modelled involving the citizen (as a service consumer), the Public Administration (as the primary provider) and the external (secondary) provider.
5. The way semantic interoperability would be enforced by the EIRA is not clear at all. No notion of ontology is mentioned, and apparently semantic interoperability builds on a vague notion of "interoperability agreements" (among whom?) which is not discussed.

Further modelling issues:

Especially the Organizational view presents several technical problems. We mention just a few of them (if useful, we can provide an annotated PDF file with all the problems we found).

1. There is no uniformity when associating Interoperability Agreement with Providers and Consumers: it is associated with Public Service Provider in one side, but directly to Citizen and Organization on the other side, and not with Public Service Consumer, as expected.
2. The Interoperability Agreement is defined (according to the description) in relation to a Public Service to be provided, but Public Services do not have a direct relationship with Interoperability Agreement.
3. A relationship between Organization and Organizational Enabler should be represented in the model, as expected and to follow what is contained in the corresponding description.
4. Organizational Policy, Organizational Procedure and Organizational Structure are all Organizational Enabler, but enabler of what? What is the relationship that “creates” this role?
5. There is no association between Organization Policy and Organization Procedure, which seems to naturally exist.

Finally, the definitions presented for Business Information Exchange and Business Information are identical (page 24).

Acknowledgements: The comments above are the result of a research work on the ontological foundations of services and service science which started at the ISTC-CNR Laboratory for Applied Ontology in Trento (Italy), and then involved the Federal University of Espirito Santo and Rio de Janeiro (Brazil) in the framework of two joint projects funded by the Brazilian government, as well as the Department of Computer Science of University of Salento (Lecce, Italy) in the framework of the joint participation to the

Cloud4Europe call. Some relevant research papers are listed below. Main people involved: R. de Almeida Falbo, N. Guarino, G. Guizzardi, Antonella Longo, Luiza Machado Campos, J. C. Nardi.

Relevant papers

Nardi, J. C., de Almeida Falbo, R., Almeida, J. P. A., Guizzardi, G., Pires, L. F., van Sinderen, M. J., Guarino, N. , Fonseca, C. M. (2015). A Commitment-based Reference Ontology for Services. Information Systems (in press).

Nardi, J. C., de Almeida Falbo, R., Almeida, J. P. A. An Ontological Analysis of Service Modeling at ArchiMate's Business Layer. 2014 IEEE 18th International Enterprise Distributed Object Computing Conference (EDOC 2014)

Ferrario, R., Guarino, N. 2012. Commitment-Based Modeling of Service Systems. In M. Snene (Ed.), IESS 2012, International Conference on Exploring Services Science, Springer Verlag, Lecture Notes in Business Information Processing, vol. 103, Berlin Heidelberg 2012, pp. 170-185.

Ferrario R., Guarino N. Towards an Ontological Foundation for Services Sience. In Domingue, J., Fensel, D., and Traverso, P.: First Future Internet Symposium, Vienna, Austria, September 28-30, 2008: Revised Selected Papers. Lecture Notes in Computer Science, Vol. 5468, Springer Verlag 2009, pp. 152-169

4.2 Answer

Dear Mr Guarino,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

Regarding your remark concerning public services, we agree that the notion of commitment is important and we have added this to the description. Furthermore, in the future, we intend to align the definitions with Core Vocabularies, which will make the definitions more consistent.

However, further-on, you mention the following:

"Also the structure of public services is very poorly modelled: the roles of the various organizational units involved in a public service are poorly described, responsibilities and service level agreements are crucial for monitoring the quality of service, but they are not mentioned".

A service is indeed often relying on other organisational units, but the entire service towards the customer is covered in one single "Service Level Agreement". It covers "Operational Level Agreements" and "Underpinning Contracts" with other organisation units. There is no direct agreement between the customer and the other organisational units, so we feel that it is correct to not include them. Perhaps you could give us some more explanations on your thoughts on this issue?

You also mention the fact that an "external service provider" is not taken into account, which is correct, but a "Public Service Delivery Agent" can be used for this purpose if needed.

Regarding semantic interoperability, we are currently examining the use of Core Vocabularies, especially those of the Public Services, as described here.

We agree on the technical problems in the organisational view you mentioned and have introduced a convention in EIRA v1.0.0, which states the following:

When the direction of an ArchiMate relation between two entities is unclear, we use the following convention: The relation between two entities is always modelled in a top-down, left to right fashion. The top entity refers to the subject of a sentence, the bottom entity refers to the object of a sentence. When the two entities are at the same level, it is the left entity that refers to the subject and the right entity that refers to the object.

And we have made sure that the labels on the relations have been adapted accordingly. Each “ArchiMate association” is documented in the model itself, in the form of narratives. For example we have the following narrative: "[Interoperability Strategy] is influenced by [Interoperability Governance]". Additionally, we have renamed the "Organisational Enabler" to "Organisational Interoperability Enabler".

You do mention that you are willing to provide an annotated PDF file, in which we are very interested. Please also note that as the EIRA v1.0.0 is currently in preparation and is close to being released, many of the issues you mention have been addressed in this release.

As a closing remark, thank you for noticing the identical definitions in Business Information Exchange and Business Information, they have been adapted in the upcoming EIRAv1.0.0 release.

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA Team

5 Comment 5 - Linda Humphries

Name of contributor	Date of comment	Source
Linda Humphries	03 August 2015	https://joinup.ec.europa.eu/asset/eia/asset_release/eira-release-v090-beta#comment-16985

5.1 Original comment

The EIRA documentation sets out a positive vision of how interoperability can support better delivery of online public services. I think this revision of the EIRA is a useful opportunity to think about our ambition, what we are looking to achieve with this work and how we can best make it happen. In particular, it would be good to revisit the question of the user needs that are being addressed by this work. It seems that there are 2 main sets of users here: technologists (both in government and those who use government services and data to build additional services) and the service users (the people who transact with the services it intends to help deliver).

From the technologists perspective, our experience is that there can be a lot of value in a model that echoes the wider open source community, where search tools, some common open standards, and community forums help people find code. There's very solid evidence that open source tools have much more adoption among software developers than complex architectural frameworks.

For example, when sharing software components across European governments, common vocabularies may help – but the needs here are about the ability to find relevant code (an outcome), not the need to be able to categorise it (a mechanism). That is what will help us, both for building services without repetition, sharing components, and in moving towards interoperability.

Looking at what both technologists and service users need to do and why will be important in considering the best architecture for interoperability. For example, in some instances we may find situations where publication of open data and APIs are the most effective route, enabling technologists outside of government to build on government data/services to meet a user need.

To deliver the most effective architecture, it will be important to consider EIRA in the light of genuine use cases, focussing possibly on the cross-border services where work is already being done in Europe, or on new questions being raised as genuine user needs for more effective cross-border service delivery. Part of that will be working more closely with other programmes on cross-border service delivery such as the eIDAS Regulation and work on the interconnection of business registries. The e-government action 2016 - 2020 plan will hopefully pick up on how some of these initiatives fit together.

By spending some time orienting this work through the lens of user needs, we can hopefully ensure that it produces the most useful output.

5.2 Answer

Dear Ms. Humphries,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

When you mention user needs, you are referring to a document by the UK government that discusses the deep understanding of the user needs through gathering evidence and framing the need.

We believe we have accomplished this via the different Proof Of Concepts (PoCs) that we did with some of the member states, resulting in the EIRA use-cases, as they are listed in the overview document. We will continue to challenge ourselves by performing some more POCs this year.

Additionally, you mention the use of open data and common vocabularies and we agree with your remarks. We are currently investigating the use of Public Service Core vocabularies and already have taken steps towards the use of Open Data. Furthermore, we use ADMS attributes (ADSM is a standard to describe interoperability assets), which is not only an open standard, but it also allows us to interact with Joinup. Additionally, we have decided to no longer use the proprietary 'Archi' format, but use instead the EIRA model, provided in the 'Open Group ArchiMate Exchange File Format', also an open standard.

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA Team

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6 Comment 6 - Jari Kallela

Name of contributor	Date of comment	Source
Jari Kallela	31 July 2015	https://joinup.ec.europa.eu/asset/eia/asset_release/eira-release-v090-beta#comment-16977

6.1 Original comment

As a general observation we would like to note that the document is clear and useful. TOGAF as the enterprise architecture method and ArchiMate as the notation are widely used and thus good frameworks.

Unfortunately, the Cartography tool is not yet available. The objective of EIRA is to develop and find common solutions and this is hard in practice with just this document. The tool for using the models is needed in order to evaluate the content and usefulness of the definitions and concepts in this document. The name “Cartography” is a bit confusing, because the tool is more like a visual metadata repository and is not related to INSPIRE or other location data.

Version management is not defined. What would be the version policy for the future versions of EIRA? Is there going to be backwards compatibility?

The benefits of EIRA can be realized only after EIRA has been adopted by a number of member states. Unfortunately, this will be a risky and slow development. Member states may find it difficult to model and structure their national architectures according to this framework. The modeling concept is comprehensive but the downside is that it can be also quite heavy and laborious. It would be beneficial to include a stripped-down, simplified but still compatible version which can be used for the management communication.

3.2.1: EIRA uses quite many ArchiMate model concepts. In many cases models and views are easier to read and understand when the model concept set is more limited.

3.2.2.: Using stereotypes in the concept names can complicate the analysis afterwards. It may be difficult to search for same or similar concepts. Similar definition can be made using “realization” relationship although this would not be visible in all the views.

Fig 9: Business Capability is used as a realization of Business Service (“The delivery of these public services is realised through [Business Capabilities]”) using model concept “Business function”. In TOGAF the meaning of Capability is more abstract than a collection of functions and often capabilities are realized through services and not the other way round. In EIRA Business Capability is used in uniform way but the general meaning is a bit inconsistent. Maybe Business Function could be used instead. Business capability is a difficult concept for non-architects, business functions is better. Unfortunately, the definition of the business functions is missing from the Glossary in page 44.

Fig 10: EIRA is based on quite traditional SOA approach and it uses functionalities like orchestration and choreography. In solution development new approaches, like microservices, are dominating today. The SOA approach should be updated. Choreography services and orchestration services are specific SOA concepts and in practice quite rare. Perhaps EIRA would be more understandable if these are excluded.

The data policies in page 25 are useful and it is good that there is also a set of named policies. The glossary also refers to data quality policy.

In the Glossary on page 52 there is the definition of descriptive metadata. We are wondering the meaning of the word descriptive in this context: metadata is always descriptive anyway. It would be good to have the glossary also in alphabetical order.

6.2 Answer

Dear Mr Kallela,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

Concerning your remark on the availability of the Cartool, the results of the Proof of Concept (PoC) have been analysed and we have decided to work on an 'Archi' plugin, which will be available later this year.

We have taken your remarks concerning the term 'Cartography' into account and have decided to keep the term, since it relates to a cartography of solutions. The references to the 'EU cartography' have been removed however and replaced by 'TES Cartography' to specify that it not a spatial (EU) cartography, but a technical (TES - TransEuropean System).

At this moment, we are developing a change and configuration management process which will guide the release process and takes backwards compatibility into account regarding version numbers. This process will be finalised this year.

You also mention a 'stripped-down' or simplified version of the EIRA and the use of a limited set of concepts of ArchiMate. We have chosen to limit the use of ArchiMate concepts as much as we can. For instance, we have not used the motivational extension. Nevertheless, limiting the concepts further would reduce the correctness of the model, which is not an option. As for your remark concerning management communication, the 'High Level view' of the EIRA is meant for this purpose.

On your remark concerning stereotypes, the current way of working is a conscious choice, the result of a discussion on how to link SBBs to ABBs. More information can be found here.

You have mentioned the use of Microservices in relation to the Orchestration and Choreography building blocks. We recognise this trend is emerging, yet we still see the need for orchestration and choreography services in the classical SOA landscape. Additionally, these building blocks align the EIRA with the Interoperability Maturity Model (IMM).

You also question the 'descriptive' prefix in 'descriptive metadata'. There are actually three types of metadata (the other ones being structural and administrative). Descriptive metadata describes a resource for purposes such as discovery and identification. More information can be found here.

You mention the use of Business Function instead of Business Capability. You also proposed to add the term 'Business Function' to the glossary. However, Business Function is an ArchiMate concept, which we do not document, as we document the EIRA concepts. There has been a discussion about the use of Business Capabilities, Business Processes and Business Functions, as the EIRA v0.8.3 release actually contained the notion of a Business Process. We have made a conscious choice to replace the notion of process and function by the more abstract concept of capabilities

Business process model is part of the service delivery model. The business process model describes the inter-organisation activities with a focus on the information exchange. The IOP agreements are based on the service delivery model. In ArchiMate business functions defined as ‘internal behaviour performed by a business role that is required to produce a set of products and services. It is performed by a single role within an organisation.’ The ArchiMate "Business Process" conflicts with our notion of modelling the need of the business for which we use "Business Capabilities”. The term "Business Capabilities" provides a higher level of abstraction, its definition in the EIRA is as follows: “A Business Capability is the expression or the articulation of the capacity, materials and expertise an organization needs in order to perform core functions. Enterprise architects use business capabilities to illustrate the over-arching needs of the business in order to better strategize IT solutions that meet those business needs."

As a final remark you mention version control. We are currently setting up a "Change and Configuration management" in which version control will be integrated. This process will be finalised over the course of this year.

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA Team

7 Comment 7 - Michał Bukowski

Name of contributor	Date of comment	Source
Michał Bukowski	29 June 2015	https://joinup.ec.europa.eu/asset/eia/asset_release/eira-release-v090-beta#comment-16976

7.1 Original comment

I've got one remark related to "An introduction to the European Interoperability Reference Architecture v0.9.0 (EIRA)":

“2.3 Target users and use cases

The EIRA targets the following users within public administrations of Member States or EU institutions: (...)”

I suggest inclusion to scope of users category of „enterprise architects” who design central and local government enterprise architectures, consisting of – among others – architecture building blocks (ABB). These national, regional, and domain enterprise architectures should be aligned top-down, including conformance with European Union Enterprise Architecture.

7.2 Answer

Dear Mr. Bukowski,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

We agree with your remark to include the notion of "Enterprise Architects" in the scope and have changed the text from the following:

- The EIRA targets the following users within public administrations of Member States or EU institutions: **Architects** responsible for the design of solution architectures;

To

- The EIRA targets the following users within public administrations of Member States or EU institutions: **Architects,** Enterprise as well as Solution Architects, that are responsible for the design of solution architectures

This adapted text will be part of the upcoming EIRA v1.0.0 release

If you have any more remarks, we are happy to receive them

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA Team

8 Comment 8 - John Gøtze

Name of contributor	Date of comment	Source
John Gøtze	26 July 2015	https://joinup.ec.europa.eu/asset/eia/asset_release/eira-release-v090-beta#comment-16971

8.1 Original comment

Quick analysis of EIRA

EIRA lists 161 architecture building blocks. Of these, more than half are technical:

- 82 Technical View (27 Application and 55 Infrastructure)
- 26 Organisational View
- 19 Semantic View
- 18 Legal View
- 6 Interoperability View
- 10 Deprecated (11 if ABB59 Logging Service included – not marked in View:Deprecated but in Status).

The building blocks are described via selected ArchiMate model concepts, of which four are used a lot:

- 40 ArchiMate:ApplicationService
- 34 ArchiMate:BusinessObject
- 26 ArchiMate:ApplicationComponent
- 18 ArchiMate:DataObject

Other model concepts are also used:

- 6 ArchiMate:BusinessProcess
- 5 ArchiMate:Contract
- 4 ArchiMate:BusinessActor
- 3 ArchiMate:BusinessRole
- 3 ArchiMate:InfrastructureService
- 3 ArchiMate:Network
- 3 ArchiMate:Node
- 2 ArchiMate:ApplicationInterface
- 1 ArchiMate:BusinessFunction
- 1 ArchiMate:BusinessInteraction
- 1 ArchiMate:BusinessInterface

- 1 ArchiMate:BusinessService

So, looking at the big picture, EIRA is perhaps a bit “heavy” on the technology side of interoperability, but does cover the four layers. In particular, EIRA establishes a set of views across the four layers. In doing so, it has to “embrace and extend” ArchiMate.

EIRA and ArchiMate

EIRAs commitment to ArchiMate is somewhat courageous. And somewhat creative, for example:

EIRAs Business Capability is covered by ArchiMate:BusinessFunction

EIRAs Business Information Exchange is covered by ArchiMate:BusinessInteraction

A Business Capability is the expression or the articulation of the capacity, materials and expertise an organization needs in order to perform core functions. Enterprise architects use business capabilities to illustrate the over-arching needs of the business in order to better strategize IT solutions that meet those business needs.

A Business Information Exchange is a piece of business data or a group of pieces of business data with a unique business semantics definition in a specific business context [ISO15000-5, UN/CEFACT CCTS].

These are work-arounds to two well-known ArchiMate limitations.

The ArchiMate:BusinessObject is also quite busy, and for example covers these ABBs:

- *Business Rule*
- *Business Information*
- *Organisational Procedure*
- *Organisational Structure*

Again, work-arounds to current ArchiMate limitations.

EIRAs ABBs have changed with each release. Deprecated ABBs in the 0.9 beta include:

- *Business Process*
- *Business Process Model*
- *Business Transaction*
- *Licensing and Charging Policy*
- *Privacy Policy*
- *Metadata Management Policy*
- *Data Routing Service*
- *Data Routing Component*
- *Information Security Policy*
- *Data Quality Policy*
- *Logging Service?*

So, *Business Process* and *Business Process Model* are deprecated, but the ArchiMate:BusinessProcess model concept is used several times, namely for these ABBs:

- *Public Policy Cycle*

- *Definition of Public Policy Objectives*
- *Formulation of Public Policy Scenarios*
- *Impact Assessment*
- *Public Policy Implementation*
- *Public Policy Evaluation*

ArchiMate of course allows for a certain amount of flexibility (ArchiMate 2.1, Chapter 9 Language Extension Mechanisms), but the creativity can be dangerous, especially in an interoperability context.

EIRA is an many ways ahead of ArchiMate. The challenge is that ArchiMate is under continuous development, and is likely to change on exactly these areas in future versions (see chapter 12.1 in the ArchiMate 2.1 spec). So EIRAs current notation standard should be seen as a temporary "fix".

A note of caution

EIRA has obviously selected a winner of the longstanding Process vs Capability Debate. Eradicating processes is rather bold, and contrary to advice from experts like Roger Burlton, Paul Harmon, Alan Ramias and Andrew Spanyi, and Keith Swenson. While it is laudable to focus on capabilities, the use of capabilities should not be seen as an alternative to using processes and business process models. Both are needed.

EIRA and Open Data

The EIRA model is available as an Archi file. The data is also available in Archi-produced HTML and images.

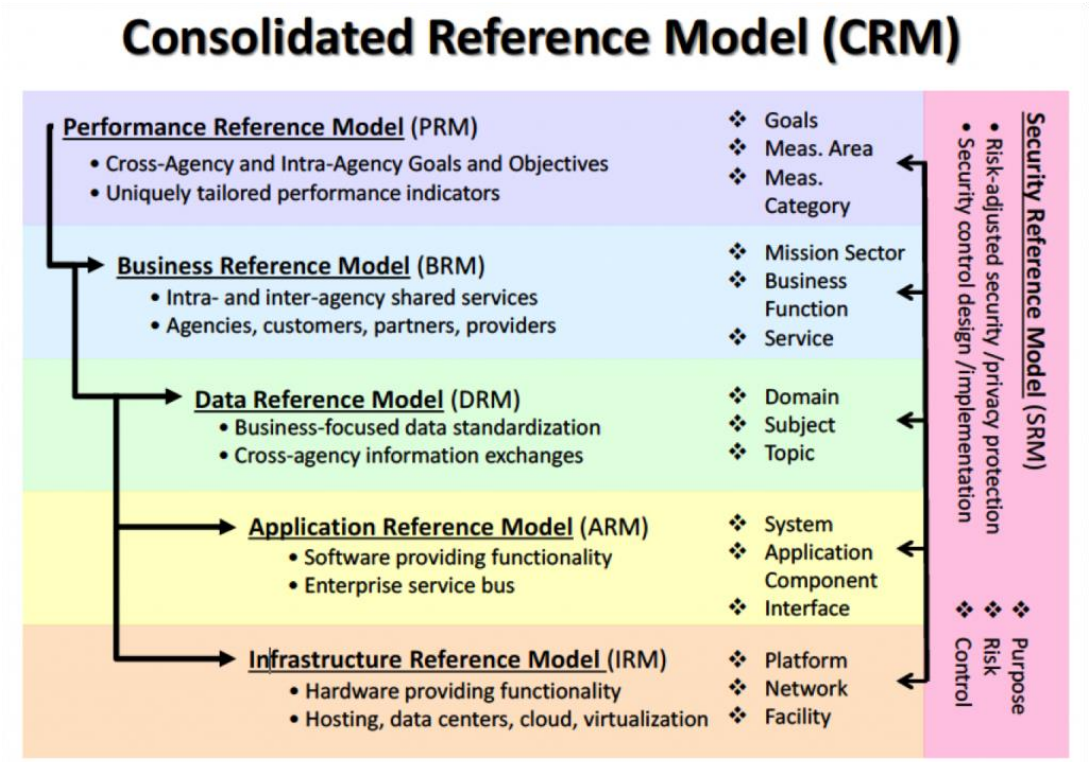
From a maturity standpoint, this is only just acceptable. Even an Excel sheet version would be better, but better would be "raw data" available in a range of formats, possible as an api.
Of course, The Open Group is working on an ArchiMate Model Exchange File Format, and has sponsored the development of an Archi plugin for exporting to that format.
Apart from listing a few generic and rather useless Dublin Core metatags (in the HTML table), the current EIRA model is weak on metadata provision. EIRA could, for example, have used Data Catalog Vocabulary (DCAT) andAsset Description Metadata Schema (ADMS), and the team may want to check out this guide.

Interoperable frameworks?

EIRA does not have any mapping to any other framework.

The Legal and the Organisational views are less conventional as architecture views go. The Semantic, Application (Technical) and Infrastructure (Technical) views are classic architecture views in many EA frameworks. A comparison with established frameworks seems to be a good idea.

A key part of the **US Federal Enterprise Architecture Framework Version 2** (FEAF-II) is the **Consolidated Reference Model**, which equips the US Federal Government and its Federal agencies with a common language and framework to describe and analyze investments. It consists of a set of interrelated reference models that describe the six sub-architecture domains in the framework:

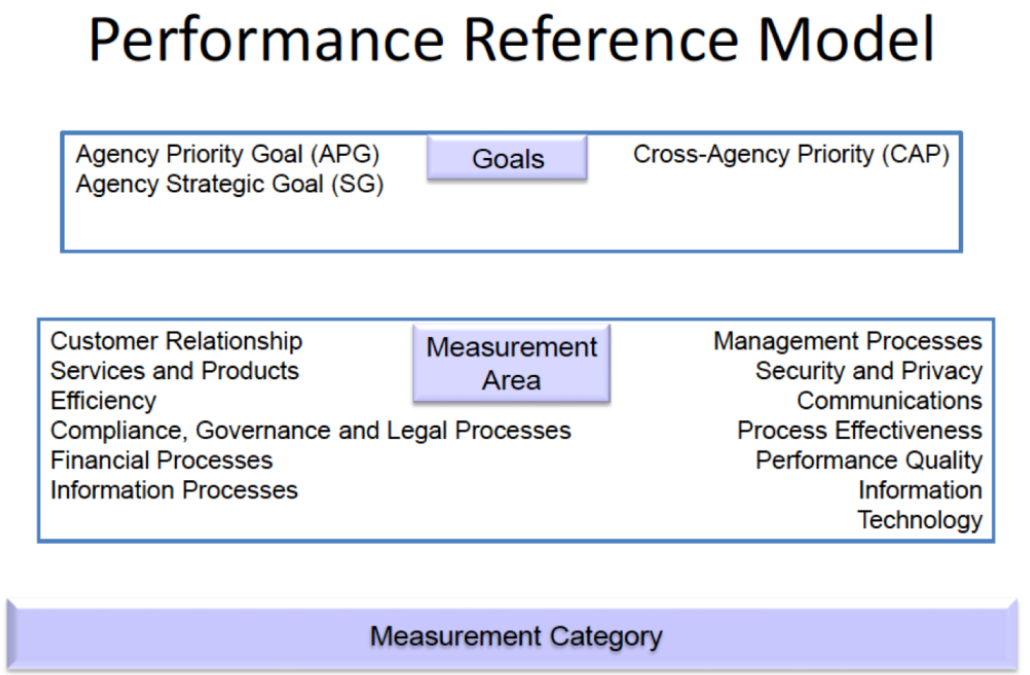


- Strategy
- Business
- Data
- Applications
- Infrastructure
- Security

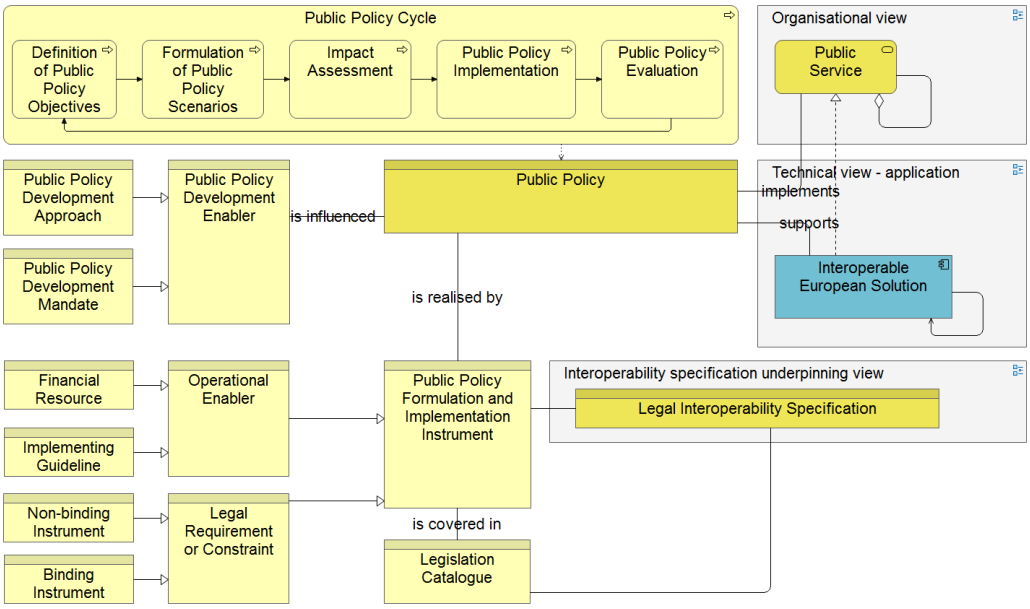
EIRAs Legal view is roughly equivalent to FEAF-IIs Strategy (Performance Reference Model), and EIRAs Organisational view roughly equivalent to FEAF-IIs Business Reference Model.

Content wise, EIRA and FEAF-II use these two layers in different ways:

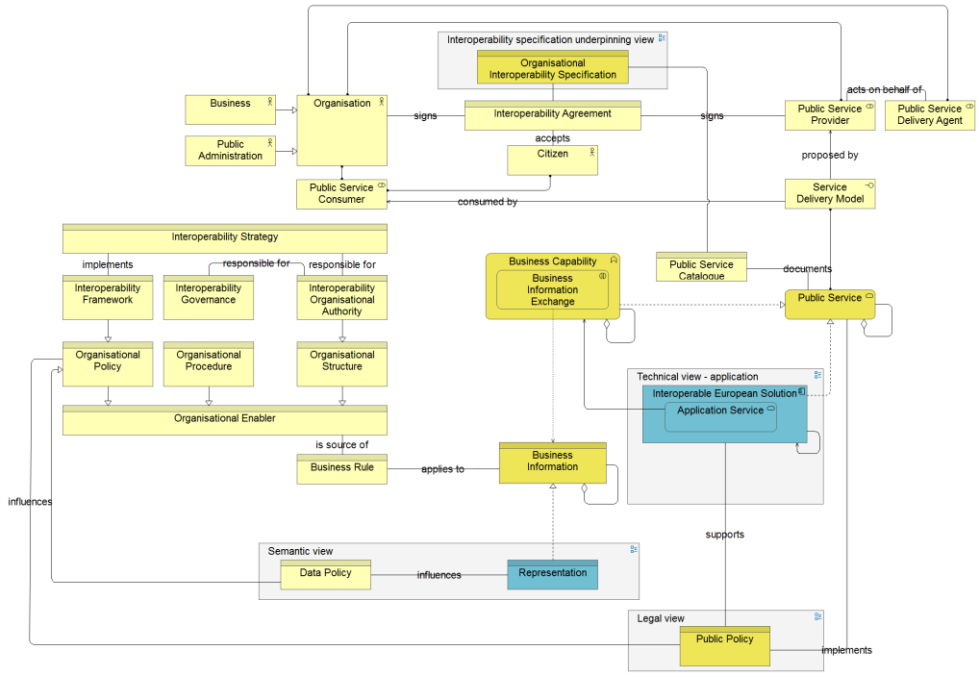
US FEAF-II Performance Reference Model



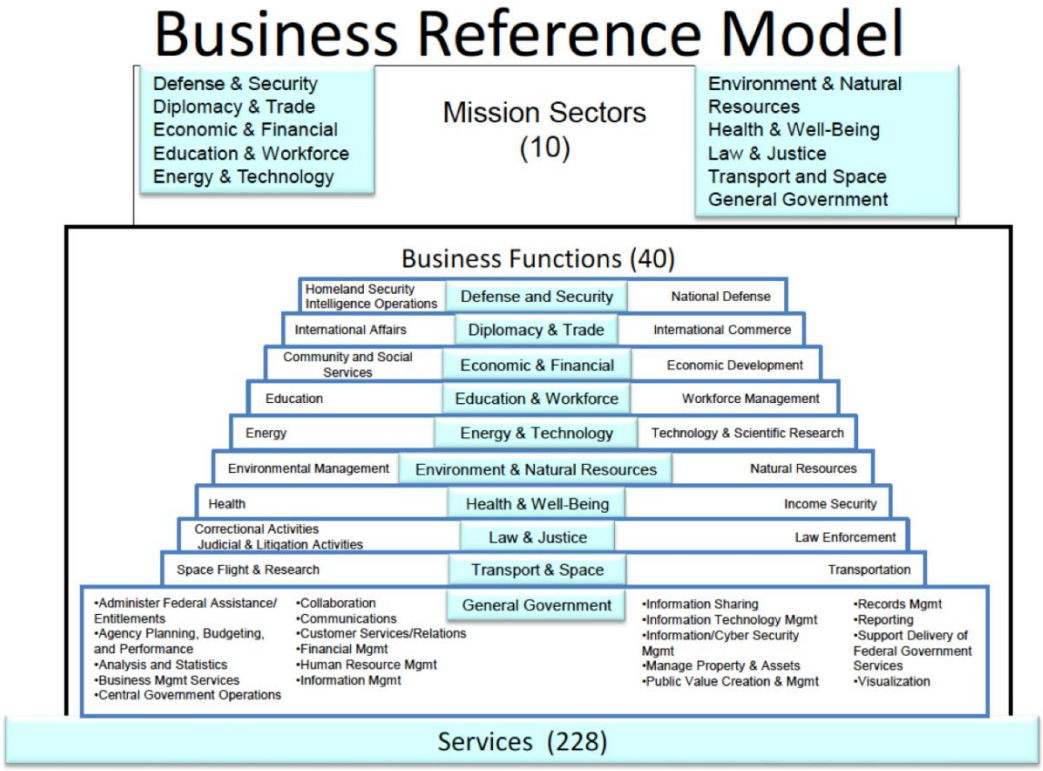
EU EIRA Legal Interoperability view



EIRAs organisational view



US FEAF-II Business Reference Model



EIRAs model scope is wider than FEAF-IIs, but FEAF-II is more comprehensive as a classification scheme.

EIRA should consider taking inspiration from FEAF-II, and at least add a security view. If anything, such view should become mandatory for all European governments.

Towards EIRA 1.0

The 0.9 release of EIRA is a big step forward for reference architecture work in European governments.

QualiWare proposes a rapid consolidation and documentation process, and then releasing Version 1.0. EIRA should not await the next version of ArchiMate, but rather run with well-documented revision control.

QualiWare is committed to supporting international governments in their interoperability work. QualiWare fully supports using ArchiMate 2.1. If customer demand requires it, the “EIRA ArchiMate” approach can easily be supported.

Read more on https://coe.qualiware.com/european-interoperability-reference-architecture/

8.2 Answer

Dear Mr. Gøtze,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

You mention the use of Business Function instead of Business Capability as well as the use of Business Processes. There has been a discussion about the use of Business Capabilities, Business Processes and Business Functions, and the EIRA v0.8.3 release actually contained the notion of a Business Process. We have made a conscious choice however to replace the notion of process and function by the more abstract concept of capabilities.

Business process model is part of the service delivery model. The business process model describes the inter-organisation activities with a focus on the information exchange. The Interoperability agreements are based on the service delivery model. In ArchiMate business functions defined as ‘internal behaviour performed by a business role that is required to produce a set of products and services. It is performed by a single role within an organisation.’ The ArchiMate "Business Process" conflicts with our notion of modelling the need of the business for which we use "Business Capabilities: The term "Business Capabilities" provides a higher level of abstraction, its definition in the EIRA is as follows: “A Business Capability is the expression or the articulation of the capacity, materials and expertise an organization needs in order to perform core functions. Enterprise architects use business capabilities to illustrate the over-arching needs of the business in order to better strategize IT solutions that meet those business needs."

You mention that the EIRA has deprecated the 'Business Process', while it is still used in the EIRA. It is true that we have deprecated the **EIRA Business Process**, which has been replaced by Business Capabilities. However, we have not deprecated the use of the **ArchiMate Business Process**, which is still used in the Legal view, as part of the "Public Policy Cycle", for example.

We hope that this provides more clarity on the topic of Business Capabilities in relation to Business Processes and Business Functions. However, you also mention that the EIRA is courageous and refer to the fact the Business Information Exchange ABB is covered by the ArchiMate 'Business Interaction' entity. Our definition of "Business Information Exchange" is the following: "A Business Information Exchange is an

interaction between two or more public administrations, businesses or citizens[4], which seems to cover the scope. We are very interested in your point of view on this matter.

Thanks for your remark concerning the deprecation of the Logging Service, this was a mistake and has been corrected in the upcoming EIRA v1.0.0 release.

Your remark concerning the use of open data has been taken into account. The model will be released in the form of "The Open Group ArchiMate Exchange File Format", an open standard. Additionally, the building blocks contain ADMS attributes, so they can be used in Joinup, our communication platform. The use of Core Vocabularies (especially the Public Service) will be examined this year.

You mention the relationship to other Architecture Framework and refer to FEAF-II, with the remark that there should be a mandatory security view in the EIRA. We will provide two studies this year, one will be the relation of the EIRA to other framework (GZ-NEA, FEAF but also NATO, as example), the other will be specifically on the issue of security in the relation to the EIRA.

As a final point to answer your remark on a documented revision control we are currently working on a defined 'change and configuration' process in which we will take the notion of revision control into account.

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA Team

[4] Based on UN/CEFACT Modelling Methodology (UMM) http://www.unece.org/cefact/umm/umm_index.html

9 Comment 9 - Pavel Janovjak

Name of contributor	Date of comment	Source
Pavel Janovjak	08 July 2015	https://joinup.ec.europa.eu/asset/eia/asset_release/eira-release-v090-beta#comment-16875

9.1 Original comment

I have no comments to the EIRA itself. Its nice job, I am pretty happy this is going in good directions.

I have prepared a Motivation layer for EIRA 0.9.0 beta (a simple version), maybe you will find it useful for stakeholder communications. Feel free to comment/add/adjust.

Keep ArchiMate-ing!

Many regards,

9.2 Answer

Dear Mr. Janovjak,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

We want to thank you for the effort you have put into this. In fact, the use of the motivational extension has been mentioned before, but no one has taken the effort to provide an example. At this moment, we are preparing the first official release of EIRA v1.0.0. We will look into the motivational extension and your version of it, once this release has been published.

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA Team

10 Comment 10 - Birol Berkem

Name of contributor	Date of comment	Source
Birol Berkem	04 December 2015	https://joinup.ec.europa.eu/asset/eia/description#comment-17288 and extended by email

10.1 Original comment

Dear Dr Abril,

Thank you for sharing with us this excellent EIRA initiative.

I posted yesterday a comment on the public consultation page of EIRA but I am not sure it would be considered as the consultation delay was expired. FYI, its content was about the following:

"Would you consider checking whether the 12 EIF principles available at http://ec.europa.eu/isa/documents/isa_annex_ii_eif_en.pdf have been completely treated throughout the different layered views of the EIRA Framework? So that on the basis of goals and values of the architecture, principles 'imply' requirements that are to be considered to 'influence' other principles to impact "building blocks" of all the layered views by establishing appropriate relationships...

I provided an example of this "goal driven and principle based" chain of responsibility on http://goobiz.com/Value_Based_IT_Alignment_Using_TOGAF_ITIL_SE_and_Agile.html (cf. figures 2 and 3)".

FYI, I also found a few ambiguous points as part of the provided explanations even they are not so crucial. Please find below them "underlined".

3.2.4 Use of colours

"The default views of the EIRA leverage the standard colours of ArchiMate to depict the corresponding architecture building blocks: business (yellow), application (green) and infrastructure (green).

Suggestion: use "(blue)" for application layer as used in ArchiMate 2.

3.3 Tool support

Business

- **Interoperability View Concepts**: building blocks from the interoperability view;

Question: The "Interoperability View Concepts" seem to be referenced only from the "business" view. Why there is no such reference from the Application and Technology Views as well?

4.1 EIRA high-level overview

The EIRA high-level overview, depicted in Figure 9, visualises the focal architecture building blocks of each view. It provides an introductory overview of the most important EIRA ABBs. It aligns the EIRA with the service delivery model described within the Interoperability Maturity Model5 (IMM) [7] and the EIF conceptual model for public services depicted Figure 6.

Suggestion: EIF conceptual model for public services depicted Figure 10.

4.2 Legal view

(After Figure 12)

The [Public Policy] is developed taking into account [Public Policy Development Enablers], which include a specific [Public Policy Development Approach] and a [Public Policy Development Mandate].

Suggestion: "include" should be modelled using an "aggregation" relationship rather than a "specialisation".

The policy is formulated and implemented with the help of [Public Policy Formulation and Implementation Instruments], which can be [Binding / Non-Binding Instruments], [Legal Requirements or Constraints], and/or [Operational Enablers], in the form of [Financial Resources] and/or [Implementing Guidelines].

Suggestion: use "or" (not and) as only a specialisation relationship is used for this.

4.4 Semantic view

(after figure 14)

[Representation] and [Data] are influenced by [Data Policies],

Potential Ambiguity: In Figure 14, [Data Policy] influences [Representation]. But due to two different "has" relationship illustrated from [Representation] toward [Data] and [Data Standard], also [Data Standard] seems to be influenced.

PS: Since I have been involved in providing training/mentoring services at the EC about RUP@EC against CEAF, UML, etc.... Should you need an ArchiMate designer, reviewer or trainer for your projects, please feel free to contact me. I would be more than happy to contribute.

Kind Regards,

10.2 Answer

Dear Mr. Berkem,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

In your comments, you have mentioned some inconsistencies in the text of the document, which have been corrected, thank you very much for this!

You also mentioned that the "Interoperability specification underpinning concepts" only seem to be referenced from the business view. When looking at the tooling aspects, you will find indeed that the "Interoperability View Concepts" are only listed at the ArchiMate Business level and neither in the

application, nor in the technology level. However, each of the EIRA views does have a link to the "Interoperability Specification Underpinning Concepts", which is represented on each of the different views. It is also clearly expressed on the EIRA High Level overview, where the Interoperability Specification Underpinning View is embedding the different views, serving more as an 'umbrella' view.

You mention several ambiguities in the text and in the model and we would like to thank you for pointing these out. We have made several adaptations to the descriptions of the building block, removing any form of ambiguity. We have introduced the following convention (and adapted the relation accordingly):

“When the direction of an ArchiMate relation between two entities is unclear, we use the following convention: The relation between two entities is always modelled in a top-down, left to right fashion. The top entity refers to the subject of a sentence, the bottom entity refers to the object of a sentence. When the two entities are at the same level, it is the left entity that refers to the subject and the right entity that refers to the object”.

As a final remark we will work on the elaboration of the interoperability specifications and the alignment with the European Interoperability Framework (EIF). However, as the EIF is currently under revision, we will wait for the next version to be available.

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA Team

11 Comment 11 - Jostein Frømyr

Name of contributor	Date of comment	Source
Jostein Frømyr	27 January 2016	Comment received by email

11.1 Original comment

I just briefly looked through the presentation and noticed that Slide 31 contains the phrase “do not distribute further”. It this is intentional this slide has to be removed from the presentation. Any document presented to CEN/TC 440 has the status of being publicly available and will be distributed not only within the committee, but also within the national mirror committees.

I also noticed that EIRA 1.0 is due for release in February 2016. As advised earlier I have two points that may be worth addressing in this revision:

- Why is the concept of "Business Information” defined as part of the Organisation interoperability view and not the Semantic interoperability view?
    - I see our (making BII3 a synonym for CEN/TC 440) concept of Information Requirement Model as a realisation of the EIRA Business Information Exchange and our Information Elements as EIRA Business Information. However as the Business Information are a reuse of Information Elements from the eProcurement Business Term Vocabulary, I believe that the vocabulary itself should be part of the Semantic view.
    - As a detail, I also question the type of relationship defined between Business Information Exchange and Business Information. It is currently defined as “access” which seems to suggest that business Information is instance oriented.
- Where/how does the Core/Domain Vocabularies, as defined by the ISA work on core vocabularies, fit into EIRA?
    - I would very much like to see the EIRA would recognise the Core Vocabularies as a Semantic Interoperability Specification.

11.2 Answer

Dear Mr Frømyr,

Thank you for your comments on the public release of the "European Interoperability Reference Architecture", version 0.9.0 beta, which was released on Joinup.

In your mail to Mr. Abril-Jimenez, you mention the recognition of Core Vocabularies as a Semantic Interoperability Specification. The EIRA currently models core vocabularies as a 'Core Data Model' (Definition of a Core data Model in the EIRA: A context-neutral data model that captures the fundamental

characteristics of an entity[5]). Additionally, we are currently investigating IOP compliance in relation to Core Vocabularies (more information here).

On your remarks on the Business Information (which is indeed instance oriented) as part of the Organisation View and not the Semantic View, Organisation is a higher level of information and can exist without defining the technical aspects. These technical aspects are covered in the Semantic view, where data in combination with a representation becomes information.

Finally, we would be happy to discuss with you any further remarks you might have on EIRA.

With kind regards,

The EIA Team

[5] Core Vocabularies Handbook