

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 a (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 a 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 a 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 Office¹. This relationship can be easily demonstrated in the EIRA as well, for instance at the element "machine 2 machine interface."

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,

¹ <https://www.forumstandaardisatie.nl/english/>

for example, is the relationship between EIRA and the Dutch Gemeenschappelijke Digitale Infrastructuur² (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 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 format³". This is an open standard, which also can be imported in Archi. You could

² <https://www.digicommissaris.nl/thema/generieke-digitale-infrastructuur-gdi>

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

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.