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ACER – Agency for the Cooperation of Energy Regulators

Public Consultation: REMIT Registration Format / Public Consultation Paper (PC_2012_R_08)

OPINION RELATED TO THE REMIT REGISTRATION FORMAT

First of all, thanks for ACER (Agency for the Cooperation of Energy Regulators) organising this very interesting public consultation.

Energy market integrity and transparency is very important issue and it has straight consequences to private citizens.

This opinion represents an opinion of an individual citizen, not any legal entity.

This opinion does not contain:

- any business secrets
- any trade secrets
- any confidential information.

This opinion is public.

Annex 1 holds information about disclaimers and copyright.

Best Regards,

Jukka Rannila
citizen of Finland

signed electronically

1. General / Publication of the REMIT registration format

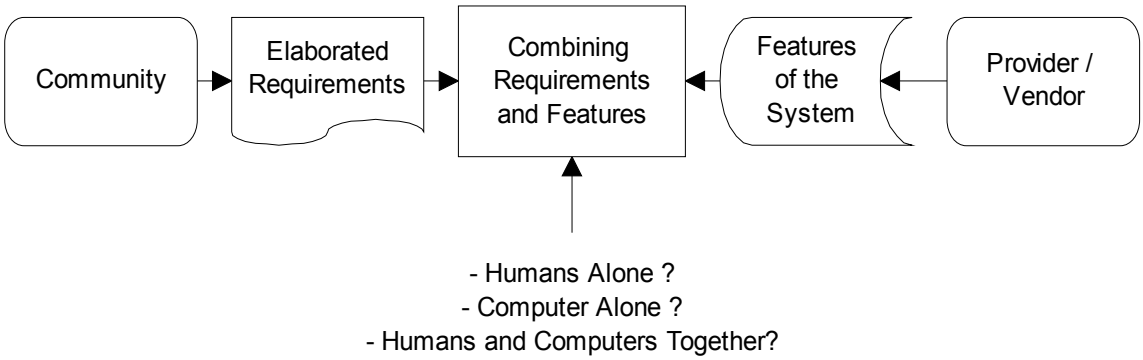
It is possible, that ACER has not yet issued a request for quotations (RFQ) for the new information system, which would handle registrations based on REMIT registration format.

(REMIT, Pursuant to Article 9(3) of Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency).

It is possible, that after publication of the REMIT registration format on 29 June 2012, there will be some actions in ACER to start a procurement process for a new information system. This is not clearly stated in the consultation paper (PC_2012_R_08).

In general, consultation about the REMIT registration format is important, since many actions in a possibly new information system will be based on actual registration information.

2. General / Relations with requirements and features



It can be said, that ACER is now a community for elaborating different requirements to a new information system. The new information system features should conform to the requirements.

However, the scientific information about requirements engineering is not cumulated extensively. Mainly the scientific information about requirements is still based on describing different issues in the requirements process. (Jarke et al. 2011)

One thing is sure, requirements engineering is very high-risk task in the information and communication technology (ICT) field. Therefore we have even today very high-risk projects failing because of the requirements engineering problems.

Traditionally requirements engineering has been divided in to three distinct areas:

1) discovery
2) specification
3) validation and verification.

In the traditional terms it can be said that this consultation of the REMIT registration format is specifying different requirements for a new information system.

However, it can be said with high certainty, that this consultation will not result full discovery and totally unambiguous specification. Therefore the actual implementation of the new information system can open totally new scenes of new and unforeseen requirements – thus opening a way for a new information system failure.

Jarke et al. (2011) propose (table 4 in the article) some new requirements practices, based on the new principles:

New RE principle	Potential new practices
Intertwine requirements and contexts	SG 1—develop context requirements SP 1.1—elicit context domain model SP 1.2—develop context-product requirements
Evolve designs and ecologies	SG 2—manage requirements in context SP 2.1—monitor and evolve customer requirements SP 2.2—monitor and evolve context requirements SP 2.3—monitor product satisfaction of requirements (continuous validation)
Manage through architectures	SG 3—manage architectural requirements SP 3.1—specify architectural styles SP 3.2—specify product line requirements SP 3.3—analyze support of evolutionary in architectural requirements
Recognize and mitigate against design complexity	SG 4—manage design complexity SP 4.1—identify requirements that contribute to increased design complexity SP 4.2—analyze requirements to achieve a balance between design complexity and customer satisfaction

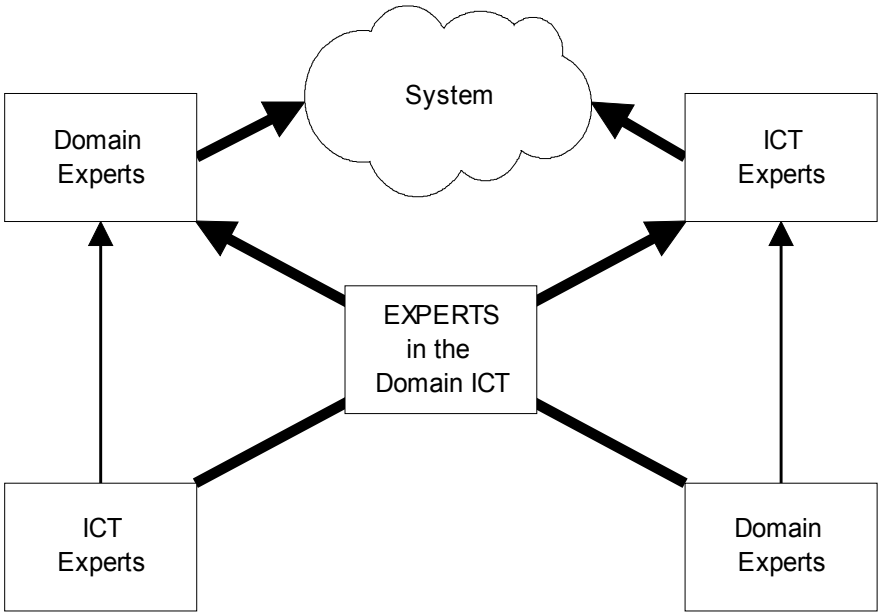
It can be said, that these new potential requirements practices needs to be tested, since the previous work on requirements has not resulted a lot of verified successes.

3. General / Who will be the expert – in which context?

Like Jarke et al. (2011) describe, one of the prevailing models is, that requirements engineers come outside the community and then they “find and document” different requirements. In practical reality this does not work and requirements are not elicited, specified, validated and verified well enough.

My proposal is, that traditional roles of ICT experts and domain experts should be altered in many

ways. I have tried to explain the idea in the following figure.



In practical reality ICT experts try to become domain experts, since they are total newcomers in many situations. What is the problem in this approach? In some domains it will take some years to become a real expert in some domain.

On the other hand many domain experts are total newcomers in the many situations. Even though many domain experts use ICT every day, the understanding of inner workings of different ICT solutions is very limited.

What we need? Naturally we need experts in the domain ICT. How could this possibly achieved? My conclusion is that we need some blurring of ICT knowledge and domain knowledge in very straightforward way. My proposal is something like this:

1. Domain experts/engineers give education to the ICT experts
2. ICT experts/engineers give education to the domain experts/engineers.

My humble opinion is, that in some cases acquiring the needed knowledge in some domain can take several years, and ICT experts can not learn everything in a certain domain. On the other hand, I think that pure ICT skills can be learned faster than many specialised skills in different domains.

What we are missing, is the format for doing this two-stage education process, which can take some time – e.g. several weeks in some cases.

My proposal is, that after this education process there can be a lead requirements engineer, who can successfully navigate in the requirements jungle in a specific domain. This lead requirements

engineer should be accompanied with another requirements engineer, who can navigate in the requirements jungle of ICT solutions.

Therefore my proposal for the whole REMIT system is following:

1. Specify the registration format as planned
2. Plan the ICT procurement process
3. Select suitable persons for giving domain education for ICT experts
4. Select suitable persons for giving general ICT education for domain experts
5. Proceed with the ICT procurement process.

It can be said in the procurement process documents, that certain education will be provided by domain experts and ICT experts. With the current information I have, I would not recommend the traditional ICT procurement process, since it is not resulting best possible results.

The Standish Group International (1995a, 1995b, 1999, 2001) has published the famous CHAOS reports, which indicate a large amount of ICT failures in several fields. Naturally, those CHAOS reports has been presented badly or misunderstood. Haigh (2001, 2006) gives us another view for ICT failures from a longer time period.

IN short, the REMIT information system can be heading for a ICT failure, and the real ICT success of the REMIT information system can take some years after some rework and redirections – just referring to the success rate in the before mentioned CHAOS reports.

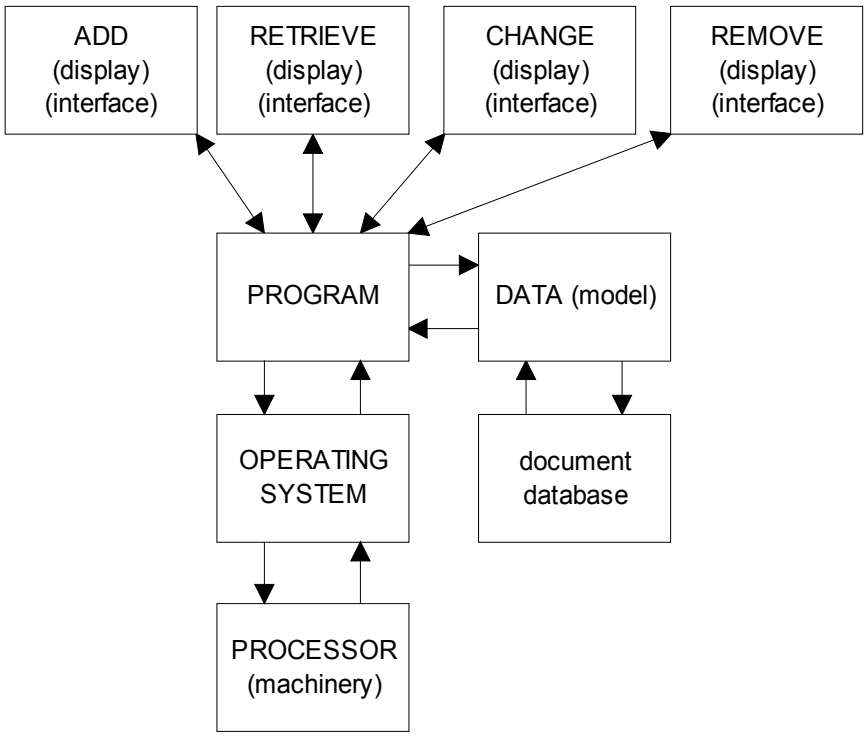
Basic premise / ACER should own the source code of the REMIT information system

Sledgianowski, Tafti and Kierstead (2008) provide an example of an self-developed enterprise system for a specialised SME (small and medium enterprises). The main conclusion, which I conclude, is the source code ownership of the procuring legal entity.

The normal situation is, that the procuring legal entity does NOT own the source code of an information system. This wrong ownership of the source code of an information system lead to numerous problems.

A simplification of ICT

In the following figure there is one simplification of ICT.



It can be said, that REMIT registration format is about the data model for the REMIT information system. The actual data is processed with documents and/or databases.

What I would recommend as the minimum solution:

- ACER owns the database of the REMIT information system
- ACER owns the source code of the program behind the REMIT information system

The maximum solution would be following:

- ACER owns the machinery and processor of the information system
- the machinery and processor are based on relevant open standards
- the operating system is based on an open-source solution
- ACER owns the source code of the information system
- ACER owns the database of the information system
- the database is based on open-source solution and on relevant open standards.

Naturally, the maximum solution might not be select as the preferred solution.

What would be the advantages of the maximum solution?

- the operator for machinery and processor can be selected based on skills and not on lock-in for certain technology

- operating system can be maintained by an operator, which is not locked in certain technology
- source code developers can be hired in irregular basis since the source code would be owned by ACER
- open technologies mean that operators could be certified professionals.

In practical terms it can be said, that ICT people are divided to three camps:

- information systems are owned by providers
- information systems are owned by the customers
- information system are developed in an open environment.

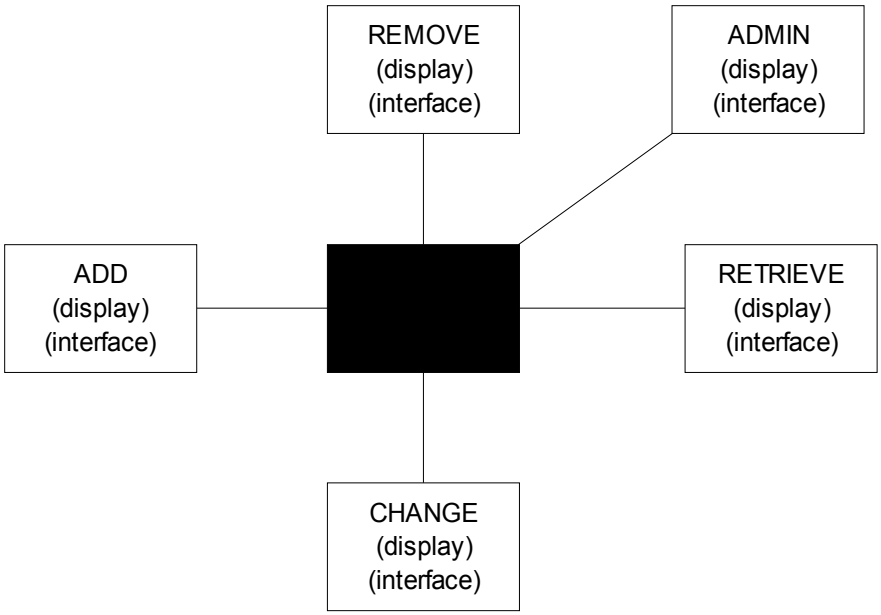
On the other hand it is quite clear that there will not be several hundred thousands installations of the REMIT information system – there will be only one REMIT system and therefore it is better that ACER owns all relevant parts of the REMIT information system.

Naturally ACER can use technologies, which are developed in an open environment, but these open technologies can be the base for actual solutions with direct ownership.

ACER will most probably face a fierce resistance from several stakeholder groups when/if ACER is demanding total ownership of the whole information system.

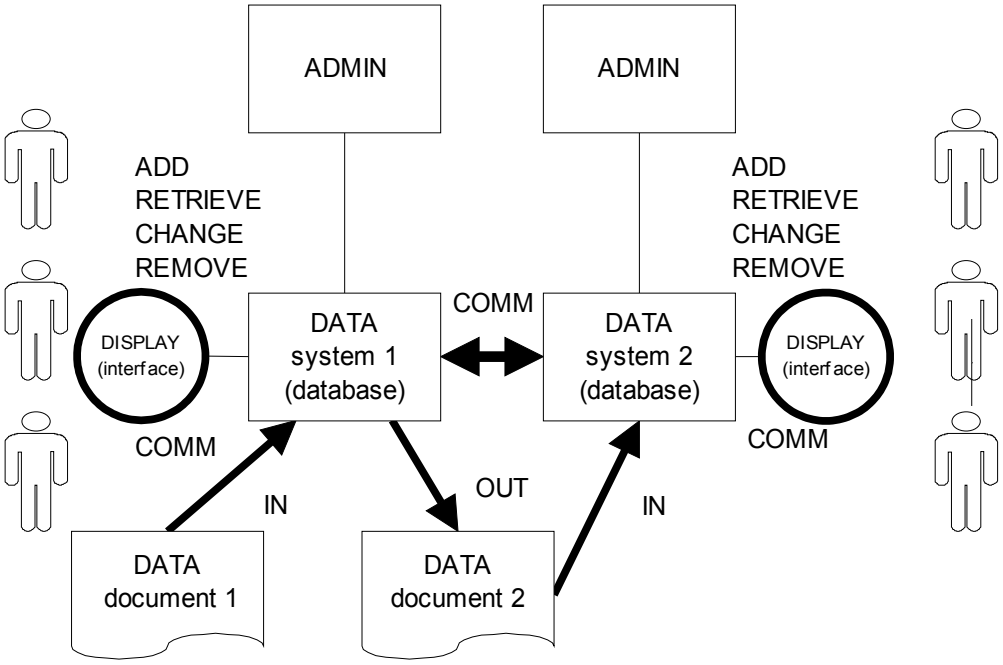
It can be said, that customer´s total ownership of the information system is somehow non-understandable for some ICT persons.

Black box experience / The general situation



Generally speaking average users are happy with the four basic functions of any information system: add, remove, change and change information in the system. Then the administrators of the system are distant people; sometimes administrators are not even working in the same community.

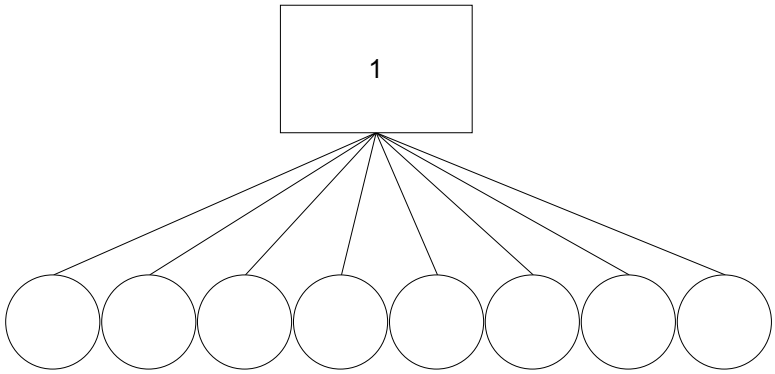
The actual reality – systems must communicate with each other



The actual reality is more complex than the general black box experience. In practical terms there are several situations:

- systems must communicate directly with each other
- there will be several communications methods for direct communication
- there are different standards for direct communication
- data in the system is added by processing different documents
- data from the system is extracted and loaded to different documents
- there are different standards for different documents
- there will be several types for different documents
- there are several displays / interfaces to system(s)
- there are several user groups.

This complexity can be described in the following figure.



One system will have several connections and several interfaces (displays).

The dream of one good interface

Most probably the following claims will cause a lot of unrest among ICT specialists.

1. There has to be possibly tens of different interfaces (displays)
2. There has to be several interfaces (displays) for different user groups
3. Different interfaces will be added and removed irregurarly.

One interface to all users will not work, and so-called heavy users will complain about the one interface being too complex and demanding several selections before the actual functions (add, remove, change, retrieve).

For certain ICT specialist, i.e. programmers and database specialists, one interface is a good target, since just getting one interface to work is a good challenge. Therefore creating several interfaces (displays) might cause unrest.

For certain ICT specialist, i.e. usability experts, several displays can be totally non-understandable challenge, since they are used to create one interface with maximum usability – maximum meaning all instructions and all selections well-explained. Also user interface testing is thought to demand several days of testing.

How to move to different and slightly different solutions with the new REMIT system? Here are some solutions:

1. Ask interface proposal from different stakeholder groups
2. Demand several interface proposal to different usage – from one-time usage to heavy usage
3. Collect several interface proposal together
4. Refine several interface proposal – i.e. redundant proposal are extracted together
5. Calculate initial support for different interface proposal
6. Distribute extracted interface proposals to different stakeholder groups
7. Calculate support for proposed interface proposals.

My own modest research (Rannila 2003) concludes, that one interface (display) to all user groups is not a feasible solution. There should be several simple interfaces (displays) to several user groups:

- one-time users
- users using the very rarely – e.g. yearly
- users using the system rarely – e.g. monthly
- user using the system rather often – e.g. weekly
- user using the system almost daily – not every day
- users using the system daily
- users using the system hourly
- etc.

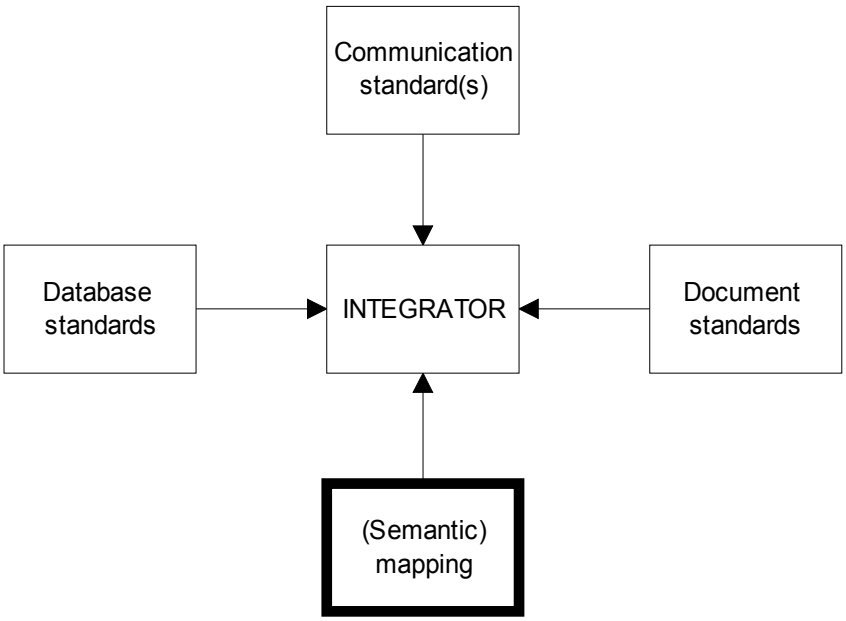
The user interface to heavy users must be as simple as possible with very few options to select. They need the most reduced user interface (display) for the following functions:

- add information
- retrieve information
- change information
- remove information.

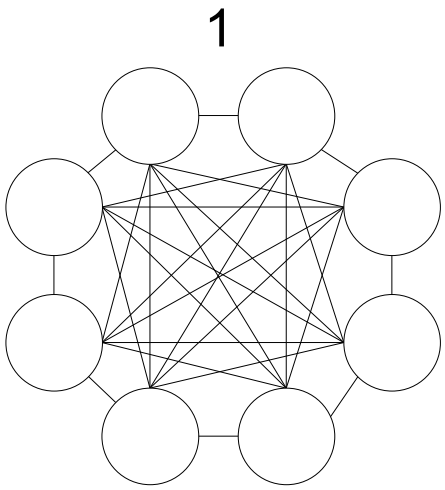
The user interface will more complex to other users and for one-time users it will be rather explanatory but also simple at the same time.

ACER should select a feasible integrator system

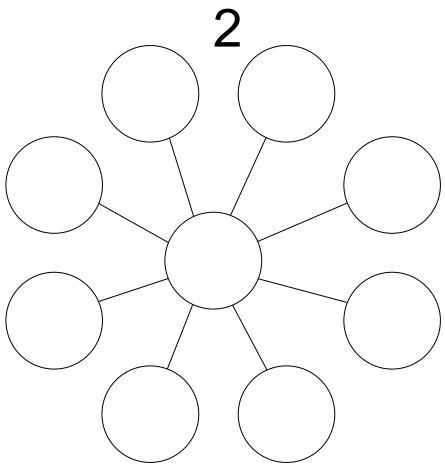
The practical reality is that REMIT information system must communicate with other information systems. The practical reality is, that some parts of the information system may be a legacy technology in distant future – it depends on the basic technology selections when procuring the system. However, the integrator systems are nowadays even better, and it might be feasible to ACER procure a feasible integrator system AND then the actual REMIT information system.



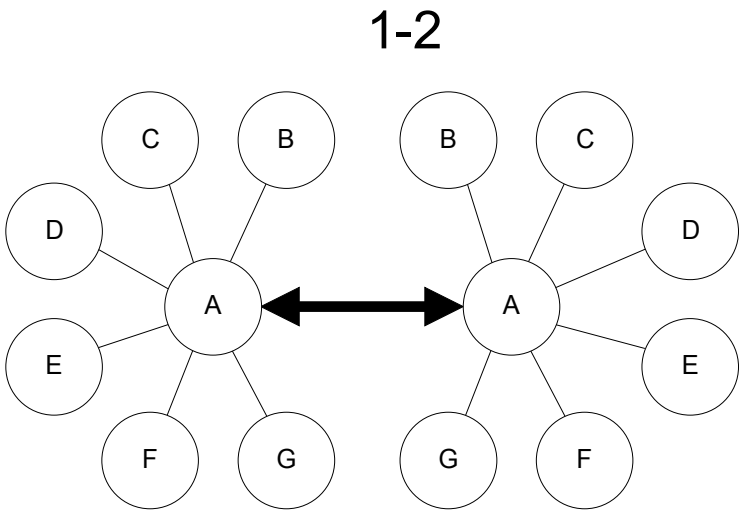
Why a separate integrator system? Without a separate integrator system the time will pass, and the REMIT system will ultimately be integrated to several system. This might result so-called (infamous) spaghetti situation, where everything is integrated to everything and it is impossible to move/change/remove anything in the system.



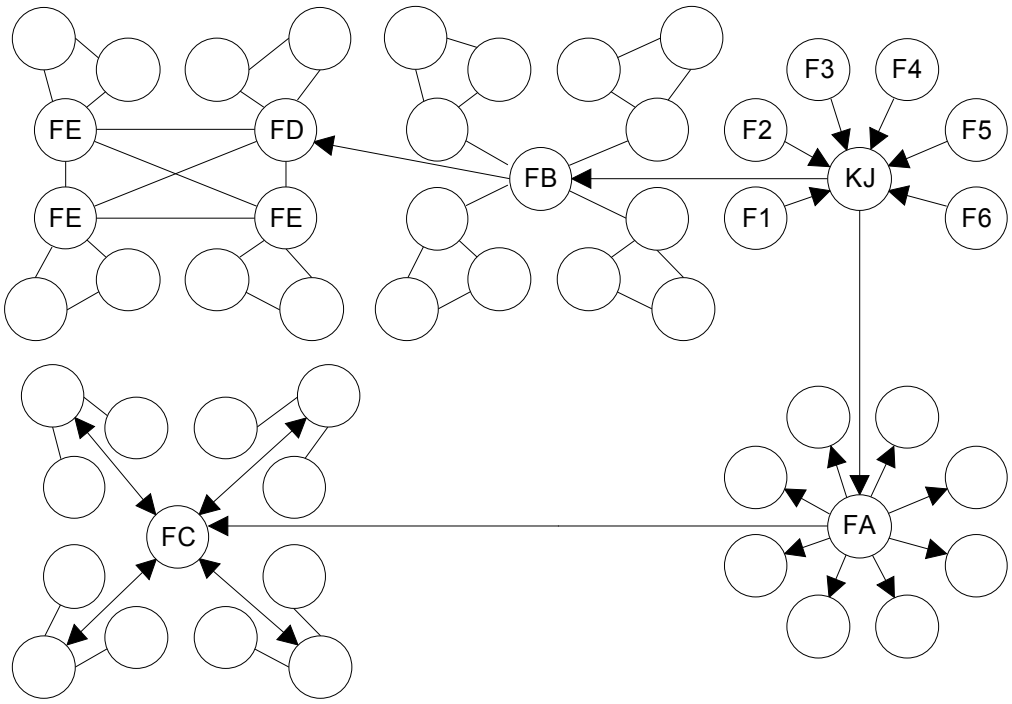
In the perfect world there would be just one integrator system, and other systems are systematically added, changed, removed, etc. and integrator system would handle all situations.



Naturally, there can be several integrator systems, and those integrator systems can communicate with each other.



However, we do not live in the perfect world, and different systems are interconnected in several layers. The following figure is an example of a simple layered situation.



The practical reality is, that there will numerous IDs (Identifier) in several layers. Therefore one identifier (REMIT style) for European level is practical impossibility. Therefore the REMIT system must handle numerous external IDs and most probably there will numerous external IDs added later.

Therefore dreams about one all-powerful ID must be ditched/dumbed.

This resolution might be upsetting in the first place, but the practical reality hard – there are existing ID and there will be several (partly new) external IDs to be handled. It is better to accept this fact in the first place and start planning the REMIT system with understanding of this practical reality. Most probably the ID done by the REMIT style will be a new layer of IDs for several external systems.

Different replicated systems for different types of retrieval

Also different retrieval needs complicate the situation. Naturally adding, changing and removing data in the systems are important, but retrieval is the most needed function.

Retrieval needs also vary: sometimes a real real-time system is needed and sometimes a daily retrieval is needed. Therefore ACER must also consider, if there is a reasoned need for different retrieval data systems. If there is a need for different levels of retrieval, a good integrator system is once again a feasible option.

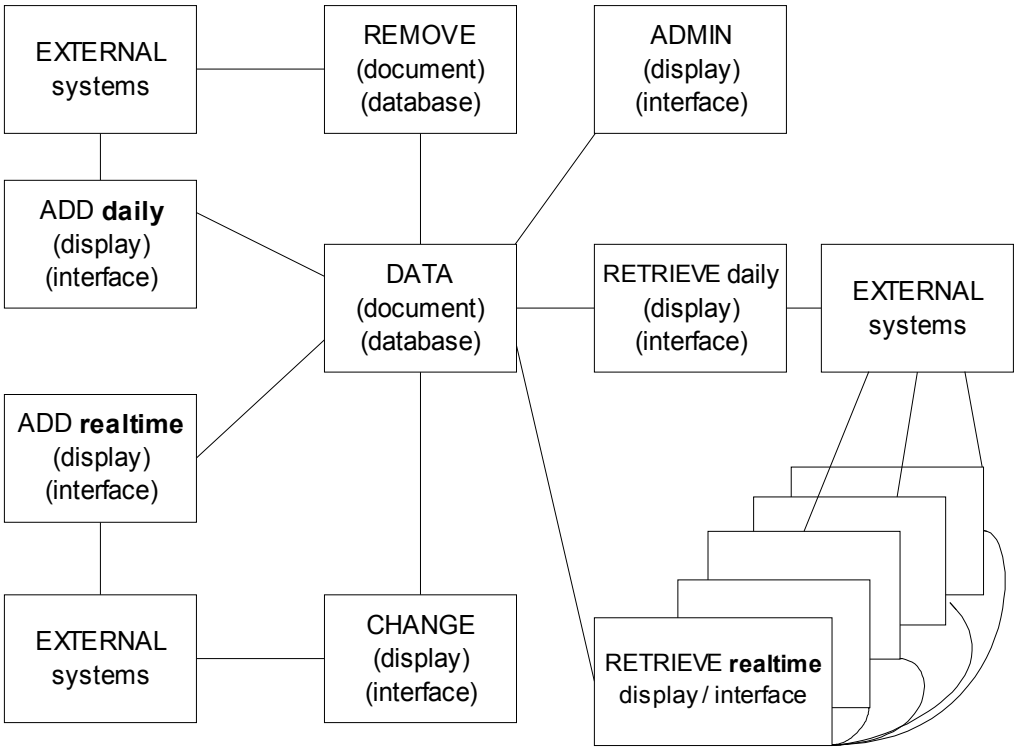
New buzzword: Cloud Computing

Most probably there will be several old and new buzzwords used when reading the opinions based on the public consultation paper (PC_ 2012_R_08). One the newest buzzword is Cloud Computing. ACER should be very concerned about different and new buzzwords, and ACER should check the practical reality behind different buzzwords.

Cloud Computing is according to my understanding/judgement just adding more stuff to web servers and those actions are standardised in many ways. There are possibilities for external and internal use of more powerful web servers. Since the communication speed in information networks is nowadays considerable, there is possibilities to add more stuff to web servers. Since the client computers nowadays are extremely efficient, the load between a server and a client can be divided in more efficiently.

However, there are always different high-profile risks in different ICT solutions – also in Cloud Computing. There is not a magical bullet to everything, and a new buzzword is always a high-profile risk.

What should actually be in the cloud (so-called)?



In practical reality different communication needs and different interfaces (displays) demand replication of some parts of the REMIT system. Since retrieval is the most needed function, the might be replications for different communication methods, e.g. possible real-time retrievals come

from different replicated data system. These replicated retrieval systems might work on thousands of retrievals per second. Naturally some external systems might work on real-time basis and they are some-how connected to the REMIT information system.

SO – so-called cloud can contain very efficient retrieval systems, and possibly other systems (add, change, remove) can be more traditional.

Generally: chapter 3 in the consultation paper (PC_2012_R_08)

It can be said, that ACER should ask a very seasoned database expert to plan the database structure based on the chapter 3 and based on the given opinions to the chapter 3. **Don´t use novices to this task**, since database structure failures are very hard to correct afterwards, specially if there are several external systems using (connected to) the REMIT system.

Some thought based on chapter 3

Date format

- date formats could be based on ISO 8601 standard [1]

3.1. (a) Basic information:

- the legal entity might have the name in several languages – e.g. in Finland there can Finnish and Swedish name for the same company
- BIC haves to codes actually, the actual account number and bank information (e.g. NDEAFIHH in Finland)
- there must be a possibility to add other codes afterwards, e.g. D-U-N-S might an option (Data Universal Numbering System [2])
- postal code / address must handle countries which are federations, i.e. member states like Germany
- there could be a time stamp when adding the information
- there could be a time stamp when changing the information

3.1. (b) Country-relevant information

- there can be several different registration number for the same legal entity
- even in the same country there can be several registration number for the same legal entity
- some of those registration numbers might be commercial registration number and some of them might be governmental registration number
- there could be a time stamp when adding the information
- there could be a time stamp when changing the information

1 http://en.wikipedia.org/wiki/ISO_8601 ISO 8601 Data elements and interchange formats – Information interchange – Representation of dates and times

2 http://en.wikipedia.org/wiki/DUNS, Data Universal Numbering System

3.1. (c) Corporate structure information

- postal code / address must handle countries which are federations, i.e. member states like Germany
- once again information can be external databases, both commercial and governmental
- so there might several codes for the same legal entity and/or physical person

3.1. (f) System section

My understanding of database planning is rather humble, based on general database and SQL handbooks.

However, almost every database has its own internal ID, which sometimes is revealed to external stakeholders, e.g. customer number is almost always internal and is generated automatically. Probably ACER will have its own internal ID for, which is not always revealed to external stakeholders. In practical reality this internal ID can help enormously in practical usage of the system.

- the internal ID in the REMIT system is used only by the ACER
- the internal ID in the REMIT system can be extremely simple, e.g. starting from number 100, and e.g. numbers 1-99 are used for system testing.
- there could be timestamps for this information

Then the external ID is also generated automatically, but is has more complex form as explained in the section 6.4.

Answers to the questions 1 and 2

1. Like said earlier, the registration format needs an closer analysis of a seasoned database expert (or experts)
2. There must be possibilities to add further information fields in the near and distant future
3. Tome of those further information fields can be commercial or governmental
4. The internal ID in the REMIT system can be rather simple
5. The external ID in the REMIT system can be rather complex

4.2 Updates to the registration and de-activation

Once again, time stamps might useful, when planning the database structure.

About information feeds / Especially RSS feeds

There is not much mentioning about information feeds and providing information feeds in the consultation paper. Nowadays, RSS feeds are the main solution in several systems, including European Union information services. RSS is well-specified standard [3] and it could be the basis for different information feeds.

Therefore, ACER could (or should) consult about the need for information feeds, there is once again different needs for several stakeholders. ACER might provide some general information feeds (e.g. RSS) from the REMIT system. ACER might also demand that market participants provide information feeds (e.g. RSS).

> **It is possible, that some market participants can provide feeds, which are not based on RSS. Therefore there might be need to convert different feeds in order to have actual RSS feeds**.

Information about different feeds can be asked in the following consultations.

Consultation questions 7, 8, 9 and 10

> I have already considered, that REMIT system would have an internal ID/code, which is required to keep the database in order.
>
> The external ID/code might be rather complex.
>
> The practical reality is, that REMIT system should have its own unique external ID/code, which is unique to the REMIT system. Since external ID/code will be used in several external systems, uniqueness must be clear and there should not be unambiguous factors in the external ID/code.

Need for new consultations

This consultation was interesting, but there is still need for new consultations. Here is my proposals for the next consultations:

1. The proposed database structure could be presented
2. There could be a consultation about the database structure
3. Technical information about the proposed information system could be presented
4. There could be a consultation about the technical information about the proposed information system.

3 http://www.rssboard.org/rss-specification (RSS 2.0 Specification)

Possibly a system based on open standards and possibly on open-source software

Like said before, there are possibilities for commercial and open-source solutions. The reality behind the REMIT system might result some hybrid solutions, both commercial and open-source solutions.

Open standards can be a feasible option, since then there is possibility to keep the system up-to-date more easily than with closed standards.

Good luck !!!!!

Information technology is never easy, and this consultation is just part of the complexity, which will be there when actually implementing the REMIT system. The journey will be most probably somewhat unexpected, but consulting seasoned experts in right points of the decision chain might be a feasible option.

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ANNEX 1

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4 Based on the Finnish three-party system there is a phenomenon called extreme-centre in Finland. The 2011 parliamentary elections in Finland challenge the three-party system, since three “old” parties were not traditionally as the three largest parties. The is now a “new” party as the third largest party. We all must remain being interested about this new development in Finland.