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2 TO: Electricity Authority / New Zealand

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4

5 First of all, a lot of thanks to Electricity Authority (New Zealand) for organising this important
6 consultation.

7

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

9

10 This opinion does not contain:

11 – any business secrets

12 – any trade secrets

13 – any confidential information.

14

15 This opinion is public.

16 PDF file of this opinion can be added to a relevant web page

17

18 Annex 1 holds information about disclaimers and copyright.

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22 Best Regards,

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26 Jukka S. Rannila

27 citizen of Finland

28

29 signed electronically

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Previous New Zealand consultations

I have addressed three previous opinions based on previous New Zealand consultations.

EN: Opinion 70: Providing better APIs in New Zealand

http://www.jukkarannila.fi/lausunnot.html#nro_70

EN: Opinion 73: Financial / Conceptual Frameworks

http://www.jukkarannila.fi/lausunnot.html#nro_73

EN: Opinion 81: Records and Information Management Standard

http://www.jukkarannila.fi/lausunnot.html#nro_81

European Union context

European Union institutions has organised different consultations about energy issues. Web page addresses for those consultations can be found here:

EN: Opinion 34: REMIT Registration Format

http://www.jukkarannila.fi/lausunnot.html#nro_34

EN: Opinion 43: Publication of extracts of the European register of market participants

http://www.jukkarannila.fi/lausunnot.html#nro_43

EN: Opinion 53: Trade Reporting User Manual (TRUM) (Draft)

http://www.jukkarannila.fi/lausunnot.html#nro_53

EN: Opinion 55: European Energy Regulation

http://www.jukkarannila.fi/lausunnot.html#nro_55

EN: Opinion 68: European Network Code Stakeholder Committees

http://www.jukkarannila.fi/lausunnot.html#nro_68

EN: Opinion 71: Common Schema for the Disclosure of Inside Information

http://www.jukkarannila.fi/lausunnot.html#nro_71

EN: Opinion 99: COM(2016)0863 - European Union Agency for the Cooperation of Energy Regulators. Recast

http://www.jukkarannila.fi/lausunnot.html#nro_99

EN: Opinion 101: Governance of the Energy Union

http://www.jukkarannila.fi/lausunnot.html#nro_101

79 **Public consultation on the revision of electronic formats for transaction data, fundamental**
 80 **data and inside information reporting**

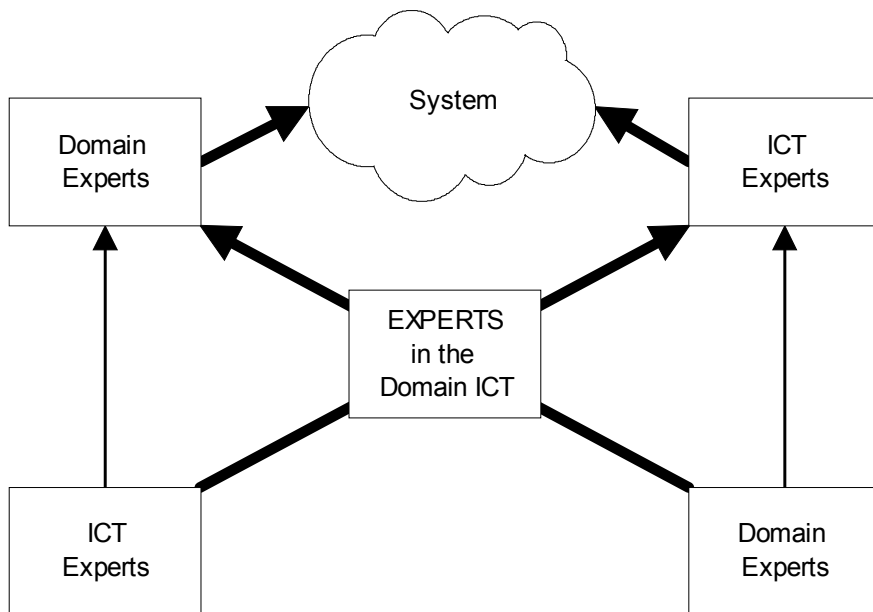
81
 82 Agency for the Cooperation of the Energy Regulators (ACER) has organised following
 83 consultation.
 84

85 **Public Consultation on the revision of electronic formats for transaction data,**
 86 **fundamental data and inside information reporting**
 87 http://www.acer.europa.eu/Official_documents/Public_consultations/Pages/PC_2017_R_03.aspx
 88 [aspx](http://www.acer.europa.eu/Official_documents/Public_consultations/Pages/PC_2017_R_03.aspx)
 89

90 Like the title indicates consultation is about electronic data formats on the European Union
 91 level.
 92

93 **Proposal: Possibly Electricity Authority (New Zealand) could assess those (ACER:**
 94 **Agency for the Cooperation of the Energy Regulators) proposals about electronic**
 95 **formats for transaction data, fundamental data and inside information reporting**
 96

97 **Several mismatches between ICT experts and domain experts?**
 98



99
 100
 101 Based on previous opinions I have presented the previous figure. Generally speaking different ICT
 102 experts try to understand a specific domain. Generally speaking different domain experts try to
 103 understand ICT. There can be several mismatches between ICT experts and domain experts.
 104

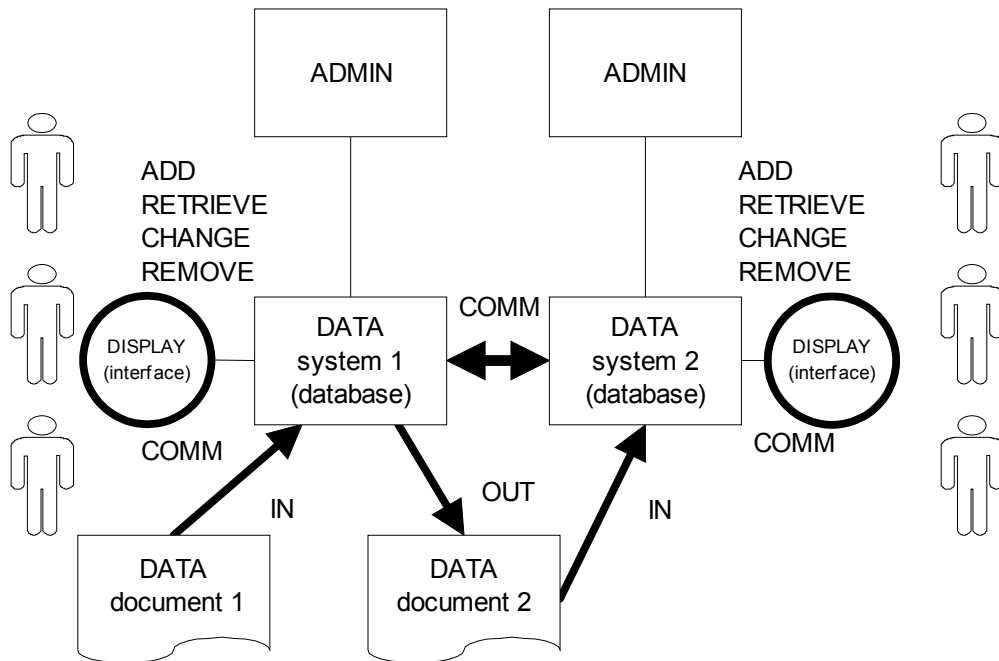
105 Experts in the domain ICT means a lot of education for different stakeholder groups. ICT experts
 106 try to implement system to a certain domain and there is always some learning processes for ICT

107 experts. Domain experts have always some learning processes for understanding possibilities of
 108 ICT in a specific domain.

109

110 **One presentation of information system**

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112

113

114 Now we can add four basic functions, communication, displays, interfaces, users, documents, data
 115 and databases for describing an information system. Like the figure indicates, there are databases in
 116 different information systems. Then there are different documents for transmitting data between
 117 different systems. Here we can note especially following standardisation needs for different parts of
 118 different parts of an information system.

119

120 Here we can note several basic issues about documents and databases:

121

- 122 • four basic functions (add, retrieve, change, remove)
- 123 • administration of a system
- 124 • displays and interfaces
- 125 • direct communication between system (data)
- 126 • transferring documents between systems (data).

127

128 Here we can note especially following standardisation needs for different parts of different parts of
 129 an information system:

130

131 From this simple (figure) conception we can differentiate several standard classes.

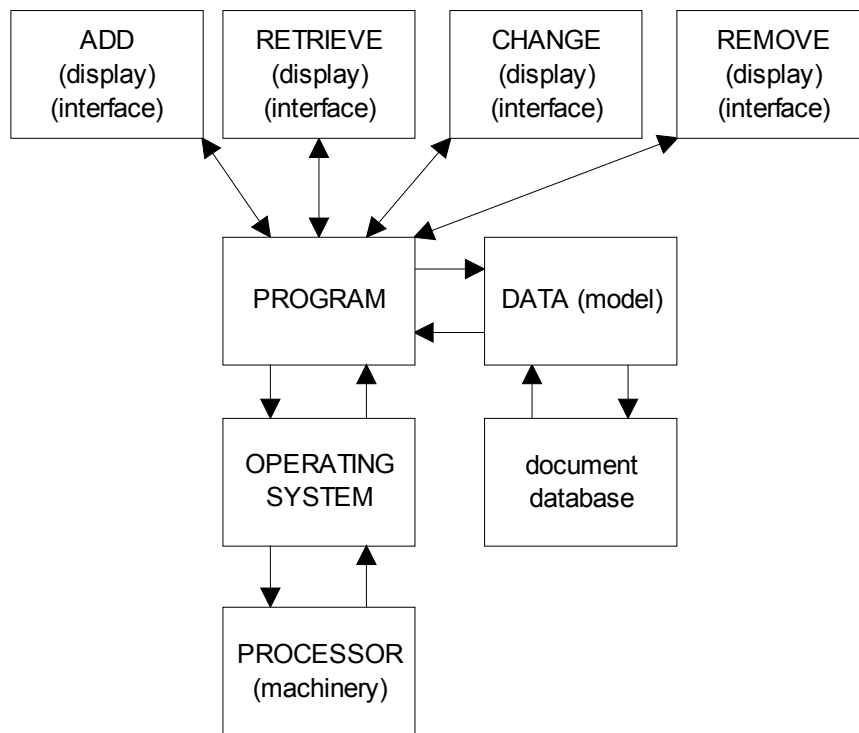
132

133

- 134 1) Data (documents) standards
- 135 2) Data (database) standards
- 136 3) Standards for adding data to a system.
- 137 4) Standards for retrieving data from a system.
- 138 5) Standards for changing data in a system.
- 139 6) Standards for removing data from a system.
- 140 7) Display standards
- 141 8) Interface standards
- 142 9) Different communication standards.

One presentation for information system

Following figure on the reflection paper is one conception of information system. I have presented the following figure as one conception of information system.



149
 150
 151 Generally speaking we have different techniques on the information technology field. Here we can
 152 note that programs (most arrows) are in the middle of different information systems. Then programs
 153 handle the data in a system (documents and/or databases). However we have to have one specific
 154 program which is different – i.e. operating system. Operating systems handle connections with
 155 machinery and processors. Generally speaking programs can work with an operating system and
 156 developers of programs use different parts of an operating system.
 157
 158

159 **What this means to information systems?**

- 160 1) **There can be several processor (machinery) possibilities**
 161 2) **There can be several operating systems possibilities**
 162 3) **There can be several programs possibilities**
 163 4) **Programs handle data in different ways**
 164 5) **The data can modelled in different ways**
 165 6) **There can documents and/or databases in different systems**
 166 7) **There are always four basic functions (add, retrieve, change, remove).**
 167 8) **There are several providers of different computer programs.**
 168 9) **There are naturally competing programs.**
 169 10) **Different programs comply with different standards.**

170

171 We have to note that data can have different models and data (models) are developed and/or used by
 172 different stakeholders (four basic functions). Especially in databases there are possibilities for
 173 several data models; depending on the modellers there can be different data models in databases.
 174 Generally speaking changing data models can be very difficult in many cases.

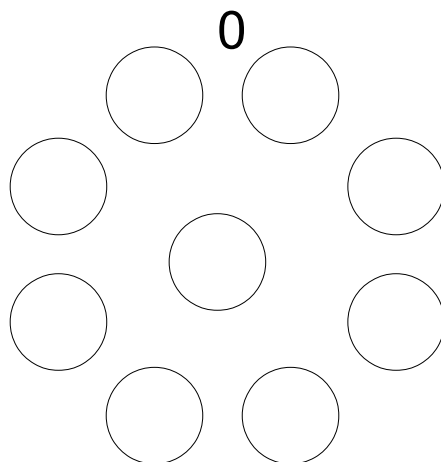
175

176 Based on previous consultations we can note that there can be several information systems without
 177 connections – ie. different silos.

178

179 The current reality (0) is that there can several systems which are not connected to other systems.
 180 However in the future there can be several ways for cooperation between systems. The problem in
 181 the future may be very complex system-to-system (1) connections.

182



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184

185 Based on the consultations parer it seems that there can be some systems without connections to
 186 other systems.

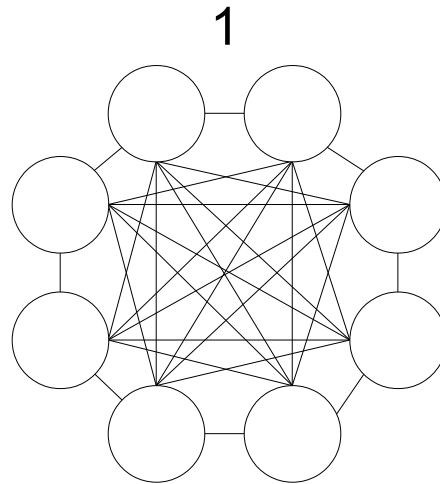
187

188 **Proposal :There could be assessment about of different unconnected systems.**

189

190 Based on previous consultations we can note that there can be several information systems with

191 several connections.
192



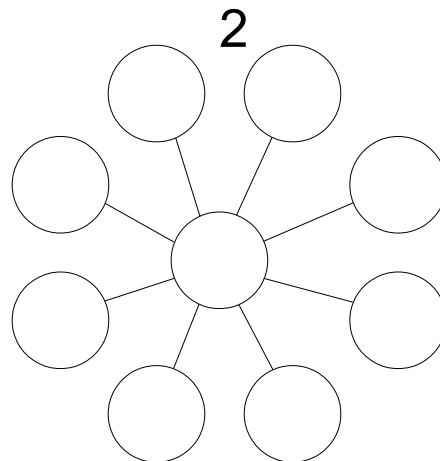
193
194
195 Problem with this option is management of several connections. Different changes in one system
196 may mean several changes on other systems.

197
198 **Proposal :There could be assessment of different connected systems.**

199
200 Next option is to have one central system which can handle connections to other systems.

201
202 Generally speaking these many-to-many connections can work quite well when there are not
203 changes in different systems. The problem arises when there are changes in one system since one
204 change can affect several other systems.

205
206 Based this problem there are in many cases one central system (2) which can handle cooperation
207 between different (sub)systems. The problem with this option is the failure of the central system and
208 this can lead to unwanted outage of several (sub)systems.



209

210

211 Problem with this option is dependency on one system. Problems in one central system may mean
212 other problems in several connected systems.

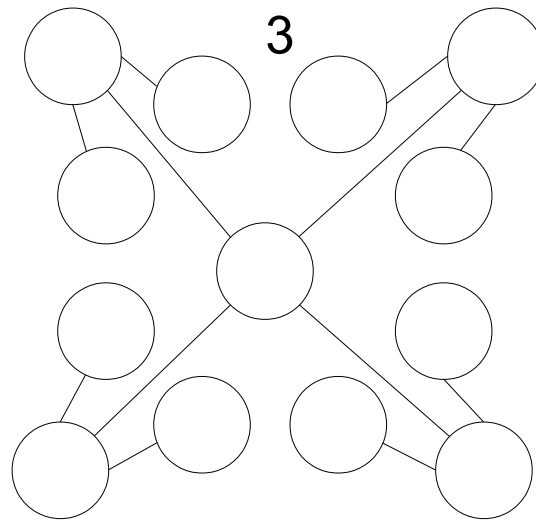
213

214 **Proposal :There could be assessment about of different central systems.**

215

216 Next option is to have some hierarchy between different systems when there is one central system
217 and different subsystems.

218



219

220

221 Naturally there can be different problems in central systems and subsystems. When there are
222 problems with one system it may not mean problems to all other systems.

223

224 One option (3) is to have a hierarchy between different system. In this way there cab some systems
225 which are not connected to the central system. With this approach not all (sub)systems face the
226 same problem with a failure in the central system.

227

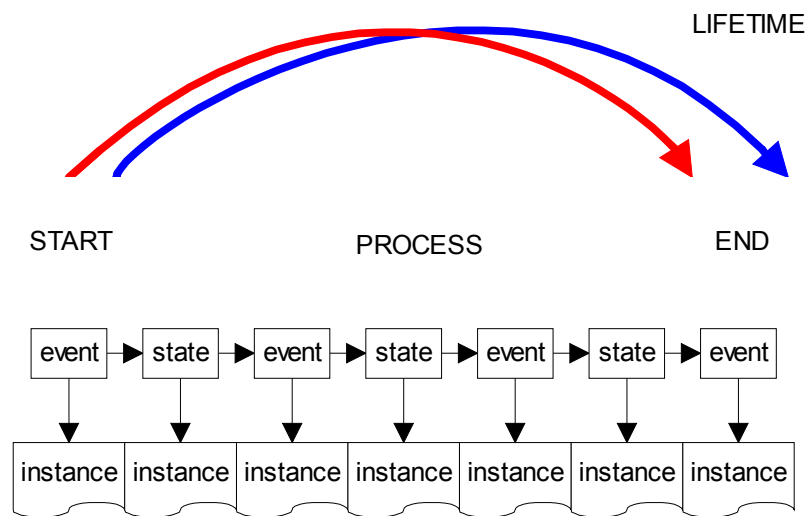
228 **Proposal :There could be assessment of different hierarchical systems.**

229

230 **Processes, events, states, lifetime, instances, start and end**

231

232 [Continues on the next page]



233
234

235 Finally some important concepts can be noted: processes, events, states, lifetime, instances start and
236 end. It can be noted that during the lifetime of an information system there can be significant changes
237 with the selected and implemented standards.

238

239 **Proposal: Based on the results of this consultation there could be a roadmap/timeline for**
240 **implementing different interoperable systems.**

241

242 **Proposal: Based on the results of this consultation there could be a roadmap/timeline for**
243 **consolidating different interoperable systems.**

244

245 Here we note that different information systems have different lifetimes based on several issues.
246 Therefore there could be a clear roadmap for different information systems based on lifetimes.

247

248 **More and more new identifiers (ID)**

249

250 In previous consultations there has been discussion about different identifiers (ID) in different
251 information systems. It can be noted from the previous opinions that there will be several and
252 different identifiers (ID) for different levels.

253

254 **Proposal: There could be a systematic review of different identifiers (ID) on different**
255 **levels.**

256

257 **Proposal: Possible systematic review of different identifiers (ID) should assess different**
258 **situations.**

259

260 Different information systems have also internal identifiers (ID) and external identifiers (ID) for
261 (possible) public usage. The added value for different stakeholders is provided by combination of
262 different identifiers (ID) in a specific information system.

263

264 **Proposal: There could be some assessment(s) based on different versions of different**
265 **identifiers (ID).**

266
267 It can be possible, that there are some legacy identifiers (ID) in the near future. It can be possible,
268 that gradually some legacy identifiers (ID) can be consolidated for more standardised identifiers
269 (ID), but this consolidation means some serious technical and administrative actions.

270
271 **Proposal: Legacy identifiers (ID) could be assessed seriously.**

272
273 When information about relevant identifiers is collected, there could be a serious assessment of
274 possible (near) monopoly situation of some identifiers. Depending on the nature of an identifier,
275 there may be a need for serious (anti-trust?) negotiations with providers of some identifiers.

276
277 **Proposal: The nature of different identifiers (ID) could be assessed.**

278
279 **Proposal: There could be serious negotiations with some providers of identifiers (ID).**

280
281 In the European Union there has been different anti-trust cases which are related to different private
282 sector identifiers (ID), since some of those private sector identifiers (ID) have been used in several
283 other systems. Some private sector identifiers (ID) can mean a (near) monopoly situation.

284
285 **Added value of different identifiers (ID)?**

286
287 Here we can note possible cooperation between different systems and usually cooperation between
288 different systems means using different identifiers (ID). There can be some central (S1 ↔ S2)
289 systems which collect information from other systems which have own identifiers (ID).

290
291 In previous consultations there has been discussion about different identifiers (ID) in different
292 information systems. It can be noted from the previous opinions that there will be several and
293 different identifiers (ID) for different levels. There can be several identifiers (ID), e.g. following:

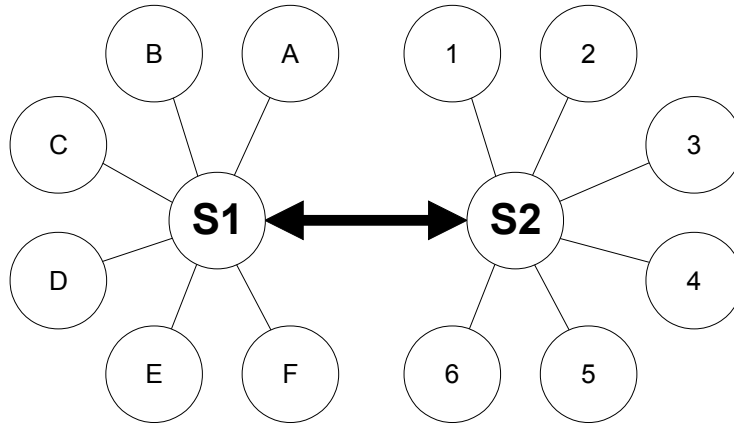
294
295 Examples of these identifiers (ID) are following:

- 296
297 1) Facebook ID for an individual person
298 2) Facebook ID for the individual up-dates of individuals
299 3) Data Universal Numbering System (D-U-N-S)
300 4) Reuters instruments codes (RICs)
301 5) Social security code for individual citizens in the European Union member states
302 6) Business identity code for a company in an European Union member state
303 7) Value added tax code for a company in an European Union member state.

304
305 The examples of private identifiers (Facebook IDs, Data Universal Numbering System (D-U-N-S),
306 Reuters Instrumens Codes (RICs)) show, that persons and/or communities can use or even demand
307 of using identifiers (ID) from privately owned information systems.

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1-2



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Note: Digitalisation of everything means more identifiers (ID).

Note: All new identifiers (ID) mean more work for developing existing and new informations systems.

Note: There can be new stakeholder groups in the near/distant future which mean more identifiers (ID).

Proposal: There could be some assessment(s) based on different versions of different identifiers (ID).

Some issues to be consider – public systems and private systems?

Here we can note following combinations:

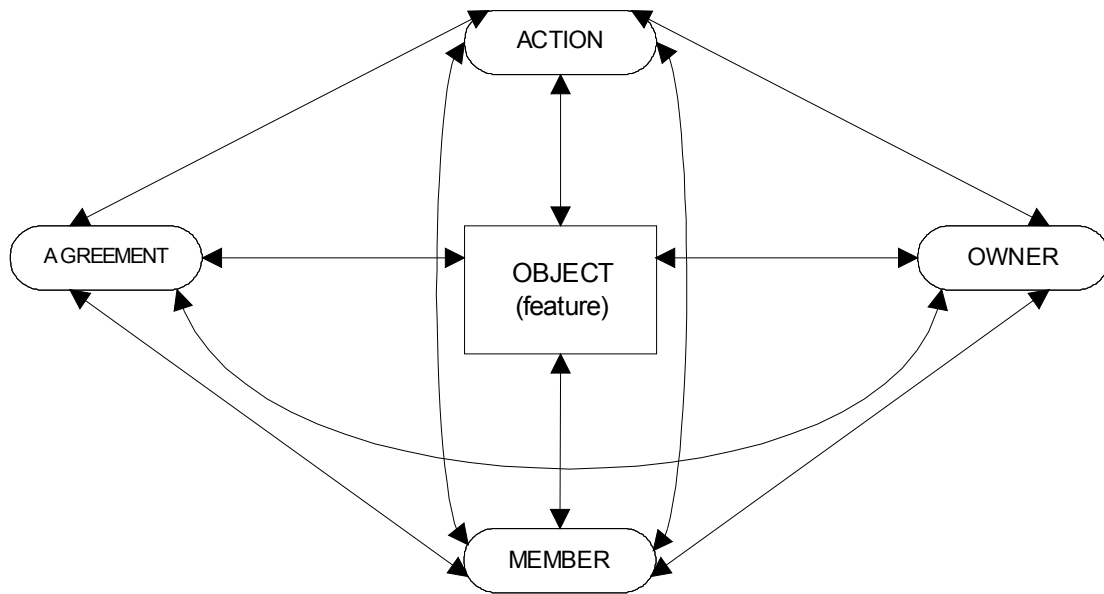
- public ↔ public
- private ↔ private
- private ↔ public
- (public ↔ private)

Based on previous considerations there could be some efforts:

- There could be some adjustments for (public ↔ public) public information systems.
- There could be some adjustments for (private ↔ private) private information systems.
- There could be some adjustments for (private ↔ public) cooperation between public and private information systems.

There can be some examples:

- 340 a) There could be some regulations for providing interfaces (private, public)
- 341 b) There could be some regulations for document formats (private, public)
- 342 c) There could be some regulations for transmitting data between different systems
- 343 d) There could be some regulations for using databases (private, public)
- 344 e) There could be some regulations for using programs (private, public)
- 345 f) There could be some regulations for retrieving information from different systems.
- 346



347 **Note: The relations between different aspects of information systems can result**
 348 **rather complicated (legal) network(s): i.e. Ownership, Membership, Agreement.**
 349

350
 351 Here we can note the difference between owners, agreements and members. In reality ownerships
 352 agreements and memberships cause very complex networks, and those networks are changing all
 353 the time: divisions, mergers, ownership changes, agreement changes, cooperation with other
 354 entities, life-cycles, etc.
 355

356 Here we can note that ownership, agreement and membership are interlinked in different ways.
 357 Generally speaking average usage of a system means an unique combination of ownership,
 358 agreement and membership. When everything works fine there are not problems. However changes
 359 with ownership, agreement and membership can result difficult situations.
 360

- 361 In the previous consultations I have advocated following solution as the maximum solution:
- 362 * public sector institute owns the machinery and processor of the information system
 - 363 * the machinery and processor are based on relevant open standards
 - 364 * the operating system is based on an open-source solution
 - 365 * public sector institute owns the source code of the information system
 - 366 * public sector institute owns the database of the information system
 - 367 * the database is based on open-source solution and on relevant open standards
 - 368 * public sector institute owns all data in the information system.

369

	Owner? Member? Agreement?	Standards?	OPEN	CLOSED
1. Device / Machinery				
2. Operating system				
3. Program(s)				
4. Data models / Conceptual models				
5. Documents				
6. Databases				
7. Communications				
8. Retrieve / Interface / Display				
9. Add / Interface / Display				
10. Remove / Interface / Display				
11. Change / Interface / Display				

370

371 Naturally, there can be solutions, which are not based on the maximum solution. It can be
 372 concluded, that this consultation is not (yet) about technical details.

373

374

**Note: The relations between different aspects of information systems can result
 375 rather complicated (legal) network(s): i.e. Ownership, Membership, Agreement.**

376

377

**Proposal: There could be some considerations for assessing possible / future changes in
 378 ownerships, agreements and memberships.**

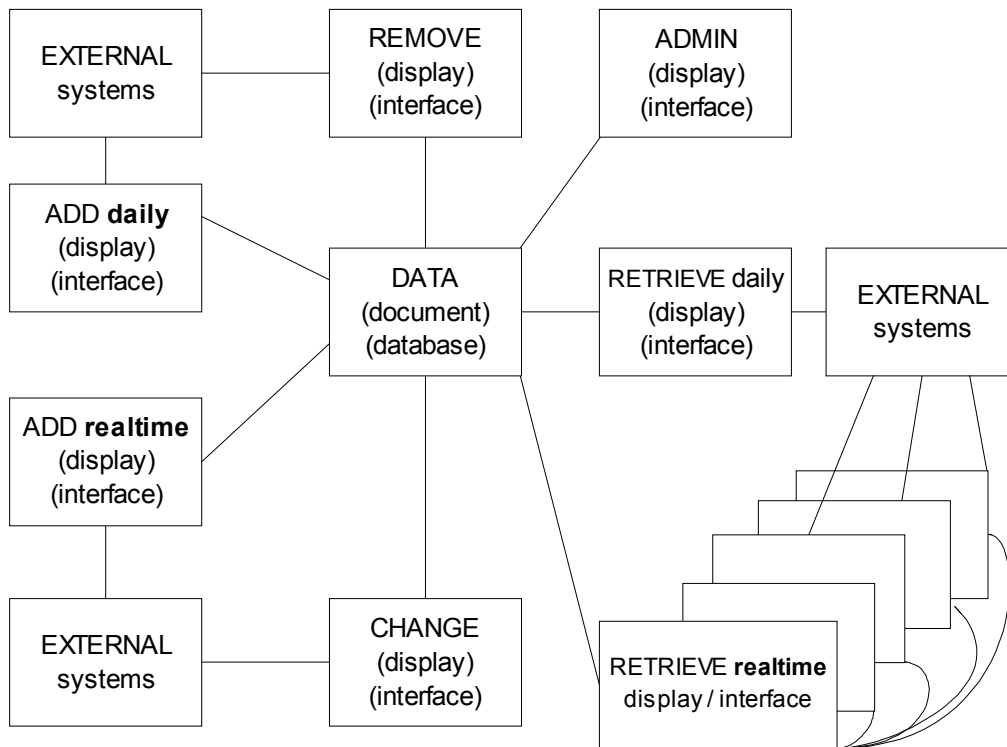
379

380 **Different time frames for different information systems**

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383 [Continues on the next page]



384
385

386 Like the previous figure indicates, there is difference between real-time systems and other systems.

387

388 **Proposal: There can be different real-time systems, and the need for different real-time**
389 **systems could be assessed.**

390

391 **Proposal: There can different systems with other time frames, and the need for systems**
392 **should with different time frames could be assessed**

393

394 In some cases there is a clear need for different replicated information systems.

395

396 It can be noted, that there can be different options for layered systems: real-time or other time
397 periods. Generally speaking, (real-time) retrieval is the most used function, and adding, changing
398 and removing can have different time-periods.

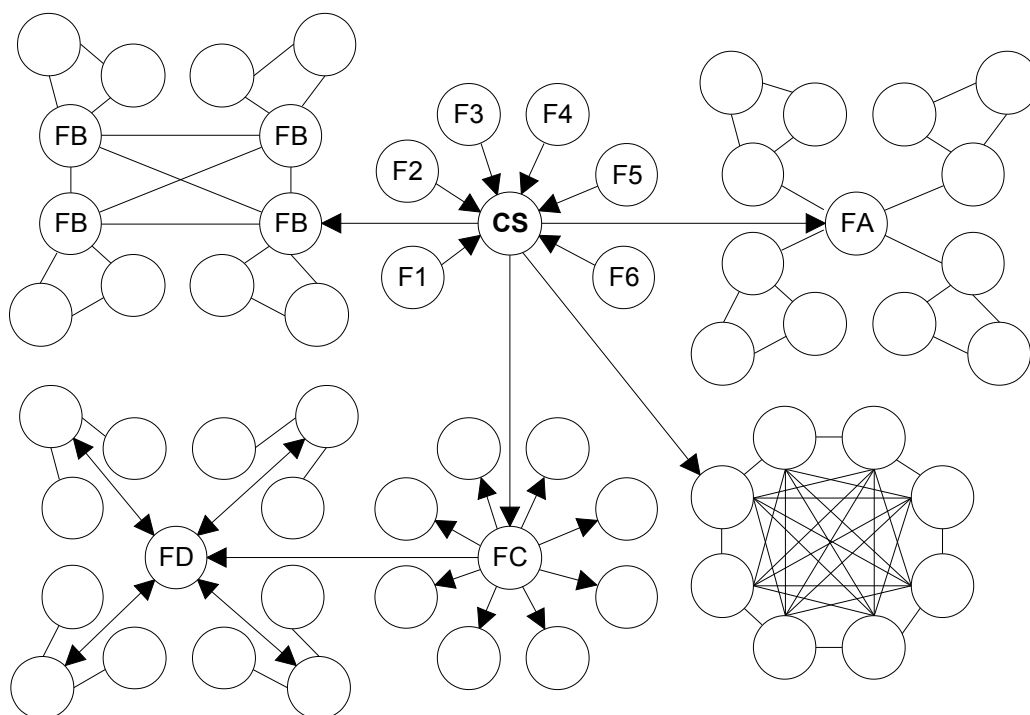
399

400 **Complex networks of different systems?**

401

402 The reality: There will be several layered systems developed by several stakeholder communities
403 (both for-profit and non-profit communities).

404



405
406

407 Here we can note that there can some central systems (CS) and information from those central
408 systems can be distributed to several other systems. In reality the added value for users (citizens and
409 different legal entities) is achieved by combining different systems to provide different
410 services.

411

412 We can note that there can several formats (e.g. 1-6, A-D) for transmitting information from some
413 central (CS) information system. Some formats may be non-standard or standard.

414

415 **Proposal: There could be some efforts for developing some central systems.**

416

417 The practical reality is that there will be several central systems – not all-powerful one central
418 system.

419

420 **Proposal: There could be some efforts for standardising different central systems.**

421

422 **About different standards**

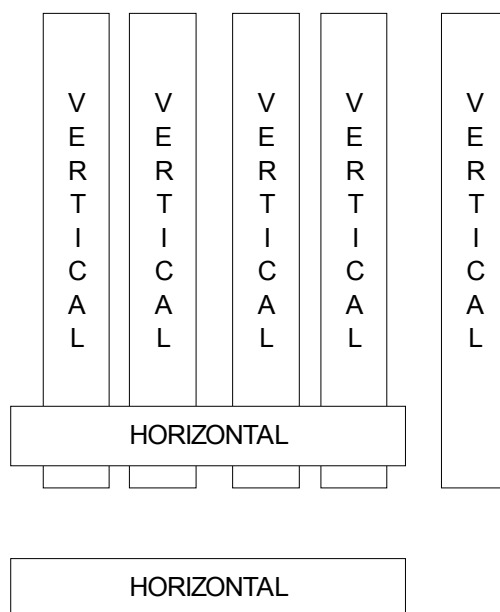
423

424 I have proposed several times to use open horizontal standards when developing different
425 information system.

426

427 **Favouring open standards / Favouring horizontal standards**

428



429
430

431 There are differences between horizontal and vertical standards. A simple example is naturally
432 email solutions. There are several vertical standards when creating technically email solutions. Then
433 there are horizontal standards which enable sending messages between technically different email
434 solutions.

435

436 **Proposal: There could be assessment of vertical and horizontal standards.**

437

438 **Proposal: Using horizontal standards could be favoured when creating different**
439 **information systems.**

440

441 Horizontal standards enables technological solutions which can work together. Horizontal standards
442 hides different complexities in information systems.

443

444 **Opinion: The number of redundant standardisation efforts should be minimal.**

445

446 **Proposal: There could be separation of horizontal standards and vertical standards.**

447

448 **Proposal: There could be different standardisation efforts to horizontal standards and**
449 **vertical standards.**

450

451 Personally I have advocated using different horizontal standards. For example email standards
452 (horizontal) are implemented with very different technologies (vertical).

453

454 Here we can note some problems:

455

456

- 457 • some systems are based on **de-facto** standards
- 458 • some systems are based on **de-jure** standards
- 459 • there can be confrontations between **de-facto** and **de-jure** standards
- 460 • there can be a monopoly situation in some domain
- 461 • some standards may inhibit possible actions of some stakeholders
- 462 • there can be a standard war on some domains
- 463 • standards have different life-cycles
- 464 • systems have different life-cycles
- 465 • there can be mismatches between different life-cycles
- 466 • there can be failed standards
- 467 • there can be deprecated standards.

468

469 It is quite normal situation in the information technology field that there are competing standards
470 for some application field. Therefore there are all the time ongoing “standards wars” or “format
471 wars”. The information technology standards tend to be interrelated and one “standards war” or
472 “format war” can lead to another similar situation.

473

474 I have advocated open standards even though in some cases open standards are not de facto
475 standards. In practice public sector has very important role, when some standards are competing in
476 the market place. Because public sector has a considerable power when buying/developing
477 information systems and therefore public sector can sometimes direct markets to certain standards.
478 Therefore there should be serious vigilance when assessing different standards and “standards” in
479 some application fields.

480

481 There are different standards setting organisations on the information technology field. One list ¹ of
482 these standards setting organisations is provided by ConsortiumInfo.org.

483

484 One warning can be said about standards setting organisations. All standards setting organisations
485 are not successes based on several factors and there can may irrelevant standards setting
486 organisations. Market situation on different vehicle markets varies a lot based on different factors.

487

488 **Proposal: Current standardisation (e.g. list provided by ConsortiumInfo.org) efforts by**
489 **different standard setting organisations could be assessed carefully.**

490

491 Personally I have advocated using different horizontal standards. For example email standards
492 (horizontal) are implemented with very different technologies (vertical).

493

494 **Proposal: Governments should especially concentrate on horizontal standards.**

495

496 **Proposal: Some government agencies could apply for memberships of different**
497 **standard setting organisations which develop especially horizontal standards.**

498

499 **Proposal: Government agencies should not be passive by-standers when different**
500 **horizontal standards are developed.**

1 Standard Setting Organizations and Standards List, www.consortiuminfo.org/links/linksall.php

501
502 **Proposal: Government agencies could financially support development of horizontal**
503 **standards.**

504
505 **An example for cooperation: Web feeds (RSS and Atom)**
506



507
508
509 I have advocated usage of web feeds on several previous opinion documents. Actually there are two
510 standards for web feeds: RSS ^{2 3} and Atom ^{4 5 6}.

511
512 **Proposal: Web feeds could be advocated when developing different informations**
513 **systems.**

514
515 **Proposal: Web feeds (RSS and/or Atom) should be used extensively for providing (real-**
516 **time) information for different stakeholder(s) (communities).**

517
518 **Proposal: There can be different web feeds (RSS and/or Atom) for different**
519 **stakeholder(s) – having just one web feed (RSS and/or Atom) may not be a feasible**
520 **solution.**

521
522 **Proposal: Several web feeds (RSS and/or Atom) can be based on different viewpoints.**
523

524 It can be easier to create web feeds in different information systems since web feeds enable
525 connections without direct system-to-system connections.

526
527 It can be noted, that different back-office systems (with a wide variety of different technologies) can
528 implement RSS standards, and these RSS feeds can be used in the front-office systems. With this
529 kind solutions front-office systems don't need direct system-to-system communications with back-
530 office systems.

531
532 **Possible technical consultations?**

533
534 **Proposal: More technically oriented consultations**
535

536 Based on answers (this consultation) there could be more technically oriented consultations.
537 Previously mentioned issues could be detailed for new technically oriented consultations.

2 <http://www.rssboard.org/rss-specification>, RSS 2.0 Specification

3 <https://en.wikipedia.org/wiki/RSS>, Wikipedia / RSS

4 [https://en.wikipedia.org/wiki/Atom_\(standard\)](https://en.wikipedia.org/wiki/Atom_(standard)), Wikipedia / Atom (standard)

5 <https://tools.ietf.org/html/rfc4287>, The Atom Syndication Format

6 <https://tools.ietf.org/html/rfc5023>, The Atom Publishing Protocol

538

539

ANNEX 1

540 DISCLAIMERS

541

542 Legal disclaimer:

543 All opinions in this opinion paper are personal opinions and they do not represent opinions of any legal entity I am
544 member either by law or voluntarily. This opinion paper is only intended to trigger thinking and it is not legal advice.
545 This opinion paper does not apply to any past, current or future legal entity. This opinion paper will not cover any of the
546 future changes in this fast-developing area. Any actions made based on this opinion is solely responsibility of respective
547 actor making those actions.

548

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550 These opinions do not represent opinions of any political party. These opinions are not advices to certain policy and
551 they are only intended to trigger thinking. Any law proposal based on these opinions are sole responsibility of that legal
552 entity making law proposals.

553

554 These opinions are not meant to be extreme-right, moderate-right, extreme-centre ⁷, moderate-centre, extreme-left or
555 moderate-left. They are only opinions of an individual whose overall thinking might or might not contain elements of
556 different sources. These opinions do not reflect past, current or future political situation in the Finnish, European or
557 worldwide politics.

558

559 These opinions are not meant to rally for a candidacy in any public election in any level.

560

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7 Based on the Finnish three-party system there is a phenomenon called extreme-centre in Finland. The 2011 parliamentary elections in Finland challenged the three-party system, since three “old” parties were not traditionally as the three largest parties. On 2015 this “new” party is part of the current Finnish Government. We all must be interested about this new development in Finland.