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TO: DIGIT-ISA2-CONSULTATIONS@ec.europa.eu
European Commission
Directorate-General for Informatics (DIGIT)
Unit B6 – Interoperability solutions for European public administrations (ISA)
B-1049 Brussels

**Revision of the European Interoperability Framework
(based on the EIF REVISION / DRAFT INTERMEDIATE VERSION, FEBRUARY 2016)**

First of all, a lot of thanks to Directorate-General for Informatics (Unit B6) for organising this important and interesting consultation.

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.

Directorate-General for Informatics (Unit B6) can add the PDF file of this opinion to a relevant web page.

Annex 1 holds information about previous consultations organised by different European Union institutes.

Annex 2 holds information about disclaimers and copyright.

Best Regards,

Jukka S. Rannila
citizen of Finland

signed electronically

[Continues on the next page]

44

45 Two previous consultation: European Interoperability Framework (EIFv2 / 2008) and
46 European Interoperability Strategy (EIS / 2010)

47

48 I have given opinions for two previous consultations: European Interoperability Framework
49 (EIFv2 / 2008) and European Interoperability Strategy (EIS / 2010).

50

51 EN: Opinion 8: European Interoperability Framework, version 2, draft

52 http://www.jukkarannila.fi/lausunnot.html#nro_8

53

54 EN: Opinion 21: Opinion about the European Interoperability Strategy proposal

55 http://www.jukkarannila.fi/lausunnot.html#nro_21

56

57 It can be noted that there has been some development based on those two opinions and several other
58 opinions. For example different figures have been modified based on the experience with previous
59 consultations.

60

61 An example for cooperation: Web feeds (RSS and Atom)

62



63

64

65 I have advocated usage of web feeds on several previous opinion documents. Actually there are two
66 standards for web feeds: RSS ^{1 2} and Atom ^{3 4 5}.

67

68 **Proposal: Web feeds could be advocated when developing different informations**
69 **systems (EU / Member states).**

70

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

73

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

77

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

79

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

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

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

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

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

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

82

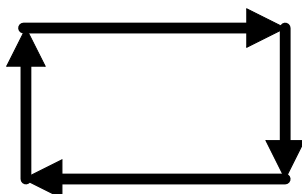
83 It can be noted, that different back-office systems (with a wide variety of different technologies) can
84 implement RSS standards, and these RSS feeds can be used in the front-office systems. With this
85 kind solutions front-office systems dont need direct system-to-system communications with back-
86 office systems.

87

88 Recommendation 1:

89 Public administrations should base the development of their NIFs and interoperability
90 strategies on the EIF. These should comply with EIF and can further be tailored and
91 extended to cover the national context and needs.

92



93

94

95 In reality different strategies are implemented in different phases and strategies can evolve in time
96 and space (circles).

97

98 Here we can differentiate some aspects in information systems:

99

- 100 • information systems have different lifetimes
- 101 • there is a start state and an end state for information systems
- 102 • there are processes during the lifetime of an information system
- 103 • processes mean different event and states
- 104 • information of different event and states are marked (instances) in an information
105 system.

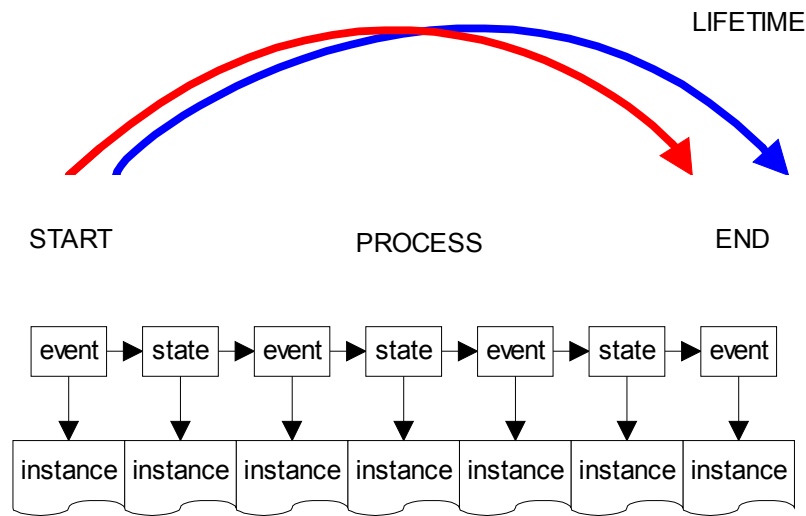
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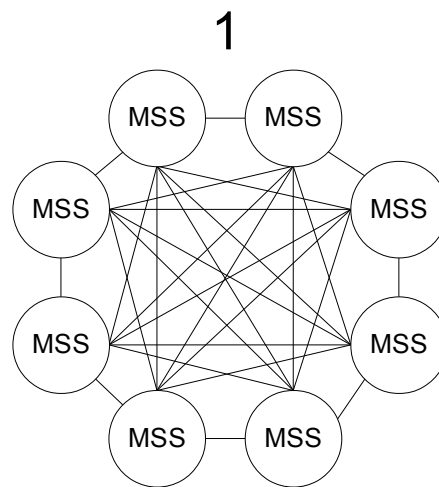
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Proposal: Relevant information systems in member states could be catalogued.

Proposal: All catalogued information systems should be assessed based on lifetime.



MSS = Member State System

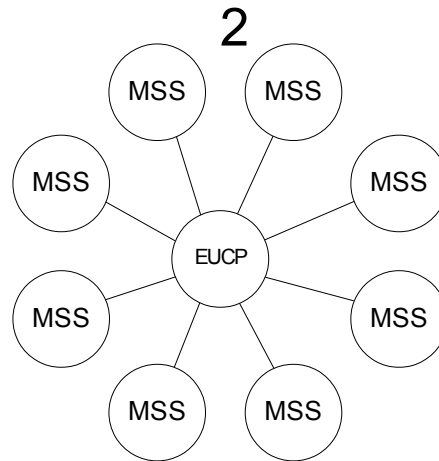
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128

There are 28 member states (European Union) at the moment. In reality there are unique situations with information systems in different member states. In some cases information systems can be implemented based on complex system-to-system connections. Complex system-to-system connections means a lot of work when there are changes in some systems.

Proposal: Complex system-to-system connections implemented in information systems could be assessed carefully.

Recommendation 2:

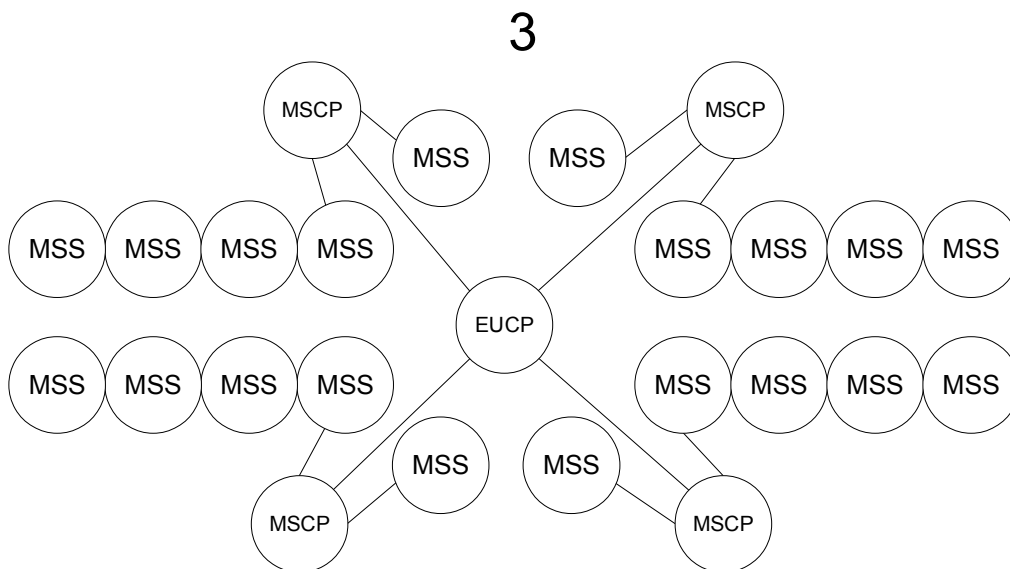
129 Public administrations are encouraged to reuse and share solutions and to cooperate in the
 130 development of joint solutions when implementing European Public Services.
 131



MSS = Member State System
EUCP = European Contact Point

132
 133
 134
 135
 136 One option is to have a single European contact point for member state systems. Here we can
 137 calculate connections based on number of information systems.
 138

- 139 $28 \times 5 = 140$
- 140 $28 \times 10 = 280$
- 141 $28 \times 20 = 560$
- 142 $28 \times 30 = 840$



MSS = Member State System, MSCP = Member State Contact Point,
EUCP = European Contact Point

143
 144
 145

146

147 Based on those calculations there could be a lot of direct connections to the European contact point.

148 Number of those connections can be overwhelming.

149

150 I have proposed several times creation of member state contact points which could handle different

151 system-to-system connections on member state level. Then it can be easier to create connections

152 between member state contact points and European contact point.

153

154 **Proposal: There could be one information system (member state contact point) on**
155 **member state level.**

156

157 **Proposal: Different member state systems could be consolidated based on limited**
158 **number system-to-system connections.**

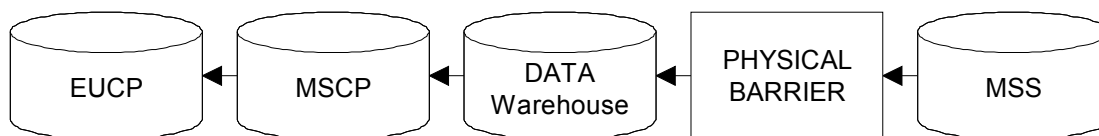
159

160 **Proposal: One information system (member state contact point) on member state level**
161 **could handle system-to-system connections on the European Union level (European**
162 **contact point).**

163

164 **Recommendation 3:**165 Public administrations are encouraged to reuse and share information and data that are
166 already stored by public administrations, unless certain restrictions apply.

167



168

169 **MSS = Member State System, MSCP = Member State Contact Point,**
170 **EUCP = European Contact Point**

171

172 Previously mentioned member state systems (member state contact point) can be used with different
173 data warehouse solutions. In some cases there can be need for just one direction (not two directions)
174 and data warehouse solutions can be used.

175

176 **Proposal: Directions (one direction or two directions) between information systems**
177 **could be assessed carefully.**

178

179 **Proposal: In some cases data warehouse solutions (just one direction) can be used.**

180

181 It can be also noted that there can a physical barrier between a member state system and data
182 warehouse solution. All electronic barriers can be compromised based on different weaknesses.
183 Physical barriers can not be compromised since they are not directly connected to a member state
184 system. One example is naturally physical data tapes which can contain data of an information
185 system and data in tapes can transferred between information systems.

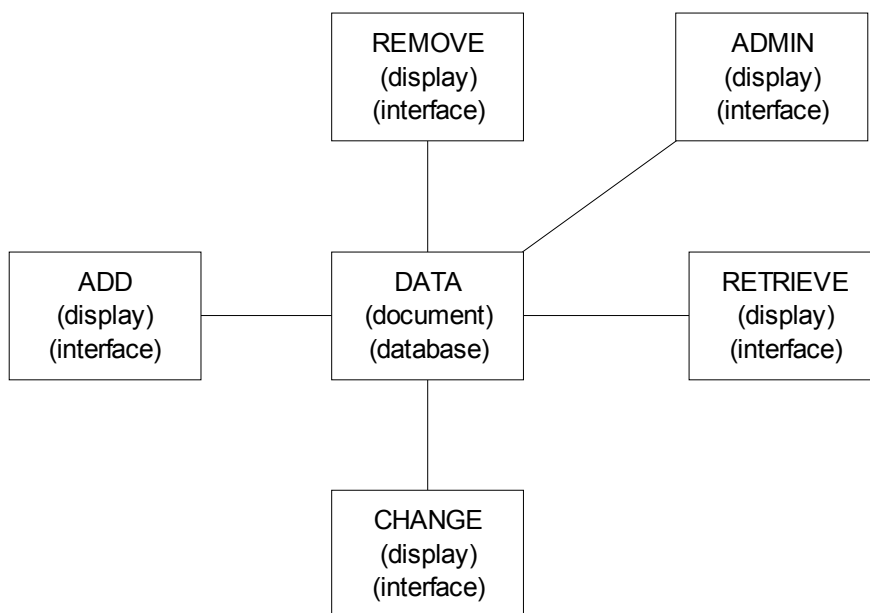
186

187 **Proposal: There could be assessment for different data warehouse solutions.**

188

189 **Recommendation 4:**

190 Public administrations should aim for openness and transparency when providing European
 191 Public Services, while taking into account their priorities and constraints (e.g. privacy and
 192 security).
 193



194

195

196 There are five functions implemented in information systems:

197

- 198 • retrieving data
- 199 • adding data
- 200 • changing data
- 201 • removing data
- 202 • administration.

203

204 Data in information systems can be based on using documents and/or databases.

205

206 **Proposal: There could be assessment of openness for basic functions: retrieve, add,
 207 change, remove.**

208

209 **Proposal: There could be assessment of openness for documents and/or databases.**

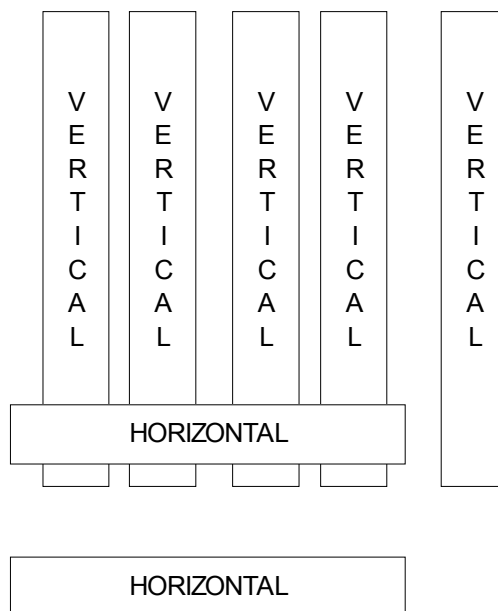
210

211 There can be several standards when implementing basic functions in an information system, i.e.
 212 retrieve, add, change, remove, data and documents.

213

214 **Recommendation 5:**

215 Public administrations should not impose any specific disproportionate technological
 216 solutions on citizens, businesses and other administrations when establishing European
 217 Public Services.
 218



219
 220
 221 There are differences between horizontal and vertical standards. A simple example is naturally
 222 email solutions. There are several vertical standards when creating technically email solutions. Then
 223 there are horizontal standards which enable sending messages between technically different email
 224 solutions.

225
 226 **Proposal: There could be assessment of vertical and horizontal standards.**

227
 228 **Proposal: Using horizontal standards could be favoured when creating different**
 229 **information systems on the European Union level.**

230
 231 Horizontal standards enables technological solutions which can work together. Horizontal standards
 232 hides different complexities in information systems.

233
 234 **Opinion: The number of redundant standardisation efforts should be minimal.**

235
 236 **Proposal: There could be separation of horizontal standards and vertical standards.**

237
 238 **Proposal: There could be different standardisation efforts to horizontal standards and**
 239 **vertical standards.**

240
 241 Personally I have advocated using different horizontal standards. For example email standards
 242 (horizontal) are implemented with very different technologies (vertical).

243

244 Here we can note some problems:

245

- 246 • some systems are based on **de-facto** standards
- 247 • some systems are based on **de-jure** standards
- 248 • there can be confrontations between **de-facto** and **de-jure** standards
- 249 • there can be a monopoly situation in some domain
- 250 • some standards may inhibit possible actions of some stakeholders
- 251 • there can be a standard war on some domains
- 252 • standards have different life-cycles
- 253 • systems have different life-cycles
- 254 • there can be mismatches between different life-cycles
- 255 • there can be failed standards
- 256 • there can be deprecated standards.

257

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

262

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

269

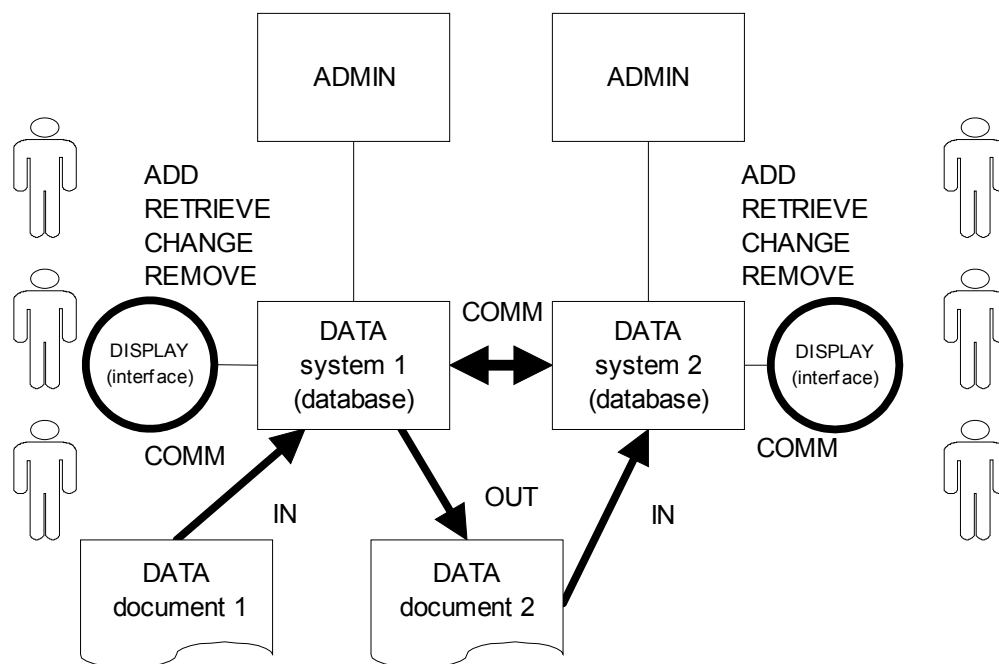
270 Recommendation 6:

271 Public administrations should ensure that data is easily transferable between systems and
272 applications without unjustified restrictions, if legally possible.

273

274 [Continues on the next page]

275



276

277

278 Basic functions in an information system (retrieve, add, change, remove, data and documents) can
 279 be noted once more. Cooperation between systems can be based on direct system-to-system
 280 connections (standards) or transferring documents (standards) between systems.

281

282 Like the figure indicates, there are databases in different information systems. Then there are
 283 different documents for transmitting data between different systems. Here we can note especially
 284 following standardisation needs for different parts of the proposed IT platform:

285

- * communication standards

286

- * data standards (also document standards)

287

- * database standards

288

- * display / interface standards.

289

290 **Proposal: There could be different standardisation efforts for communication, data,
 291 document, database, display/interface standards.**

292

293 **Proposal: Assessing previously developed standards could be done seriously.**

294

295 One comprehensive list for different standard developing organisations (SDO) is provided ⁶
 296 ConsortiumInfo.org. It may be possible to use previously developed standards.

297

298 Here we can note that there can be direct system-to-system connections, which can mean some
 299 standardised interfaces. Also we can note that different document formats can be used when there is
 300 system-to-system connections.

301

⁶ <http://www.consortiuminfo.org/links/linksall.php>, List of different standard developing organisations

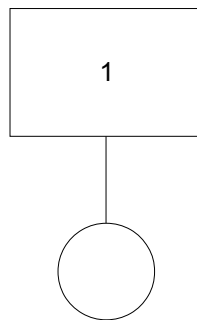
302 **Note: There may be a need for both solutions – direct system-to-system**
 303 **connections and transmitting different documents between systems.**

304
 305 **Proposal: Probably there has to both options implemented – direct system-to-system**
 306 **connections and transmitting different documents between systems.**

307
 308 **Recommendation 7:**
 309 Public administrations should use multiple channels for their service provisioning to ensure
 310 that users can select the most preferred channel for their needs.

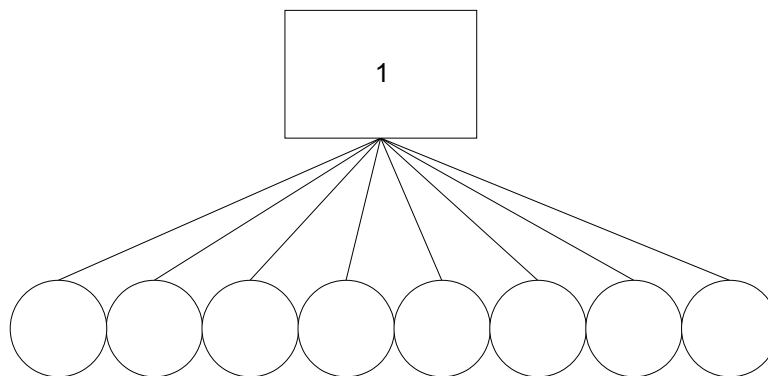
311
 312 Here we can note people learn usage of an information system with different timeframes ($T_n \leftrightarrow T_n$).
 313 In time beginners can become expert users after some experience of using a system. A general
 314 mistake is to create just one interface to all stakeholder groups – in many cases interface is
 315 developed for beginners.

316



317
 318
 319 In reality expert users need efficient shortcuts to all functions in an information system. After
 320 creating an interface to experts users there can be development of interfaces to other stakeholder
 321 groups.

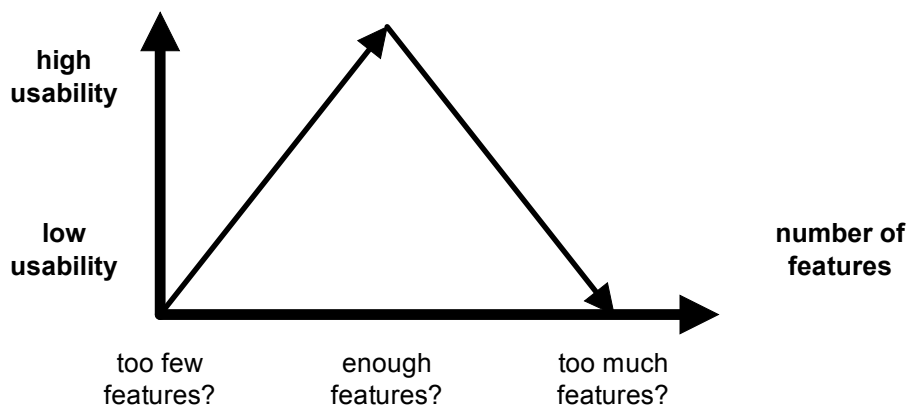
322



323
 324
 325 **Proposal: Number of different interfaces should be assessed carefully.**

326
 327 **Proposal: Creating different displays and interfaces could be assessed carefully.**

328

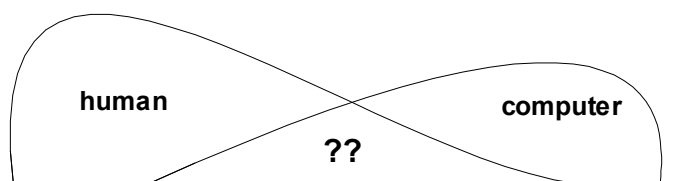


329

330

331 It is also possible that there are too many features implemented in an information system; too many
 332 features means problems for expert users and average users. Like said before there has to be
 333 different interfaces – not just one interface for beginners.

334



335

336

337 In reality there are several ways for organising task: humans only; computers only; combinations
 338 for human and computers. Naturally the last task (combinations for human and computers) is
 339 hardest to implement in reality – sometimes we create wrong combinations for these tasks.

340

341 **Recommendation 8:**

342 Public administrations should provide a single point of contact in order to hide the internal
 343 administrative complexity to users.

344

345 **Note: This has been discussed earlier – European Union contact points and member
 346 state contact points (EUCP and MSCP).**

347

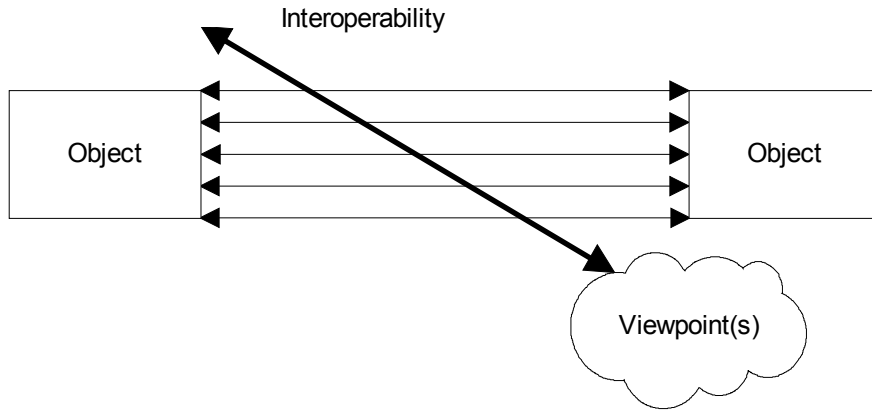
348 **Recommendation 9:**

349 Public administrations should put in place mechanisms for involving the users in the
 350 analysis, design, assessment and evolution of European Public Services.

351

352 There can several viewpoints when involving users during different development projects. Some
 353 examples of viewpoints can presented: process, time, money, quality, environment, legal, security,
 354 safety. There can be some viewpoints which mean large-scale learning processes; e.g. medicine.

355



356

357

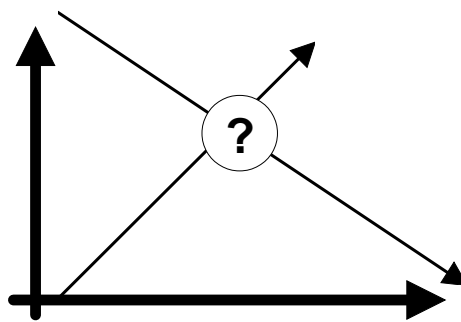
358 **Proposal:** There could be some efforts to find different viewpoints when involving
 359 users.

360

361 One problem is naturally large-scale learning processes for different ICT experts. Generally
 362 speaking different ICT experts can have a lot of experience of general techniques which can be
 363 applied to different domains. I have concluded that learning domain ICT demands in many cases
 364 large-scale learning processes for different stakeholders.

365

GENERAL KNOWLEDGE



SPECIAL KNOWLEDGE

366

367

368 **Recommendation 10:**

369 As far as possible and in respect of applicable legislation, Public administrations should ask
 370 once-only and relevant-only information for the execution of European Public Services.

371

372 More IDs is one of the consequences of digitalisation (of everything). The ID is identifier in an
 373 information system.

374

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

378

379 **Proposal: There could be a systematic review of different identifiers (ID) which records**
 380 **and information management.**

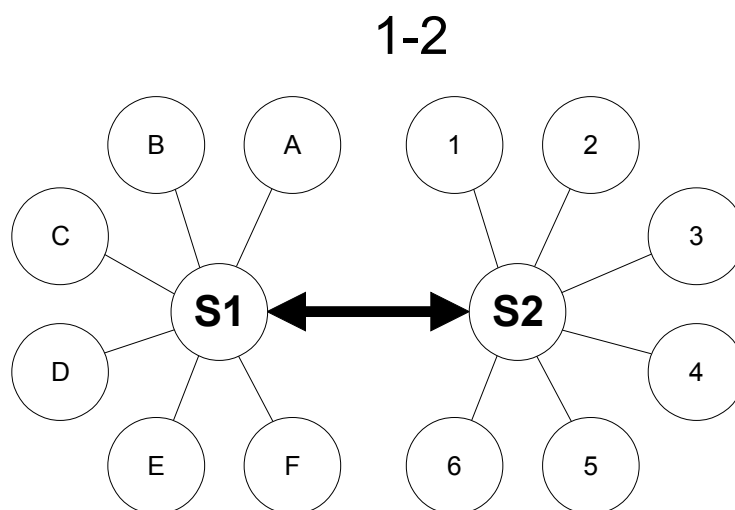
381

382 An example could be that stakeholder communities may have a national identifier (ID) in some
 383 member states. Not all member states require registration of interest representatives on the national
 384 level.

385

386 **Note: The number of different identifiers (ID) is increasing all the time.**

387



388

389

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

393

394 In the previous consultations there has been discussion about different identifiers (ID) in the
 395 different systems. It can be noted from the previous opinions, that there will be several and different
 396 identifiers (ID) for different levels. On the European Union level there can be several identifiers
 397 (ID), e.g. following:

398

399

- * global identifiers (ID)
- * EU-wide identifiers (ID)
- * general member state identifiers (ID)
- * several identifiers (ID) in a member state.

400

401

402

403

404 **Proposal: There could be a systematic review of different identifiers (ID).**

405

406 An example could be that stakeholder communities may have a national identifier (ID) in some
407 member states.

408

409 **Recommendation 11, 12 and 13**

410

411 These recommendations can be supported but I have not anything to add.

412

413 **Recommendation 14:**

414 Public administrations should simplify processes and use digital channels whenever
415 appropriate to reduce the administrative burden for both administrations and users.

416

417 In previous consultations I have advocated standardisation of interfaces. There are different
418 processes (Beginning → Actions → Ending), which can be described in different levels of details.

419

420 Based on the previously proposed actions there can be a clear understanding of different processes.
421 It can be noted that describing different processes can mean a lot of work for different stakeholders.

422

423 It can be noted here that describing different processes are implemented in information systems which
424 are hierarchically structured. So there is always some possible mismatches between actual process
425 models and actual hierarchy of system.

426

427 Here we can note, that in a process some objects change their state in different stages.

428

429 **Proposal: After some serious assessment there could be some serious work for
430 standardised (SPEX) interfaces and displays.**

431

432 **Proposal: Some parts of the processes could be standardised for interfaces (SPEX) for
433 different stakeholders.**

434

435 **Proposal: Some standardised customer interfaces (SPEX) could be used for having
436 better service processes for different stakeholders.**

437

438 It can be noted, that several systems could implement (SPEX) the same parts of different processes,
439 even though the technology in different systems can be totally different.

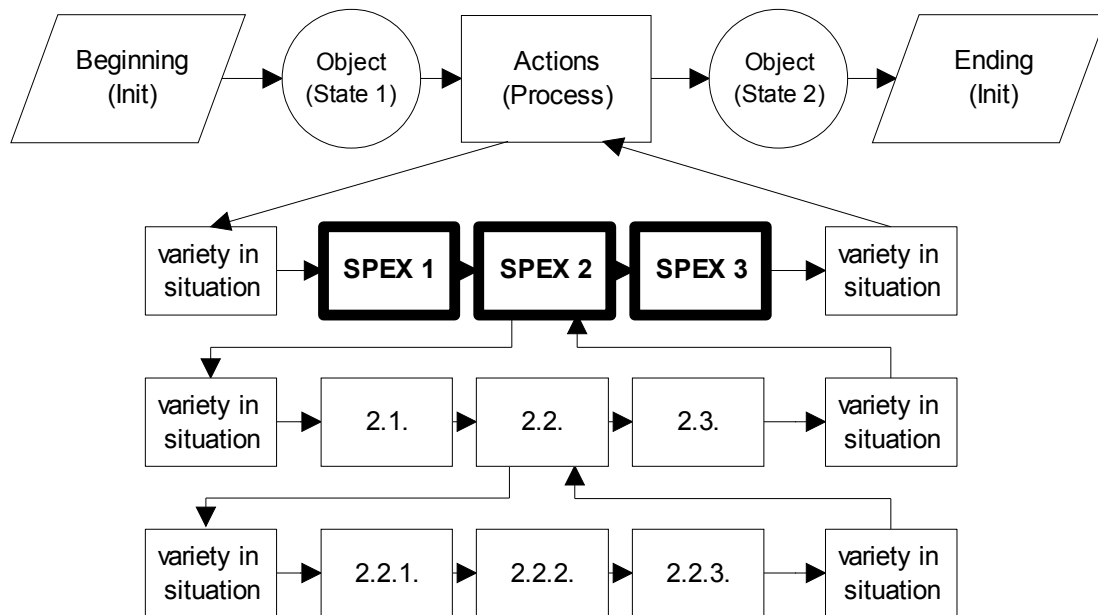
440

441 Here we can differentiate following issues:

442

- 443 • object of a process
- 444 • beginning of a process
- 445 • ending of a process
- 446 • actions of a process
- 447 • variety in a situation.

448



449
450

451 There can be different objects: especially material, information and humans. Material and
452 information is stable but humans are never in a stable state.

453

454 There could be some points in a process model where there is very detailed (SPEX) parts. Naturally
455 in these parts (SPEX) there could be very detailed information about different concepts.

456

457 Since humans are learning entities there can be different shortcuts in different process models
458 implemented in computerised systems.

459

460 Based on the previously proposed actions there can be a clear understanding of different processes.
461 It can be noted that describing different processes can mean a lot of work for different stakeholders.

462

463 It can be noted here that describing different processes are implemented in information systems which
464 are hierarchically structured. So there is always some possible mismatches between actual process
465 models and actual hierarchy of system.

466

467 Here we can note, that in a process some objects change their state in different stages.

468

469 **Proposal: After some serious assessment there could be some serious work for**
470 **standardised (SPEX) interfaces and displays.**

471

472 **Proposal: Some parts of the processes could be standardised for interfaces (SPEX) for**
473 **different stakeholders.**

474

475 **Proposal: Some standardised customer interfaces (SPEX) could be used for having**
476 **better service processes for different stakeholders.**

477

478 It can be noted, that several systems could implement (SPEX) the same parts of different processes,
 479 even though the technology in different systems can be totally different.

480

481 **Recommendation 15, 16, 17, 18, 19, 20, 21 and 22**

482

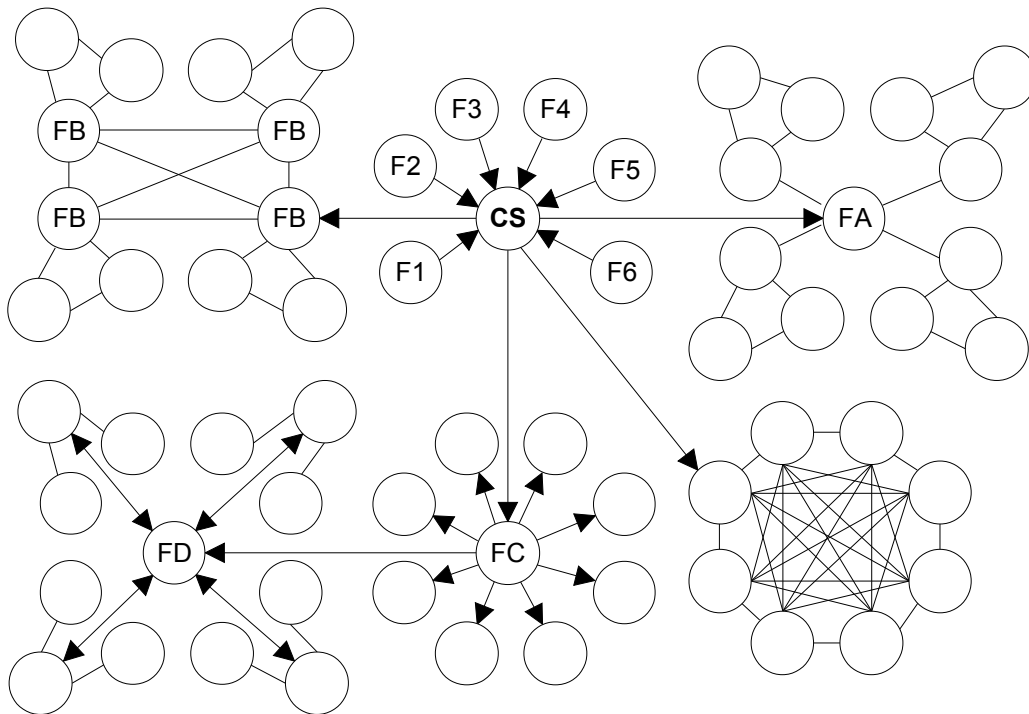
483 For these recommendations I have nothing to add.

484

485 **Recommendation 23:**

486 Public administrations should create data quality assurance plans for base registries and
 487 related master data, execute them regularly and keep them updated.

488



489

490

491 There can be different central systems (CS) which collect data information other (sub)systems.
 492 Collected data from different central systems (CS) can distributed to different systems which can
 493 have different organising modes. In reality there can be different layers of information systems.
 494 Like discussed elsewhere the cooperation between systems (also with base registers) can be based
 495 on documents and/or databases.

496

497 **Proposal: Layers of different information systems could be assessed carefully.**

498

499 **Recommendation 24**

500 Public administrations should publish the data they own as open data unless certain
 501 restrictions apply. Open data should be published in machine-readable, non-proprietary
 502 formats.

503

504 In some cases public sector information systems can provide open data – either free or with nominal
505 fees. Here we can note that data can be provided in documents and/or in databases. Data can be
506 provided either realtime or in some timeframes.

507

508 **Proposal: Providing (open) data with different timeframes could be assessed carefully.**

509

510 **Proposal: Providing (open) data directly from database(s) could be assessed carefully.**

511

512 **Proposal: Providing (open) data as documents could be assessed carefully.**

513

514 Generally speaking different stakeholder communities can use open data in very intelligently – also
515 adding other (open) data for creation an information service is a possibility.

516

517 Here we can note that (open) data must be processed with different software. There can be closed
518 software or open software.

519

520 **Proposal: There can be software to process open data.**

521

522 **Proposal: Open software could be favoured when processing open data.**

523

524 Then there is the problem of developing new software. Both open software and closed software
525 mean a lot of work for developers.

526

527 **Recommendation 25, 26 and 27**

528

529 For these recommendations I have nothing to add.

530

531 **Recommendation 28:**

532 The right to re-use open data should be clearly communicated in all Member States. The
533 legal regimes for facilitating re-use, such as licences, should be as standardised as possible.

534

535 Here we can note one important issue based on the results of previous consultations.

536

537 **Proposal: There could be some serious efforts to create very simple and very readable
538 documents for different purposes.**

539

540 Too often we give very complex legal texts (legalese) for average consumers and average company
541 personnel. There are ways for presenting legal texts with more clarity. Since average consumers and
542 average company personnel are NOT experts in law there should be more readable documents for
543 average persons.

544

545 **Proposal: Based on the some serious efforts to create very simple and very readable
546 (legal) documents it could be easier to develop interfaces for different stakeholders.**

547

548 **Recommendation 29, 30, 31 and 32**

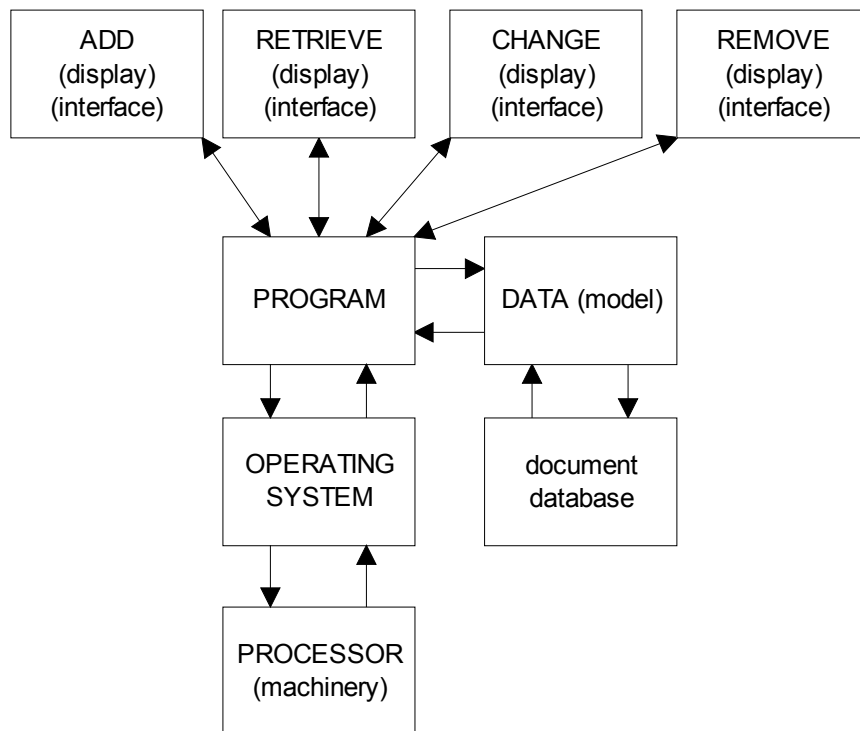
549 Public administrations should use common models for describing public services, public
 550 data, and interoperability solutions and these descriptions should be made available in public
 551 catalogues.

552
 553 For these recommendations I have nothing to add.

554
 555 **Recommendation 33**

556 Public administrations should put in place processes to select relevant standards and
 557 specifications, evaluate them, monitor their implementation, check compliance and test
 558 interoperability.

559



560

561

562 Generally speaking we have different techniques on the information technology field. Here we can
 563 note that programs (most arrows) are in the middle of different information systems. Then programs
 564 handle the data in a system (documents and/or databases). However we have to have one specific
 565 program which is different – i.e. operating system. Operating systems handle connections with
 566 machinery and processors. Generally speaking programs can work with an operating system and
 567 developers of programs use different parts of an operating system.

568

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

573

574 In the previous consultations I have advocated following solution as the maximum solution:

575

576

* public sector institute owns the machinery and processor of the information system

577

* the machinery and processor are based on relevant open standards

578

* the operating system is based on an open-source solution

579

* public sector institute owns the source code of the information system

580

* public sector institute owns the database of the information system

581

* the database is based on open-source solution and on relevant open standards

582

* public sector institute owns all data in the information system.

583

584 Naturally, there can be solutions, which are not based on the maximum solution.

585

586 Next table gives us some possibilities for assessing possibilities for open solutions and closed solutions.

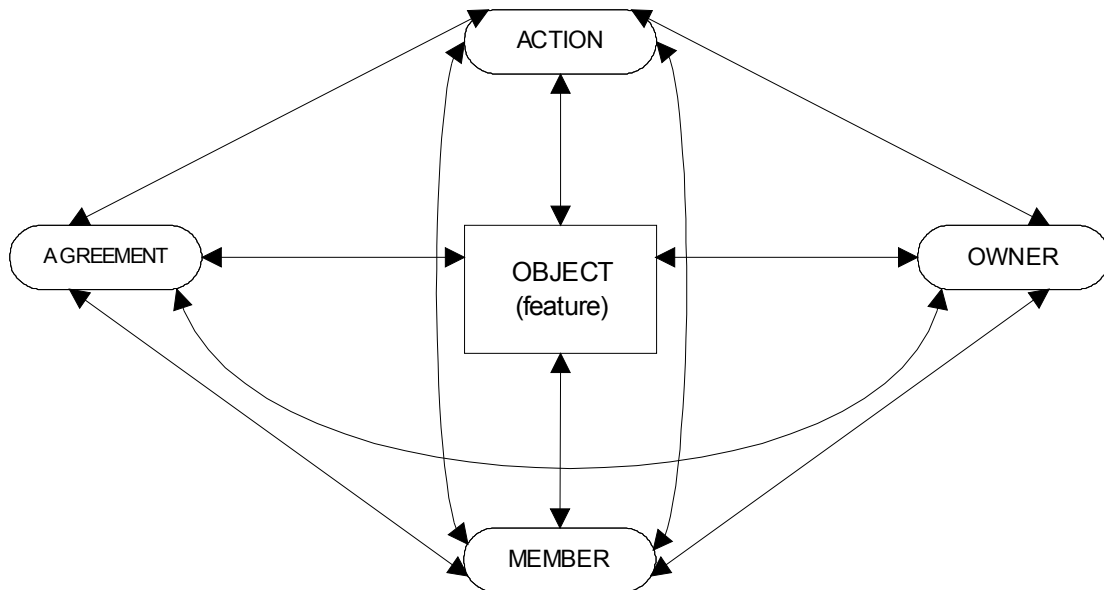
587

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589

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

591



592

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

595

596

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601

602 Here we can note that ownership, agreement and membership are interlinked in different ways.
 603 Generally speaking average usage of a system means an unique combination of ownership,
 604 agreement and membership. When everything works fine there are not problems. However changes
 605 with ownership, agreement and membership can result difficult situations.
 606

	Owner? Member? Agreement?	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			

607
 608 So there can be several ways for organising different (sub)systems. In many cases there are
 609 problems with different concepts since many systems are developed by different communities.
 610

611 **Recommendation 34 and 35**

612
 613 For these recommendations I have nothing to add.
 614

615 **Recommendation 36:**

616 Public administrations should lead or actively participate in standardisation work relevant to
 617 their needs to ensure interoperability.
 618

619 Here we can reiterate proposal on joining different non-profit foundation(s) and/or non-profit
 620 communities.
 621

622 **Proposal: In some cases it can be reasonable to join some non-profit foundation(s)**
 623 **and/or non-profit communities which develop open standards.**
 624

625 **Recommendation 37:**

626 When establishing European Public Services, public administrations should give preference
 627 to open specifications, taking due account of the coverage of functional needs, maturity and
 628 market support.

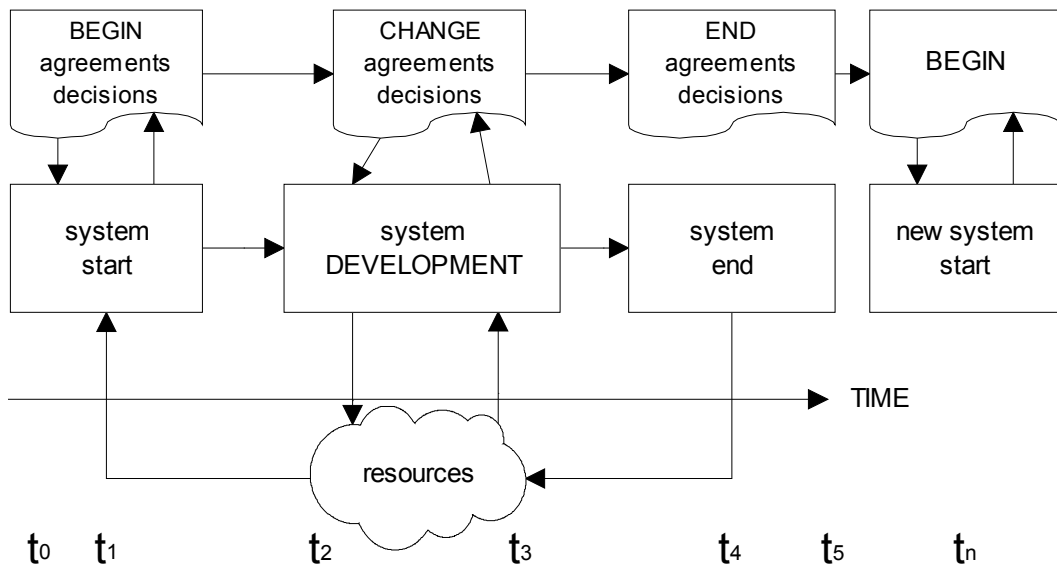
629
 630 **Recommendation 38:**

631
 632 For this recommendation I have nothing to add.

633
 634 **Recommendation 39:**

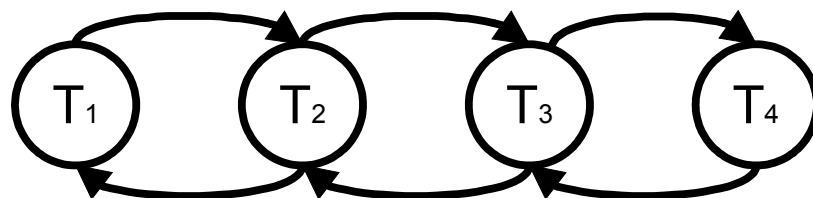
635 Public administrations should establish interoperability agreements at all interoperability
 636 layers.

637



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 642

Proposal: Different agreements and decisions ($T_n \leftrightarrow T_n$) during the life-time of an information system should be collected systematically.



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 649

Generally speaking different agreements and decisions usually are not collected systematically. In reality there has to be always analysis of previous agreements and decisions ($T_n \leftrightarrow T_n$) and current agreements and decisions.

Recommendation 40:

650 Public administrations working together to provide European Public Services should include
 651 in their interoperability agreements change management processes to ensure continuous
 652 service delivery.

653

654 **Recommendation 41:**

655

656 For this recommendation I have nothing to add.

657

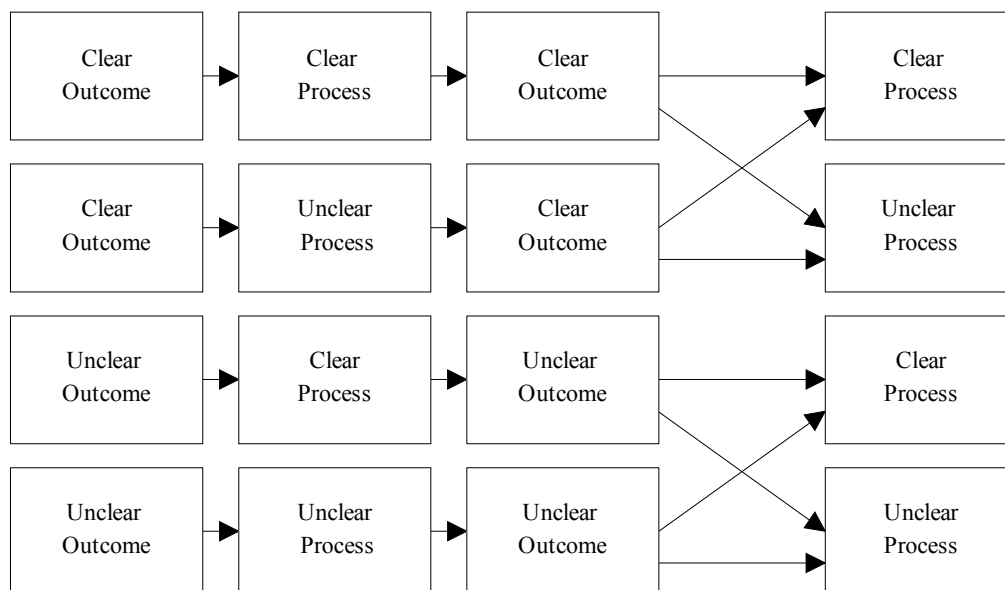
658 **Recommendation 42:**

659 Public administrations should document their business processes using commonly accepted
 660 modelling techniques and agree on how these processes will interact to deliver a European
 661 Public Service.

662

663 Here we can note clearness and unclearness of different processes. There are several combinations
 664 of clear and unclear processes. Depending on modelling techniques it can be harder to describe
 665 unclear processes. Like mentioned before there can be process models and data models.

666



667

668

669 There can be different modelling approaches:

670

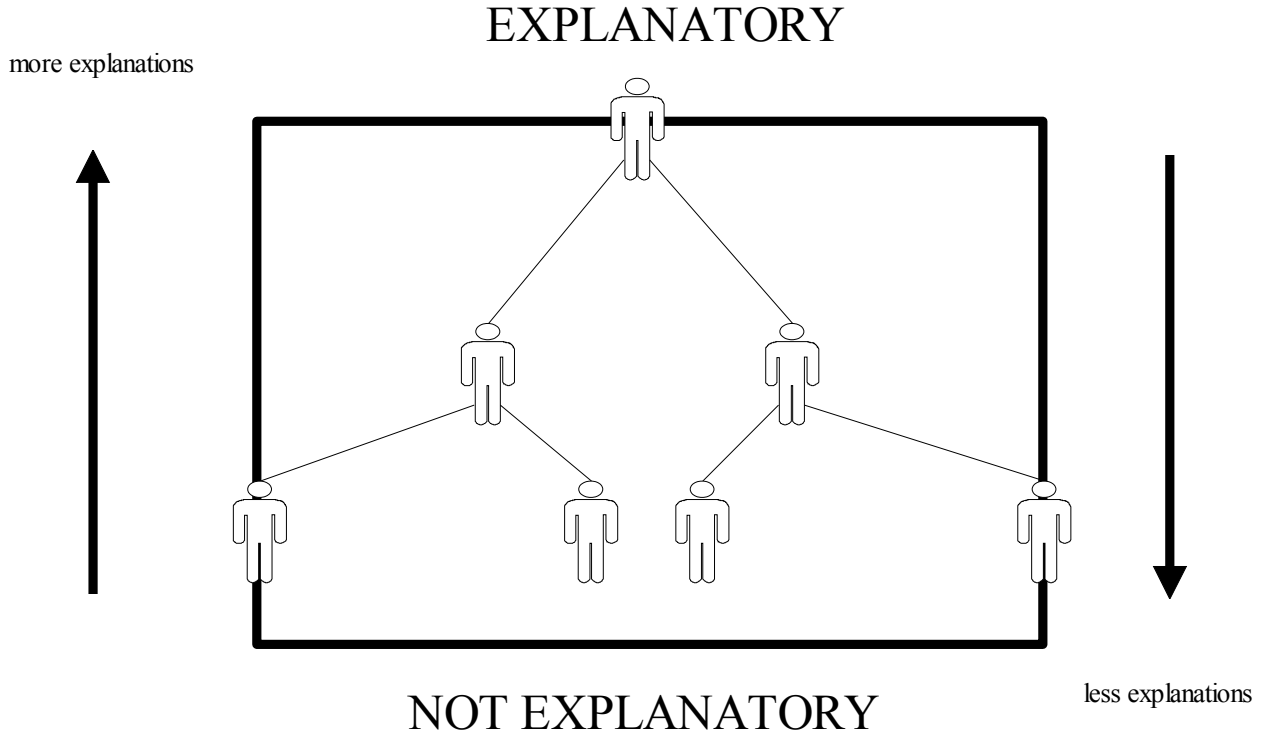
- 671 • business rule modelling
- 672 • conceptual modelling
- 673 • data modelling
- 674 • functional modelling
- 675 • requirements modelling
- 676 • systems modelling.

677

678

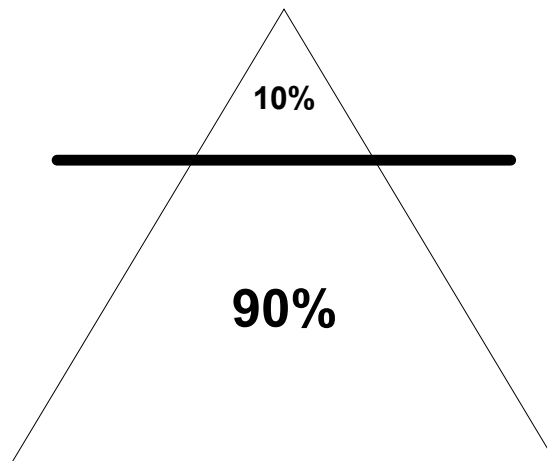
Note: Documenting just business processes may not be enough.

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The problem with modelling are different combinations of explanations. Understanding processes on different levels in an organisation usually means a large-scale modelling efforts.



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One problem is that visible processes are just surface in an organisation (e.g. 10%). Understanding deep and invisible processes (e.g. 90%) can take some time. People have different attitudes about modelling efforts. Some persons may strongly resist different modelling efforts.

691 One problem is the needed level of details when modelling different aspects. Generally speaking
692 people will not describe processes in a detailed way. The problem is that developing computerised
693 systems demand understanding a lot of details.

694

695 An example of complicated details is enterprise resource planning (ERP) system. It is impossible to
696 implement enterprise resource planning systems without understanding details of different
697 processes.

698

699 **Proposal: There could be an assessment of modelling languages for describing different**
700 **(business) processes.**

701

702 **Proposal: There could be an assessment of modelling languages for describing other**
703 **aspects; e.g. business rules, conceptual models, data models, functional models,**
704 **requirement models, systems models.**

705

706 **Proposal: It may feasible to select a set of modelling languages – not just one modelling**
707 **language.**

708

709 Initial assumption is that different governmental communities in different member states (EU) have
710 some similarities when trying to model different aspects of that domain. Therefore it may feasible to
711 select a set of modelling languages.

712

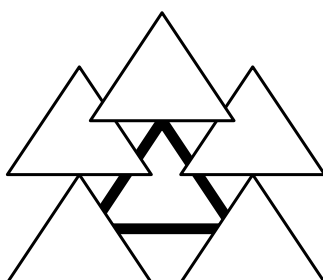
713 **Recommendation 43:**

714 Public administrations should clarify and formalise their organisational relationships as part
715 of the establishment of a European Public Service.

716

717 In reality there are always some changes in different communities and organisational relationships
718 can chance in time and space. Depending on the specific organisation the original organising mode
719 may change and there can be new (sub)communities.

720



721

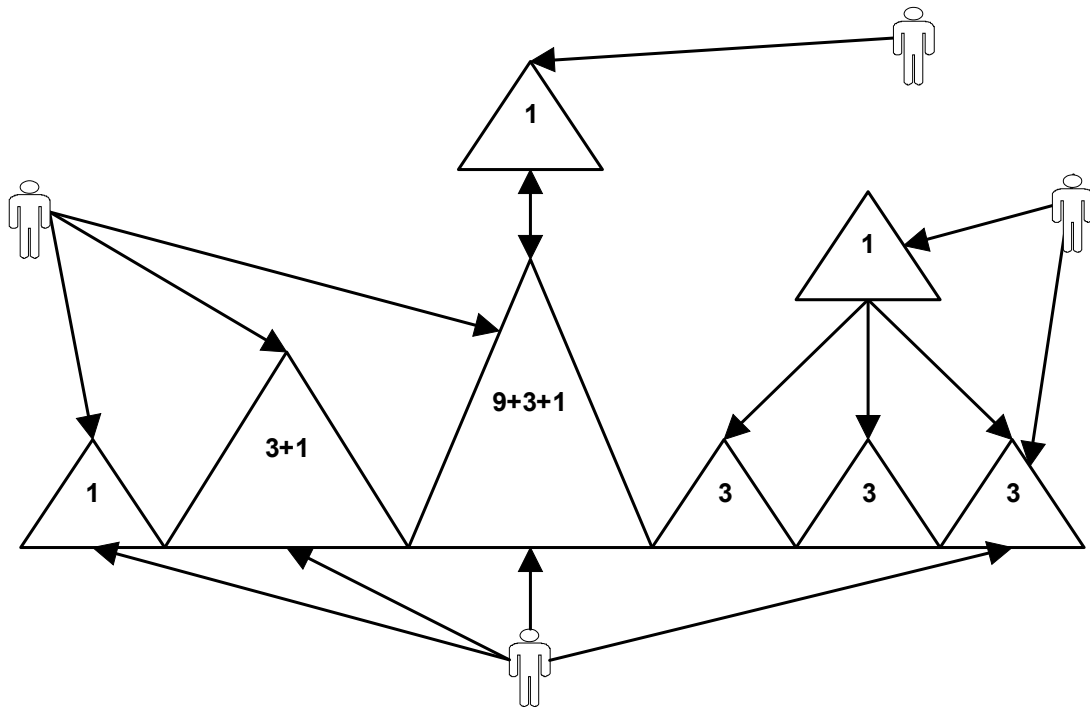
722

723 However there is not optimal organisation mode and therefore there can be different levels of
724 hierarchy in a specific organisation.

725

726 [Continues on the next page]

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730 One question is naturally human resource questions: should a community select people outside of
731 an organisation or inside of an organisation? This question is crucial when selecting persons to
732 leadership positions.

733

734 Here we can reiterate easily visible (e.g. 10%) aspects and hard-to-understand non-visible aspects
735 (e.g. 90%) in a community. Can an outsider understand these hard-to-understand non-visible
736 aspects? Initial conclusion is that an outsider has to learn a lot of different issues in a community.

737

738 **Note: Clarifying and formalising organisational relationships is not easy!**

739

740 **Recommendation 44 and 45**

741

742 For these recommendations I have nothing to add.

743

744 **Recommendation 46**

745 Public administrations should support the establishment of sector-specific and cross-sectoral
746 communities that aim to create open information standards or specifications and should
747 encourage the communities to share their results on national and European platforms.

748

749 Personally I have advocated creation of non-profit foundations which can handle creation of open
750 standards. Examples of these foundations are following:

751

- 752 • Apache Software Foundation ^{7 8}
753 • Document Foundation ^{9 10}
754 • Eclipse Foundation ^{11 12}
755 • Linux Foundation ^{13 14}
756 • OpenStack Foundation ^{15 16}
757 • Python Software Foundation ^{17 18}
758

759 There are also some non-profit communities which are not foundations:
760

- 761 • Creative Commons ^{19 20}
762 • Open Knowledge International ^{21 22}
763 • Open Source Hardware Association ²³
764 • Open Source Initiative ^{24 25}
765 • Open Source Matters ²⁶
766 • Open Source Robotics Foundation ²⁷
767 • PHP Group ^{28 29}
768

769 Standards and/or software provided by these non-profit communities (foundations and other) are
770 usually concentrating on some specific information technology domain. I have advocated single-
771 issue non-profit foundations.
772

773 **Proposal: Information about non-profit single-issue foundations could be collected.**
774

775 **Proposal: Information about other non-profit single-issue communities could be**
776 **collected.**
777

7 <https://www.apache.org>

8 https://en.wikipedia.org/wiki/Apache_Software_Foundation

9 <https://www.documentfoundation.org>

10 https://en.wikipedia.org/wiki/The_Document_Foundation

11 <https://www.eclipse.org>

12 https://en.wikipedia.org/wiki/Eclipse_Foundation

13 <http://www.linuxfoundation.org>

14 https://en.wikipedia.org/wiki/Linux_Foundation

15 <http://www.openstack.org>

16 <https://en.wikipedia.org/wiki/OpenStack>

17 <https://www.python.org/psf/>

18 https://en.wikipedia.org/wiki/Python_Software_Foundation

19 <https://creativecommons.org/>

20 https://en.wikipedia.org/wiki/Creative_Commons

21 <https://okfn.org>

22 https://en.wikipedia.org/wiki/Open_Knowledge_International

23 www.oshwa.org/

24 <https://opensource.org/>

25 https://en.wikipedia.org/wiki/Open_Source_Initiative

26 <http://opensourcematters.org>

27 [www.osrfoundation.org/](http://osrfoundation.org/)

28 <https://php.net/>

29 <https://en.wikipedia.org/wiki/PHP>

778 **Proposal: Membership for these non-profit single-issue foundations and/or**
 779 **communities could be assessed carefully.**

780
 781 **Proposal: In some cases it can be reasonable to join some non-profit foundation(s)**
 782 **and/or non-profit communities.**

783
 784 In reality all these non-profit communities need some financial support for their activities.

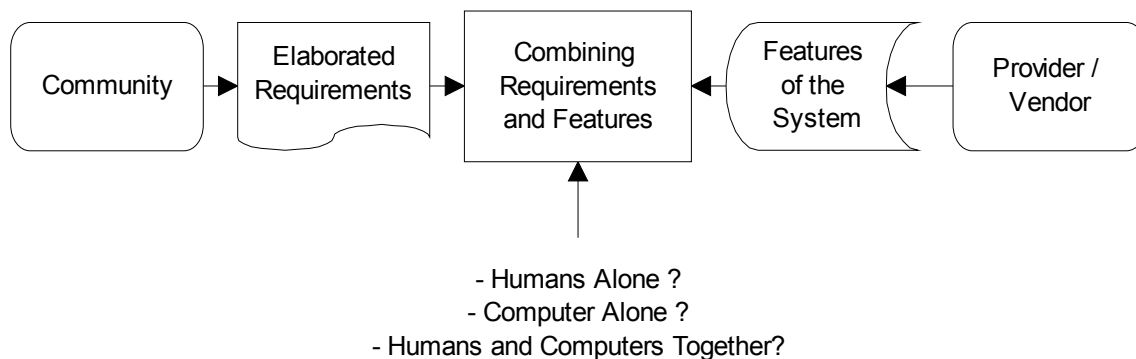
785
 786 **Proposal: In some cases it can be reasonable to give financial support to non-profit**
 787 **communities.**

788
 789 **Note: Here we can note that some non-profit communities are not real successes and**
 790 **some non-profit communities might be closed down after different failures.**

791
 792 **Recommendation 47:**

793 Public administrations should use formalised open specifications, where available, to ensure
 794 technical interoperability when establishing European Public Services.

795
 796 (New) information system features should conform to the different requirements. Requirements
 797 engineering is very high-risk task in the information and communication technology (ICT) field.
 798 Therefore we have even today very high-risk projects failing because of the requirements
 799 engineering problems.
 800



801
 802
 803 Traditionally requirements engineering has been divided in to three distinct areas:
 804 1) discovery
 805 2) specification
 806 3) validation and verification.

807
 808 One thing is sure, requirements engineering is very high-risk task in the information and
 809 communication technology (ICT) field. Therefore we have even today very high-risk projects
 810 failing because of the requirements engineering problems.

811
 812 However it can be said with high certainty that this consultation will not result full discovery and

813 totally unambiguous specification. Therefore the actual implementation of the (new) information
814 system can open totally new scenes of new and unforeseen requirements – thus opening a way for a
815 new information system failure.

816

817 Different requirements for an IT system can be described in many ways, and there can be
818 mismatches between features and requirements. Also, the division of labour between humans and
819 computers can cause problems, and there are always real possibilities for creating cumbersome IT
820 solutions.

821

822 **Proposal: Developing formalised open specifications can be supported.**

823

824 **Good luck!!!**

825

826 This opinion is quite limited. Hopefully there are other constructive ideas presented in other
827 opinions. This remains to be seen.

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831 [Continues on the next page]

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ANNEX 1

My opinions to the previous and relevant consultations – there consultations were mostly organised by the Commission of the European Union. General page to all consultations – both in English and in Finnish: <http://www.jukkarannila.fi/lausunnot.html>

EN: Opinion 1: Review of the rules on access to documents
http://www.jukkarannila.fi/lausunnot.html#nro_1

EN: Opinion 2: Schools for the 21st Century
http://www.jukkarannila.fi/lausunnot.html#nro_2

EN: Opinion 3: The future of pharmaceuticals for Human use in Europe- making Europe a Hub for Safe and Innovative medicines
http://www.jukkarannila.fi/lausunnot.html#nro_3

EN: Opinion 5: Consumer Scoreboard, Questionnaire for stakeholders
http://www.jukkarannila.fi/lausunnot.html#nro_5

EN: Opinion 6: Consultation on a Code of Conduct for Interest Representatives
http://www.jukkarannila.fi/lausunnot.html#nro_6

EN: Opinion 8: European Interoperability Framework, version 2, draft
http://www.jukkarannila.fi/lausunnot.html#nro_8

EN: Opinion 9: CAMSS: Common Assessment Method for Standards and Specifications, CAMSS proposal for comments
http://www.jukkarannila.fi/lausunnot.html#nro_9

EN: Opinion 15: Collective Redress
http://www.jukkarannila.fi/lausunnot.html#nro_15

EN: Opinion 17: Opinion to Antitrust Case No. COMP/C-3/39.530
http://www.jukkarannila.fi/lausunnot.html#nro_17

EN: Opinion 18: Opinion Related to the Public Undertaking by Microsoft
http://www.jukkarannila.fi/lausunnot.html#nro_18

EN: Opinion 19: Official Acknowledgement by the Commission
http://www.jukkarannila.fi/lausunnot.html#nro_19

- 878 EN: Opinion 20: SECOND Opinion Related to the Public Undertaking by Microsoft
879 http://www.jukkarannila.fi/lausunnot.html#nro_20
- 880 EN: Opinion 21: Opinion about the European Interoperability Strategy proposal
881 http://www.jukkarannila.fi/lausunnot.html#nro_21
882
- 883 EN: Opinion 23: Public consultation on the review of the European Standardisation System
884 http://www.jukkarannila.fi/lausunnot.html#nro_23
885
- 886 EN: Opinion 27: Public Consultation on the Modernisation of EU Public Procurement Policy
887 http://www.jukkarannila.fi/lausunnot.html#nro_27
888
- 889 EN: Opinion 28: Consultation on the Europe 2020 Project Bond Initiative
890 http://www.jukkarannila.fi/lausunnot.html#nro_28
891
- 892 EN: Opinion 30: Internet Filtering
893 http://www.jukkarannila.fi/lausunnot.html#nro_30
- 894 NOTE: Organised by the European Committee for Standardization (CEN) ³⁰
895
- 896 EN: Opinion 32: COMP/C-3/39.692/IBM – Maintenance services
897 http://www.jukkarannila.fi/lausunnot.html#nro_32
898
- 899 EN: Opinion 34: REMIT Registration Format
900 http://www.jukkarannila.fi/lausunnot.html#nro_34
- 901 NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER) ³¹
902
- 903 EN: Opinion 35: Exploiting the employment potential of the personal and household services
904 http://www.jukkarannila.fi/lausunnot.html#nro_35
905
- 906 EN: Opinion 37: CASE COMP/39.654 - Reuters instrument codes
907 http://www.jukkarannila.fi/lausunnot.html#nro_37
908
- 909 EN: Opinion 39: Registry options to facilitate linking of emissions trading systems
910 http://www.jukkarannila.fi/lausunnot.html#nro_39
911
- 912 EN: Opinion 40: Media Freedom and Pluralism / audiovisual regulatory bodies
913 http://www.jukkarannila.fi/lausunnot.html#nro_40
914
- 915 EN: Opinion 41: AT.39398: observations on the proposed commitments
916 http://www.jukkarannila.fi/lausunnot.html#nro_41
917
- 918 EN: Opinion 42: Opening up Education
919 http://www.jukkarannila.fi/lausunnot.html#nro_42
920

30 <http://www.cen.eu/> (Accessed 2 July 2012)

31 <http://www.acer.europa.eu/> (Accessed 2 July 2012)

- 921 EN: Opinion 43: Publication of extracts of the European register of market participants
922 http://www.jukkarannila.fi/lausunnot.html#nro_43
923 NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER)
924
- 925 EN: Opinion 44: Evaluation policy guidelines
926 http://www.jukkarannila.fi/lausunnot.html#nro_44
927
- 928 EN: Opinion 45: About ICT standardisation
929 http://www.jukkarannila.fi/lausunnot.html#nro_45
930
- 931 EN: Opinion 46: Review of the EU copyright rules
932 http://www.jukkarannila.fi/lausunnot.html#nro_46
933
- 934 EN: Opinion 51: European Area of Skills and Qualifications
935 http://www.jukkarannila.fi/lausunnot.html#nro_51
936
- 937 EN: Opinion 52: Trusted Cloud Europe Survey
938 http://www.jukkarannila.fi/lausunnot.html#nro_52
939
- 940 EN: Opinion 53: Trade Reporting User Manual (TRUM) (Draft)
941 http://www.jukkarannila.fi/lausunnot.html#nro_53
942 NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER)
943
- 944 EN: Opinion 55: European Energy Regulation
945 http://www.jukkarannila.fi/lausunnot.html#nro_55
946 NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER)
947
- 948 EN: Opinion 59: Green paper on mobile Health
949 http://www.jukkarannila.fi/lausunnot.html#nro_59
950
- 951 EN: Opinion 60: Cross-border inheritance tax problems within the EU
952 http://www.jukkarannila.fi/lausunnot.html#nro_60
953
- 954 EN: Opinion 61: European Register of Products Containing Nanomaterials
955 http://www.jukkarannila.fi/lausunnot.html#nro_61
956
- 957 EN: Opinion 64: Corporate Social Responsibility - European Commission
958 http://www.jukkarannila.fi/lausunnot.html#nro_64
959
- 960 EN: Opinion 66: Net Innovation for the Work Programme 2016-2017
961 http://www.jukkarannila.fi/lausunnot.html#nro_66
962
- 963 EN: Opinion 68: European Network Code Stakeholder Committees
964 http://www.jukkarannila.fi/lausunnot.html#nro_68
965 NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER)

966
967 EN: Opinion 71: Common Schema for the Disclosure of Inside Information
968 http://www.jukkarannila.fi/lausunnot.html#nro_71
969 NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER)

970
971 EN: Opinion 74: Enabling the Internet of Things
972 http://www.jukkarannila.fi/lausunnot.html#nro_74
973 NOTE: Organised by Body of European Regulators for Electronic Communications (BEREC)

974
975 EN: Opinion 80: Mandatory Transparency Register
976 http://www.jukkarannila.fi/lausunnot.html#nro_80

977
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979
980 My opinions to the previous and relevant consultations – there consultations were mostly organised
981 by the Commission of the European Union. General page to all consultations – both in English and
982 in Finnish: <http://www.jukkarannila.fi/lausunnot.html>

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985 [Continues on the next page]

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1003

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1029 The English explanation is on the following web page:

1030 <http://creativecommons.org/licenses/by-nc-nd/4.0/legalcode>

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32 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.