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TO: digitalengagement@gov.scot

Scottish Government

Opinion: A Digital Strategy for Scotland – 2017 and beyond

First of all, a lot of thanks to the Scottish Government for organising this important 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.

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

Annex 1 holds information about previous consultations related to information systems.

Annex 2 holds information about disclaimers and copyright.

Best Regards,

Jukka S. Rannila
citizen of Finland

signed electronically

[Continues on the next page]

38

39 **This opinion is rather limited / Mostly about information systems**

40

41 I will not answer to all questions since this opinion is mostly about information systems.

42

43 **Previous consultations (about information systems) / Annex 1**

44

45 Annex 1 holds a list of previous consultations organised related to information systems.

46

47 Based on previous opinions I have explained several issues in detailed way. It can be noted that
48 some issues are repeated since many consultations concentrated on information technology.

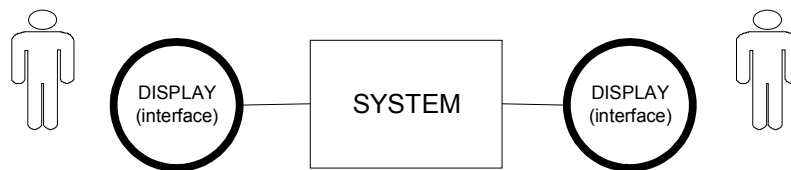
49

50 This opinion does not repeat all previous issues (mainly information technology) mentioned on the
51 previous opinion documents.

52

53 **Conception for information systems**

54



55

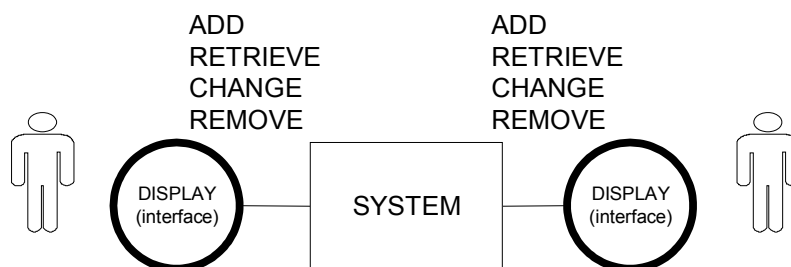
56

57 Generally speaking an information system contains displays and/or interfaces which can be used in
58 different ways. There can be several users and/or user groups for an information system

59

60 Here we can note four basic functions for an information system: adding data, retrieving data,
61 changing data and removing data.

62

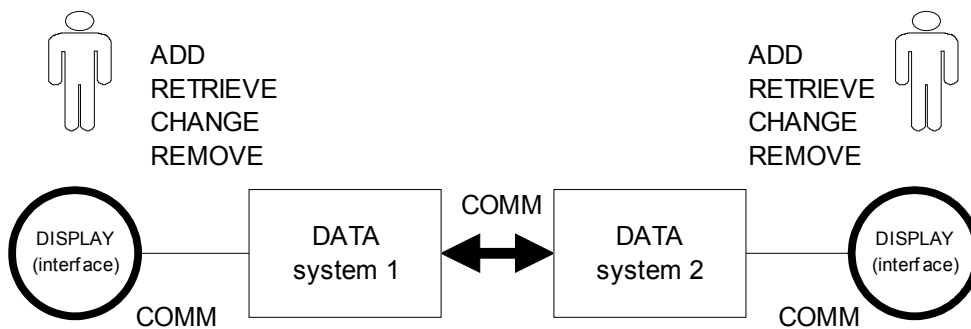


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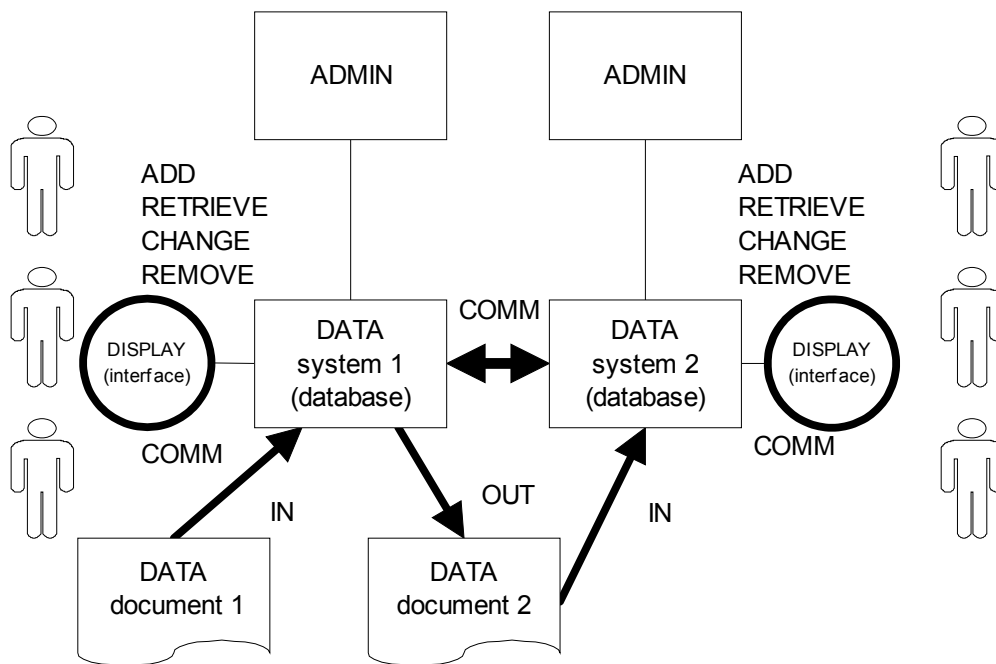
65 Then we can note that different information systems can have some cooperation based on different
66 communication methods (COMM).

67



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74

Cooperation between systems can be direct system-to-system communication (COMM). Then we can note that cooperation between systems can be based on transmitting documents between different information systems. There is also different administrative (ADMIN) duties when different systems are used.



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83

What this means to the Digital Strategy for Scotland – 2017 and beyond?

- 1) **There can be several users / user groups for an information system.**
- 2) **There can be several systems which can have direct system-to-system cooperation.**
- 3) **There can be several systems which can transmit documents between different systems.**

Like the figure indicates, there are databases in different information systems. Then there are different documents for transmitting data between different systems. Here we can note especially

86 following standardisation needs for different parts of different parts of an information system.

87

88 * communication standards

89 * data standards (also document standards)

90 * database standards

91 * display / interface standards.

92

93 **Proposal: There could different standardisation efforts for communication, data,**
 94 **document, database, display/interface standards.**

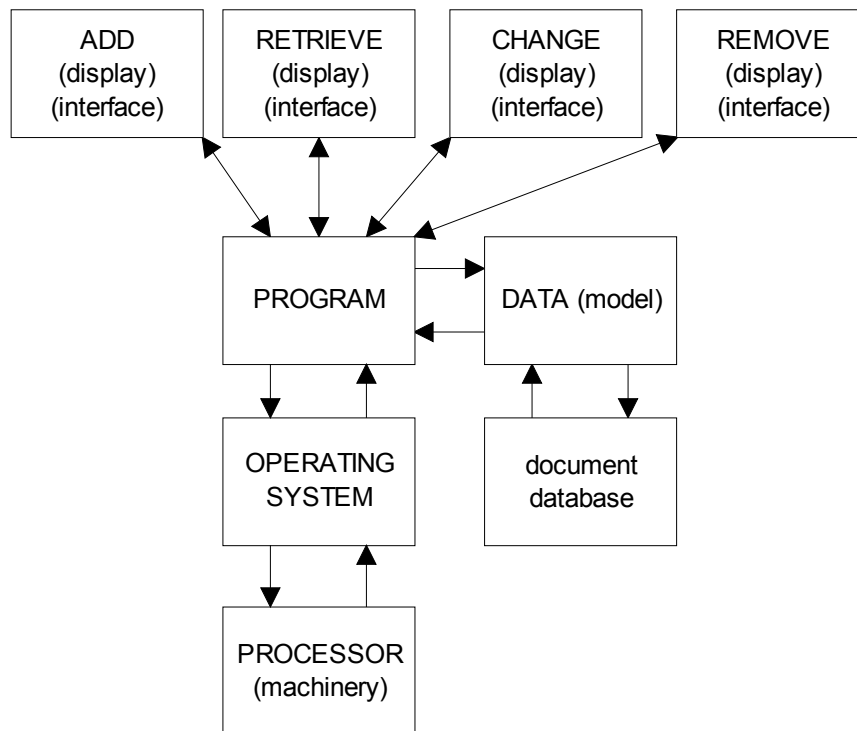
95

96 **Second conception for information systems**

97

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

104



105

106

107 **What this means to the Digital Strategy for Scotland – 2017 and beyond?**

108 4) **There can be several computer programs.**

109 5) **There are several providers of different computer programs.**

110 6) **There are naturally competing programs.**

111 **7) Different programs comply with different standards.**

112
113 We have to note that data can have different models and data (models) are developed and/or used
114 by different stakeholders (four basic functions). Especially in databases there are possibilities for
115 several data models; depending on the modellers there can be different data models in databases.
116 Generally speaking changing data models can be very difficult in many cases.

117
118 In the previous consultations I have advocated following solution as the maximum solution:

- 119
120 * public sector institute owns the machinery and processor of the information system
121 * the machinery and processor are based on relevant open standards
122 * the operating system is based on an open-source solution
123 * public sector institute owns the source code of the information system
124 * public sector institute owns the database of the information system
125 * the database is based on open-source solution and on relevant open standards
126 * public sector institute owns all data in the information system.
127

	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				

128
129 Naturally, there can be solutions, which are not based on the maximum solution. It can be
130 concluded, that this consultation is not (yet) about technical details.

131
132 **Note: The relations between different aspects of information systems can result**
133 **rather complicated (legal) network(s): i.e. Ownership, Membership, Agreement.**
134

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

137
138 Here we can note the difference between owners, agreements and members. In reality ownerships
139 agreements and memberships cause very complex networks, and those networks are changing all
140 the time: divisions, mergers, ownership changes, agreement changes, cooperation with other
141 entities, life-cycles, etc.

142
143 **What this means to the Digital Strategy for Scotland – 2017 and beyond?**

- 144 **8) There could be clear information of membership, ownership and agreements of**
145 **different information systems.**
146 **9) There could be some (new?) regulations for keeping the catalogue of different**
147 **information systems up-to-date.**

148
149 Here we can note that ownership, agreement and membership are interlinked in different ways.
150 Generally speaking average usage of a system means an unique combination of ownership,
151 agreement and membership. When everything works fine there are not problems. However changes
152 with ownership, agreement and membership can result difficult situations.

153
154 **What this means to the Digital Strategy for Scotland – 2017 and beyond?**

- 155 **10) Complex networks of membership, ownership and agreements can chance**
156 **during life-cycles of different information systems.**
157 **11) Assessing complex networks of membership, ownership and agreements could**
158 **be done regularly.**

159
160 **Standards / “standards wars” or “format wars” / Standardisation organisations**

161
162 There are different standards setting organisations on the information technology field. One list ¹ of
163 these standards setting organisations is provided by ConsortiumInfo.org.

164
165 **What this means to the Digital Strategy for Scotland – 2017 and beyond?**

- 166 **12) There are several standardisation issues**
167 **13) There is a need for several standards on different levels.**
168 **14) There are several standardisation organisations.**
169 **15) Assessing and selection of standards mean more work.**
170 **16) This means constant reviews of different standards.**
171 **17) It is possible to implement “wrong” standards.**
172 **18) Part of selected standards can be failures.**
173 **19) This means constant work for implementing existing and new standards.**
174 **20) Constant modifications of software can result new security problems.**

175
176 One warning can be said about standards setting organisations. All standards setting organisations
177 are not successes based on several factors and there can may irrelevant standards setting
178 organisations. Market situation on different vehicle markets varies a lot based on different factors.

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

- 179
180 Here we can note some problems:
- 181 * some systems are based on **de-facto** standards
 - 182 * some systems are based on **de-jure** standards
 - 183 * there can be confrontations between **de-facto** and **de-jure** standards
 - 184 * there can be a monopoly situation in some domain
 - 185 * some standards may inhibit possible actions of some stakeholders
 - 186 * there can be a standard war on some domains
 - 187 * standards have different life-cycles
 - 188 * systems have different life-cycles
 - 189 * there can be mismatches between different life-cycles
 - 190 * there can be failed standards
 - 191 * there can be deprecated standards.

192
193 It is quite normal situation in the information technology field that there are competing standards
194 for some application field. Therefore there are all the time ongoing “standards wars” or “format
195 wars”. The information technology standards tend to be interrelated and one “standards war” or
196 “format war” can lead to another similar situation.

197
198 **What this means to the Digital Strategy for Scotland – 2017 and beyond?**

- 199 **21) Different standards should be assessed carefully.**
- 200 **22) There could be a catalogue of different standards**
- 201 **23) There could be some (new?) regulations for keeping the catalogue of different**
202 **standards up-to-date.**

203
204 I have advocated open standards even though in some cases open standards are not de facto
205 standards. In practice public sector has very important role, when some standards are competing in
206 the market place. Because public sector has a considerable power when buying/developing
207 information systems and therefore public sector can sometimes direct markets to certain standards.
208 Therefore there should be serious vigilance when assessing different standards and “standards” in
209 some application fields.

210
211 **Proposal: Current standardisation (e.g. list provided by ConsortiumInfo.org) efforts by**
212 **different organisations could be assessed carefully.**

213
214 There are differences between horizontal and vertical standards. A simple example is naturally
215 email solutions. There are several vertical standards when creating technically email solutions. Then
216 there are horizontal standards which enable sending messages between technically different email
217 solutions.

218
219 **Proposal: There could be assessment of vertical and horizontal standards.**

220
221 **Proposal: Using horizontal standards could be favoured when creating different**
222 **information systems.**

223

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

226

227

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

228

229

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

230

231

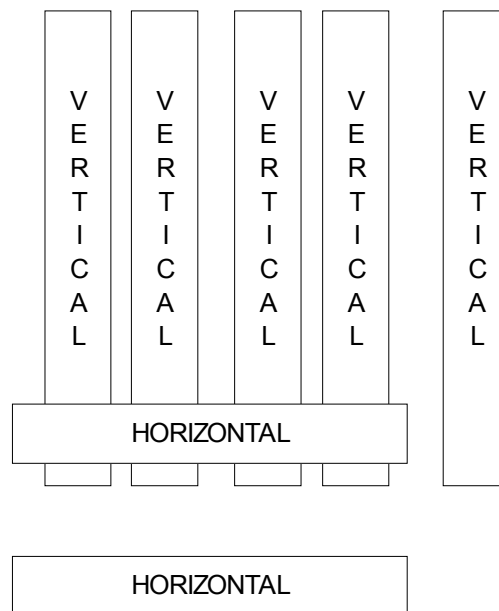
Proposal: There could be different standardisation efforts to horizontal standards and vertical standards.

232

233

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

236



237

238

239

Proposal: Government should especially concentrate on open horizontal standards.

240

241

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

242

243

244

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

245

246

247

Proposal: Government agencies could financially support development of open horizontal standards.

248

249

250

Here we can note that developing horizontal standards is very demanding compared to developing

251

vertical standards.

252

253

What this means to the Digital Strategy for Scotland – 2017 and beyond?

254

24) There can be different standardisation organisations which provide different standards.

255

256

25) There can be competing horizontal standards.

257

26) Some government agencies could join some standardisation organisations which develop especially open horizontal standards

258

259

27) Some government agencies could fund development of open horizontal standards.

260

261

28) Sometimes there are no open horizontal standards.

262

29) Development of new (open) standards means hired personnel and other monetary costs.

263

264

30) Absence of open horizontal standards means several problems.

265

31) Horizontal standards based on private solutions mean several problems.

266

267

More and more new identifiers (ID) / Challenges to privacy?

268

269

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

270

271

272

Examples of these identifiers (ID) are following:

273

274

275

1) Facebook ID for an individual person

276

2) Facebook ID for the individual up-dates of individuals

277

3) Data Universal Numbering System (D-U-N-S)

278

4) Reuters instruments codes (RICs)

279

5) Social security code for individual citizens in the European Union member states

280

6) Business identity code for a company in an European Union member state

281

7) Value added tax code for a company in an European Union member state.

282

283

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

284

285

286

287

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

288

289

290

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

291

292

293

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

294

295

296

297 **Proposal: There could be some assessment(s) based on different versions of different**
298 **identifiers (ID).**
299

300 It can be possible, that there are some legacy identifiers (ID) in the near future. It can be possible,
301 that gradually some legacy identifiers (ID) can be consolidated for more standardised identifiers
302 (ID), but this consolidation means some serious technical and administrative actions.
303

304 **Proposal: Legacy identifiers (ID) could be assessed seriously.**
305

306 When information about relevant identifiers is collected, there could be a serious assessment of
307 possible (near) monopoly situation of some identifiers. Depending on the nature of an identifier,
308 there may be a need for serious (anti-trust?) negotiations with providers of some identifiers.
309

310 **Proposal: The nature of different identifiers (ID) could be assessed.**
311

312 **Proposal: There could be serious negotiations with some providers of identifiers (ID).**
313

314 In the European Union there has been different anti-trust cases which are related to different private
315 sector identifiers (ID), since some of those private sector identifiers (ID) have been used in several
316 other systems. Some private sector identifiers (ID) can mean a (near) monopoly situation.
317

318 **What this means to the Digital Strategy for Scotland – 2017 and beyond?**

319 **32) Number of different identifiers (ID) is increasing – not decreasing**

320 **33) New identifiers (ID) mean a lot work for creating and/or updating of different**
321 **information systems.**

322 **34) There can new identifiers (ID).**

323 **35) There can public and private identifiers (ID).**

324 **36) Some private identifiers (ID) can limit actions of different stakeholders.**

325 **37) Different identifiers (ID) related to energy systems could be assessed carefully.**

326 **38) There could be some discussions with communities which provide private**
327 **identifiers (ID).**

328 **39) Monopoly situation with some private identifiers (ID) could be assessed.**
329

330 **An example for cooperation: Web feeds (RSS and Atom)**
331



332

333

334 I have advocated usage of web feeds on several previous opinion documents. Actually there are two

336 standards for web feeds: RSS ^{2 3} and Atom ^{4 5 6}.

337

338 **Proposal: Web feeds could be advocated when developing different informations**
339 **systems.**

340

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

343

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

347

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

349

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

352

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

357

358 **What this means to the Digital Strategy for Scotland – 2017 and beyond?**

359 **40) Web feeds (RSS and/or Atom) could be used extensively.**

360 **41) There can be several web feeds (RSS and/or Atom) for different stakeholders.**

361

362 **Complex networks of different systems?**

363

364

365

366 [Continues on the next page]

367

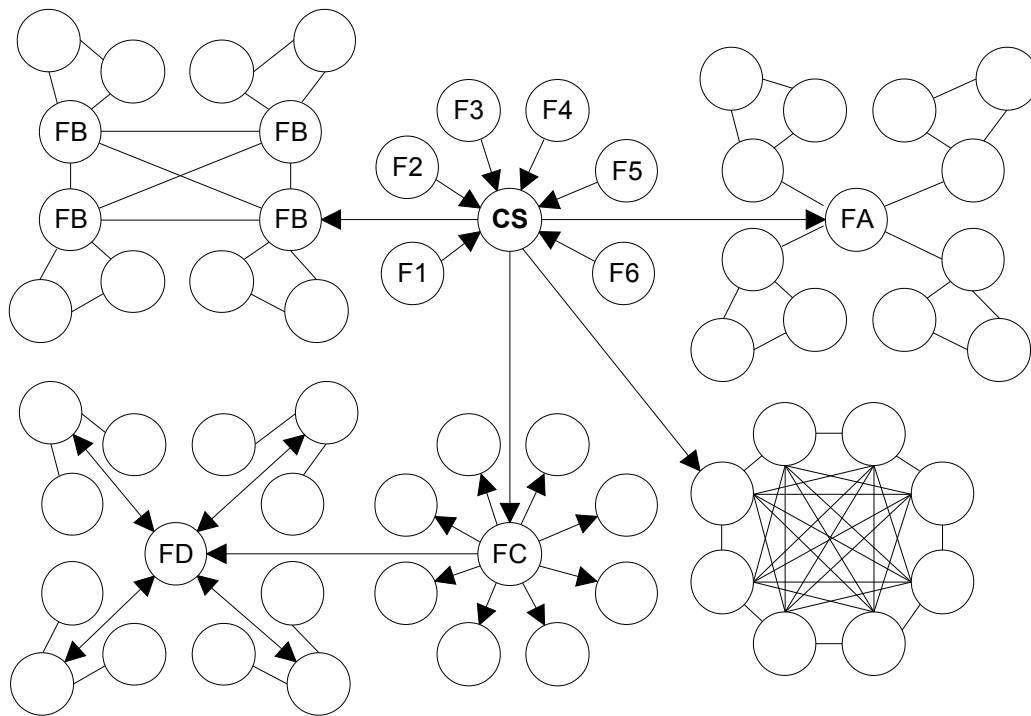
2 <http://www.rssboard.org/rss-specification>, RSS 2.0 Specification

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



368
369

370 Based on previous issues (web feeds) we can note that there can several formats (e.g. 1-6, A-D) for
371 transmitting information from some central (CS) information system. Some formats may be non-
372 standard or standard.

373

374 **What this means to the Digital Strategy for Scotland – 2017 and beyond?**

- 375 42) There could be one central information system which collects information from
376 other systems.
- 377 43) One central information system could use different standards (e.g. RSS and/or
378 Atom).
- 379 44) One central information system could provide several web feeds for different
380 stakeholders.

381

382 One issue for central information system could be security issue. Security notifications should be
383 transmitted very fast for different stakeholders.

384

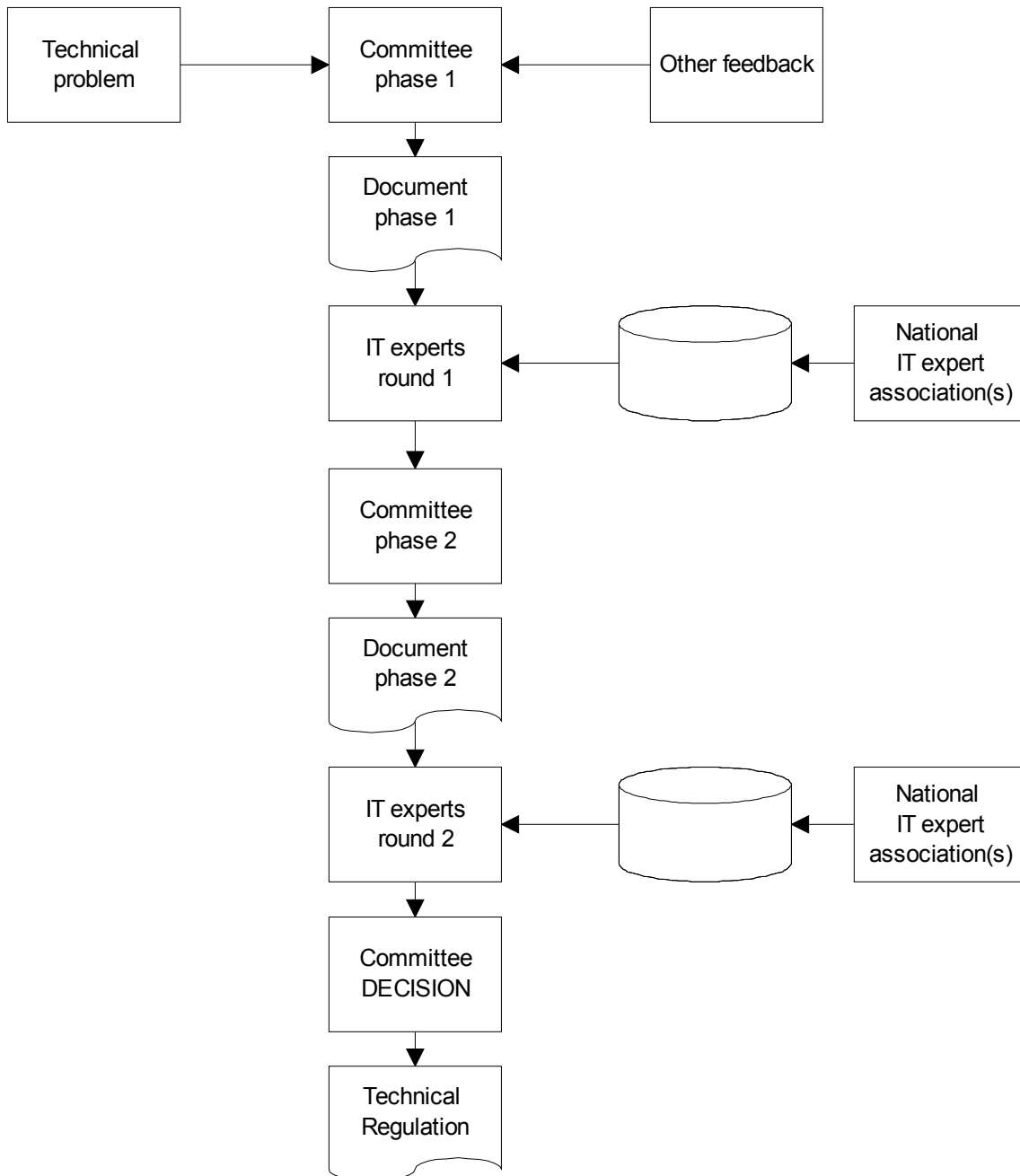
385 **What this means to the Digital Strategy for Scotland – 2017 and beyond?**

- 386 45) There could be some regulations about security notifications.
- 387 46) There could be one central information system which collects security
388 notifications.
- 389 47) One central information system could forward security notifications to other
390 information systems.

391

392 **Proposal: More technically oriented consultations could be organised after this**
393 **consultation.**

394
395 Based on answers (this consultation) there could be more technically oriented consultations.
396 Previously mentioned issues (this opinion) could be detailed for new technically oriented
397 consultations.
398



399
400
401 Based on previous opinions a process model for technical consultations can be presented. It could
402 be possible to inform members of different (national) information technology experts associations

403 about different technical consultations. There can different technical problems when developing
404 different information systems.

405

406 **Proposal: Members of different (national) information technology experts associations**
407 **could be informed about different consultations based on different technical problems**
408 **when developing different public sector information systems.**

409

410 **Good luck!!!**

411

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

414

415 [Continues on the next page]

416

417

418

ANNEX 1

419

420

I have constructed different opinions about different issues, and on the following web page
are all written (PDF files) opinions:

421

422

<http://www.jukkarannila.fi/lausunnot.html>

423

424

**I have constructed specifically opinions related to information systems – both in English and
in Finnish. Here is the list of opinions related to information systems.**

425

426

427

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

428

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

429

430

EN: Opinion 9: CAMSS: Common Assessment Method for Standards and Specifications, CAMSS

431

proposal for comments

432

http://www.jukkarannila.fi/lausunnot.html#nro_9

433

434

EN: Opinion 13: Final Committee Draft ISO/IEC FCD3 19763-2

435

http://www.jukkarannila.fi/lausunnot.html#nro_13

436

437

EN: Opinion 14: SFS discussion paper / SFS:n keskusteluasiakirja

438

http://www.jukkarannila.fi/lausunnot.html#nro_14

439

440

EN: Opinion 17: Opinion to Antitrust Case No. COMP/C-3/39.530

441

http://www.jukkarannila.fi/lausunnot.html#nro_17

442

443

EN: Opinion 18: Opinion Related to the Public Undertaking by Microsoft

444

http://www.jukkarannila.fi/lausunnot.html#nro_18

445

446

EN: Opinion 19: Official Acknowledgement by the Commission

447

http://www.jukkarannila.fi/lausunnot.html#nro_19

448

449

EN: Opinion 20: SECOND Opinion Related to the Public Undertaking by Microsoft

450

http://www.jukkarannila.fi/lausunnot.html#nro_20

451

452

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

453

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

454

455

EN: Opinion 23: Public consultation on the review of the European Standardisation System

456

http://www.jukkarannila.fi/lausunnot.html#nro_23

457

458

EN: Opinion 24: ISO/IEC JTC 1 / SC 34 / WGs 1, 4 and 5 in Helsinki 14-17 June 2010

459

http://www.jukkarannila.fi/lausunnot.html#nro_24

460

461

FI: Lausunto 29: Avoimen demokratian avoimen datan avaamisen detaljit (ADADAD)

- 462 http://www.jukkarannila.fi/lausunnot.html#nro_29
463 EN: Opinion 30: Internet Filtering
464 http://www.jukkarannila.fi/lausunnot.html#nro_30
465
466 FI: Lausunto 31: Terveystieteiden tietotekniikasta
467 http://www.jukkarannila.fi/lausunnot.html#nro_31
468
469 EN: Opinion 32: COMP/C-3/39.692/IBM - Maintenance services
470 http://www.jukkarannila.fi/lausunnot.html#nro_32
471
472 FI: Lausunto 33: Julkishallinnon tietoluovutusten periaatteet ja käytännöt
473 http://www.jukkarannila.fi/lausunnot.html#nro_33
474
475 EN: Opinion 34: REMIT Registration Format
476 http://www.jukkarannila.fi/lausunnot.html#nro_34
477
478 EN: Opinion 37: CASE COMP/39.654 - Reuters instrument codes
479 http://www.jukkarannila.fi/lausunnot.html#nro_37
480
481 FI: Lausunto 38: SADe-ohjelman avoimen lähdekoodin toimintamallin luonnos
482 http://www.jukkarannila.fi/lausunnot.html#nro_38
483
484 EN: Opinion 39: Registry options to facilitate linking of emissions trading systems
485 http://www.jukkarannila.fi/lausunnot.html#nro_39
486
487 EN: Opinion 41: AT.39398: observations on the proposed commitments
488 http://www.jukkarannila.fi/lausunnot.html#nro_41
489
490 EN: Opinion 43: Publication of extracts of the European register of market participants
491 http://www.jukkarannila.fi/lausunnot.html#nro_43
492
493 EN: Opinion 45: About ICT standardisation
494 http://www.jukkarannila.fi/lausunnot.html#nro_45
495
496 EN: Opinion 46: Review of the EU copyright rules
497 http://www.jukkarannila.fi/lausunnot.html#nro_46
498
499 EN: Opinion 47: Sharing or collaborating with government documents
500 http://www.jukkarannila.fi/lausunnot.html#nro_47
501
502 FI: Lausunto 49: JSH 166 -suosituksen päivitys
503 http://www.jukkarannila.fi/lausunnot.html#nro_49
504
505 EN: Opinion 52: Trusted Cloud Europe Survey
506 http://www.jukkarannila.fi/lausunnot.html#nro_52

- 507
508 EN: Opinion 53: Trade Reporting User Manual (TRUM) (Draft)
509 http://www.jukkarannila.fi/lausunnot.html#nro_53
510
511 EN: Opinion 54: Government Content Management System
512 http://www.jukkarannila.fi/lausunnot.html#nro_54
513
514 EN: Opinion 55: European Energy Regulation
515 http://www.jukkarannila.fi/lausunnot.html#nro_55
516
517 EN: Opinion 56: National Identity Proofing Guidelines
518 http://www.jukkarannila.fi/lausunnot.html#nro_56
519
520 FI: Lausunto 58: Puoluekokousaloitteet / 2010 ja 2014
521 http://www.jukkarannila.fi/lausunnot.html#nro_58
522
523 EN: Opinion 59: Green paper on mobile Health
524 http://www.jukkarannila.fi/lausunnot.html#nro_59
525
526 EN: Opinion 60: Cross-border inheritance tax problems within the EU
527 http://www.jukkarannila.fi/lausunnot.html#nro_60
528
529 EN: Opinion 61: European Register of Products Containing Nanomaterials
530 http://www.jukkarannila.fi/lausunnot.html#nro_61
531
532 FI: Lausunto 65: Lausuntopyyntö nettiäänestystyöryhmän väliraportista
533 http://www.jukkarannila.fi/lausunnot.html#nro_65
534
535 EN: Opinion 66: Net Innovation for the Work Programme 2016-2017
536 http://www.jukkarannila.fi/lausunnot.html#nro_66
537
538 FI: Lausunto 67: Valtioneuvoston hanketiedon esiselvityksestä
539 http://www.jukkarannila.fi/lausunnot.html#nro_67
540
541 EN: Opinion 68: European Network Code Stakeholder Committees
542 http://www.jukkarannila.fi/lausunnot.html#nro_68
543
544 FI: Lausunto 69: Hallituksen esitys (luonnos 16.4.2015) vieraslajeista
545 http://www.jukkarannila.fi/lausunnot.html#nro_69
546
547 EN: Opinion 70: Providing better APIs in New Zealand
548 http://www.jukkarannila.fi/lausunnot.html#nro_70
549
550 EN: Opinion 71: Common Schema for the Disclosure of Inside Information
551 http://www.jukkarannila.fi/lausunnot.html#nro_71

- 552
553 EN: Opinion 72: Queensland biofuel mandate
554 http://www.jukkarannila.fi/lausunnot.html#nro_72
555
556 EN: Opinion 73: Financial / Conceptual Frameworks
557 http://www.jukkarannila.fi/lausunnot.html#nro_73
558
559 EN: Opinion 74: Enabling the Internet of Things
560 http://www.jukkarannila.fi/lausunnot.html#nro_74
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562 EN: Opinion 78: Consumer Complaints Register (NSW)
563 http://www.jukkarannila.fi/lausunnot.html#nro_78
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565 EN: Opinion 79: PCEHR (Information Commissioner Enforcement Powers) Guidelines 2015
566 http://www.jukkarannila.fi/lausunnot.html#nro_79
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568 EN: Opinion 80: Mandatory Transparency Register
569 http://www.jukkarannila.fi/lausunnot.html#nro_80
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571 EN: Opinion 81: Records and Information Management Standard
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574 EN: Opinion 84: Revision of the European Interoperability Framework
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577 EN: Opinion 85: Regulatory options for automated vehicles
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580 EN: Opinion 86: 2016 Annual Colloquium on fundamental rights
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583 EN: Opinion 87: Assessing privacy and big data on the Internet
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589 EN: Opinion 89: BEREC Guidelines for net neutrality rules
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592 EN: Opinion 90: Consent / Information and Privacy Commission NSW (IPC)
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595 EN: Opinion 91: Draft New Plan on Open Government 2016-2018
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598 EN: Opinion 92: Energy efficiency in Alberta

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600

601 EN: Opinion 93: Safety of apps and other non-embedded software

602 http://www.jukkarannila.fi/lausunnot.html#nro_93

603

604 FI: Lausunto 94: Luottamuksellisen viestin salaisuus

605 http://www.jukkarannila.fi/lausunnot.html#nro_94

606

607 EN: Opinion 95: Targeted consultation on eForms

608 http://www.jukkarannila.fi/lausunnot.html#nro_95

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611 **I have constructed specifically opinions related to information systems – both in English and**
612 **in Finnish. Here is the list of opinions related to information systems.**

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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.