Standards and patents: past, current and future

SIIT2020 CONFERENCE

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We have gone a remarkable way

- The first quantitative data on patents and standards appeared approx. 20-25 years ago
- Data quantity was then modest - by the beginning of 2000, ETSI had received disclosures of no more than 233 patent families
- By now, ETSI database alone has >25.000 patent families
- We have lots of data (and compilation databases) now, but do we know and treat the data properly?

Data challenges when using disclosed SEPs

A. SEP disclosures and patent family relationships

B. Linking SEP disclosures to specific standards /technologies /generations /releases

C. Factual essentiality

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- Many studies that use such data (implicitly or explicitly) assume such disclosed patents are *factually* essential, even if it is now generally understood that this is only true for a portion of these patents
- Increasingly businesses, courts and decision makers show interest in factual essentiality
- The European Commission, in COM(2017)712 [17], announced a pilot study the feasibility of large scale essentiality testing.
- Watch out for the launch of the results!

Forthcoming: Rudi Bekkers et al., Pilot Study for Essentiality Assessment of Standard Essential Patents, EUR 30111 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-16666-5, doi:10.2760/325320, JRC119894.

A. SEP disclosures and patent family relationships

SEP data is often used to gain understanding of patent- level and firm-level data such as (1) scope of SEP portfolio, (2) geographical cut-outs, (3) patent enforceability, (4) forward citations, etc.

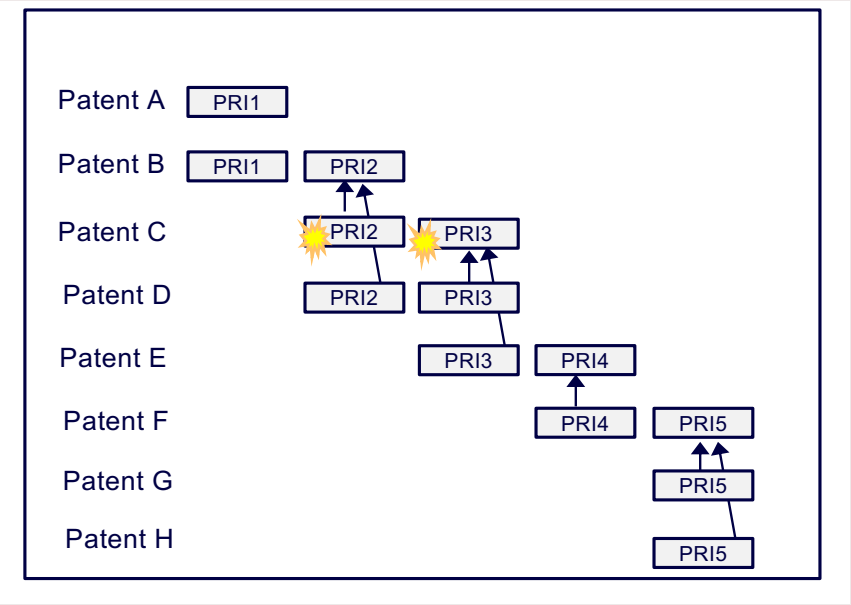
Most SSOs only require **one member** of a patent family to be disclosed, so family reconstruction is required to answer the above questions

Family definition determines the extent of the commitment. In ETSI:

> "PATENT FAMILY" shall mean all the documents having at least one priority in common, including the priority document(s) themselves. For the avoidance of doubt, "documents" refers to patents, utility models, and applications therefor."

ETSI Intellectual Property Rights Policy, Clause 15 (2018).

A. SEP disclosures and patent family relationships

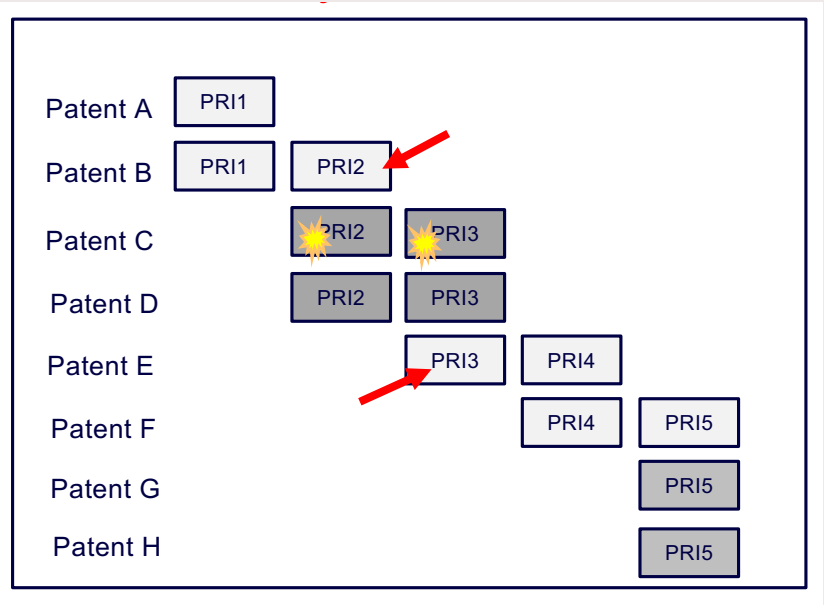


Lets assume the set of priority relations shown here

Lets also assume Patent C is disclosed at an SSO.

So Priority 2 and/or Priority 3 are believed to be potentially essential.

A. SEP disclosures and patent family relationships



DOCDB definition

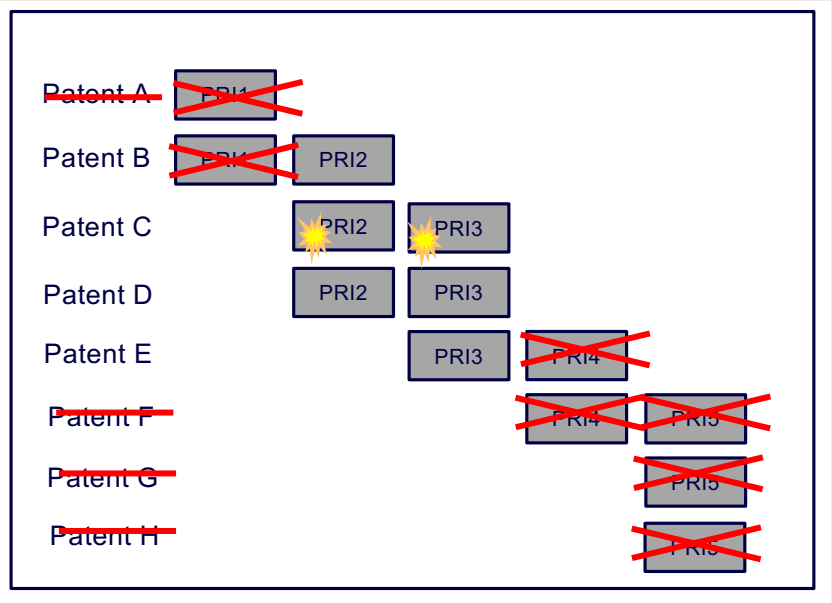
'Members in a patent family share exactly the same priority'

Patents C and D are a family
Patents G and H are a family

≠ ETSI definition

But may be appropriate for other questions, such as identifying matched pairs for Dif-in-Dif analyses

A. SEP disclosures and patent family relationships



INPADOC definition

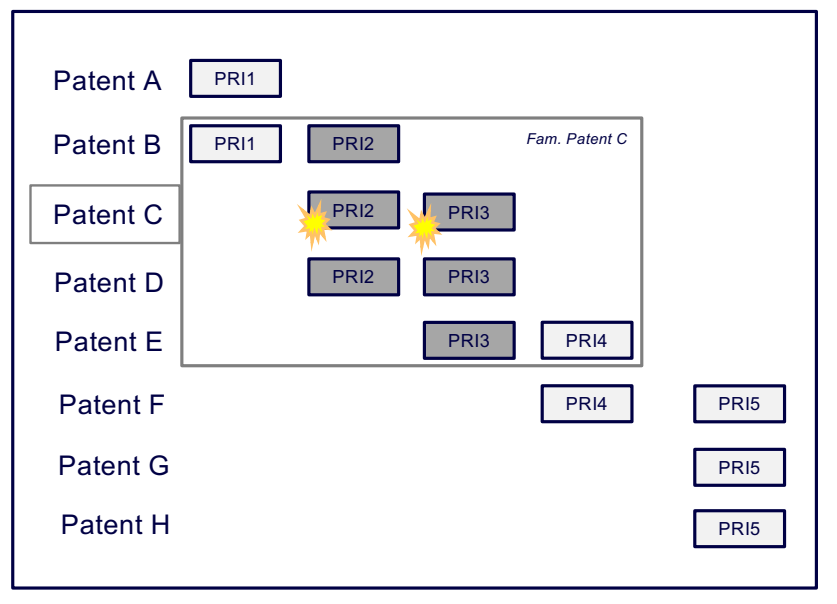
'Members in a patent family share at least one priority with another family member'

All shown patents are a family

≠ ETSI definition

TU/e

A. SEP disclosures and patent family relationships

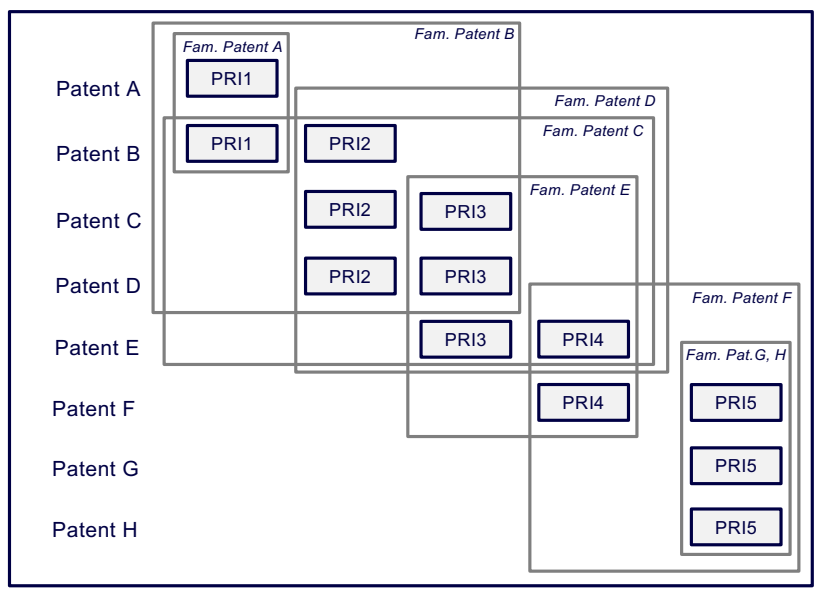


ETSI definition

'the documents having at least one priority in common, including the priority document(s) themselves'

From perspective of Patent C, then Patents B, D and E are family members

A. SEP disclosures and patent family relationships



ETSI definition

These are EGO families, valid from perspective of a from focal (disclosed) patent

Think of blood family…

- These families are not mutually exclusive

  This has consequences for data handling

B. Linking SEP disclosures to specific standards/technologies/generations/releases

The ability to make such links would create many interesting research avenue.

But can we do so in any reliable way?

B. Linking SEP disclosures to specific standards/technologies/generations/releases

Example 1: Standards generation in 3GPP (2G / 3G / 4G / 5G)

Possible data in ETSI disclosure database (fields)

- ‘ETSI projects’
- ‘Standards’ (a.k.a. ‘illustrative part of the standard’)
- Listed 3GPP Technical Specifications (TS) document

Other leads: Date of disclosure, analyses of patent text

ETSI TS 136 321 V14.6.0 (2018-04)

LTE;
Evolved Universal Terrestrial Radio Access (E-UTRA);
Medium Access Control (MAC) protocol specification
(3GPP TS 36.321 version 14.6.0 Release 14)

Reference
RTS/TSGR-0236321ve60

Keywords
LTE

ETSI

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B. Linking SEP disclosures to specific standards/technologies/generations/releases

Document ETSI IPR(19)031_004a1 (3GPP Projects for Specs Versions, V5) provides exhaustive mapping of 3GPP specification documents to “generations”

	Number of 3GPP specification documents			
	SPEC level *(e.g. TS36.321)*		SPEC + VERSION level *(e.g. TS36.321 V14.6.0)*	
Relates to a no generation	12	0.1%	59	0.1%
Relates to a single generation	5780	41.2%	26032	47.4%
… of which 2G only	2858	20.4%	8957	16.3%
… of which 3G only	1877	13.4%	9745	17.7%
… of which 4G only	790	5.6%	5422	9.9%
… of which 5G only	255	1.8%	1908	3.5%
Relates to 2 generations	4660	33.3%	18382	33.5%
Relates to 3 generations	3184	22.7%	9844	17.9%
Relates to 4 generations	378	2.7%	612	1.1%
Total	**14014**	**100.0%**	**54929**	**100.0%**

Source: Own calculations on basis of ETSI IPR(19)031_004a1

B. Linking SEP disclosures to specific standards/technologies/generations/releases

Example 2: Disclosure lag.

Standards continuously evolve. 3GPP has hundreds of TS, and if we look at TS36.321 alone, no less than 94 revisions exist! In total, there are 94,776 different TS + version combinations

We really would need to know in which revision a feature was added that would make a given patent potentially essential

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