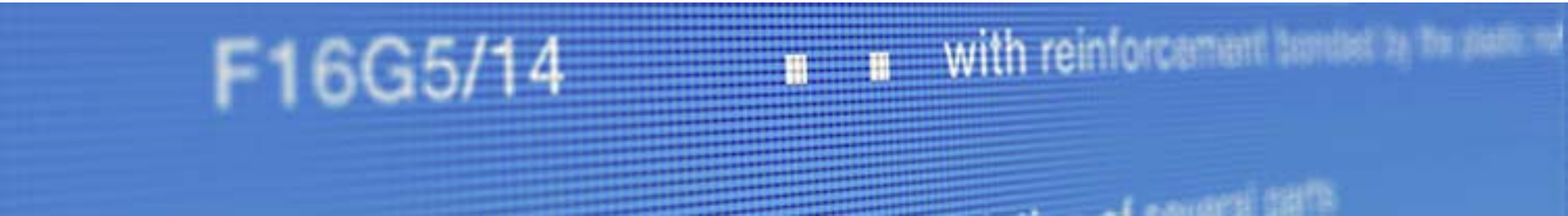
Cooperative Patent Classification (CPC)

CPC Workshop for external users

CPC Implementation Group

Vienna, 23 March 2012



Agenda

- Introduction and Background
- CPC Scheme
- CPC Searching
- CPC Revisions
- CPC Scheme Properties and Services
- CPC Definitions
- CPC Allocations
- CPC-DB
- CPC Quality Assurance (QA)
- CPC Implementation Timeline
- FAQs; Q&A

Introduction and Background

The pre-CPC age

The pre-CPC age

- The International patent classification (IPC)
  - the international and well acknowledged standard;
  - Strasbourg Agreement: any office signing the agreement shall publish its patent documents with IPC symbols

- The IPC (70K subdivisions) is insufficient to meet the needs of big patent offices, which need more
  - subdivisions;
  - flexibility;
  - fast implementation

The pre-CPC age (continued)

Domestic classification systems exist that offer an alternative to the IPC

- ECLA/ICO at EPO,
- FI/FT at JPO,
- USPC at USPTO

- None of the systems is ideal

The pre-CPC age (continued)

- The patent offices and user community strive to achieve a "global" classification system capable to accommodate the needs of all
  - Harmony (trilateral) project is launched in 2000 to harmonize ECLA, USPC and FI into IPC
  - the IPC is reformed in 2006
  - IP5 Common Hybrid Classification (CHC) Foundation Project is launched in 2008 to extend the original trilateral cooperation to the IP5 offices

- Yet a faster implementation of a global classification scheme is needed

The pre-CPC age - IPC, ECLA, USPC and FI compared

System	Governance	Language (scheme)	# Entries	Format of the symbols	Documentation coverage
IPC	IPC CE (Committee of Experts); supervised by WIPO	EN, FR (official) + SP, CN, JP, RU ...	70K	numeric	almost all patent docs published worldwide
ECLA (+ ICO)	EPO	EN	140K (+ 40K)	IPC-based alpha-numeric	the subset of "min-PCT" documentation in one of the three EPO languages
USPC	USPTO	EN	167K	non-IPC numeric	US docs only
FI (+FT)	JPO	JP, EN	187K	IPC-based alpha-numeric	JP docs only

Project Start-up

- **USPTO/EPO agreed to co-operate on a joint classification system based initially on the IPC-based ECLA (October 2010)**
- **USPTO to move from USPC to CPC**
- **EPO to move from ECLA to CPC**
- **CPC planned to be bi-laterally operational at EPO and USPTO by January 2013**

USPTO and EPO Work Toward Joint Patent Classification System

"In view of the significant benefit to stakeholders of developing a transparent and harmonized approach to a global classification system for patent documents; in order to make the search process more effective; and in the belief that cooperation between their two offices will facilitate progress in undertaking classification harmonization projects under the IP5 Common Hybrid Classification initiative, the USPTO and the EPO have agreed together to work toward the formation of a partnership to explore the development of a joint classification system based on the European Classification system (ECLA) that will incorporate the best classification practices of the two offices. This system would be aligned with the World Intellectual Property Organization (WIPO) classification standards and the International Patent Classification (IPC) structure. Accordingly, they have initiated discussions on governance and operational aspects of such a partnership.

The IP5 partner offices will be continually apprised of progress at appropriate IP5 forums. Stakeholders will receive regular updates on the substance and progress of classification partnership discussions between the two offices."

October 25, 2010

David J. Kappos

Benoît Battistelli

CPC Scheme

The "look"

CPC scheme

- In one scheme, CPC will include:
  - the former ECLA (~140K entries)
  - the former ICO (EPO indexing codes)
  - the most important KW (EPO controlled keywords) migrated to ECLA or ICO
  - G06Q scheme for Business Methods being refined so as to incorporate former USPC 705 subdivisions
  - US special collections and digests
  - Y section of ICO
  - **all-in-all >200K subdivisions**

CPC scheme (continued)

- CPC is initially based on ECLA with improved alignment to the IPC
- CPC will bring new features to include best classification practices of the EPO and USPTO
- The scope of the ECLA and ICO entries will remain under CPC, as well as their hierarchy (number of dots)
- CPC will align to the IPC in the usage of the symbols
  - "invention information" vs. "additional information"

CPC scheme (continued)

- Numbering will be IPC-like
  - CPC will change the alpha-numeric portion of the ECLA/ICO symbols after the "/" into a numeric one and will make use of up to 6 digits for this portion
    - requires a specific algorithm for renumbering ECLA/ICO (see later)
- Definitions will be provided in support to the scheme

ICO terminology

ECLA	ICO	Nature and scope	Information value at allocation
G02F 1/01C	**S02F 1/01C**	**mirrored ICO** same scope as corresponding ECLA entry	**A i.e. "additional information"**
	S02F 1/01C4	**further breakdown ICO** additional refinement of ECLA	**A**
	S02F 201/02	**orthogonal ICO** offering a further dimension to classification	**A**

- At the EPO ICO codes are used in various ways
- Very specific situations are described in ECLA / ICO
- CPC will bring more standardisation of usage

CPC numbering: IPC-like

- The "root" of the hierarchically closest IPC symbol remains visible: last digit of the corresponding IPC symbol kept

IPC	ECLA	CPC
H01L21/027	H01L21/027	H01L21/027
	H01L21/027B	H01L21/02709
	H01L21/027B2	H01L21/02718
	H01L21/027B6	H01L21/02727
	H01L21/027B6B	H01L21/02736
	H01L21/027B6B2	H01L21/02745
	H01L21/027B6B4	H01L21/02754
	H01L21/027B6C	H01L21/02763
	H01L21/027B6D	H01L21/02772
	H01L21/027B6E	H01L21/02781
H01L21/033	H01L21/033	H01L21/033

ECLA/ICO-to-CPC renumbering algorithm

- Take the available three schemes as three "layers":
  A. IPC
  B. ECLA
  C. ICO - mirrors, further breakdowns and orthogonal

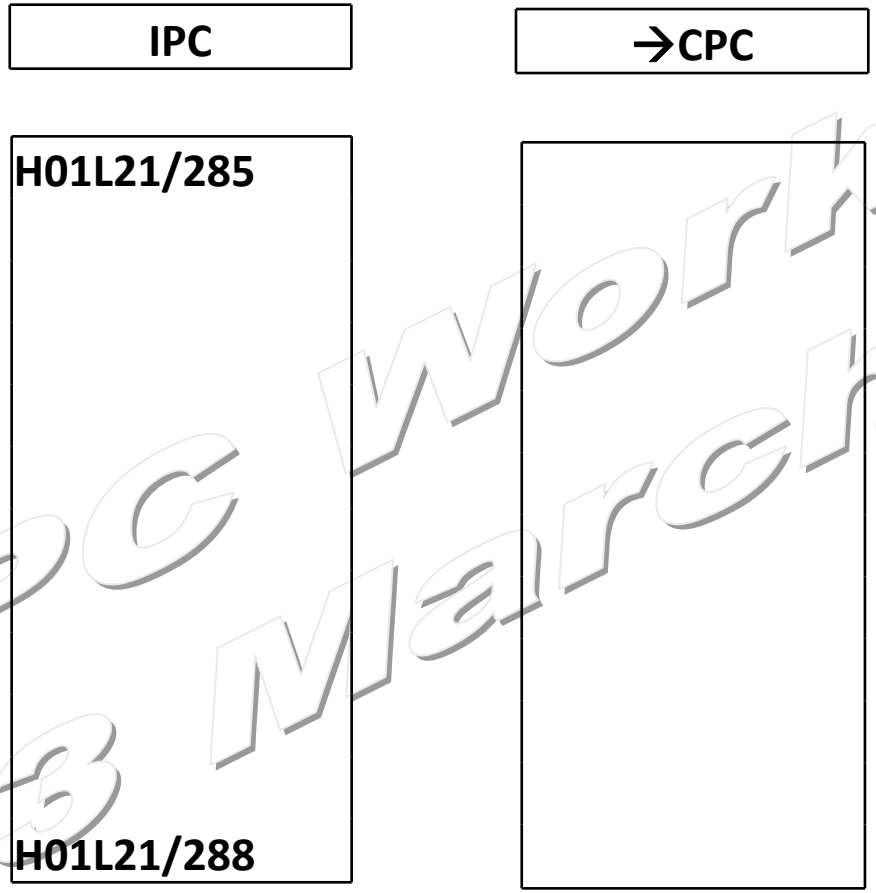
- Flatten the three layers into one

- Renumber

- Space is left for accommodating JPO's FIs as well

CPC renumbering algorithm (1)

Include **IPC subdivisions** *in CPC*



CPC renumbering algorithm (2)

Include **ECLA subdivisions** *in CPC*

ECLA	→CPC
H01L21/285	H01L21/285
H01L21/285B	
H01L21/285B4	
H01L21/285B4A	
H01L21/285B4C	
H01L21/285B4F	
H01L21/285B4H	
H01L21/285B6	
H01L21/285B6B	
H01L21/285B6C	
H01L21/288	H01L21/288

CPC renumbering algorithm (3)

Include mirrored (& further breakdown) ICO subdivisions in CPC

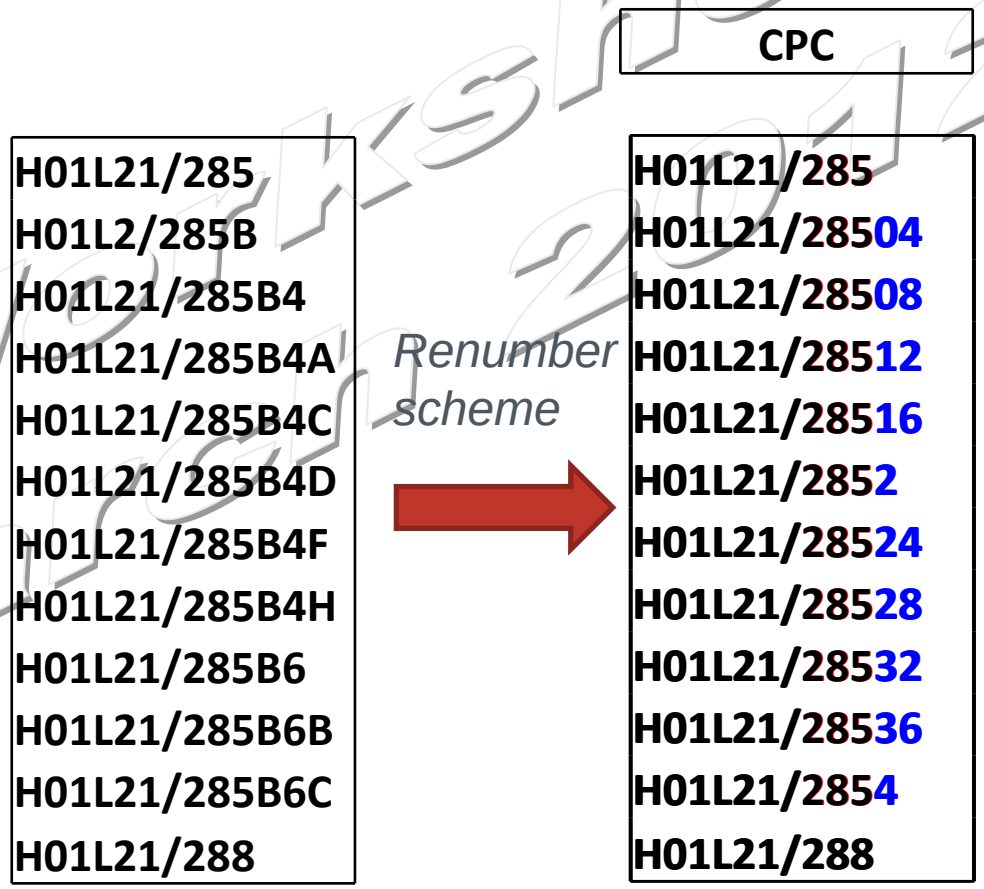
*Convert ICO section symbol **T** to ECLA section symbol **H***

	ICO	→CPC	CPC
Mirrored ICO	T01L21/285	H01L21/285	H01L21/285
	T01L21/285B	H01L21/285B	H01L21/28504
	T01L21/285B4	H01L21/285B4	H01L21/28508
	T01L21/285B4A	H01L21/285B4A	H01L21/28512
Breakdown ICO	T01L21/285B4C	H01L21/285B4C	H01L21/28516
	T01L21/285B4D		H01L21/2852
Mirrored ICO	T01L21/285B4F	H01L21/285B4F	H01L21/28524
	T01L21/285B4H	H01L21/285B4H	H01L21/28528
	T01L21/285B6	H01L21/285B6	H01L21/28532
	T01L21/285B6B	H01L21/285B6B	H01L21/28536
	T01L21/285B6C	H01L21/285B6C	H01L21/2854
	T01L21/288	H01L21/288	H01L21/288

Renumber scheme →

CPC renumbering algorithm (4)

- IPC part after the "/" remains visible: subdivision takes place while keeping the last digits of the corresponding IPC symbol



CPC renumbering algorithm (5)

Orthogonal ICO codes → 2000 series

EC	ICO
H01L	T01L 925/065
	T01L 925/065S
	T01L 925/065S10

Renumber ICO

EC	ICO
H01L	T01L 2925/065
	T01L 2925/06504
	T01L 2925/06509

Convert ICO section (T) to ECLA section (H)

EC	ICO
H01L	H01L 2925/065
	H01L 2925/06504
	H01L2925/06509

Final form of **CPC**

CPC
H01L 2925/065
H01L 2925/06504
H01L 2925/06509

CPC renumbering algorithm (6)

Keywords → CPC 2000 series

EC	KW
B29C	c04900c2pb02 - corrugations c04900c2pb04 - constant wall thickness c04900c2pb06 - different wall thickness

Convert to ICO

EC	ICO
B29C	L29C849/0043 L29C849/0046 L29C849/0049

Convert to 2000 series + ICO section (L) to ECLA section (B)

EC	ICO
B29C	B29C2849/0043 B29C2849/0046 B29C2849/0049

Final form of CPC

CPC
B29C2849/0043
B29C2849/0046
B29C2849/0049

CPC scheme renumbered

Classification

....

H01L21/285 . . . . . .

H01L21/28504 . . . . . .

H01L21/28508 . . . . . .

H01L21/28512 . . . . . .

H01L21/28516 . . . . . .

H01L21/2852 . . . . . .

H01L21/28524 . . . . . .

H01L21/28528 . . . . . .

H01L21/28532 . . . . . .

H01L21/28536 . . . . . .

H01L21/2854 . . . . . .

H01L21/288 . . . . . .

Origin:

- IPC
- ECLA
- mirrored ICO
- further breakdown ICO

Indexing

...

H01L2925/065 . . .

H01L2925/06504 . . . .

H01L2925/06508 . . . . .

...

Origin:

- orthogonal ICO
- Keywords

CPC in EPOQUE and EpoqueNet

Using CPC symbols to find relevant prior art

Searching with CPC symbols

- Currently search can be tailored under EPOQUE by using fields /EC, /ICO and /ECNO

- In the future, fields for "invention information" and "additional information" will be available under EPOQUE as well

Searching with CPC symbols (2)

PRESENT : ECLA and ICO		FUTURE : CPC	
Symbol	Searching EPOQUE/Net	Symbol	Searching EPOQUE/Net
G02F 1/01C	/EC	G02F 1/011	/CI
S02F 1/01C	/ICO		/CA
S02F 1/01C4	/ICO	G02F 1/0113	/CA
S02F 201/02	/ICO	G02F 2201/02	/CA
G02F 1/01C	*/ECNO*	*G02F 1/011*	*/CNOI*
S02F 1/01C	*/ECNO*		*/CNOA*
S02F 1/01C4	*/ECNO*	*G02F 1/0113*	*/CNOA*
S02F 201/02	*/ECNO*	*G02F 2201/02*	*/CNOA*

CPC Revision process

Amending the scheme and reclassifying the documentation

CPC revisions

- Like in IPC revision process, USPTO & EPO will
  - identify the areas needing revisions ("requests")
  - assess the resources needed
  - jointly accept/refuse to launch revision projects
  - cast projects in a multi-year revision plan
  - share reclassification resources when projects enter reclassification phase
    - 50%-50% overall
      - in some projects flexibility to divide the work on a different share
- Projects not requiring major resources, e.g. of "maintenance" type, will take the "speed-lane"

CPC revisions (continued)

- Two revision pilot projects are being carried out on
  - H03M 3/00: Delta / Sigma modulation in coding techniques
  - B60W 20/00: Conjoint control of hybrid vehicles
- Business Methods (USPC 705 & ECLA G06Q): was dealt with separately and is almost completed by now
  - new G06Q includes former USPC 705 subdivisions
    - about 375 subdivisions vs. 50 currently available in ECLA/IPC
- Make use of a Collaborative Environment for Communication

CPC Definitions

Understanding the technical coverage of CPC entries

CPC Definitions

- The CPC scheme will be supported by a set of instructions on how to search and classify in each specific technical area

- They have been designed along the lines of the IPC Definitions

- Completed CPC Definitions will (progressively) be published and finally they will cover
  - all subclasses
  - all main groups, and
  - some subgroups
- See example for F16L

CPC Scheme Properties and Services

Supporting the usage of the scheme

CPC scheme properties (attributes)

- CPC will align to the IPC in the usage of the symbols
- CPC symbols stemming from breakdown- or orthogonal ICOs will be available for allocation of "additional information" only
- Attributes will be stored in a table for the intended and allowed usage of the symbols

ECLA/ICO symbol	CPC symbol	Scheme attribute; intended usage
G02F 1/01C	G02F 1/011	**default CPC symbol** available for allocation of either invention or additional information
S02F 1/01C		
S02F 1/01C4	G02F 1/0113	can be allocated for add. info only
S02F 201/02	G02F 2201/02	can be allocated for add. info only

CPC scheme-related services

- Services are being identified in support of CPC
- Discussion still ongoing on which services we really need and which of them will be offered to external users

CPC scheme-related services (2)

- Some initial ideas:
  - ECLA/ICO-to-CPC concordance (mapping)
  - CPC-to-IPC concordance (mapping)
  - attributes of a symbol, e.g. symbol available for "additional information" only
  - validation of a symbol
  - indication of scheme changes
  - versioning
  - ...

CPC Allocations Standard

An allocation standard for CPC based on and fully compatible with WIPO's Standard 8

CPC allocations standard

- A CPC standard will be used to record and exchange symbol allocations
- It will be a slightly modified version of WIPO ST.8 (which applies to IPC allocations only)
- It will be fully compatible with WIPO ST.8

CPC allocation standard - based on WIPO ST.8

Position(s)	*Content*	*Values*
1	Section	A,…,H
2,3	Class	01,…,99
4	Subclass	A,…,Z
5 to 8	Main Group (right aligned)	1,…,9999, blank
9	Separating character	/ (“Slash”)
10 to 15	Subgroup (left aligned)	00,…,999999, blank
16 to 19	For future use	4 blanks
20 to 27	Version indicator	YYYYMMDD date format
28	Classification level	C,A,S
29	First or later position of symbol	F,L
30	Classification value (invention or additional)	I,N
31 to 38	Action date	YYYYMMDD date format
39	Original or reclassified data	B,R,V,D
40	Source of classification data	H,M,G
41-42	Generating office	AA,…,ZZ (ST.3)
43-50	For future use	8 blanks

CPC allocation standard (continued)

- position 1
  - Y needs to be added next A...H
- position 28
  - not relevant for CPC: will stay blank
- position 40
  - possible different values, e.g. C for "concordance-based", could be added

CPC Database

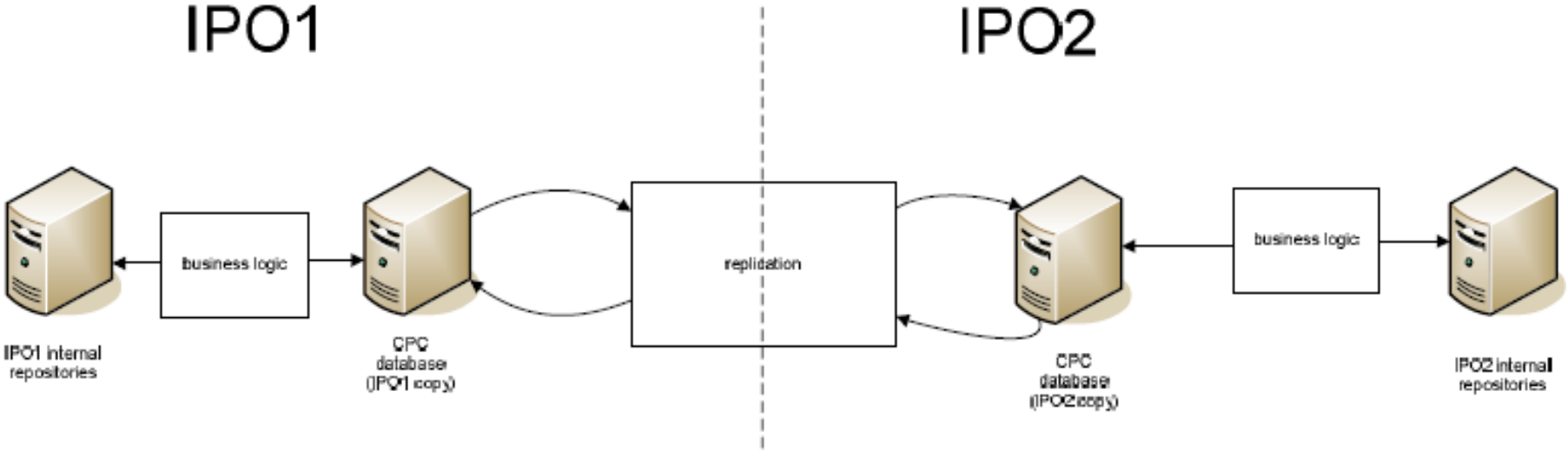
The CPC-DB

CPC database (CPC-DB)

- Requirements:
  - the two offices must maintain independence of operations on the two sides
  - CPC allocations must be regularly refreshed

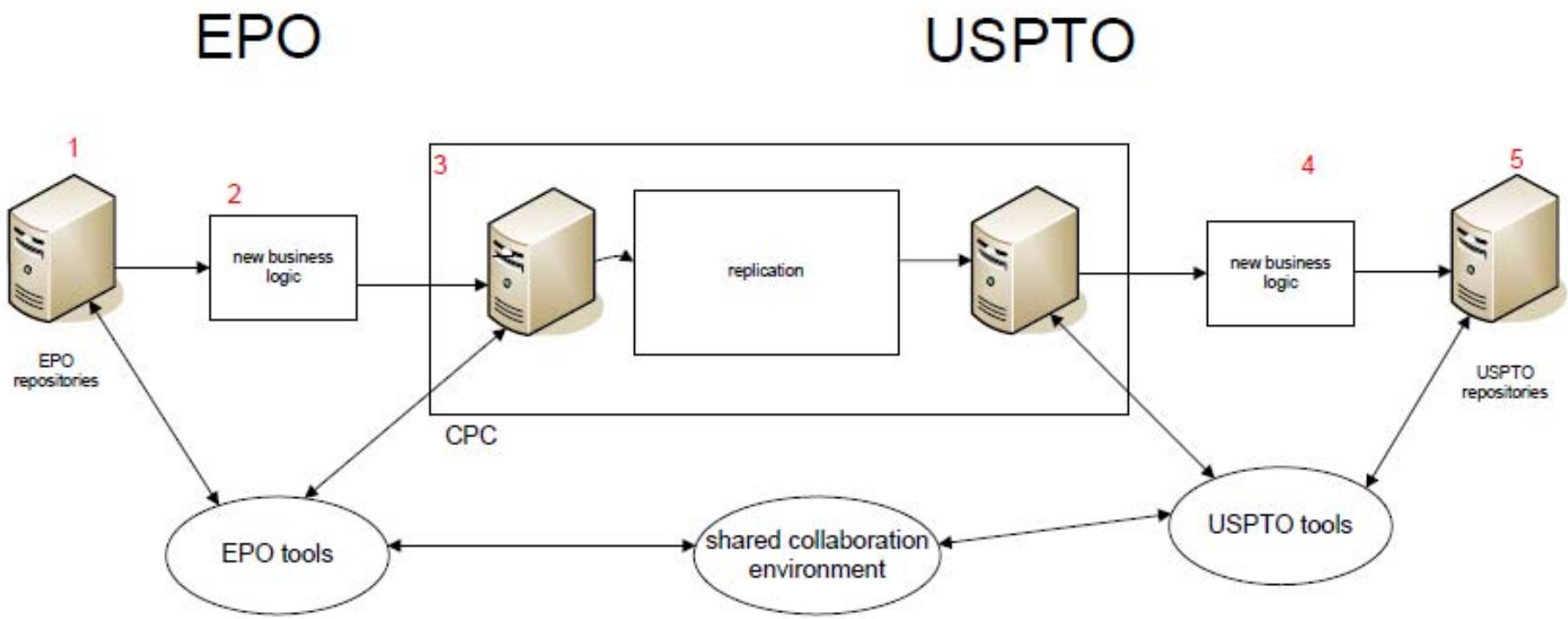
- Solution:
  - "dual master" databases with data synchronization mechanism

CPC database (CPC-DB) (2)



- “Dual master" databases with data synchronization
- CPC-DB will be the authoritative source for CPC classification data

CPC database (CPC-DB) (3)



- A "collaborative environment" will be used to share documents, and work on revision projects, as well as for communication purposes

CPC Quality Assurance (QA)

Something which is done well, can still be done better!

Quality Assurance (QA)

- To progressively bring harmonization of classification practice between the USPTO and EPO, the two offices are designing a specific QA process

- Three situations:
  - EPO & USPTO classify US documents concurrently (2013-201X)
  - EPO stops classifying US documents (from 201X onwards)
  - Reclassification of documents during a revision process (from 2013 onwards)

Quality Assurance (QA) (2)

- Establish Points of Contact (PoC) per technical area between EPO-USPTO
- Establish feedback mechanisms:
  - **"Raise Hand" flags** to signal non-compliances
  - Sample batches of classification products to check, e.g. ISO2859 norm
- Check, find non-compliances, correct them, send feedback to PoC and record findings
- Monitor and analyse data
- Take corrective actions
- Make use of the Collaborative Environment for communication

CPC Implementation Timeline

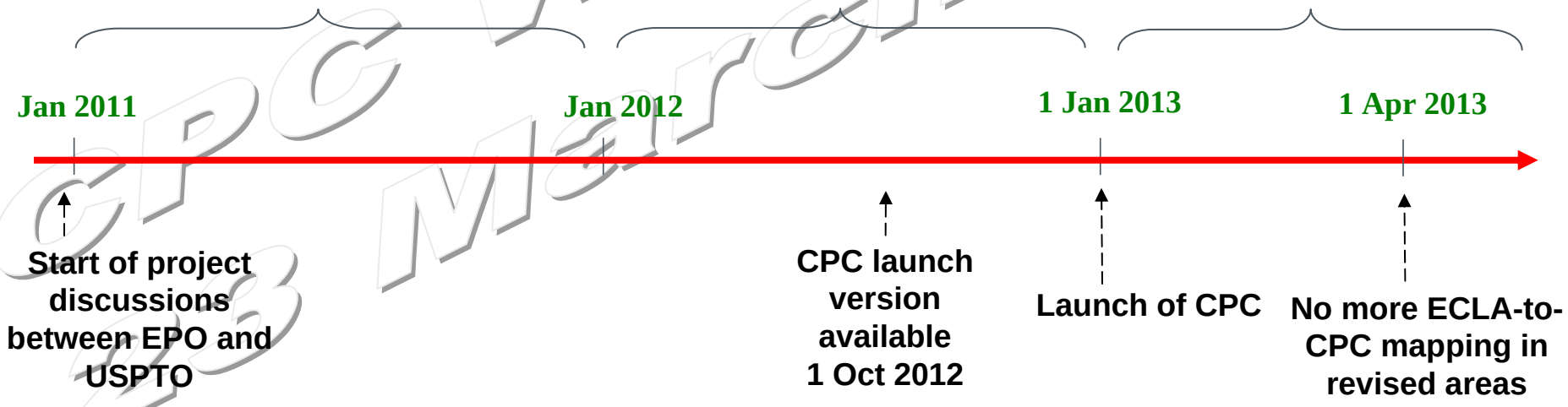
The milestones ahead

Next crucial CPC transition activities

- Develop training
- Document classification practices (CPC Definitions)
- ECLA housekeeping
- Design IT
- Design collaborative environment

- Conduct training
- IT implementation at USPTO and EPO
- Collaborative environment
- **CPC Scheme launch version publicly available on 1 Oct 2012**
- **DOC-DB back-file converted to CPC on 15 Nov 2012**
- Prepare for launch of CPC

- Quality Assurance process in place
- CPC used by EPO and USPTO
- Harmonized classification practices
- Joint CPC revisions
- CPC available for use by other IP offices



Impact of CPC on EPO and stakeholders

User	Today	01-Jan-2013	Transition point	01-Jan-2015
EPO examiners	ECLA	ECLA or CPC	CPC	CPC
EPO non-examining staff	ECLA	CPC	CPC	CPC
EpoqueNet user	ECLA	ECLA or CPC	CPC	CPC
Espacenet user	ECLA	CPC	CPC	CPC
Public vendors	ECLA	CPC	CPC	CPC
Other external users	ECLA	CPC	CPC	CPC
USPTO contractor	USPC	USPC and CPC	USPC and/or CPC	CPC
USPTO examiners	USPC	USPC and/or CPC	USPC and/or CPC	CPC
Plants & Designs USPC	USPC	USPC	USPC	USPC

From 01 Apr 2013: Revisions in CPC only → ECLA not reliable in revised areas

Questions and Answers

Don't miss this opportunity

CPC FAQs

- Will the CPC change the patent laws in the two offices?
  - No, CPC is only a classification system, evolving from the original ECLA including best USPC classification practices

- Will I get any support to learn about CPC?
  - Yes, the European Patent Academy is designing computer based training (CBT) packages based on e-learning modules, with further support of virtual classroom lectures (VCL)
  - CPC Definitions will become available to the public

CPC FAQs (2)

- Which improvements does CPC bring when compared with ECLA?
  - > 200K vs. 140K entries
  - Visibility of EPO's former indexing codes and KW
  - CPC Definitions
  - Scheme-related services
  - G06Q (Business Methods) including former USPC 705
  - Special US cross-reference collections and digests
  - and more ...

CPC FAQs (3)

- With CPC symbols being numeric (after the /) can I still rely on the "truncation operator" for my searches?
  - No, the truncation operator (typically "*" or "+") won't always give the same results. The correct way of doing this will be querying a specific CPC entry and all of its subdivisions
  - EpoqueNet users should use the "/low" operator instead

  e.g. H01L21/027/low, which will also include H01L21/033 which is a child of H01L21/027)

Thank you !!

For more CPC info regularly visit:

http://www.cpcinfo.org