



EAF/4/5

ORIGINAL: English

DATE: March 18, 2015

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

MEETING ON THE DEVELOPMENT OF A PROTOTYPE ELECTRONIC FORM**Fourth Meeting
Geneva, October 14, 2014**

REPORT

*prepared by the Office of the Union**Disclaimer: this document does not represent UPOV policies or guidance*Welcome and opening

1. The meeting on the development of a prototype electronic form ("meeting") was opened and chaired by Mr. Peter Button, Vice Secretary-General, UPOV, who welcomed the participants in Geneva and those who participated in the meeting by means of electronic conference.
2. The list of participants is reproduced in Annex I to this report.

Approval of the agenda

3. The meeting adopted the draft agenda as proposed in document EAF/4/1 Rev..

Overview of the prototype electronic form project

4. The meeting considered document EAF/4/2 "overview concerning the prototype electronic form project".

Data exchange and data model

5. The meeting considered document EAF/4/3 "Data exchange and data model".
6. It was recalled that one of the key aspects of the prototype is the data format, as follows (see document CAJ/68/8 "Electronic application systems"):

Data format: The UPOV electronic form would enable data to be transferred to participating members of the Union in Word, Excel, PDF or XML format. The participating members of the Union would decide in which format(s) to accept data. In the case of XML format, a standard format would be developed, based on WIPO standard ST.96.

7. The participants received a presentation on the proposal for the development of the XML Schema to be used for the project (i.e. PVP-XML), as reproduced in Annex II of this document. It was noted that the PVP-XML Schema would, as far as possible, reuse and refer to relevant components of the WIPO Standard ST.96 ("common components"). It was agreed that components which were not covered by the ST.96 standard would be described and developed on the basis of the ST.96 Annex I (Design Rules and conventions) and UPOV XML Design Rules and Conventions (DRCs). It was agreed that the PVP-XML

would be updated in line with ST.96, as appropriate; however, it was not planned for the PVP-XML to be prepared for adoption as a WIPO standard.

8. It was recalled that participants in the EAF Project had been invited to provide information on their database structure and PVP data format (Circular E-4/111 of May 2, 2014). In addition, to assist in the design of the database and define the data model, participants had been invited to provide sample data (Circular E-14/205 of August 6, 2014). Information received from the following participating members of the Union had been incorporated in the first draft PVP-XML Schema: Australia, Brazil, Canada, European Union, Germany, Japan, Mexico, the Netherlands, New Zealand, Republic of Korea, Switzerland, United States of America and Viet Nam.

9. The participants received a presentation made by the Office of the Union on the proposal for the UPOV XML Design Rules and Conventions (DRCs), the PVP Data Dictionary, the Schema Technical Specification and the PVP-XML schema as set out in document EAF/4/3 "Data exchange and data model" and available on a collaborative platform created for this project (wiki space UPOV_EAS). Participating members in the development of a prototype electronic form were invited to check the information made available on the wiki space UPOV_EAS available under: https://www3.wipo.int/confluence/display/UP/UPOV_EAS+Home, and to provide their comments in the different round discussions according to the following timetable:

Participating members to comment via the wiki space UPOV_EAS on the draft PVP-XML schema and data exchange specifications:	<ul style="list-style-type: none">• First round discussion by October 31, 2014• Second round discussion by November 21, 2014
--	---

10. The meeting noted that participating members would be invited to provide data in order to test the PVP-XML Schema to ensure compatibility with their system. It was agreed that participants would need to allocate time to comment and test the import/ export facility of PVP data to/ from their internal system to the UPOV database during the period October 2014 to October 2015.

11. The meeting noted that, on the basis of the comments received via the wiki space UPOV_EAS, a new draft PVP-XML Schema would be submitted for approval by experts involved in the project, at the fifth meeting.

12. The Office explained that, an "Issue Register" has been created under <https://www3.wipo.int/confluence/display/UP/Issue+Register>. This register would contain issues for which participating members were invited to indicate their preference. Three issues were presented on matters related to:

- Relationship between PVP-XML schema and existing components for Patents and Trademarks (Issue ID-1);
- Data exchange: Schema to be used for data exchange in case of import/export process (Issue ID-2);
- Manual or automatic bulk upload (Issue ID-3);

13. Participating members were invited to provide their comments on those 3 issues by November 28, 2014:

Participating members to comment on the Issue Register: <ul style="list-style-type: none">• Issue ID-1: Relationship between PVP-XML schema and existing components for Patents and Trademarks;• Issue ID-2: Data exchange: Schema to be used for data exchange in case of import/export process;• Issue ID-3: Manual or automatic bulk upload.	By November 28, 2014
---	----------------------

14. In relation to data exchange, it was noted that the system would provide an import (via online form or bulk upload) and export facility (under HTML format or PVP-XML format via PVP office's system) through web services (web interface).

Electronic form

15. The meeting considered document EAF/4/4 “Electronic Form”.
16. It was noted that due to the focus given on the development of the data model, as agreed at the third meeting, there had been no developments since the third meeting in relation to the electronic form.
17. It was agreed that the prototype electronic form should include all questions from the UPOV Model Application Form and the participating members of the Union, without seeking to identify “core” questions.
18. The meeting noted that participating members would be invited to comment on the draft versions of the electronic form through test campaigns according to the following timetable:

Participating members to comment via the wiki space UPOV_EAS on the data exchange:	<ul style="list-style-type: none"> • First test campaign by December 12 , 2014 • Second test campaign by February 13, 2015
--	--

19. The meeting noted that all comments received previously in relation to the electronic form would be included in the wiki space, and taken into consideration in the development of the prototype.
20. The meeting noted that user authentication (unique user ID vs. multiple users: access right management) would be clarified at a subsequent meeting.

Experiences of participating members of the Union with electronic application systems

21. Mr. Paul M. Zankowski, Commissioner, Plant Variety Protection Office, United States Department of Agriculture (USDA), made a presentation on “Update of U.S. ePVP System”, a copy of which is attached as Annex III to this report.

Participating members

22. At the seventieth session of the CAJ, held in Geneva on October 13, 2014, France, Germany and the Netherlands requested to participate in the development of the prototype (see document CAJ/70/10 “Report on conclusions”, paragraph 32). On that basis, it was recalled that the participating members of the Union were: Argentina; Australia; Brazil; Canada; Colombia; Dominican Republic; Ecuador; European Union; France, Germany, Japan; Mexico; New Zealand; Paraguay; Republic of Korea; Switzerland; Netherlands, United States of America and Viet Nam.

Future actions and program

23. The following timetable was agreed for the development of the prototype:

Participating members to comment via the wiki space UPOV_EAS on the draft PVP-XML schema, data exchange and technical specifications:	<ul style="list-style-type: none"> • First round discussion by October 31, 2014 • Second round discussion by November 21, 2014 • First test campaign by December 12 , 2014 • Second test campaign by February 13, 2015
Participating members to comment on the Issue Register: <ul style="list-style-type: none"> • Issue ID-1: Relationship between PVP-XML schema and existing components for Patents and Trademarks; • Issue ID-2: Data exchange: Schema to be used for data exchange in case of import/export process; • Issue ID-3: Manual or automatic bulk upload. 	By November 28, 2014
Finalization of project brief for the electronic form and choice of the outsourced supplier (UPOV Office)	By March 2015
Agreement on the data model, database structure/ import-export option/ interface tables format	March 2015
Presentation of the prototype to the CAJ and Council	October 2015

24. It was agreed to consider the following items at the subsequent meeting:

- (a) Data model and data exchange
 - (a) *Update on the PVP-XML Schema including comments received from participating members and the Issue Register (presentation by the Office of the Union)*
 - (b) *Data exchange and communication protocol (presentation by the Office of the Union and the External Web Applications Section of WIPO)*

- (b) Electronic form
 - (a) *Presentation of project brief and timetable (presentation by the External Web Applications Section of WIPO)*
 - (b) *Presentation of version 1 of the prototype, including administration interface and user authentication, and feedback received from the test campaigns (presentation by the Office of the Union and the External Web Applications Section of WIPO)*

25. It was agreed to consider the following items at a subsequent meeting:

- (a) *Payment authorization and user authentication (presentation by the Office of the Union and the External Web Applications Section of WIPO)*
- (b) *Different languages (presentation by the Office of the Union)*
- (c) *Possibility for participating UPOV members to introduce or modify their questions in the form (presentation by the Office of the Union and the External Web Applications Section of WIPO)*
- (d) *Technical aspects such as: business support for applicants; routine maintenance provisions; compliance with Web Content Accessibility Guidelines (WCAG); legal aspects and disclaimer (presentation by the Office of the Union).*

Date of next meeting

26. It was agreed that the next meeting would be held in Geneva on March 25, 2015, at 18.00, with the possibility of participation by means of electronic conference.

27. It was agreed to organize an interim meeting by means of electronic conference, on January 15, 2015, to report on latest developments and to update the future actions and program if need be.

[Annexes follow]

PROVISIONAL LIST OF PARTICIPANTS

I. MEMBERS

AUSTRALIA

Doug WATERHOUSE, Chief, Plant Breeder's Rights, IP Australia, P.O. Box 200, Woden ACT 2606 (e-mail: doug.waterhouse@ipaustralia.gov.au)

CANADA

Anthony PARKER, Commissioner, Plant Breeders' Rights Office, Canadian Food Inspection Agency (CFIA), Room 59-1E-335 - 59 Camelot Drive |, Ottawa Ontario K1A 0Y9 (e-mail: anthony.parker@inspection.gc.ca)

CHINA

LV Bo, Division Director, Division of Variety Management, Bureau of Seed Management, Ministry of Agriculture, No. 11 Nongzhanguannanli, Beijing 100125 (e-mail: lvbo@agri.gov.cn)

HUANG Faji, Deputy Division Director, Office for the Protection of New Plant Varieties, State Forestry Administration, East Street 18, Hepingli, Dongcheng District, Beijing 100714 (e-mail: huangfaji@cnpvp.net)

JIANG Xue (Ms.), Project Administrator, 6 Xitucheng Road, Haidian District, 100088 Beijing (e-mail: jiangxue@sipo.gov.cn)

COLOMBIA

Ana Luisa DÍAZ JIMÉNEZ (Sra.), Directora Técnica de Semillas, Dirección Técnica de Semillas, Instituto Colombiano Agropecuario (ICA), Carrera 41 No. 17-81, Piso 4°, Zona Industrial de Puente Aranda, Bogotá D.C. (e-mail: ana.diaz@ica.gov.co)

ECUADOR

Lilián CARRERA GONZÁLEZ (Sra.), Directora Nacional de Obtenciones Vegetales, Instituto Ecuatoriano de la Propiedad Intelectual (IEPI), Av. República 396 y Diego de Almagro, Edif. Forum 300, Planta Baja, Mezzanine, Pisos 1, 3, 5 y 8, 89-62 Quito (e-mail: lmcarrera@iepi.gob.ec)

EUROPEAN UNION

Martin EKVAD, President, Community Plant Variety Office (CPVO), European Union, 3, boulevard Maréchal Foch, CS 10121, 49101 Angers Cedex 02 (e-mail: ekvad@cpvo.europa.eu)

Jean MAISON, Deputy Head, Technical Unit, Community Plant Variety Office (CPVO), CS 10121, 49101 Angers CEDEX 02 (e-mail: maison@cpvo.europa.eu)

[via WebEx]

Marc ROUILLARD, Webmaster, Supporting Services, Community Plant Variety Office (CPVO), 3, boulevard Maréchal Foch, B.P. 10121, 49101 Angers Cedex 02 (e-mail: rouillard@cpvo.europa.eu)

[via WebEx]

FRANCE

Virginie BERTOUX (Mme), Responsable, Instance nationale des obtentions végétales (INOV), INOV-GEVES, 25 Rue Georges Morel, CS 90024, F-49071 Beaucouzé (e-mail: virginie.bertoux@geves.fr)

JAPAN

Akira MIYAKE, Senior Policy Advisor, New Business and Intellectual Property Division, Food Industry Affairs Bureau, Ministry of Agriculture, Forestry and Fisheries (MAFF), 1-2-1 Kasumigaseki, Chiyoda-ku, 100-8950 Tokyo (e-mail: akira_miyake@nm.maff.go.jp)

MEXICO

Eduardo PADILLA VACA, Director de Registro de Variedades Vegetales, Servicio Nacional de Inspección y Certificación de Semillas (SNICS), Av. Presidente Juárez 13, Col. El Cortijo, 54000 Tlalnepantla, Estado de México (e-mail: eduardo.padilla@sagarpa.gob.mx)

NETHERLANDS

Wim SANGSTER, Team DUS Vegetables, Naktuinbouw, Sotaweg 22, P.O. Box 40, NL-2370 AA Roelofarendsveen (e-mail: w.sangster@naktuinbouw.nl)

[via WebEx]

NEW ZEALAND

Christopher J. BARNABY, Assistant Commissioner / Principal Examiner for Plant Variety Rights, Plant Variety Rights Office, Intellectual Property Office of New Zealand, Ministry of Business, Innovation and Employment, Private Bag 4714, Christchurch 8140 (e-mail: Chris.Barnaby@pvr.govt.nz)

[via WebEx]

SWITZERLAND

Manuela BRAND (Ms.), Plant Variety Rights Office, Federal Department of Economic Affairs Education and Research EAER Plant Health and Varieties, Federal Office for Agriculture FOAG, Mattenhofstrasse 5, CH-3003 Bern (tel.: +41 58 462 2524 fax: +41 58 462 2634 e-mail: manuela.brand@blw.admin.ch)

UNITED STATES OF AMERICA

Ruihong GUO (Ms.), Deputy Administrator, AMS, Science & Technology Program, United States Department of Agriculture (USDA), 1400 Independence Avenue, SW, Room 3543 - South Building, Mail Stop 0270, Washington D.C. D.C. (e-mail: ruihong.guo@ams.usda.gov)

Paul M. ZANKOWSKI, Commissioner, Plant Variety Protection Office, USDA, AMS, S&T, Plant Variety Protection Office, 1400 Independence Ave., S.W., Room 4512 - South Building, Mail Stop 0273, Washington D.C. D.C. 20250-0274 (e-mail: paul.zankowski@ams.usda.gov)

[via WebEx]

II. ORGANIZATIONS

INTERNATIONAL COMMUNITY OF BREEDERS OF ASEXUALLY REPRODUCED ORNAMENTAL AND FRUIT VARIETIES (CIOPORA)

Edgar KRIEGER, Secretary General, Gänsemarkt 45, 20354 Hamburg, Germany (e-mail: edgar.krieger@ciopora.org)

Dominique THÉVENON (Mme), Board member, Treasurer - CIOPORA, AIGN®, Gänsemarkt 45, 20354 Hamburg, Allemagne (e-mail: t.dominique4@aliceadsl.fr)

INTERNATIONAL SEED FEDERATION (ISF)

Titus T. DE VRIES, Registration & Maintenance, Limagrain, P.O. Box 1, 4410 AA Rilland, Netherlands (e-mail: titus-de.Vries@limagrain.com)

[via WebEx]

Astrid M. SCHENKEVELD (Mrs.), Specialist, Variety Registration & Protection, Rijk Zwaan Zaadteelt en Zaadhandel B.V., Burg. Crezeelaan 40, 2678 ZG De Lier, Netherlands (e-mail: a.schenkeveld@rijkszwaan.nl)

Marlon THEUNISSEN (Mrs.), Rijk Zwaan Zaadteelt en Zaadhandel B.V., Burg. Crezeelaan 40, 2678 ZG De Lier, Netherlands (m.theunissen@rijkszwaan.nl)

Sietske WOUDA (Mrs.), Lead Global Germplasm PVP/MA, Chemin du Reposoir 7, 1260 Nyon, Suisse (e-mail: sietske.wouda@syngenta.com)

[via WebEx]

III. OFFICE OF WIPO

Michael JUNG, Head, External Web Applications Section, IP Office Business Solutions Division, Global Infrastructure Sector

[via WebEx]

Monica DEDU (Ms.), Project Manager, External Web Applications Section, IP Office Business Solutions Division, Global Infrastructure Sector

YUN Young-Woo, Senior Industrial Property Information Officer, Standards Section,

IV. OFFICE OF UPOV

Peter BUTTON, Vice Secretary-General

Yolanda HUERTA (Ms.), Legal Counsel

Jun KOIDE, Technical/Regional Officer (Asia)

Ben RIVOIRE, Technical/Regional Officer (Africa, Arab countries)

Leontino TAVEIRA, Technical/Regional Officer (Latin America, Caribbean countries)

Hend MADHOUR (Ms.), Database Modeler

Wegahtabrhan SEREKE (Ms.), Intern

Ariane BESSE (Ms.), Administrative Assistant

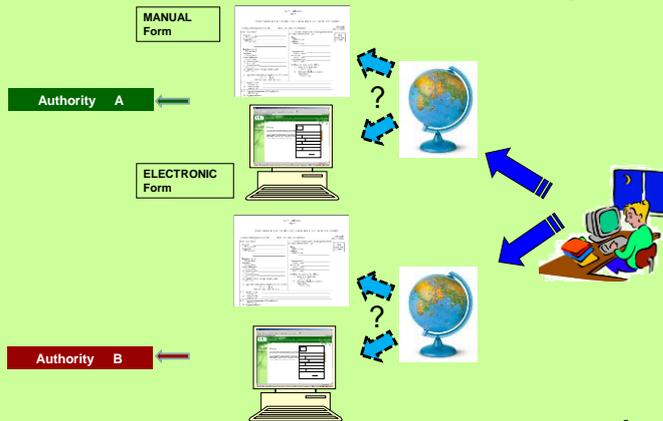
[Annex II follows]

MEETING ON THE DEVELOPMENT OF A PROTOTYPE ELECTRONIC FORM

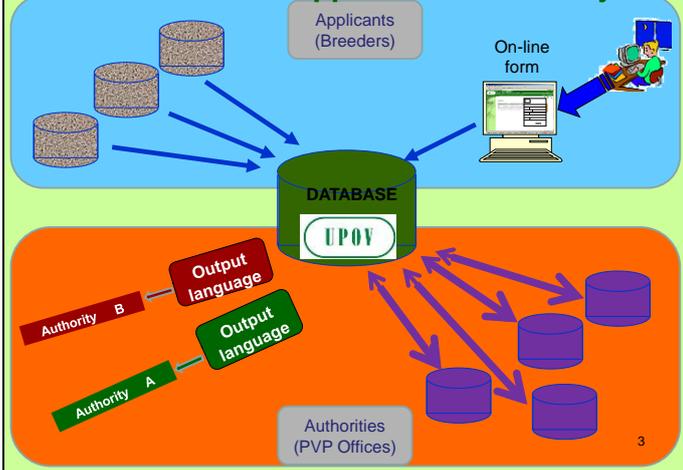
4th Meeting

October 14, 2014

PBR Application- how it works today ?



UPOV Electronic Application Form Project



Prototype Electronic Application Form

Participating UPOV members

- Argentina
- Australia
- Brazil
- Canada
- Colombia
- Dominican Republic
- Ecuador
- European Union
- France
- Germany

Partners

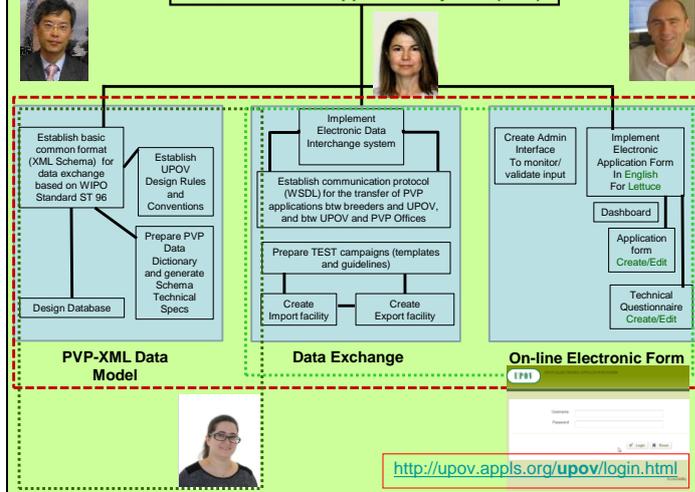
- Japan
- Mexico
- Netherlands
- New Zealand
- Paraguay
- Republic of Korea
- Switzerland
- United States of America
- Viet Nam
- UPOV Office
- WIPO
- CPVO
- ISF
- CIOPORA

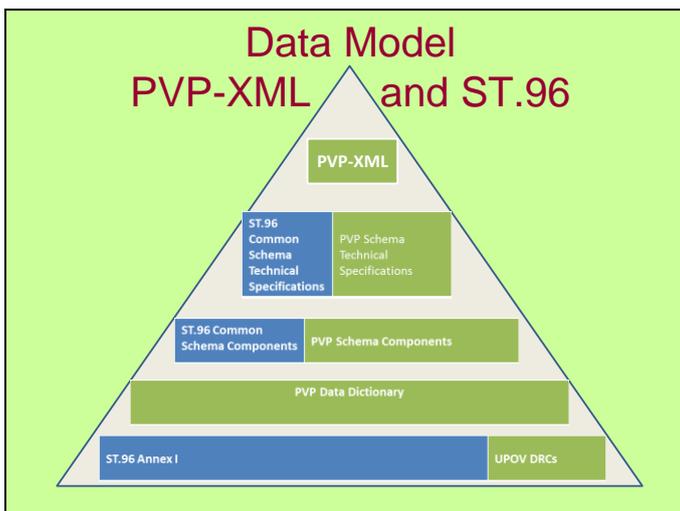
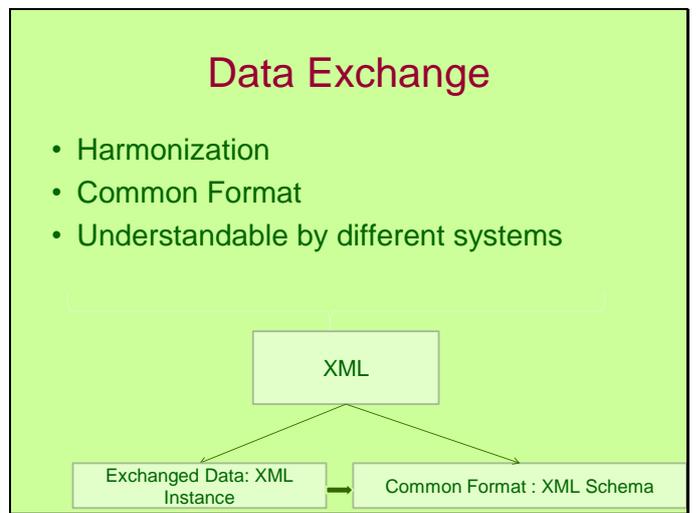
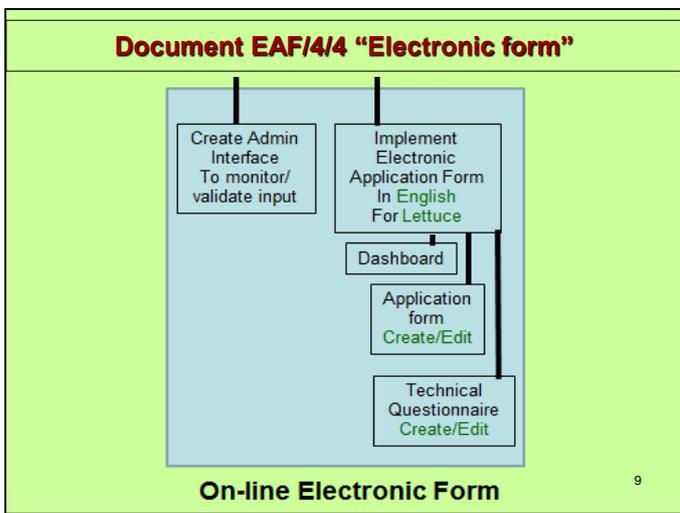
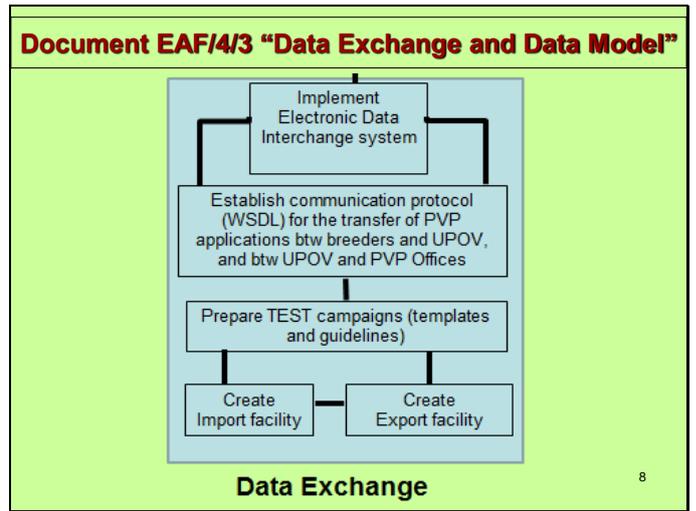
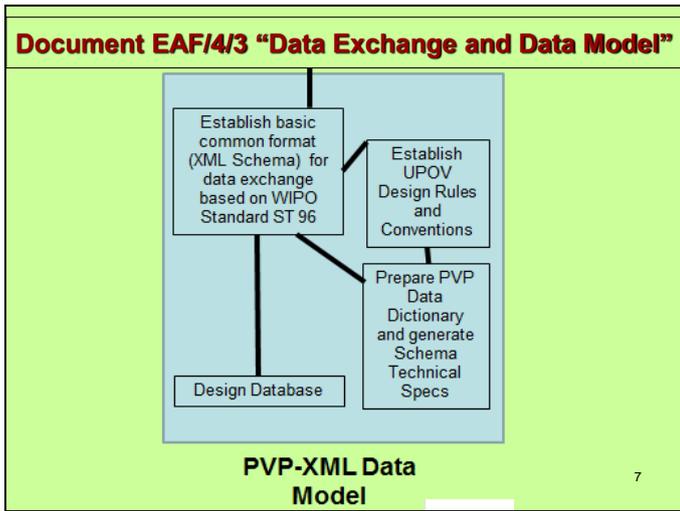
Next steps agreed at the third meeting

Timetable/ milestones

Activity	Timeline
Participating members to send their database structure, XML format or interface tables (requirement for participation in the project) Circular to be sent, requesting input from participants (PVP Offices + Breeders)	By May 30, 2014
Analysis of databases of participating members, design of the database structure and data interface tables	By September 2014
Consolidation of questions (bi/multilateral communication)	By September 2014
Finalization of project brief and request for cost estimate from approved supplier	June 2014
Agreement on the database structure/ import-export option/ interface tables format	October 2014
Start of the project	October 2014
Presentation of the prototype to the CAJ and Council	October 2015

UPOV Electronic Application System (EAS)





Wiki space UPOV_EAS

WIPO WIKI

UPOV_EAS Home

UPOV EAS

How to comment ?

12

Wiki space UPOV_EAS



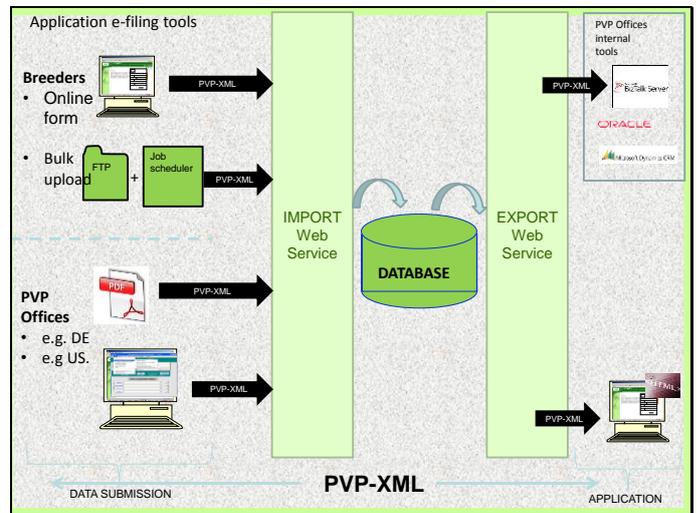
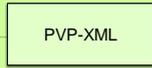
- All comments will be registered and replied
- And transformed (if necessary) into «Issues» by category to be addressed at a forthcoming meeting

DRCs

- Design rules
 - Schemas and XML instances
- Naming conventions
 - Tag and file names
- UPOV DRCs:
 - New Namespace:
 xmlns:pvp="http://www.upov.int/XMLSchema/<major>"
 - **Issue ID1:** [SD-02-UPOV] PVP schema modules MUST NOT refer to Patent, Trademark, Design component schema modules -> [Provide your comments on the wiki](#)

Communication Protocol- WSDL

- Standard to describe how to communicate
 - Input format
 - Output format
 - Other information: web service location, security settings, etc.
- Contract between different stakeholders



Example of Issue to be solved in relation to Data Exchange

Which schema should be used for data exchange in case of import/export process?

<p>Option 1 Office Implementation schema (Import/Export)</p>	<p>Option 2 Generic XML Schema: Model schema (Import/Export)</p>	<p>Option 3 Generic XML Schema: Model schema (Import), Office Implementation schema (Export)</p>
---	---	---

Issue ID-2- Option 1

- Office Implementation schema (Import/Export)
 - **Pros:** The receiving office is receiving only relevant information
 - **Cons:** Two UPOV methods (Import and Export) should be developed per country/contracting party to validate the exchanged data against the office implementation schema.

Issue ID-2- Option 2

- Generic XML Schema: Model schema (Import/Export)
 - **Pros:** One XML file is exchanged for an application submitted to many countries/contracting parties
 - **Cons:** The receiving office should make an extra effort to extract the relevant information and ignore details concerning other contracting parties.

19

Issue ID-2- Option 3

- Generic XML Schema: Model schema (Import), Office Implementation schema (Export)
 - **Pros:**
 - Only one XML file is submitted to the system
 - The receiving office receives only relevant data
 - **Cons:**
 - One UPOV method (Export) should be developed per country/contracting party to validate the exchanged data against the office implementation schema.

[Provide your comments on the wiki](#)

20

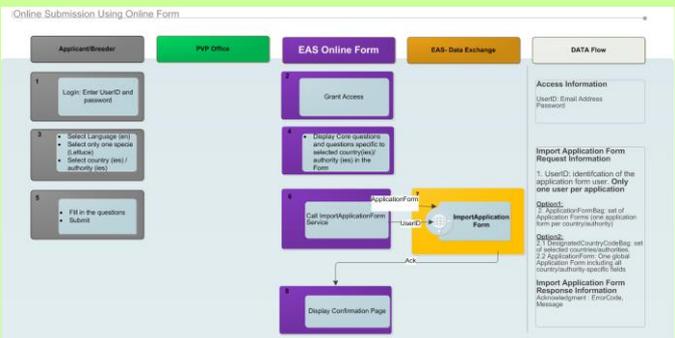
Data Exchange- Use Cases

- Transfer of PVP applications between:

- Breeders/Applicants and UPOV
 - Online submission using online form
 - Bulk upload
 - Dashboard: View and/or Edit applications
- UPOV and PVP Offices
 - PVP Office system with import facility
 - PVP Office without import facility



Data Exchange- Use Cases Online Submission Using Online Form



IssueID-3:Manual or Automatic Bulk Upload

- Option 1: Manual Upload using a web interface
 - Pros: In phase 2, payment interface is displayed directly after upload. The application process is optimized.
 - Cons: Manual upload of XML data

23

IssueID-3:Manual or Automatic Bulk Upload

- Option 2: Automatic Upload using FTP server
 - Pros: Automatic process
 - Cons:
 - In phase 2, payment could not be done directly. The application process is delayed
 - Error management policies to be defined.

24

IssueID-3: Manual or Automatic Bulk Upload

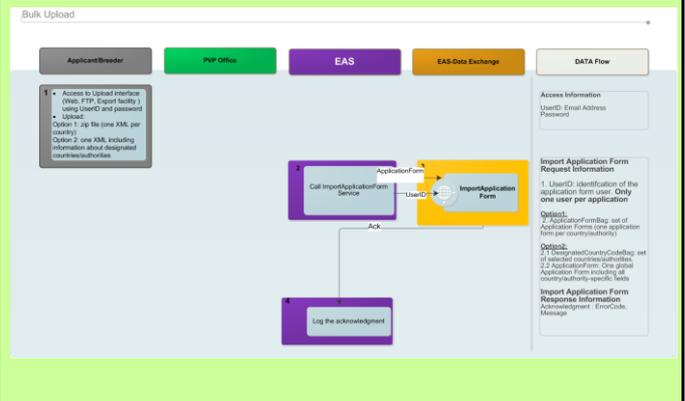
• Option 3: Automatic Upload using Export Facility

- Pros: Automatic process
- Cons:
 - In phase 2, payment could not be done directly. The application process is delayed
 - Error management policies to be defined.
 - Export Facility to be developed by the breeder

[Provide your comments on the wiki](#)

25

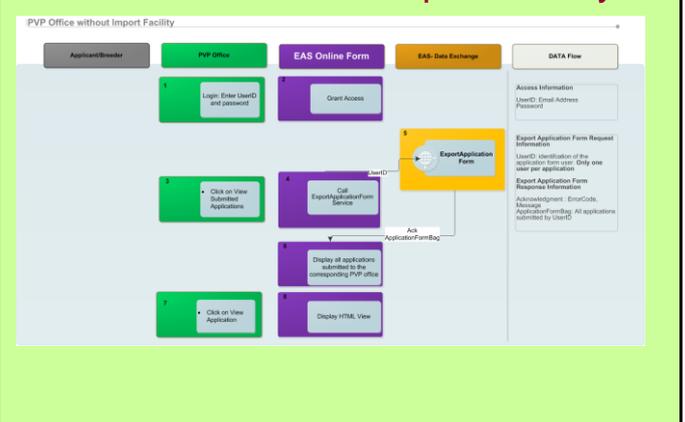
Data Exchange- Use Cases Bulk Upload



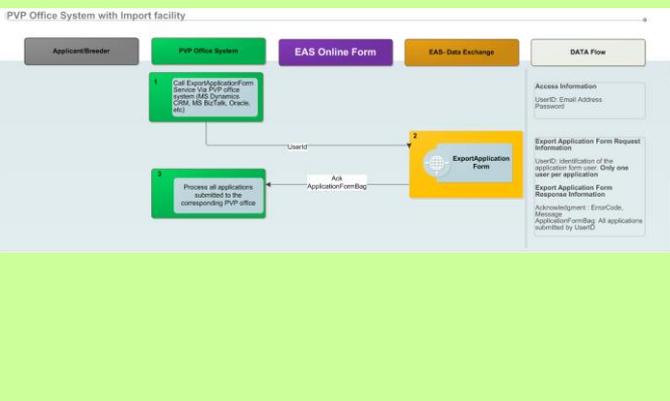
Data Exchange- Use Cases Dashboard-Applicant/Breeder View



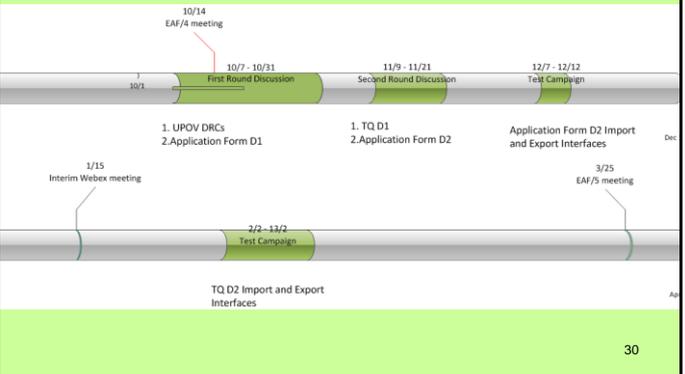
Data Exchange- Use Cases PVP Office without Import Facility



Data Exchange- Use Cases PVP Office System with Import facility



Milestones



30

Next steps

- Provide your comments on D1/ Wiki by October 24, 2014
- Be ready for the second round discussion (Nov 9 to 21, 2014) on D2 (Technical Questionnaire)
- Be ready for the Test campaigns
 - Applicants (Breeders)
 - Authorities (PVP Offices)

31

Test Campaign- Applicant/ Breeder

- Prepare PVP-XML sample data
- Submit XML data to UPOV



Who is going to be ready?

32

Test Campaign- Authorities/PVP Offices

- Download XML data from UPOV
- Validate data
 - Completeness: No mandatory data is missing
 - Consistency

Who is going to be ready?

33

Electronic Form

Next steps
Agreement on the prototype V.1



Included	NOT included in V.1
All features from the mock-up	
Dashboard: edit/ delete/submit options	Payment
Administration interface	Different languages
Import facility : Import of XML files with crop details (technical questionnaire)	Possibility to introduce or modify questions (update of the form)
Export of XML information (possible others format) to selected authorities	Some technical and legal aspects

[Annex III follows]

Update of U.S. ePVP System

Current ePVP Status

- Version 9.16.2014 of the ePVP system was deployed on October 1, 2014
- The system is in beta testing this month, both internally and externally, with 8 applicants performing external testing.
- We have implemented an ePVP Team including all Examiners to:
 - Test the software
 - Develop user manuals
 - Provide recommendations
 - Ensure the system is fully capable for examining new varieties.

ePVP Next Steps

- Our target date for feedback to the system developer is October 31, 2014.
- The developer will fix bugs and deploy a new version of the software by mid-November 2014.
- Additional software testing will be performed through November and December, by internal and external testers.

ePVP Next Steps

- The PVPO will provide another round of comments to developer for fixes by December 31, 2014.
- Another deployment of software will be made by January 31, 2015.
- The PVPO will require 30 days to determine if we have everything needed in the ePVP Portal (external view to the public) and CRM (internal PVP examining software) to:
 - accept applications
 - process payments
 - fully examine applications for new varieties

ePVP Development Plan

- If the PVPO determines that more features are needed, then we will need to put a new contract in place to have additional programming completed and go through testing and retesting again (estimated time requirement = 3 months).
- If additional programming is necessary (likely at this point), the ePVP system would be released to the public for full application submission and examination on approximately May 2, 2015.

Alternative Approach

- Launch the ePVP system.
- Accept payments and continue examining using the legacy STAR database until everything is fixed in the ePVP System.
- Continue development of the ePVP System until all features are available including:
 - Complete data migration from STAR
 - Data entry into the ePVP System for all crops
 - Upload of multiple applications electronically
 - Status updates for applicants
 - Full examination from the ePVP including distinctness searches

Lessons Learned

- Provide better long-term milestone dates.
- Ensure the Vendor selected has a strong Program Manager on staff with experience in the software to be used.
- Make sure your estimates for migrating legacy data are extended longer than you estimate to account for incompatibility between systems.
- Staff involved in the project need to have less responsibilities in order to focus on the project and spend the time needed to complete tasks.
- A strong internal program and manager and technical representative is critical.
- Too much feedback without a standardized approach to the developers can be as problematic as not enough feedback.

[End of Annex III and of document]