SURVEY ON STANDARDIZATION OF WEB SERVICES

BACKGROUND

This survey was carried out in the first quarter of 2017 within the XML4IP Task Force in order to collect the practices and plan of the Task Force's Offices regarding web services for industrial property (IP) information and documentation. The questionnaire and individual responses are provided below.

The following 11 IP Offices and the International Bureau of Patent Cooperation Treaty (PCT/IB) responded to the survey: AU, CA, DE, ES, EP, GB, MD, NO, RU, US and XU.

QUESTIONNAIRE

1.   Does your Office/Organization offer web services e.g. for data dissemination, data retrieval, data exchange or other functional purposes?

   a.   If yes, what are the main purposes and what kind of services are offered?

   b.   If no, does your Office/Organization plan to offer web services and if so, for what purposes?

2.   Does your Office/Organization use web services offered by another entity e.g. for data dissemination, data retrieval, data exchange or other functional purposes?

   a.   If yes, what are the main purposes and what kind of services are used?

   b.   If no, does your Office/Organization plan to use web services offered by another entity and if so, for what purposes?

3.   Some stakeholders have suggested that a new WIPO standard for web services should be developed. What would be the scope of the new standard if it were to be developed? Please select item(s) below to be standardized and/or provide any other items to be standardized.

   a.   Recommended technologies, e.g. RESTful and/or SOAP services

   b.   Message format and data structure, e.g. JSON and/or XML, Data dictionary based on what WIPO Standards, e.g. ST.36, ST.66, ST.86 and ST.96

   c.   Security aspects, e.g. authentication, authorization, certificates,

   d.   Naming conventions for Uniform Resource Identifier (URI) of resources, for example in the order of ServiceDomain/BusinessContext/ResourceClass/ Identifier of the resource, e.g. http://domain/patent/PublishedApplication/ApplicationNumber

   e.   versioning of the web services

   f.   Indicate any other matters to be standardized for web services

INDIVIDUAL RE RESPONSES

1.   Does your Office/Organization offer web services e.g. for data dissemination, data retrieval, data exchange or other functional purposes?

   a.   If yes, what are the main purposes and what kind of services are offered?

      RU: For EUIPO we provide RESTful web-services for integration with TMView and DSView. We provide SOAP web-services for communication about application with the applicants. We use SOAP web-services for data exchange with other governmental agencies. We also intensively use SOAP and RESTful web-services internally.

      ES: https://sede.oepm.gob.es/eSede/datos/en/webservices.HTML
      SPTO web services are designed for automatic processing of data by users

Infomediaries and industrial property, and with a vocation reuse of public data generated by the SPTO.

MD: Yes, we use web services internally, for our online filing system and we provide data bibliographic to our Academy of Science (SOAP, ST. 36). There is also an project that started this year that will link governmental agencies involved in implementing the laws and regulations of the Intellectual Property Rights in Moldova (aslo via web services)

NO: - For EUIPO we provide RESTful web-services for integration with TMView and DSView.
- For EPO we will in Q1-2017 provide RESTful web-services that supports the European Patent Register, Federates Search
- For our own e-services for customers we use RESTful web-services that deliver key data to e.g. our Search service, our e-renewal service, a trademark search app, and more
- We plan to support the "open data initiative" and disseminate data for patents, designs and trademarks via RESTful web-services

CA: Yes, we use Web Services. We develop components that that follow a Service Oriented Architecture approach. We use Web Services as a means of exchanging data to and from our e-commerce interface, data dissemination, data retrieval and various other processes. We primarily use SOAP services because they provide more security for data that is sensitive. SOAP provides a solid contract via the WSDL and associated XML schemas. SOAP is mostly used for backend services and is not restricted to use with HTTP only. JMS for example could also be used with SOAP for message reliability and comes with WS-Security, WS-Trust, WS-Policy, WS-ReliableMessaging ... and more. We also use RESTful web services internally and for non-sensitive data.

PCT/IB: PCT has developed a set of SOAP web services that are currently made available through PATENTSCOPE http://www.wipo.int/patentscope/en/data/ and which are used by a large number of private users and national IP Offices to get data of published applications. The relevant wsdl can be found at http://www.wipo.int/patentscope-webservice/servicesPatentScope?wsdl

PCT has also developed some RESTful web services for its internal use. It is planned to open some of these web services to external users (IP Offices and private users).

XU (UPOV): UPOV EAF web services offer the possibility to import and export application data. Those services are intended for:

- Applicants: "Import" web service allows the submission of multiple application data at the same time. It is also called "Bulk Upload".

- PVP Offices: "Export" web service allows the retrieval of submitted application data. The exchanged data with PVP Offices can be in two different formats: PDF and XML

AU: In Madrid e-filing IP Australia provides web services for the WIPO IRPI system to automatically retrieve information related the Basic Application or Registration. In WIPO-CASE, IP Australia provides the web services for dossier data of Australian patent publications.

EP: Yes. EPO offers OPS and OPD. Other services offer APIs such as the publication server.

The EPO offers web services to Patent Information users, as a primary source of information for accessing EP patent documents and, as a secondary source of information for accessing worldwide patent documents exchanged with IPOs and processed by the EPO.

USPTO: Data dissemination and data exchange in internal and external systems.

Yes, used in Trademark – a few examples include:

- TSDR - Trademark Status and Document Retrieval - external for public to obtain TM data and image documents
- eOG - Electroinc Official Gazette
- TIDM NG - Trademark Identification Manual Next Gen

Yes, used in Patents - few examples include:

- Under development to be used for PAIR Bulk data for the public to download published patent data
- Global Dossier - which enables access to dossiers of other Offices
- IFW Metadata - image file wrapper- image data for dossiers
- FPNG - Fee Processing Next Gen system
- eMOD - next gen filing system
- open data portal - web services used to access bulk data
- Cooperative Patent Classification Database - master classification file

DE: DPMA offers Web Services on legal status and publication data for national patents, trademarks and designs (to come). Additionally DPMA offers Web Services for TMview and DesignView (to come).

GB: Yes, Data Dissemination (to Partners e.g. WIPO, EPO, EU IPO) Data retrieval to public (e.g Case Enquiries for TM and Designs) and Partners (e.g. EU IPO DesignsView, TMView)

b. *If no, does your Office/Organization plan to offer web services and if so, for what purposes?*

RU: We have plans to provide to the users SOAP web-services:

- for applications
- for access to the official publications
- for searching

2.   Does your Office/Organization use web services offered by another entity e.g. for data dissemination, data retrieval, data exchange or other functional purposes?

   a.   If yes, what are the main purposes and what kind of services are used?

   RU: SOAP web-services are used for communication with other governmental agencies.

   ES: http://www.epo.org/searching-for-patents/technical/espacenet/ops.html#tab1 SPTO uses REST web services from European Patent Office to integrate authomatically data from EPO Docdb (Worldwide Patents database) in our systems. We are also using EUIPO REST web services developed at SPTO for Trademarks and Designs data dissemination through platformsTMView and DSView. We have also other SOAP and REST web services for communication with other governmental entities.

   MD: Yes, we are using web services from EPO to retrieve abstracts, claims and descriptions of applications that requested validation in MD. See also 1.a)

   NO: - To add value in our national Search service we use RESTful web-services to look up info from the national Company register

   - EPO Open Patent Services (OPS) is used to e.g. get abstracts in EP-cases (https://ops.epo.org/3.1/rest-services/published-data/publication/epodoc…)
   - An ongoing project will leverage RESTful web-services created in Altinn (a national shared service for public sector), which e.g. provide access to the public message box for companies and private users in Norway. These services are used to create intelligent "My Page functionality".

   CA: Yes, we use Web Services offered by another entity. We interface via SOAP services with outside organizations such as for PatentScope.

   PCT/IB: WIPO uses several web services from other Offices both for exchange of documents and data concerning live applications, and retrieval of bibliographic data concerning citations:

   - EPO's OPS web services for retrieving bibliographic data for ePCT third party observation service (will be extended to ISR and WOSA)

   - Trilateral/IP5 priority document exchange web services for DAS

   - IP5 OPD web services for WIPO CASE

   - Other web services for communications with IP Australia

   PCT is currently discussing with some large IP offices the possibility to implement Machine2Machine interface (e.g. EPO), but there is no clear plans yet (scope and deadline).

   XU: No

   AU: IP Australia uses the EPO's Open Patent Services (OPS) for automatically retrieving search reports, citations and bibliography data.

EP: Yes. EPO uses:

- WIPO's Patentscope web service: http://www.wipo.int/patentscope/en/data/
- One Portal Dossier IP5 Web Services to deliver Global Dossier services.
- Patent Register Web Services from Member States to deliver the EPO Federated Register.

EPO plans to use UPC's web services to exchange unitary patent data. A number of EPO Patent Information products include data collected on the fly using other IPO's web services and IPO's RSS feeds (e.g. file wrappers in the EPO Global Dossier, family RSS feeds in the EPO Global Dossier, or EP federated Register).

DE: DPMA uses EPO's OPS on a low volume basis.

GB: Yes, Data Dissemination (from Partners e.g. WIPO, EPO, EU IPO), and potentially wider UK Government services offered by GDS

b. *If no, does your Office/Organization plan to use web services offered by another entity and if so, for what purposes?*

RU: We plan to use SOAP web-services for information exchange with EAPO.

USPTO:

- Global Dossier which enables access to dossiers of other Offices.
- TM 5 is looking into the use of web services in future.

3.   Some stakeholders have suggested that a new WIPO standard for web services should be developed. What would be the scope of the new standard if it were to be developed? Please select item(s) below to be standardized and/or provide any other items to be standardized.

a. *Recommended technologies, e.g. RESTful and/or SOAP services*

b. *Message format and data structure, e.g. JSON and/or XML, Data dictionary based on what WIPO Standards, e.g. ST.36, ST.66, ST.86 and ST.96*

c. *Security aspects, e.g. authentication, authorization, certificates,*

d. *Naming conventions for Uniform Resource Identifier (URI) of resources, for example in the order of ServiceDomain/BusinessContext/ResourceClass/ Identifier of the resource, e.g. http://domain/patent/PublishedApplication/ApplicationNumber*

e. *versioning of the web services*

f. *Indicate any other matters to be standardized for web services*

AU: all items for (a) to (e) are indicated as desirable items to be standardized.

DE: Suggestions a) to e) seem to be reasonable.

ES: SPTO think that all items from (a) to (e) are important for the new standard.

GB: a definite intention to standardise RESTful service at IPO - can be provided on request: yes for the items (d) and (e) above.

MD: I also think that all items are important.

NO: NIPO believe that all items from (a) to (e) are important for the new standard. Especially regarding (b) the ST.96 could be a focus point.

RU: We think that all items from (a) to (e) are important for the new standard. We propose to add a new item regarding the security aspect of the data transfer (security of the communication channel) when using the web-services.

XU: We think that all items for (a) to (e) should be part of the new standard.

CA:

>3a: We agree that guidance and recommended technologies for Webservices for IP would be helpful. Some developers believe that these are a matter of choice, though we believe it would be best to have recommendations for IP subject matter.

>3b: We agree that structure and format guidelines would be helpful so that WebServices from IP offices will have similar look and feel.

>3c: In light of recent work performed for CIPO such as IRPI/MeF, we agree that security is good to discuss so that IPOs are aware of preferred security software and approaches to authentication and certificates.

>3d: For naming standards we believe it would be good to discuss though most gov't organizations would likely already have their own standards. However, for the sake of international IP data exchange, following a standard would aid in deriving a standardized approach.

>3e: For versioning of the web services, as in 'd' most organizations would already have a standard, but for the sake of IP data exchange it would be helpful to follow a standard.

>3f: Other matters, none come to mind. We believe that all above has covered the Web Services standards requirements.

PCT/IB:

>3a: PCT is mainly is favor of RESTful web services

>3b: PCT would like exchanged DATA to be in XML format based on existing WIPO standards

>3c: PCT supports a strong security model that makes sure that only IP Offices and private users can access the system e.g. a second authentication method

>3d: PCT is in favor of using naming convention for URI of resources

>3e: PCT supports a model that manages a version per service

EP:

>3a: RESTful.

>3b: The applicable WIPO standards, XML and JSON and PNG images.

>3c: OPS currently uses bearer tokens and OAuth.

>3d: Standardized number formats for requests and standardized response structures are more useful than standardized URLs.

>3e: EPO questions the need to harmonize the versioning of the web services. It is surely important to ensure visibility and control of versions but EPO (like many other IPO's and organizations) have their own procedure for version controlling and harmonization here may not bring significant benefit.

>3f: It is important to standardize numbers for calling APIs (For example OPD uses DOCDB ID numbers). The EPO would like to obtain additional Web Services from other Offices to support some of its online offerings like Global Legal Status and if applicable support its data acquisition activities.

We would suggest that, at this stage, it could be best to limit the scope of this activity to Patent Information content issues. Perhaps the transportation layer issues could be better addressed at a later stage if any extension to the existing

industry standards appears to be required at that time. For example, among other areas of interest, perhaps an exchange of experiences concerning the standardization of register/gazette data made available to users via existing web services or RSS feeds would be useful.

USPTO: USPTO supports a standard which would promote a single vocabulary for both XML and JSON for data based on ST.96.

> 3a: USPTO considers the specification of RESTful and/or SOAP service to be more of an IT standard rather than an IP standard. This can be decided by the preference of the individual office, is out of scope and USPTO does not recommend the standard to specify this aspect. USPTO prefers the standard does not dictate to other IP offices which technology to use for their services.

> 3b: USPTO supports both JSON and XML, with the data dictionary based on WIPO Standard ST.96.

> 3c: USPTO considers theses aspects to be more of an IT standard rather than an IP standard. This can be decided by the preference of the individual office, is out of scope and USPTO does not recommend the standard to specify this aspect. USPTO prefers the standard does not dictate to other IP offices which technology to use for their services

> 3d: Here are some examples of naming conventions used at USPTO.

> > USPTO can provide additional details for further discussions if all IP offices agree to have this as part of the standard. Only use lowercase letters, numbers, dashes, and forward slashes in the URL path.

> - Correct: http://example.gov/api/v1/inventors/12345?fields=firstName
> - Incorrect: http://example.gov/api/v1/inventors/12345/lastName

> 3e: USPTO recommends versioning to be presented as per the example shown below:

> > Alphanumeric

> - Correct: v1, v2, v453
> - Incorrect: v-1.1, 1.2, ver-1.3_beta

[End of document]