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BIC LIBRARIES WEB SERVICES WORKSHOP
CILIP Building, 7 Ridgmount Street, London WC1E 7AE
Wednesday 24th June 2015, 1:30-5pm

Present

Alaina-Marie Bassett, BIC	Matthew Holt, Bertrams
Marcus Blackburn, Civica UK	Graham Jones, Askews & Holts Library Services
Colin Campbell, PTFS-Europe	Karina Luke, BIC
Colin Carter, Innovative	Barbara Pacut, SirsiDynix
Francis Cave, Consultant	Fiona Petherick, Coutts / ProQuest
Andrew Coburn, Essex County Council Library	Richard Scott, BDS Ltd
Catherine Cooke, Westminster Libraries	William Scott, Bertrams
Phillip Darlington, Axiell	Heather Sherman, Dawson Books
Niamh Doran, Civica UK	Neil Stevens, Capita
Simon Edwards, Consultant (Host)	David Thomas, SirsiDynix
Jonathan Field, PTFS Europe Limited	Terry Willan, Capita
John Garrould, Bertrams	Jennifer Wright, BDS Ltd

1. **Introduction to the workshop**
   The Group were welcomed to the workshop and introduced themselves for the purpose of the minutes. SE noted that the motivation for this workshop is to ascertain how web services are used in libraries and assess whether there are requirements for any new web services within this community. An introductory document was circulated to the Group prior to this workshop to introduce the topic and simultaneously inform the Group about the work already carried out by the BIC Web Services Task & Finish Working Group (T&FWG).

   SE informed the Group that, after the introduction to this workshop, they would be split up into 4 groups in order to discuss libraries' existing and new requirements for web services. Each group will then feedback their thoughts to the rest of the workshop attendees, and the collective requirements will be documented.

   FC began the workshop by explaining what web services are and what they are used for. He informed the Group that just as when surfing on the Internet, individuals use a browser (client) to send requests to a web server to bring back information, so web services enables a computer to do the same thing, i.e. request information and receive back answers. Web services are designed in pairs and each message has a request and a response. FC noted that the advantage of web services is that they are reasonably easy to set up and maintain. However, due to the ease with which they can be set up, many large organisations have since developed their own web services. These in-house web services are not standard. FC noted that, due to the ease of creating web services, there had not been much pressure for standard web services to be developed. But some organisations needing to request information from several sources could find themselves having to use multiple proprietary web services rather than using a single standard web service with each source.

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FC informed the Group that, previously, BIC developed a suite of web service standards for the trade book supply chain. He noted that Bertrams – represented at this workshop by JG, MH and WS – have copious experience working with these standards. He also informed the Group that EDItEUR have produced web services for further requirements, such as invoicing. FC commented that all the standard web services are produced in Request/Response pairs and 15, or so, pairs are currently available.

FC informed the Group that the purpose of this workshop is to ascertain whether there is a need for similar / new web services specifically for library use. SE commented that EDI is already widely used in libraries and that although there is some overlap, BIC was not seeking to replace existing EDI implementations with web services. But where functionality does not exist or is not covered by EDI, there is a case for developing web services if required. JG agreed that replacing existing EDI implementations with web services should not be done for the sake of it, but noted that a change from batch EDI to real-time web services is being driven by a need to transaction digital products in real-time. He commented that there shouldn't be one solution for digital and another for print, so this is an opportunity to address longstanding legacy issues with the EDI message set. SE noted that the attendees of this workshop are tasked with ascertaining where there may be a need for new web services to deliver requirements.

The key point about web services is that instead of providing a batch solution like most EDI messages where orders for example are sent by EDI, collected together, processed in a batch and then a reply order acknowledgement is sent at a scheduled time, web services expect an almost immediate response, so in the same example a web services order would at least receive back a functional response. Once the acknowledgement information is available then an acknowledgement web service could be used and the recipient would send back a functional response. So web services have message pairs and an immediate response. This is particularly useful for obtaining information on price and availability of a book. A request can ask for price and availability information via a web service and the almost immediate response will contain the price and availability status information.

JG commented that using web services to retrieve data in real-time can also eliminate data synchronisation issues caused by legacy batch processes, e.g. where a user receives batches of bibliographic updates on a weekly or monthly basis, the data is immediately out of date, compared with accessing the master data in real-time from the suppliers' web service.

MH informed the Group that a document was produced to describe a model for web services in libraries. This would be to develop a set of message pairs between say the library LMS and a Library Stock Supplier and the messages would cover a range of requirements to be decided by the workshop. This document was circulated to the Group during the workshop. He noted that this model should not limit / influence this Group's discussion but should, instead, provide a source of suggestions / possibilities to facilitate the discussion.

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MH drew the Group's attention to P.1 of his proposal document, which illustrates a typical eBook workflow. He noted that libraries, when ordering an eBook, could receive order acknowledgements, a delivery note, invoices, MARC records, and/or ONIX records from the supplier. Libraries could also request financial documents or request a single financial document from the supplier and receive a list of invoices / credits. MH noted that this model includes an eBook platform whereby suppliers send a request for a title and receive a confirmation message from the eBook Platform in response. He noted that these proposed web services are pairs – further information about which can be seen on P.3 of the document. He noted that if the eBook was not available to be supplied immediately – e.g. because the system had to check an accounts system or process payment etc. – then libraries would be provided with a functional acknowledgement message at the very least. Then the eBook would be delivered as soon as possible afterwards. MH also suggested that requests for new information could be included in this model.

FC commented that the real-time nature of web services should not be seen as a straitjacket and any requests that will take more time to respond to can simply send a response message that acknowledges the request and informs the recipient that further information will be disseminated once it becomes available; a second response can then follow this initial message, whenever appropriate. JG commented that a running score of licence uses and requesting processes for titles should be maintained – he noted that these are both two-way transaction processes. AC agreed but suggested that other organisations (including OverDrive) should be consulted and therefore become involved in this discussion. SE agreed, noting that the model produced is the proposals of only one contributing organisation and will therefore need to be circulated to incorporate the thoughts and requirements of the wider group before they can be signed off.

HS asked whether a web service to request information about a book's order history might be possible; this should include bibliographic details and whether the title is or is not already on order (by the organisation sending the request). SE agreed that this could be very useful but noted that many libraries' systems may not currently be set up to deal with requests like this. This is the value of a mixed workshop where ideas can be developed and systems vendors can consider the necessary development work to enable them to use these web services.

HS also asked whether web services could be produced for / to support LCF (Libraries Communication Framework). SE stated that LCF is a framework to accommodate communications between the LMS and the RFID Kiosk (and other related requirements) and noted that this requirement is already being addressed by the BIC LCF Review Group. FC suggested that both the BIC Web Services T&FWG and the BIC LCF Review Group will inform one another, and will communicate whenever necessary.
Post-Meeting Update: More information about LCF can be found here:
http://www.bic.org.uk/114/LCF/ *and here:*
http://www.bic.org.uk/121/Libraries-Committee/

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HS suggested a web service for eProcurement, in order to send information in various, differing formats. She noted that this requirement will be of particular importance to academic libraries. CC (Westminster Libraries) commented that libraries that buy books on behalf of schools will also have a use for this proposed web service. HS noted that reports regarding future library service platforms and workflows have suggested that EDI may be superseded in the near future. She noted that this appears to be the case for ProQuest's library services platform *Intota* which is being developed without EDI Capability. SE noted that once implemented, solutions tend to persist even when something new comes along, hence the usage of TRADACOMS.

2. **Whiteboard Discussion**

SE commented that all of the above suggestions need to be captured and therefore encouraged the Group to split into 4 small sub-groups for discussion purposes. He noted that each sub-group should discuss any potential data transfers or transactions that could be supplied from the library supply chain. Especially:

1) What data has the library community got that trading partners might want / require?
2) Existing data exchanges, i.e. what formats / systems need to be included and their purposes, including MARC, SIP, EDI or CSV files, etc.
3) Existing web services and proposals for new requirements / messages.

3. **Document / agree a list of required messages**

Sub-Group #1 produced a workflow diagram. They noted that EDIFACT equivalent real-time web service functionality is a given and they set out many of the key stakeholders involved including: libraries, library suppliers, bibliographic data suppliers, local authorities, students, Higher Education Institutions (HEI), citizens and discovery platforms.

1) Enhanced Content:

Sub-Group #1 noted that libraries often request information from content suppliers for author biographies / trailers, etc., so a request for further bibliographic information / enhanced content information would be beneficial. AC noted that this information would not be stored internally within a library. CC (Innovative) noted that this type of request for information may already be in existence but is not a standard web service. JG informed the Group that his sub-group had described this request as a "Price & Availability (P&A) enquiry for metadata". This would allow an LMS or website to query a Service Provider about the availability of metadata for an ISBN. The LMS might query several providers in parallel in real-time to establish who has the best metadata at the best price for the title. For example, a Library might fire a metadata P&A enquiry at BDS, Dawson and OCLC and get back 3 replies and then follow up with a fetch MARC or fetch ONIX request from the vendor with the best fit for their requirements.

SE commented that this web service would allow libraries to mix and match information from multiple records in order to collate the desired information. CC (Innovative) agreed, noting that this is, in essence, "P&A Metadata". CC (Westminster Libraries) suggested

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that, in the event that the libraries' trusted source of information does not have the relevant information, a hierarchy of results should be formulated to facilitate the library finding a suitably populated record and so that the information used is the best available. The Group noted their concerns about the quality /origin of the data that could potentially be provided. To combat this, FC suggested that the desired fields could be marked as essential so that the request is as specific as possible and the return is therefore more likely to provide the information / content required.

2) Inter-Library Loan (ILL):
Sub-Group #1 noted that an ILL web service could request information regarding the availability of a book at another library; both whether the book is available and whether it can be reserved. The Group noted that an option to cancel the request would also need to be produced. They also suggested that the status of the request, i.e. in transit, would be beneficial too. It was noted that the book loan may need to be renewed before its return to the origin library, but that a recall option should be enabled.
SE asked whether any money would need to change hands for ILLs to be granted. The Group agreed that this would not be necessary, with the exception of the British Library. They agreed, however, that ILL terms will need to be produced.

ND questioned whether there might be scope for updating stock in the same way that Unity Union Catalogues do. SE suggested that this possibility should be addressed by the BIC Web Services Task & Finish Working Group.

JG commented that web services would allow ILL to be implemented on a peer-to-peer (P2P) basis directly between LMSs, removing the overhead of a controlling body. As an example he noted that, in Trade supply, Bertrams have enabled P2P P&A enquiries between bookstores using the Bertline EPOS. This allows them to see what stock of a title is held in other branches in a chain without going via a controlling hub.

3) Financial Authorisation:
CC (Westminster) noted that financial authorisation would involve the dissemination of invoices, orders, receipts, etc. and should include eProcurement. AC informed the Group that this data would need to be retrieved from the Library Management System (LMS) and sent to a corporate / financial system. CC (Innovative) noted that all the information to be disseminated would need to be synchronised in order for this web service to work. The Group also suggested that mixed-rate VAT consolidation should be included as part of the invoicing authorisation. It was noted that mixed-rate VAT is primarily used in the book industry and isn't supported by generic ERP packages, e.g. Agresso, Sage, MS Dynamics, so care needs to be taken when trying to adapt solutions from other sectors.

4) EDI Codelists:
It was noted that this web service would request EDI codes / codelists, though non-standard codes could prove to be an issue in this process. AC noted that EDI

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communication varies from one library to another and so this is not a standardised process. WS suggested that the ambiguity between libraries' definitions may be reduced by standardising this process.

5) Patron-Driven Acquisition (PDA):
The Group suggested that a PDA web service could be produced. This web service could generate a Purchase Order (PO) number for a product that has not been ordered previously. This product should then appear on discovery platforms for other students / patrons to find and request. SE noted that this process should be automated so that one process triggers the other in sequence. JG agreed but noted that this would require the ability to keep PDAs in sync across multiple systems.

SE asked whether there is a public library requirement that is equivalent to this web service. AC noted that public libraries have issues with licensing and require a way to exchange transactions so that they know when the maximum amount of loans has been reached. He also suggested that an early warning about the approaching limit would be beneficial to allow the library the time to purchase more copies, if appropriate. JG noted that Sub-Group #2 had discussed using eCredits for this purpose.

6) PDA Print Books:
HS noted that PDA is a method used for both eBooks and print books, and as such any web service that is produced will need to take both formats into account.

7) Reading Lists:
HS suggested that this web service could feed the PO number back into the system. She noted that, from a library's point of view, this message would be repurposing messages that have been sent already but suggested that the new message could include P&A, quotes, loan type and/or auto-renewals as options. JG suggested that the web service could make requests to the LMS to see whether copies are available. He noted that this web service would pull all the relevant information onto one screen. He also suggested that the order could be received before the licence is allocated. (See requirement 9 below).

8) Loan Usage:
This web service would provide a report on what is currently on loan from a specific library. The Group noted that this web service would be of benefit to the public as well as suppliers (providing information). CC suggested it would also be of benefit to services like Libscan. AC commented that suppliers would be able to see what is popular and the development of trends. He noted that, if this information is stored in the LMS then there should be a way of manipulating it to create this web service. CC suggested that feeds may already be sent to organisations like Nielsen / CollectionsHQ on a monthly basis for the purpose of recording this information.

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9) Supplier Selection:

The Group suggested that this web service could prevent duplication of orders in supplier selection so that if a book is already stocked in the library, the supplier selection process could be informed and that book would not be supplied again. They also suggested that the process could include Approvals. JG commented that by including Approvals there is less scope for duplicates being a possibility. It was also suggested that the status, i.e. 'stocked' or 'on order', should be included.

HS suggested a web service to set up a servicing profile with a supplier. This would detail RFID tags data, servicing requirements for different branches etc. so that suppliers could provide shelf-ready stock, however CC noted that servicing requirements are not stored on Westminster Libraries' LMS.

10) Subscriptions:

HS noted that the need to renew subscriptions happens roughly once a year but for a large number of products. She noted that this suggested web service could make it easier for libraries to renew their subscriptions or else automate the renewal.

The Group suggested that an authentication web service to improve security would also be of value. They suggested that this web service would check that the recipient of the data is the correct / appropriate person. FC suggested that this service could be provided by HTTPS REST or JSON. He noted that there are currently technical issues with authentication.

11) Transformation Layer:

A transformation service for Hubs was suggested. It was noted that Hubs tend to be unwilling to change their systems and plug-ins are used to middle-manage the interfaces instead. AC questioned whether this suggested web service would be in real time. FC confirmed that it could be real time, though a slight delay may be unavoidable. JG commented that this is what Batch.co.uk does in trade supply for transformation layers, i.e. translation from one message to another (for invoices, credits and returns in Batch's case).

12) Claims Requests:

A web service for claim requests was suggested to claim for damaged goods, also to chase orders.

13) Consolidated Invoicing:

The Group suggested a web service pair for consolidating invoices would be beneficial in order to request an invoice or the payment for overdue / overlooked invoices. This is would be used where a library receives many invoices but wishes to have one consolidated invoice for the financial authority to pay.

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14) Request Skeleton MARC:

The Group suggested that receiving a MARC record at the time of ordering – as a skeleton document – would be useful / required. AC commented that there ought to be a way to request a certain level of record since the organisation that sends the request could require a more detailed document. HS noted that the supplier may charge for the delivery of the full record. FC suggested that the delivery of a skeleton record and that of a full record may not be the same web service. He suggested that there could be four web services with the same result but all for different purposes; he noted that the information structure could also be very similar.

15) Changes Synchronisation

FC informed the Group that there have been problems in EDI coping with for example order cancellations, because it is hard to specify which branch order should be or has been cancelled. The solution might be the web services which request lists of documents. For example there is a trade web service requesting a list of back orders. This can then be followed by other web services actioning the information in the list, e.g. a list of back orders could then lead to specific back orders being cancelled.

4. **Next actions**

SE thanked the Sub-Groups for all of their suggestions. He proposed that the Group should now, as a whole, identify which web services to prioritise in terms of the work to be done, and questioned whether the Group felt it might be appropriate to approach organisations to create a standard web service for other organisations to use. SE noted that the priorities of some organisations may differ to others, depending on what type of library they are.

TW suggested addressing the main pain-points for EDI first, particularly the areas that are not currently catered for in EDI. SE agreed but noted that the capabilities of each organisation's system, i.e. what they can work with, will make a difference to the work done. HS commented that PDA and reading lists are a high priority in academic libraries and FP agreed with this.

FC suggested that the easiest / quickest tasks (which take the smallest amount of time to be completed) should be tackled first. JG agreed and suggested that, for this reason, web service versions of the existing EDIFACT EDI messages should be a main priority. FC also suggested that the Trade Order message and Library Order format (which are based on TRADACOMS) should also be prioritised.

SE commented that the progress and the direction of the work to be done will depend upon the BIC Web Services Task & Finish Working Group and the Committee that oversees its work: the BIC Physical Supply Chain Committee. However, he confirmed that this Group's suggestions will be taken into account when the aforementioned Group and Committee agree upon the work to be done.

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GJ suggested that organisations that have developed their own in-house web services should be addressed first to ensure everyone is working from the same standards. JG suggested that the most important change to be made is for eBooks in real time. SE agreed, stating that EDI messages for eBooks should also be addressed.

SE suggested that eBooks (including EDI and reading lists) could be addressed by a smaller breakout group of organisations. FC agreed, suggesting that the trade web services for eBooks could be used as a template for this new web service and, once completed, would then be circulated to the rest of the Group for comment. He noted that the BIC Libraries Committee will need to sign off on the proposed web services, and again on the final versions. SE suggested sending out a skeleton document of the suggested web services that can subsequently be fleshed out by the Group with additions and/or comments. The Group agreed this is the best way forward.

ACTION: AB to put together a skeleton document of the suggested web services to circulate alongside these minutes.

JG suggested that Inter-Library Loans (ILL) should also be a secondary priority. SE questioned whether a service already exists for this purpose, e.g. via NCIP. CC noted that UnityUK provided a charged-for service of this description but libraries were discouraged from using it due to the cost. It was suggested, however, that this service is popular in the US. CC noted that a directory also used to be available but this wasn't updated and has since lost funding and become obsolete. She suggested that a hierarchy could be set up to provide this information. SE commented that this is therefore a development / implementation change. He suggested that it could be a web service that synchronises information between systems. Furthermore, JG suggested that it could be implemented within the LMS to continually chase missing information. SE commented that the organisations that appear high up on the hierarchy may become annoyed by the number of requests they receive.

The agreed priorities for this Group were as follows:
- EDI message sets re-implement as real-time web-services
- eBooks in real time
- PDA
- Reading Lists
- Trade Order message
- Library Order format
- ILL