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## **Single API for library services**

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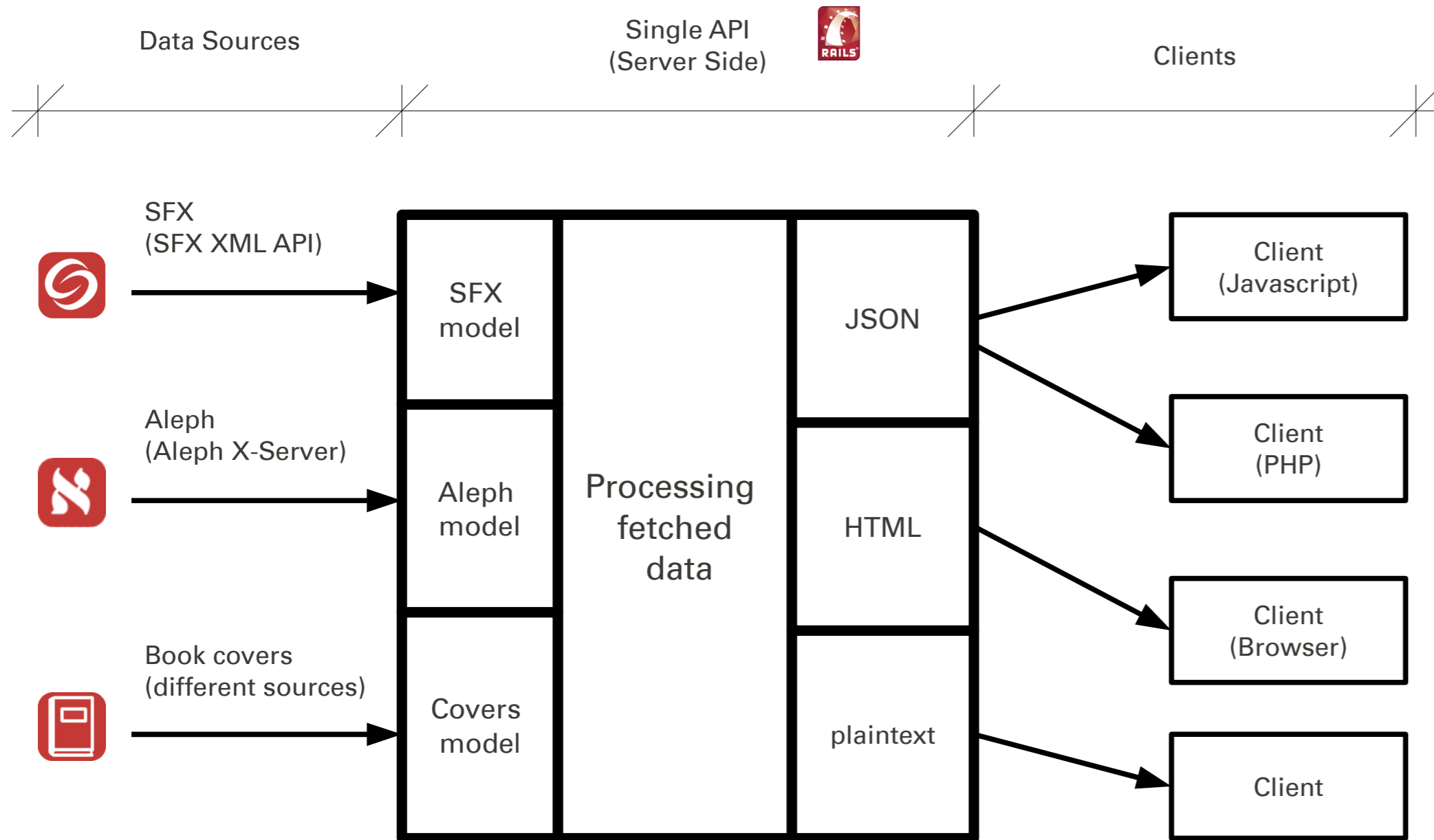
# Single API for library services

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555 mm

## Introduction

If we have data from library systems accessible in a simple format it will be much easier to work with them and even to present them in many various ways. However library system's APIs are often focused more on interoperability rather than data presentation. This poster introduces draft of a single API point which allows to access basic data in simple formats. JavaScript demo application which fetches the data from created API and displays them in user friendly manner is also presented.



Picture 1: Application Scheme. Data are fetched from Data sources, then processed and provided to the clients in simple formats.

## Server Side

Single API application is written in Ruby on Rails and uses data from APIs of Aleph, SFX etc. for creating of simple responses to specified queries. Although only 3 services are used in the current state, more can be added in a similar way.

- input: multiple services API (SFX XML API, Aleph X-Server, different book covers services)
- output: data in a simple format (plaintext, HTML, JSON)

### Queries / Responses Examples:

What is the **title** of the book with ISBN 0-9776166-3-0?

Q: `http://localhost:3000/aleph/title?isbn=0-9776166-3-0`  
R: Agile web development with rails

Who is the **author** of the book with system number 000670373?

Q: `http://localhost:3000/aleph/author?sysno=000670373`  
R: Knuth, Donald Ervin,

What are the **subject headings** terms (psh) for journal with ISSN 0028-0836?

Q: `http://localhost:3000/aleph/psh?issn=0028-0836&call=json`  
R: {"psh": ["natural sciences", "science", "nature and evolution", "medicine"]}

Does the journal with ISSN 0028-0836 have any **fulltext services** in SFX?

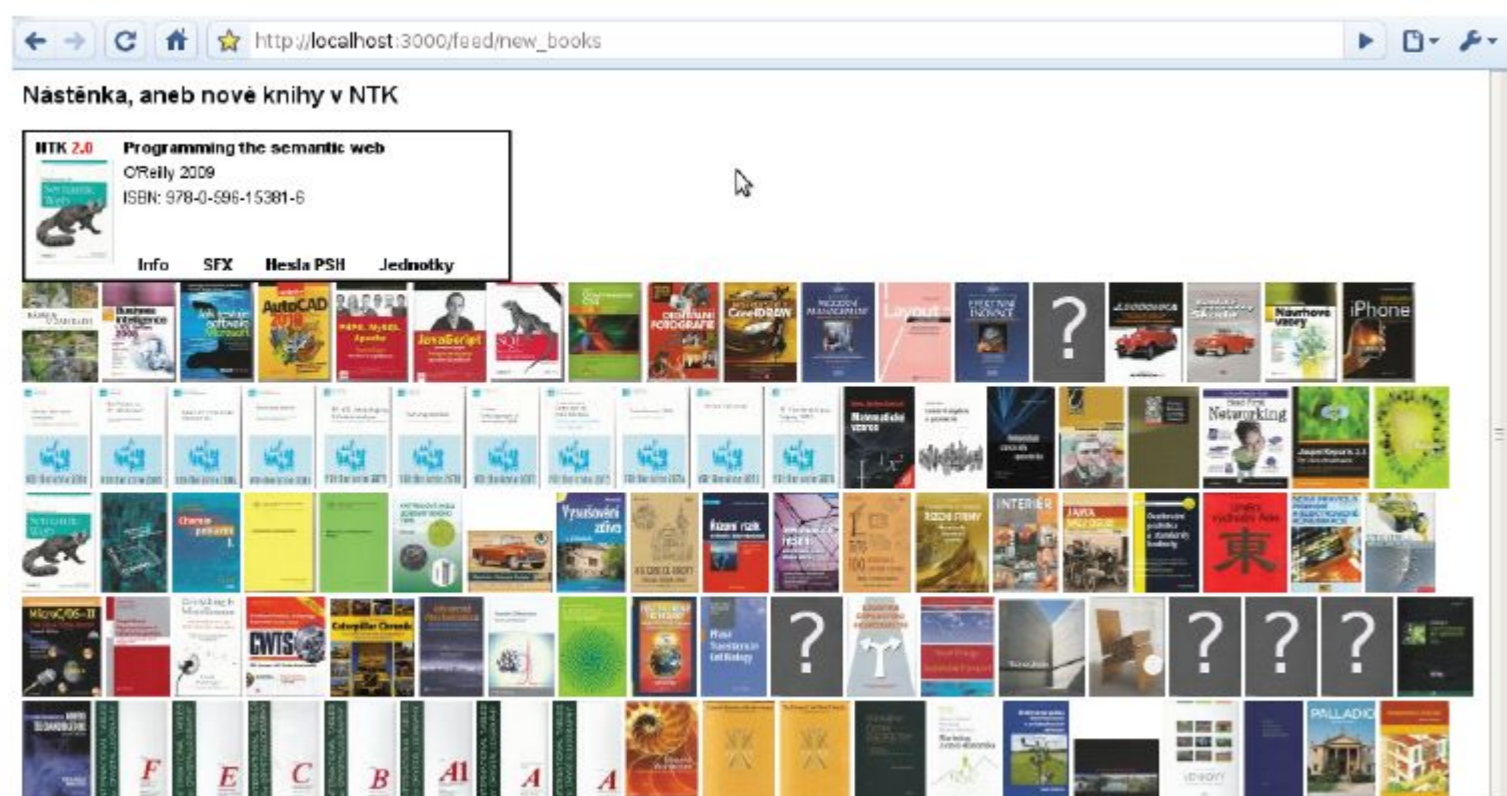
Q: `http://localhost:3000/sfx/getFullTxt?issn=0028-0836&call=json`  
R: {"fullTxt": [{"name": "EBSCOhost Academic Search Complete", "link": "https://ezproxy.techlib.cz/login?url=http://search.ebscohost.com/direct.asp?db=a9h&jn=NAE&scope=site"}, {"name": "Free E- Journals", "link": "http://digital.library.wisc.edu/1711.d1/HISTSCITECH.NATURE"}]}

Do you have **cover image** for ISBN 978-0-201-89683-1?

Q: `http://data.ntkcz.cz:3000/cover/big?id=978-0-201-89683-1&type=isbn&call=html`  
R: `<a href=""></a>`

Do you have any **holdings** available for ISBN 978-80-247-1116-4 ?

Q: `http://data.ntkcz.cz:3000/aleph/circ?isbn=978-80-247-1116-4&call=json`  
R: {"circ\_status": [{"loan\_status": "Regular loan I", "due\_date": "On Shelf", "collection": "6th floor, shelf 6D/045"}, {"loan\_status": "Regular loan I", "due\_date": "On Shelf", "collection": "6th floor, shelf 6D/045"}, {"loan\_status": "Regular loan I", "due\_date": "14/09/11", "collection": "6th floor, shelf 6D/045"}]}



Picture 2: NTK's New books RSS feed (generated in Aleph) can be displayed this way. After clicking on a cover image, more detailed informations are fetched and provided to the user.

## Conclusion

### Advantages

Data are easily available.  
Data can be provided in a very simple format and thus it is easy to process them.  
Data can be integrated into other webpages (OPAC, e-learning sites, information systems)  
It is not necessary understand Aleph/SFX APIs but data can be used anyway.

## Background

It is not always necessary for users to visit the library's OPAC when they need some basic information about a book or journal. Title, author, subject headings or accessibility is the information which can be viewed quickly and often it is all what OPAC is expected to provide. Assuming we have an identifier, there are actually a few options how to provide the information to the users. Hard links to OPACs seem to be quite complicated and they make the users leave the page they are visiting. SFX can help but SFX Menu provides mainly links not information.

How else can be the data for the user's 'first look' provided? The best way would be to pick them from systems where they actually are and to display them (for example using JavaScript code). There are some existing ways how to get the data, but for example Aleph APIs are better suited to interoperability than to providing the data itself. Used XML formats are quite complex and it is almost necessary to have access not only to API itself but also to the documentation.

The main idea of this work is to

- use data from existing APIs
- modify them on the server and to publish them in a simple format
- build applications / use the data in this simple format

## Client side

There are several possible usage scenarios – data can be processed by JavaScript in web browsers (as described in this poster) but also by servers (eg. using PHP, Perl, ASP..) for example for OPAC enhancements.

### JavaScript Demo

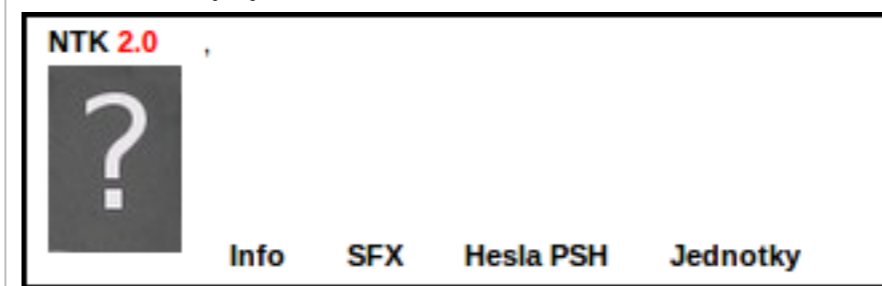
Demo application gets data from Single API and displays them on any webpage.

It is not necessary to fetch the data which are not displayed.

Asynchronous JavaScript is used – there is no delay between getting the results and displaying them.

### How does it work?

At first empty frame is created.



Data are fetched from Single API – identifier is given to JavaScript as an argument (ISSN, ISBN, system number). (Using of queries is described in „Server Side“ Section)  
Data are filled into right places in the frame.

There are 4 tabs in demo application: **Info, SFX, PSH Headings, Holdings**

### Info

Displays basic information – Title, Author, Publisher, Year, ISBN, system number



### SFX

Displays selected services from SFX menu (max. 4 items) – getFullTxt, getAbstract, getTOC, getHolding

All links are active – same as in SFX menu.

Link to SFX instance is also created.



In this case SFX links to:

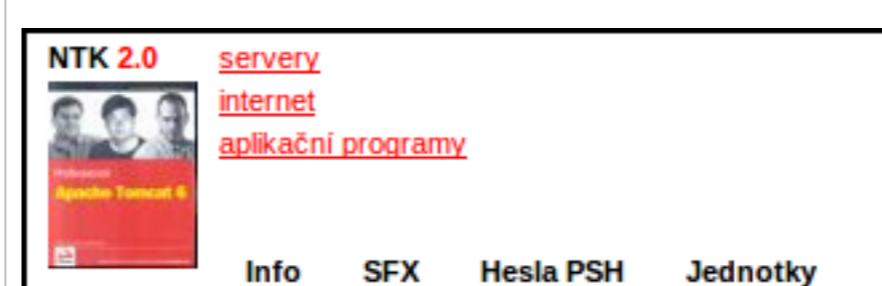
- library's OPAC,
  - OCLC WorldCat Service
  - library's Metalib set for searching in other technical libraries
- Link to SFX (button) is displayed in the top right corner.

### PSH Headings („Hesla PSH“)

Displays subject headings from bibliographic record.

National Technical Library subject heading system PSH (Polythematic Structured Subject Heading System) is used in bibliographic records.

Headings are linked to specialized subject headings search interface.

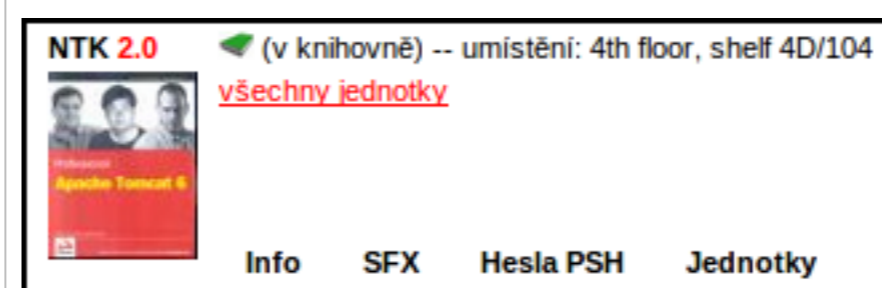


There are three subject headings in library's Aleph bibliographic record.

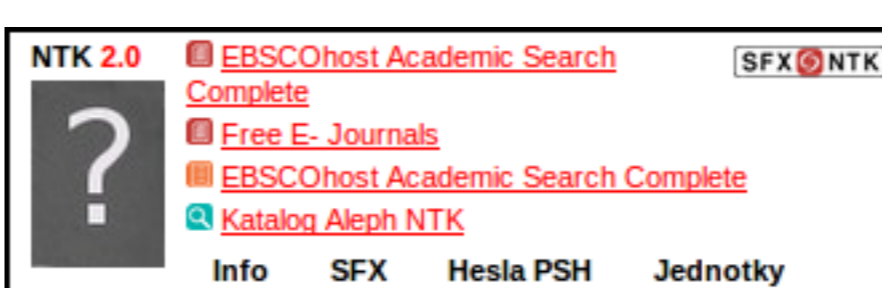
### Holdings („Jednotky“)

Displays information about holdings availability (max 4 items)

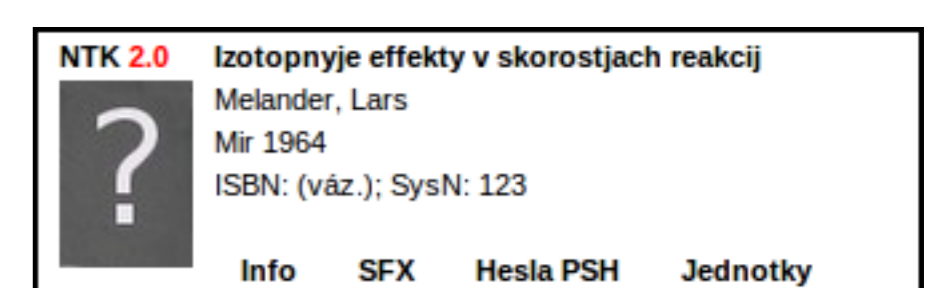
Also creates link („všechny jednotky“) to Aleph page with holdings for this document.



There is one copy of the book in the library – it is currently available and located on shelf 4D/104.



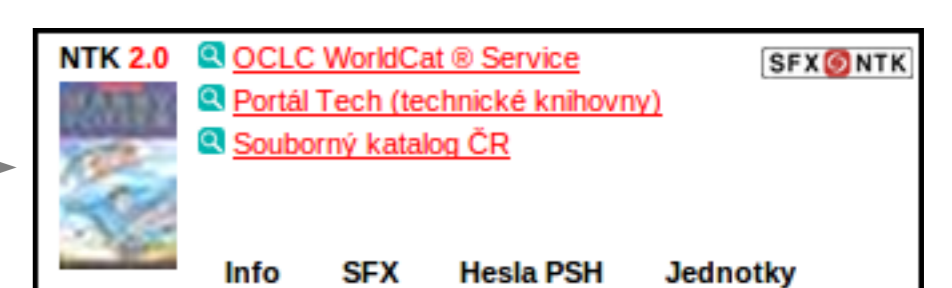
SFX services for the journal Nature.



There is no valid ISBN in the record. In this case Aleph system number is used.



There is no bibliographic record for this book in our ILS...



... but it is still possible to provide some useful links using SFX – in this case WorldCat Service and the Union Catalogue of Czech Republic.

Picture 3: Several more examples of JavaScript Demo behaviour.

### Disadvantages

It is not always sure which data will be returned.  
One more server on the way between the systems and user.