sabot – a Hub for Patent Resources

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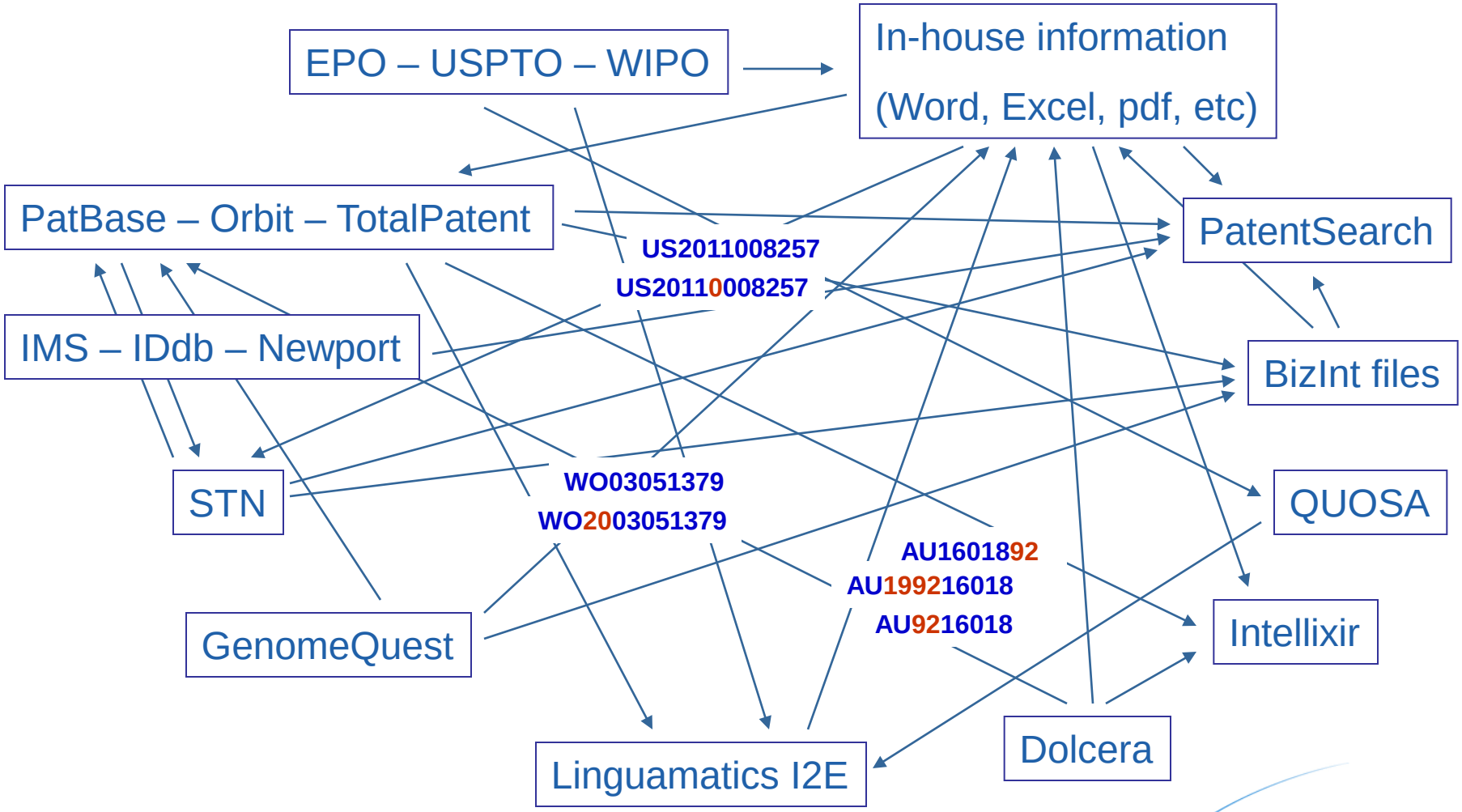
Introduction

- Patent information professionals want more information
- Perhaps even more urgently, we need more simplicity

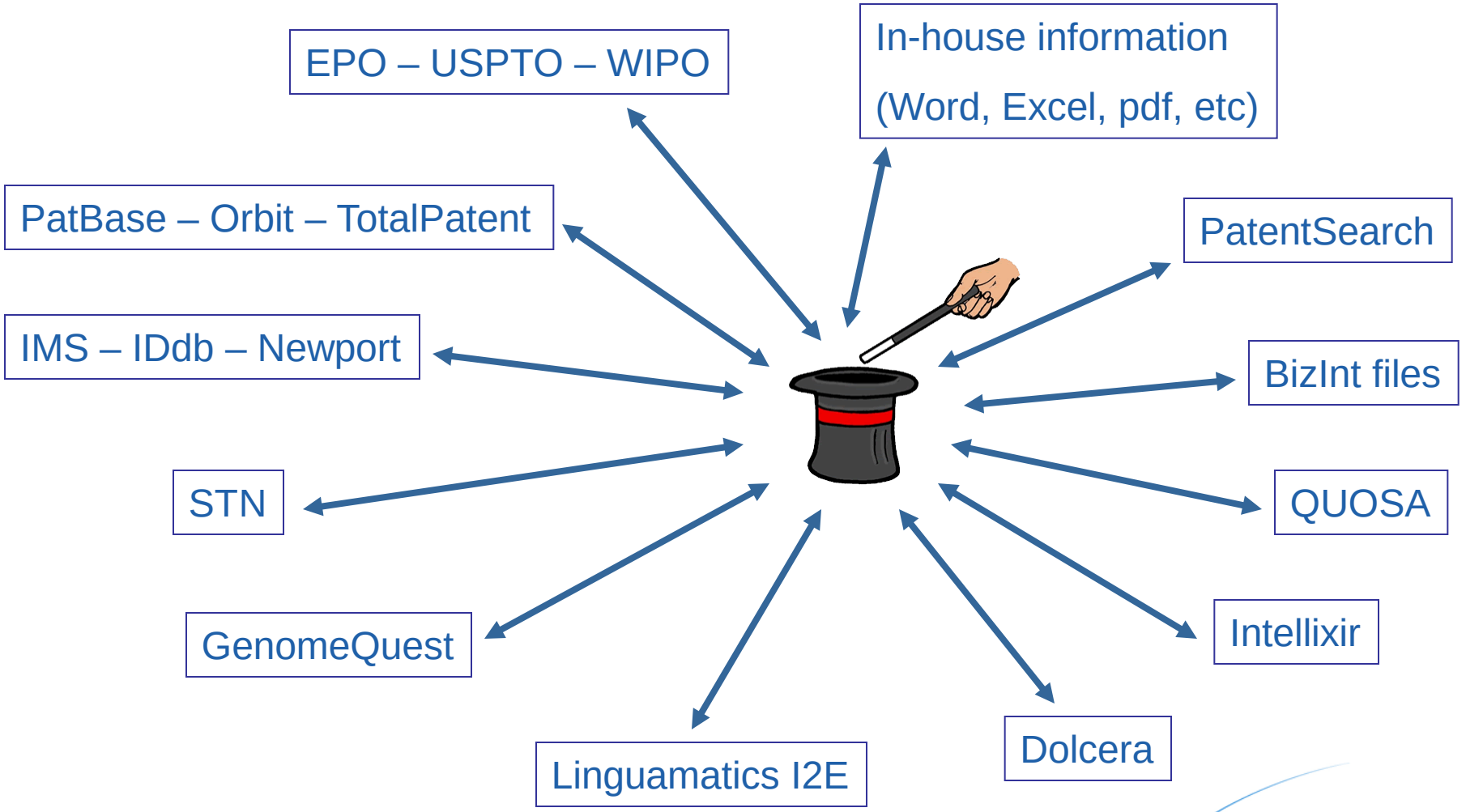
- This is work in progress: Please do not confuse
  - intended simplicity in organizing information
  - temporary “simplicity” (as in lack of features)

- Agenda
  - software concept and design
  - 3 specific examples of use

Complexity of Patent Resources



Simplicity of Patent Resources

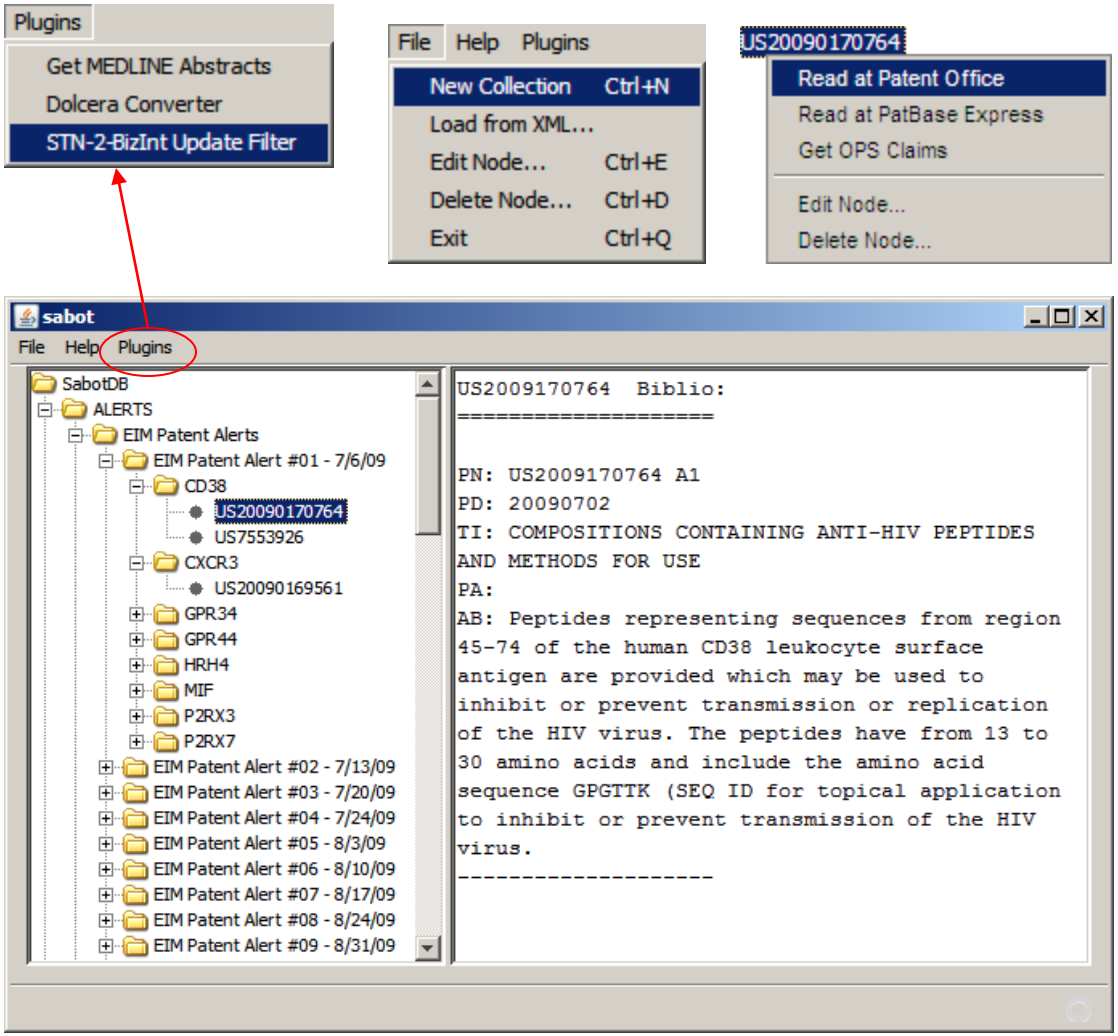


sabot Design

- sabot is a Java application, designed to facilitate rapid development and installation of data convertors as plugins
- sabot core infrastructure includes:
  - Relational database (JavaDB a.k.a. Derby)
  - Easy access to Internet resources (REST, SOAP, browser)
  - Support for XML input and output
  - Properties file for user preferences, proxy address, etc.
- sabot core functionality can be accessed through:
  - application programming interface (API) – by plugins
  - graphical user interface (GUI) – interactively by users

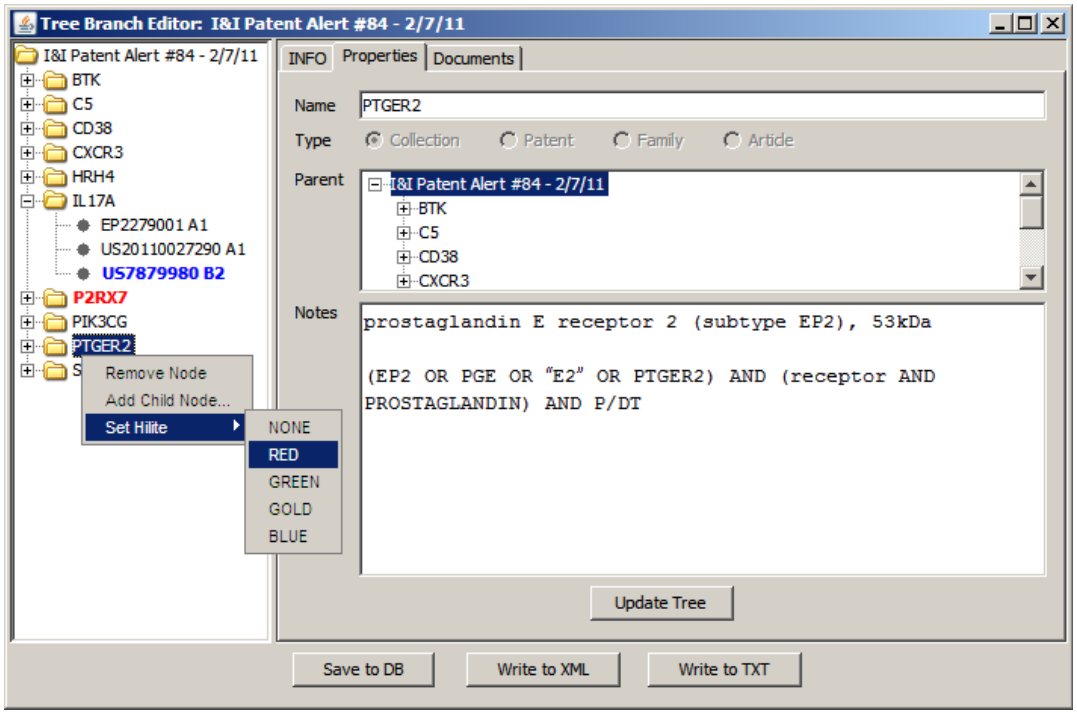
What’s a sabot?

sabot GUI: Main Application Window

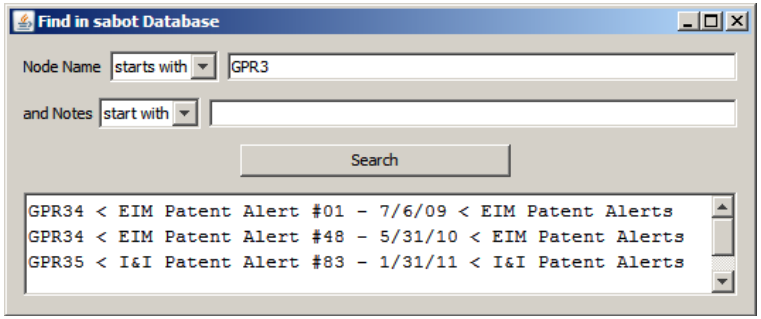


- **Database content as a tree or outline**
- **Information pane**
- **Plugins menu**
- **Other menus**
  - **Menu bar**
  - **Contextual (right-click)**

More sabot GUI to Play with

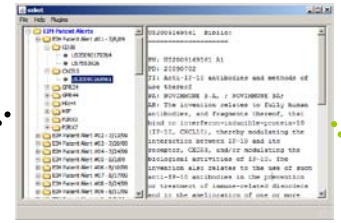


- ‘Tree Branch Editor’ gives the user full control over the data
- ‘Find in sabot Database’ dialog allows searching



Deployment: Distributed or Desktop App?

Company Intranet



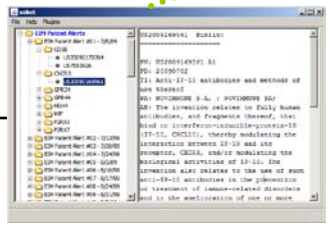
Database (Oracle) — Business Logic

- **Distributed Application**
  - Java WebStart, RMI, etc.
  - On-line collaboration
  - Professional administration
- **sabot is a Desktop Application**
  - Simplicity: unzip & click!
  - Full control over data
  - Can be re-deployed

XML

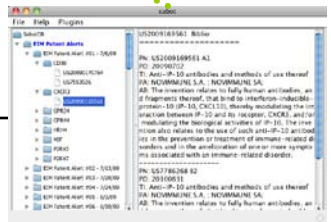
Windows Computer

Database (JavaDB) — Business Logic



Macintosh Computer

Database (JavaDB — Business Logic



Case Studies

- **Plugin: 'STN-2-BizInt Update Filter'**
  - Automation of the Weekly Patent Alerts
  - Regularly used for a year
- **Plugin: 'Dolcera Converter'**
  - Capturing Patent Landscaping data from a contractor
  - Testing the system with massive amount of data
- **Interactive Data Entry: 'BSI-201'**
  - An executive summary of multiple search reports
  - Some ideas for future development

Case Study 1: Weekly Alerts Workflow

- Weekly alerts run in CAplus on STN with 40 queries
- Results received by STN email
- Over 100 CAplus patent families captured in RTF transcript with graphics
- STN transcript analyzed in BizInt Smart Charts:
  - Is the recent publication from US, EP or WO?
  - Is this publication really relevant?
  - Remove duplicates and previously reported patents
- Final report in PDF format: 10-20 publications with links to PDF copies of the original documents
- Very tedious task to do manually!

Case Study 1: Weekly Alerts - Documents

```
SDI REQUEST 'CXCR5CA/S'
MEMBER OF MFILE SDI REQ 'CXCR5/S'
CHEMOKINE (C_X_C MOTIF) RECEPTOR 5
RUN # 003 - JAN 21, 2011

1 ANSWERS PRINTED IN FORMAT 'IBIB ABS'
IN FILE 'CAPLUS'
USING QUERY:
L1            QUE  (CXCR5 OR BLR1 OR CD185 OR MDR15 OR MGC117347) AND (CHEMOK
                   INE AND RECEPTOR) AND P/DT
L2           1 SEA FILE=CAPLUS L1 AND 20110114-20110120/UPP


ENTER (NEXT), PREVIOUS, ANSWER NUMBER, ENTIRE, OR END:entire


L2   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER:       2004:80231  CAPLUS  Full-text
DOCUMENT NUMBER:        140:139540
TITLE:                   Compositions and methods for detecting and treating
                        diseases and conditions related to chemokine
                        receptors
INVENTOR(S):             Burns, Jennifer M.; Miao, Zhenhua; Wei, Zheng; Howard,
                        Maureen C.; Premack, Brett A.; Schall, Thomas J.
PATENT ASSIGNEE(S):      ChemoCentryx Inc., USA
SOURCE:                  U.S. Pat. Appl. Publ., 45 pp., Cont.-in-part of U.S.
                        Ser. No. 245,850.
                        CODEN: USXXCO
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  7
PATENT INFORMATION:

    PATENT NO.         KIND   DATE       APPLICATION NO.       DATE
    ---------------    ----   --------   --------------------  --------
    US 20040018563      A1    20040129   US 2003-452015        20030530
    US 7413866          B2    20080819
    US 20030124628      A1    20030703   US 2002-245850        20020916
    US 7442512          B2    20081028
    AT 310955           T     20051215   AT 2002-256808        20020930
    US 20040170634      A1    20040902   US 2003-698541        20031030
    US 7253007          B2    20070807
    WO 2004108887       A2    20041216   WO 2004-US16815       20040528
    WO 2004108887       A3    20060105
        W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
            CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
            GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
            LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
            NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
            TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
            AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
            EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
            SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
            SN, TD, TG
    US 20050074826      A1    20050407   US 2004-912638        20040804 <--
    US 7871619          B2    20110118
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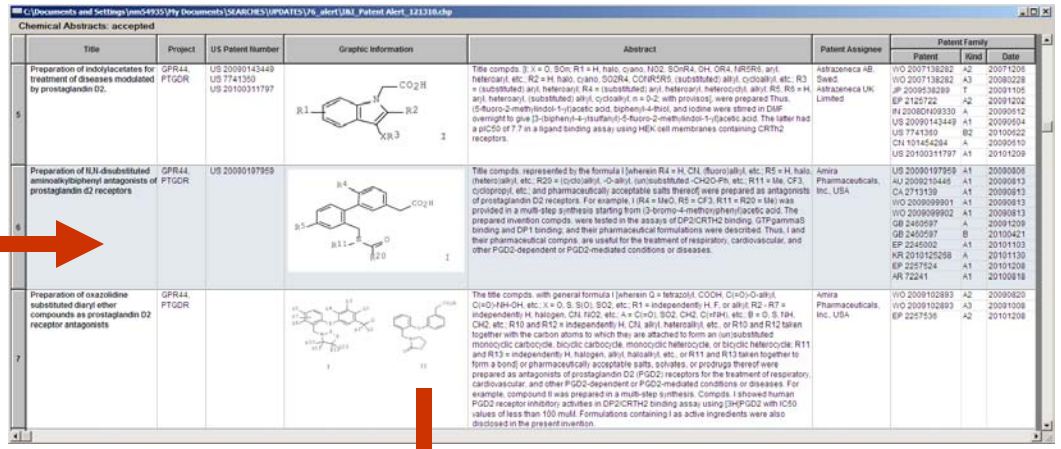
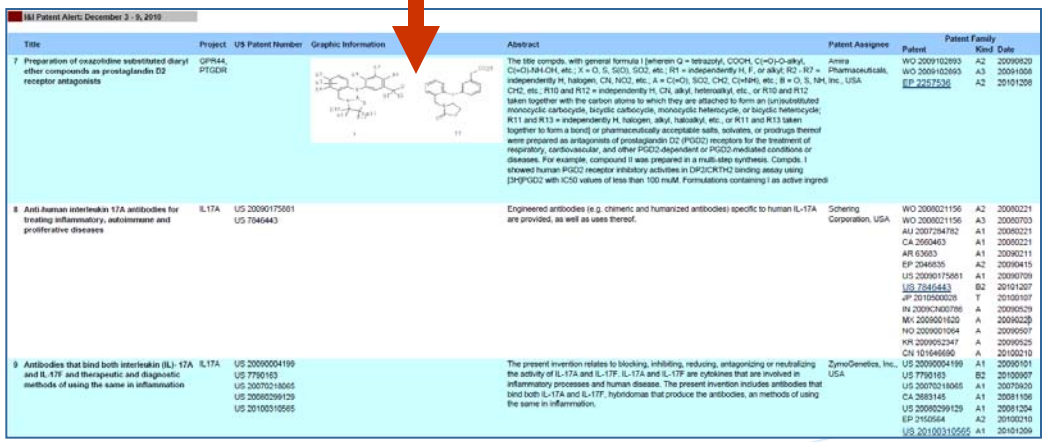
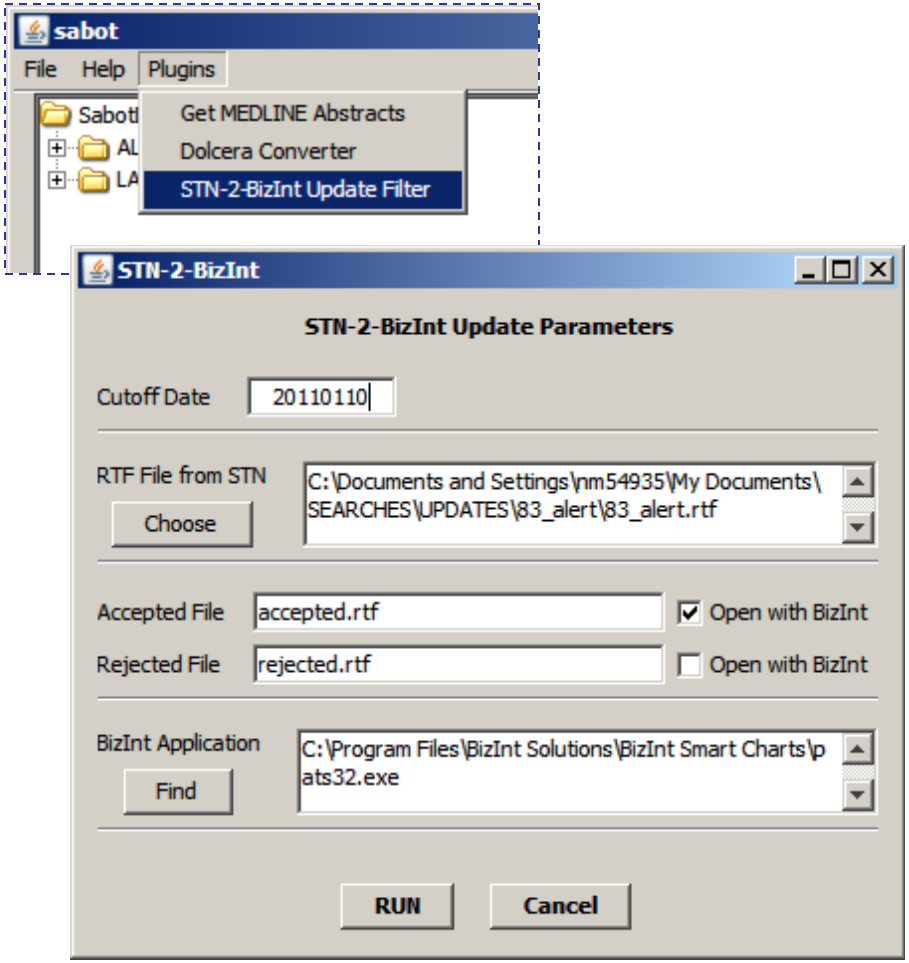


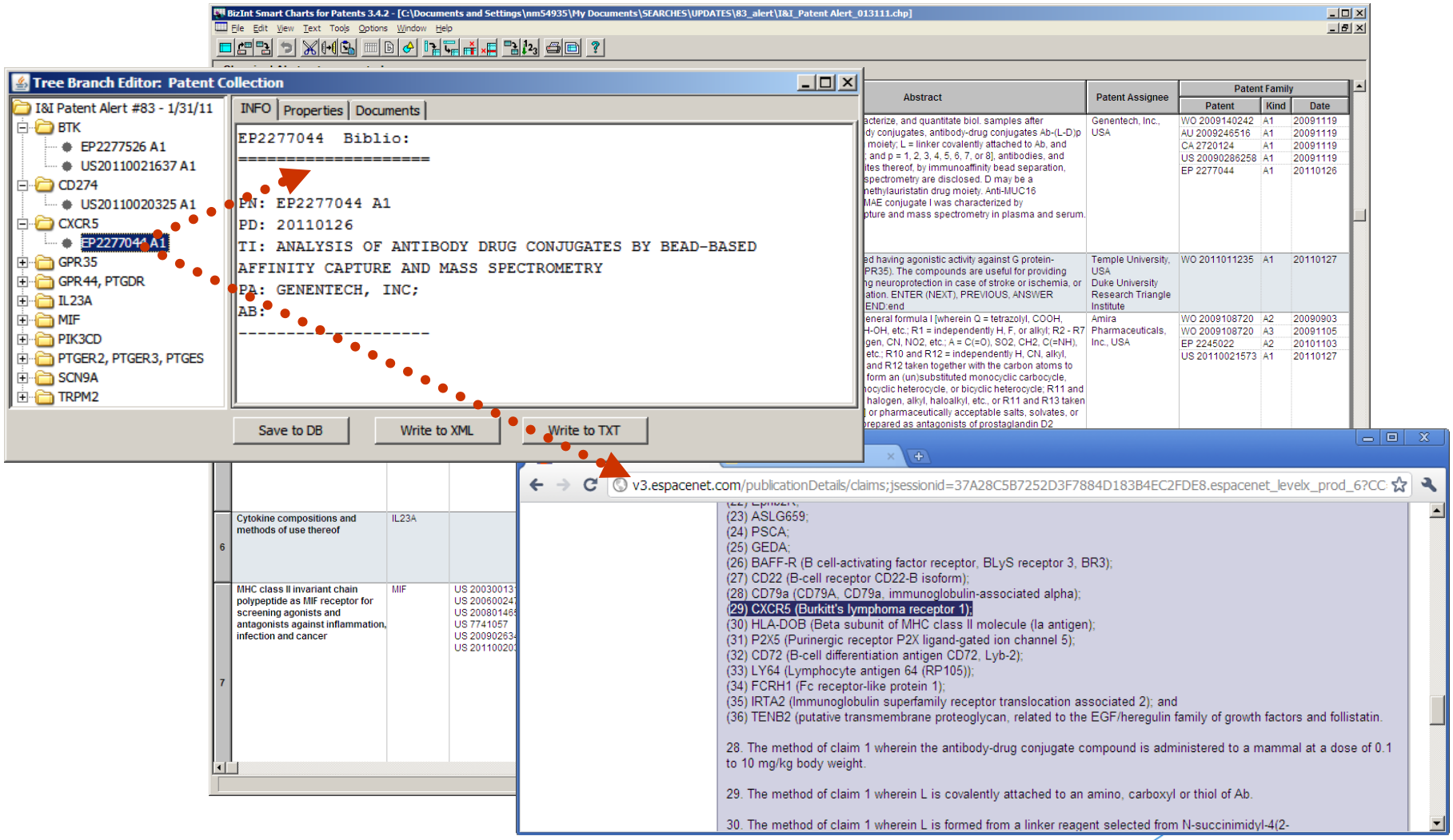


Case Study 1: ‘STN-2-BizInt’ Plugin

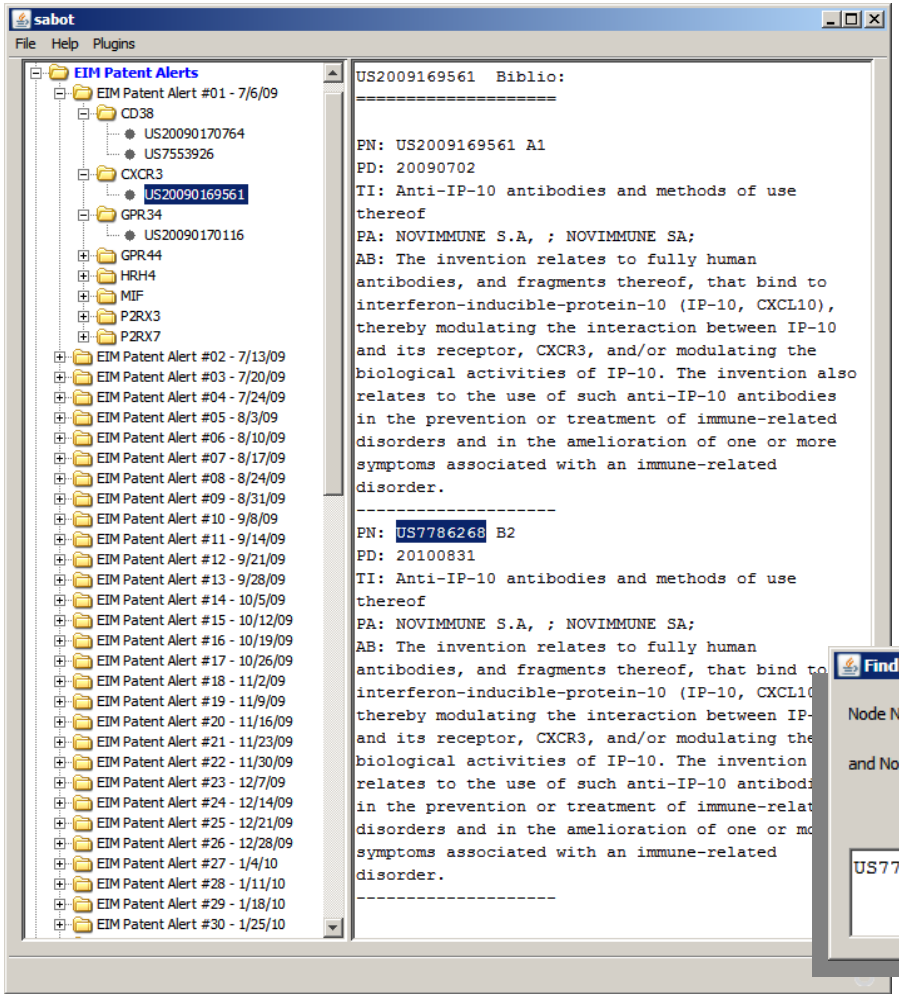


- Parameters of the last run, retrieved from properties file
  - Cutoff date
  - STN RTF transcript file
  - Output file names
  - Open them in BizInt?
- When launched, the plugin
  - Extracts the US, EP and WO documents published after the cutoff date
  - Writes their families – annotated with the project name – to a new RTF file
  - Optionally opens the file with BizInt Smart Charts
  - Displays the documents in Tree Branch Editor for easy lookup

Case Study 1: ‘STN-2-BizInt’ Plugin Simplifies Patent Analysis



Case Study 1: 'STN-2-BizInt' Plugin – Archiving Patent Alerts



- Publication numbers from all alerts are maintained in the database
- Bibliography (EPO) with full publication cycle allows easy update of the legal status
- Yes, we did report the granted patent!

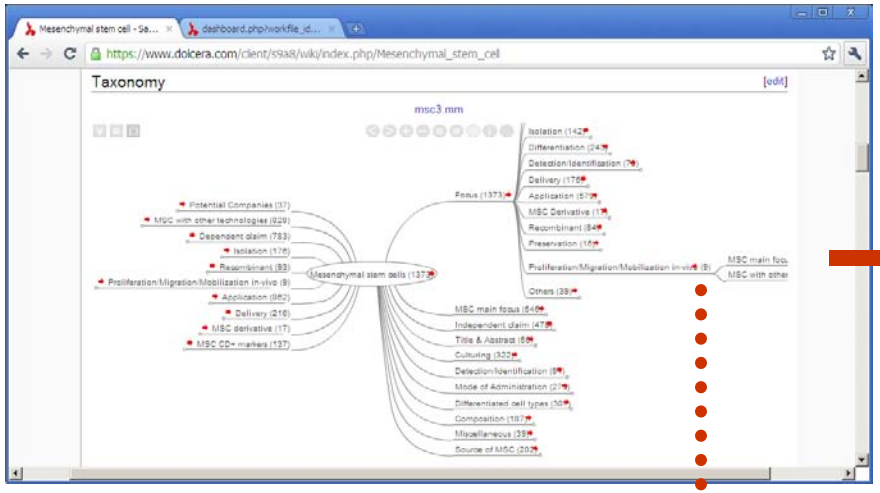
Case Study 2: Patent Landscaping

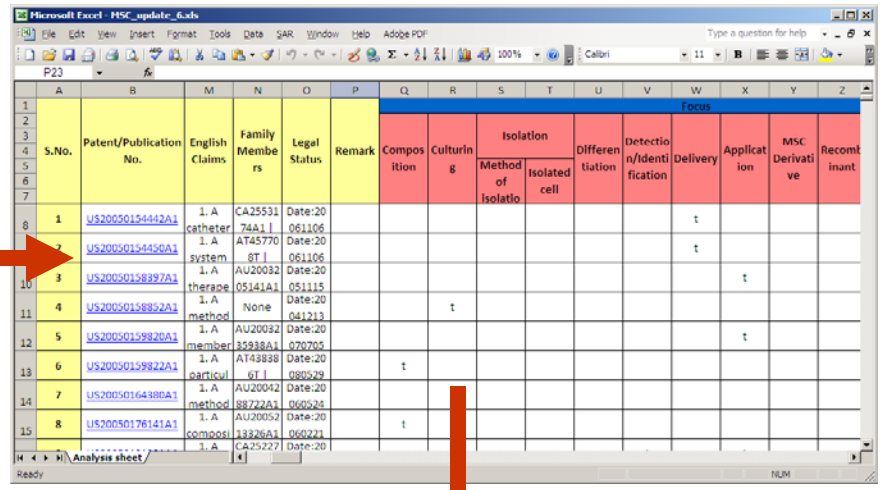
Dolcera's Patent Landscape maps out **past and present IP activity** of various big and small players in the broad-spectrum of **any technology**. A thorough analysis of patents and other scientific literature by our SMEs is summarized in a **white space analysis**, a strategic tool to identify technology gaps. It also features a deep dive analysis of **competitors' area of work**. The landscape also includes **interactive widgets** with easy-to-understand analyses.

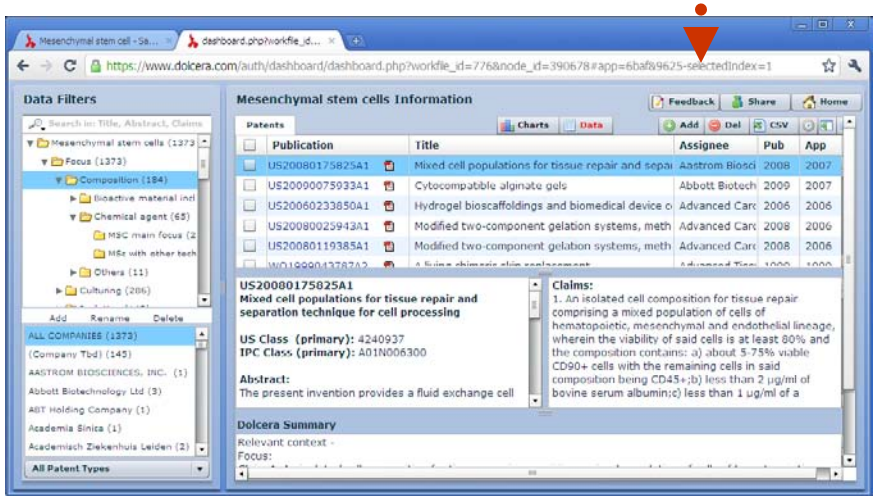
INTELLIXIR System is a hosted and secure web application allowing its users to **analyze references** of patents and non-patent literature exported from commercial or private databases. **Statistical measures are graphically represented** through dynamic and interactive web pages.

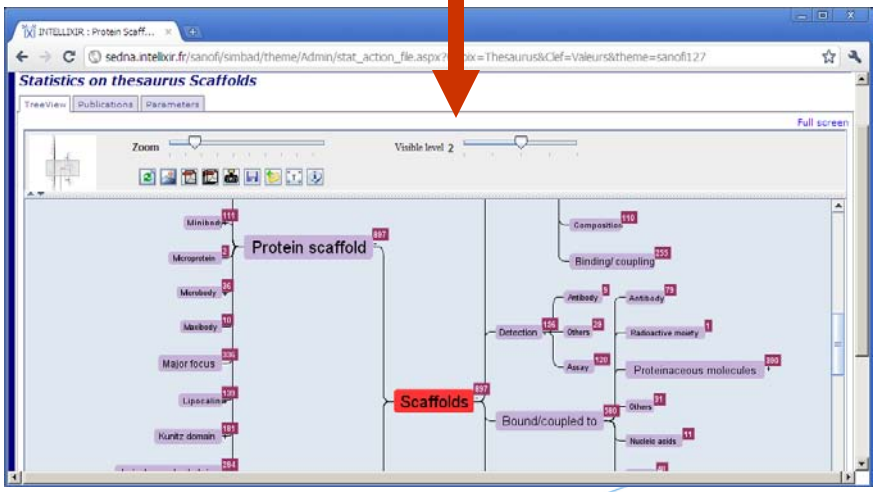
- **We want to archive and annotate Dolcera's data, but transferring it to Intellixir has proved very difficult to arrange.**
- **Could sabot help?**

Case Study 2: Patent Landscaping – Documents

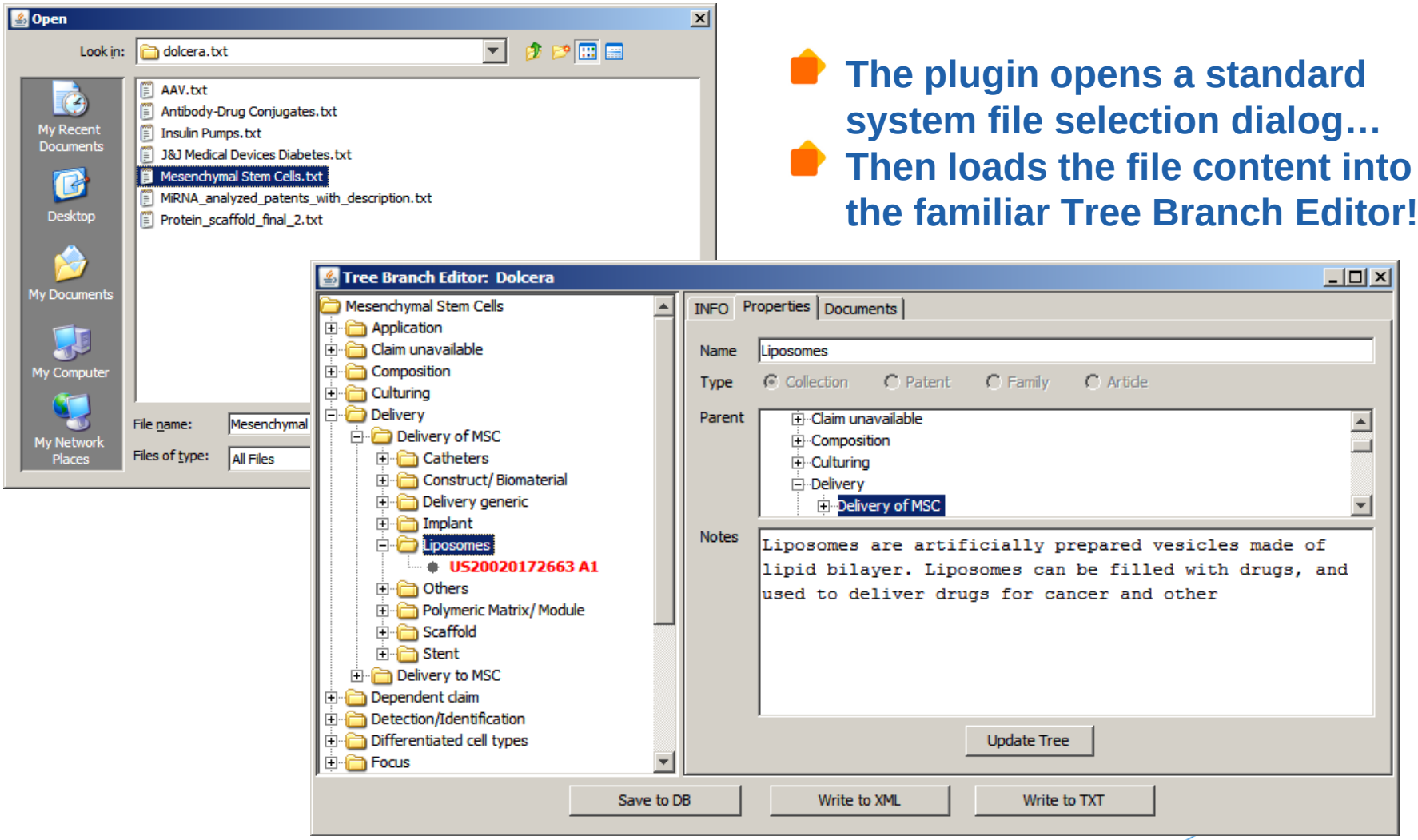








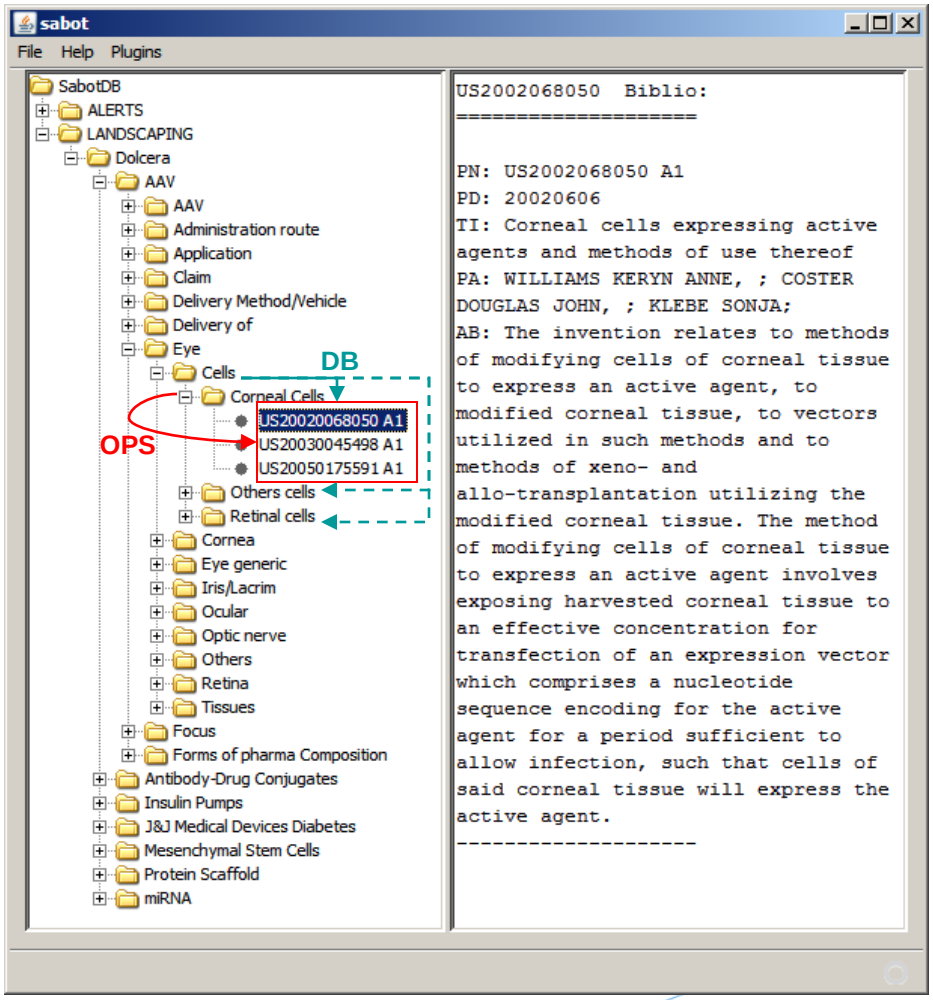
Case Study 2: 'Dolcera Converter' Plugin – Point and Edit



- The plugin opens a standard system file selection dialog…
- Then loads the file content into the familiar Tree Branch Editor!

Case Study 2: 'Dolcera Converter' Plugin – Sometimes Lazy Works Better

- Building a full tree from 40,000 database records took over a minute
- Lazy loading dramatically improves performance, making it feel instantaneous
- When user unfolds a node:
  - "Grandchildren" nodes are loaded from the database – so we see if "children" have their own "children"
  - If "children" nodes are patents, a thread pool is started to fetch their bibliographic data from the Open Patent Services at EPO

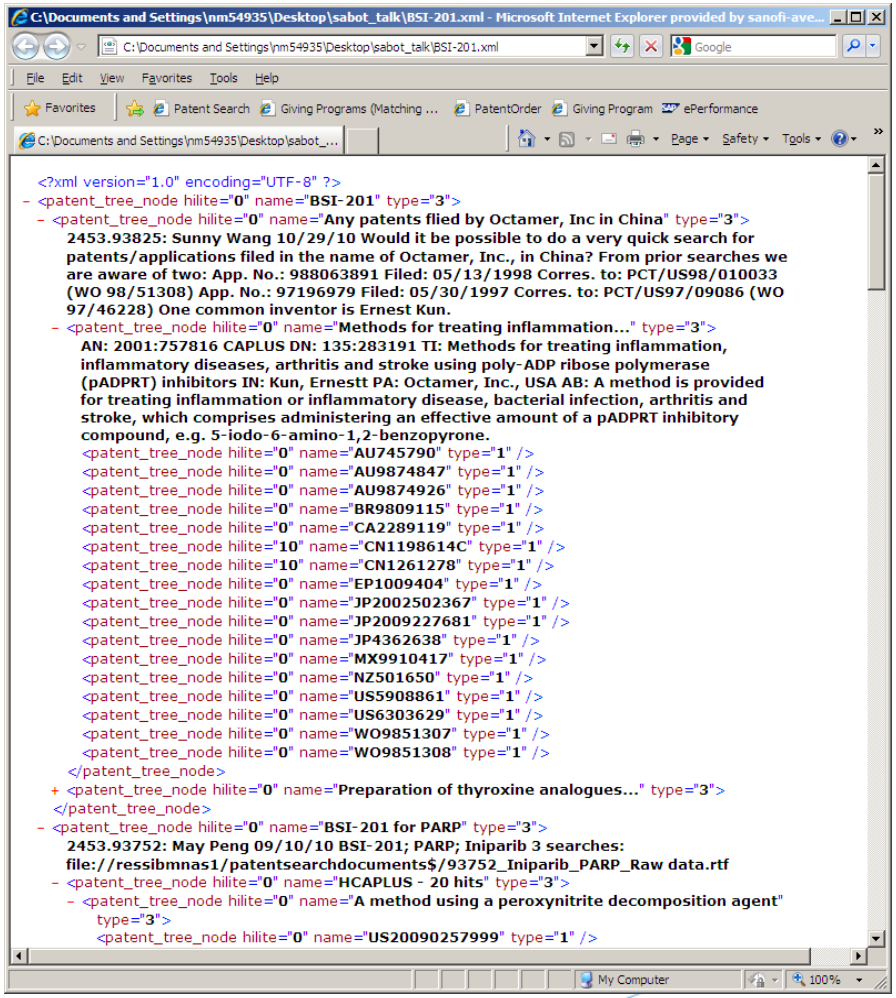


Case Study 3: ‘BSI-201’ Searches Summary

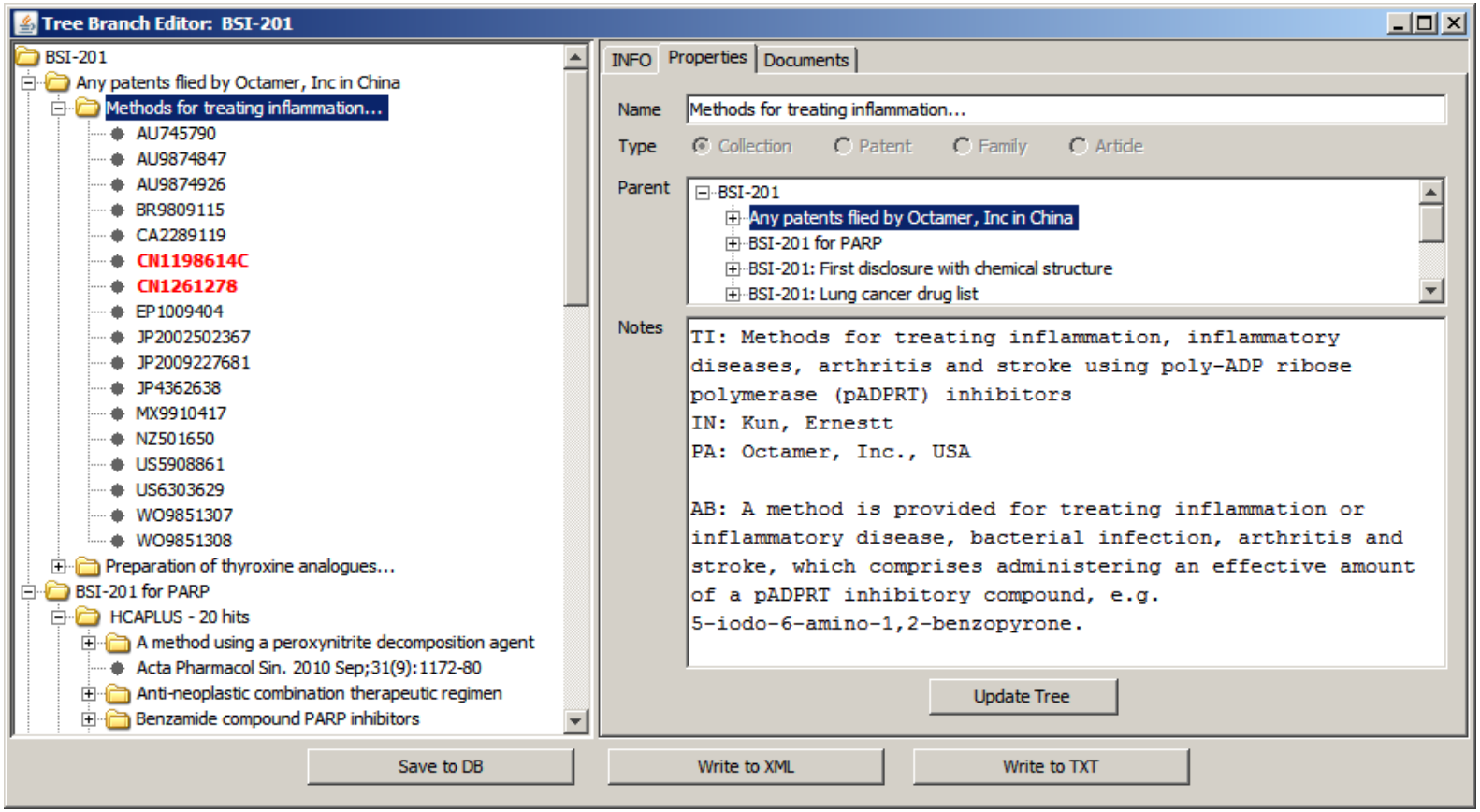
- Could we use sabot to provide patent attorneys with an executive summary of a search project in a user-friendly format?

Case Study 3: 'BSI-201' Searches Summary – Computer-Friendly Format

- 'BSI-201' project: 8 separate searches, reported in several documents each
- Reports retrieved from internal database
- Used to interactively create a new patent collection in sabot Tree Branch Editor
- The whole collection was saved as an XML file



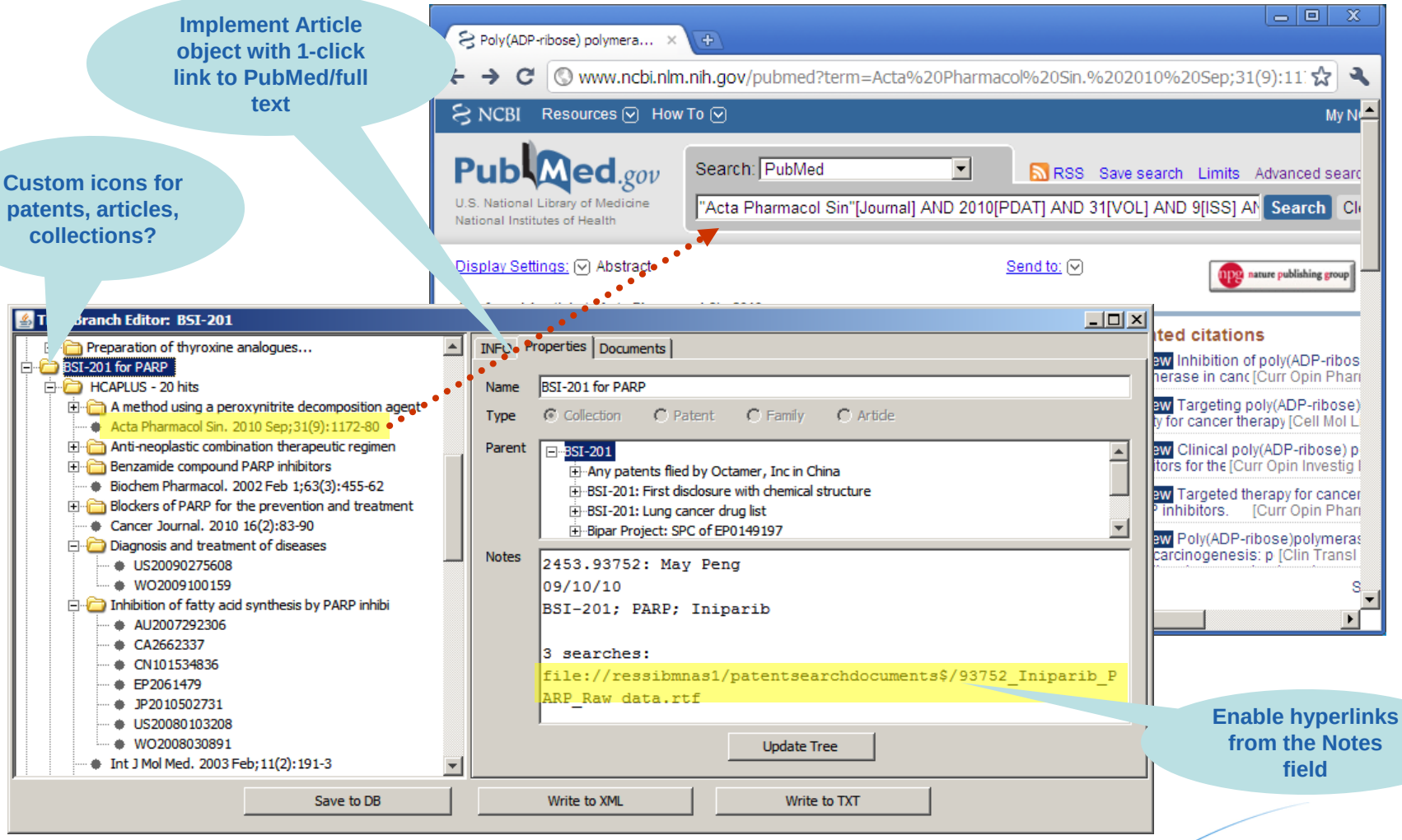
Case Study 3: 'BSI-201' Searches Summary – User-Friendly Format (Perhaps)



Case Study 3: sabot Core – Development Plans

Implement Article object with 1-click link to PubMed/full text

Custom icons for patents, articles, collections?



Enable hyperlinks from the Notes field

Conclusions: Complex Technology Enables Simple Solutions

- **Data Format Convertors**
  - **Can be developed easier, faster, and more efficiently as plugins using sabot core infrastructure**
  - **Could encourage vendors to focus on their strengths, rather than labor on export/import options compatible with other platforms**
- **sabot Graphical User Interface**
  - **Allows archiving, in the relational database and in XML files**
    - Data processed by plugins
    - Data entered interactively in GUI
  - **Allows organization, annotation and display of patent-related information**
- **Constantly updated high-quality data is available on the Internet – often it makes more sense to efficiently manage hyperlinks than to store the data locally**

THANK YOU FOR YOUR ATTENTION

- Special thanks to
  - Sunny Wang for advice and encouragement
  - Mei Peng for beta testing
- Please let me know if you would like to see a demo during the break
- I will appreciate all questions, comments and suggestions

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