THE NATIONAL LIBRARY OF FINLAND

Building next generation consortium services

Part 3: The National Metadata Repository, Discovery Service Finna, and the New Library System

Kristiina Hormia-Poutanen, Director of Library Network Services in Finland
CBUC Barcelona 12.4.2013

THE NATIONAL LIBRARY OF FINLAND

Agenda

- The National Metadata Repository project
- The New Library System
- National digital library user interface, FINNA
  - Administrator Interface
  - Benefits of the National Digital Library to the society
  - Finna demo

THE NATIONAL LIBRARY OF FINLAND

The National Metadata Repository project – a joint database for all library sectors in Finland

NATIONAL LIBRARY NETWORK SERVICES

THE NATIONAL LIBRARY OF FINLAND

National Metadata Repository –project 2008-2015

- Project will create a **joint database** for all library sectors in Finland
- The Repository is based on LINDA, which used to be the Union Catalogue of Finnish University Libraries, and which is maintained by the National Library
  - The development of LINDA dates all the way back to the 1970's
  - Currently it contains 5.6 million records - references on monographs, serials, cartographic materials, audiovisual materials, electronic resources and multimedia and archives
- National Metadata Repository uses Aleph, the local ILS is Voyager

1640
THE NATIONAL LIBRARY OF FINLAND

National Metadata Repository – sub projects

- **Authority database** (in Finnish and Swedish): Negotiations for joining VIAF are on the agenda and sharing name authorities with museums and archives has been discussed as well.
- **The Cataloguing tool** will be an in-house built cataloguing client, which will eliminate the need for using two different clients in participating libraries.
- **Harmonisation of the bibliographical cataloguing** will ensure that the data in the repository is interoperable. At the moment the format used in the repository is MARC 21 and the cataloguing rules applied are ISBD Consolidated, but we are also making preparations for future developments, such as RDA.

System details

- At present the Metadata Repository uses the library system Aleph (by ExLibris) and the participating libraries' local databases are using Voyager (also by ExLibris).
- Records are catalogued in the repository and then replicated to local databases according to specific filtering rules.
- The expansion to cover all library sectors will bring more library systems into the structure.
- In the future the operational environment of the Metadata Repository will most certainly differ from today's solution and therefore the concept is not constrained by any library system.

THE NATIONAL LIBRARY OF FINLAND

National Metadata Repository – current status

- Piloting with polytechnic libraries in 2012 and public libraries in 2012-2013
- Standards for joining the Metadata Repository and for cataloguing into it
  - “Tool box“ for new participants
  - Parameters and control for uploading new databases into the repository
  - Testing
- Polytechnic libraries will all be in production in 2014

1640
THE NATIONAL LIBRARY OF FINLAND

National Metadata Repository – outcome

- The project will substantially change the cataloguing processes in libraries
  - The National Metadata Repository will offer a new working environment for the production of bibliographic data
  - The National Metadata Repository will streamline the description process significantly: libraries can utilise the work made by others and the need for separate descriptions will decrease
  - As a centralised data pool The National Metadata Repository is the core of the Next Generation Library System, which is also being developed in Finland. The metadata contained in it can be presented for users via various public interfaces.

1640
THE NATIONAL LIBRARY OF FINLAND

The New Library System

NATIONAL LIBRARY NETWORK SERVICES

Why the New Library System, NLS?

- Current, integrated systems are outdated
- The processes at libraries have changed – to support the development of new processes systems must be flexible
- The systems are being developed at different times and the various modules have to be integrated with each other. Interoperability is very important

THE NATIONAL LIBRARY OF FINLAND

Guidelines steering the development

- Open Source
- Possibility to integrate the NLS to other national systems (eg. Finna)
- Use of existing knowledge
- Modular structure
- Cooperation with libraries

THE NATIONAL LIBRARY OF FINLAND

Modules

- NLS is based on several software modules that are integrated together
  - Modules collectively provide the complete functionality of the software
  - Modules can be added or changed without affecting the rest of the system

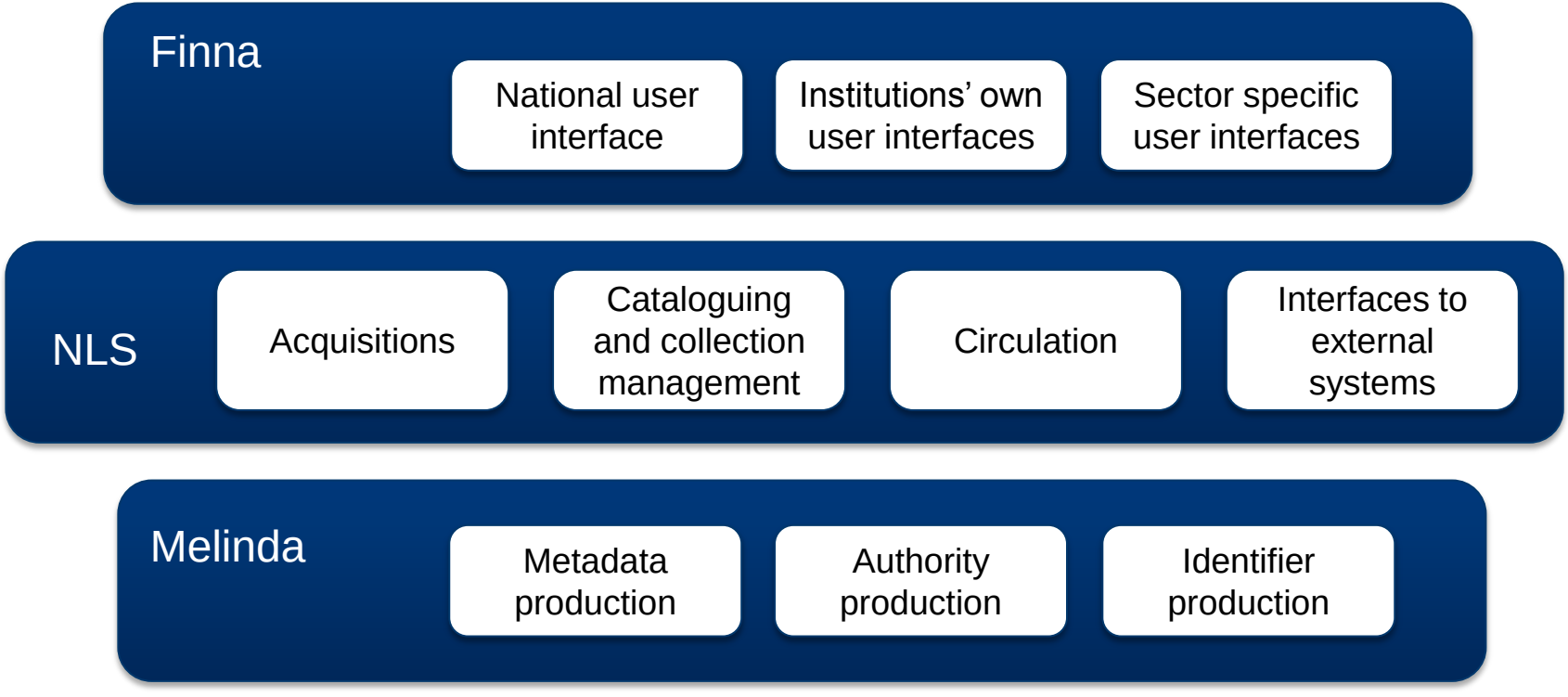
THE NATIONAL LIBRARY OF FINLAND

Modules

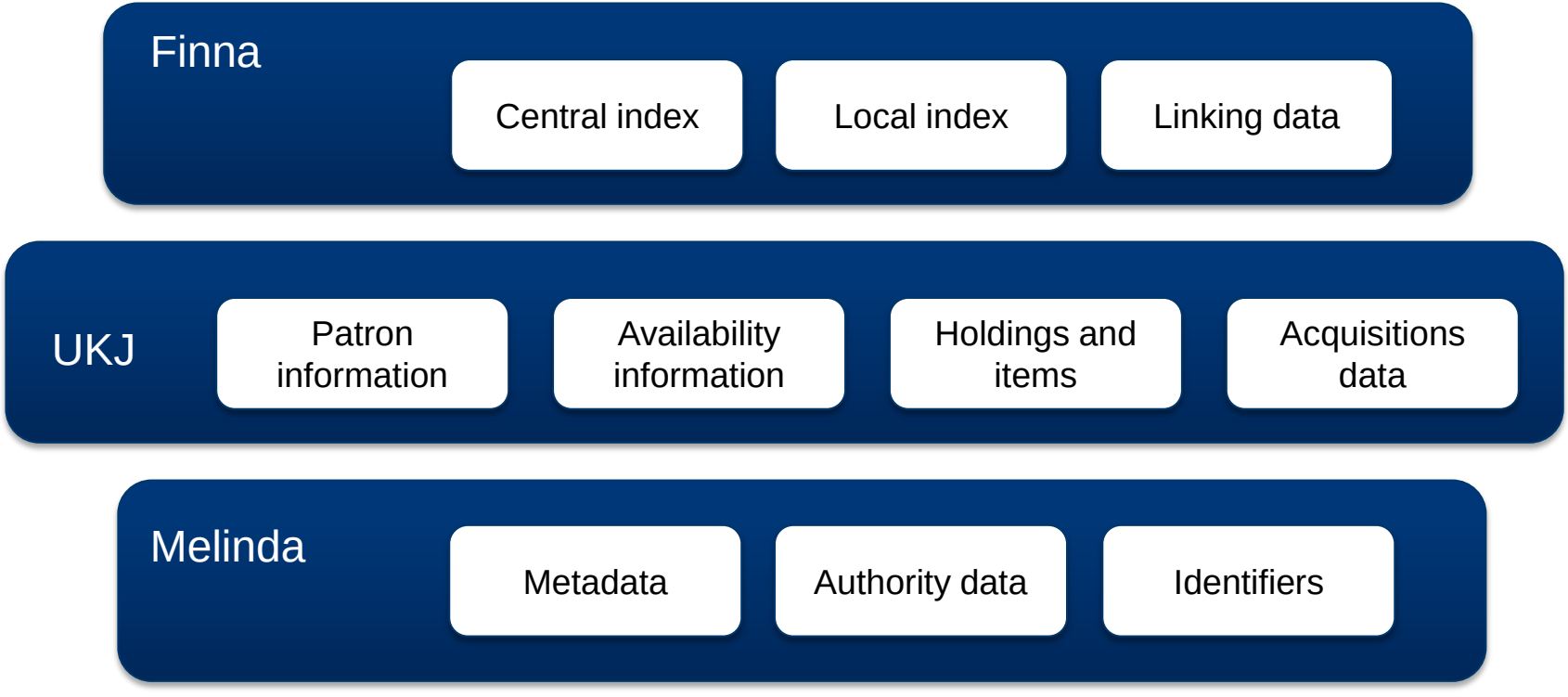
- Core modules
  - Circulation
    - Lending and returning materials, renewals, reservations, notifications etc.
  - Cataloguing and collection management
    - Bibliographic, holdings, item and authority records; collection management
  - Acquisitions
    - Printed/electronic monographs/serials, budgets, funds etc.
  - Interfaces to external systems
    - Ontologies and vocabularies, accounting systems, supplier and vendor systems etc.
- Joint databases
  - Bibliographic, collections, and patron databases and the like

THE NATIONAL LIBRARY OF FINLAND

Finna, Melinda and UKJ - functions



Finna, Melinda and UKJ - data



THE NATIONAL LIBRARY OF FINLAND

Finna, Melinda, NLS in the **near** future

Finna

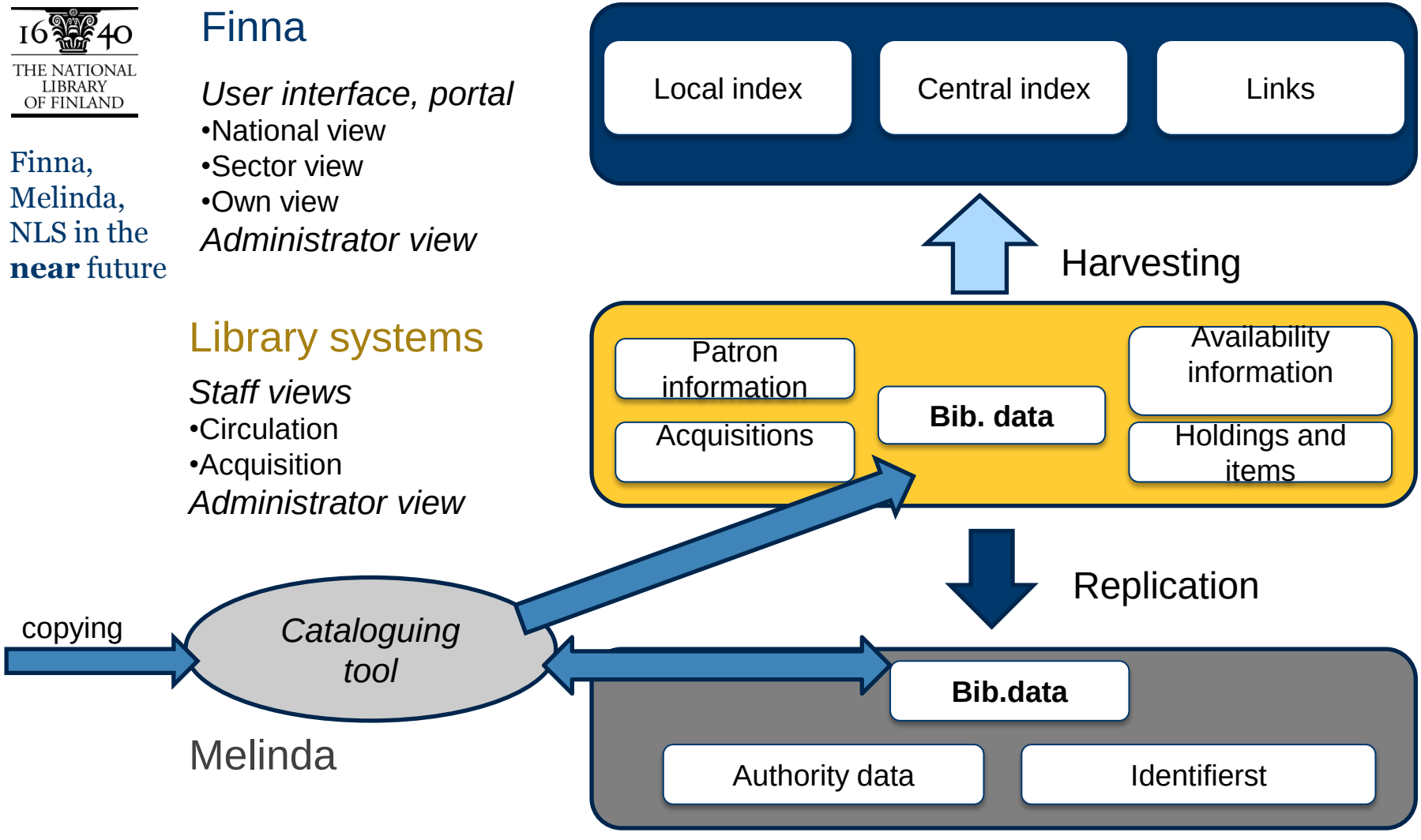
User interface, portal
- National view
- Sector view
- Own view

Administrator view

Library systems

Staff views
- Circulation
- Acquisition

Administrator view



Melinda

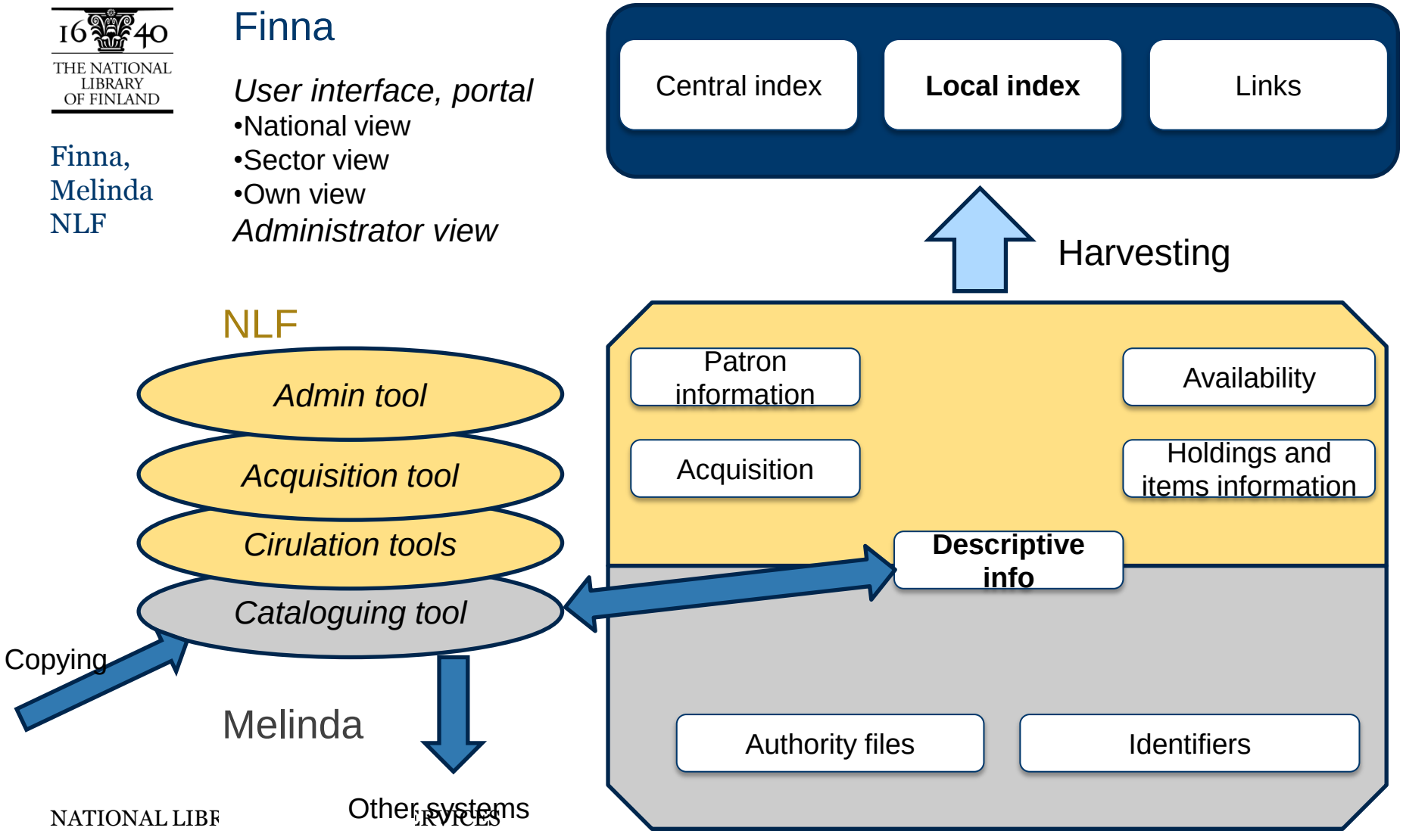
THE NATIONAL LIBRARY OF FINLAND

Finna, Melinda NLF

Finna

User interface, portal
- National view
- Sector view
- Own view

Administrator view



THE NATIONAL LIBRARY OF FINLAND

FINNA
From Closed Systems to Open Source Solutions

NATIONAL LIBRARY NETWORK SERVICES

National Digital Library of Finland

National Digital Library means:

- Common user interface Finna for the information resources of libraries, archives and museums (beta version in operation 2012).
- Digitisation of the most essential cultural heritage materials of libraries, archives and museums.
- Development of a long-term preservation solution for electronic cultural heritage materials (in planning phase).
- National Digital Library works as an aggregator for the European Digital Library Europeana.

THE NATIONAL LIBRARY OF FINLAND

Kansallinen digitaalinen kirjasto

The Public Interface FINNA

Users can:

- Search information from archive, library and museum systems and databases.
- Retrieve materials, such as pictures, documents, newspapers, research documents, video and audio recordings.
- Access digital services, such as renew loans, buy pictures and order documents.

One user interface, multiple end-user views and services:

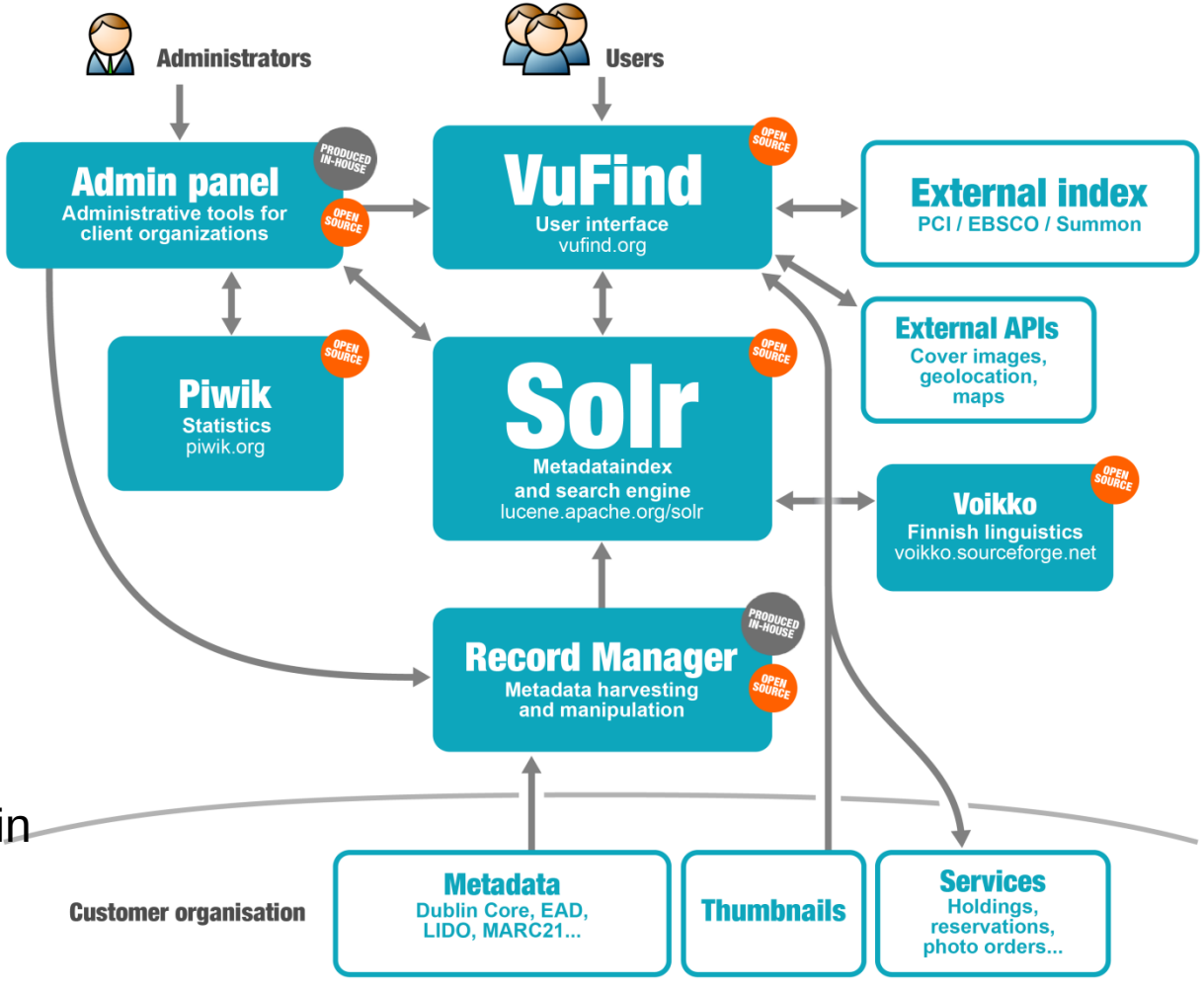
- National view for all content.
- Local and sector specific views (e.g. museums' view).
- Institutions' own views.

Software Architecture of Finna

- Finna is based on several software modules that are integrated together; therefore new modules can be added to the system if necessary
- Finna consists of two main parts:
  - End users' national interface or portal
  - Archives', libraries', and museums' administrator tools
- Main modules of the Finna system are:
  - End users' interface based on VuFind
  - Administrator panel for organisations, customisation and statistics (own production based on Zend)
  - Search engine Solr
  - Metadata harvesting and processing module RecordManager (own production, Formula)
  - Finnish linguistics module Voikko
  - External index and external APIs

THE NATIONAL LIBRARY OF FINLAND

- VuFind's role as the user interface is central.
- Admin panel handles statistics and upkeep.
- More functionality and modules can be added in the future.
- Finna's demo: www.finna.fi



The Drivers of Open Source Software

(World Information Technology and Services Alliance, WITSA)

- The advent of the Internet:
  - One driver of open source development is the availability of the modern Internet to serve as a mechanism for the growth in open source development communities that are necessary for successful development and continued improvements in the programs.
- Software license cost:
  - There is a perception that open source software products cost less than products developed by companies following a closed source software development model. Both software development models are in flux today as each works to serve the needs of customers by focusing on different pricing models; licensing is only part of the total value equation.
- Flexibility:
  - Supporters frequently argue that because the source code is viewable to all, the underlying technology can be used in many innovative ways, offering a flexible platform to meet present and future software needs.
- Global innovation:
  - With many more developers able to view the source code, supporters argue that the pace of innovation is greater as the barriers to software modification are lower.
- Security:
  - Source code transparency is argued to promote more secure software because a wider group of people may inspect the software for flaws.
- Customer involvement:
  - Supporters suggest that open source development models may provide more opportunities for customer-driven innovation than the traditional proprietary approach.

THE NATIONAL LIBRARY OF FINLAND

Kansallinen digitaalinen kirjasto

Main Principles Steering the Development of Finna

- Development is based on the requirements defined together with libraries, archives, and museums.
- Organisations will become users of the software in phases.
- Development takes place in development cycles.
- The services are planned together with the customers.
- The user interface software is based on VuFind and additional open source software modules.
- National Library is responsible of the development of the software.

THE NATIONAL LIBRARY OF FINLAND

Kansallinen digitaalinen kirjasto

Customer Driven Development and Finna

- Why open source software (OSS) and agile development method?
  - Value of software is in how it enhances (existing) activities or enables (more efficient) new ways of doing things.
  - Above mentioned issues rely on e.g. how easily or efficiently users can utilize the system/software in question.
  - Note that software's functionality is not enough but usability, possibility to integrate with other services and customization are important.
- Development progresses in development cycles and issues are prioritised according to users' needs.
- NDL's user interface Finna will need to continue to develop also in the future.
- Agile development methods (Scrum in this case) and OSS based development fully support ongoing, customer driven service development work.

THE NATIONAL LIBRARY OF FINLAND

Key Factors behind Finna's Success

- Central funding for infrastructure services.
- Tradition of collaboration especially in library domain.
- Systematic development of centralised services.
- Customer organisations involved in steering centralised services.
- High expertise of the developers.
- Flexible, customer-driven agile development.
- Software architecture is based on modular design with good APIs.
- International collaboration consolidates development.

THE NATIONAL LIBRARY OF FINLAND

Finna – Administrator Interface

NATIONAL LIBRARY NETWORK SERVICES

THE NATIONAL LIBRARY OF FINLAND

Finna – Administrator Interface

- Core of Finna is centralised: VuFind core functions, backend drivers, search index etc.
- Finna index contains the metadata of all participating organisations
- Organisations create customised Views to the search index
- Finna Views can be understood as customised discovery tools utilising a defined subset of the index with individual appearance and configuration
- Creating and customising a View with Administrator Interface requires no technical skills
- All created Views instantly receive dynamic URL-addresses under the finna.fi –domain (e.g. jyu.finna.fi)

THE NATIONAL LIBRARY OF FINLAND

Some Important Features of AI

- Creating a new View that is instantly available online
- Customising the appearance and relevant VuFind configuration (logo, colors, front page content, record display, contact information etc.)
- Activating data sources for searching (customised subset of metadata harvested from participating organisations)
- Defining and ordering search filters and facets
- Text editor with syntax highlighting for advanced customisation of the View specific source code
- Display statistics of end-user behavior (basic web analytics + usage of different search functionality)

1640
THE NATIONAL LIBRARY OF FINLAND

Benefits of the National Digital Library to the Society

- Improves availability of electronic information resources and services and makes their use easier.
- Strengthens cooperation across organisational and sectoral borders.
- Reduces overlapping expenses from digitisation and management, distribution, and preservation of electronic material.
- Improves interoperability, manageability, and efficiency of processes.
- Preserves the potential of cultural heritage material far into the future.

THE NATIONAL LIBRARY OF FINLAND

Conclusion

- Melinda project facilitates implementation of the new library system
- The new library system project benefits from the Melinda and Finna projects and the expertise developed in these projects
- Finna supports self service
  - End users & organisations

THE NATIONAL LIBRARY OF FINLAND

Key factors behind the projects

- Central funding for infrastructure services as a national policy
- Tradition of collaboration especially in library domain.
- Systematic development of centralised services.
- Customer organisations involved in steering centralised services.
- High expertise of the developers.


1640
THE NATIONAL
LIBRARY
OF FINLAND