

Trends in Library Automation

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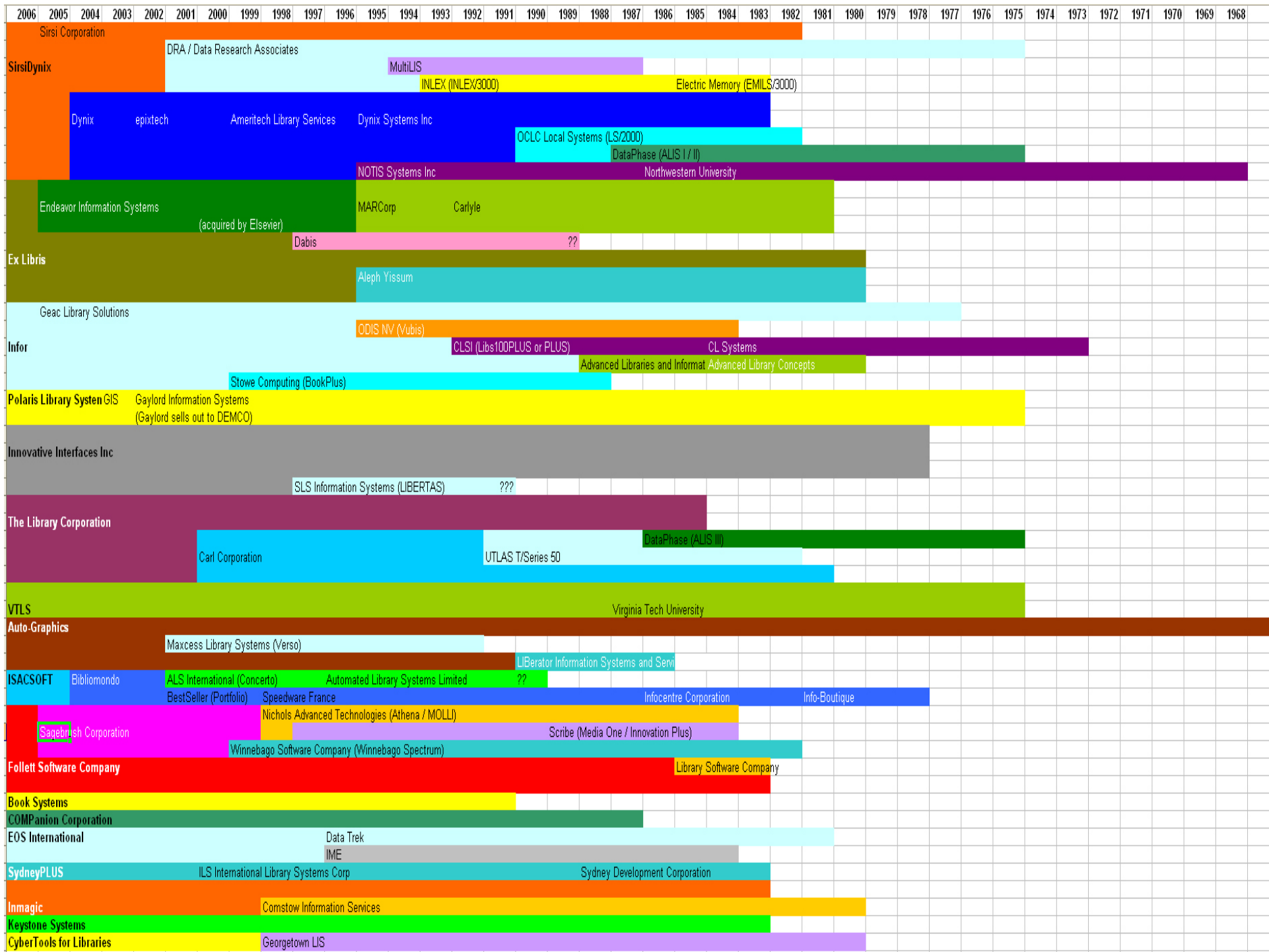
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Business Landscape and Trends

Consolidation

- SirsiDynix
- Ex Libris
- Follett Software Company
- Axiell
- Isacsoft / Bibliomondo



Internationalization

- Many large companies extending their geographic reach
- Ex Libris – Based in Israel
- Civica – Based in the United Kingdom
- SirsiDynix – Based in the United States
- Innovative Interfaces – Based in the United States

Private equity Ownership

- Golden Gate Capital – Infor (formerly Geac)
- 3i – Civica
- Francisco Partners – Ex Libris
- Vista Equity Partners – SirsiDynix
- Some concern that strategy determined by outside interests.

Founder Owned / managed Companies

- Innovative Interfaces
 - Jerry Kline
- VTLS
 - Vinod Chachra

Local / Regional Companies

- Top Information Technologies (Taiwan)
- Talis (United Kingdom)
- Futurenuri (South Korea)
- Jiangsu Huiwen Software Co. (China)
- Polaris (United States)

OCCLC in the ILS arena?

- Increasingly overlapped with library automation activities
- WorldCat Local recently announced
 - Penetrating deeper into local libraries
- Library-owned cooperative on a buying binge of automation companies:
 - Openly Informatics
 - Fretwell-Downing Informatics
 - Sisis Informationssysteme
 - PICA (now 100%)
 - DiMeMa (CONTENTdm)
- ILS companies concerned about competing with a non-profit with enormous resources and the ability to shift costs.

Taiwan ILS sector

Library Technology Guides

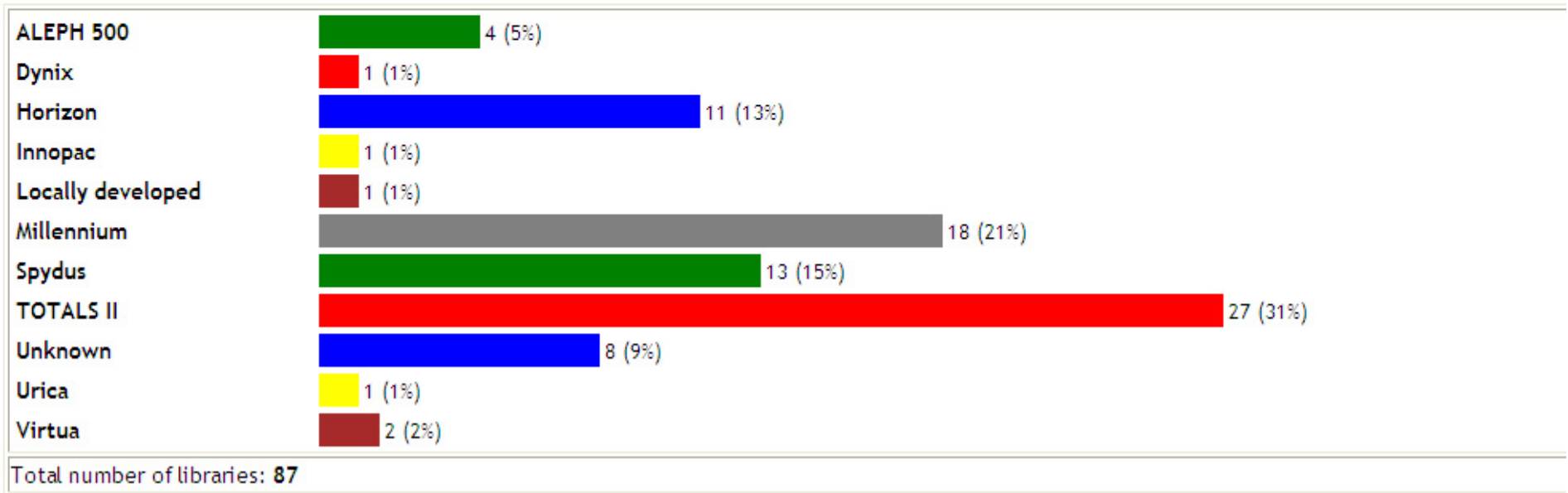
Key resources in the field of Library Automation

Academic Libraries in Taiwan

These graphs indicate what automation systems are used by Academic libraries in based on information recorded in the lib-web-cats database.

Automation Systems Installed

Counting by Library organizations



Global ILS Products in Taiwan

- Innovative Interfaces (21%)
- Top Information Technologies
 - Civica: Spydus (15%)
 - Ex Libris: Aleph 500 (5%)
- SirsiDynix: Horizon (14%)
 - Future development of Horizon ceased
- VTLS: Virtua (2%)

Taiwan Companies

- Transtech:
 - Totals II (Technically Opulent TRANSTECH Automation Library System)
 - 31% share of major academic libraries in Taiwan
 - Distributes federated search system based on technology licensed from MuseGlobal
 - Distributes OCLC WorldCat Link Manager WCLM
 - Formerly 1Cate link resolver from Openly Informatics

Top Information Technologies

- Provider of library automation technologies to Taiwan for over two decades
- Distributor for Ex Libris
 - ALEPH, SFX, MetaLib, etc
- Distributor for Spydus (previously Urica) since 1985
- Torica

Broad Trends

- Fewer number of larger companies
- Consolidation of product offerings
- Internationalization: strong opportunities for systems with strong multilingual capabilities.
- Local systems challenged to compete against global products
- Overall R&D Focused on fewer new products



Product and Technology Trends

Proliferation of Products for E-Content

- Core ILS deployments slowing
- Academic libraries especially focused on products focusing on management and access for electronic content
- Increasing investments in e-commerce require supporting infrastructure

Integrated Library Systems

- The legacy of library automation
- ILS design cast in the 1970's
- Focused on print
- Not designed for e-content

OpenURL Link Resolvers

- Finding aid for the article-level content provided by the library
- Context-sensitive linking based on the profile of library subscriptions
- Link users to the appropriate copy of the resource
- Based on OpenURL Standard

OpenURL Link Resolver Products

- SFX (Ex Libris)
- 360 Link (Serials Solutions)
- WebBridge (Innovative)
- 1Cate (OCLC)

Link Resolver Key Issue: Knowledge Base of e-journal Content

- Both a content product and a Technology Product
- Link Resolver relies on accurate data regarding what titles reside within each subscription product and the coverage available to the library's users
- Serials Solution Knowledge Source vs Ex Libris SFX Global KnowledgeBase
- Effectiveness of the product depends on the quality of the knowledgebase.
- Must be able to accurately constructs links that work

Trends:

- Essential infrastructure for any library with large quantities of e-content from multiple publishers
- Serials Solutions gaining ground, SFX still dominant
- WebBridge popular with libraries using Millennium

Federated Search

- Ability to search multiple information resources simultaneously
- Distributed Query Architecture
 - Normalize query
 - Cast to multiple targets
 - Receive results
 - Normalize Results
 - User presentation:
 - De-duplication
 - Sorting / Ranking

Federated Search Products

- MetaLib – Ex Libris
- Research Pro -- Innovative
- MuseSearch – Muse Global (Distributed by Top Information Technologies in Taiwan)
- 360 Search – Serials Solutions
- WebFeat – Serials Solutions
- Deep Web Technologies

Federated Search Trends

- Becoming a commodity product
- Essential product for libraries with large investments in e-content from multiple publishers
- Company / Product consolidation
- Products supported determined through connectors
- Open Connector initiative: WebFeat and Care Affiliates
 - Make connectors available separately
- Eventual Transition to OAI

Electronic Resource Management Systems

- Automation Module specifically designed to manage a library's subscriptions to electronic content
- Managed approach for all aspects of electronic subscription content
 - Product coverage, license terms, cost, payment and procurement data, vendor data, use data
- COUNTER compliant use statistics
- SUSHI for automated gathering of use statistics

ERMS products

- Innovative – Electronic Resource Management
- Ex Libris – Verde / Meridian
- Serials Solutions – 360 Resource Manager

ERMS Trends

- Very low rate of adoption so far
- Products complex
- Not perceived as mature
- Closely tied to Link Resolver

Key issue:

- Products involving management of e-content deeply interrelated.
- Knowledgebase of Link Resolver, Federated Search, and ERMS must be synchronized
- Products generally sold/implemented as a suite
- Current level of integration / interoperability less than ideal
- Lack of standards for interoperability with ILS
- Fragmented approach to library automation
 - Integration among e-content products getting better
 - Difficulties with ILS integration persist

Institutional Repositories

- Repository for scholarly content of an institution
- Usually managed by the Library
- Scope of content varies by institution
- Lightweight, informal metadata
- Consolidates content across the institution into a single repository
 - Otherwise held in departmental servers, etc
- Provides long-term preservation

Institutional Repository Products

- DSpace – open source collaboration between MIT and Hewlett Packard
- Fedora – open source collaboration between Cornell and University of Virginia
 - Framework, not off-the-shelf product
- VITAL – VTLS product based on Fedora
- Symposia – Commercial product from Innovative

Digital Content Management Systems

- Products for managing and providing access to locally produced digital content
- Content:
 - digital documents, newspapers, photographs, Video clips

Digital Content Management Systems products

- CONTENTdm – OCLC
- DigiTool – Ex Libris
- Insight – Luna Imaging

Next-Generation Library Interfaces

- Web-based public interfaces for library content and services
- Replacements for OPAC module provided with ILS
- Broader scope than OPAC
 - Spans all content managed by the library
 - Single point of entry for all the content and services provided by the library

Next-Gen Interface Features

- Multiple content sources
- Relevancy Ranked results
- Faceted Navigation
- Enriched display – Cover images, enhanced visual appeal.

Open Source Software

- Alternate model of software licensing and development
- No fees for use of software
- Program source code available to allow modifications to the software
- All new development freely available to current and future users of the software
- Companies offering services:
 - Conversion, installation, custom development, support, etc

Cost issues

- Costs shifted from traditional software licensing models
 - No initial purchase of license or annual license fees
- Hardware costs (same as traditional)
- Vendor support costs (optional)
- Hosting services
- Conversion services
- Local technical support (may be higher)
- Development costs – vague models for next-generation development

Open Source Alternatives

- Explosive interest in Open Source driven by disillusionment with current vendors
- Beginning to emerge as a practical option
- TOC (Total Cost of Ownership) still roughly equal to proprietary commercial model
- Still a risky strategy for libraries

Open Source ILS entering mainstream

- Koha
 - Commercial support from LibLime
- Evergreen
 - Commercial support from Equinox Software
- OPALS
 - Commercial support from Media Flex

Resurgence of Library Involvement

- More libraries involved in the development of software
- Partnerships with Vendors
 - Innovative > Encore
 - Ex Libris > Primo
- Design / Development projects
 - University of Rochester – eXtensible Catalog
 - Duke University – Open Source ILS
 - Villanova University – VUFind

Other Open Source Development efforts

- Duke University leading effort to develop an open source or community source project to develop a new ILS for higher education
- Sponsoring project to design/build an enterprise level automation system for libraries in higher education
- Project currently in the grant development phase, with likely start date of Summer 2008



The Next Generation of Library Automation

Working toward a new ILS Vision

- How libraries work has changed dramatically over the last 20 years.
- ILS built largely on workflows cast more than 25 years ago
- Based on assumptions that have long since changed
- Digital resources represent at least half of most academic libraries collection budgets
- The automation needs of libraries today is broader than that provided by the legacy ILS

Libraries ready for a new course

- Level of dissatisfaction with the current slate of ILS products is very high.
- Large monolithic systems are unwieldy—very complex to install, administer and maintain.
- Continue to be large gaps in functionality
 - Interlibrary loan
 - Collection development
 - Preservation: print / digital
 - Book binding
 - Remote storage operations

Less Proprietary / More Open

- Libraries demand more openness
- Open source movement greatest challenge to current slate of commercial ILS products
- Demand for open access to data
 - API's essential
 - Beyond proprietary APIs
 - Ideal: Industry-standard set of API's implemented by all systems
 - Current DLF initiative to define API for an ILS for decoupled catalogs

Open but Commercial?

- As library values evolve toward open solutions, commercial companies will see increasing advantages in adopting more open strategies
- Open Data
 - Well documented database schemas
 - APIs for access to all system functionality
- More customizability; better integration
- Open Source Software?
- Key differentiation lies in service and support

More lightweight approach

- More elegant and efficient
- Easier to install and administer
- Automation systems that can be operated with fewer number of technical staff

Redefining the borders

- Many artificial distinctions prevail in the legacy ILS model
- Online catalog / library portal / institutional portal
- Circulation / ILL / Direct consortial borrowing / remote storage
- Collection Development / Acquisitions / budget administration
- Library acquisitions / Institutional ERP
- Cataloging / Metadata document ingestion for digital collections
- Digital / Print workflows

Revise assumptions regarding Metadata

- Reliance on MARC widely questioned
- XML widely deployed
- The next-gen ILS must natively support many flavors of metadata: MARC, Dublin Core, Onix, METS, etc
- Library of Congress Subject Headings vs FAST
- Approaching a post-metadata where discovery systems operate on actual digital objects themselves, not metadata about them
 - High-quality metadata will always improve discovery
- Incorporate content from mass digitization efforts
- Increasing proportions of rich media content: audio, video

Service-oriented Architecture

- Work toward a service-oriented business application
- Suite of light-weight applications
- Flexibility to evolve in step with changes in library services and practices

New models of Software Development

- Role of commercial partners
 - Break out of marketing / consumer model
 - Substantial dialog that shapes the direction of product development
- Increased partnerships
- Accelerated development cycles
- Cost-effective / realistic cost expectations

Evolution vs Revolution

- What we have today is a result of 35 years of evolution
- Is it possible to break free of the constraints of these evolved systems toward a new generation that will offer a fresh approach?
- Are libraries now willing to let go of the ILS legacy of times past and move forward with library automation cast in a new mould.

A new opportunity

- Web 2.0 has invigorated libraries toward more open and collaborative strategies
- Service Oriented Architecture provides a platform for assembling library systems more in tune with the needs of today's libraries
- Intense interest by both libraries and vendors to catch up and move forward in delivering library interfaces that work better for today's Web-savvy users



Questions and Discussion