

# The ISIS3 Conference :

New challenges  
for a new future of ISIS



# Overview

I. A little bit of history and perspective on ISIS

II. Technological summary on the new developments

III. A new software management model

IV. Draft conclusions and recommendations



# I. Some history of ISIS

1. The first generation : CDS/ISIS and Micro-ISIS
2. The second generation : enriched ISIS/Pascal interfaces, CISIS-tools
3. The third generation : graphical, multimedia and multi-database : WinISIS, ISISDLL
4. The fourth generation : WWW-enabled versions (wwwisis, isis3w, openisis...)
5. The fifth or new generation ISIS



# 1975 - The first generation

- a. 1975 : CDS/ISIS at the International Labour Organisation (ILO)
  - Centralised Documentation System merged with
  - Integrated Set of Information Services
  - Running on VAX OS on mainframes
- b. 1985 Micro-ISIS
  - G. Del Bigio joins UNESCO and creates PC-DOS based version and integrates separated functions into one general customizable, multilingual menu-based interface with full documentation as version 2.3
  - Version 3.0 – 3.8 : networked multi-user, ISIS/Pascal
  - UNIX-version for Intel-based UNIX OS
  - World-wide distribution and huge success in DC's



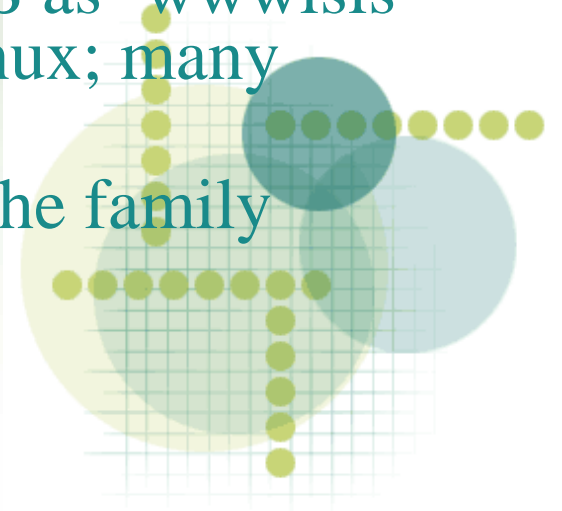
# 1985 - The second generation

- ISIS/Pascal programmed add-ons (e.g. Heurisko, ADEM, IRIS and ODIN, LAMP) create rich tools; e.g. IRBIS (Russia) for libraries, FAO uses ISIS for its AGRIS-system and ODIN/IRIS extensions for its ASFISIS-system
- Bireme/OPS (WHO Brazil) creates CISIS-tools suite for command-line database management, uses it for its huge health information databases on the Internet; these are multi-platform (run on Unix/Linux and DOS)



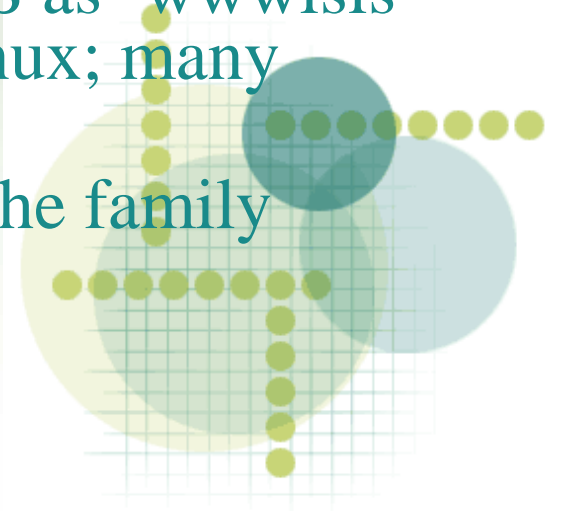
# 1995 - The third generation

- UNESCO produces Windows version : WinISIS, with many graphical, multi-media and multi-database features
- Full library automation systems can be developed, e.g. PURNA (India)
- SNAL (Tanzania) uses networked ODIN/IRIS based library system for its university library
- Bireme distributes a web-server version of ISIS as 'wwwisis' running on both DOS/Windows and UNIX/Linux; many applications are developed
- JavaISIS (Italy) and isis3w (Poland) added to the family



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# 2005 – The fourth generation

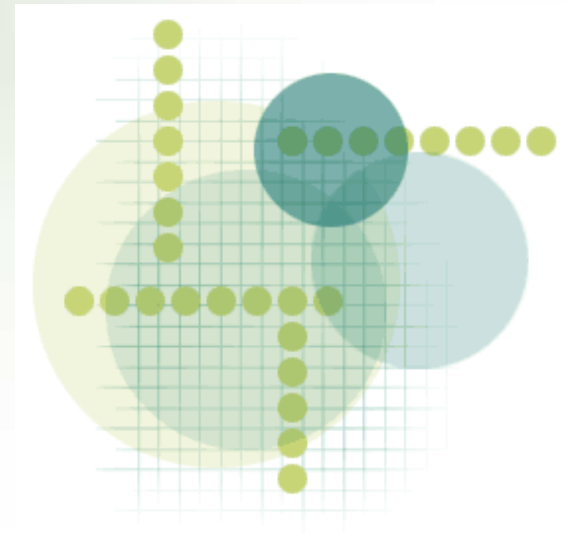
- Advanced web-based tools spearhead further developments:
  - GenISIS (France) allows easy creation of web-based search interfaces
  - WEBLIS (Poland/FAO) is a full-fledged advanced web-based library automation system
- Bireme develops WXIS and adds XML to ISIS
- WXIS-based library systems are developed in Latin-America (e.g. OpenMarcoPolo)
- OpenISIS (Germany) creates first fully Open Source version (webserver, PHP-library) but goes its own way (Malete, Selene)



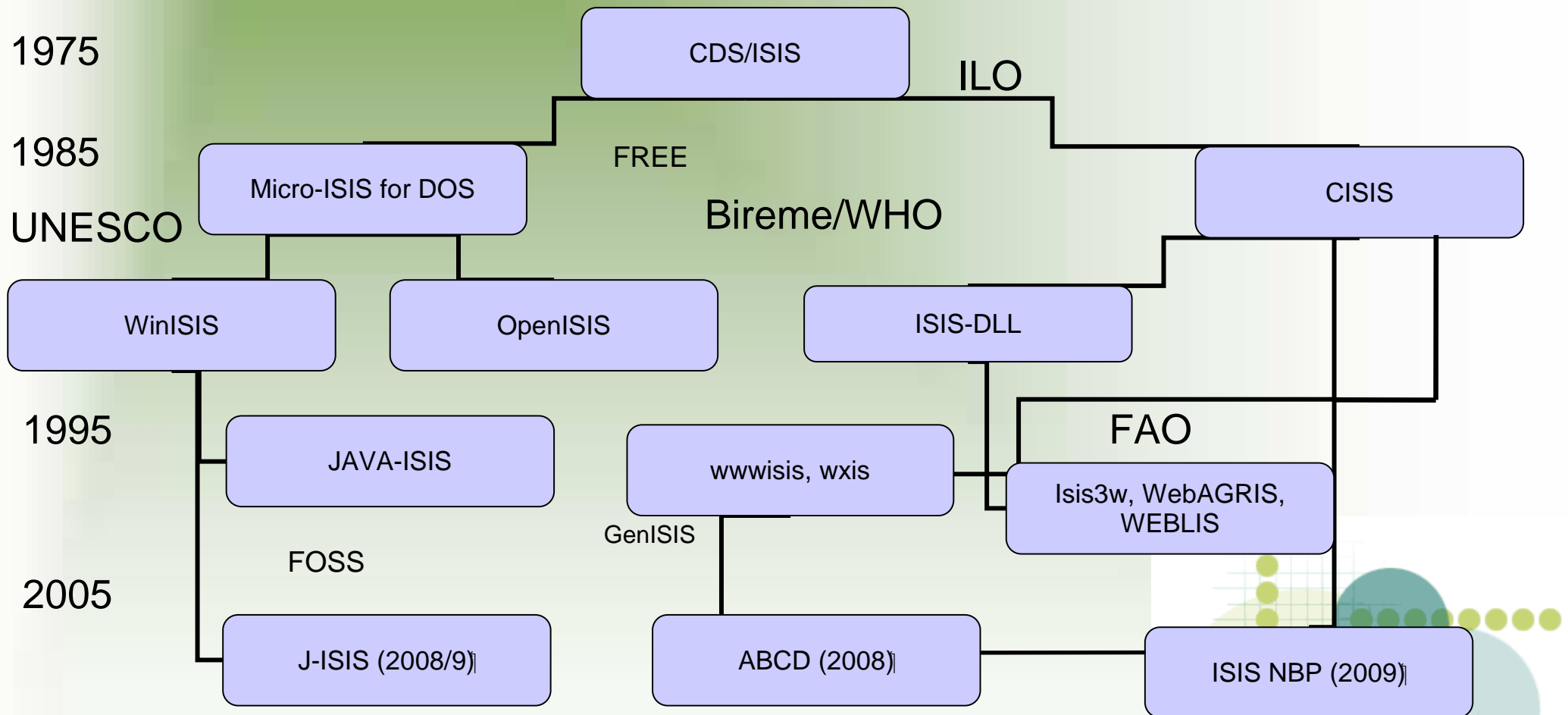


# 2008 : the NEW (5<sup>th</sup>) generation

- New data storage technologies are used (comparable to MySQL with e.g. InnoDB, MyISAM) :
  - Berkeley DB for JISIS
  - ZoDB for ISIS-NBP
  - PostGres for WEBLIS
  - ...?
- Web-technology is fully embraced
  - e.g. ABCD with PHP and JavaScript
  - NBP with Plone CMS



# A 'family' of softwares



All members sharing main technological and user-community characteristics, creating a de facto 'database/ISR standard'

# Basic technologies : comparison

- **CLASSIC ISIS**

- Pascal, C, C++
- MST + XRF DB
- IF indexing, only Boolean
- No UNICODE
- **ISIS FL (PFT, FST, FMT)**
- **ISO-2709**

- **JISIS**

- JAVA
- Berkeley DB
- *Lucene indexing, ranking*
- *UNICODE*
- **ISIS FL (PFT, FST, FMT)**
- **ISO-2709**

- **ISIS-NBP**

- Python
  - ZoDB
  - *Lucene indexing, ranking*
  - *UNICODE*
  - **ISIS FL (PFT, FST, FMT)**
  - **ISO-2709**
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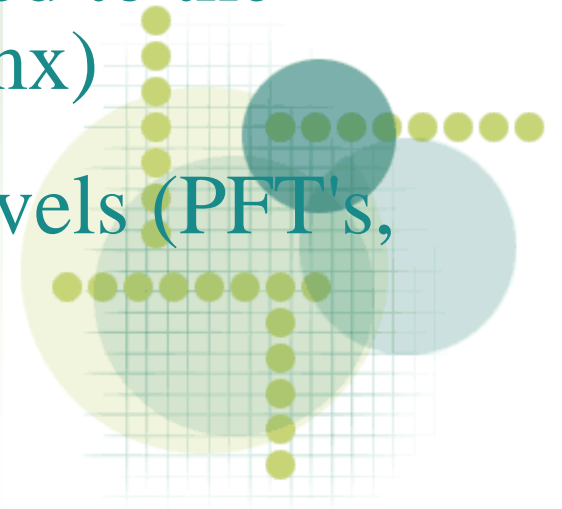
# Technological observations

- ISIS is no longer a 'database' but a standard for handling semi-structured textual databases
- The MST-XRF technology is abandoned but the Formatting Language remains at the core (!)
- ISO-2709 remains but will be supplemented by XML as data-storage and -transport format
- Full-text Lucene indexing and UNICODE have been adopted
- Existing applications will be compatible with new technologies with minimal effort (export-import)



# ABCD : one leg in the old, one in the new technology

- ABCD 1.0 : uses 'classic' ISIS-technology but with CISIS-extensions :
  - 1 Mb record size
  - 60-character keys indexing
- As soon as NBP is ready (end 2008?) the underlying server 'wxis' will be changed to the new Python-based server of NBP (pymx)
- Transparent migration at all 'higher' levels (PFT's, PHP...)
- Model for all other ISIS-migration



# Management of the new ISIS-generation

- FOSS
  - Which public license ? At least 72 registered ! a.o. GPL(L), Zope PL, Mozilla PL, Common PL etc...
  - Meaning : developers can contribute freely (through website), but : needs co-ordination !
- Co-ordination :
  - UNESCO no longer at the driver's seat ?
  - MORE not LESS co-ordination will be necessary
  - Users community should take over, lead by Bireme
  - ISIS Co-ordination or Advisory Committee ?
  - Activities, financing ???



# Draft 'working' conclusions 1

- The ISIS software family
  - has a unique concept and importance both in its
  - **technological** (to cope with Information Storage and Retrieval Systems ) **and**
  - **users-community features** (particularly for developing countries where the technology is widely known and used)



# Draft 'working' conclusions 2

- The new developments presented at the conference
  - prove that new technological concepts, necessary to secure the software's future in coping with new demands and expectations of the users community,
  - indeed are being put at work,
  - introduce new varieties within the family
  - but without giving up a common ground and applicability.
- The new developments lead by UNESCO and BIREME represent important advancements toward the updating of the ISIS platform according to the state of the art in software development as applied to information storage and retrieval systems

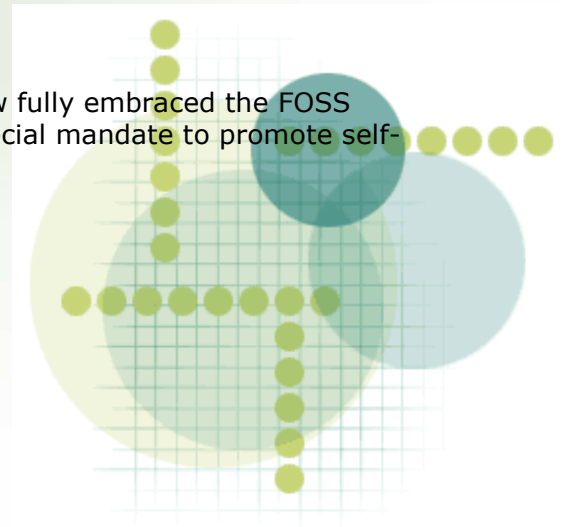




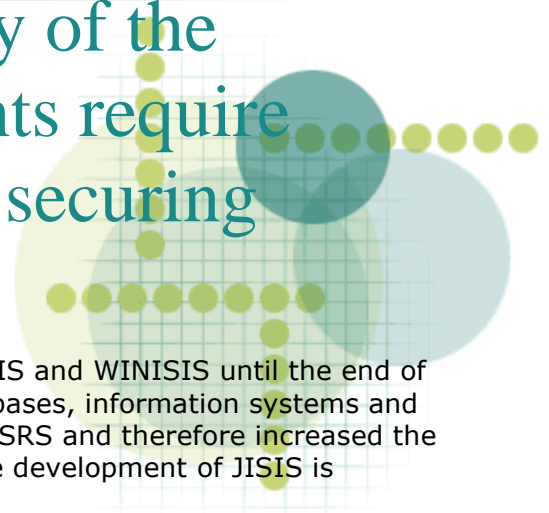
# Draft 'working' conclusions 3

- The ISIS software family has now
  - fully embraced the FOSS approach,
  - fully adopted UNICODE and multi-linguality,
  - which best suits its special mandate to promote self-reliance and knowledge-creation-by-sharing with the librarians and information workers.

- The ISIS Software Family, including the new developments led by UNESCO and BIREME, has now fully embraced the FOSS approach and the support of UNICODE structures to be fully multilingual, which best suits its special mandate to promote self-reliance and knowledge-creation-by-sharing with the librarians and information workers.

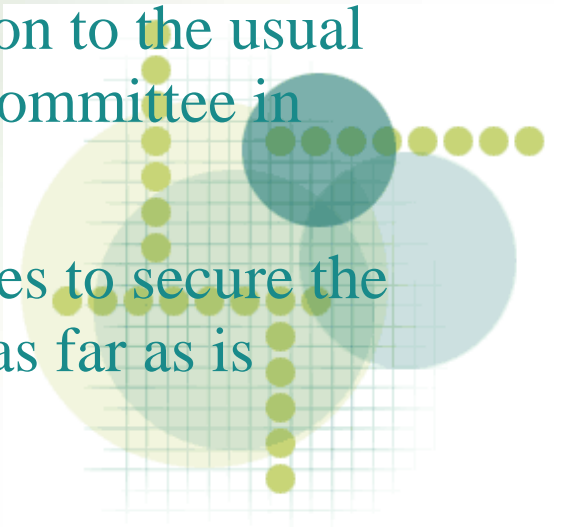


# Draft 'working' conclusions 4

- The users community
    - fully recognizes the enormous merits of UNESCO in developing and supporting the software,
    - but fears that in the near future this might not be sustained;
    - such change in policy would be seen as an abdication of its mission certainly at a point in the history of the software where important new developments require renewed efforts in promotion, training and securing sustainability
  - To recognize the enormous merits and commitment of UNESCO in developing and supporting CDS/ISIS and WINISIS until the end of the last century, which brought an extraordinary contribution to the automation of bibliographic databases, information systems and libraries mainly in developing countries, and has created, strengthened and developed capacities on ISRS and therefore increased the organization and visibility of scientific, technical and cultural literature from the developing world. The development of JISIS is expected to represent a renewal of the commitment of UNESCO with ISIS.
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# Draft 'working' conclusions 5

- Given the strong new technological developments presented at the conference,
  - the users community, lead by BIREME, is fully confident in there being a future for the ISIS software family to allow libraries, documentation and information centers to fully participate in the Information Society also in the developing countries.
  - The community therefore will assume a new, more active role in the software development, by setting up, in addition to the usual FOSS-development tools, an ISIS co-ordination committee in order to support UNESCO in its mandate.
  - The role of this committee will be to take initiatives to secure the co-ordination of the software development and – as far as is necessary – the financial means to that end.



# Draft 'working' conclusions 5bis

- To recognize the enormous merits and commitment of BIREME in cooperating with the ISIS Software Family in developing and supporting CISIS, ISISDLL and particularly WWWISIS that allowed the development and operation of ISIS applications in the web, of which ABCD as an integrated library automation system is most welcomed. The development of the ISIS Networked Based Platform presented by BIREME in the conference is highly appreciated and represents the most important initiative to the updating of the ISIS Software Family.



# Draft recommendations

- UNESCO and BIREME to continue their commitments in leading the maintenance and updating of the ISIS Software Family;
- The ISIS users community to support and contribute to the development of ISIS NBP coordinated by BIREME under FOSS approach and to envisage its wide adoption and dissemination to update ISIS applications;
- Establish an international independent advisory/co-ordination committee elected bi-annually by the ISIS Software Family Users Community to assist and collaborate with BIREME, UNESCO and the ISIS Software Family Developers Community



# Example case FOSS support : the DOCBIBLAS project

- Development Of and Capacity Building in ISIS-Based Library Automation Software
  - Sponsored by the Flemish Interuniversity Council, University Development Co-operation (VLIR/UDC) : 100.000 euro
  - Promoter : E. de Smet, Univ. of Antwerp
  - November 2007 – March 2009
  - Aim : to develop sustainable ILS suitable for Southern university libraries, which can be offered with support to partners
- ABCD was selected for support, given it would fully comply with :
  - University library standards, e.g. MARC, Z39.50, METS...
  - UNICODE (for non-Latin scripts, e.g. Amharic, Arabic)
  - Multi-lingual (at least English, Spanish, French)



Development Of and Capacity Building in ISIS Based Library Automation Systems

Description of the project :

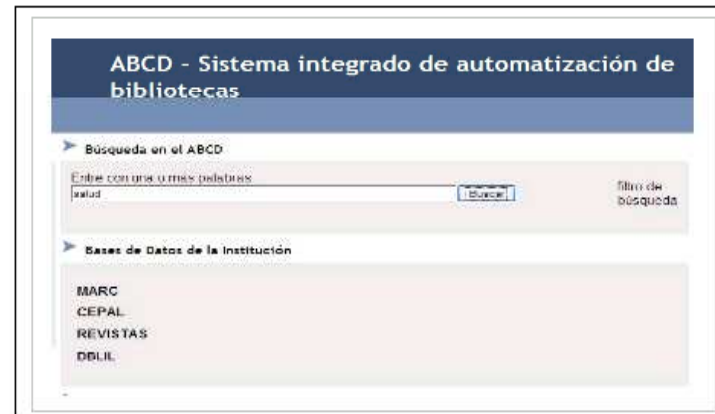
- The aim of the project is to develop an integrated library automation system 'ABCD' with accompanying tested training materials based on the ISIS-software, suitable for Southern university libraries and following the *Free and Open Source Software* model.
- The software development is undertaken in co-operation with the Brazilian BIREME-institute (OPS/WHO) and UNESCO
- A pilot training workshop will be organized in March 2009 in Flanders with participation of both Flemish and Southern colleagues/experts on library automation
- Budget : 100.000 €
- Duration : 18 months (October 2007 – March 2009)



BIREME  
OPS/WHO

Promoter :

- prof. dr. Egbert de Smet, Informatie- en Bibliotheekwetenschap, Instituut voor Onderwijs- en Informatiewetenschappen UA
- Assisted by the interuniversity 'Experts Group on Library Development' of VLIR/UOS



Technical information :

- ISIS databases and scripting technology, fields + full-text
- PHP scripting software
- WWW-server and WWW-browser
- Linux and Windows platform
- Multi-lingual (English, Spanish, French, Portugese)
- Multi-format (MARC, CEPAL, any local structure), federated search



Main activities :

- Software development Jan-Sep 2008
- Development training materials Oct-Dec 2008
- International Conference Rio de Janeiro 14-16 September 2008
- Pilot workshop Antwerp 17-31 March 2009