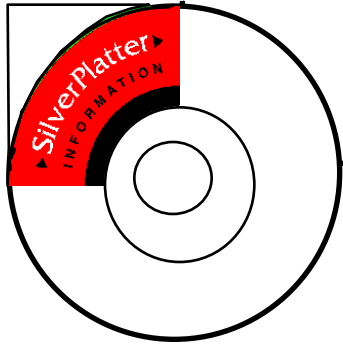


Z39.50 Technical Issues

Denis Lynch

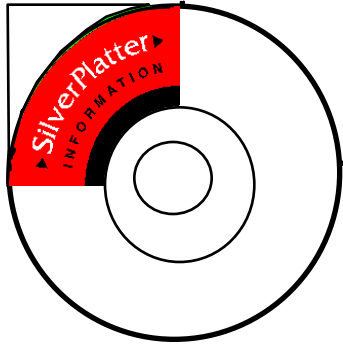
SilverPlatter Information Ltd.

DenisL@SilverPlatter.com



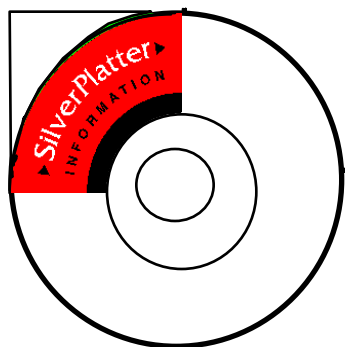
Objectives

- ▼ Show how to use some buzzwords
- ▼ Give some feel for how Z39.50 works
- ▼ Describe “Z39.50 in real life” landscape



Z39.50 Is An Active Force

- ▼ There are many useful implementations
- ▼ There are significant production services
 - ⇒ US: RLG, OCLC, LC
 - ⇒ Europe: PICA
- ▼ There are “standard” interoperability tests
 - ⇒ Servers: RLG, OCLC, LC, AT&T, SilverPlatter
 - ⇒ Clients: BookWhere, ZNavigator, SLS, SIRSI



How to get a Z39.50 Client

▼ Buy one

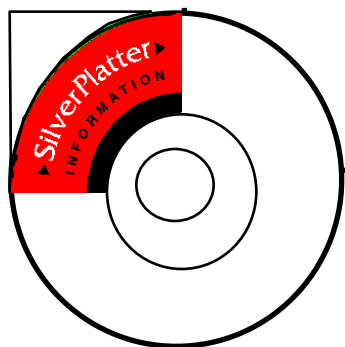
⇒ SIRSI Vizion, BookWhere, ZNavigator

▼ Buy that bit of your OPAC

⇒ SIRSI, SLS, III, Ameritech, Aleph, ...

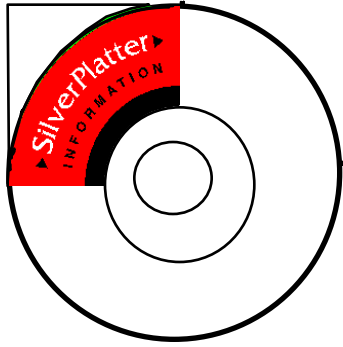
▼ Start with something appropriate

⇒ WebZ etc., IR-TCL, DB-OSI, snacc



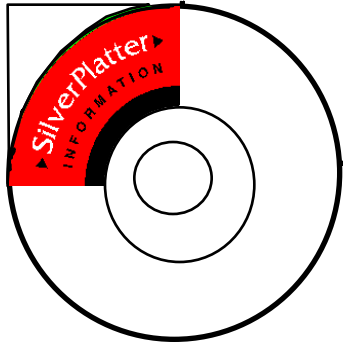
How to Get a Z39.50 Server

- ▼ Buy that bit of your OPAC/database server
 - ⇒ SiteSearch, III, Ameritech, SilverPlatter, ...
- ▼ Use a middleware server
 - ⇒ Blue Angels, Isite, <Index Data>
- ▼ Start with something appropriate
 - ⇒ <Index Data>, DB-OSI, snacc, OCLC tools



What you'll want to know

- ▼ Z39.50 has “Choices”, “Optionals” and “EXTERNALS”
 - ⇒ Make the standard flexible
 - ⇒ Make many implementations “right”
 - ⇒ Support infinity of data formats without change
- ▼ So implementations may “interoperate” without doing what *you* want.



Quick Z39.50 Tour

▼ Init

▼ Search

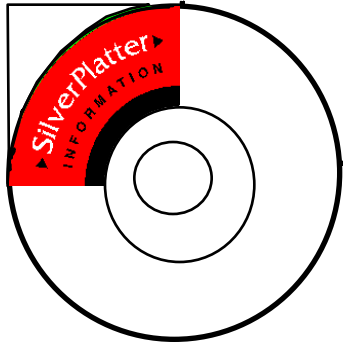
▼ Present

▼ Scan

▼ Sort

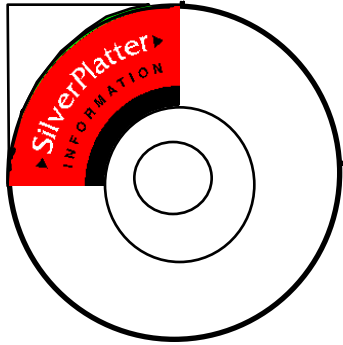
▼ Extended Services

▼ Etc.



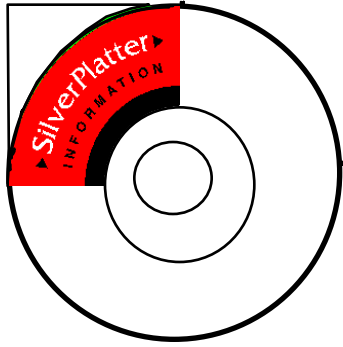
Init

- ▼ Basic Login function
- ▼ Sets some session parameters
- ▼ User identification & authentication
 - ⇒ Some early experiments still can be found
 - ⇒ Two current methods - string, structure
- ▼ Other possibilities
 - ⇒ OCLC database list
 - ⇒ Character set negotiation



Search

- ▼ One main syntax -Type 1 (“RPN”)
 - ⇒ Type 1
 - ⇒ Type 2
- ▼ “Attributes” are abstract vocabulary for access points
- ▼ Output is “Result Set”



Search - Sources of Trouble

▼ Some clients are lazy

⇒ Named result sets are a client convenience

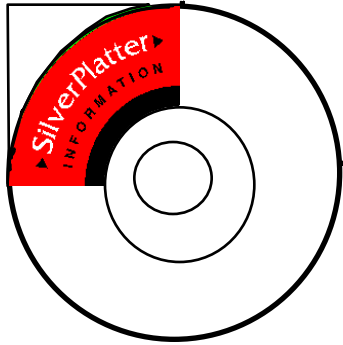
⇒ Explain

▼ Some servers fail silently

⇒ Free services prefer results to none, or to errors

▼ Some servers are lazy

⇒ Even trivial attributes sometimes fail



Search Troubles cont.

▼ Term normalisation

⇒ Author names

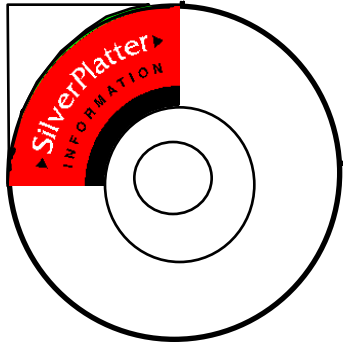
⇒ Subject headings

▼ Some important capabilities aren't universally supported

⇒ Proximity

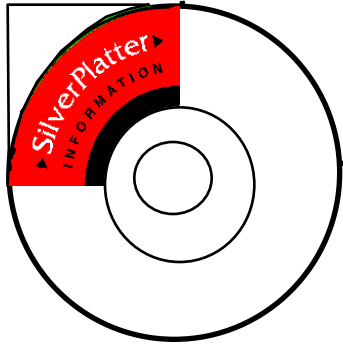
⇒ Non-ASCII search terms

⇒ Result set operand



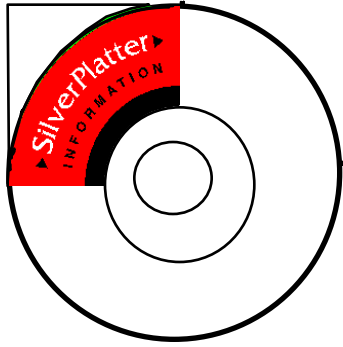
Search Troubles cont.

- ▼ Attributes can be a real problem
 - ⇒ Do you want precision, or results?
 - ⇒ Some clients specify more than needed



Present

- ▼ Retrieve specified items from a result set
- ▼ Client specifies
 - ⇒ What records
 - ⇒ What part of each record
 - ⇒ How it prefers records delivered



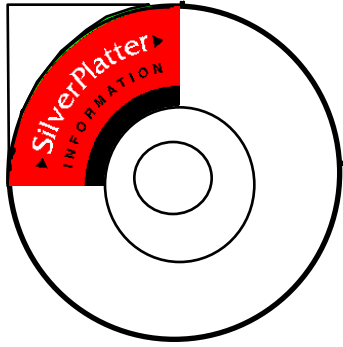
Present issues

▼ Information model

- ⇒ Non-traditional items - digital, web, ...
- ⇒ Non-catalogue records - A&I, full text, ...
- ⇒ Cataloguing - ISSN, ISBN, SICI

▼ Holdings model

- ⇒ Fields in Bib record or separate record?
- ⇒ If separate record, how is it found?
- ⇒ Detailed vs. Summary; multiple institutions



Present issues cont.

▼ Circulation

▼ Record syntaxes

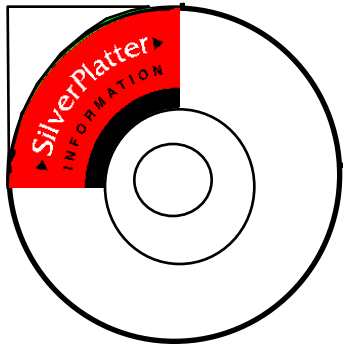
⇒ MARC, but WhatMARC?

⇒ GRS, but what schema?

▼ Retrieved fields

⇒ Only “F” and “B” guaranteed, but not defined

▼ Record sizes & segmentation



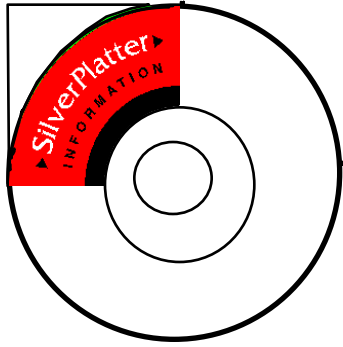
Scan

▼ Vocabulary browse

⇒ “Index” specified by attribute combination

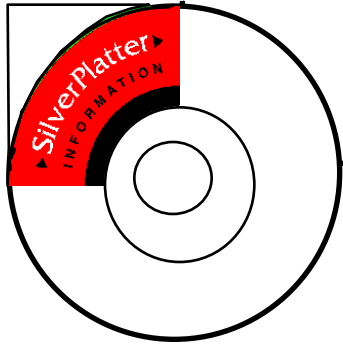
⇒ Response includes

- Term
- Count (by database)
- Attributes and value for best search



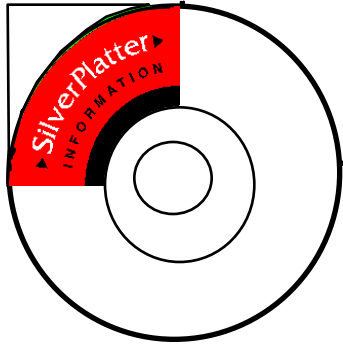
Scan issues

- ▼ Servers fail silently, because of indexing
- ▼ Clients ignore servers' attribute suggestions
- ▼ No agreed thesaurus mechanism



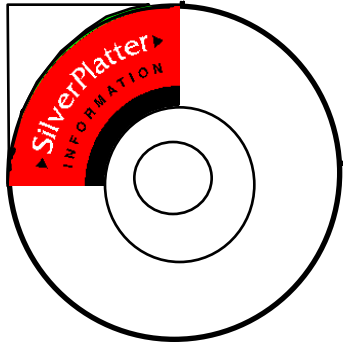
Sort

- ▼ Allows client to ask server to reorder results
 - ⇒ Using search attributes
 - ⇒ Using retrieval fields
 - ⇒ Using server-defined sort keys



Sort issues

▼ Not widely implemented



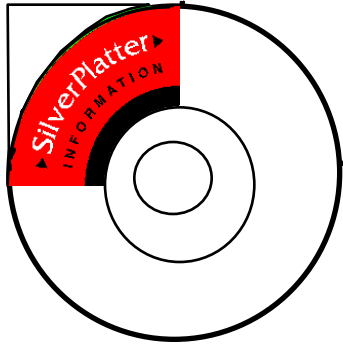
Extended Services

▼ Makes provision for non-IR features

- ⇒ Item order
- ⇒ Periodic query/SDI
- ⇒ Saved result sets
- ⇒ Update

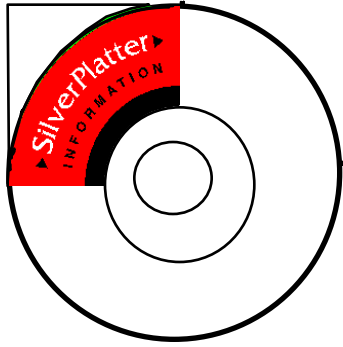
▼ Rarely implemented

- ⇒ Item Order supported by OCLC for ILL
- ⇒ Update coming in Australia



Etc.

- ▼ Explain lets client learn about server
 - ⇒ Client can enable/disable features, e.g.
 - ⇒ Can't address semantics
 - ⇒ Language and terminology problems for users
- ▼ Dublin Core may with semantics
 - ⇒ Directly useable by GRS records



Summary

▼ Z39.50 is in wide use

⇒ Many suppliers

⇒ Many sites, offering valuable information

▼ Semantic problems remain hard