ALEPH User Security and the Admin Module
What Is To Be Done?

Larry Deck
Assistant Systems Librarian
McGill University
I will be talking about:

• the Oracle tables that (mostly) control user security in ALEPH
• the Admin Module’s interface for updating those tables – v.14.2
• problems with this interface and how to get around some of them
• my dreams of a better setup and interface for institutions like McGill with many users
ALEPH User ‘Access Rights’

- ALEPH User record – pwd50.z66
  - User name
  - Password
  - Catalog(u)ing level
  - Circulation override level
  - ‘Own’ permissions
  - Optional ‘proxy’
ALEPH User ‘Access Rights’

- A glimpse at pwd50.z66:

```
SQL-PWD50> select z66_rec_key, z66_user_password_enc, z66_user_cat_level, z66_user_proxy, z66_user_circ_level
2 from z66 where z66_rec_key like 'D%';

<table>
<thead>
<tr>
<th>Z66_REC_KEY</th>
<th>Z66_USER_PASSWORD_ENC</th>
<th>Z66_USER_CAT_LEVEL</th>
<th>Z66_USER_PROXY</th>
<th>Z66_USER_CIRC_LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAVIST</td>
<td>7EHC5D92</td>
<td>0</td>
<td>BASIC</td>
<td>0</td>
</tr>
<tr>
<td>DECK</td>
<td>REFFB3TN5I</td>
<td>20</td>
<td>SYSSUPER</td>
<td>25</td>
</tr>
<tr>
<td>DELBALS0A</td>
<td>RGMKBHY</td>
<td>20</td>
<td>CATHS05</td>
<td>0</td>
</tr>
<tr>
<td>DELBALS0B</td>
<td>4X624</td>
<td>20</td>
<td>CATHSSPEC</td>
<td>0</td>
</tr>
<tr>
<td>DEMOSKOFF</td>
<td>LG2US6U9CG</td>
<td>5</td>
<td>HSCIRCPLUS</td>
<td>5</td>
</tr>
<tr>
<td>DERCAT01</td>
<td>GSV48A97S7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DERCAT02</td>
<td>GSV48A97S7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DERCAT03</td>
<td>GSV48A97S7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DERCAT04</td>
<td>NSXHSJ5G2P</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DERCAT05</td>
<td>LMPRI92C</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
```
ALEPH User ‘Access Rights’

- Functional access rights – pwd50.z67
  - Link to user record in pwd50.z66
  - Individual functions by Library, Sublibrary, Function and Subfunction
ALEPH User ‘Access Rights’

- A glimpse at pwd50.z67:

SQL-PWD50> select * from z67 where z67_rec_key like 'CATHS05%';
**** Hit return to continue ****

<table>
<thead>
<tr>
<th>Z67_REC_KEY</th>
<th>Z67_LIBRARY</th>
<th>Z67_SUB_LIBRARY</th>
<th>Z67_FUNC</th>
<th>Z67_SUB_FUNC</th>
<th>Z67_PERMISSION_FLAG</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATHS05</td>
<td>0010</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>ARRIVAL-GET</td>
</tr>
<tr>
<td>CATHS05</td>
<td>0011</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>ARRIVAL-LIST</td>
</tr>
<tr>
<td>CATHS05</td>
<td>0013</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>CLAIM-GET</td>
</tr>
<tr>
<td>CATHS05</td>
<td>0014</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>CLAIM-LIST</td>
</tr>
<tr>
<td>CATHS05</td>
<td>0015</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>COPY-LIST</td>
</tr>
<tr>
<td>CATHS05</td>
<td>0016</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>ITEMS-LIST</td>
</tr>
<tr>
<td>CATHS05</td>
<td>0017</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>INDEX-LIST</td>
</tr>
<tr>
<td>CATHS05</td>
<td>0018</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>INVOICE-GET</td>
</tr>
<tr>
<td>CATHS05</td>
<td>0019</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>INVOICE-HEAD-GET</td>
</tr>
<tr>
<td>CATHS05</td>
<td>0020</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>INVOICE-HEAD-LIST</td>
</tr>
<tr>
<td>CATHS05</td>
<td>0021</td>
<td>MGU50</td>
<td>MGU50</td>
<td>ACQ</td>
<td>INVOICE-LIST</td>
</tr>
</tbody>
</table>
ALEPH User ‘Access Rights’

- The two tables:

**z66 – User record**
- z66_rec_key
- z66_user_password
- z66_user_password_enc
- z66_user_cat_level
- **z66_user_proxy**
- z66_user_own_create
- z66_user_own_check
- z66_user_circ_level

**z67 – Functional rights**
- z67_rec_key \(= z66\_rec\_key + \text{seq}\)
- z67_library
- z67_sub_library
- z67_func
- z67_sub_func
- z67_permission_flag
Admin Module Interface

user list

<table>
<thead>
<tr>
<th>User Name</th>
<th>Permitted libraries</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABBOTT</td>
<td>PROXY - CIRMUCAS</td>
</tr>
<tr>
<td>ACQBANNER</td>
<td>MGT01 MGT50 MGT60 MGU01 MGU50 PWD50 USM01</td>
</tr>
<tr>
<td>ACQBANNE RD</td>
<td>MGT01 MGT50 MGT60 MGU01 MGU50 PWD50 USM01</td>
</tr>
<tr>
<td>ACQSPEC</td>
<td>MGT01 MGT50 MGU01 MGU10 MGU11 MGU12 MGU50</td>
</tr>
<tr>
<td>ACQSUPER</td>
<td>MGU60 PWD50 USM01</td>
</tr>
<tr>
<td>ACQTEST</td>
<td>PROXY - CATSPEC11</td>
</tr>
<tr>
<td>ADAMS</td>
<td>PROXY - MCLCIRCNRM</td>
</tr>
<tr>
<td>ADDARIO</td>
<td>PROXY - CIRMUCAS</td>
</tr>
<tr>
<td>ADELE</td>
<td>PROXY - EDCIRCSUP</td>
</tr>
<tr>
<td>ACHILD</td>
<td>PROXY - CIRPSEC95</td>
</tr>
</tbody>
</table>

z66_rec_key

z66_user_proxy

z67_library
Admin Module Interface

individual user record

User - Password Information

User name: ABBOTT
Password: 
Cataloguer level: 05
User proxy: CIRMUCAS
Cat. OWN ID: 
Cat. OWN Permission: 
Circ. Override level: 20
Admin Module Interface

user access rights summary

Summary of CIRMUCAS’s Access Rights

User Name: CIRMUCAS

- All Functions
  - Quick Catalog
  - Acquisitions
  - ALEPH Administration
  - Budget Maintenance
  - Budget Usage
  - Cash Management
- Cataloging
- Circulation
- Subscription
- Currency utilities
- Record Triggers
- Item history
  - Item history
  - MGU50
- ILL
- Items Control
- Subscription (from ACQ)
- ALEPH User Passwords
- AIFPH User Profiles

Close  Help
Admin Module Interface
user access rights summary

Summary of CIRMUCAS’s Access Rights

- Acquisitions
- ALEPH Administration
- Budget Maintenance
- Budget Usage
- Cash Management
  - All subfunctions
  - Expand cash transaction
    - MGT50
    - MGU50
  - Make payment
  - Waive payment
  - Print cash receipt
  - Print cash summary
  - Update cash transaction
- Cataloging
- Circulation
- Subscription
- Currency utilities
- Record Triggers
- Item history
Admin Module Interface
user access rights summary

Summary of CIRMUCAS’s Access Rights

User Name: CIRMUCAS

- Acquisitions
  - ALEPH Administration
  - Budget Maintenance
  - Budget Usage
  - Cash Management
    - All subfunctions
      - Expand cash transaction
        - MGT50
        - MGU50
      - Make payment
      - Waive payment
      - Print cash receipt
      - Print cash summary
      - Update cash transaction
  - Cataloging
  - Circulation
  - Subscription
  - Currency utilities
  - Record Triggers
  - Item history

- z67_library
- z67_func
- z67_sub_func
by way of
.../alephe/tab/user_function.eng
! COL 1. 20; ALPHA, UPPER; ;
! Code of function;
! Code of function;
! COL 2. 1; ALPHA{L,H,A,R,S}, UPPER; ;
! Alpha;
! Alpha;
! COL 3. 30; ALPHA_NUM; ;
! Function name;
! Function name;
! COL 4. 20; TEXT, UPPER; ;
! Code of sub-function;
! Code of sub-function;
! COL 5. 1; ALPHA{L,H,A,R,S}, UPPER; ;
! Alpha;
! Alpha;
! COL 6. 40; ALPHA_NUM; ;
! Sub-function name;
! Sub-function name;

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASH</td>
<td>L Cash Management</td>
<td>GLOBAL</td>
<td>L All subfunctions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CASH</td>
<td>L Cash Management</td>
<td>EXPAND</td>
<td>L Expand cash transaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CASH</td>
<td>L Cash Management</td>
<td>PAY</td>
<td>L Make payment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CASH</td>
<td>L Cash Management</td>
<td>WAIVE</td>
<td>L Waive payment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CASH</td>
<td>L Cash Management</td>
<td>PRINT-LINE</td>
<td>L Print cash receipt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CASH</td>
<td>L Cash Management</td>
<td>PRINT-SUMMARY</td>
<td>L Print cash summary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CASH</td>
<td>L Cash Management</td>
<td>PUT</td>
<td>L Update cash transaction</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Admin Module Interface –
some problems with SQL solutions

• Opaque tree structure of functional rights list prevents ‘full view’ of rights
• No straightforward print function
• No ‘reverse indexes’
  – which users are proxied to x?
  – which users have rights to perform function y?
### SQL for rights list

```sql
SQL-PWD50> start access_by_name
Name or proxy: abbott

Users proxied to CIRMUCAS

<table>
<thead>
<tr>
<th>USERNAME</th>
<th>CA</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABBOTT</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>ADDARIO</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>CAICEDO</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>CHAMBERLAN</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>ELYSEE</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>FAULDS</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>FREY</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>HALPERIN</td>
<td>5</td>
<td>20</td>
</tr>
</tbody>
</table>

8 rows selected.
```
### SQL for rights list cont.

**Access rights in MGU for users proxied to CIRMUCAS**

<table>
<thead>
<tr>
<th>PROXY</th>
<th>Library</th>
<th>Function</th>
<th>Sub-function</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIRMUCAS</td>
<td>MGU50</td>
<td>CASH</td>
<td>DOC-INFO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EXPAND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GET</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SUMARY</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CIRCULATION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BOR-SHOW</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OFFLINE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RETURN-DATE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LOAN-RENEW</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HOLD-PRINT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ITEM-RESTORE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HOLD-REQUEST-OVERIDE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HOLD-REQUEST-GET</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ITEM-H-GET</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USR</td>
<td>LIST</td>
</tr>
</tbody>
</table>

31 rows selected.
SQL for reverse function index

SQL-PWD50> start users_by_function
Library (default is MGU): MGU50
Function (default is ACQ): CASH
Subfunction: GET

Users with rights to CASH - GET in MGU50

<table>
<thead>
<tr>
<th>LIB</th>
<th>FUNCTION</th>
<th>SUBFUNCTION</th>
<th>PROXY</th>
<th>USERNAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGU50</td>
<td>CASH</td>
<td>GET</td>
<td>ACQSPEC</td>
<td>HAY</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CATALOG1</td>
<td>TESTCAT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CATMUS01</td>
<td>BLACK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CURTIS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LEIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CIRMUCAS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ABBOTT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ADDARIO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CAICEDO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CHAMBERLAN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ELYSEE</td>
</tr>
<tr>
<td></td>
<td>GLOBAL</td>
<td>GLOBAL</td>
<td>SYSSECUR</td>
<td>ALLEN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>COZA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AITKENS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DECK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DOGGY</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>JOHNSTON</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TOUTANT</td>
</tr>
</tbody>
</table>
Admin Module Interface –
some other problems

• Not always clear how module functions correspond to z67_func/sub_funcs

• Cumbersome for adding blocks of rights
  – abstract ‘roles’ as opposed to proxies?
Dream documentation

z67_func = 'BUDGET'
z67_sub_func = 'UPDATE'
user_function = 'Update budget'
Roles rather than proxies?

**z66 – User record**
- z66_rec_key
- z66_user_password
- z66_user_password_enc
- z66_user_cat_level
- **z66_user_proxy**
- z66_user_own_create
- z66_user_own_check
- z66_user_circ_level

**z67 – Functional rights**
- z67_rec_key ( = z66_rec_key + seq)
- z67_library
- z67_sub_library
- z67_func
- z67_sub_func
- z67_permission_flag
Roles rather than proxies?

z66 – User record

- `z66_rec_key`
- `z66_user_password`
- `z66_user_password_enc`
- `z66_user_cat_level`
- `z66_user_own_create`
- `z66_user_own_check`
- `z66_user_circ_level`

link table

- `z66_rec_key`
- `role`

roles

- `role`
  - library
  - sub_library
  - func
  - sub_func
  - permission_flag
Roles rather than proxies?

• What might the interface be like?
  – ‘user list’ could show list of roles in place of libraries
  – ‘modify user’ could include the same list with links to individual role details and ‘add role’ function
  – ‘summary’ could list all actual rights with roles
    • e.g. Budget update – from ACQSUPER
  – new dialogue, ‘role details’ could list access rights with add/deny function and link to users
  – reverse indexes from functional rights to roles and users
User Security System –
other possible improvements

• Additional info about users
  – full name, *email*, department (notes)

• Validation on proxy

• Triggers
  – change password
  – delete
Further reading

• Systems Administration Enhancement Group – 2002, *Proposal for Development Work # 2: Staff Users Privileges* online at
  http://www.naaug.org/enhancements/