Delicious Data:
Automated Techniques for Complex Reports

Presented by
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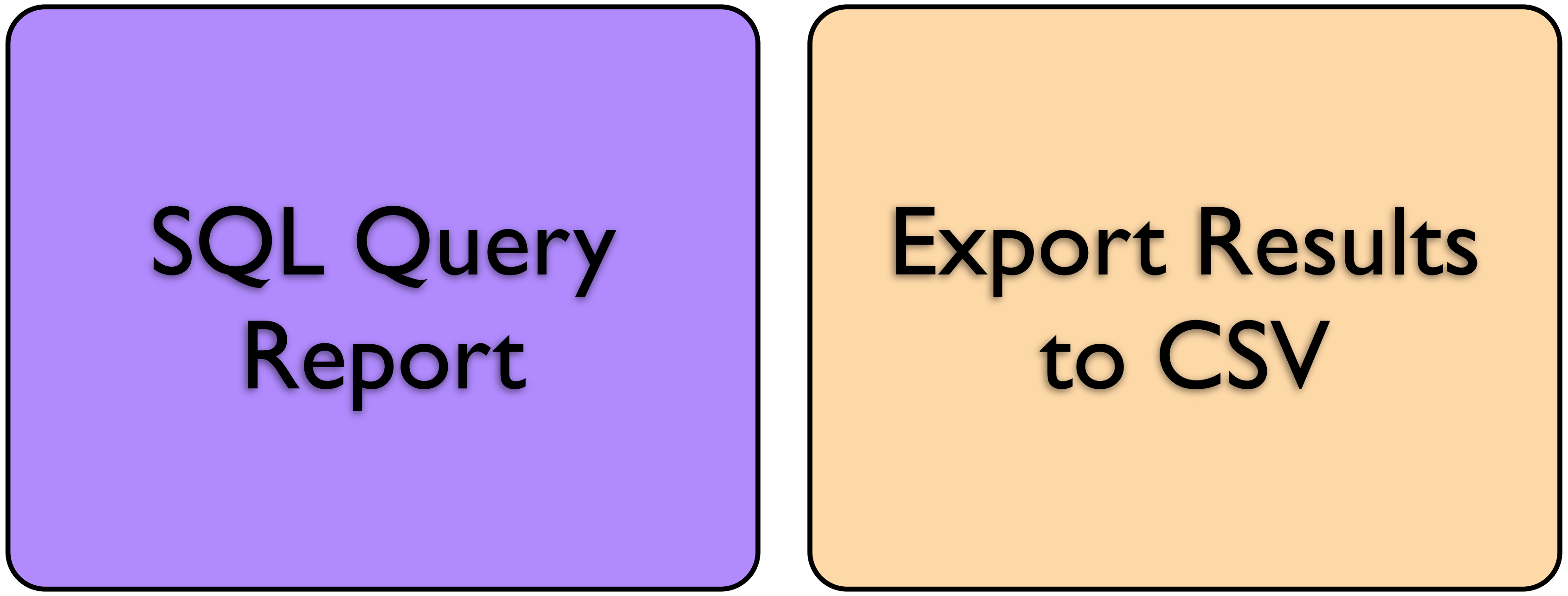
How NOT to run reports...

Planning the framework

Planning the framework

Planning the framework



Planning the framework

SQL Query Report

Export Results to CSV

Convert CSV to XLS

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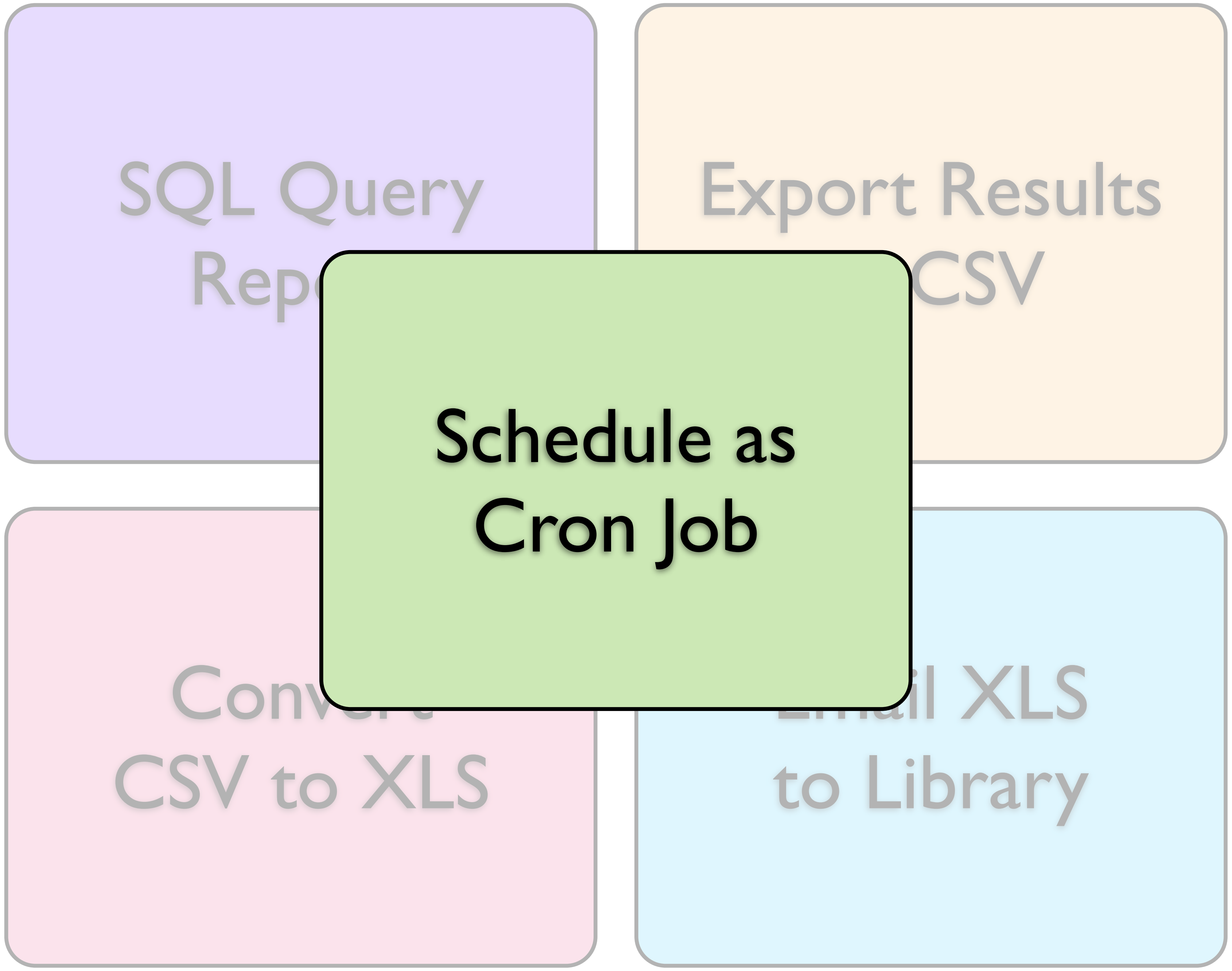

Some Strategies

Schedule as Cron Job

Use our experience setting up crontab

SQL Query Report

Use our existing SQL reports

Export Results to CSV

CSV is a standard format to work with

Convert
CSV to XLS

Find a converter

Email XLS
to Library

Find an email client

Implementation

- Can find online at http://evergreen-ils.org/dokuwiki/doku.php?id=scratchpad:automated_sql_reports

Future of the work

- Additional formatting
- Dealing with reports with zero results
- Adding new reports
- Implementing more refinements

No database access?

- Create scheduled reports
- Completion notification via e-mail
- Script pulls report data
- Import and process

Don’t do this unless you have to

Reports as Exports

- Create template that outputs raw data
- Schedule report
- Enable e-mail notification to special address

Act on the e-mail

- fetchmail -> procmail -> perl
- Report data is automatically downloaded
- Within a minute or so

act-on-mail.pl

```
#!/usr/bin/perl

# called by procmail, and receives the mail message on stdin

use strict; use warnings;

my $url;

while (<>) {
        if ($_ =~ /https:\/\/reporter/) {
                $url = $_;
                last;
        }
}

system("/home/stats/bin/fetch-report.pl", "-u", $url);
```

fetch-report.pl logic

- Fetch URL like:
  https://host/reporter/[...]/report-data.html
- Automatically log in if needed (keep a cookie)
- Download report-data.csv and save to output dir

imports.ini example 1

```
[general]
dir=/home/stats/reports
state_dir=/home/stats/state

[group holdratio]
name=Hold Ratio
file1=holds_outstanding.csv
file2=holdable_copies.csv
file3=bib_info.csv
command=psql -f /home/stats/sql/holds_init.sql
#post-command=/home/stats/bin/mail-holdratio.pl
```

imports.ini example 2

```
[general]
dir=/home/stats/reports
state_dir=/home/stats/state

[group items_for_export]
name=Items for Export
file1=items_for_export.csv
command=psql -f /home/stats/sql/items_for_export.sql
post-command=/home/stats/bin/export_bibs.pl -f /home/stats/
output/bre_ids.csv
```

Import script overview

- Runs from cron
- Have all input files been updated since the last time I ran this import?
- Run import
- Update timestamp
- Run post-import command

The import process

- drop table
- create table
- import data
- process to output

The post-import

- Send the report output somewhere
- E-mail notify that "report's ready at someurl"
- Trigger something like a bib export of the records that were output

One more thing...

- Don’t forget to delete your scheduled report output

Custom reporting views exposed in the IDL

SQL views in the IDL

- Exposed via reporting interface
- Good for on-demand reporting
- Don’t break the IDL
  - xmllint is your friend
  - pick a class id unlikely to collide

```
<class id="rlcd"
controller="open-ils.cstore open-ils.pcrud open-ils.reporter-store"
oils_obj:fieldmapper="reporter::last_copy_deleted"
oils_persist:readonly="true"
reporter:core="true"
reporter:label="Last Copy Delete Time" >
```

```
<oils_persist:source_definition>

SELECT  b.id,
        MAX(dcp.edit_date) AS last_delete_date

FROM   biblio.record_entry b
        JOIN asset.call_number cn ON (cn.record = b.id)
        JOIN asset.copy dcp ON (cn.id = dcp.call_number)

 WHERE  NOT b.deleted

 GROUP BY b.id

 HAVING SUM( CASE WHEN NOT dcp.deleted THEN 1
ELSE 0 END) = 0

</oils_persist:source_definition>
```

```
<!-- continued -->
      <fields oils_persist:primary="id"
oils_persist:sequence="biblio.record_entry">
         <field reporter:label="Record ID" name="id"
reporter:datatype="id"/>
         <field reporter:label="Delete Date/Time"
name="last_delete_date" reporter:datatype="timestamp"/>
      </fields>
      <links>
         <link field="id" reltype="has_a" key="id" map=""
class="bre"/>
      </links>
```

```
<!-- continued -->
        <permacrud xmlns="http://open-ils.org/spec/opensrf/
IDL/permacrud/v1">
            <actions>
                <retrieve/>
            </actions>
        </permacrud>
    </class>
```

The Future

- General third party reporting frameworks?
- Library Dashboards?
- Your Ideas?

Photo Credits

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http://www.flickr.com/photos/suratlozowick/4522926028/

Thanks!