Perl application to extract data from Lyon Tracker DB

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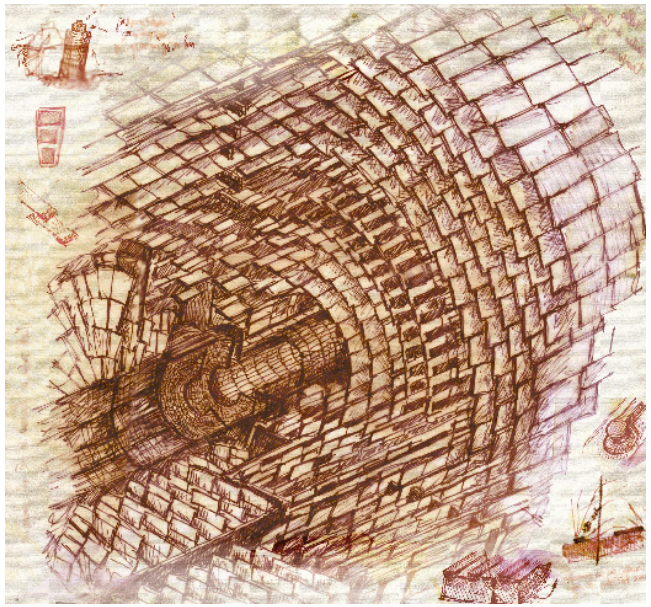

CMS TK Week,
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relay application

- direct possibility to get data from db
- expects SQL encapsulated in XML
- replies table with XML syntax
- Example:
  - cat query.txt | nc cmstrkdb.in2p3.fr 3615
  - Answer:

<?xml version="1.0" encoding="UTF-8"?>

<answer><status>200 DBQuery:
OK</status><row><column>OBJECT</column><value>SEN<
/value><column>COUNT(C.OBJECT)</column><value>184</v
alue></row></answer>

PERL program: ***relay.pl***

- opens connection to socket
  - cmstrkdb.in2p3.fr, Port 3615
- reads text which contains the query
- sends query to host
- reads answer
- parses the XML answer
  - uses CPAN Module **XML::Parser** (has to be installed)

SQL Queries

- most important thing to get useful data from the database
- can be very complicated even for easy queries (eg. inventory)
- good knowledge of the database structure (table and column names) is essential

Example PQC: V_fb > 10 V

```
<select db="prod">
  a.OBJECT_ID, a.FLAT_BAND_VOLTAGE,  b.FLAT_BAND_VOLTAGE, a.OPERATOR
  from tsmos_1_sen_ a,
       tsgcd_1_sen_ b
  where a.FLAT_BAND_VOLTAGE > 10
  and a.status = 'reference'
  and b.status = 'reference'
  and a.OBJECT_ID = b.OBJECT_ID
  order by OBJECT_ID ASC
</select>

Status: 200 DBQuery: OK

OBJECT_ID      FLAT_BAND_VOLTAGE        FLAT_BAND_VOLTAGE    OPERATOR
30210420942214 10.4              13.5          Olivier Kekedi
30210420942224 15.8              0             Olivier Kekedi
30210420944706 16.6              12.5          Olivier Kekedi
30210920939501 23                0             Margit Oberegger
30210920939502 27                20            Margit Oberegger
```

Example: Position of bad Strips

```
$> ./relay.pl -v pos_of_bad_str.sql
<select db="prod">
  POSITION_OF_BAD_STRIPS
  from stripscansummary_1_sen_
  where object_id=302111605326
  and status = 'reference'
</select>

Status: 200 DBQuery: OK

POSITION_OF_BAD_STRIPS
256 494
```

Example: Inventory Center Overview

```
[bergi@dbserver QTC]$ relay.pl -v inventory_center_overview.sql
<select db="prod">
  c.object, count(c.object), b.center
  from
    (select object_id, max(sequence) s
        from history
        where CURRENT_ACTION = 'Registration' or
              POSITION = 'shipping' or
              CURRENT_ACTION = 'shipping'
        group by object_id
        ) a,
    history b,
    object_assembly c
  where a.object_id=b.object_id and
        a.s=b.sequence and
        a.object_id=c.object_id
  group by c.object,b.center
</select>
```

Example: Inventory Center Overview

```
Status: 200 DBQuery: OK

OBJECT   COUNT(C.OBJECT) CENTER
APV      1980     STRASBOURG
HYB      79       CERN
HYB      2        LOUVAIN
HYB      105      STRASBOURG
MOD      11       BARI
SEN      43       BARI
SEN      20       BRUSSEL-VUB
SEN      64       COURRIER
SEN      221      KARLSRUHE-IEKP
SEN      2        LOUVAIN
SEN      468      PERUGIA
SEN      894      PISA
SEN      20       STRASBOURG
SEN      160      VIENNA
```

Summary

- relay application very powerful to extract data from the database
  - for further use (eg. bonding)
  - for analysis
- PERL program is just an example, other possibilies could be:
  - ROOT,
  - ODBC (Excel)

http://bergi.hephy.at/relay