

SVT in hdwdb

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SVT init data

- SVT needs a substantial amount of input data to be correctly initialized
- To perform initialization currently SVT code needs two file names:
 1. Hwset file
 2. Mapset file
- Each file is a flat ascii file containing a number of keyword,value pairs and a checksum
- Files currently on a disk on b0 cluster, would like to migrate those to DB for obvious reasons

SVT hwset file

- Record default value of VME registers for all the SVT boards
- controls things like switching on/off a wedge, pulling CDF error, but also some general cut like the maximum chi2 cut
- Size of order 20 Kb

SVT mapset file

- Contains basically a collection of file names needed to generate memory maps in SVT boards.
- For each wedge (12 total):
 - Pattern file
 - SuperStrip file
 - Geometrical constant file (fit parameters)
- Also CRC's for all the actual memory images to be generated
- Size of order 10 Kb

SVT configuration size

| Filetype | Size (Kb) | Update frequency |
|------------|--------------|------------------|
| Hwset | 20 | 1/week |
| Mapset | 12 | 1/month |
| Patterns | 1800(200)*12 | 1/month |
| Superstrip | 1*12 | 1/month |
| Gcon | 4*12 | 1/month |

- Size dominated by pattern size
- Expect to have at any given time 4-5 complete sets active among which we can choose

SVT Tables

| SVT_DATA | | | | |
|-------------|-------------|-------------|-------------|--------------------|
| <i>Name</i> | <i>Date</i> | <i>User</i> | <i>Type</i> | <i>Data (BLOB)</i> |

Exists and probably it's just fine

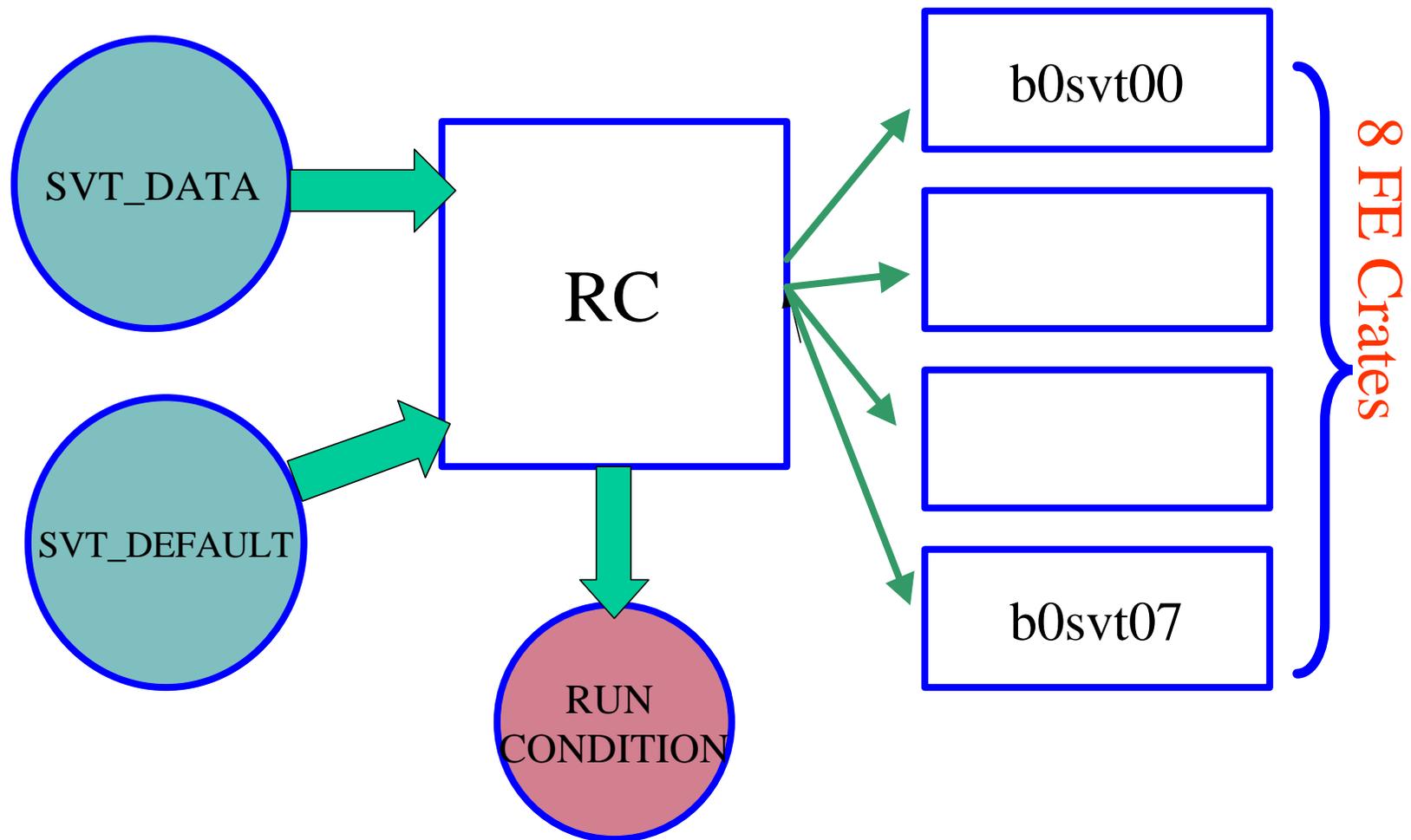
| SVT_DEFAULT | | |
|-------------|----------------------------|-----------------------------|
| <i>Time</i> | <i>Hwset name (string)</i> | <i>Mapset name (string)</i> |

Does not exist yet and may be replaced by some other mechanism (trigDB?)

| RUN Condition | | | |
|---------------|------------|--------------|---------------|
| <i>RUN</i> | <i>...</i> | <i>Hwset</i> | <i>Mapset</i> |

Need a couple of extra strings to keep track of actual svt conf. for any given run

SVT in RC with DB



Other issues

| SVTBeam | | | | | | | | | | | | | |
|-------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <i>Time</i> | <i>Run</i> | <i>X0</i> | <i>Y0</i> | <i>X1</i> | <i>Y1</i> | <i>X2</i> | <i>Y2</i> | <i>X3</i> | <i>Y3</i> | <i>X4</i> | <i>Y4</i> | <i>X5</i> | <i>y5</i> |

Probably needs some way to tell the system where the beam spot was the last time.

This info has to be written out by some dedicated process like a consumer running on SVDD data or by some other monitor process. Could use a file of course for the time being.

Conclusion

- SVT needs its configuration stored in DB
- The data size in the DB is estimated to be between 2.5 MB and 22 MB depending on the amount of compression we want to do on the pattern file. This could be 30 to 300 MB a year.
- An online toy example has been written and works. Doing the same with offline (C++) is currently impossible due to lack of support of BLOBs
- We need an offline access to the SVT config for simulation studies and data emulation/validation.
- As a minimum we must have the confidence that the support for BLOBs will be there in the time scale of a couple of months....