

APEL Client Upgrade Plan

Introduction

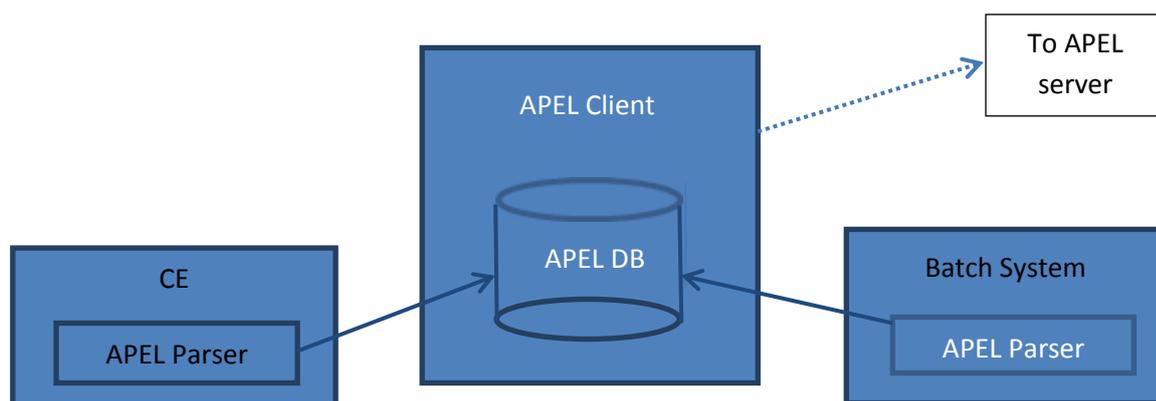
This guide is for sites which have already installed APEL software from EMI2 or before. Those sites will have an existing APEL database containing accounting data.

The APEL software released in EMI3 is not compatible with the software released in EMI2. Care must be taken when upgrading the EMI APEL machine so that accounting data is published continuously when the transition is made.

It is not possible to run the two APEL Publishers concurrently. Data from the new APEL Publisher will overwrite the data from the old APEL Publisher.

Overview

The new APEL software has a similar structure to the EMI2 version. APEL Parsers are installed on the CEs and batch system, depending on configuration. These parse log files and put the information into a MySQL database installed on an APEL client machine.



The APEL Publisher runs on the APEL client machine, processes the data in the database and writes it to files on the local filesystem, which are then sent to the APEL server using APEL SSM.

None of the components released in EMI3 are compatible with the APEL software released in EMI 2 and before. To upgrade APEL, it is important that you upgrade the APEL Publisher, MySQL database and APEL Parsers at the same time.

Full Upgrade

APEL Parsers will be distributed in metapackages with CREAM CE or batch system utilities. You may upgrade all of the installed APEL Parsers so that they are running an EMI3 version. If you do this, you must also install an EMI3 APEL Publisher, then follow the 'Upgrade instructions' below.

Partial Upgrade

There are two ways to manage a partial upgrade of the metapackages containing APEL Parsers. This is possible because:

- EMI 2 APEL software is compatible with CREAM CE from EMI 3.
- EMI 3 APEL software is compatible with CREAM CE from EMI 2.

Upgrade the parsers (recommended)

When you install a CREAM CE from EMI 3, it should also install the EMI 3 version of the APEL Parsers. This is the best time to update your APEL installation.

If you have CREAM CEs which you are not updating to EMI 3, you need to install the EMI 3 version of the APEL Parsers on these CEs too. The APEL Parsers are very simple programs which should not cause any conflicts.

Once you have done this, follow the 'Upgrade instructions' below.

Downgrade the parsers (not recommended)

This is not recommended because it causes extra work. If you wish to upgrade a CREAM CE to EMI 3 but retain EMI 2 APEL, please contact apel-admins@stfc.ac.uk for guidance.

Upgrade instructions

First, ensure that all APEL Parsers and the APEL Publisher are the EMI3 versions.

Once you have the new APEL Publisher and Parsers installed, you will begin to store accounting data in the new APEL client database. By default all data found will be published, which is not necessary because the existing APEL client will have published most of the data beforehand. **To prevent this, follow these instructions once only.**

Part 0 - back up the old APEL database

- `mysqldump -u <user> -p accounting > oldapelddb.sql`

Part 1 - run the new software

First, run the new APEL software, to populate the new database with the available information.

APEL Parsers

- Configure the APEL Parsers correctly, and parse all the log files for the appropriate CEs and batch system.
 - This may take a long time if a large number of log files are present.
 - The APEL Parsers will then mark all old log files as parsed, and will not parse them again

APEL Publisher

First, disable the unloader. This ensures that no data is sent to the server until everything is configured correctly. Then run APEL Publisher to generate accounting data from all the records that have just been parsed.

- **IMPORTANT:** In `/etc/apel/client.cfg`, disable unloader:

```
...
[unloader]
enabled = false
...
```
- Run the APEL Publisher

```
/usr/bin/apelclient
```

- This may take a long time on the first run

Part 2 – choose the correct data

The important part is to make sure that you are only sending data from complete months. It is fine to send records that have already been sent, as long as you send the whole month. For this reason, it is best to use the `migrate_apel.py` script to migrate data from the old APEL database:

- Retrieve `oldapelddb.sql`, created in Part 0
- Copy `oldapelddb.sql` to the new APEL machine
- On the new machine:
 - `mysql -u <user> -p -e "CREATE DATABASE accounting"`
 - `mysql -u <user> -p accounting < oldapel.sql`

The `migrate_apel.py` script will copy data from the old 'accounting' database to the new 'apelclient' database. All data from the current month will always be copied, but you may specify a number of additional months from which to retain data. If you specify that one month is to be copied, all of the data from the current month *and* the previous month are copied.

There will already be data in the new database from the steps followed in part 1. If some of that data is from a month earlier than those you chose to retain, it will be deleted. This is to ensure that partial data for a month is not published.

If you are installing the new APEL client on a new machine, you may copy directly from the old database to the new database.

You now have both the old database and the new database available, and you can use the `migrate_apel.py` script to copy the data. The script is available here:

https://raw.githubusercontent.com/apel/apel/master/scripts/migrate_apel.py

- Call `migrate_apel.py` with the correct parameters

Usage:

```
python migrate_apel.py <sourcedb> <destdb> <months_to_keep>
```

where:

```
<sourcedb> - hostname:database_name:username:password
```

```
<destdb> - as per source db
```

```
<months_to_keep> - number of complete months' data to retain
```

Here is an example:

```
[root@apel-dev utils]# python migrate_apel.py localhost:accounting:root:
<pwd1> localhost:apelclient:root:<pwd2> 2
```

```
Copying all records newer than 2013-01-01 00:00:00
from localhost:accounting to localhost:apelclient ...
```

Records processed	Time taken
10000	9.376
20000	7.622
30000	7.943
40000	7.740
50000	7.898
60000	7.655
70000	7.443
80000	7.539

```
84149 of 84149 records copied in 66.251 seconds.
```

```
Deleting all records older than 2013-01-01 00:00:00
from localhost:apelclient ...
Complete.
```

In this example all the data from January 2013 onward has been migrated, and any data older than this (which may have been generated by the parsers in Part 1) has been deleted.

Part 3 - enable regular publishing

Re-enable apel publisher.

- In `/etc/apel/client.cfg`, enable unloader:
...
`[unloader]`
`enabled = true`
...
- Run the APEL Publisher
`/usr/bin/apelclient`
 - This should send all the records for the chosen months

Having followed these steps, your apel database is migrated and ready to publish regularly.