

Packages

L1EmtSim

- Offline Package
- V00-01-41
- Used to run the Production of the Emt Monte Carlo Simulation

L1EmtSpy

- Dual Use Package
- V00-01-18
- Online
 - Used on the rom to monitor the Emt
- Offline
 - Contains the classes that produce the Monte Carlo
 - What I have concentrated on so far

Packages

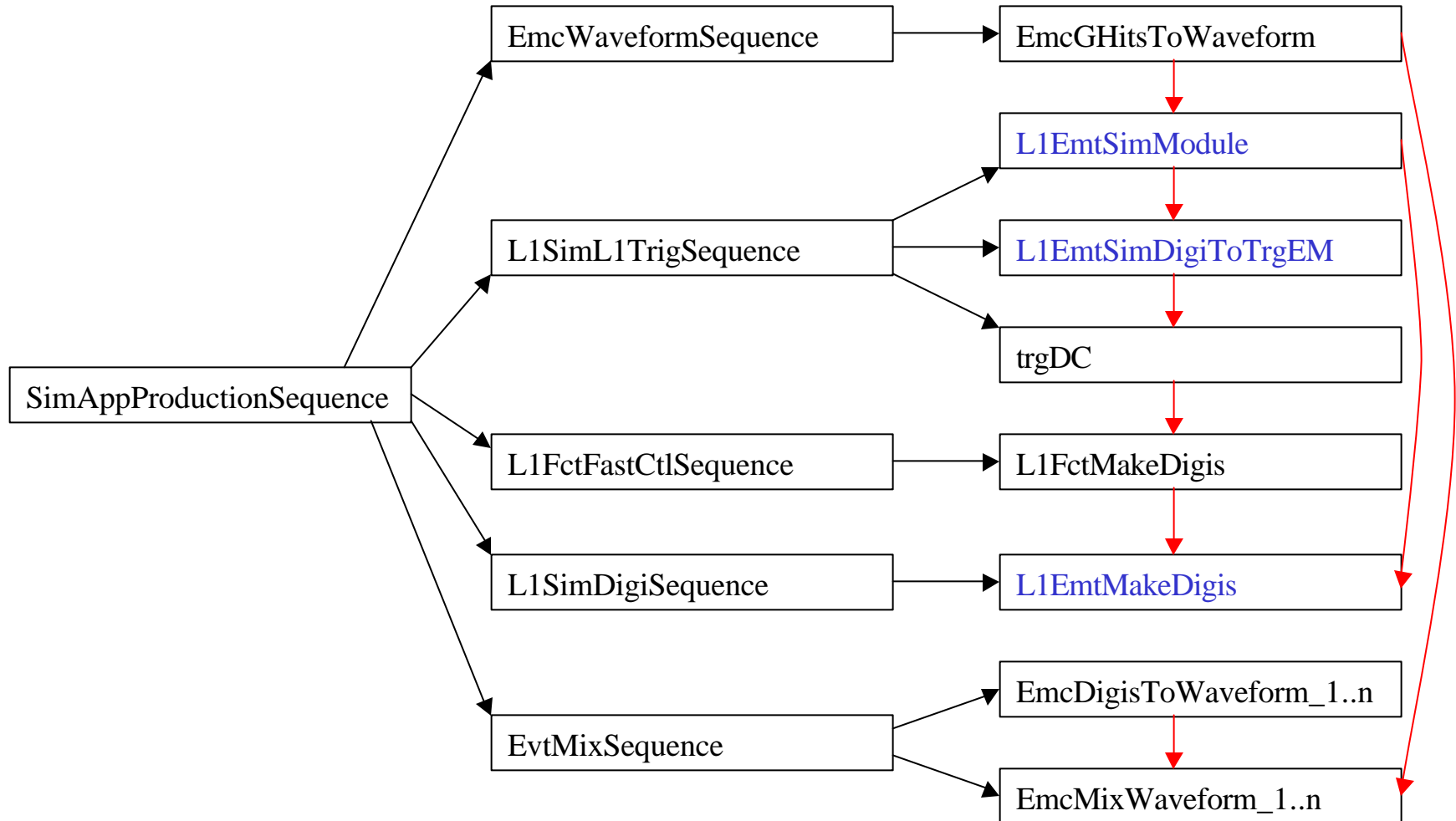
L1EmtSim

- L1EmtAxParms
- L1EmtGltSimDigi
- L1EmtHistoryHistogram
- L1EmtHistoryHistogramSupport
- [L1EmtMakeDigis](#)
- L1EmtPhiSimDigis
- L1EmtSimCheck
- [L1EmtSimDigiToTrgEm](#)
- [L1EmtSimModule](#)

L1EmtSpy

- L1Emt
- L1EmtAxSim
- L1EmtAxSimParms
- L1EmtDaqSector
- L1EmtHistory
- L1EmtHistoryReference
- L1EmtSpyApp
- L1EmtSpyModel
- L1EmtSpySector
- L1EmtSpyTemplates
- L1EmtTowerSumHistories
- L1EmtUtil
- L1EmtVector

SimAppProductionSequence



Modules

- L1EmtSimModule
 - Takes the Emc Waveform and makes L1EmtGltSimDigis
- L1EmtSimDigiToTrgEm
 - Takes the L1EmtGltSimDigis and writes out a TrgEM_Gl fortran common block
- L1EmtMakeDigis
 - Takes L1EmtPhiSimDigis, L1EmtGltSimDigis and L1FctDigi (L1AcceptTime) and makes L1EmtPhiDigis and L1EmtGltDigis

L1EmtSimModule

1. Initialize Events
2. Get the waveforms from the event
3. resetNormalisation
4. For each waveform call getWaveforms
5. Get L1EmtAxRecord out of event
6. If the event has no axRecord then create one
7. Put AxRecord values into L1EmtVector
8. Make the simulation Parameters
9. Run the Xilinx simulation
10. Fill histograms
11. Store simulated digis

L1EmtSimModule

| | |
|---|-----------------------|
| L1EmtSpy/L1EmtTowerSumHistories (1) | L1EmtSpy/L1EmtHistory |
| EmcData/EmcWavefor (4) | |
| TimeSignal/SignalArray (4) | |
| BdbConfigAlias/BdbConfigAliasAccessor (5) | |
| BdbConfigAlias/BdbConfigAliasList (5) | |
| L1EmtSim/L1EmtAxParms (6)(7) | |
| L1EmtSpy/L1EmtAxSimParms (8) | |
| L1EmtSpy/L1EmtAxSim (9) | |
| L1EmtSpy/L1EmtSpySector (10) | |
| L1EmtSpy/L1EmtHistory (10) | |
| L1EmtSim/L1EmtHistoryHistogram (10) | |

L1EmtSim/L1EmtAxParams

L1EmtConfig/L1EmtAxRecord

L1EmtOnline/L1EmtAx

L1EmtSpy/L1Emt

L1EmtSimDigiToTrgEM

- Get Single L1EmtGltSimDigi
- Get Single FcsClock
- Declare (Map)Sim and get L1EmtGltSimDigi Data
- If data() is a zero length array, RW returns NULL pointer assign (Map)Sim to a dummy pointer
- Declare and initialize firstClk8
- Declare and initialize off
- Call trgempointgl to create fortran common block

```
ProxyDict/Ifd::get(anEvent)
```

```
ProxyDict/Ifd::get(anEvent,"Default")
```

```
Const d_Ulong* mSim= gsDigi->mData().data()  
L1EmtData/L1EmtGltDigi::mData()
```

```
FcsSim/FcsClock::tickAtBx(speed,Bx)
```

```
Bx=L1EmtData/L1EmtGltDigi::bxAtFirstSample
```

```
Value of _trgOffset
```

```
Extern "C" function
```

Things To Do

- Sort Out Double Peak (Nick)
- Only Use AxRecord, Possibly Include
 - FcxRecord
 - FxRecord
- Remove Default AxParms – Insert Error
- Remove Obsolete Classes And Functions
 - Still To Find