MC production status

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ILD meeting

Samples produced with v02-00

- **Produced samples**
  - single & uds with l5/s5, o1/o2
  - 500 GeV physics with l5/s5, o1, bkg overlay
    - higgs
    - 2f_Z_hadronic, leptonic, bhabhag
    - 4f_XX_hadronic, XX=WW, ZZ, ZZWWMix
    - 4f_XX_semileptonic, XX=singleZee, singleW, ZZ
    - 6f_ttbar_6jets
    - 6f_ttbar_not6jet (suspended)

  - 0.0 to 0.5% of input files were not processed, because error recovery by ILCDirac did not complete before DST-Merge job

- **Directory of DST merged files**
  /ilc/prod/ilc/mc-opt-2/ild/dst-merged/<energy_para>/*<process>*/*<model>*/v02-00
    <energy-para> = 1-calib or 500-TDR_ws
    <process> = process type. ex. 4f_WW_hadronic
    <model> = detector model, ex. ILD_l5_o1_v02

    See Elog (: https://ild.ngt.ndu.ac.jp/elog/dbd-prod/) for details
    Or ILD Confluence for summary information

ELOG dbd-prod | 500 GeV optimization p ✕ | + ⌄

← → ↻ ⌂ | 🔒 https://**confluence.desy.de**/display/ILD/500+GeV+optimization+production

Yahoo! JAPAN | 8 Akiya Miyamoto | 📁 マスコミ | ACLWS2018 | ☆ 新潟 | ☆ Dirac-Prod | ☆ DIRAC-User | ELOG dbd-prod

≡ **✕ Confluence** スペース ▾ ユーザー ▾ 作成 •••

ILD ★

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500 GeV physics samples (Detector model : l5/s5_o1)

Process	Nb. events	Elog ID	Status
6f_ttbar-6jets	1,873k	135(Sim), 140(Ovl)	Done (aa_lowpt samples of ElogID=127,128,129,130 were used for background overlay)
2f_z_leptonic	716k	141(Sim), 142(Ovl)	Done
higgs_ffh	500k	143	Done
4f_WW_hadronic	500k	144	Done
4f_ZZWWMix_hadronic	333k	145	Done
4f_ZZ_hadronic	58k	146	Done
2f_Z_hadronic	2,383k	147	Done
2f_Z_bhabhag	867k	148	Done
6f_ttbar_semileptonic, leptonic	2.648k	149	Suspended because of freequent DDSim failure in some type of events
4f_singleZee_semileptonic	813k	150	Done
4f_singleW_semileptonic	909k	151	

Elog : https://ild.ngt.ndu.ac.jp/elog/dbd-prod/

JobStatus

Preparation
gensplit
production
MergeDST
Logging
Done

Detector

ProcessName   ILDConfig   JobStatus

Date	Worker	SimID	RecID	Ecm	ProcName	ProcID	Pol	ILDConfig	Detector	JobStatus	NEvents
18/05/06 20:47:06	A.Miyamoto	10037,10038	10039,10040(ovl)	500	4f_ZZ_semileptonic	250014,250016	mixed-pol	v02-00	ILD_ls5_o1_v02	Done	442390
18/05/06 15:06:42	A.Miyamoto	10033,10034	10035,10036(ovl)	500	4f_singleW_semileptonic	250041-250044	mixed-pol	v02-00	ILD_ls5_o1_v02	Done	909148
18/05/05 16:31:19	A.Miyamoto	10029,10030	10031,10032(ovl)	500	4f_singleZee_semileptonic	250037-250040	mixed-pol	v02-00	ILD_ls5_o1_v02	Done	812713
18/04/30 16:23:02	A.Miyamoto	10023,10024	10025,10026(ovl)	500	6f_ttbar	108655-108676	mixed-pol	v02-00	ILD_ls5_o1_v02	Production	2647878 events will be submitted
18/04/28 22:14:26	A.Miyamoto	10019,10020	10021,10022(ovl)	500	2f_Z_bhabhag	250101-250104	mixed-pol	v02-00	ILD_ls5_o1_v02	Done	866892
18/04/27 16:33:23	A.Miyamoto	9927,9928	9929,9930(ovl)	500	2f_Z_hadronic	250114,250116	mixed-pol	v02-00	ILD_ls5_o1_v02	Done	4730761

dbd-prod2 | dbd-prod | worklog | simCPUSize | test-prod

st-DBD MC production with ILCDIRAC including the optimization, Page 1 of 2

nd | Login

mmary | Threaded

- 2018-05-08 16:45:16 : Submitting UserJobs to merge DSTs

- 2018-05-08 16:47:43 : DST merge jobs have completed. Downloding job outputs.

- 2018-05-08 17:03:39 : Number of events of DST-Merged files is uploaded to dstm-nevents-summary.txt.

- 2018-05-08 17:03:46 : Start replicating DST-Merged files to KEK-SRM.
  Request 'ILD-500-4f_ZZ_semileptonic-10039', RequestID(s): 4141096

- 2018-05-08 17:30:27 : Replication of DST merged files have completed.

- 2018-05-08 17:31:08 : DST-Merged job log files were uploaded.

- 2018-05-08 18:26:02 : log files were uploaded. List of log files will be found in the attachement.
- 2018-05-08 18:26:02 : All step completed. JobStatus is changed to Done

History: when, which step, etc.

Attachment 1:	input_genfiles.list 1001 Bytes | Hide | Hide all

```
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eR.pL.I250016.001.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eR.pL.I250016.002.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eR.pL.I250016.003.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eR.pL.I250016.004.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eL.pR.I250014.001.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eL.pR.I250014.002.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eL.pR.I250014.003.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eL.pR.I250014.004.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eL.pR.I250014.005.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eL.pR.I250014.006.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eL.pR.I250014.007.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eL.pR.I250014.008.stdhep,nw_per_file=200
E500-TDR_ws.P4f_zz_sl.Gwhizard-1_95.eL.pR.I250014.009.stdhep,nw_per_file=200
```

Input file name

Attachment 2:	dstm-nevents-summary.txt 374 Bytes Uploaded 2018/05/08 17:03:39 | Hide | Hide all

```
## Directory : /ilc/prod/ilc/mc-opt-2/ild/dst-merged/500-TDR_ws/4f_ZZ_semileptonic/ILD_s5_o1_v02/v02-00
   ProcID  NFile NEvents  Filename
   250014    26   303285  rv02-00.sv02-00.mILD_s5_o1_v02.E500-TDR_ws.I250014.P4f_zz_sl.eL.pR.*.d_dstm_10040_*.slcio
   250016    12   139105  rv02-00.sv02-00.mILD_s5_o1_v02.E500-TDR_ws.I250016.P4f_zz_sl.eR.pL.*.d_dstm_10040_*.slcio
```
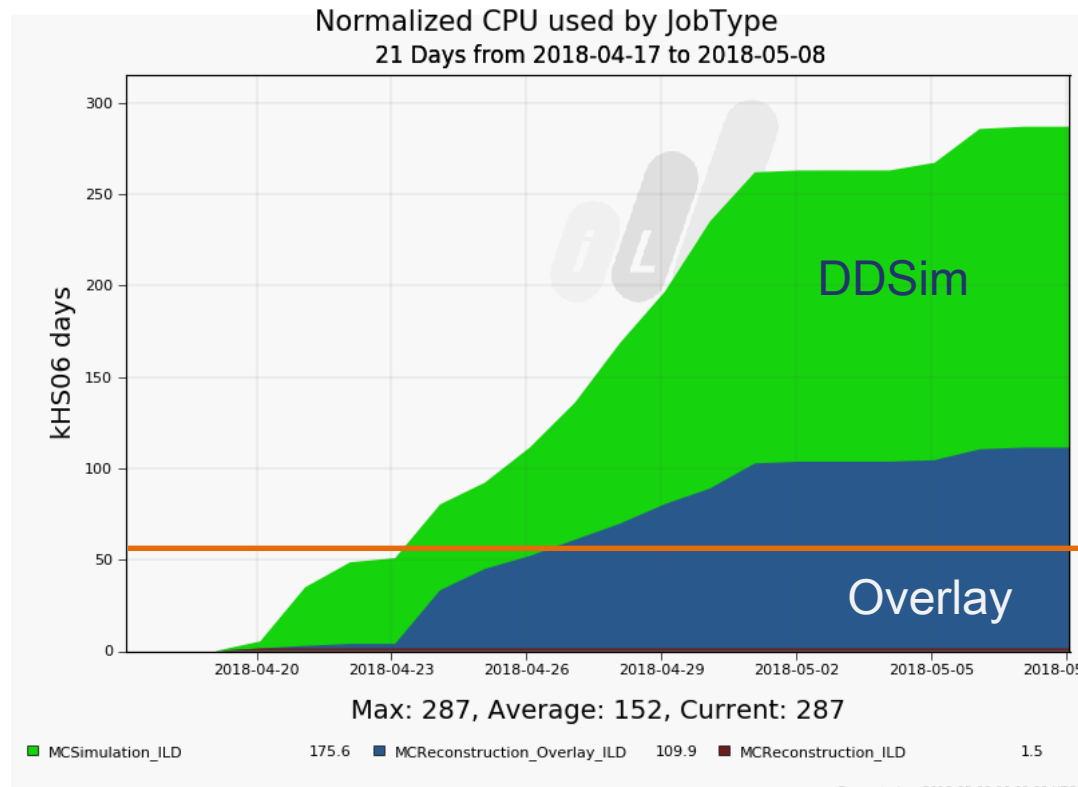
DSTMerged files

Attachment 3:	log_upload_list.txt 1 kB Uploaded 2018/05/08 18:26:04 | Hide | Hide all

```
/ilc/prod/ilc/mc-opt.dsk/ild/simlog/500-TDR_ws/4f_ZZ_semileptonic/ILD_l5_v02/v02-00/prod10037-002.tar.gz prod10037/log/prod10037-002.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/simlog/500-TDR_ws/4f_ZZ_semileptonic/ILD_l5_v02/v02-00/prod10037-000.tar.gz prod10037/log/prod10037-000.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/simlog/500-TDR_ws/4f_ZZ_semileptonic/ILD_l5_v02/v02-00/prod10037-001.tar.gz prod10037/log/prod10037-001.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/simlog/500-TDR_ws/4f_ZZ_semileptonic/ILD_s5_v02/v02-00/prod10038-002.tar.gz prod10038/log/prod10038-002.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/simlog/500-TDR_ws/4f_ZZ_semileptonic/ILD_s5_v02/v02-00/prod10038-000.tar.gz prod10038/log/prod10038-000.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/simlog/500-TDR_ws/4f_ZZ_semileptonic/ILD_s5_v02/v02-00/prod10038-001.tar.gz prod10038/log/prod10038-001.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/reclog/500-TDR_ws/4f_ZZ_semileptonic/ILD_l5_o1_v02/v02-00/prod10039-002.tar.gz prod10039/log/prod10039-002.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/reclog/500-TDR_ws/4f_ZZ_semileptonic/ILD_l5_o1_v02/v02-00/prod10039-000.tar.gz prod10039/log/prod10039-000.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/reclog/500-TDR_ws/4f_ZZ_semileptonic/ILD_l5_o1_v02/v02-00/prod10039-001.tar.gz prod10039/log/prod10039-001.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/reclog/500-TDR_ws/4f_ZZ_semileptonic/ILD_s5_o1_v02/v02-00/prod10040-002.tar.gz prod10040/log/prod10040-002.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/reclog/500-TDR_ws/4f_ZZ_semileptonic/ILD_s5_o1_v02/v02-00/prod10040-000.tar.gz prod10040/log/prod10040-000.tar.gz DESY-SRM
/ilc/prod/ilc/mc-opt.dsk/ild/reclog/500-TDR_ws/4f_ZZ_semileptonic/ILD_s5_o1_v02/v02-00/prod10040-001.tar.gz prod10040/log/prod10040-001.tar.gz DESY-SRM
```

Log file names

Production status

- About a half of the sim and rec samples planned were produced with l5/s5 o1, in less than 2 weeks.
    - fully hadronic samples mostly done.
    - semi-leptonic and leptonic samples are suspended due to DDSim problem.
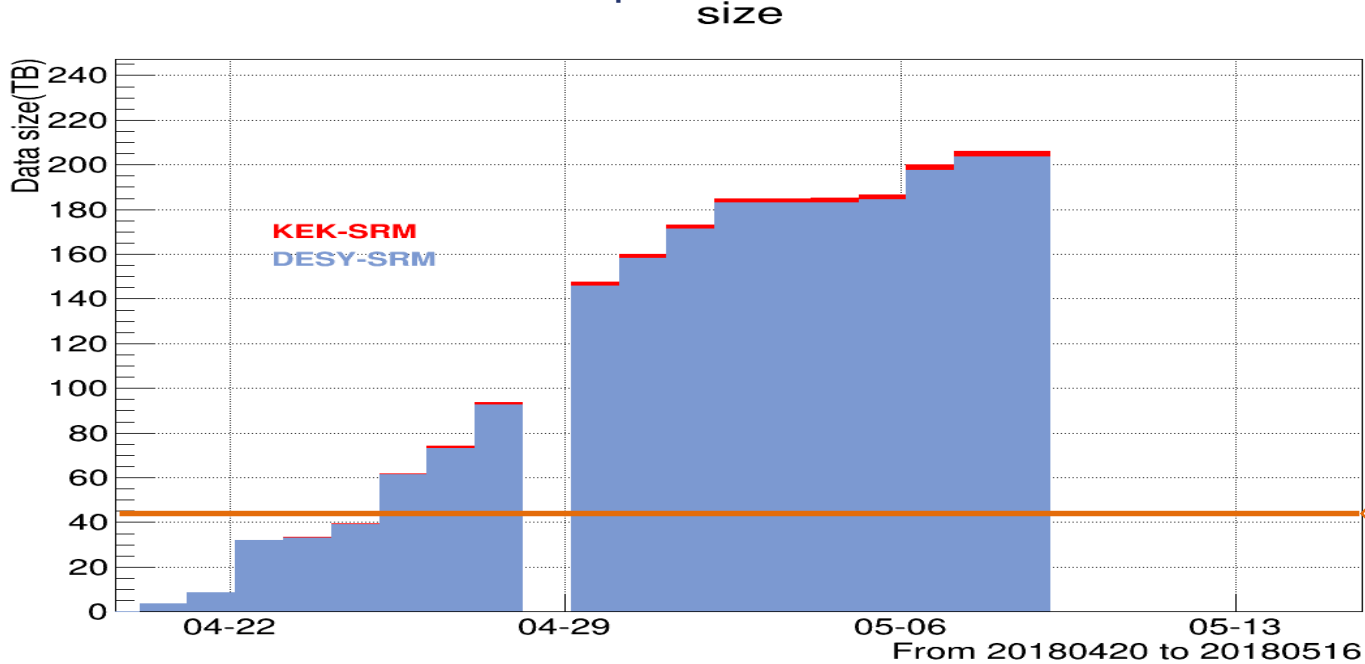   - Consumed about a half of CPU time and data storage planned.
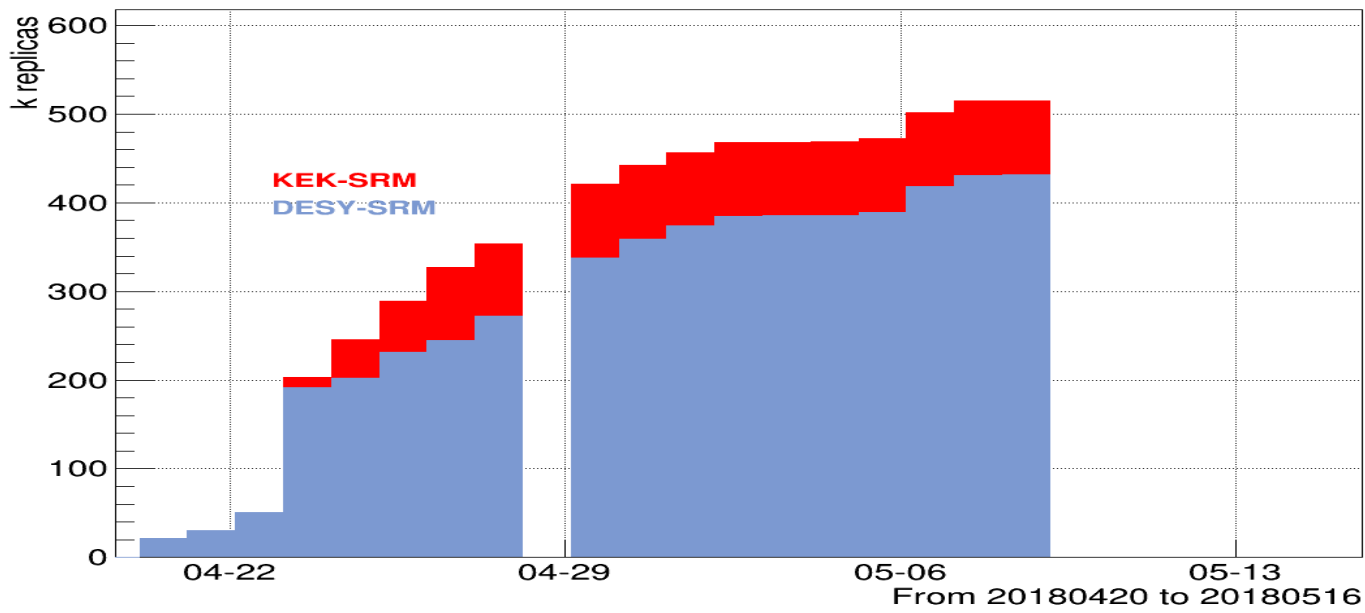

Normalized CPU used by JobType
21 Days from 2018-04-17 to 2018-05-08

CPU used in 2nd test production

Max: 287, Average: 152, Current: 287

■ MCSimulation_ILD	175.6	■ MCReconstruction_Overlay_ILD	109.9	■ MCReconstruction_ILD	1.5

Generated on 2018-05-08 06:09:03 UTC

Produced data size and nb. replicas
(https://ild.ngt.ndu.ac.jp/mc-prod/prodmon/index.html)

size

Data size produced in 2nd test

replicas (Number of files)

Problems

- Nb. of events in aa_lowpt files:
  - Move back to use 200 events/file samples.
    (6f_ttbar_6jets sample used < 40 events/file)
  - ILCDirac considers 100 events/file disregard the actual number of files.

- "Missing library" in DD4Sim
  - libicui18n.so.42, libicuuc.so.42, libicudata.so.42 did not exist at some hosts.
    ➔ immediate crash of DDSIM : ~ 15% of failed jobs
  - They were added to /cvmfs/ilc.desy.de/…/xercesc/3.1.4/lib. To be tested.

- "Failed to upload files"
  - ~ 58% of failed jobs in early last week.
  - Reduce output data size per rec. job, 2.0GB ➔ 1.2 GB.
  - Upload error last weekend was negligible. But it would depends on
    the number of active jobs and how busy network and storage are.

- "DDSim core dump"
  - ~27% of failed jobs in early last week.
  - Core dumped in an event containing tau; The same event is processed
    without crash by another job (different random number); Kinetic energy
    shown in the dumped leg message were > 1.e+20. There was a case,
    >1E+125.
  - Production of leptonic & semi-leptonic channels have been *suspended*

Summary

- Most of hadronic channels of 500 GeV SM processes have been produced is about 2 weeks. About a half of plan

- Problems in production were noticed. Production of semi-leptonic and lepton channels will be suspended for about several days, hoping to be solved soon