Data Path Coupling of NARVAL / AGATA with MBS / FRS
AGATA – MBS Data Path Coupling (1)

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TCP
Inside Narval
DAQ farm

PSA farm(s)
AGATA eb
Anc. merge
AGATA receiver
Tracking farm
Disk/Analysis
AGATA sender

MBS receiver
TO
Time sorter
Data logging
Online ana. serv.

FRS receiver
MBS eb
LYCCA
Other

AGATA - NARVAL
FRS - MBS

TCP
Inside Narval
DAQ farm
MBS to AGATA Data Receiver:
provided library and template program to connect to MBS and get Data via TCP sockets.

AGATA to MBS Data Sender:
provided library and template program to connect to MBS and send Data via TCP sockets.
provided description of MBS sub-event data format

MBS note in Dec. 2010
Planned Solution showed Performance Problem

TCP Sockets

Shared Memory

NARVAL

MBS

StreamServer

Transport

MBS (FRS)

Event-Builder

MBS

Foreign Rec.

StreamServer

Transport

MBS Foreign

Data Receiver

MBS

Time Sorter

StreamServer

Transport

Online Monitoring

Data Logging

MBS PC nodes: LynxOS, Debian Linux
MBS PC nodes: LynxOS, Debian Linux
BUF_COP / BUF_REC

BUF_COP: (for data duplication and de-randomization)
- can connect to any MBS data source (transport, stream_server, event_server, remote event_server).
- reads buffers from source, manages queue of 1000 de-randomization buffers
- sends identical data in a push mode to the 2 connected receivers
- creates 2 TCP output sockets with ports 6020, 6021
- requests connection of both sockets from data receivers before sending data

BUF_REC: (for data de-randomization)
- can connect to any MBS data source (transport, stream_server, event_server, remote event_server).
- reads buffers from source, manages queue of 1000 de-randomization buffers
- creates 1 TCP output socket. port number can be specified
- once TCP connection is established: sends all buffer read to the output socket
Result of FULL Connection Tests

send events from MBS/FRS event-builder to NARVAL and MBS time sorter
In NARVAL: flip sub-system id form 0x200 to 0x100, no other changes (local tag!),
    send back events to MBS foreign receiver
MBS foreign receiver send events to MBS time sorter
MBS time sorter sorts

BORING!
But the only result acceptable
Conclusion

It is running