

# AGATA WEEK



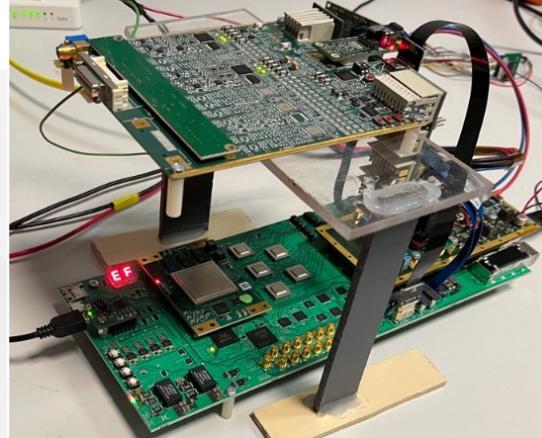
## Interface DAQ-electronics : Topology Manager & backpressure software

(Ijclab, Orsay, France)

**Presented by :** Souhir ELLOUMI

## Integration of new electronics

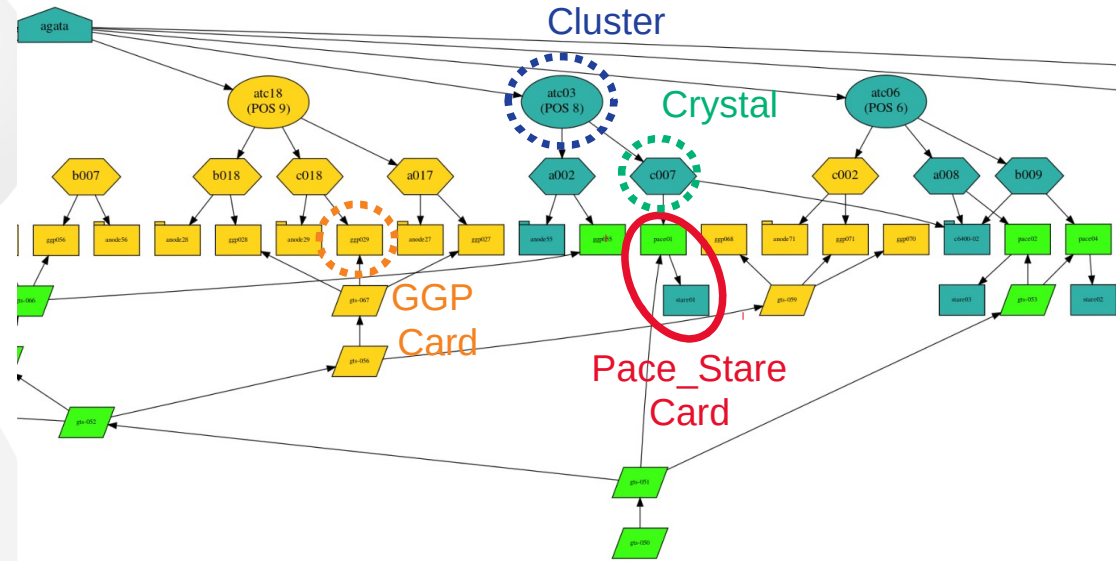
Pace\_Stare



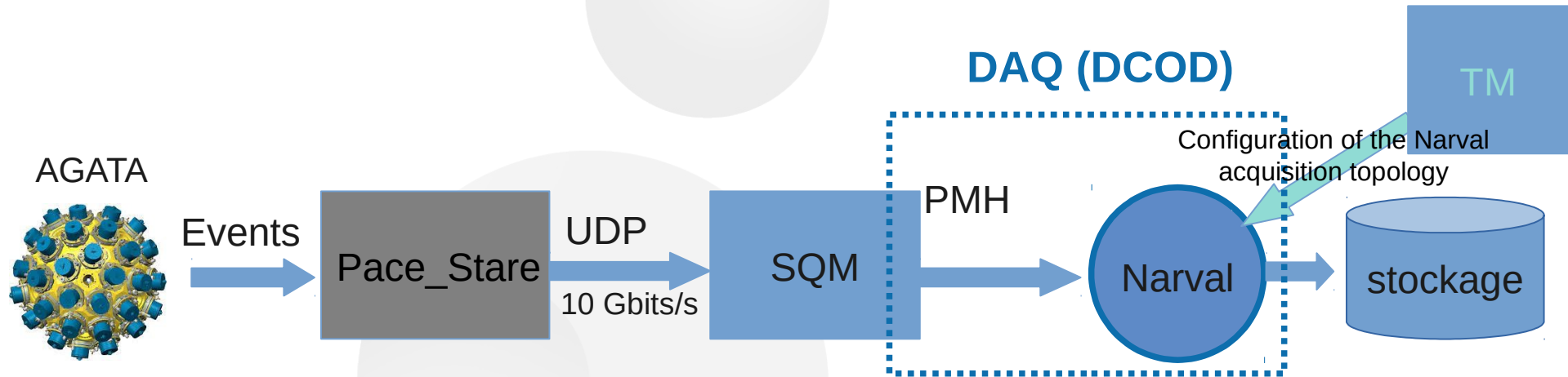
In the AGATA Phase 2  
acquisition chain

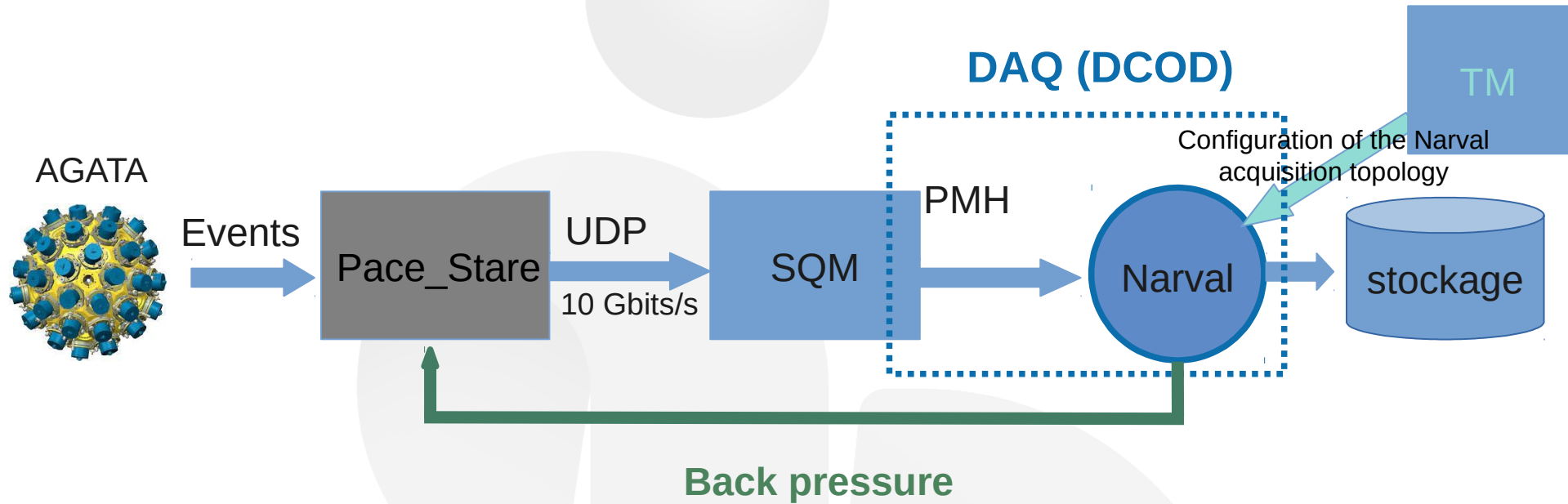
Topology Manager describe the structure of the electronics for a system

- ➔ Generate Acquisition Topology
- ➔ Generate Configuration files for the different slow control

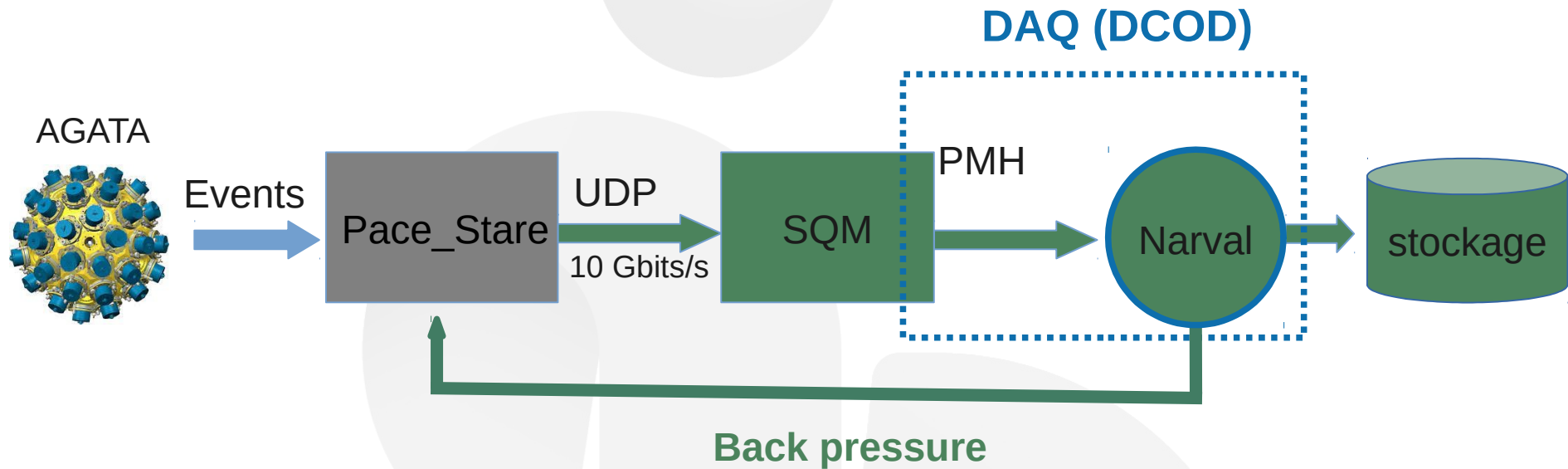


Example of TM architecture

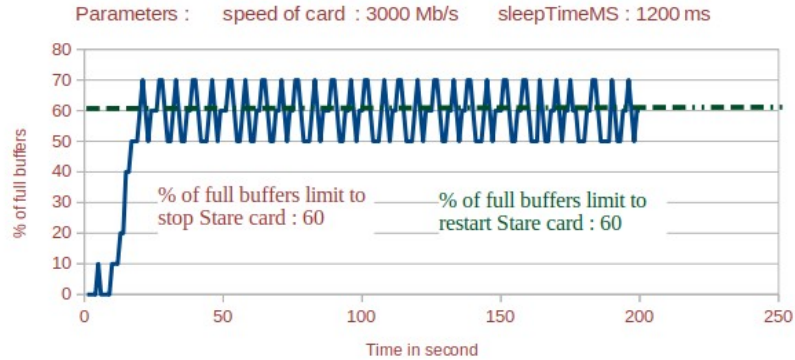




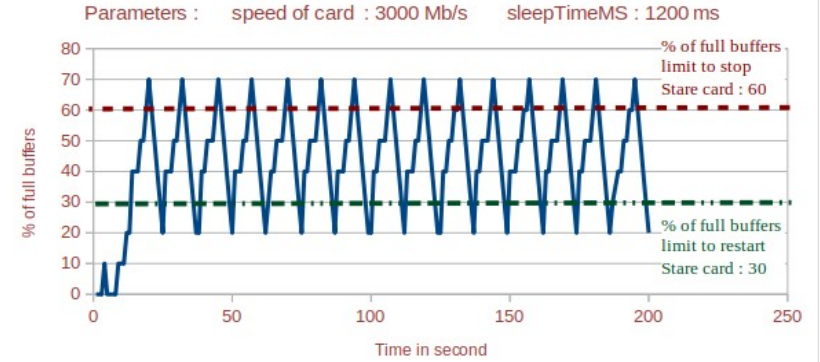
Manage sending start/stop messages to the electronics based on buffer occupancy.



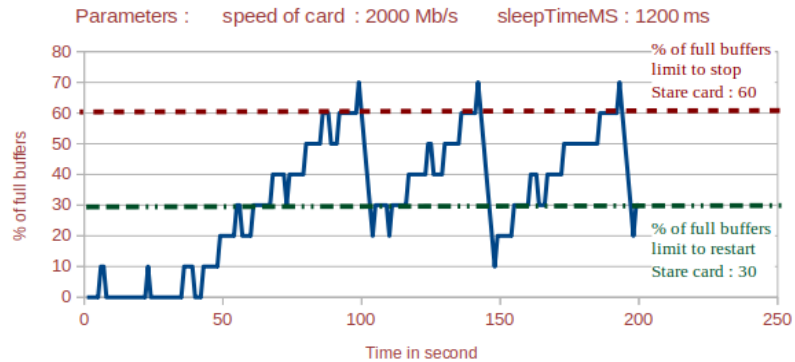
Back Pressure Diagram of Stare card with SQM\_SQM2ADF\_BlackHole actors



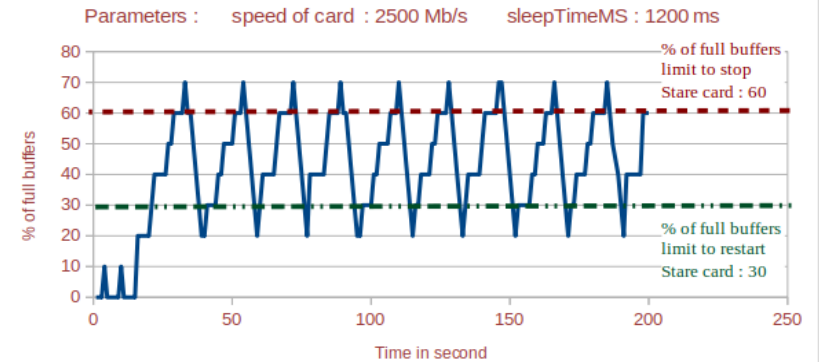
Back Pressure Diagram of Stare card with SQM\_SQM2ADF\_BlackHole actors



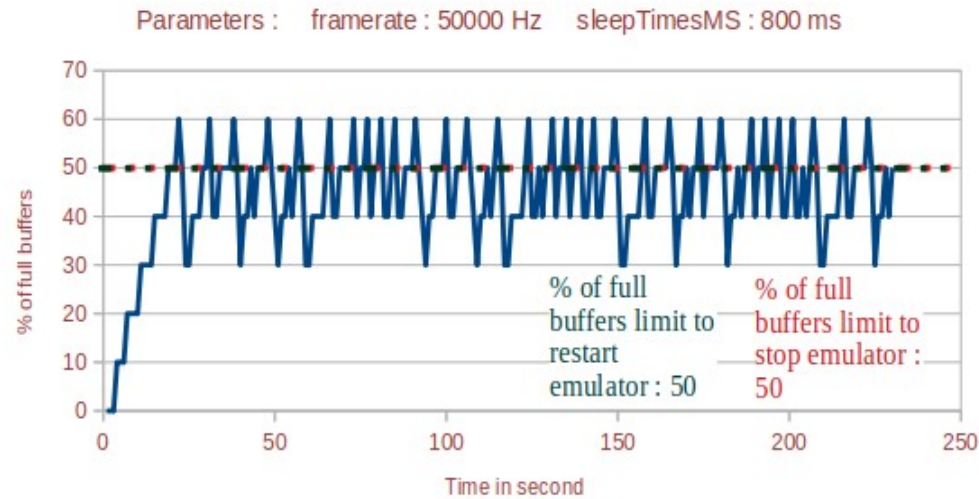
Back Pressure Diagram of Stare card with SQM\_SQM2ADF\_BlackHole actors



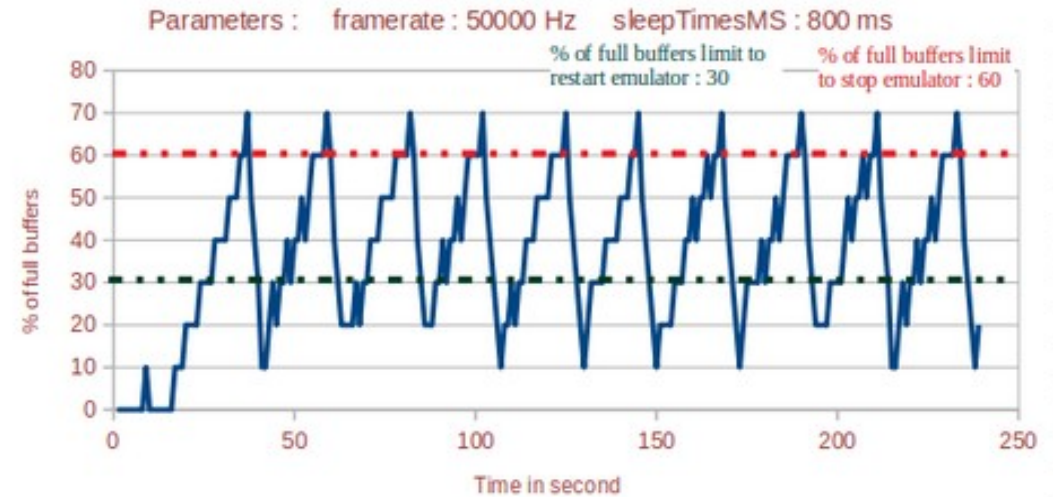
Back Pressure Diagram of Stare card with SQM\_SQM2ADF\_BlackHole actors



Back Pressure Diagram of emulator14A with SQM\_SQM2ADF\_BlackHole actors



Back Pressure Diagram of emulator14A with SQM\_SQM2ADF\_BlackHole actors

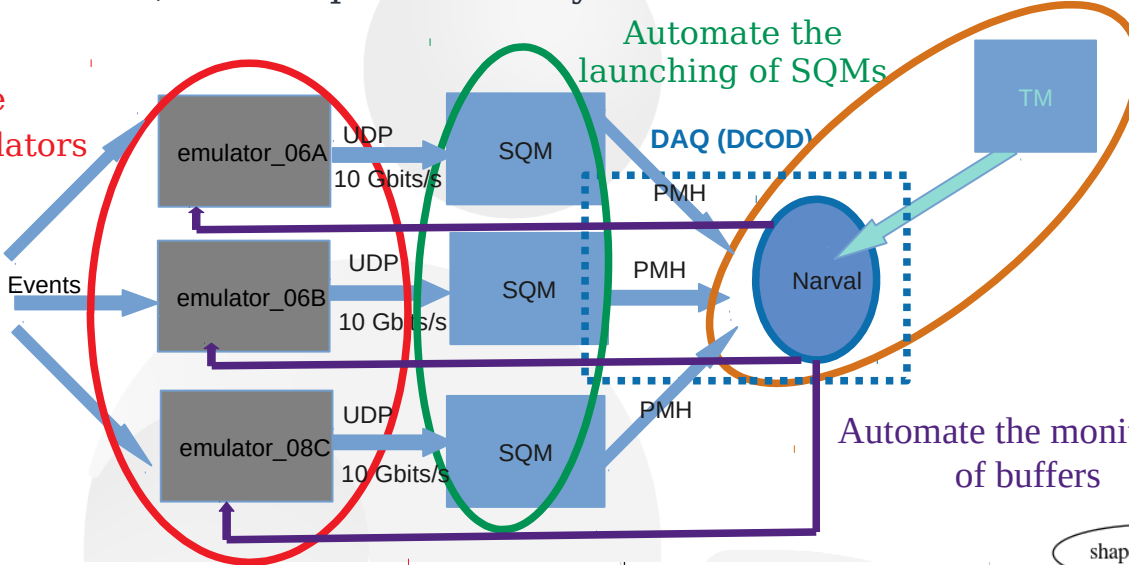
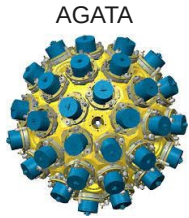


➔ Validation of the acquisition chain's proper functioning by replacing Stare with an emulator and getting correct back pressure results



★ Generate, via TM, the scripts necessary to automate the launch of the acquisition for many Crystals

Automate the Launching of emulators



Automate the loading of the Narval topology using the graphml file automatically generated by TM

Automate the monitoring of buffers

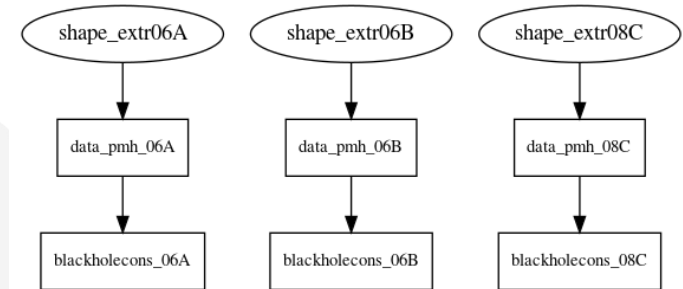
Clusters	Position	Crystals	Color	Digitizer	GGP	Pace	Stare	Carrier Master	GTS	Carrier Slave	Anode
atc01	11	a010	A	xxx	ggp081	xxx	xxx	xxx	33	xxx	anode81
		b011	B	xxx	ggp082	xxx	xxx	xxx	34	xxx	anode82
		c009	C	xxx	ggp083	xxx	xxx	xxx	35	xxx	anode83
atc03	8	a002	A	xxx	xxx	xxx	xxx	carrier-005	gts-171	xxx	anode55
		b007	B	xxx	ggp056	xxx	xxx	xxx	25	xxx	anode56
		c007	C	xxx	xxx	pace01	stare001-1	xxx	151	xxx	c6400-05.1
atc06	6	a008	A	xxx	xxx	pace02	stare002-1	xxx	152	xxx	c6400-05.2
		b009	B	xxx	xxx	pace03	stare003-1	xxx	153	xxx	c6400-05.3
		c002	C	xxx	xxx	pace04	stare004-1	xxx	154	xxx	c6400-04.1
atc07	4	a015	A	xxx	ggp074	xxx	xxx	xxx	12	xxx	anode74
		b014	B	xxx	ggp073	xxx	xxx	xxx	13	xxx	anode73
		c008	C	xxx	ggp072	xxx	xxx	xxx	14	xxx	anode72

Back to menu

- List only active items
- List all items
- Expand segment
- Collapse segment
- Hide carrier

- Generate Topology
- Build electronic configuration files

Save Items and Relations Restore Items and Relations



Narval Topology

## ✦ Organize the new configuration files generated by TM by date of experiment

Configuration files generated with global trigger system :

- File `/home/gts/GTS/gts_tree/cfg/architecture.cfg` has been written
- File `/agata/tools/gts_client/bin/gts_in_gts_tree.conf` has been written
- File `/home/carrier/bin/agatavars` has been written.
- File `/home/carrier/carrierLSC/cry.cfg` has been written.
- File `/home/carrier/carrierLSC/cgui_db.cfg` hasn't been written, exception occurred
- Directories in `/datashare/agata/topology/Elec/2024-08-29_09-18-55/GGP_Conf_Dir` have been created and populated
- Directories in `/datashare/agata/topology/Elec/2024-08-29_09-18-55/PACE_Conf_Dir` have been created and populated
- Directories in `/datashare/agata/topology/Elec/2024-08-29_09-18-55/Slow_Control` have been created and populated
- Directories in `/datashare/agata/topology/Elec/2024-08-29_09-18-55/Monitoring/Launch_Script` have been created and populated
- Directories in `/datashare/agata/topology/Elec/2024-08-29_09-18-55/Emulator/Launch_Script` have been created and populated
- Directories in `/datashare/agata/topology/Elec/2024-08-29_09-18-55/Emulator/Template_Creation` have been created and populated
- Directories in `/datashare/agata/topology/Elec/2024-08-29_09-18-55/Screen` have been created and populated
- Directories in `/datashare/agata/topology/Elec/2024-08-29_09-18-55/Dcod` have been created and populated
- Directories in `/datashare/agata/topology/Elec/2024-08-29_09-18-55/GTS_IP_BUS_Conf_Dir` have been created and populated

Done

**Thank you for your attention**