

# Camera replacement status

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# Goal

- Replace the current aging cameras
- Be able to deploy more cameras for advanced virgo



# Tasks

- Selection of the camera interface  
(E. Pacaud, B. Mours)
- Port of GxServer/GxClient to the new framework  
(B. Mours, A.Masserot, E. Pacaud)
- Power/trigger distribution box for the cameras  
(N. Letendre, S. Petit)
- Interface with the visualization/recording system in control room  
(D. Sentenac, E.Pacaud)



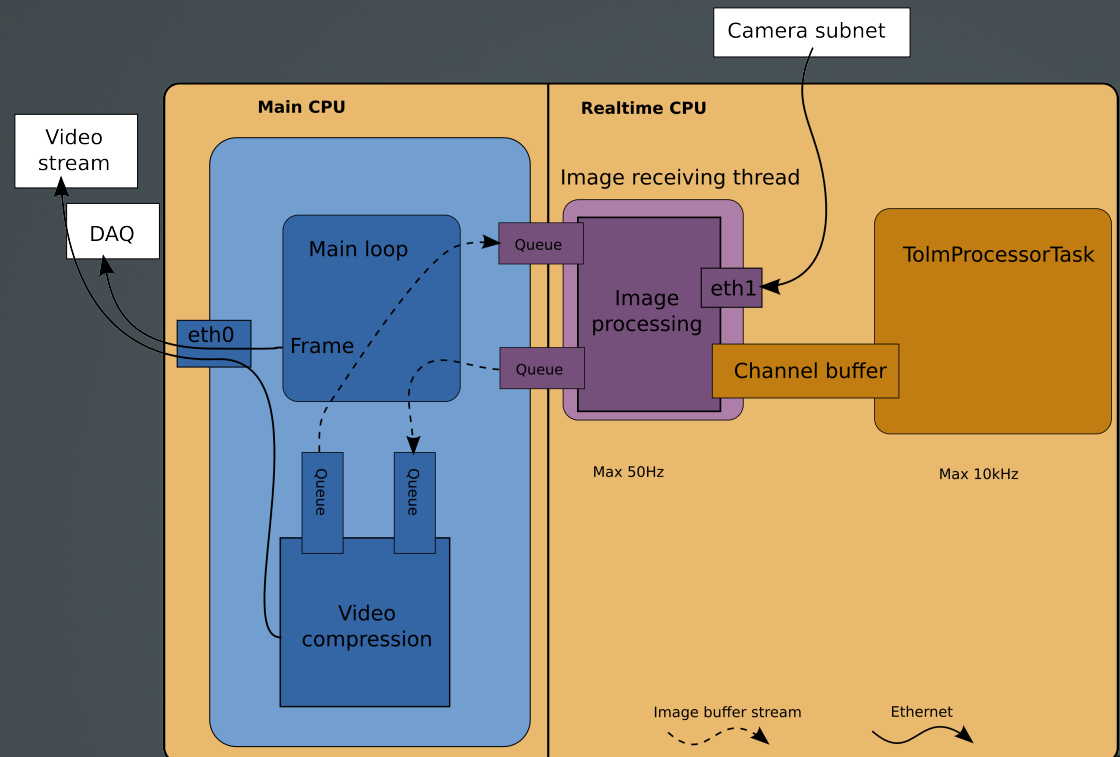
# Camera interface selection

- Status: done
- GigE Vision
  - Ethernet based
  - Compatible with our Linux/Rtai platforms
  - Compatible with real-time requirements
  - Up to 100m cable length
  - Widely adopted by camera manufacturers → large choice of sensors

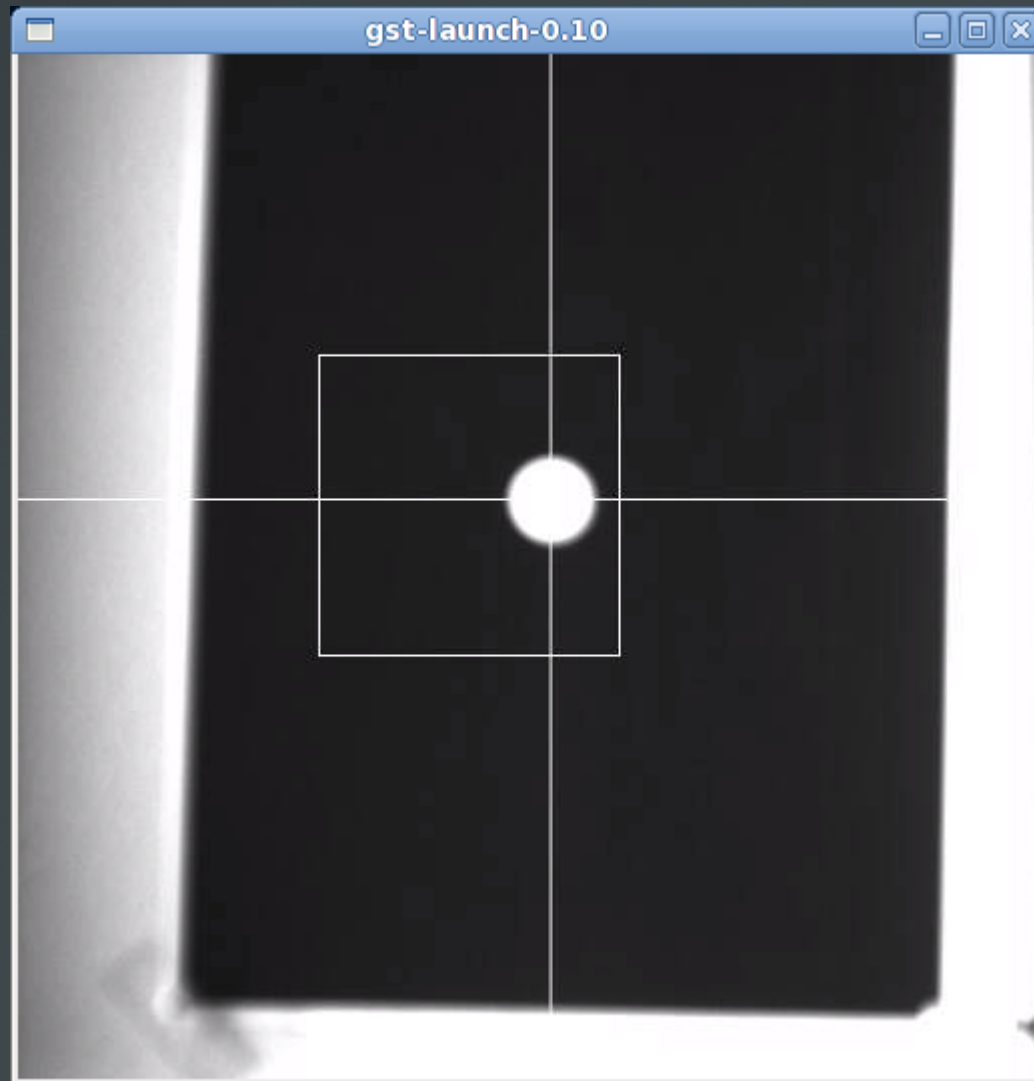


# Port of GxServer: Imaging

- Status:
  - 50 Hz loop prototype done
  - Interface with the fast loop to be done



# Imaging server - first results

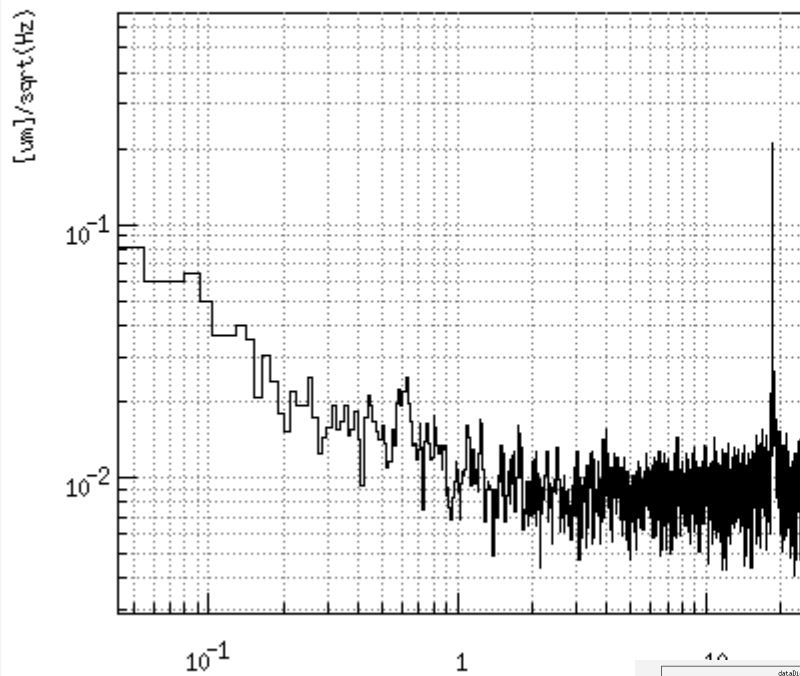




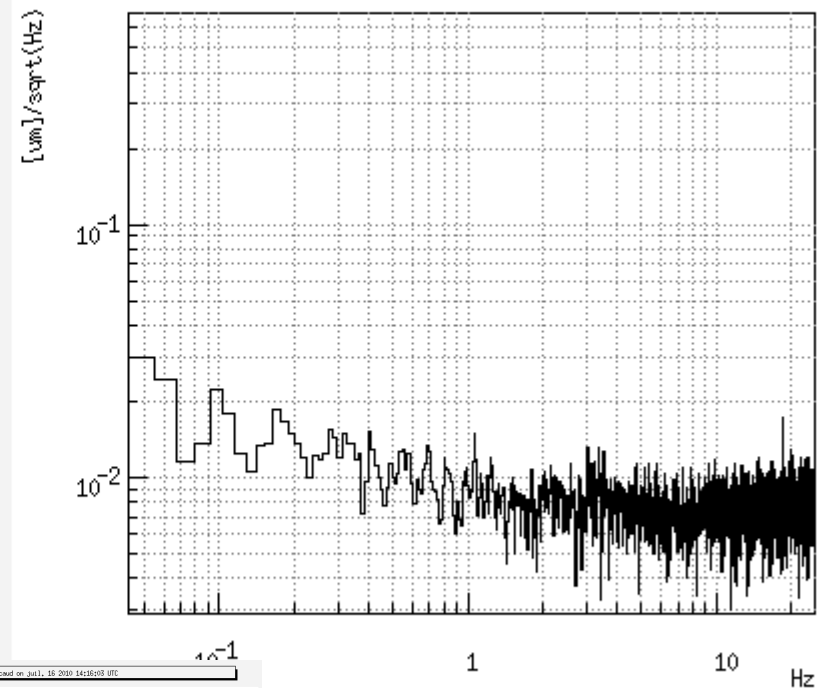
# Imaging server - first results

dataisplay v9r12p7 ; started by pacaud on juil. 16 2010 14:09:17 UTC

Gx\_zone1\_PosX\_\_FFT

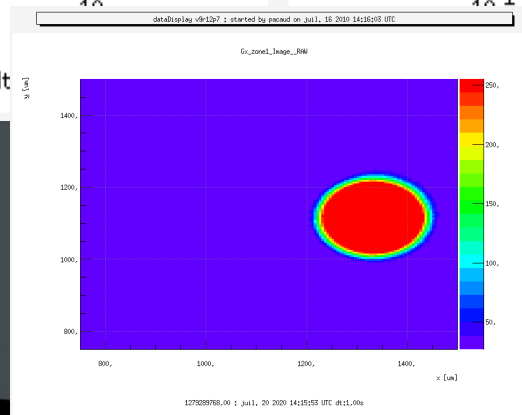


Gx\_zone1\_PosY\_\_FFT



1279289602.76 ; juil. 20 2020 14:13:07 UTC dt

1279289602.76 ; juil. 20 2020 14:13:07 UTC dt:81,92s nAv:6



# Camera power and timing box

- Supply power and external trigger for up to 8 cameras
- One DAC output per camera (Light source control)
- Trigger parameters and DAC output value controlled via ethernet
- Status: design





# Visualization / recording

- Camera images must be visualized in control room
- Current system is based on Panasonic analog video display / recorders
- Two solutions:
  - Build an analog signal from the digital stream and use the current system
  - Send the digital stream to the control building - buy or develop something similar to Panasonic recorders
- Status: evaluation of the different alternatives

# Conclusion

- First complete system prototype expected for october/november
  - Power / trigger box prototype
  - GxServer/GxClient replacements
  - Proposal for an interface with the control room display / recording system

