

New observation strategies with e-control

FESG



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GODDARD SPACE FLIGHT CENTER

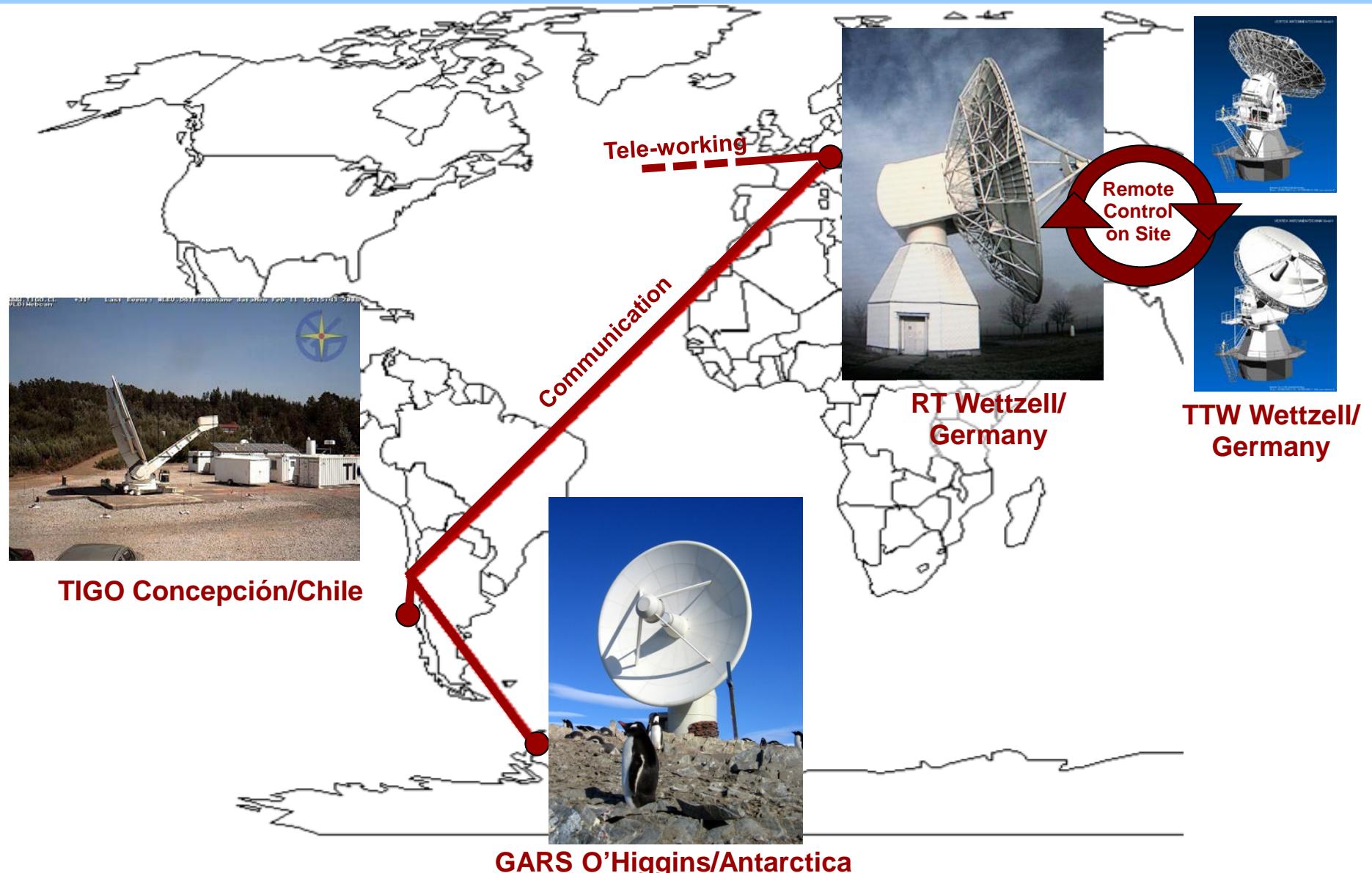
NEXPReS

Martin Ettl (FESG), Helge Rottmann (MPIfR), Christian Plötz (BKG),
Matthias Mühlbauer (BKG), Hayo Hase (BKG), Walter Alef (MPIfR),
Sergio Sobarzo (Udec), Cristian Herrera (Udec),
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Max-Planck-Institut
für
Radioastronomie

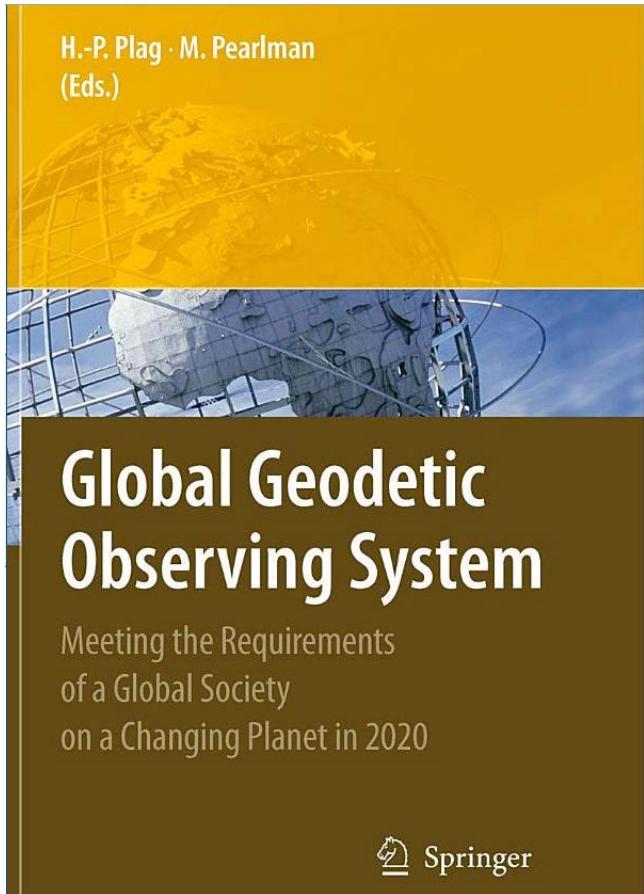



An almost given situation for the VLBI telescopes Wettzell, O'Higgins/Antarctica and TIGO/Concepción

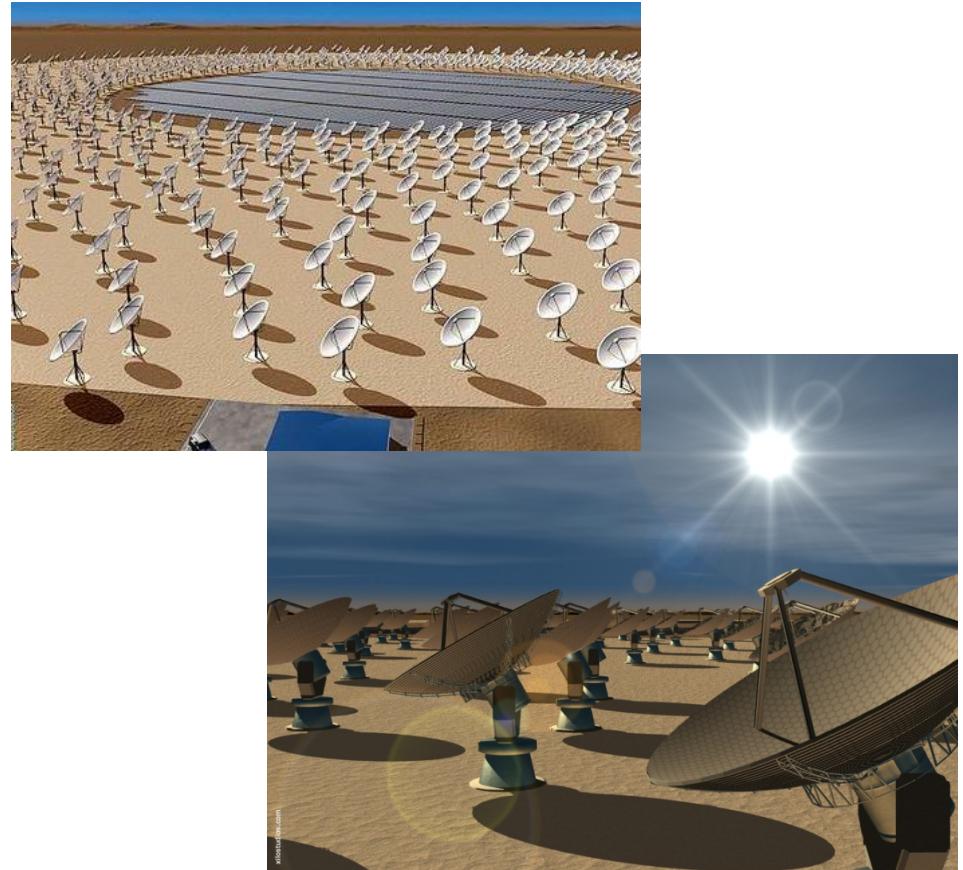


Future visions with (globally) distributed systems

GGOS



SKA



See: <http://www.smh.com.au/news/national/astronomers-bid-for-a-quiet-space-in-the-country/2006/09/28/1159337280513.html>, Download 2011-03-23

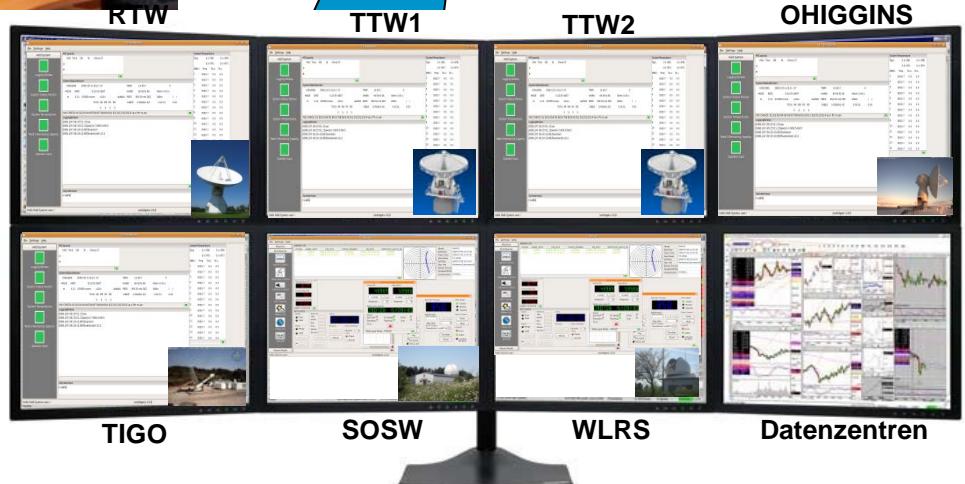
See: http://hea-www.harvard.edu/~psr_snr/research.html, Download 2011-03-23

See: http://www.amazon.de/Global-Geodetic-Observing-System-Requirements/dp/3642026869/ref=sr_1_1?ie=UTF8&qid=1300913444&sr=8-1, Download 2011-03-23

And new ideas are on the way ...



And new ideas are on the way ...



Similar to: Hase, Hayo; et. al.: Twin Telescope Wettzell (TTW) –
a VLBI2010 Radio Telescope Project. IVS General Meeting 2008

New control strategies

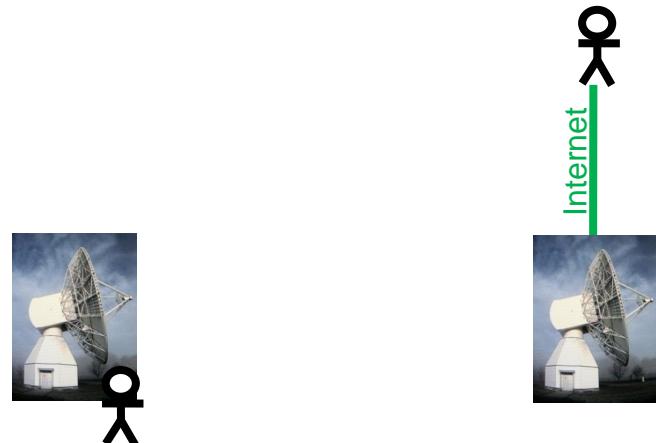
New observation strategies for VLBI telescopes Wettzell, O'Higgins/Antarctica and TIGO/Concepción



Local

- Standard operations
- Local operator

New observation strategies for VLBI telescopes Wettzell, O'Higgins/Antarctica and TIGO/Concepción



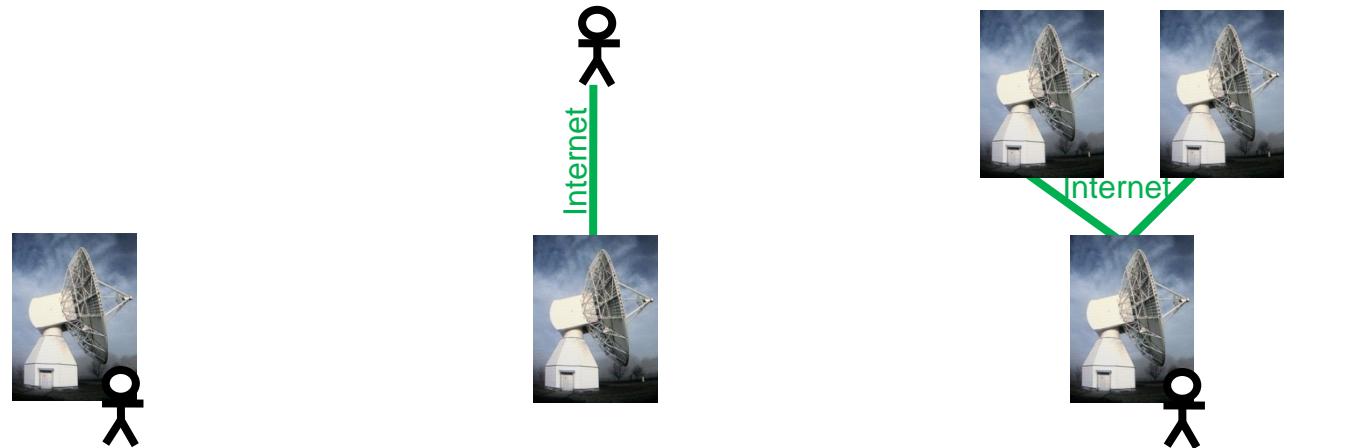
Local

- Standard operations
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Remote

- Check system states from everywhere at the observatory
- Tele-working
- Remote assistance and diagnostics
- Control very remote, inaccessible telescopes

New observation strategies for VLBI telescopes Wettzell, O'Higgins/Antarctica and TIGO/Concepción



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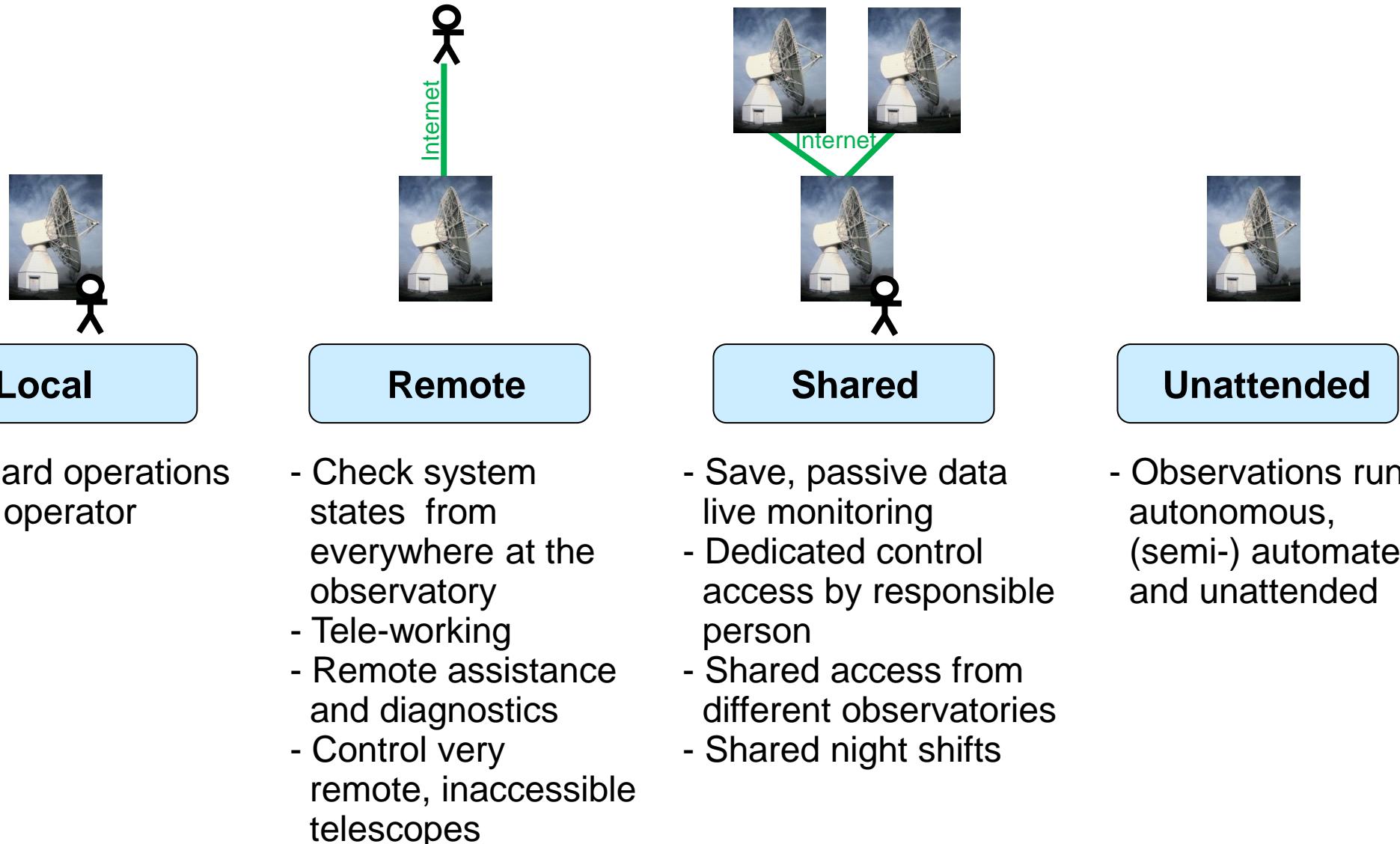
Remote

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Shared

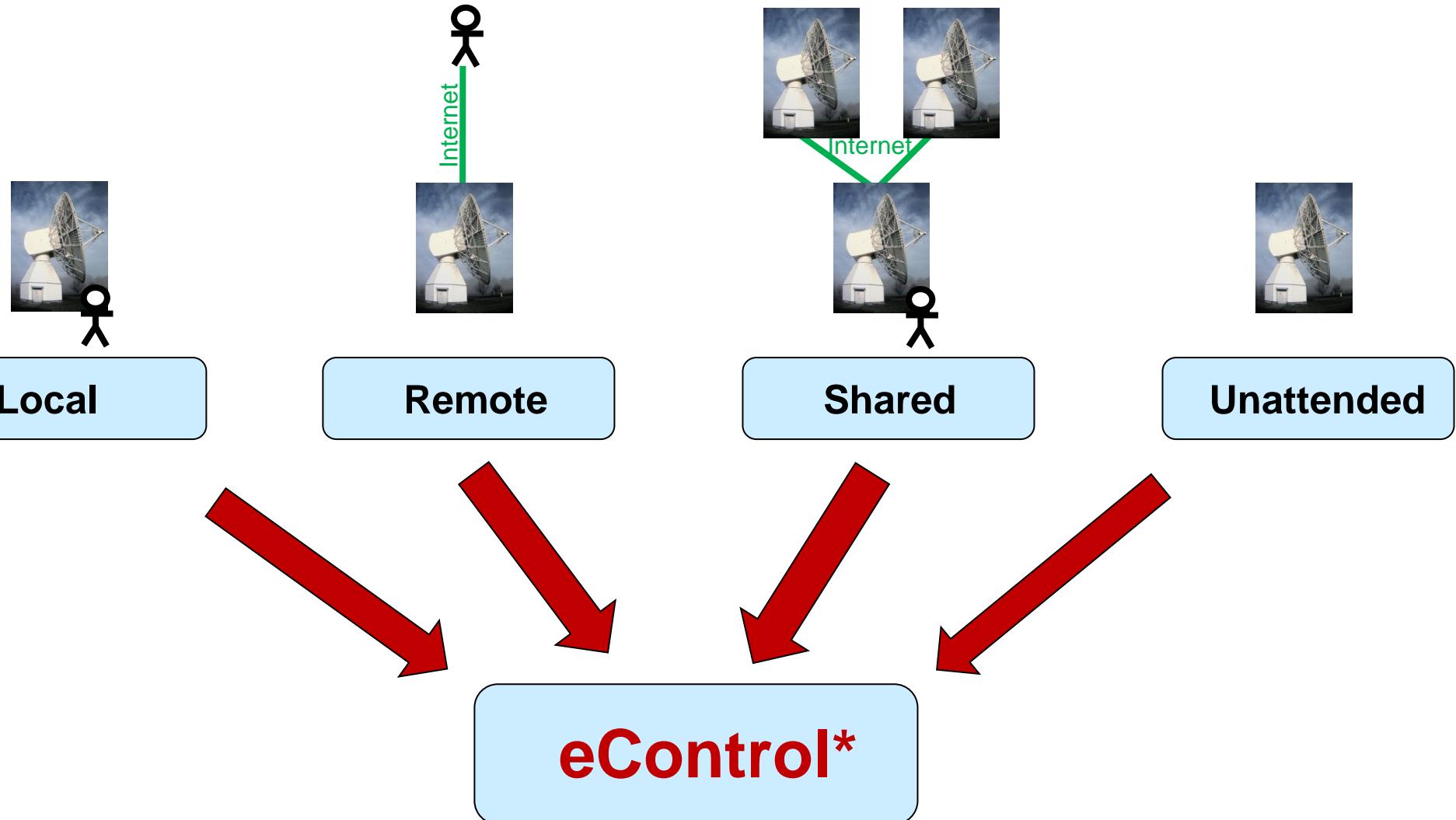
- Save, passive data live monitoring
- Dedicated control access by responsible person
- Shared access from different observatories
- Shared night shifts

New observation strategies for VLBI telescopes Wettzell, O'Higgins/Antarctica and TIGO/Concepción



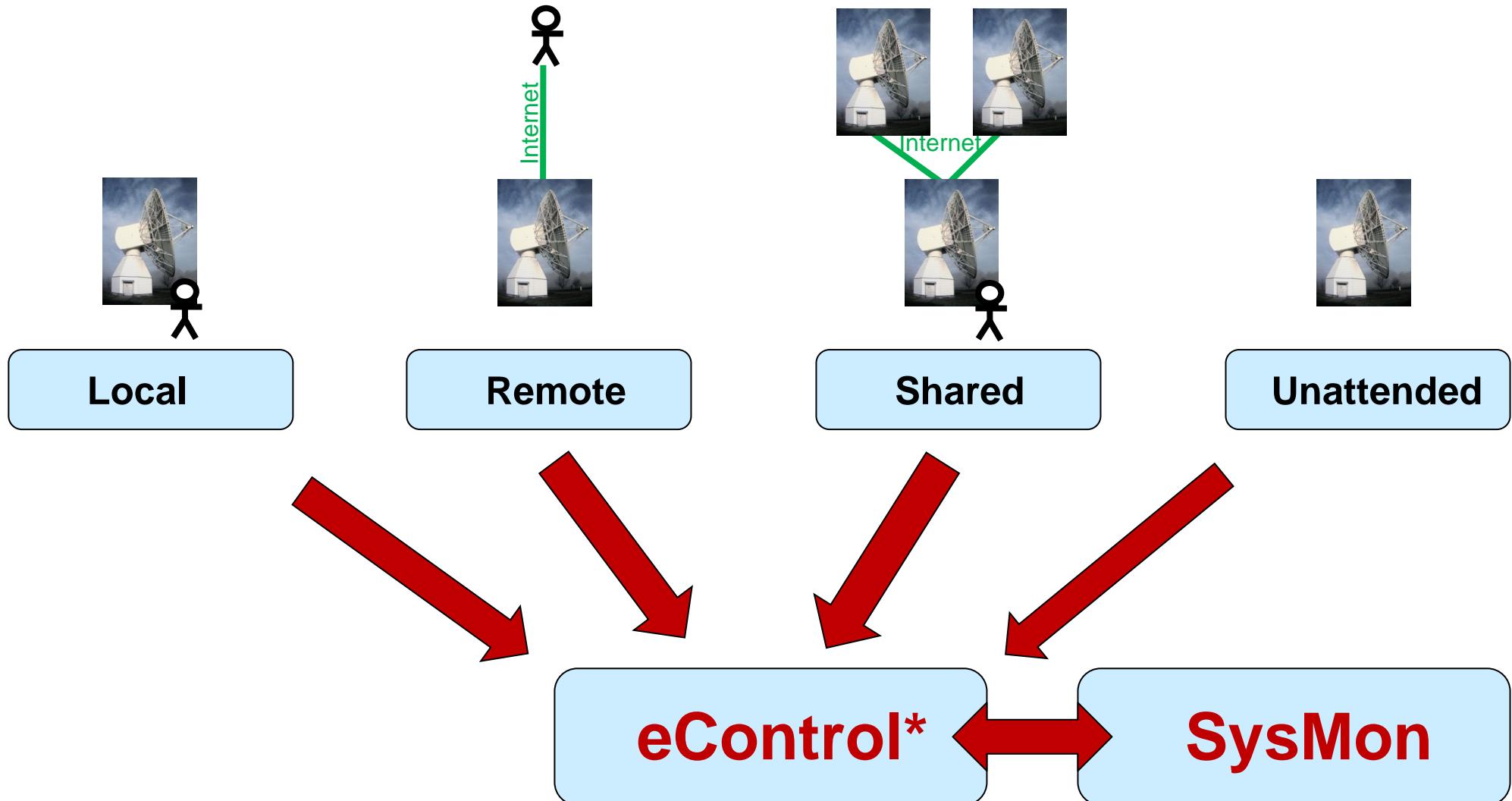
**A possible basis for such strategies:
e-control and SysMon**

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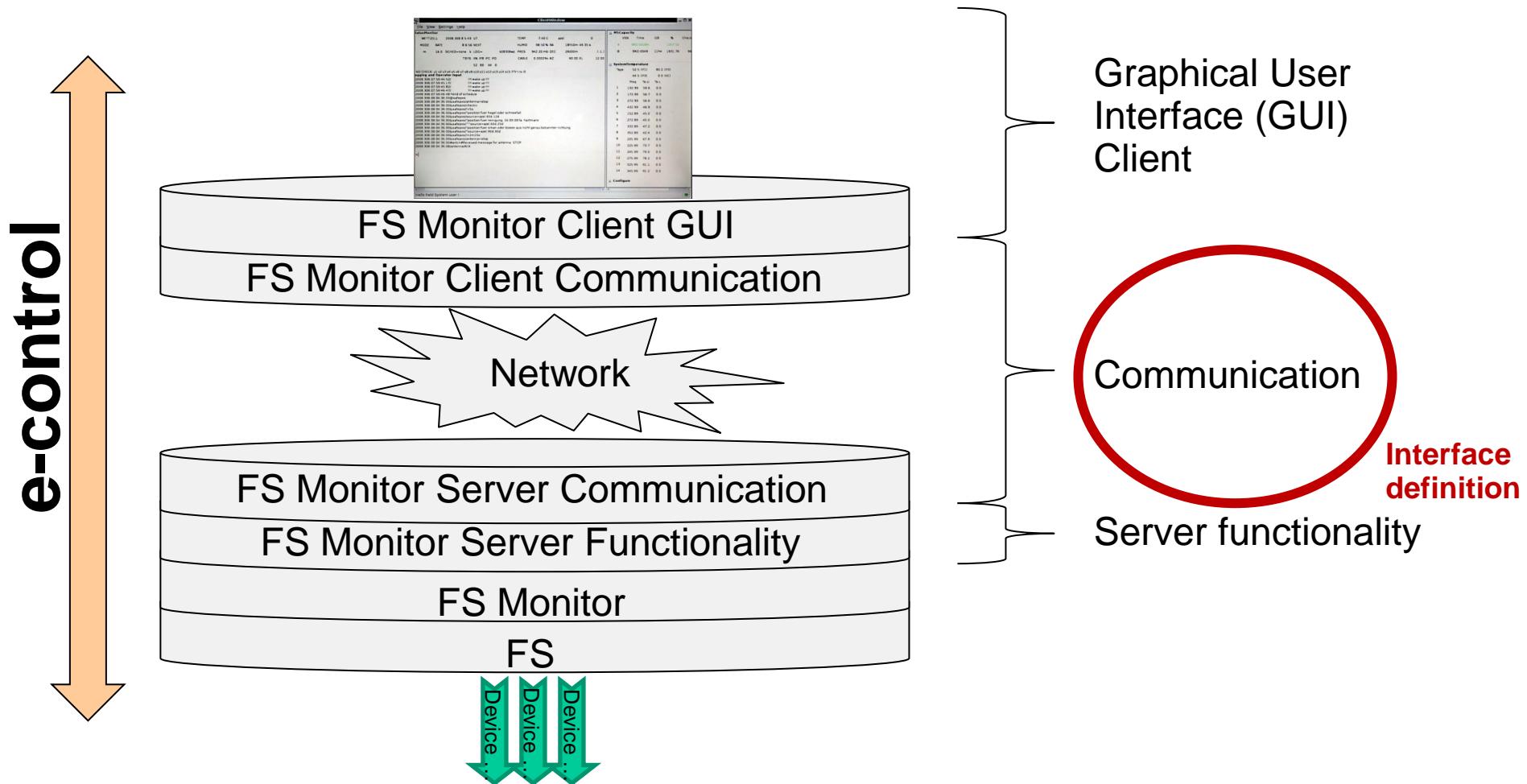
* per system with individual restrictions and
only with reliable, well educated personnel staff on site

New observation strategies for VLBI telescopes Wettzell, O'Higgins/Antarctica and TIGO/Concepción

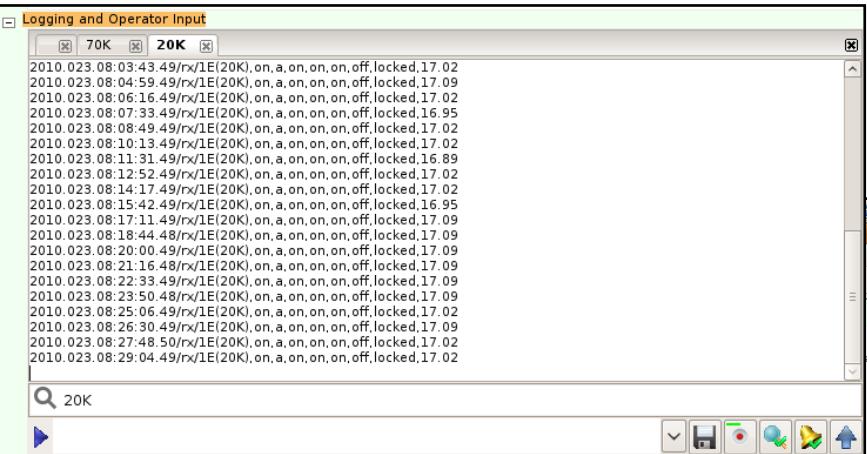


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The idea: remote attendance and control of VLBI telescopes Wettzell, O'Higgins/Antarctica and TIGO/Concepción



The client – graphical, textual or browser based



Logbook

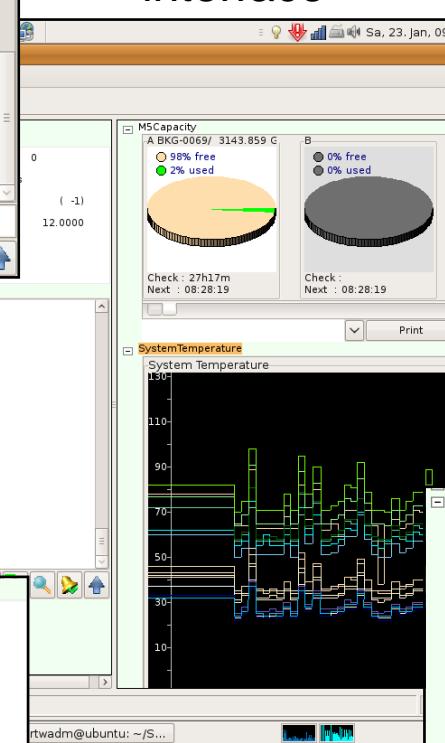
Chat

Chat

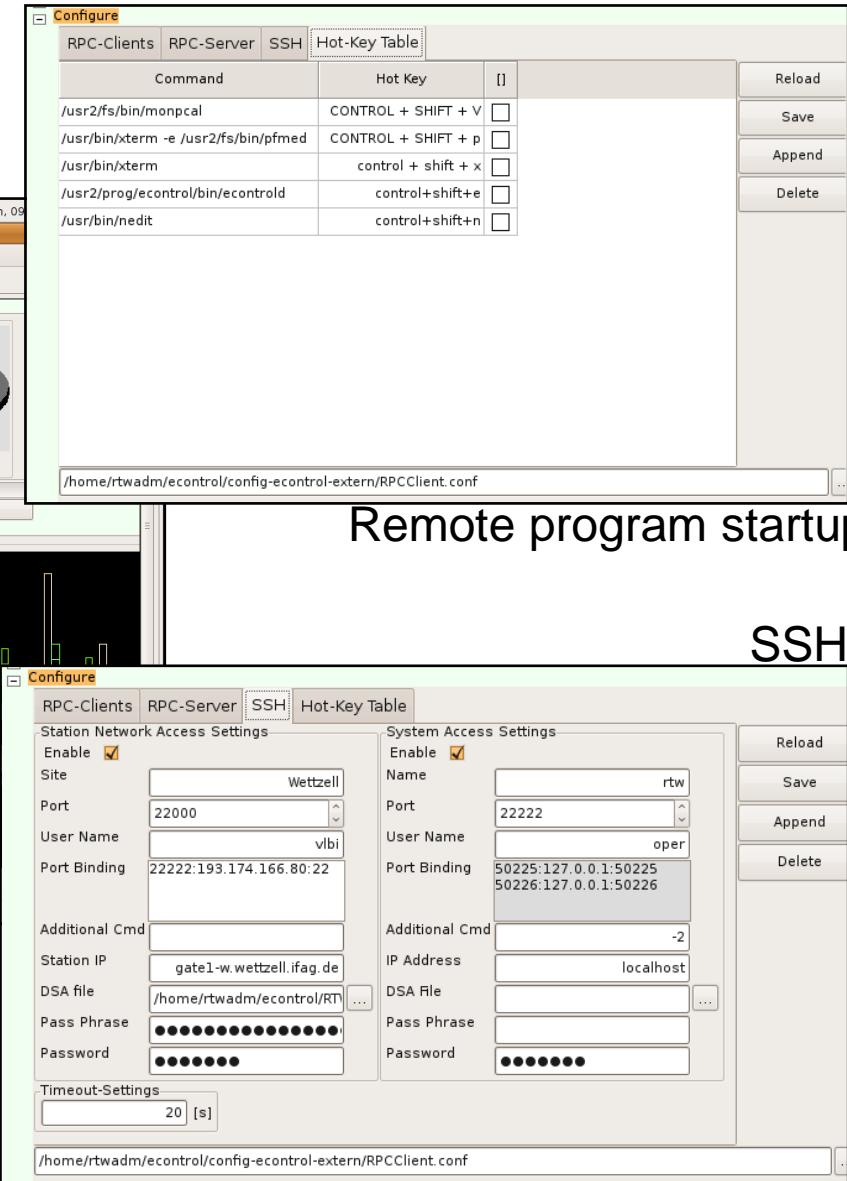
[alexander*] hallo
 [oper] hello
 [alexander*] how are you
 [oper] fine, how can i help you?
 [alexander*] the schedule has changed
 [alexander*] please drudg it again
 [oper] ok, thanks!
 [alexander*] thank you

Append to log

Graphic and Classic main interface



Complete remote access



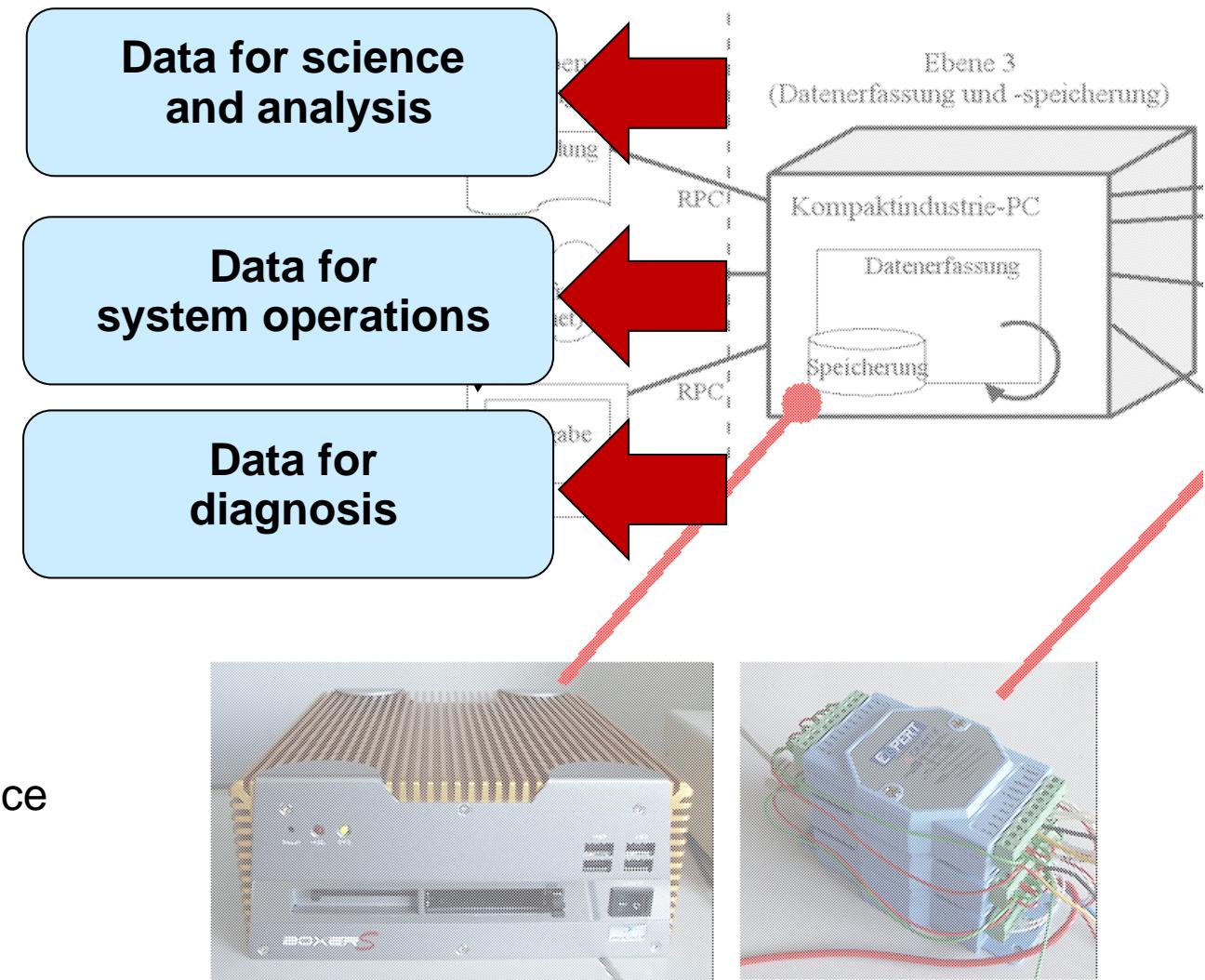
System Monitoring: SysMon

Local safety for people and systems in combination with reliability in operations

Meteo, WVR, Clock offsets, ...
=> low sampling rates
=> as scheduled

Power supply, wind uploads,
emergency stops, rack temp., ...
=> medium sampling rates
=> permanently

Servo currents, contouring errors, ...
=> high sampling rates
=> on demand



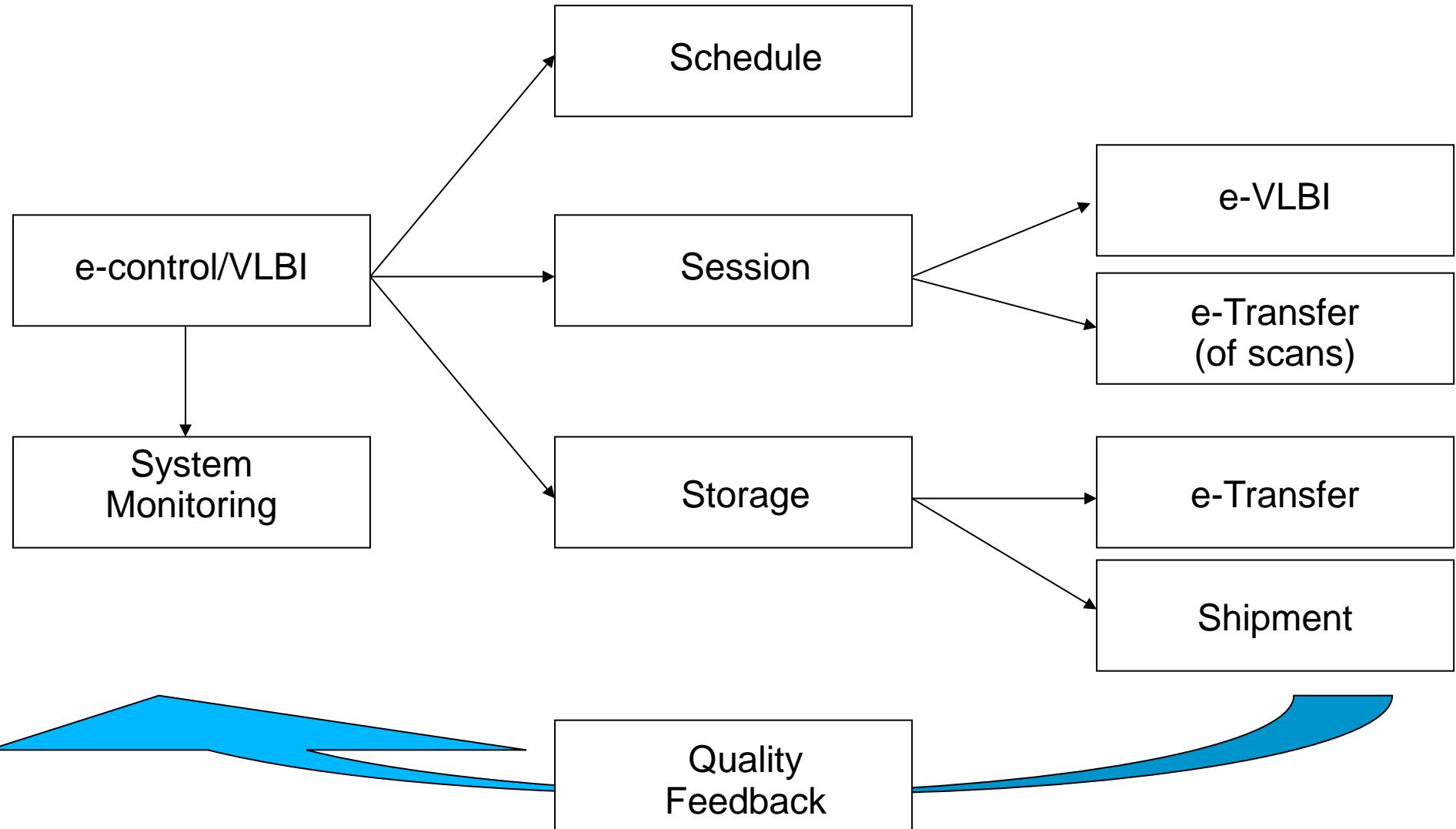
See also:

Monitoring and Control Interface
Collaboration Group

Optimization of workflows over system borders

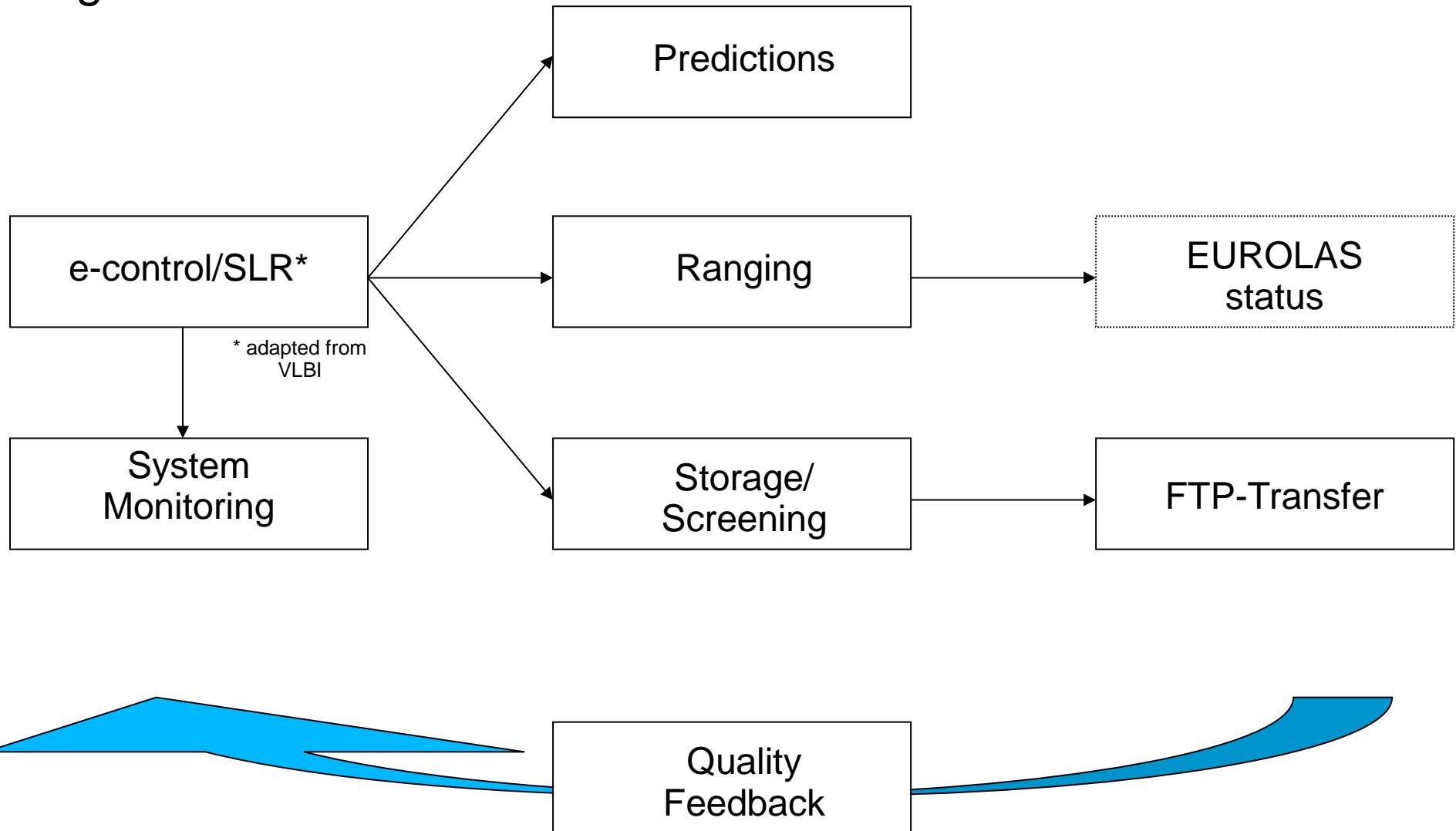
The workflows on a technical point of view

VLBI



The workflows on a technical point of view

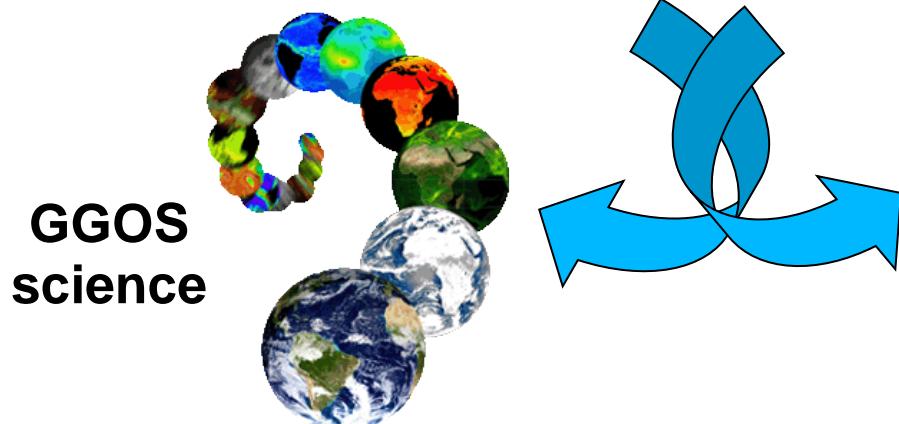
e.g. SLR



Technical synergies in ...

- Models
- Software
- Data
- Observing Times
- Manpower
- ...

... are the fundament for
technical realizations of ...



But it wont avoid this ...

The Radio Telescope Wettzell (RTW): impressions of a maintenance



The Radio Telescope Wettzell (RTW): impressions of a maintenance



Thank you!



View from „my“ new „command room“ ...

