GOALS

- provide a scripting language (for developers and operators).
  Caution: use as glue or for prototyping

  => seqSh/seqWish

- provide a tool for astronomers to prepare and execute ~~Sequences~~ Templates (as part of Observation Blocks)

  => bob

SCRIPTING LANGUAGE

based on **Tcl/Tk** (J. Ousterhout, UCB -> Sun -> Scriptics):

- powerful set of functions in core
- relatively easy to extend with new functions
- embeddable into applications
- simple syntax
- large user community - many extensions readily available for free, including source code.

Tcl/Tk documentation resources on the Internet:

- home: http://www.scriptics.com/
- archive: http://www.NeoSoft.com/tcl/
- FAQs: http://www.tclfaq.wservice.com/tcl-faq/
- tutor: http://www.msen.com/~clif/TclTutor.html
- cookbook: http://www.cis.rl.ac.uk/proj/TclTk/
- iTcl, iWidgets, BLT: http://www.tcltk.com/
- virtual library: http://cuisung.unige.ch/TclTk.html
- links: http://www.sco.com/Technology/tcl/Tcl.html
- newsgroups: comp.lang.tcl, comp.lang.tcl.anounce

Also: **Sequencer User Manual** (VLT-MAN-ESO-17220-0737, issue 2.1)

Application of this interpreter in the VLT common SW arena:

- testing SW (test scripts, tat, ...)
- panel editor, dbl
- engineering interfaces, bob
- simulation programs
- ......

Interpreter components (OCT99):

- Tcl/Tk 8.0.5
- TclX 8.0.5
- BLT 2.4h
- (incr Tcl) 3.0.1, (incr Tk 3.0.1), (incr Widgets) 3.0.1
- Img 1.1.4
- VLT SW interface (~55 commands: seq_*xxx*)

=> VLT Common SW includes 2 interpreters (with identical set of VLT SW commands):

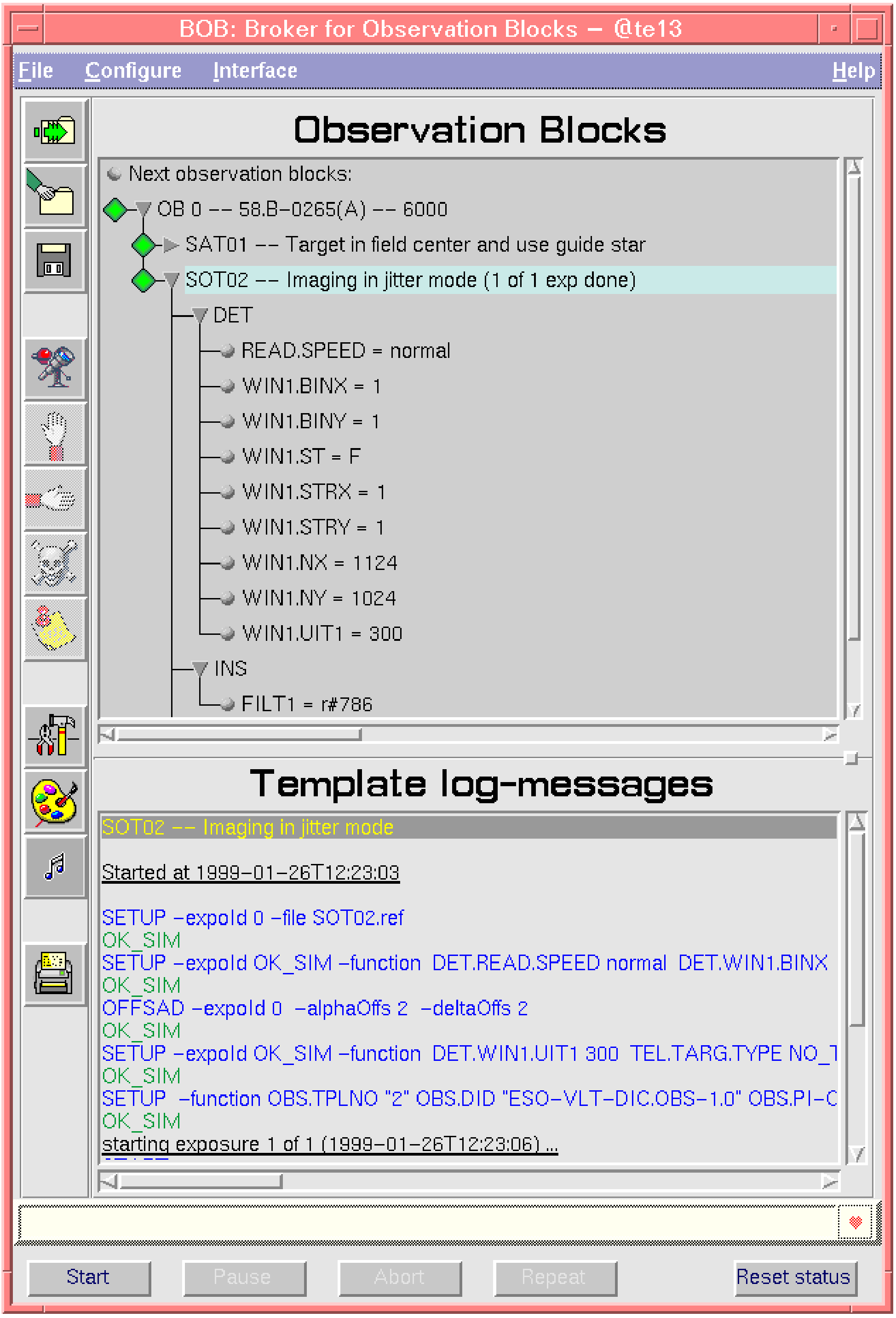
- *seqSh* (no Tk, no BLT, no "DISPLAY" needed)
- *seqWish* (with Tk)

Both interpreters can be run interactively or they can take their input from a script file.

BROKER FOR OBSERVATION BLOCKS (BOB):

- initially designed as instrument-independent high-level interface between **Data Flow** and **VLT Control SW**.
- operates on **Observation Block Description**. (1 OB contains one or more templates). Hierarchical keywords are a fundamental basis.
- sends commands to a partner process (usually OS), as instructed by the template scripts
- can read OBDs from file - useful for maintenance or test procedures
- template scripts need to comply to certain rules.
- contains various convenience procedures (e.g. to log messages in the "template log" widget)
- includes **MOBS** (part of INS Common SW): a table-driven, instrument-independent editor of setup values

See also HOS/BOB User Manual (VLT-MAN-ESO-17220-1332, issue 1.2)


BOB: Broker for Observation Blocks – @te13
File
Configure
Interface
Help
Observation Blocks
Next observation blocks:
OB 0 –– 58.B–0265(A) –– 6000
SAT01 –– Target in field center and use guide star
SOT02 –– Imaging in jitter mode (1 of 1 exp done)
DET
READ.SPEED = normal
WIN1.BINX = 1
WIN1.BINY = 1
WIN1.ST = F
WIN1.STRX = 1
WIN1.STRY = 1
WIN1.NX = 1124
WIN1.NY = 1024
WIN1.UIT1 = 300
INS
FILT1 = r#786
Template log-messages
SOT02 –– Imaging in jitter mode
Started at 1999–01–26T12:23:03
SETUP –expoId 0 –file SOT02.ref
OK_SIM
SETUP –expoId OK_SIM –function DET.READ.SPEED normal DET.WIN1.BINX
OK_SIM
OFFSAD –expoId 0 –alphaOffs 2 –deltaOffs 2
OK_SIM
SETUP –expoId OK_SIM –function DET.WIN1.UIT1 300 TEL.TARG.TYPE NO_T
OK_SIM
SETUP –function OBS.TPLNO "2" OBS.DID "ESO–VLT–DIC.OBS–1.0" OBS.PI–C
OK_SIM
starting exposure 1 of 1 (1999–01–26T12:23:06) ...
Start
Pause
Abort
Repeat
Reset status