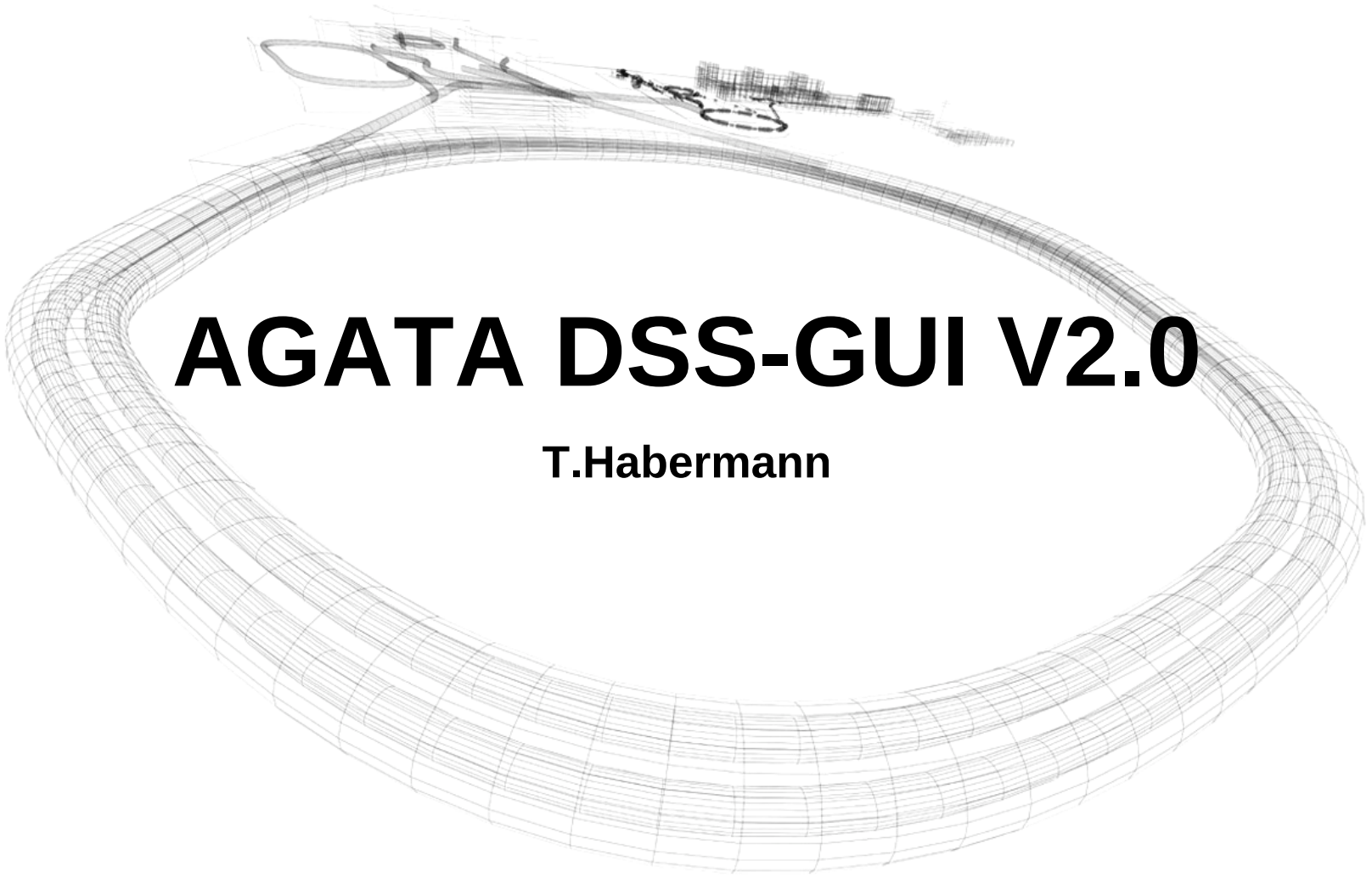


AGATA DSS-GUI V2.0

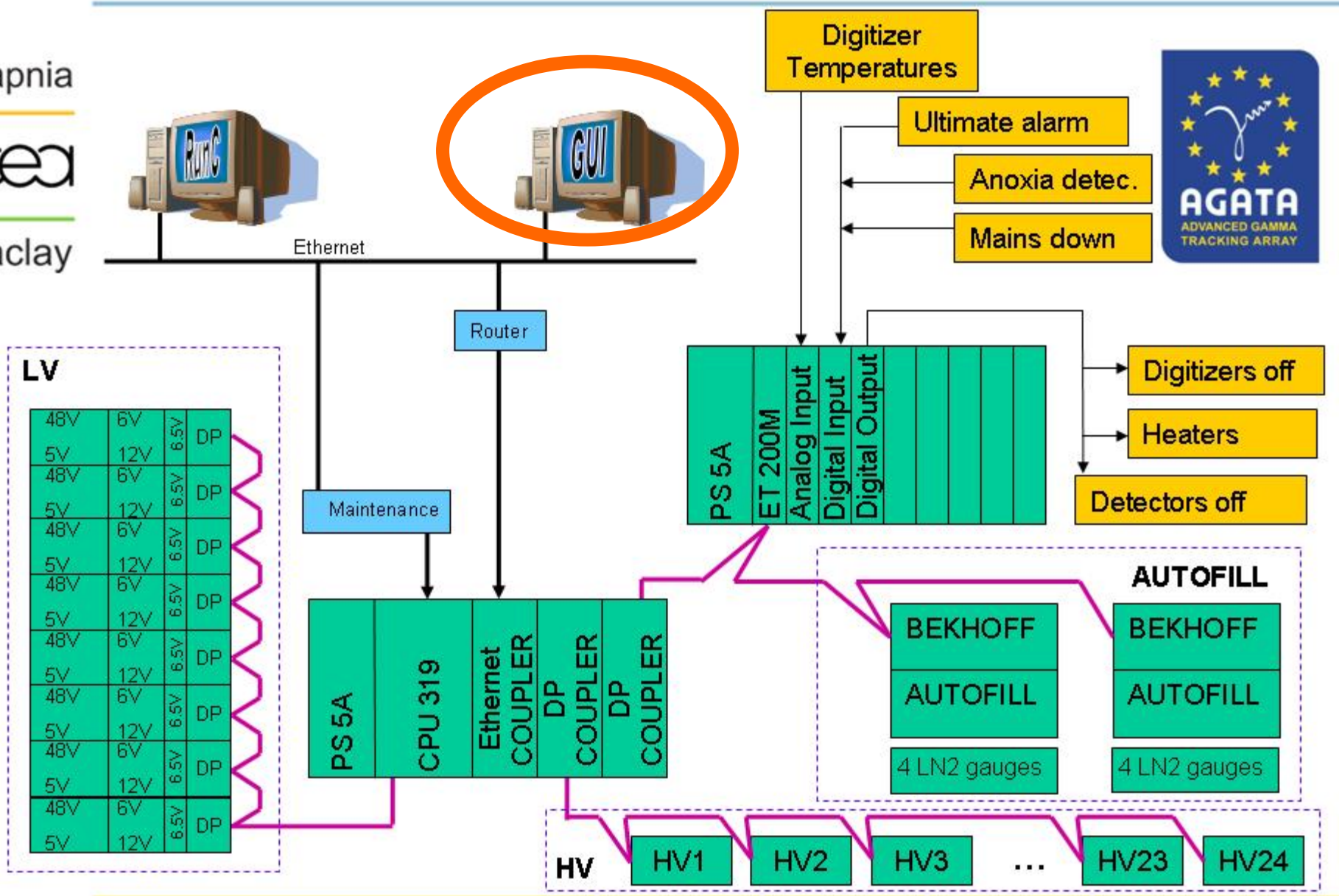
T.Habermann

GSI

Outline

- DSS overview
- DSS-GUI installation & upgrades
- Problems / Difficulties with V1
- DSS-GUI V2.0
- Summary

PLC architecture



History of DSS-GUI 1.x

Past…

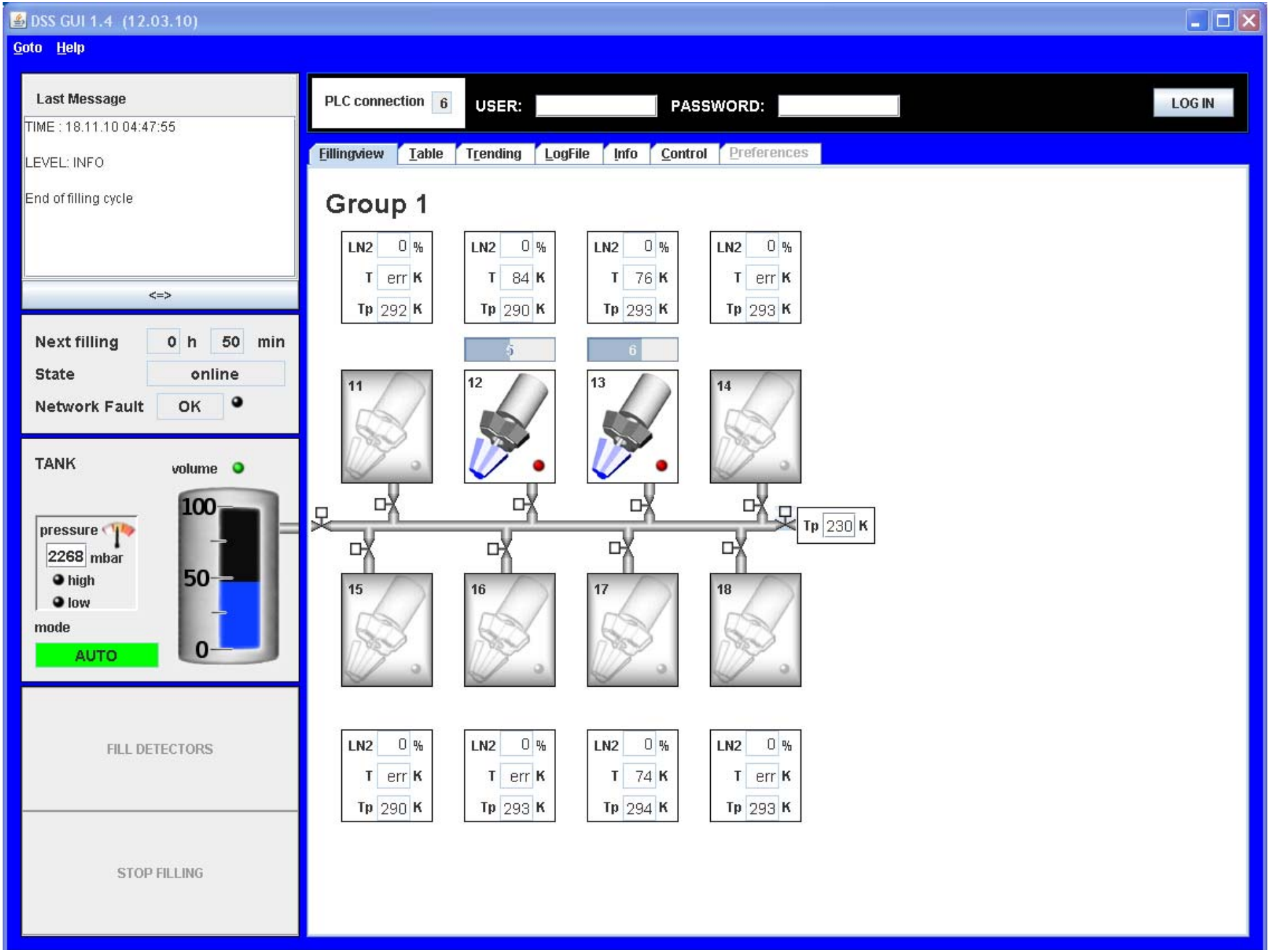
- 09 2008 first installation @ LNL
- 04 2009 upgrade
- 09 2009 new version including OPC client … and some bugs
- 11 2009 bugfixes & minor changes
- 03 2010 improved trending & control panels
- 11 2010 added email notifications

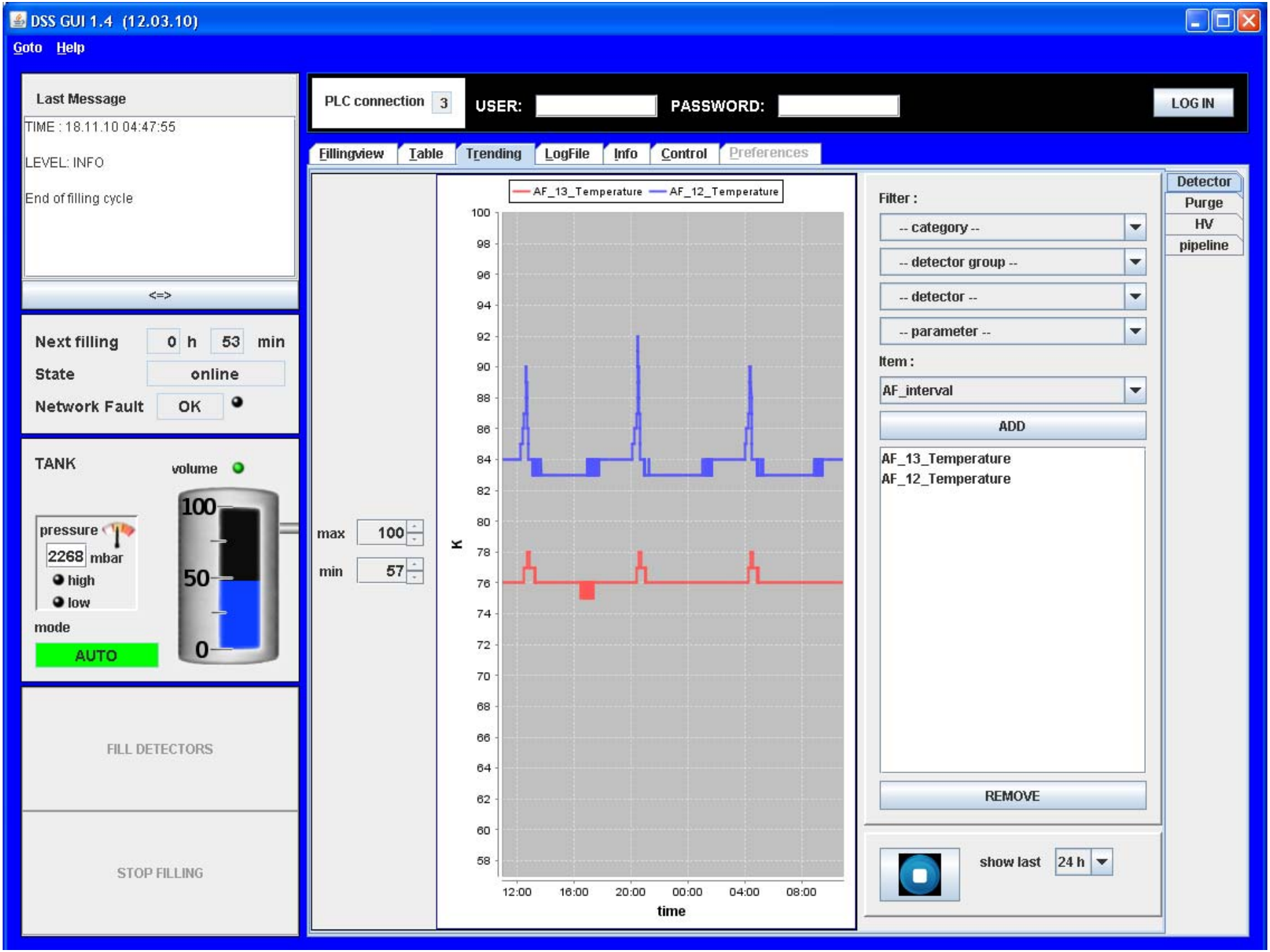
Present…

- Running stable (no major changes since 09 2009)
- Testing of V2.0 @ GSI

Future…

- 12 2010 display status of alarm system
- Upgrade to V2.0


DSS GUI 1.4 (12.03.10)
Goto Help
Last Message
TIME : 18.11.10 04:47:55
LEVEL: INFO
End of filling cycle
<=>
Next filling 0 h 50 min
State online
Network Fault OK
TANK
volume
pressure
2268 mbar
high
low
mode
AUTO
100
50
0
FILL DETECTORS
STOP FILLING
PLC connection 6
USER:
PASSWORD:
LOG IN
Fillingview
Table
Trending
LogFile
Info
Control
Preferences
Group 1
LN2 0 %
T err K
Tp 292 K
LN2 0 %
T 84 K
Tp 290 K
LN2 0 %
T 76 K
Tp 293 K
LN2 0 %
T err K
Tp 293 K
5
6
11
12
13
14
Tp 230 K
15
16
17
18
LN2 0 %
T err K
Tp 290 K
LN2 0 %
T err K
Tp 293 K
LN2 0 %
T 74 K
Tp 294 K
LN2 0 %
T err K
Tp 293 K


DSS GUI 1.4 (12.03.10)
Goto Help
Last Message
TIME : 18.11.10 04:47:55
LEVEL: INFO
End of filling cycle
<=>
Next filling 0 h 53 min
State online
Network Fault OK
TANK
volume
pressure
2268 mbar
high
low
mode
AUTO
100
50
0
FILL DETECTORS
STOP FILLING
PLC connection 3
USER:
PASSWORD:
LOG IN
Fillingview
Table
Trending
LogFile
Info
Control
Preferences
max 100
min 57
AF_13_Temperature
AF_12_Temperature
K
time
12:00
16:00
20:00
00:00
04:00
08:00
Filter :
-- category --
-- detector group --
-- detector --
-- parameter --
Item :
AF_interval
ADD
AF_13_Temperature
AF_12_Temperature
REMOVE
show last 24 h
Detector
Purge
HV
pipeline

DSS GUI 1.4 (12.03.10)

Goto Help

Last Message

TIME : 18.11.10 04:47:55

LEVEL: INFO

End of filling cycle

<=>

Next filling 0 h 49 min

State online

Network Fault OK

TANK

volume

pressure 2268 mbar

high

low

mode

AUTO

100

50

0

FILL DETECTORS

STOP FILLING

PLC connection 4

Logged in: ADMIN (ADMIN)

log out

Fillingview | Table | Trending | LogFile | Info | Control | Preferences

HV | LV | AF

12

	value
Temp (K)	84
LN2 level (%)	0
Overflow (K)	290
TimeOut (m...	10
Idle time (m...	1
Fillintervall (...	7
Forced tem...	100
V_set_A (V)	0
V_max_A (V)	4500
V_mon_A (V)	0.0
I_mon_A (µA)	0.0
V_set_B (V)	0
V_max_B (V)	4500
V_mon_B (V)	0.0
I_mon_B (µ...	0.0
V_set_C (V)	0
V_max_C (V)	4000
V_mon_C (V)	0.0
I_mon_C (µ...	0.0
LV_6V+ (A)	1.54
LV_6V- (A)	0.88
LV_12V+ (A)	1.18
LV_12V- (m...	441.9
LV_6.5V (A)	0
LV_48V (A)	21.36
LV_5V (mA)	14.95
LV_24V (A)	0

AUTOFILL

detectors high temp threshold 100 K

high temperature OK

enable watchdog

Tank settings

high pressure 3000 mbar

low pressure 1500 mbar

low volume 10 %

Filling sequence

state	(max) duration		elapsed	timeout	
waiting for autofill	7	h			
cool pipeline	60	min		OK	acknowledge
fill detectors	10	min		OK	acknowledge
LN2 return to tank	10	min			
purge pipeline	10	min			
idle	1	min			

APPLY CANCEL

Difficulties & Problems with V1.x

DSS-GUI should be ready to be used at different host labs

- unfortunately it is not as easy as it could be ☹
- e.g. Variable addresses are hardcoded
- „fragile“ code (i.e. it is easy to make mistakes)

Same software could be adapted to other systems

- was already in use for TASCA@GSI with different autofill system
- but not possible anymore with current version ☹

Solution

make clear cut between → DSS-GUI V2.0

1. “general purpose“ GUI stuff
   - logging & trending
   - access levels (user/operator/admin)
   - interface to hardware via io items & client
   - basic GUI components

} GPI – “General purpose Interface”

2. hardware specific parts
   - definition of io items
   - dedicated control & monitor panels

} DSS@LNL-GUI
DSS@GSI-GUI
…

Outlook (from beginning of 2010)

- review DSS-GUI software design (needs minor changes)

  ✓

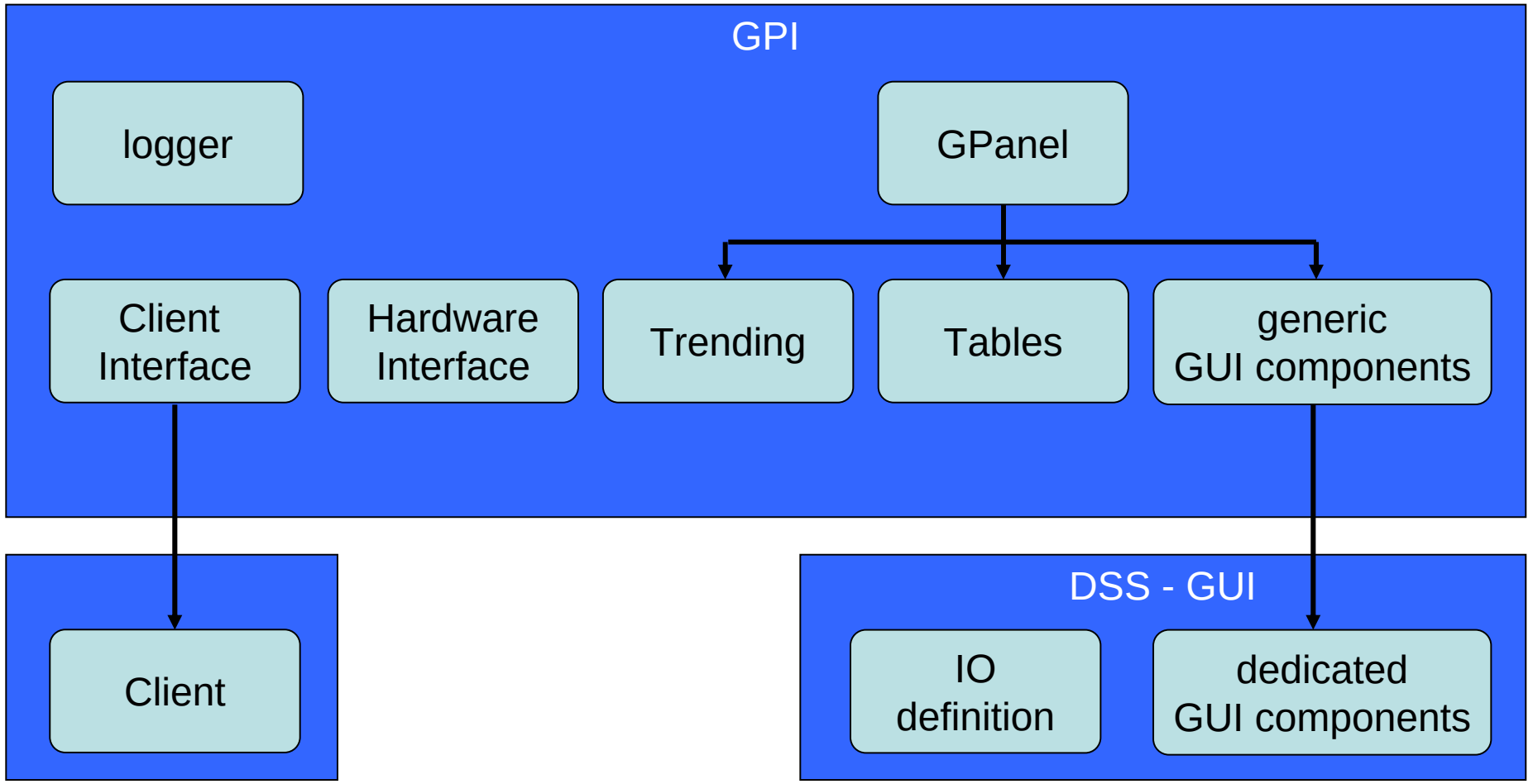
- extract as much as possible to new Java Project

  ✓

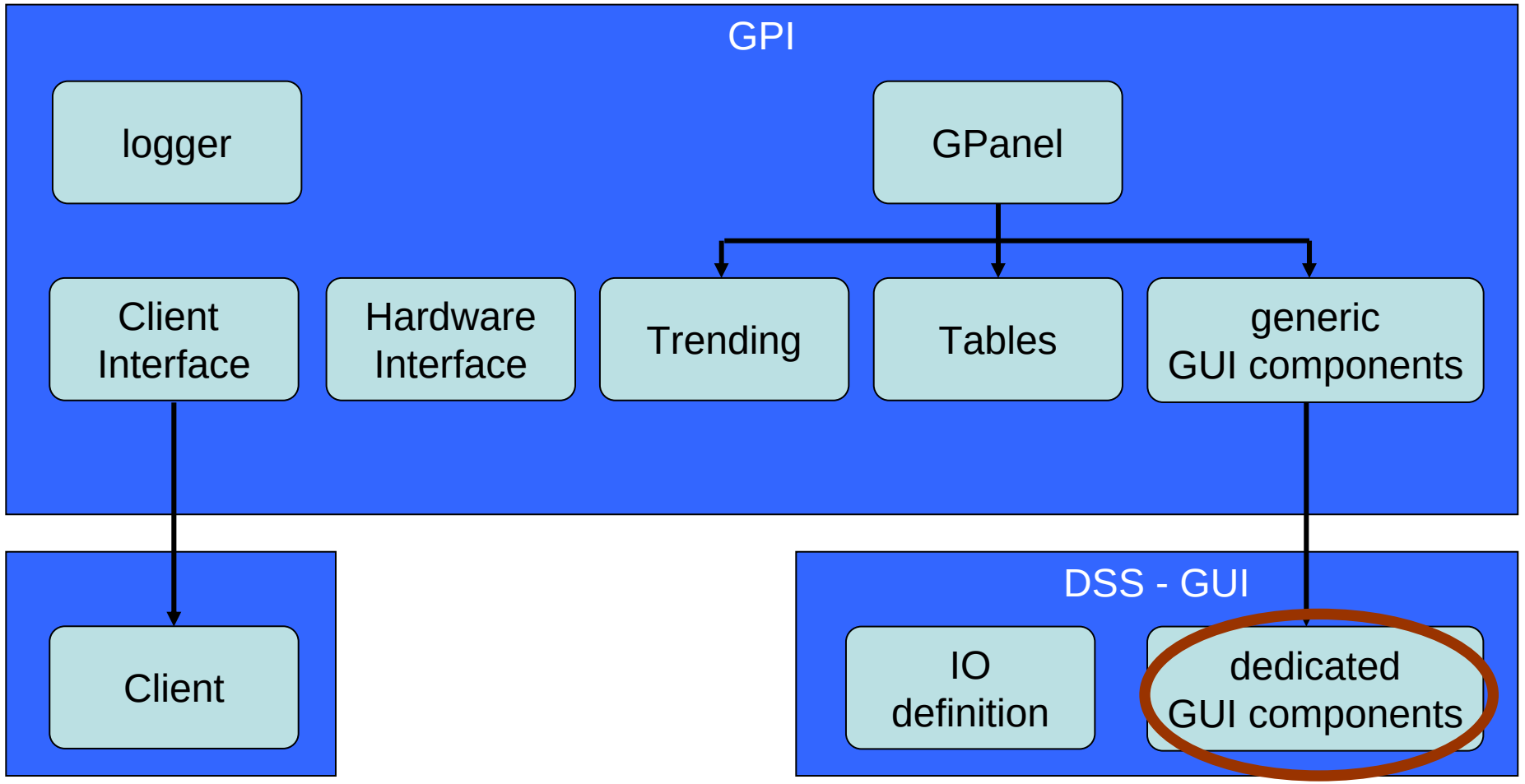
- more documentation
  (e.g. “how to add add controls/indicators for new variables”)

  not yet finalized

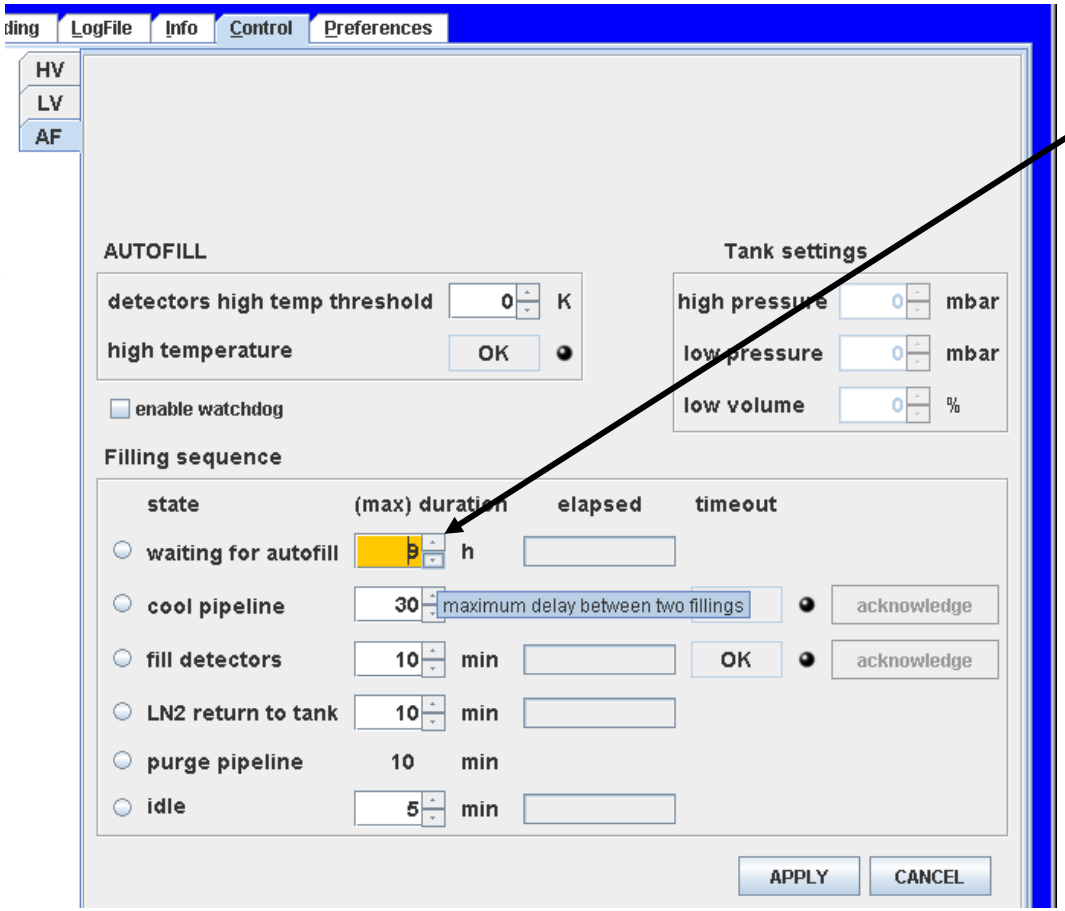
DSS GUI V2.0 classes



DSS GUI V2.0 classes



Fill Interval @ Autofill settings



Control for fill interval needs to…

- receive values from PLC

- react on user interaction
  - apply / cancel setting
  - show status (normal / edited)

- dis-/enable according to user access

- provide tooltip

Fill Interval @ Autofill settings

V1.x uses plain java component JSpinner

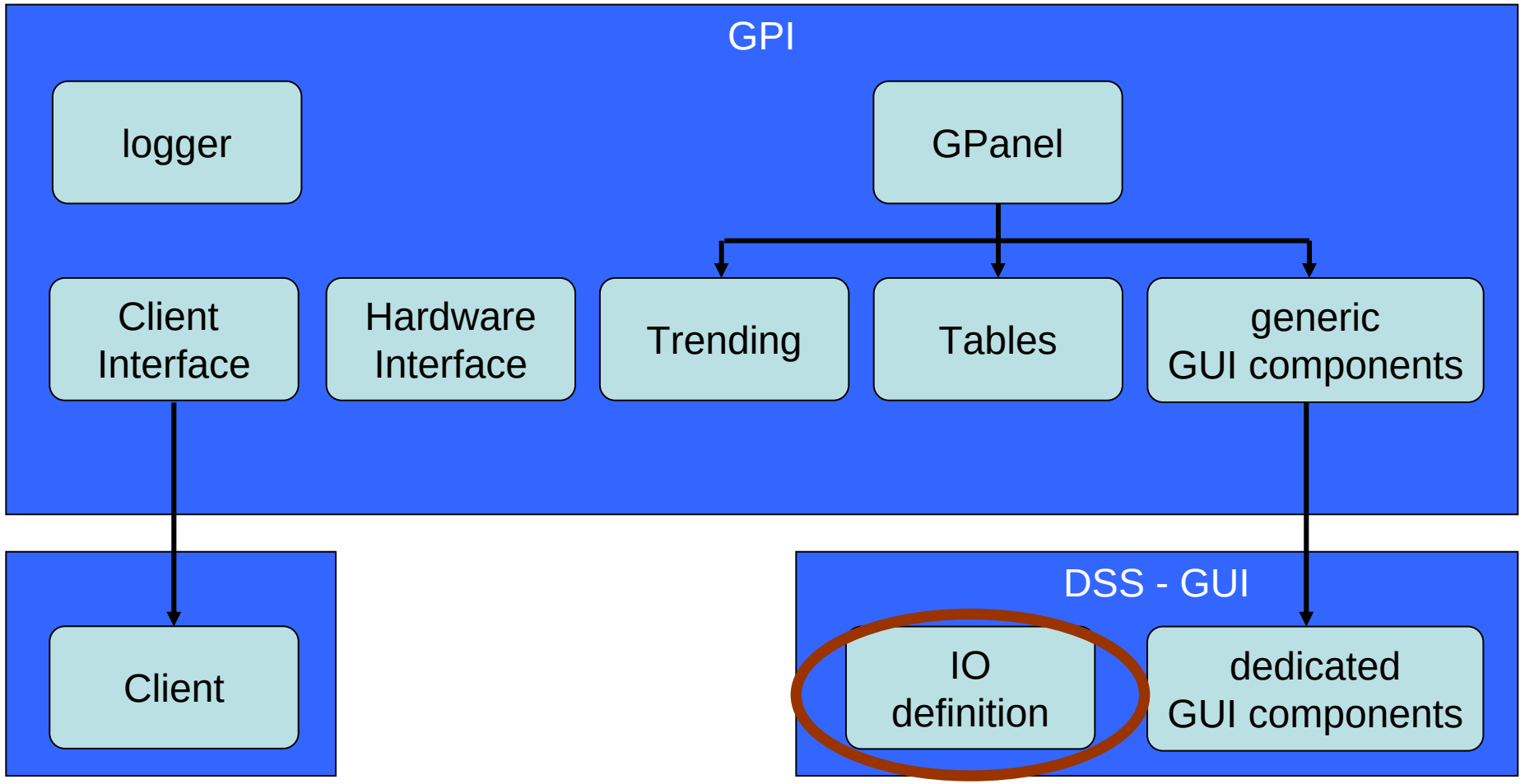
Register for updates (in panel constructor)
Customize JSpinner Component
React on user interaction
Receive new values from PLC
Apply values (i.e. send values to plc)
Change status (i.e. color) back to normal
Cancel user changes (i.e. read again actual values)

User access handling
public void setLoggedUser(Accounts.ACC_TYPE ac) {
boolean allow = (ac != Accounts.ACC_TYPE.USER);
jSpinner_fillinterval.setEnabled(allow);
}

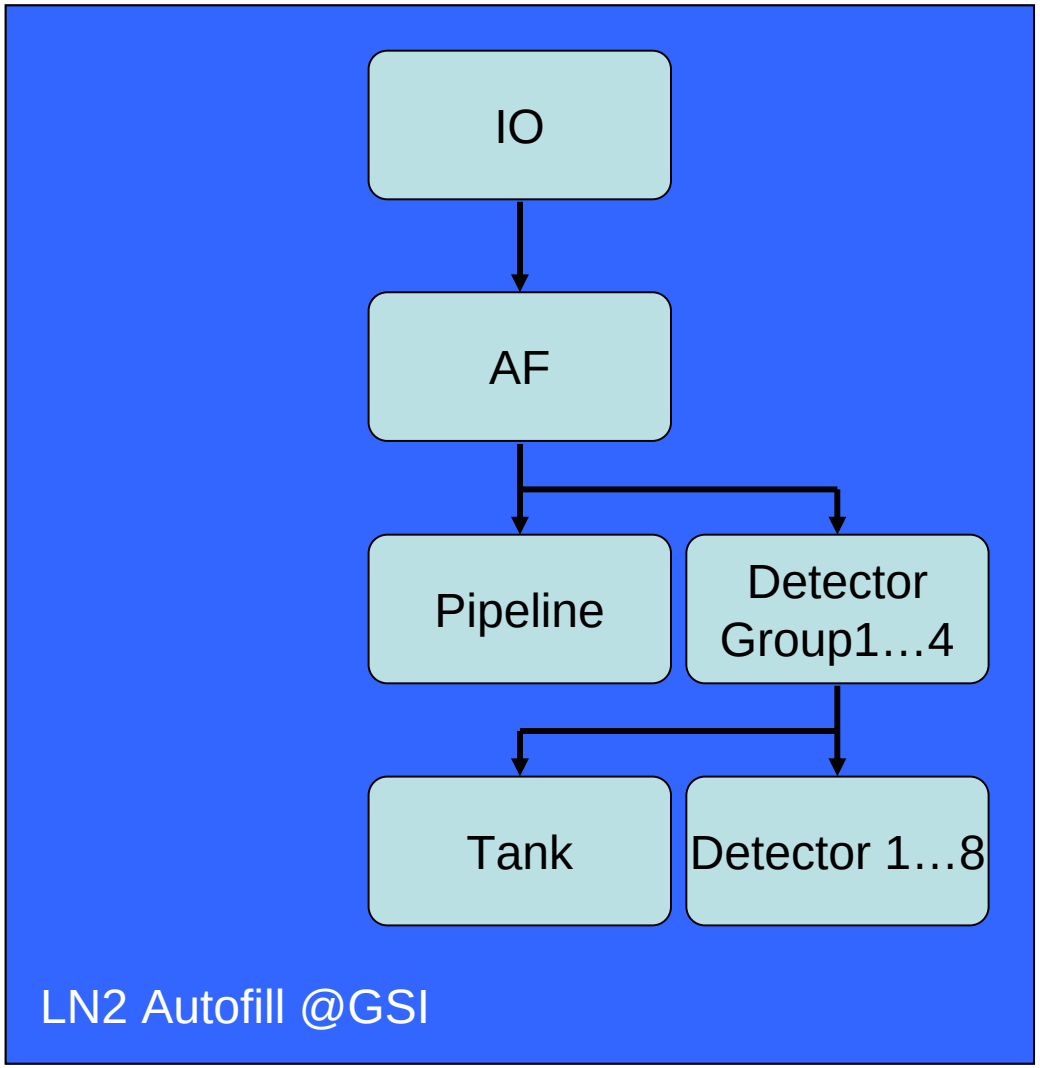
V2.0 uses GSpinner

In Panel constructor gSpinner_interval.setIOitem(IO.af.fillInterval);
…that‘s it !

DSS GUI V2.0 classes



IO definition (only autofill part shown)



For example: Fill interval

Hardcoded (in IO.AF):

fillInterval = new IOItem("fillInterval",id);

Configured via property file:

fillInterval.name = AF_{0}_fillInterval
fillInterval.units = HOURS
fillInterval.description = max_delay_fill
fillInterval.type = INT
fillInterval.adress = DB_read.Max_Delay_fill(0/
fillInterval.logging = FALSE
fillInterval.conversion = 1
fillInterval.accessLevel = OPERATOR
fillInterval.alarm = FALSE
fillInterval.alarmText = This is not an alarm

Summary

- old version (1.4) still fine @LNL, 2.0 would not bring new features
- V2.0 testing @GSI, (minor) problems need to be solved

Thanks for your attention !