

Maintenance concept of existing injector controls until replacement

Eugenia Hatziangeli

AB/CO

ABOC/ATC 21-23 Jan 2008

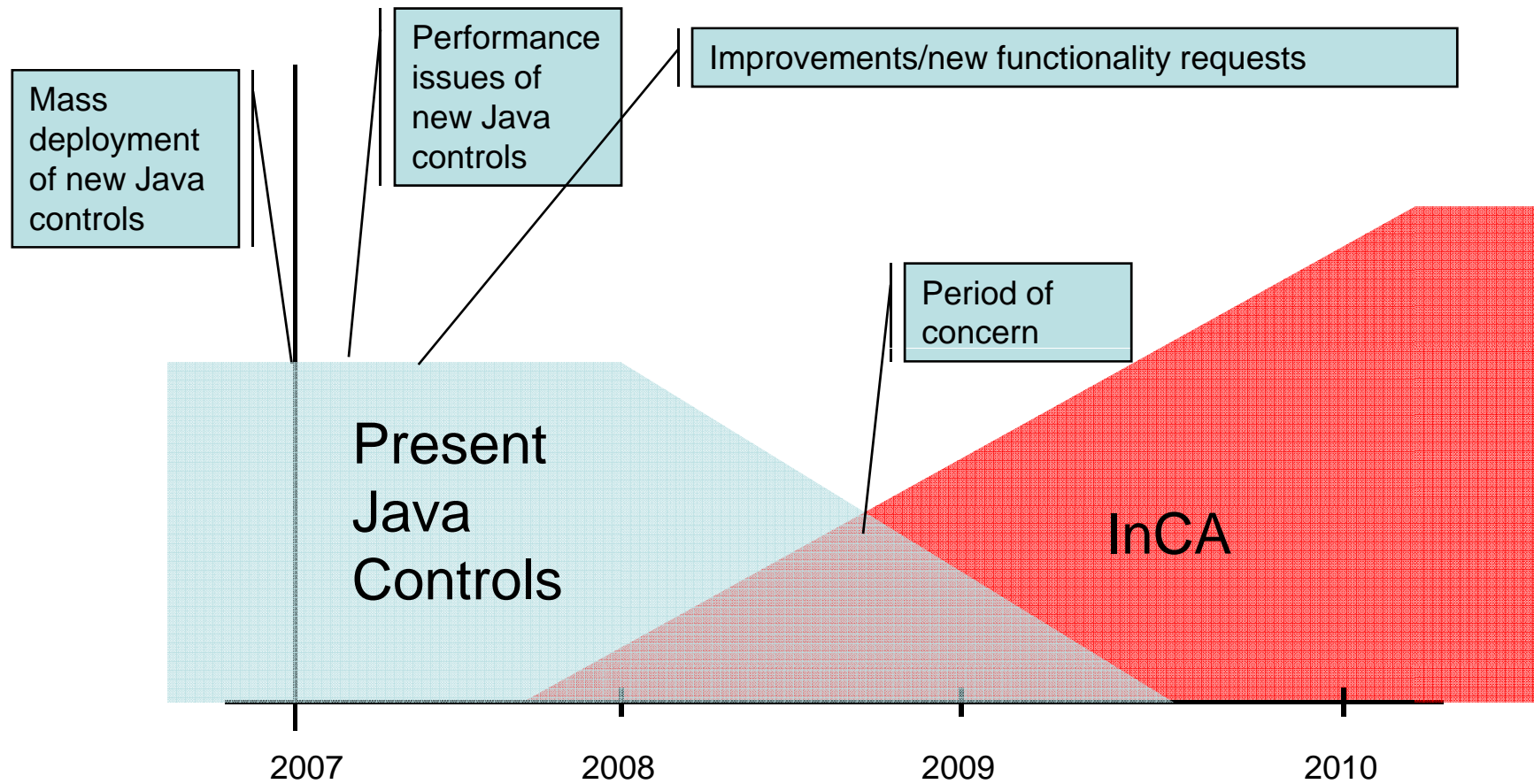
Input from

E. Roux, V. Baggiolini, TEX team, M. Gourber-Pace, J. Wozniak, S. Deghaye,
I. Yastrebov, P. Charrue, K. Sigerud, N. Stapley, M. Arruat, M Benedikt,
R. Steerenberg, J-L. Sanchez, S. Pasinelli

Background

- In the next 3 years the PS Complex control system will be reengineered on top of control components already deployed in LEIR, SPS and soon on LHC
- In the meanwhile the current controls system will continue to provide for the most essential needs of the Operations
- This presentation will give an overview of the state of the new Java Generic software and the planned evolution of major CO services towards covering the needs of the injectors in the near future
- It will also outline the process that is in place to ensure the migration of the remaining legacy XMotif applications

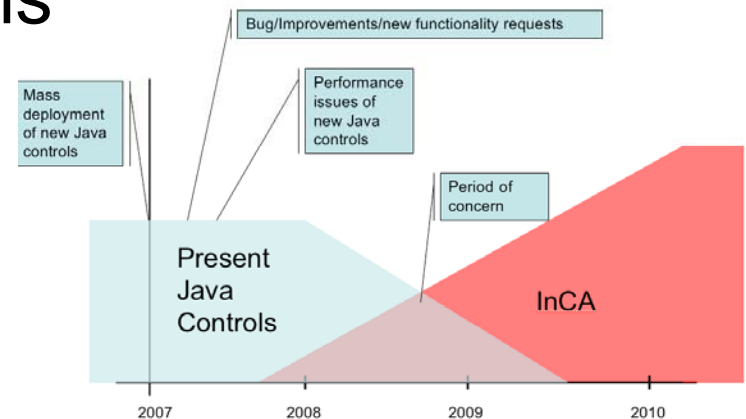
Time Period



Scope

- Evolution of Java Controls for the next 3 years keeping InCA in mind
 - Generic Java software (Working Sets, Knobs, ...)
 - Software Improvements
 - Diagnostic Tools
 - Performance Issues
 - General services (LASER, OASIS, Passerelle,...)
 - Equipment specific applications

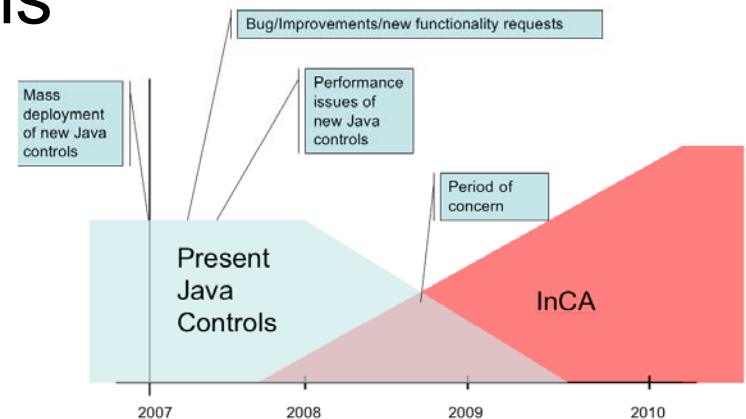
- Maintenance scheme



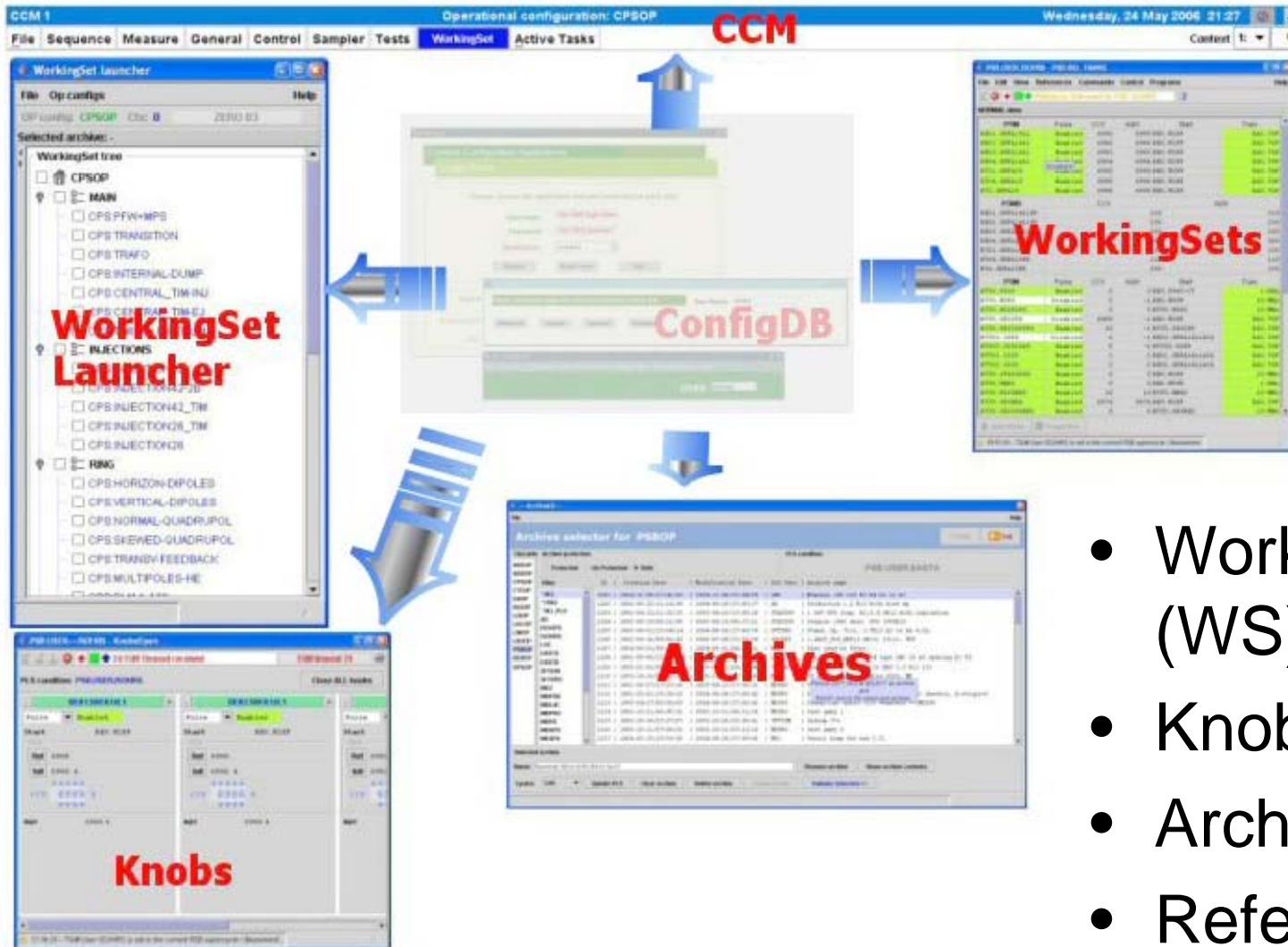
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- Maintenance scheme



Generic Java Software



- Working Sets (WS)
- Knobs
- Archives
- References

Improvements in 2008

Controls:

- **WorkingSets** under **Java console manager** do not always report **coherent information** and freezes sometimes.
 - E.g. Equipments reported to be off with external faults, were working perfectly.
- There is also a **general impression** that the **Java** system is **slower, less reliable** and does not offer any new functionalities over the X-motif system it replaces.
- **CO** propose **improvements to solve** some of **these issues**.

- Ergonomics
- New Functionality
 - Working Sets & Knobs
 - Archives
 - Non PPM devices
- Error Handling

Ergonomics

reduced size

The screenshot displays a complex control interface with several windows:

- KnobsOpen application (LIN3MEAS U2):** Shows control parameters for three injection lines: ETL.QNN10-INJ, ETL.QNN30-INJ, and ETL.GSBHN10. It includes fields for 'Control', 'Status', 'Ref', 'Init', 'Delay', and 'Ampl.'.
- CPS.USER.LHCION:** A table view showing system status. A red circle highlights a section of the table, and a red arrow points to a specific row.

KSU	State	CCV	AGN1	Unit	
KFA45	Server	'dcp...	Server 'dcp...	kV	
POW-V	Status	CCV	AGN	Unit	
SMH42	Server	'dcp...	Server 'dcp...	A	
BSM40	Pow.conv. speci...	0.00	0.00	A	
BSM42	Pow.conv. speci...	0.00	0.00	A	
BSM43	Pow.conv. speci...	0.00	0.00	A	
BSM44	Pow.conv. speci...	0.00	0.00	A	
INVC	Status	CCV	AGN	Unit	
SBP42	Pow.conv. specif...			m	
SBP42		0.000	0.000	mrad	
SBP42		0.000	0.000		
SBP42		0.000	0.000		
SBP42		0.000	0.000		
PTIM-V	Pulse	CCV	AGN	Start	Train
K.AP0W	Disab	1	-1	PTX.W2RF-B1+B2	1-KHz
K.WP0W	Disab	1	-1	PI2X.W20-CT	1-KHz
K.FP0W	Disab	1	-1	PI2X.F900-CT	1-KHz
K.SSMH42	Disab	1	-1	PIX.W2RF-B1+B2	1-KHz
K.SBSM	Disab	1	-1	PIX.W2RF-B1+B2	1-KHz
K.SRFPS	Disab	1	-1	PIX.W2RF-B1+B2	1-KHz
PTIM-V	Pulse	CCV	AGN	Start	Train
K.WKFA45	Server...	Server...		PI2X.W20-CT	Server 'dcp...
K.SKFA45	Disab	-1	-1	PTX.W2RF-B1+B2	1-KHz
- PSB.USER==SFTPRO - KnobsOpen:** Shows control parameters for BEX.SEJ, including 'Pulse', 'Start', 'Ref', 'Init', 'CCV', and 'AQN'.
- Knobs - PSB.USER.SFTPRO:** A smaller version of the BEX.SEJ control window.

Generic Java software ⇒ Software Improvements

Working Sets & Knobs

- New facilities in

Parameter Values Calculator dialog...

PLS Condition: PSB.USER.SFTPRO

Parameter Name	Value	Calculated value	Status
BR.XNOH0/CCV	0.88	176.0	
BR.ONOH0/CCV	6.67		Error: Value is out of range [0.0733,300.0169]
BR1.QSK210L3/CCV	1.00		Error: Value is out of range [-75.0092,75.0092]
BR2.QSK210L3/CCV	0.01	2.0	
BR3.QSK210L3/CCV	0.00	0.0	
BR4.QSK210L3/CCV	0.00	0.0	
BR1.QSK614L3/CCV	0.99		Error: Value is out of range [-75.0092,75.0092]
BR2.QSK614L3/CCV	0.01	2.0	
BR3.QSK614L3/CCV	4.00		Error: Value is out of range [-75.0092,75.0092]
BR4.QSK614L3/CCV	0.00	0.0	
BR3.ONO311L1/CCV	-1.01		Error: Value is out of range [-60.006,60.006]
BR1.XNO311L1/CCV	12.00		Error: Value is out of range [-60.006,60.006]
BR4.XNO311L1/CCV	0.01	2.0	
BR1.XNO12L1/CCV	0.04	8.0	
BR1.XNO9L1/CCV	-3.10		Error: Value is out of range [-50.005,50.005]
BR2.XNO12L1/CCV	0.11	22.0	
BR2.XNO9L1/CCV	0.29		Error: Value is out of range [-50.005,50.005]
BR1.XSK9L1/CCV	0.07	14.000000000000000...	
BR2.XSK9L1/CCV	20.99		Error: Value is out of range [-50.005,50.005]
BR1.XSK12L1/CCV	4.02		Error: Value is out of range [-50.005,50.005]
BR2.XSK12L1/CCV	0.11	22.0	
BR4.XNO12L1/CCV	0.00	0.0	
BR1.OSK12L1/CCV	-0.04	-8.0	

Generic Java software ⇒ Software Improvements ⇒ New Functionalities

New Archive Selector

The screenshot shows the ArchiveUI application window with the following callouts:

- Support for ADE**: Points to the 'ADEOP' option in the 'OpConfigs' list.
- Archive filtering according to PLS + wildcard support**: Points to the 'PLS filter' dropdown menu.
- Sort archive by date (creation, modification, PLS,...) (not XMotif)**: Points to the 'Archive sorting select' dialog box.
- Action log to keep a track of what, where and who (not XMotif)**: Points to the 'Show log' button in the top right.
- Latest modifications reloaded from ORACLE**: Points to the 'Reload archive list from Oracle' button.
- Able to create archives from GUI (not XMotif)**: Points to the 'Create archive' button.
- Show SRC/DEST archive contents in browser (not XMotif)**: Points to the 'Show archive contents' button.

The main interface includes a 'File' menu, a 'PLS condition' field, a table of archives with columns for ID, Creation Date, Modification Date, PLS User, and Archive name, and a bottom status bar showing '15:58:04 - Found 12 archive(s) / 12 total'.

Generic Java software ⇒ Software Improvements ⇒ New Functionalities

Archive Comparison Tool

4 - Action result for CPSOP

Current parameter

Action output

Enable text scrolling

Comparing ARCHIVE (ID: 1524) EASTA - EASTATST.
and ARCHIVE (ID: 1517) SFTPRO - before MODIF 19 sept 2001.

Reading ARCHIVE (ID:1524)
WorkingSet: CPS:LL_BLOW-UP1
38 parameters accessed in 5 sec 645 ms

Reading ARCHIVE (ID:1517)
WorkingSet: CPS:LL_BLOW-UP1
38 parameters accessed in 156 ms

Parameter Name	ARCHIVE 1524	ARCHIVE 1517
PA.GSVBUL/CCV	4.00, 0.00, 0.0	3.00, 0.00, 0.0
PA.GSPMBUL/CFREQ	12000	7000
PA.GSVBUL/REFVAL	8.00	3.00
PA.GSVLOGLOBAL/CCV	12.00, 0.00, 0.	18.00, 0.00, 0.
PA.GSPMBUL/CCV		0.00, 17

Some differences

Comparing ARCH

Archive/References comparison as plots (i.e for GFAS)

PA.GSV10GLOBAL/CCV

Table View Plot View

Data for Cycle: CPS.USER,EASTA

Legend

- Archive 1524
- Archive 1517

Point # X Y Z

All possible combinations of archives comparisons (hw, ref, archive), are now possible (not XMotif)

Generic Java software ⇒ Software Improvements ⇒ New Functionalities

Archive Comparison Tool

Archive/References comparison as table arrays

Possible to view the content of the archives (Not XMotif)

4 - Action result for CPSC

Current parameter

Enable text scrolling

Comparing ARCHIVE (ID: 1524) EASTA - EASTATST.
and ARCHIVE (ID: 1517) SFTPRO - before MODIF 19 sept 2001.

Reading ARCHIVE (ID:1524)
WorkingSet: CPS:LL_BLOW-UP1
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Reading ARCHIVE (ID:1517)
WorkingSet: CPS:LL_BLOW-UP1
38 parameters accessed in 156 ms

Parameter Name	ARCHIVE 1524	ARCHIVE 1517
PA.GSVBUL/CCV	4.00, 0.00, 0.0	3.00, 0.00, 0.0
PA.GSPMBUL/CFREQ	12000	7000
PA.GSVBUL/REFVAL	8.00	3.00
PA.GSVLOGLOBAL/CCV	12.00, 0.00, 0.	18.00, 0.00, 0.
PA.GSPMBUL/CCV	98.00, 0.00, 16	98.00, 0.00, 17

Some differences were found !

Comparing ARCHIVE (ID:1524) and ARCHIVE (ID:1517) - finished ok...

Index	Archive 1524	Archive 1517
0	12.00	18.00
1	0.00	0.00
2	0.00	0.00
3	140.00	140.00
4	0.00	0.00
5	160.00	160.00
6	25.00	58.50
7	190.00	190.00
8	25.00	58.50
9	230.00	245.00
10	200.01	200.01
11	320.00	262.00
12	200.01	200.01
13	349.00	270.00
14	183.61	200.01
15	399.00	400.00
16	159.12	200.01
17	502.00	440.00
18	141.58	200.01
19	660.00	483.00
20	133.79	200.01
21	682.00	498.20
22	200.01	176.12

Generic Java software ⇒ Software Improvements ⇒ New Functionalities

Non PPM Data

- Possible to make PPM copy on non PPM devices
- Main GUI conceptual changes concerning the refresh of received data
- Now applications can have non-ppm values refreshed on each occurrence of AQN_READY event (on each basic period on most of the accelerators)
 - Applications can receive data even if the requested cycle is not played in the supercycle
 - Solves several problems reported by non-ppm machines such as REX & ISOLDE

■ **WorkingSets** under **Java console manager** do **not always** report **coherent information** and freezes sometimes.

- Will solve the device status incoherency problem reported by Rende

Generic Java software ⇒ Software Improvements ⇒ New Functionalities

Error Handling

messages

POW	Status	CCV	AGN	Unit
BR.XN0HO	Off	0.88	0.00	A
BR.0N0HO	Off	6.67	0.00	A
BR1.QSK210L3	Didn't receiv...	Didn't re...	Didn't re...	A
BR2.QSK210L3	Didn't receiv...	Didn't re...	Didn't re...	A
BR3.QSK210L3	PR.WFBL	Pow.conv. specif. inter...	Pow.conv. specif. ...	A
BR4.QSK210L3	PR.WFBL	Pow.conv. specif. inter...	Pow.conv. specif. ...	A
BR1.QSK614L3	Standby	0.00	0.00	A
BR2.QSK614L3	Standby	0.00	0.00	A
BR3.QSK614L3	Standby	0.00	0.00	A
BR4.QSK614L3	Standby	0.00	0.00	A
BR3.ON0311L1	HARDWARE OR ...	-1.01	-1.01	A
BR1.XN0311L1	Standby	12.00	12.00	A
BR4.XN0311L1	HARDWARE OR ...	0.01	0.01	A
BR1.XN012L1	-	0.04	0.00	A
BR1.XN09L1	-	-3.10	0.00	A
BR2.XN012L1	HARDWARE OR ...	0.11	0.12	A

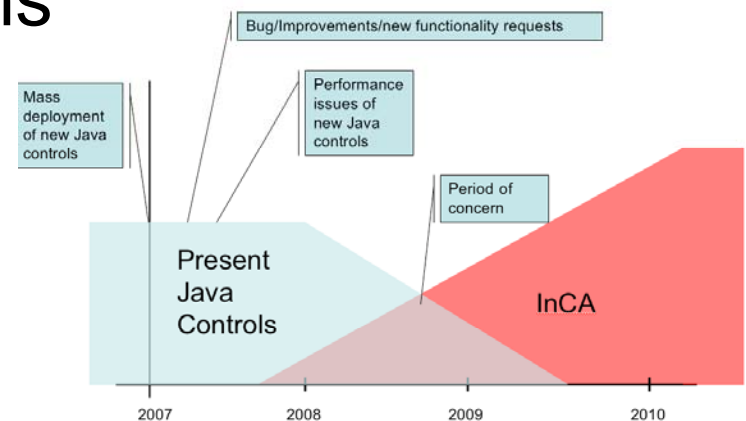
changed to **RED** to indicate

Generic Java software ⇒ Software Improvements

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Diagnostic Tools

The screenshot shows the 'JapcRdaPanel test' application window. It has three tabs: 'Equipment Access', 'PPM comparator', and 'Documentation'. The 'Equipment Access' tab is active. Under 'Equipment access', the 'Type' is set to 'RDA'. The 'Parameter name (device/property#field)' is 'CT.DVE0480/AON'. Below this, the 'Cycle selector' is 'SCT.USER.SETUP'. A 'Cycle stamp test' section shows the following results:

```
RDA 943920000535 <=> 943920000 s 535 ms  
TGM 943920000732 <=> 943920000 s 732 ms - SETUP  
TGM - RDA 197 ms
```

The 'Trace output' section shows a log of events. A 'Cycle stamp test' dialog box is overlaid on the trace, showing the following results:

```
RDA 1200912433265 <=> 1200912433 s 265 ms  
TGM 1200912433265 <=> 1200912433 s 265 ms - ZERO  
TGM - RDA OK ← normal state
```

The status bar at the bottom of the window displays the error message: '11:44:26 - RDA-Exception: Pow.conv. specif. interf. malfunctioning'.

Generic Java software

Performance Issues

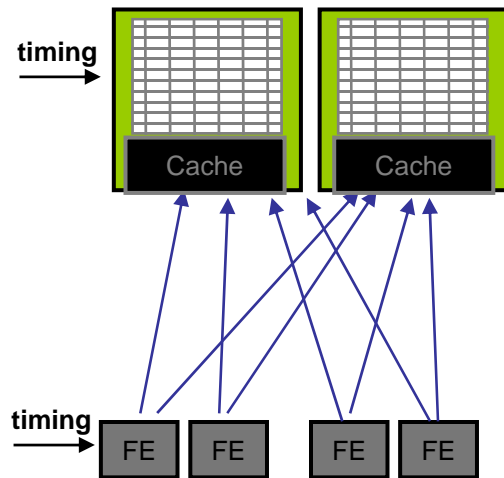
- ▣ There is also a **general impression** that the **Java** system is **slower, less reliable** and does not offer any new

- Severe performance problems were experienced during 2007 involving the new Java GUI generic software, CMW, FE software and DB access
 - a damper for all the work done for the new Java software

- ▣ **CO** propose **improvements to solve** some of **these issues**.

- A team of CO experts (TEX) was mandated to identify the causes and propose solutions to solve this problem for the startup 2008

Operator requirements and complaints



- Requirements

- Data update at least once per cycle
- Data consistency: don't mix data from different cycles
- Scalability: “no limitation” on number of GUIs
- Graceful degradation when problems: old data is better than error messages

PR.SDWDW-C	Didn't re...	Didn't re...	...	Didn't rec...	Didn't rec...
PR.SDWF8L-C	Didn't re...	Didn't re...	...	Didn't rec...	Didn't rec...
DICID	Didn't receive a value for cycle stamp 1182768351100000000				

- Complaint 1: Update problems

- Data doesn't arrive in time → error message
- “Christmas tree” (temporarily missing updates)

- Complaint 2: Very slow startup

- More than 30 seconds

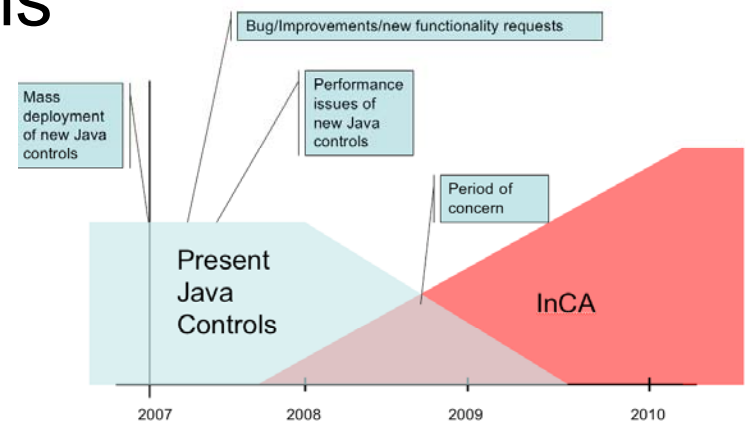
Solutions to be deployed for Startup 2008

- **Optimized CMW subscription** (MW team)
 - “Subscription Lists” (array calls for monitorOn())
 - Optimized memory allocation in CMW server
 - Will improve the Christmas tree problem + long start up time
- **New implementation of Java Directory Service** (DM)
 - Pre-fetch all data for a Working Set and cache it centrally
 - No change in API (one method added) → transparent to existing GUIs
 - Will improve the long start up time
- **Integration into WorkingSets + JAPC** (AP)
 - Implement the “Subscription Lists”
 - Increase timeout from 1s to 1.2s to allow for late values to come up
 - Will improve delayed data arrival (error no value for cycle stamp)
- **Improvements at FE side** (FE)
 - Upgrade of some overloaded FECs
 - Around 5 FECs will be upgraded
 - Improve the way the GM data is send to the client by the CMW (data up asap)
 - Will improve delayed data arrival (error no value for cycle stamp)

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General Services

- Common Console Manager
- OASIS
- Fixed Displays
- Logging/Statistics
- Passerelle
- LASER Alarm system
- DIAMON

Common Console Manager (CCM)

- Au
- Su
- Op
- Fa
- Af

CCM 1 Operational configuration: CPSOP Friday, 18 January 2008 11:40

File Sequence Measure General Control Sampler Test WorkingSet Active Tasks Context 1: PLS_LINE=CPS.USER.SFTPRO 6

WorkingSet launcher for CPSOP

File WorkingSets Help

OP config: CPSOP Cbc 1 CPS.USER.SFTPRO AD - 06

Selected archive: NONE

11:35:16 - Opening knob: PR.DHZ03...done

CPS: HORIZON-DIPOLES - CPS.

File Edit View References Commands Control Pr

Jan 18 11:40:35 CPS - SFTPRO

NORMAL view

Java Operation Display ASYNC:PERIODIC==1200

File Configure Frame Bean commands

Jan 18 11:40:35 ASYNC - 1200 ASYNC

ExtCond.xml

PSB	Name	Enable
EC.1-CTM	B. MPS	Hard
EC.2-CTM	BE. SMH	Hard
EC.3-CTM	B. VV	Hard
EC.4-CTM	BTP. VV	Hard
EC.12-CTM	BT2. KFA20	Hard
EC.13-CTM	BT4. KFA10	Hard
EC.15-CTM	BTH. VV	Hard
EC.17-CTM	BT1. KFA1...	Hard
EC.18-CTM	BE1. KFA...	Hard
EC.19-CTM	BE2. KFA...	Hard
EC.20-CTM	BE3. KFA...	Hard
EC.21-CTM	BE4. KFA...	Hard
EC.22-CTM	BI. STP	Hard
EC.23-CTM	BTP. STP	Soft

PS	Name	Ena...
EC.14-CTM	PI. SMH42	Hard
EC.16-CTM	PI. KFA45	Hard
EC.33-CTM	PE. STP152	Hard
EC.34-CTM	PE. STP176	Hard
EC.35-CTM	PE. F618HZ01_DMP	Soft
EC.36-CTM	P. MMON	Hard
EC.39-CTM	PE. BHZ377	Hard
EC.40-CTM	PE. SMH16	Hard
EC.41-CTM	PE. SMH57	Hard
EC.42-CTM	P. MMON	Hard
EC.43-CTM	PE. BSM61	Soft
EC.44-CTM	PE. F618HZ01_EA	Soft
EC.45-CTM	PE. KFA71	Hard
EC.46-CTM	PE. BFA	Hard
EC.47-CTM	P. VV	Hard
EC.48-CTM	PE. VV03	Hard
EC.51-CTM	PE. VVSPS	Hard

Users RO	Name	Ena...
EC.73-CTM	R_P. AD	Soft
EC.74-CTM	R_P. LHC25	Soft
EC.75-CTM	R_P. EASTA	Soft
EC.76-CTM	R_P. EASTB	Soft
EC.77-CTM	R_P. LHCION	Soft
EC.78-CTM	R_P. SFTPRO	Soft
EC.79-CTM	R_P. MD3	Soft
EC.80-CTM	R_P. MD4	Soft
EC.81-CTM	R_P. MD2	Soft
EC.82-CTM	R_P. EASTC	Soft
EC.83-CTM	R_P. MDION	Soft
EC.84-CTM	R_P. LHCPILOT	Soft
EC.85-CTM	R_P. MD1	Soft
EC.86-CTM	R_P. MDPRO	Soft
EC.87-CTM	R_P. MDPS	Soft
EC.88-CTM	R_P. LHC75	Soft
EC.89-CTM	R_P. TSTLHC75	Soft
EC.90-CTM	R_P. LHCINDIV	Soft
EC.91-CTM	R_P. T0F	Soft
EC.92-CTM	R_P. TSTLHC25	Soft
EC.93-CTM	R_P. CNGS	Soft
EC.94-CTM	R_P. TSTPS	Soft
EC.95-CTM	R_P. LHC7PROBE	Soft

SPS Reque...	Name	Enable
EC.25-CTM	R_E. A1one	Soft
EC.26-CTM	R_E. Coupled	Soft
EC.147...	R_S. SIS1DR	Soft
EC.148...	I_S. SIS_TT40	Soft
EC.156...	S. EOF	Soft
EC.157...	S. PstopPStart	Hard
EC.209...	R_S. Fpulse	Soft

SPS Inhibits	Name	Ena...
EC.129...	I_S. SPS	Hard
EC.130...	I_S. PROT	Hard
EC.131...	I_S. ION	Hard
EC.132...	I_S. MD	Hard
EC.133...	I_S. DUMP	Hard
EC.134...	I_S. FTARGET	Hard
EC.135...	I_S. CNGS	Hard
EC.136...	I_S. TI2	Hard
EC.137...	I_S. TI8	Hard
EC.151...	I_S. SIS_TT41	Soft

EXP. AREAS	Name	Ena...
EC.69-CTM	R_P. EAST_N	Soft
EC.70-CTM	R_P. EAST_T7	Soft
EC.71-CTM	R_P. EAST_T8	Soft

ISOLDE	CCV2	ENA...
EC.5-CTM	BY. VV	Hard
EC.7-CTM	R_BY. GPS	Hard
EC.8-CTM	R_BY. HRS	Hard
EC.9-CTM	BY. WDOG	Hard
EC.10-CTM	BY. VENTIL	Hard
EC.24-CTM	BY. STP	Hard

PS Inhibits	Name	Ena...
EC.97-CTM	I_P. PS	Hard
EC.98-CTM	I_P. PROT	Hard
EC.99-CTM	I_P. ION	Hard
EC.101-CTM	I_P. AD	Hard
EC.103-CTM	I_P. EAST_N	Hard
EC.104-CTM	I_P. EAST_T7	Hard
EC.105-CTM	I_P. EAST_T8	Hard

CTIMA	Pulse	Enabled	CCV
V-APW-CTM		Enabled	180

GFAS	Enable	Delay	Ampl.	Unit
R. GSDHZ	Disabled	31.55	10.00	A

PTIM-V	Pulse	CCV	AQN	Start	Train
K. ADHZ	Enabled	190	190		1-kHz

POW-V	Status	CCV	AQN	Unit
R. DHZ01	Not-Ready	4.00	0.00	A
R. DHZ03	Not-Ready	0.00	0.00	A
R. DHZ05	Not-Ready	0.00	0.00	A
R. DHZ07	Not-Ready	0.00	0.01	A
R. DHZ09	Not-Ready	-4.00	0.01	A
R. DHZ11	Not-Ready	0.00	0.01	A
R. DHZ13	Not-Ready	0.00	0.01	A
R. DHZ15	Not-Ready	0.00	0.01	A
R. DHZ17	Not-Ready	0.00	0.00	A
R. DHZ19	Not-Ready	0.00	0.01	A
R. DHZ21	Not-Ready	0.00	0.00	A
R. DHZ23	Not-Ready	0.00	1553 RTI ha...	A
R. DHZ25	Not-Ready	0.00	0.01	A
R. DHZ27	Not-Ready	0.00	0.00	A
R. DHZ29	Not-Ready	0.00	0.01	A
R. DHZ31	Not-Ready	0.00	0.01	A
R. DHZ33	Not-Ready	0.00	0.01	A
R. DHZ35	Not-Ready	0.00	0.01	A
R. DHZ37	Not-Ready	0.00	0.00	A
R. DHZ39	Not-Ready	0.00	0.00	A
R. DHZ41	Not-Ready	0.00	0.00	A
R. DHZ43	Not-Ready	0.00	0.01	A

cbe_disp

SFTPRO Jan 18 11:39:16

POW

Freeze

Update Unfreeze Freeze

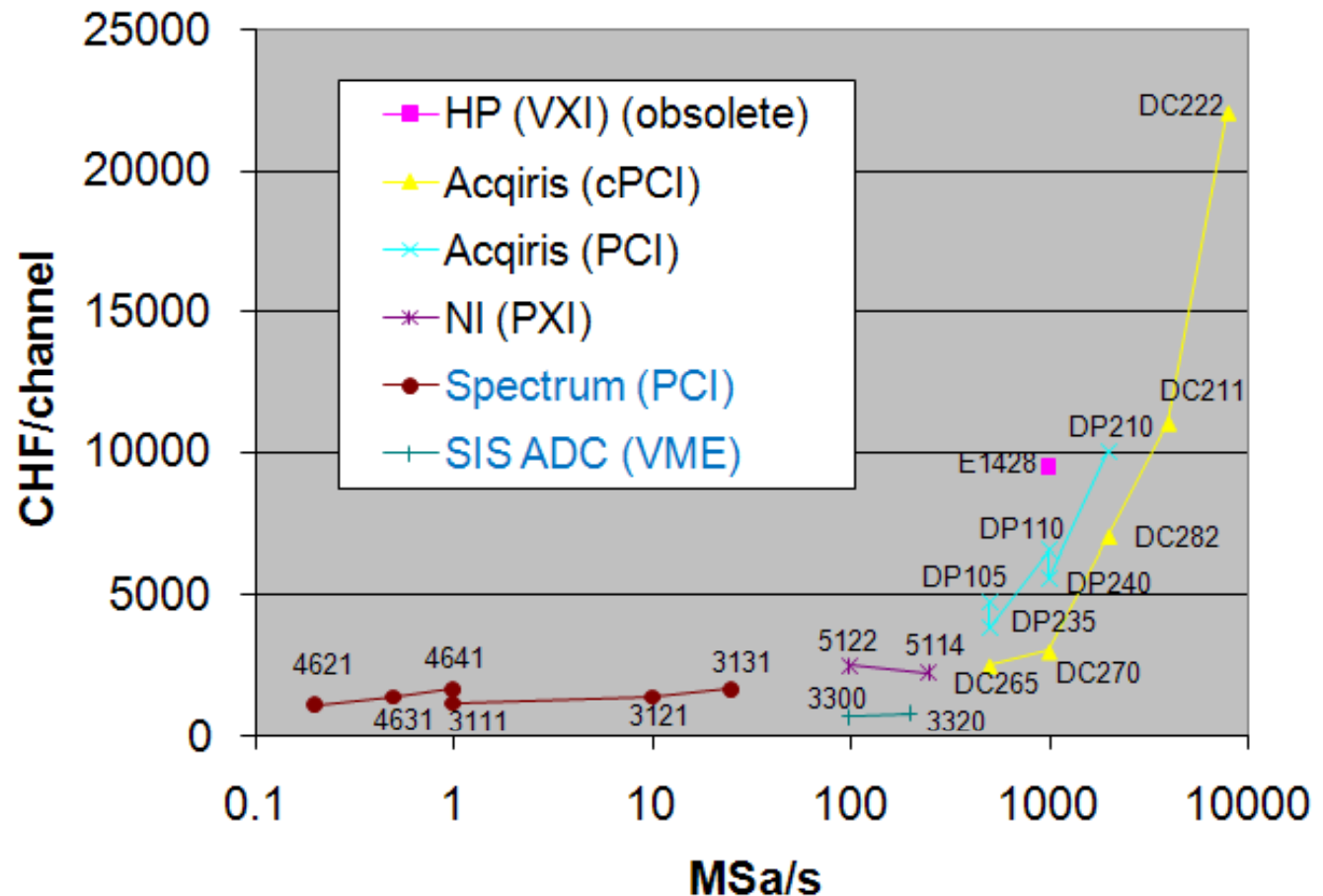
1553 RTI has nothing to send

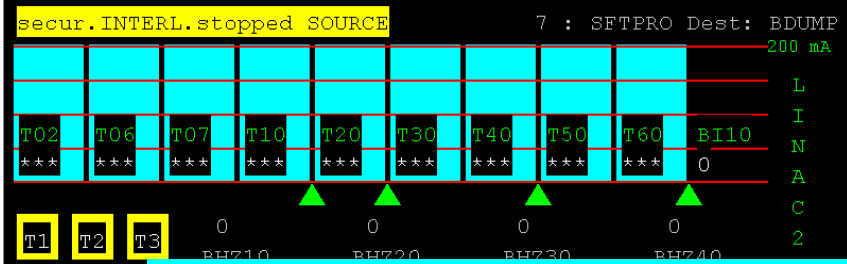
General Services

OASIS

- Integrate low-cost HW
 - PCI
 - VME
- Integrate digital systems
 - ✓ LEIR LLRF
 - ✓ CTF BPMs
 - FGC
- Software
 - Add sampler feat. in OASIS

OASIS modules





9/12 PSB Fixdisplay
Rf LA2.CRF2/ Mon 19 Nov 2007 16:09
beam stop Supervisor : * shutdown *
Mcr Tech. : 76671
MTG-Level = 9

T05	BPNM	User	Pls	Inj.	Acc.	Ejected
124	1	ZERO	24	○○○○	○○○○	<input type="checkbox"/> E1
	2	ZERO	24	○○○○	○○○○	<input type="checkbox"/> E1
	3	AD	1	○○○○	○○○○	<input type="checkbox"/> E1

BTM.TRA/AQN: No
LEIR F
Integra
Teletex
Transp
Integration with
Integration with In

Mode
PBARPROD
No. of Inj.
1
No. of Ej.
1
AD Cycle Length
33.6 s
Repetition Rate
33.6 s

CPS	TFA9012	TFA9053	3.5 GeV/c	2 GeV/c	300 MeV/c
0.0 E7 0%	0.0 E7 0%	-10.07 E7 0%	0.0 E7 100%	0.0 E7 0%	0.0 E7 0%
100 MeV/c R	100 MeV/c E	TFA7049	Spare	Spare	Spare
0.0 E7 0%	0.0 E7 0%	-10.07 E7 0%	NYI	NYI	NYI

ANTIPROT for MLINE
Comments: 03 Nov 2007 20:48:55

No Message
DR.SDBMAIN-S/UNITT: cern.japc.SubscriptionProblemException: Cannot start mo...

366 CaO plasma ----

TARGET

TARGET	0.00 A	0.00 V	HT	0.00 kV	0.00 mA
LINE	0.00 A	0.00 V	SRCMAG	0.00 A	
OVEN 1	0.00 A		ANODE 1	0.00 A	0.00 V
OVEN 2	0.00 A		ANODE 2	0.00 A	0.00 V

CONTACT

Fredrik Wer GUN not pulsing
Physicist in c L12 L16 L29 L40 L47 L49 L50 L59 L69 L79 L82 P11 P24 P28

CTF Fixdisplay Dec 19 17:30:51
1 : SETUP Dest: SPECT_CT

ADE Fixdisplay

Super CP.SVBPM0280S-C: No value for 943920000330000000

B425 B430 K2 K3 K5 K6 K7 B105 B145

Logging & Statistics

- 2007

- Beam Intensity Measurements
 - PSB, CPS, Linac2&3, ADE, LEIR
 - Active during Run
 - Logged data linkable to “active cycle description” data

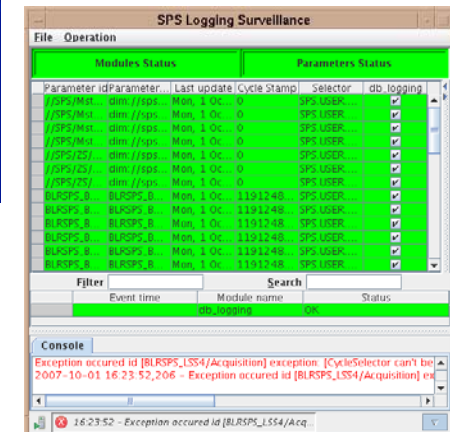
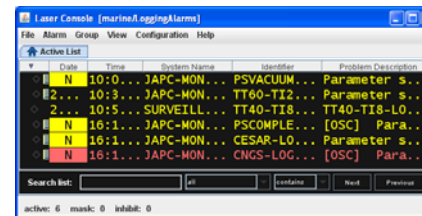
- VACUUM
 - All gauges and pumps
 - PSB, CPS, Isolde, CTF, Linac2&3, ADE
 - Active all the year around
- MERIT
 - Solenoid measurement

- 2008 - startup

- Beam Fault Statistics
 - Duration of beam un-availability for a specific destination - need Bean Status information
 - Required extension in logging application and a new FESA server to interface TGM
 - Successful simulation of data acq chain was performed end 2007 with data stored in Meas DB for consumption by offline analysis application

- Surveillance of Logging

- LASER
 - Alarms of various levels sent by each process
 - ActionToTake defined for each alarm
 - Possible to restart the logging from LASER (end 2007)
- Dedicated Surveillance GUI
 - Run locally on Operator’s console
 - Display detailed status & faults



LASER Alarm system

The screenshot displays the 'Laser Console' software interface. At the top, a menu bar includes 'File', 'Alarm', 'Group', 'View', 'Configuration', and 'Help'. Below the menu is the 'Active List' window, which contains a table of active alarms. The table has columns for Date, Time, System Name, Identifier, and Problem Description. The selected alarm is from 27/11 at 14:37:20, for system RFLNP (Identifier: ITM.CRFBU), with the problem description 'FAULT Spare'. Below the table is a search bar and navigation buttons. At the bottom, a detailed view for the selected device 'ITM.CRFBU' is shown, including its status (Warm-Up), control options (StandBy, Reset, Control & status, PPM values), and communication logs.

Date	Time	System Name	Identifier	Problem Description
15/02	09:12:52	COMPUTER	CS-CCR-LSA1	User process not running or duplicated. See US for mo...
25/09	09:03:45	VPUMP	E0.VPI102	control is START status=OFF .
25/09	09:03:45	VPUMP	E1-1.VPI101	control is START status=OFF .
25/09	09:03:46	RFLIN	IP.CRF	1553 RTI has nothing to send .
05/10	09:45:29	BEAMST	ITF.STP11-12BIS	WARNING: BEAM STOPPER IN .
22/11	07:51:46	BEAMST	ITF.STP11-12	WARNING: BEAM STOPPER IN .
23/11	09:58:07	SKSU	ER.DFH	Equipment error .
27/11	14:37:20	RFLNP	ITM.CRFBU	FAULT Spare .
04/12	06:02:39	LeirSeptaStatic_LEI	ER.SEH10	Fault - Positioning system
04/12	06:09:45	RFLNP	IA2.RF	FAULT Final 1 .
04/12	06:09:45	RFLNP	IA3.RF	FAULT Final 1 .

Device Details: ITM.CRFBU

- RF system for BUNCHER
- Implementation GH
- Member number 7003
- Accelerator LH3
- Tgm name LEI
- Host name dln3pov
- Class name RFLNP
- PPM No

Status: Warm-Up

Control sent to the equipment: StandBy

Status received from the equipment: Warm-Up

active: 11 mask: 30 inhibit: 20 Config saved

PPM

DIAMON

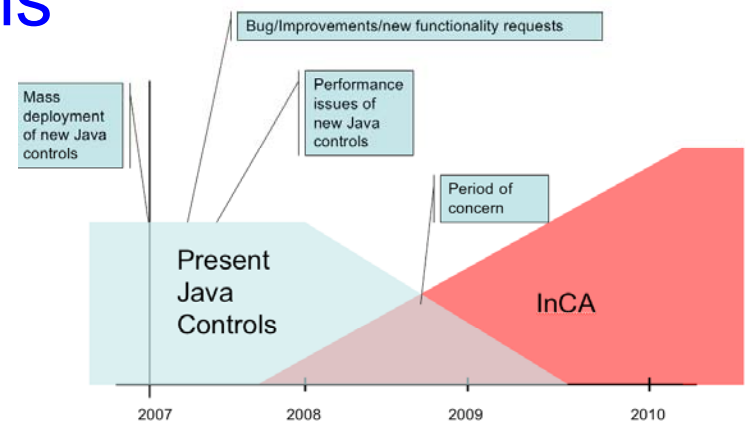
The screenshot displays the Diamon web interface. On the left, a tree view shows the hierarchy of Nagios services under the 'NAGIOS' root. The 'DIAM' folder is expanded, showing sub-folders like 'C', 'D', and 'All ag'. A context menu is open over the 'PC' service, listing actions such as 'Remove', 'Move', 'Properties', 'Error(s) (2)', 'Warning(s) (1)', 'Command(s)', 'Notes', 'Pending actions', and 'Webpage'. The 'Error(s) (2)' option is selected, opening a sub-menu with 'Disk space' and 'CPU load'. The 'Disk space' option is further selected, opening a detailed view for that error. This view shows 'Disk space' as a red bar, 'CPU load' as a red bar, and 'Swap usage' as a yellow bar. Below these bars, a list of actions is visible: 'Details', 'Repair', 'Responsible', 'Properties', and 'Notes'. The 'Repair' option is highlighted. The interface includes a top navigation bar with 'Errors', 'Properties', and 'Te: Help' tabs, and a 'login' button. The status bar at the bottom left shows the time '11:42:57 - Agent PCA' and a link to 'Help Topics on the Help Menu'.

General Services

Scope

- Evolution of Java Controls for the next 3 years keeping InCA in mind
 - Generic Java software (Working Sets, Knobs, ...)
 - Software Improvements
 - Diagnostic Tools
 - Performance Issues
 - General services (LASER, OASIS, Passerelle,...)
 - Equipment specific applications

- Maintenance scheme



Equipment Specific Applications

- Preparation work
- Responsibilities
- Planning

CPS List of SW applications (R.Steerenberg, M. Benedikt)			
200 MHz matrix application following a HW changes and new method by RF and CO. Redo the Xmotif application in Java to access the new HW	1	Denis Cotte	As much as possible generic applications. The new application should reply on standards (LKTIM). These should then be called from the new matrix application. Denis is in contact with Heiko. Check wityh Gabriel for timing. - Is the new timing ok with this?
PFW application to be completed	1	Bernard, Pierre	OK
Modification of Bunch Shape Measurement with FFT option - New extension due to LHC beam	1	JLS	OK
LINC application for BSW16 control	1	Rende + ABP + CO	This should be implemented in shutdown (to be discussed)
TT2 BPM now in FESA : Make it available via a knobs application in 2008	1	Gabriel M + Denis	Check if this 1 device for the 3 pickups or 3.
FWSV65 will have new electronics à application modif (Xmotif now and remain as is. Just add the modifs)	2 Post-shutdown	JFC +GC +LP (TBC)	a new generic applications will be needed for the WS. Make a CCC-wide application with option for each machine.
o For MTE multiple Gaussian peak fit	2a		
o Store reference profile like for Tomoscope (incl. Settings)	2b		
YASP@PS (does it cover all the needs for the new CODD ??) SW person to be involved.. (Marine 60%, TS 100%)	3	Jorg, Stephane, Marine, Denis, Gabriel, Rende	
BBQ tune application with specialist part integrated and Q-kicker (damper) control - Join effort with PSB and joint effort with BI to develop a new application (including kicker control) for OP as a result of the specialist	2	Fabio + Pierre + BI (Ralph)	See the explanation in the PSB part.
o Save reference tune (req by MTE) Can be put in the fesa devise - to be requested to BI developers of FESA class			
New magnetic cycle editor based on FGC2 should be developed as part of new INCA [Reguration of the FGC2 in parallel in 2008 available=> but we develop the new	2	Bernard, Denis (incl L. Bojtar	

Responsibilities

- A **clear split** of responsibility agreed
 - Generic applications \Rightarrow AP
 - Equipment specific \Rightarrow OP
- A **responsible** for every application on the inventory is **allocated** and **priorities agreed**
- Overall responsables :
 - OP **Michael Benedikt**, (Rende Steerenberg)
 - CO **Eugenia Hatziangeli**
 - Day to day follow-up:
 - LINAC3, AD, LEIR: **Sergio Pasinelli**
 - ISOLDE, LINAC, PSB, PS: **Jose-Luis Sanchez**
- **Status report meeting** every 1-2 months with people above \Rightarrow regular inventory updates

Planning

- Short term
 - Development work, upgrades during shutdown 07-08
 - Planning of development during 2008
 - Inventory \Rightarrow InCA project
- Long term
 - Develop a **phase out plan** of C/Motif applications
 - Align application work with InCA and CO3
 - **Identify** potential of domain specific applications for more than one machines (Tune, Sem grids, YASP@PS, vacuum, ...)
 - Plan development
 - Replace diverse applications with single

Maintenance Scheme

- Present Generic Java Software will be supported till InCA is fully validated and in operations (2010)
 - 1FTE is attributed
 - Only high priority requests for new features will be accepted (filtered by OP & CO/AP)
 - Work will be aligned with InCA project and CO3 planning
- General Services will evolve in collaboration with InCA
- Support outside working hour by expert list

■ Will the **X-motif system** remain **available** in 2008 and later?

- C/Motif Generic applications will remain as is
 - 2008 - maintained operational
 - No new development will be done - corrective maintenance only
 - No access to FESA devices possible without GMtoFESA adaptor

Summary

- The current controls system will continue to be maintained and provide for the most essential requirements of the Operations
 - C/Motif Generic software will remain frozen
 - The Java Generic software is becoming fully operational
 - A set of improvements will be implemented to overcome the serious performance limitations of 2007
- New CO services are now providing functionality for the PS Complex
 - Logging covers the most essential data ⇒ goal: statistics during 2008 run
 - Fixed Displays software system has replaced all the legacy Vistars
 - LASER alarm system is moving towards covering the functionality of Alarm tree
 - Passerelle is resurrected from the dead and it is fully functional
- Renovation of the remaining legacy equipment specific software will be done at the most appropriate time to avoid any duplication of effort with InCA
 - A process of controlling the status of these applications and the evolution of the requirements is put in place by a team of OP and CO with ties to InCA and CO3