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SLS Control System Software Management

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SLS Computing and Controls

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Outline

1. Application and installation directory structure
2. IOCs and projects - conflicts and our solution
3. Common installation procedure and tools for installation and software maintenance

Application directory structure

- general structure for all applications
- based on EPICS IOC application structure
- keep together all configuration files, code, documentation

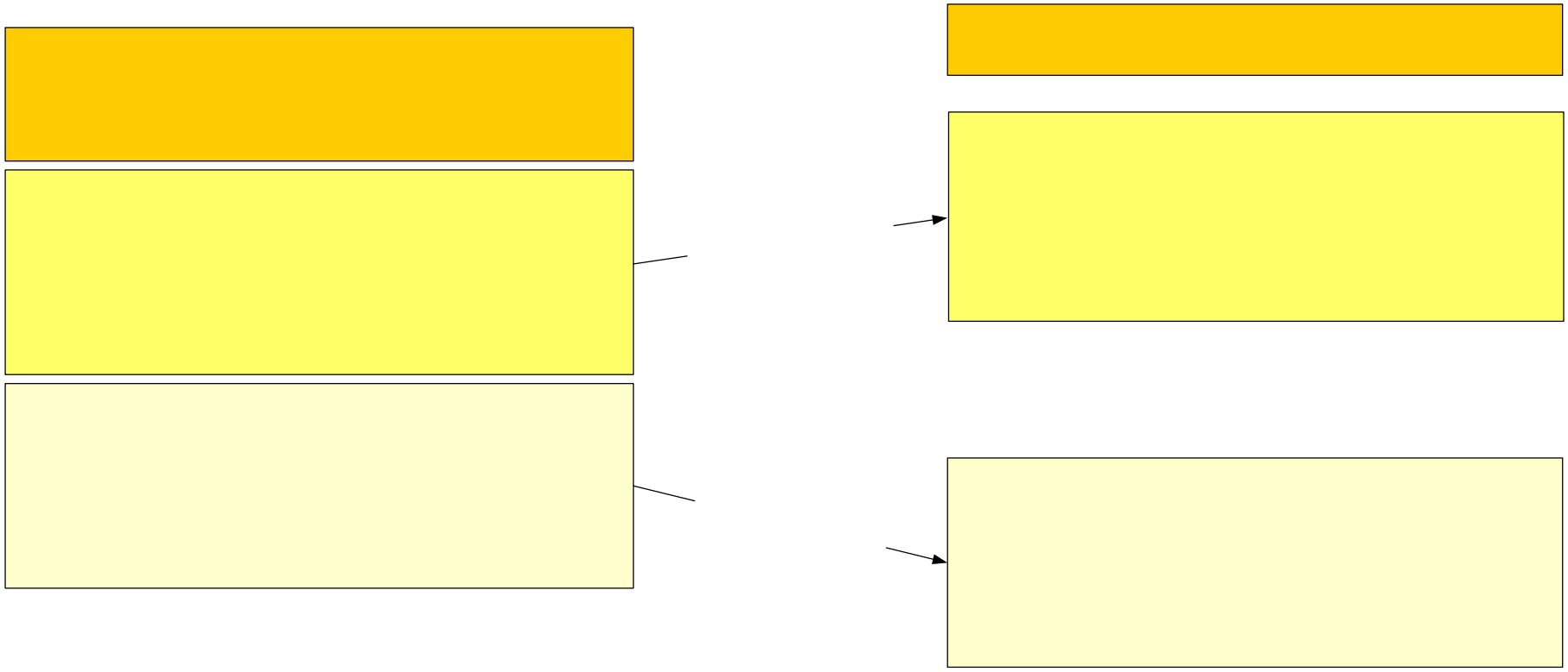
  => server and client part are kept together
- the structure is mapped in the CVS repository

```
CVSROOT/
        <domain>/
                <project>/
                        [subproject/]
                                <application structure>
```

Example of an IOC Application

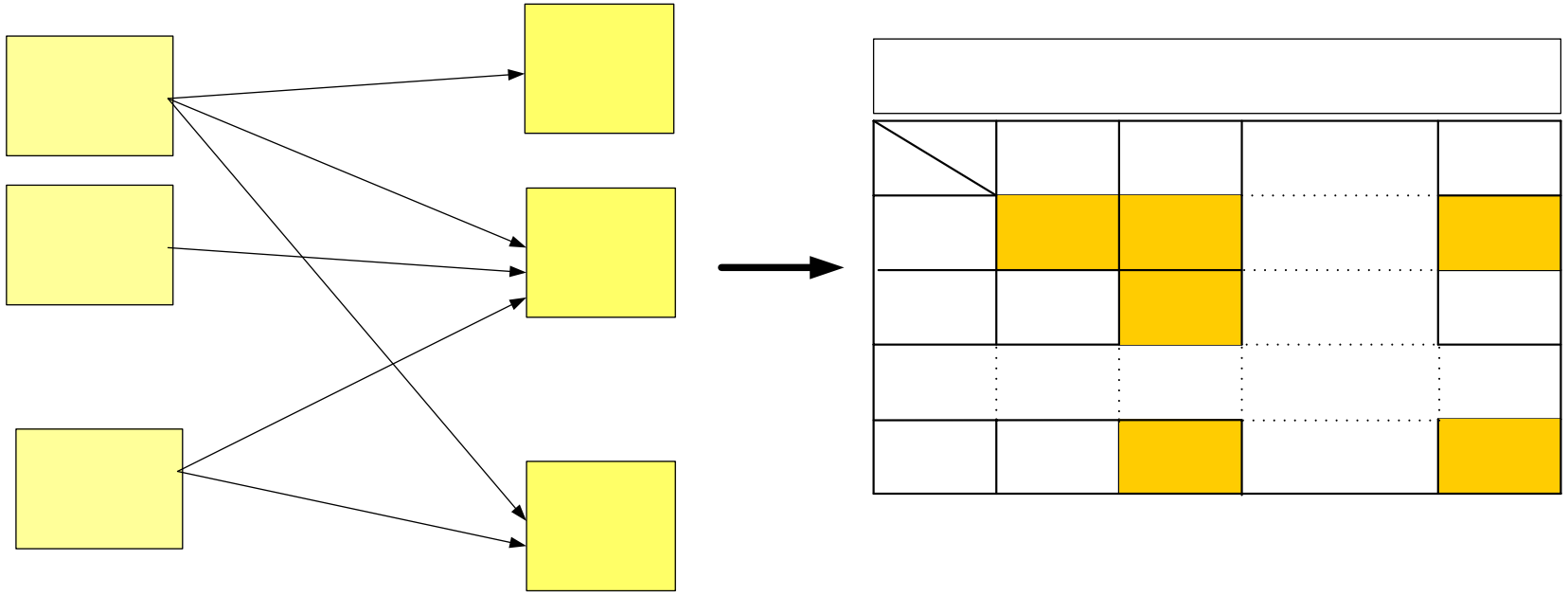
```
A/
  VA/
      GNUMakefile
      gauge.template
      fastValve.template
      ARIVA-VME-1_gauge.subs
      ...
      cfg/
          <ioc_name>_<pos/set>.req
      src/
          prog1.c
      snl/
          prog2.st

      App/
          config/
              launcher/
                  A_VA_pump-current.config
                  ...
              panel/
                  A_VA_all_temps.prc
                  A_VA_ARIVA_TC.bar
                  ...
          scripts/
              A_VA_LinVac.tcl
```

Installation of an IOC application



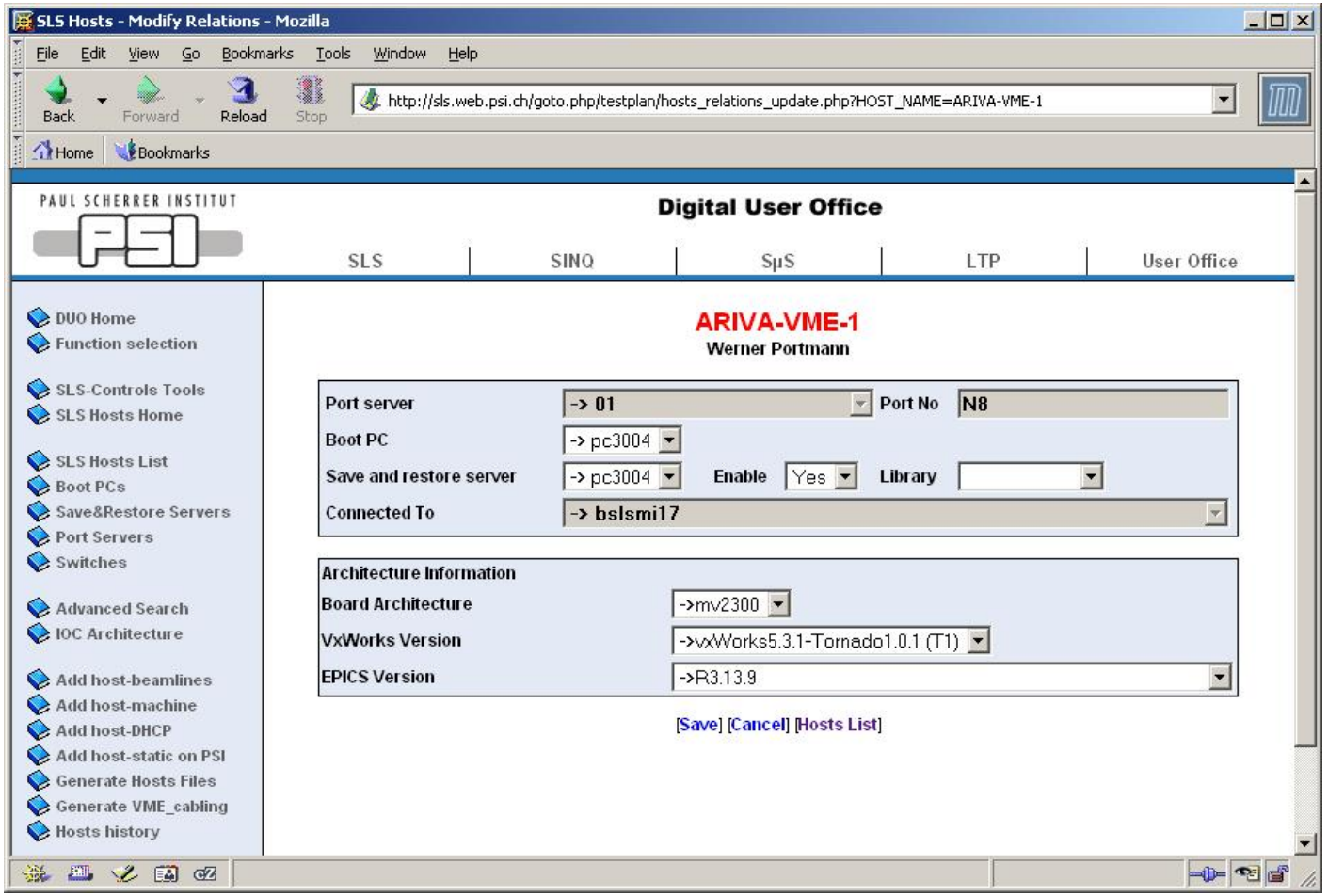
IOCs and Projects

- one or more projects can be installed in one or more IOCs
- each project could require a different version of software
  => conflicts may arise



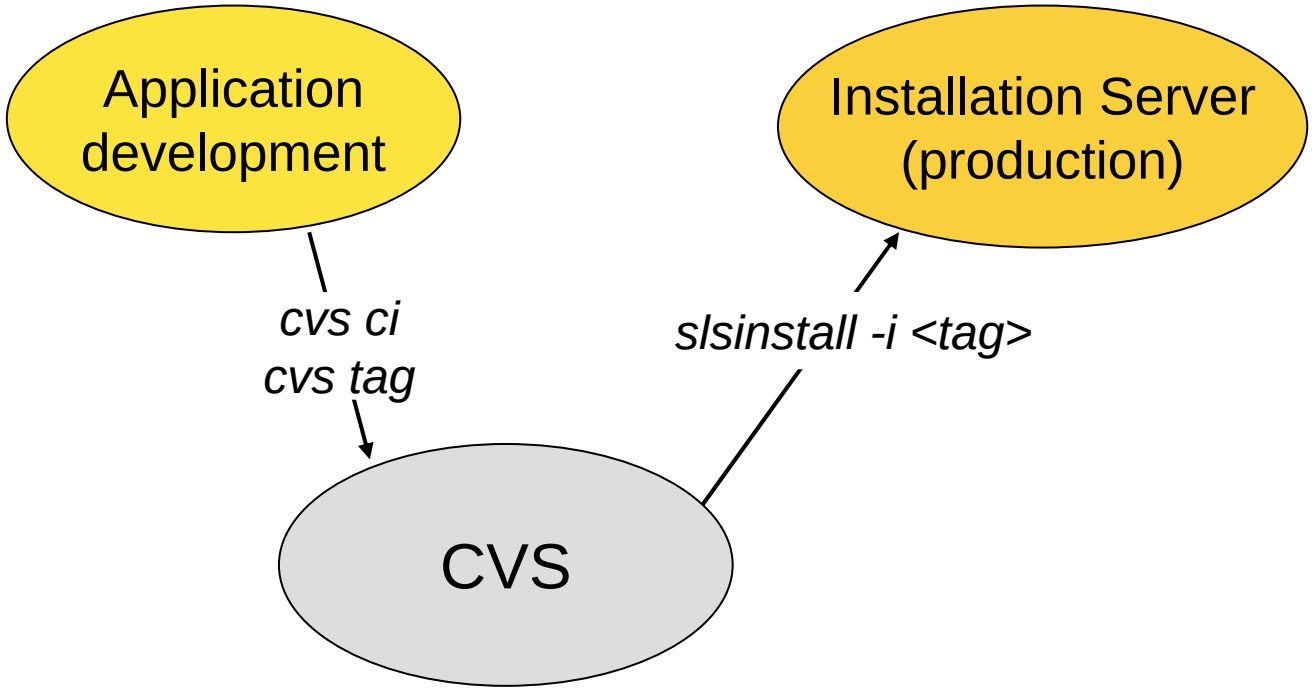
Solution

- only IOC responsible can choose underlying software version
- projects installed on this IOC use them
- the information is stored in the Oracle DB and accessible through the Web



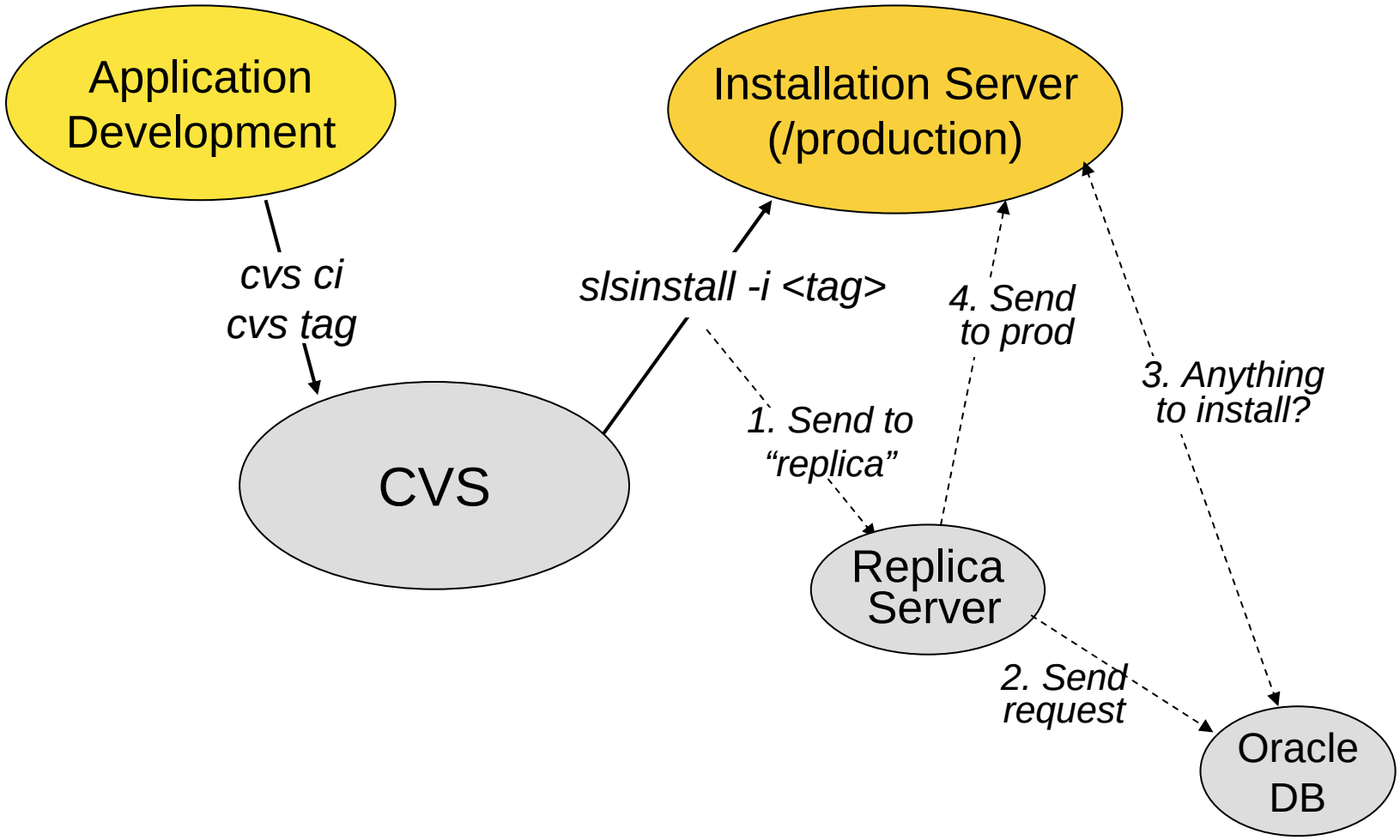
Common installation procedure

Installation to production: *slsinstall -i <cvs_tag>*



Common installation procedure - cont.

Installation to production - *slsinstall -i <cvs_tag>*



slsinstall logger

Projects installed by *slsinstall*

[Details] link shows a IOCs to which a project has been installed and a project's installation history.

Search

A/

Clear | Search | Next

	Project	CVS Tag	User	SLSBASE	Installation Date
[Details]	X/X02DA/FE	X_X02DA_FE_1_1	isenegger	/devl	23-09-2005 17:20:43
[Details]	A/DI/DBPMCAL	A_DI_DBPMCAL_2_3	schilcher	/prod	23-09-2005 10:08:43
[Details]	A/DI/DBPM_NCO	A_DI_DBPM_NCO_1_22	krempaska	/devl	22-09-2005 16:38:57
[Details]	A/DI/DBPM	A_DI_DBPM_4_3	schilcher	/prod	20-09-2005 20:23:20
[Details]	A/DI/DBPM-BO	A_DI_DBPM-BO_2_4	schilcher	/prod	20-09-2005 17:21:09
[Details]	A/RF/HV-MOD	A_RF_HV-MOD_2_23	portmann	/prod	20-09-2005 15:52:51
[Details]	A/SA/VCS	A_SA_VCS_1_45	gaiffi	/prod	20-09-2005 14:29:52
[Details]	A/MA/ky	A_MA_ky_1_8	luedeke	/prod	19-09-2005 15:23:13
[Details]	A/RF/3HC	A_RF_3HC_2_4	portmann	/prod	19-09-2005 13:30:26
[Details]	A/DI/scraper	A_DI_scraper_1_16	armstrong	/prod	19-09-2005 11:56:39
[Details]	A/AL/HPS	A_AL_HPS_1_6	armstrong	/prod	19-09-2005 11:11:00
[Details]	A/AL/POMSSW	A_AL_POMSSW_1_4	armstrong	/prod	19-09-2005 11:09:30
[Details]	A/AL/POMS	A_AL_POMS_1_11	armstrong	/prod	19-09-2005 11:08:26
[Details]	A/AL/GM2	A_AL_GM2_1_13	armstrong	/prod	19-09-2005 11:07:27
[Details]	A/AL/ENCODER	A_AL_ENCODER_1_15	armstrong	/prod	19-09-2005 11:03:26
[Details]	A/SA/MPS	A_SA_MPS_1_7	speckert	/prod	16-09-2005 16:20:21
[Details]	A/SA/MIS	A_SA_MIS_2_5	speckert	/prod	16-09-2005 13:55:17
[Details]	A/DI/PCT-NEW	A_DI_PCT-NEW_3_3	dach	/prod	15-09-2005 16:53:37
[Details]	A/VA	A_VA_3_8	portmann	/prod	12-09-2005 14:54:38
[Details]	A/RF/B	A_RF_B_1_3	portmann	/prod	08-09-2005 16:31:20

slsinstall logger - cont.

Project	**A/DI/DBPM-BO**
CVS Version	**A_DI_DBPM-BO_2_4**
Installed on	**20-09-2005 17:21:09**
SLSBASE	**/prod**

List of IOCs installed

ABODI-PC-BPM
ABODI-VME-BPM1
ABODI-VME-BPM10
ABODI-VME-BPM11
ABODI-VME-BPM12
ABODI-VME-BPM2
ABODI-VME-BPM3
ABODI-VME-BPM4
ABODI-VME-BPM5
ABODI-VME-BPM6
ABODI-VME-BPM7
ABODI-VME-BPM8
ABODI-VME-BPM9
MBODI-VME-BPM1
MBODI-VME-BPM5
MBODI-VME-BPM9

Project Installation History

	CVS Tag	Username	$SLSBASE	Install Date
[IOCs installed]	A_DI_DBPM-BO_2_4	schilcher	/prod	20-09-2005 17:21:09
[IOCs installed]	A_DI_DBPM-BO_2_3	schilcher	/prod	13-07-2005 10:39:06
[IOCs installed]	A_DI_DBPM-BO_2_2	schilcher	/prod	21-06-2005 16:35:37
[IOCs installed]	A_DI_DBPM-BO_2_2	schilcher	/prod	21-06-2005 15:01:35
[IOCs installed]	A_DI_DBPM-BO_2_2	schilcher	/prod	21-06-2005 13:47:14
[IOCs installed]	A_DI_DBPM-BO_2_1	schilcher	/prod	24-05-2005 14:36:48
[IOCs installed]	A_DI_DBPM-BO_2_1	krempaska	/devl	24-05-2005 12:16:32

Conclusion

- **Install all SLS application by a unique script**
- **Fast and easy distribution of the software on SLS computers**
- **IOCs use various versions of underlying OS (VxWorks), EPICS, BSP and application libraries**
- **Trace all the changes of the software running in production**
- **Rollback possibility**
- **Based on a previous installation script, rewritten, officially used since May/05 to install IOC applications**

Many thanks to SLS Controls group members and other SLS developers for their inputs, testing, ideas and discussions.