

Jožef Stefan  
Institute

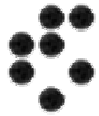
**cosylab**   
CONTROL SYSTEM LABORATORY

# Visual DCT

## Visual Database Configuration Tool

Matej Šekoranja, Cosylab

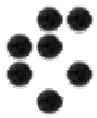
e-mail: [matej.sekoranja@cosylab.com](mailto:matej.sekoranja@cosylab.com)



# Contents

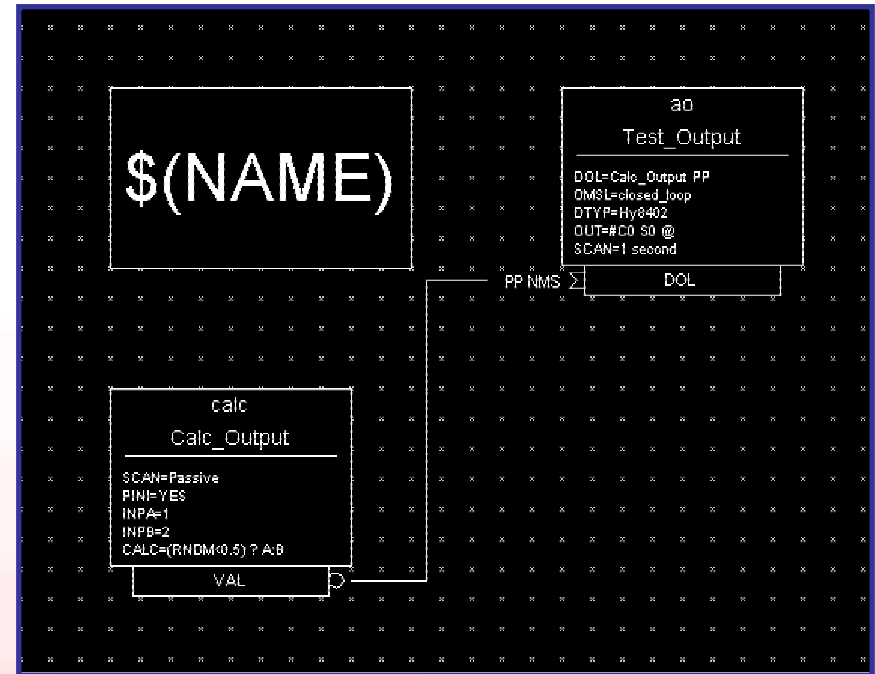
- What is Visual DCT?
- Package A
- Package B
- User feedback
- Conclusion

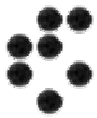




# What is Visual DCT?

- VDCT talks 100% EPICS
  - Reverse engineering
    - Everything is in .db file
    - Preserves order, comments
- Written in Java
  - Platform independence
- “Standard” IDE features
  - clipboard, undo, object inspector, visual linking
- Hierarchical design
- Visual documentation
- PostScript printing
- Plugins
  - freely extensible
- open-source product



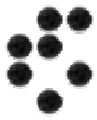


## Package A

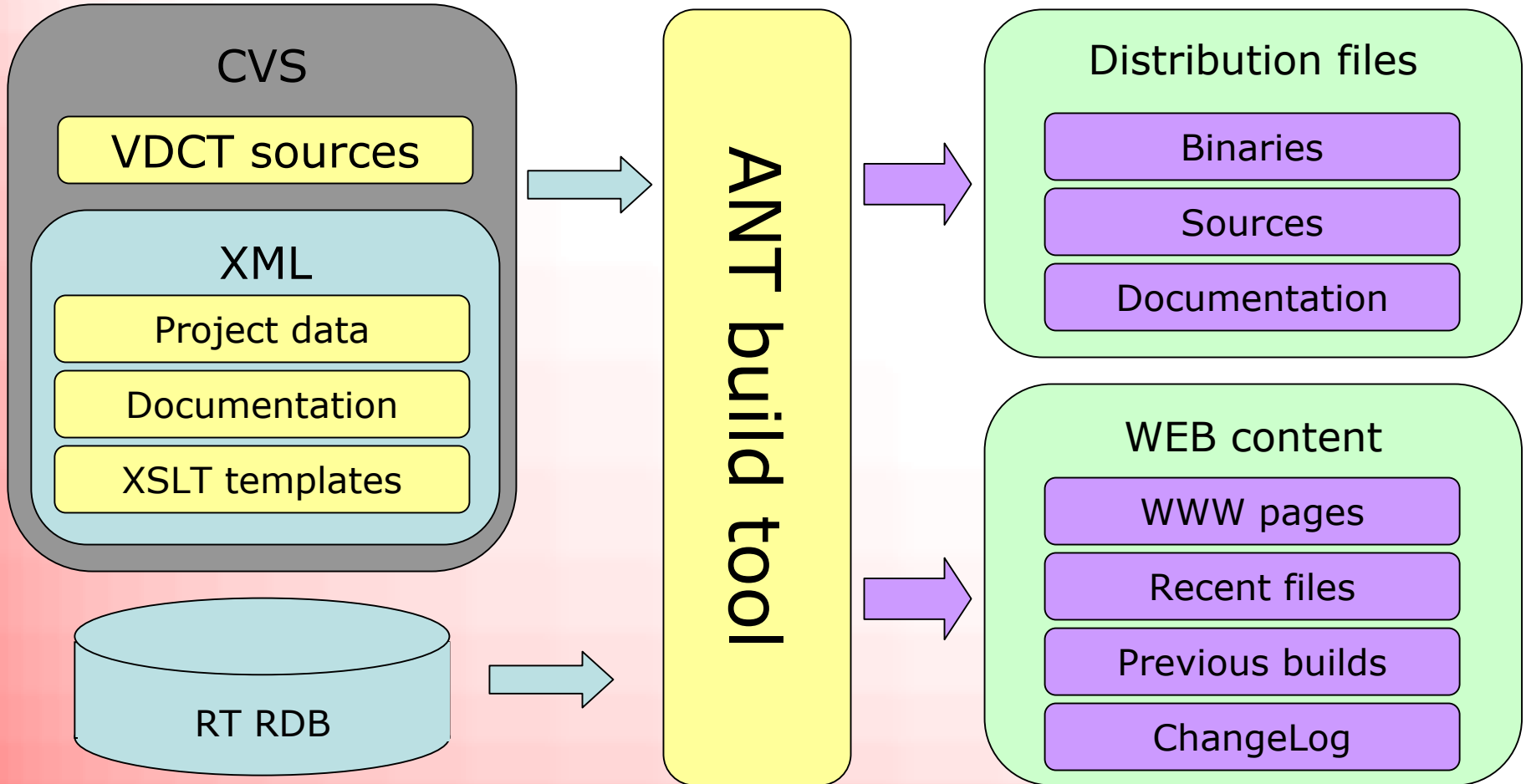
### Mainly bugfixes:

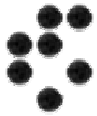
- Symbol scalling
- Problem renaming groups
- Place connectors on top of symbols
- Make all fields available as link destinations
- Create Makefile for VDCT
  - ANT build tool considered as better choice
- Configuration
  - Java Preferences API used
- Multiple (un)zooms relocates the view rectangle location
- Performance improvement
- Visual DCT now has 'executable' JAR





# Package A - VDCT ANT builds



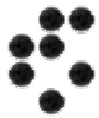


## Package B

Feature, feature and feature again:

- Comments and graphical objects
  - lines, arrows, boxes, textboxes (incl. HTML)
- Navigation
  - arrow keys, mouse, navigator, edge panning
- PostScript printing
  - export to PostScript file
- Inspector improved
- Visibility of field values
- Mechanism to edit link attributes
- Structure for INP/OUT links
- Stubs (shortcut, global)
- ***Hierarchical capabilities***





## Package B – Comments and graphical objects

This is a textbox with plain text.

All new lines are recognized and lines are automatically wrapped.



Hi!

VisualDCT also supports HTML, that means you can add images, tables, different fonts, etc.

Every text starting with

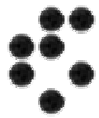
`<html>`

is interpreted as HTML.

*Enjoy using VisualDCT.*

Bye

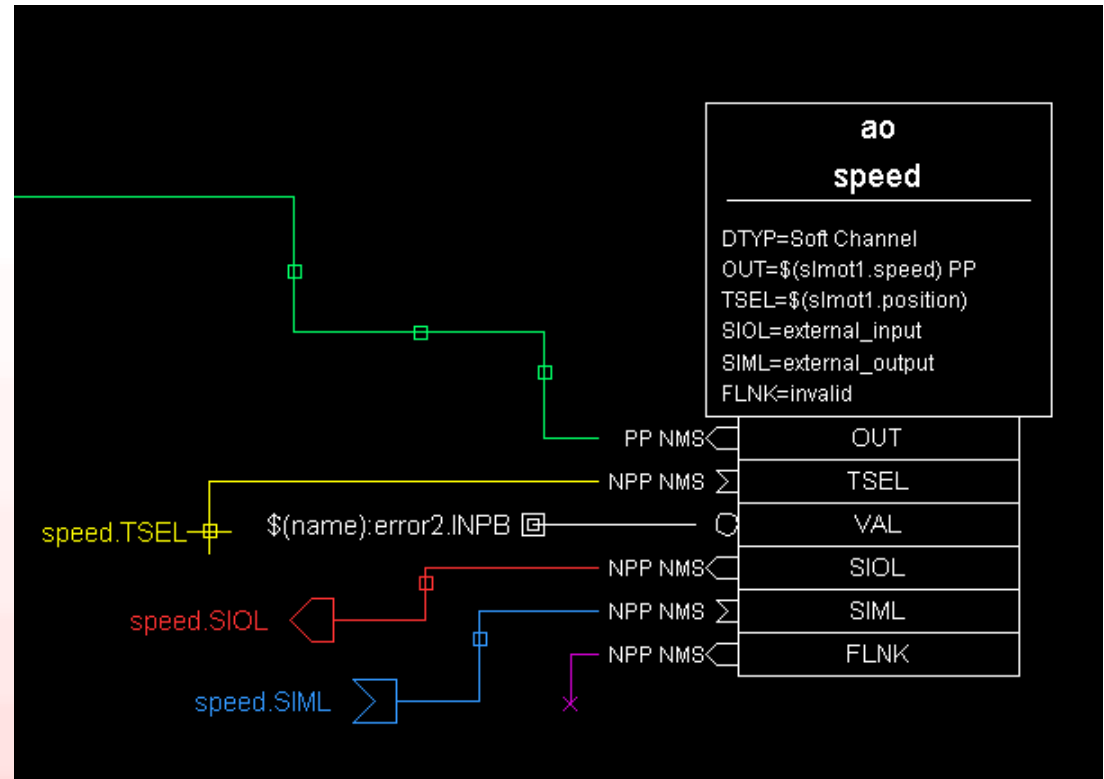




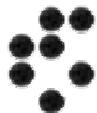
## Package B – Link types and stubs

VisualDCT distinguishes several link types:

- ordinary
- invisible
- inter-group
- external input
- external output
- invalid





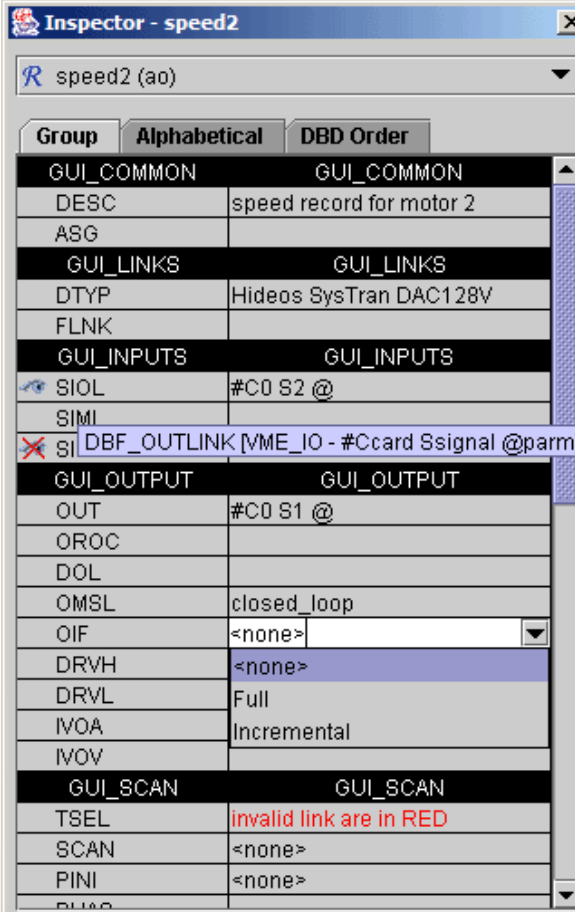




## Package B – Inspector

### New features:



- Generic tab support
- Field value visibility
  -  always
  -  never
  - non-default
- Structure for INP/OUT links
  - achieved using regular expression patterns
    - invalid links are **red** colored
    - no annoying masks, etc.
  - set of link types can be configured
    - LinkTypePlugin created (XML file)
- Tooltips



Inspector - speed2

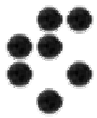
R speed2 (ao)

Group Alphabetical DBD Order

Group	Value
GUI_COMMON	GUI_COMMON
DESC	speed record for motor 2
ASG	
GUI_LINKS	GUI_LINKS
DTYP	Hideos SysTran DAC128V
FLNK	
GUI_INPUTS	GUI_INPUTS
 SIOL	#C0 S2 @
SIMI	
 SI	DBF_OUTLINK [VME_IO - #Ccard Ssignal @parm]
GUI_OUTPUT	GUI_OUTPUT
OUT	#C0 S1 @
OROC	
DOL	
OMSL	closed_loop
OIF	<none>
DRVH	<none>
DRVL	Full
IVOA	Incremental
IVOV	
GUI_SCAN	GUI_SCAN
TSEL	invalid link are in RED
SCAN	<none>
PINI	<none>
PLUG	

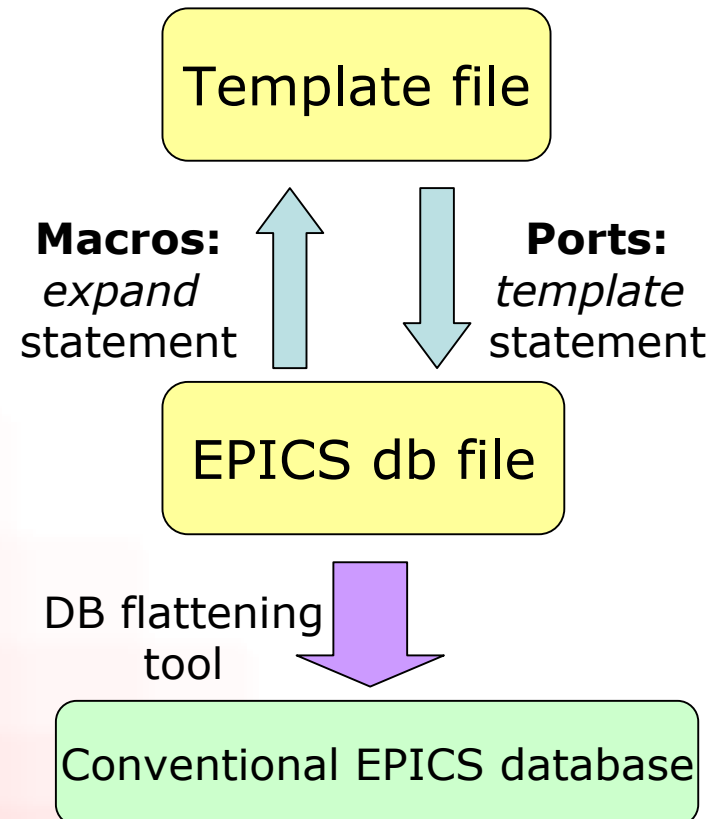
Comment

this is a record comment



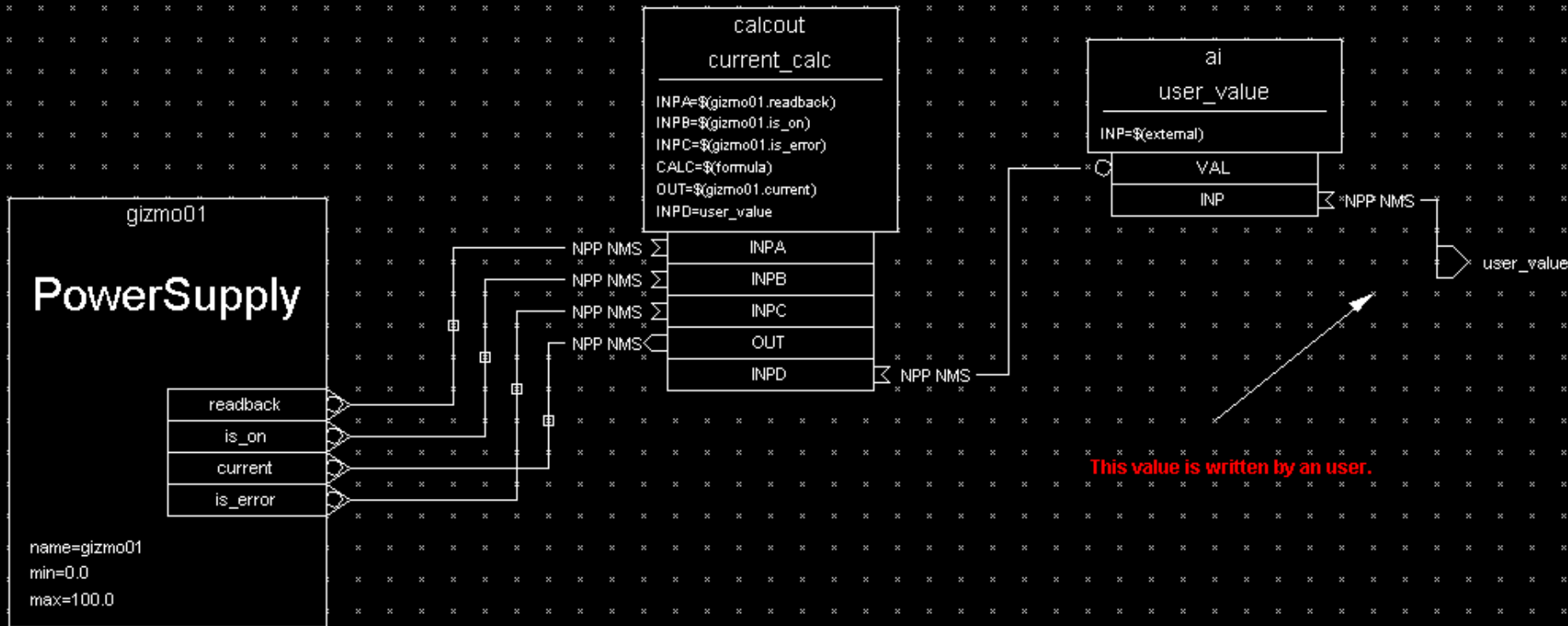
## Package B - Hierarchies

- EPICS has flat databases
  - String macros are substituted at load-time
- New concept introduced
  - to be supported in R3.15?
- Fully supported by VDCT
- Database flattening
  - for backward compatibility

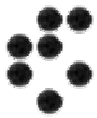




# PowerSupply Control Example



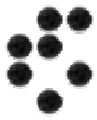
This value is written by a user.



# User feedback

- EPICS community contact
  - John Maclean ([jfm@aps.anl.gov](mailto:jfm@aps.anl.gov))
- VisualDCT homepage (documentation, latest builds)
  - <http://visualdct.cosylab.com/>
- Reports
  - send feature requests to
    - [rt-CSL-VisualDCT@cosylab.com](mailto:rt-CSL-VisualDCT@cosylab.com)
  - send bug reports to
    - [bug@visualdct.cosylab.com](mailto:bug@visualdct.cosylab.com)
  - support
    - [support@visualdct.cosylab.com](mailto:support@visualdct.cosylab.com)
- Mailing list:
  - [visualdct@lists.cosylab.com](mailto:visualdct@lists.cosylab.com)
  - Archive at: <http://lists.cosylab.com/www/arc/lists-visualdct/>





## Conclusion

- Minor but necessary features to be implemented
- Any “undocumented features” removed
- Strong collaboration through APS
- Check it out at <http://visualdct.cosylab.com>

