

Managing a Large Number of Projects

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- A common story: a lab gets a new project approved
 - Yesterday: maintenance was a full time job
 - Today: maintenance + new development
- Day to day development vs. long-term project development
- Ideally: have all your work defined as projects
 - Easier to set priorities and see what will NOT get done
- Realistically: manage at least the new developments as projects

- Control Systems are an **engineering** discipline like all the others, but with an even more complicated cycle
 - Write specifications
 - Architecture
 - Design
 - Prototyping – **probably the only fun part**
 - Test procedures
 - Implementation (coding) – **the only software part**
 - Documentation
 - Testing
 - Debugging
 - Acceptance

Ground Rules when Defining Projects

- The goals before starting a project should be
 - Fixed budget (in estimated man-power and costs)
 - Fixed deadline

- Cosylab's capital is really the knowledge and expertise in processes and project management
 - Not just project management, also system engineering, quality assurance, etc.
 - We currently manage 40 projects by 23 engineers
 - The larger the number of projects, the bigger the challenge

- A project is more than a set of tasks!

- Project is defined / consists of
 - Project group (members, leader)
 - Budget (available money and work)
 - Deadlines and milestones
 - Communication
 - Deliverables (SW and HW releases,...)
 - Quality assurance
 - Project management

Cosylab Project Management Consists of...

- Cosy Project Management toolset
 - Grew with the company
 - Contains all our accumulated experiences in successfully managing projects
 - Allows focusing on important issues

- Formal Procedures
 - Collection of processes and guidelines
 - Critical selection of rules
 - Provided ground for ISO 9001:2000 certificate



Main Tasks of PCaPAC 2008 Project

- Define main project tasks in advance
 - Responsible for the task, time estimation, deadlines

Ticket	Task name	weeks	Responsible
<u>35983</u>	Programme Committee gathering, choosing the authors, defining the programme	3.00	<u>Igor Verstovsek</u>
<u>35985</u>	Gathering funds (commercial partners, grants)	2.00	<u>Miha Pelko</u>
<u>35984</u>	Logistics (e.g. searching for venue, catering, networking event)	2.00	<u>Miha Pelko</u>
<u>35986</u>	Side programme organization	2.00	<u>Miha Pelko</u>
<u>35987</u>	Proceedings, registration, other administrative tasks	2.00	<u>Miha Pelko</u>
<u>35988</u>	Website & other promotional material	2.00	<u>Miha Pelko</u>
<u>35989</u>	On-the-spot support	4.00	<u>Miha Pelko</u>
<u>35990</u>	General Management	3.00	<u>Miha Pelko</u>

Total: 20 man-weeks (approx. 5 man-months)

Hierarchy of tasks

35982: CSL-PCaPAC08 (mpelko) [new]

- **35983: Programme Committee gathering, choosing the authors, defining the programme** (iverstovsek) [open] 📁
 - 36108: Arranging the TANGO workshop with Elettra (iverstovsek) [resolved] 📁
 - 36109: Arranging the EPICS workshop with INFN (rsabjan) [open] 📁
 - 36110: Arranging the ILC controls workshop with Margaret Voltava (iverstovsek) [resolved] 📁
 - 36112: Gathering the International Programme Committee (iverstovsek) [open] 📁
 - 36512: Define the list of topics for PCaPAC 2007 (mpelko) [resolved] 📁
- **43228: Preparation of programme** (mpelko) [open] 📁
 - 43481: Get timing tutorial presenter - Javier (CERN) (jdedic) [new] 📁
 - 43535: Arranging tutorials for PCaPAC (mpelko) [open] 📁
- **35984: Logistics (e.g. searching for venue, catering, networking event)** (mpelko) [open] 📁
 - 36105: Searching for the venue (mpelko) [open] 📁
 - 42696: find out about the options for the after-thursday dinner in primorska region (apodborsek) [resolved] 📁
 - 42698: gather offers for the PCaPAC gala dinner (bhrastar) [resolved] 📁
 - 42700: reserve the caves (bhrastar) [resolved] 📁
 - 43064: rezervacija v Slonu za gala vecerjo (bhrastar) [resolved] 📁
 - 43728: Arrange the shuttle from Padova and Venice (mpelko) [new] 📁
 - 44359: jkos support on pca-pac (jkos) [open] 📁
- **44363: two week's to PCaPAC and counting out** (Nobody) [open] 📁
 - 44364: IT support on PCaPAC (jkos) [open] 📁
 - 44365: Nafilaj PCaPAC torbice z vsebino (apodborsek) [new] 📁
 - 44367: Brosura (design + print + tisk) (apodborsek) [open] 📁
 - 44368: Print nalepk za Posterje (apodborsek) [open] 📁
 - 44369: Poklici I-TECH za kulije (mpelko) [new] 📁
 - 44370: Sponzor coffe tima (mpelko) [new] 📁
 - 44371: Sezname z udeleženci (mpelko) [new] 📁
 - 44372: bus prevoz ljudi iz Benetk (mpelko) [new] 📁
 - 44373: posters panoji (mpelko) [open] 📁
 - 44374: Ogled Ljubljane v torek ali sredo (mpelko) [new] 📁
 - 44375: Access to Elettra (mpelko) [new] 📁
 - 44376: Badgi za udelezence (apodborsek) [open] 📁
 - 44377: Kupon za majčko in torbico (apodborsek) [new] 📁
 - 44378: Kaj dogaja A4 papir (mpelko) [open] 📁
 - 44379: Dovc na konferenci (mpelko) [new] 📁
 - 44380: Print papirjov za na stojala (apodborsek) [open] 📁
- **35985: Gathering funds (commercial partners, grants)** (mpelko) [new] 📁
 - 38438: tenders for PCaPAC (tcvek) [resolved] 📁
- **41289: Gathering Industrial Exhibitors and Sponsors for PCaPAC** (mpelko) [open] 📁
 - 41290: Prepare the offer for exhibitors (mpelko) [open] 📁
 - 41291: Contacting the potential exhibitors (mpelko) [open] 📁
- 35986: Side programme organization** (mpelko) [open] 📁
- **35987: Proceedings, registration, other administrative tasks** (mpelko) [open] 📁
 - 36451: Get PCaPAC to the JACoW system (mpelko) [resolved] 📁
- **39463: Configure the JACoW system** (mpelko) [open] 📁
 - 44408: set up file-server for JACoW (rkosir) [resolved] 📁
- 39821: Circulars of the conference** (mpelko) [open] 📁
- 41699: Reserve accomodation for GSI people at hotel Emonec** (bhrastar) [resolved] 📁
- 42102: Communication with participants/authors** (mpelko) [open] 📁
- 42644: Send official invitations for VISA requests via IJS** (bhrastar) [resolved] 📁

Ticket = A Well Defined Task

- People: owner, CCs
- Subject
- Status: open, resolved, ...
- Project
- Body: text and attachments
- Due Date
- Estimated Time
- Time spent
- Relationships
 - parent-child
 - refers to
 - depends on
- Keywords

Example: #44408: set up file-server for JACoW

PCaPAC 2008 Project Status

1.2. Time

[CPM Project Editor](#)

Project size: 100.00 md : 20.00 mw : 5.00 mm

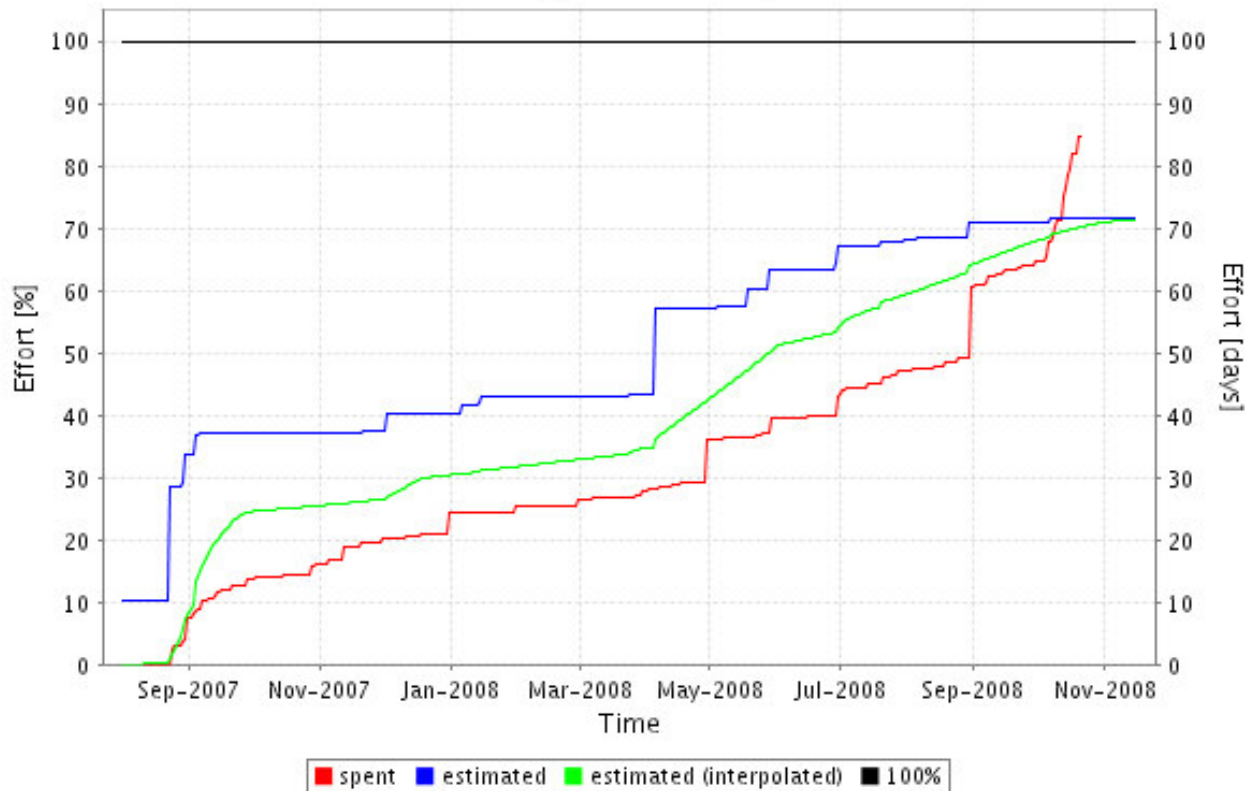
Time spent: 84.69 md : 16.94 mw : 4.23 mm (84%)

Time spent (40651/48000)



Projected time to finish: 15.01 md : 3.00 mw : 0.75 mm




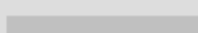


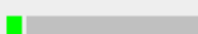

Project History



1.6. Work Report

Developer	days	weeks	months
Miha Pelko	41.9	8.4	2.1
Blaz Hrastar	13.0	2.6	0.6
Aljaz Podborsek	9.1	1.8	0.5
Igor Verstovsek	4.3	0.9	0.2
Jure Kos	4.0	0.8	0.2
Andrej Babic	3.9	0.8	0.2
Miha Kadunc	2.5	0.5	0.1
Matija Lipar	1.9	0.4	0.1
Mariza Pertovt	1.1	0.2	0.1
Rok Sabjan	0.7	0.1	0.0
Gasper Pajor	0.5	0.1	0.0
Marko Levicnik	0.5	0.1	0.0
Tina Cvek	0.2	0.0	0.0
Joze Dedic	0.2	0.0	0.0
Developer	days	weeks	months
Metoda Borc	0.2	0.0	0.0
Lea Frantar	0.1	0.0	0.0
Primož Kolaric	0.1	0.0	0.0
Marjana Frantar	0.1	0.0	0.0
Dragica Simcic	0.1	0.0	0.0
Rok Kosir	0.1	0.0	0.0
Matjaz Repovz	0.1	0.0	0.0
Klemen Zagar	0.1	0.0	0.0
Total	84.7	16.9	4.2

PCaPAC 2008 Project Status

Ticket	Task name	weeks	spent / contract	Responsible	Status	Activity
35983	Programme Committee gathering, choosing the authors, defining the programme	1.32 / 3.00	 43%	Igor Verstovsek	open	View
35985	Gathering funds (commercial partners, grants)	1.51 / 2.00	 75%	Miha Pelko	new	View
35984	Logistics (e.g. searching for venue, catering, networking event)	3.37 / 2.00	 168%	Miha Pelko	open	View
35986	Side programme organization	0.00 / 2.00	 0%	Miha Pelko	open	View
35987	Proceedings, registration, other administrative tasks	3.10 / 2.00	 155%	Miha Pelko	open	View
35988	Website & other promotional material	3.91 / 2.00	 195%	Miha Pelko	open	View
35989	On-the-spot support	0.21 / 4.00	 5%	Miha Pelko	new	View
35990	General Management	3.52 / 3.00	 117%	Miha Pelko	open	View

Completed 0 out of 8 items.

Create a [new task](#).

Early Warning System

- Supervise proactively
 - Which tickets are past due?
 - Is estimated time set?
 - Is there too much work being done?

- Automatic HTML report

7.2. Warnings

7.2.1. Open tickets

Ticket	Owner	Status	Subject	Description
36105	Miha Pelko	open	Searching for the venue	Ticket is moderately over time: worked: 2850, estimated: 2400.
39463	Miha Pelko	open	Configure the JACoW system	Ticket is severely over time: worked: 2145, estimated: 720.
39821	Miha Pelko	open	Circulars of the conference	Ticket is moderately over time: worked: 930, estimated: 480.
42102	Miha Pelko	open	Communication with participants/authors	Ticket is severely over time: worked: 2415, estimated: 1440.
42665	Aljaz Podborsek	open	Cosy T-Shirts for PCaPAC	Ticket is severely over time: worked: 1170, estimated: 480.
41895	Miha Pelko	open	Financial correspondence	Ticket is severely over time: worked: 1940, estimated: 1440.

Realistic Planning and Execution

- Overview division-wide resource plan
- Project plans for individual projects

	May 2008	Jun 2008	Jul 2008	Aug 2008	Sep 2008	Oct 2008	Nov 2008	Dec 2008	Jan 2009	Feb 2009	Mar 2009	Apr 2009	May 2009
Full Time													
Non-full time													

Task	Person	Start	End	MD
RS-485 module, analog I/O	glanza	02.06	05.06	2
RS-485 module, digital I/O	glanza	06.06	07.06	2
LCD support - basic	glanza	08.06	08.06	1
ACCESS io RS-485 driver				2
PMAC programming and config	pmedveszek	13.06	22.06	8
microOC IFC support + command line				
IFC small sample + command	meomsic	08.06	13.06	4
IW development	jedic			
system design		09.04	15.05	25
PMAC interface board		16.04	15.05	21
SCH & PCB		16.05	18.05	3
making and soldering		19.05	25.05	5
mEB		11.06	13.06	3
making box	apodorszek	11.06	13.06	3
ordering components	apodorszek	30.04	25.05	20
microOC-M Box				
LED on top of SBC, cabl	mlevonik			1
front & back panel (M&I)	apodorszek			1
components		27.06		
Vektis motor drives	apodorszek	07.05	30.05	18
mEB power supply	apodorszek	14.05	30.05	13
RS-485 AD & I/O	apodorszek	14.05	25.05	10
PMAC	apodorszek	16.05	27.06	30
RS-485 2-port PC/I04	apodorszek	15.05	20.05	10
finalization				
SW testing		25.06	05.07	9
system testing		25.06	05.07	9
contingency		09.07	13.07	5
developers unavailability				
jedic DIPAC				
glanza				
meomsic				

So, How to Manage a Large Number of Projects?

- Define at least the new developments as proper projects
- Take extra time for conception, planning and closing stages of projects
- Manage risks throughout the project
- Use some sort of project management / reporting system
- Monitor project progress (close the loop)
- Ease “cultural issues” by
 - Demonstrating benefits of p.m. to people
 - Constant coaching
- Project management is an essential skill for control groups
 - As is all the other “stuff”, such as FPGA, .NET, eclipse, Java, CORBA, EPICS, etc.

Thank You!

How Does this Fit to Your Needs?

■ **Lessons learned**

- Just installing the software is not enough
- Cosylab practices != institute practices

■ **Use cases for introducing a project management system**

- When starting a new project, but still having to support operations on the existing machine(s).
- To supervise a sub-group within the control group.
- To manage external partners (companies, etc).
- For collaborations
 - for example, where Cosylab is involved in project management for all parties involved. (project management is shared).

- Example: BPM upgrade project with GSI – two groups, SD and BEL
 - One person from Cosylab on-site, others at home

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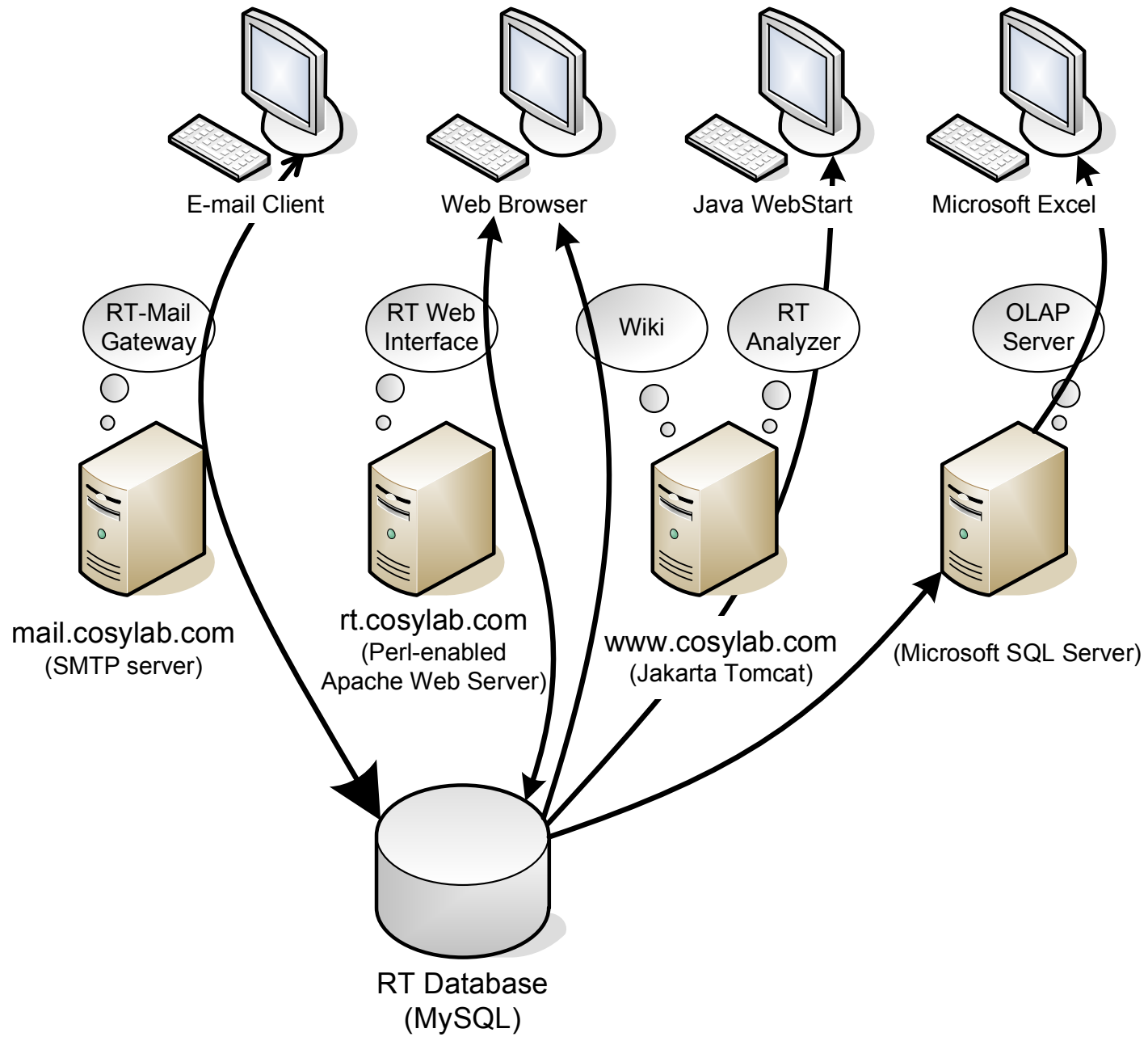
- Example: BPM upgrade project with GSI – two groups, SD and BEL
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- Why do we use e-logbooks?
 - **supervise** operation, record problems
 - **learn** from previous mistakes
 - **optimize** - reduce machine down time

- Is a management "e-logbook" necessary?
 - *how* formal and *when* to introduce it?

- Our approach - *evolution*
 - Take open source tools and adapt them
 - Let the tools evolve along with your needs

Status report in 2008: The arguments still hold, but management systems are not widely used at the institutes.



- We have defined three types of projects:
 - **external projects**, which are based on orders from our customers (or an accelerator group),
 - **internal projects**, such as internal R&D and products upkeep, based on internal project proposal,
 - **ongoing projects**, that keep track of the administrative tasks and overhead.