PPT EVM
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Administrative Information Services

Cost Estimate Tool

For CLIC

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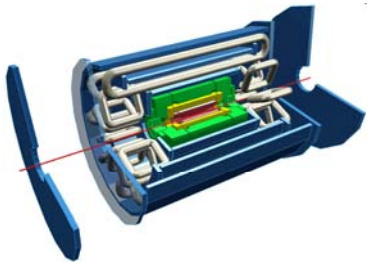
Projects, Timeline

ATLAS Detector

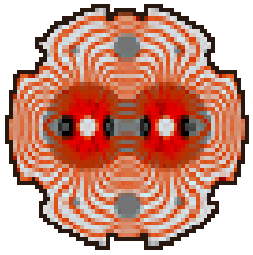
500 MCHF CORE Cost,
150 institutes in 35 countries



1999

LHC – Earned Value Management

3.3 BCHF expenditure
12 years



2002

CNGS – Earned Value Management

75 MCHF expenditure
CERN & Gran Sasso

2003

EGEE – EU FP 6/7

50 MCHF,
70 partners, 800 project members

Enabling Grids for E-science in Europe

2004

APT: CERN wide strategic planning

2005

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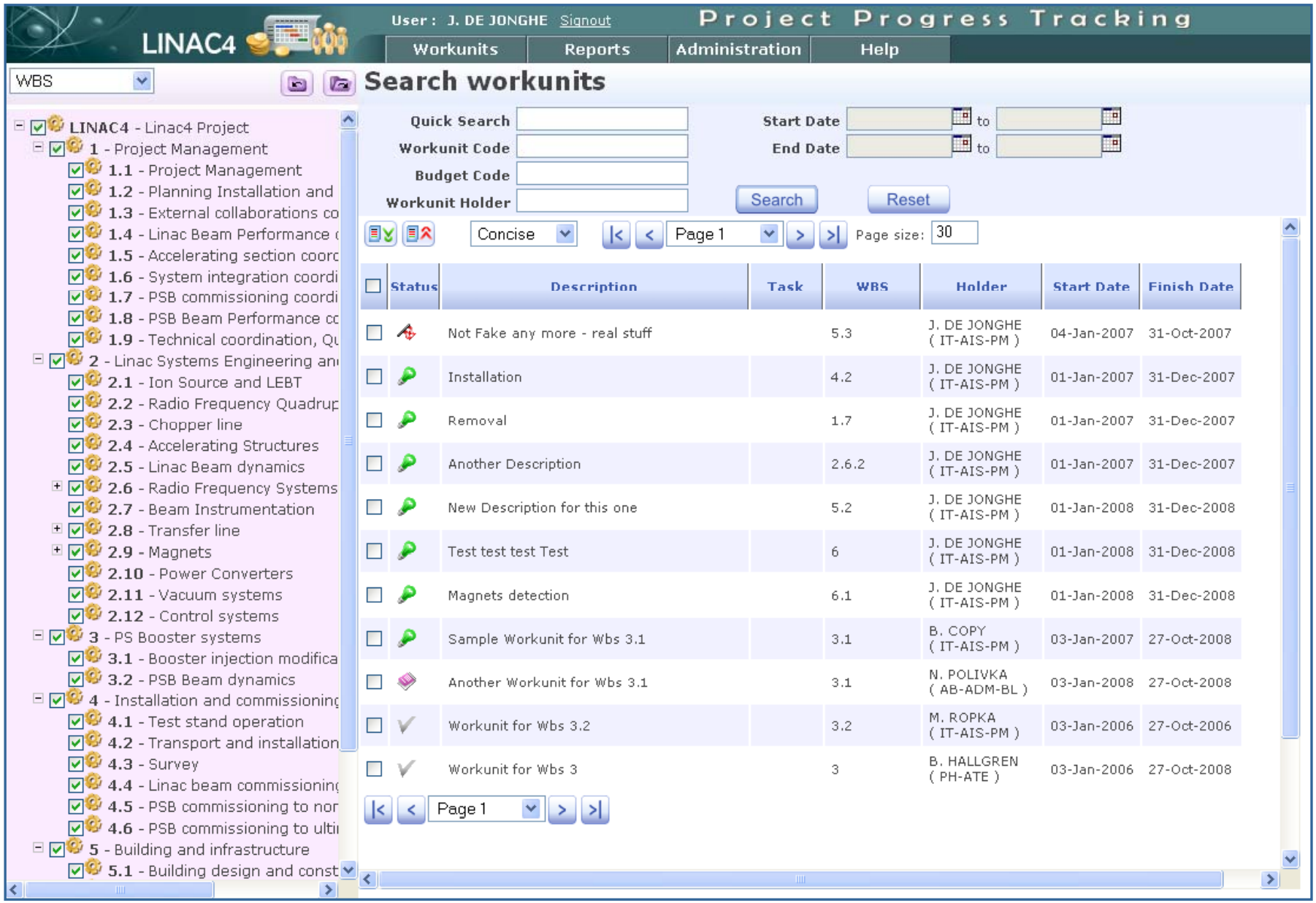
E.g. EVM for Linac4



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E.g. Excel upload of workunits

cmd	wu	Code	Status	Description	Task	WBS	Holders EMail	Start Date	Duration	Comments
cmd	Pxx	Code	Skill	[Missing JobType] Email or Profile	Budget Code	Duration	Unit (M.WK, %)	Start Date	Duration	Comments
cmd	PSx	Code	Skill	[Missing JobType] Email or Profile	Budget Code	Duration	Unit (M.WK, %)	Start Date	Duration	Comments
cmd	Mxx	Code		Expenditure Description	Budget Code	Amount	Currency	Start Date	Duration	Comments
cmd	de	Code	Weight	Deliverable description	Actual Qty	Total Qty	Unit	Start Date	Duration	Comments
Specify command N, M, D; Commands: N (New), M (Modify), D (Delete)										
	wu	ACDTC_P2	PL	Procurement of DTL-Cav materials		5.1.1.1	Suitbert.Ramberger@cern.ch	1-Jan-2008	3mths	
	MSP	ACDTC_P		Steel 52	69742	100000	CHF	1-Jan-2008	3mths	
	MSP	ACDTC_P		Duraluminium	69742	100000	CHF	1-Jan-2008	3mths	
	MSP	ACDTC_P		Supply to DTL-Cav Manufacturer	69742	10000	CHF	1-Jan-2008	3mths	
	de	ACDTC_P	1	Steel 52	0	100	%	1-Jan-2008	3mths	
	de	ACDTC_P	1	Duraluminium	0	100	%	1-Jan-2008	3mths	
	wu	ACDTD_P1	PL	Procurement of DT materials		5.1.2.1	Suitbert.Ramberger@cern.ch	1-Jan-2008	3mths	
	wu	ACDTC1_M	PL	Manufacturing of DTL-Cav 1		5.1.1.3	Suitbert.Ramberger@cern.ch	ACDTC_P2.end	3mths	
	MSP	ACDTC1_M		Cavity segment machining	69742	10000	CHF	ACDTC_P2.end	3mths	
	MSP	ACDTC1_M		Cavity segment welding & test	69742	1000	CHF	ACDTC_P2.end	3mths	
	PSI	ACDTC1_M	1.3.2	Suitbert.Ramberger@cern.ch		1	M.WK	ACDTC_P2.end	3mths	
	de	ACDTC1_M	1	Cavity segment machined, welded & testec	0	2	U	ACDTC_P2.end	3mths	
	de	ACDTC_P	1	Seals etc.	0	100	%	1-Jan-2008	3mths	
	wu	ACDTC_D	PL	Drawings of DTL-Cav		5.1.1.2	Suitbert.Ramberger@cern.ch	1-Jan-2008	6mths	
	MSP	ACDTC_D		Draftsman	69742	25000	CHF	1-Jan-2008	6mths	
	MSP	ACDTC_D		Elaboration	69742	40000	CHF	1-Jan-2008	6mths	
	PSI	ACDTC_D	1.3.2	Suitbert.Ramberger@cern.ch		1	M.WK	1-Jan-2008	6mths	
	de	ACDTC_D	1	Production drawings	0	100	%	1-Jan-2008	6mths	
	wu	ACDTD_D	PL	Drawings of DTs		5.1.2.2	Suitbert.Ramberger@cern.ch	1-Jan-2008	6mths	
	MSP	ACDTD_D		Draftsman	69742	25000	CHF	1-Jan-2008	6mths	
	MSP	ACDTD_D		Elaboration	69742	40000	CHF	1-Jan-2008	6mths	
	PSI	ACDTD_D	1.3.2	Suitbert.Ramberger@cern.ch		1	M.WK	1-Jan-2008	6mths	
	de	ACDTD_D	1	Production drawings	0	100	%	1-Jan-2008	6mths	
	wu	ACDTC1_M	PL	Manufacturing of DTL-Cav 1		5.1.1.3	Suitbert.Ramberger@cern.ch	ACDTC_P2.end	3mths	
	MSP	ACDTC1_M		Cavity segment machining	69742	10000	CHF	ACDTC_P2.end	3mths	
	MSP	ACDTC1_M		Cavity segment welding & test	69742	1000	CHF	ACDTC_P2.end	3mths	
	PSI	ACDTC1_M	1.3.2	Suitbert.Ramberger@cern.ch		1	M.WK	ACDTC_P2.end	3mths	
	de	ACDTC1_M	1	Cavity segment machined, welded & testec	0	2	U	ACDTC_P2.end	3mths	

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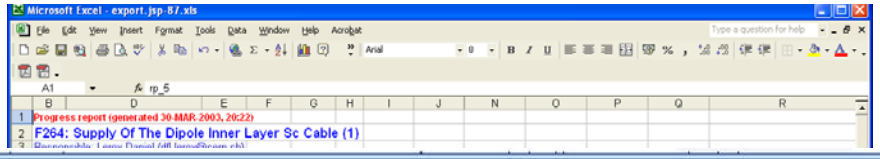
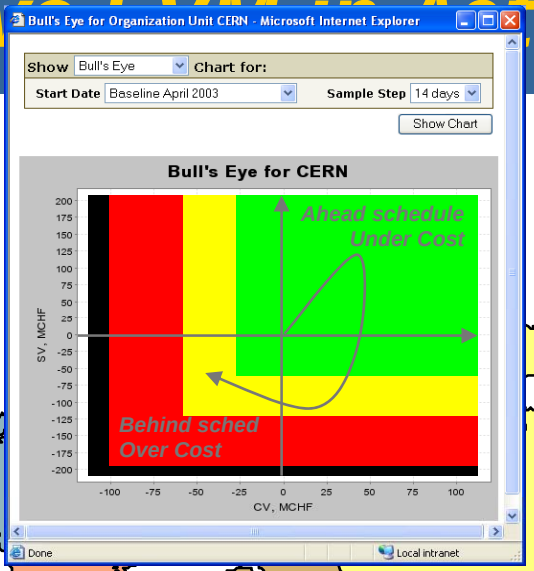
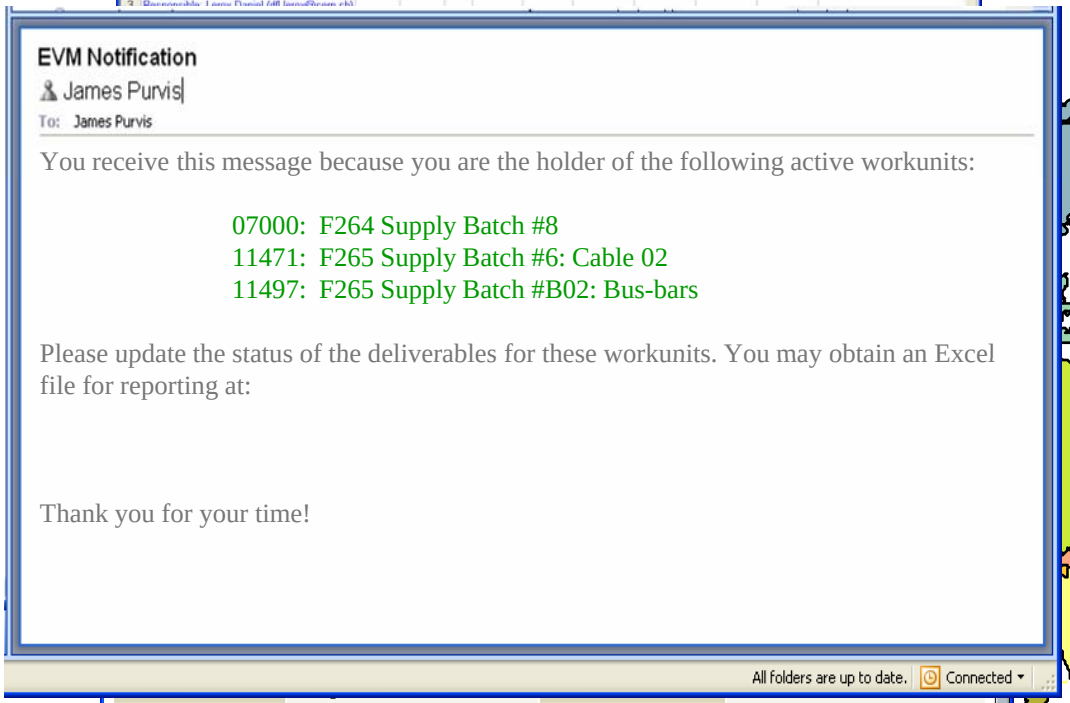
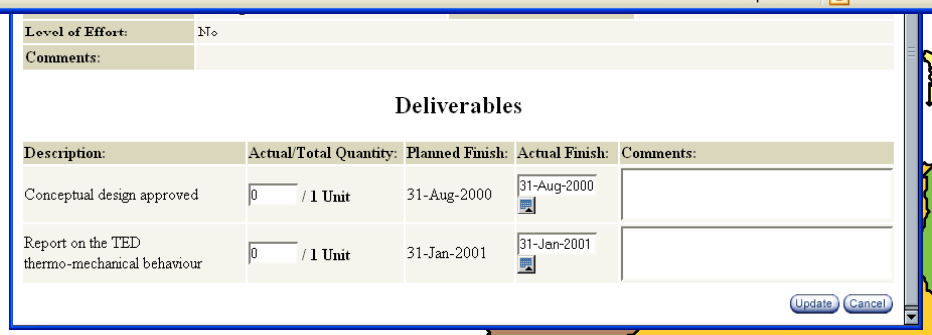
Collaborative EVM in Action









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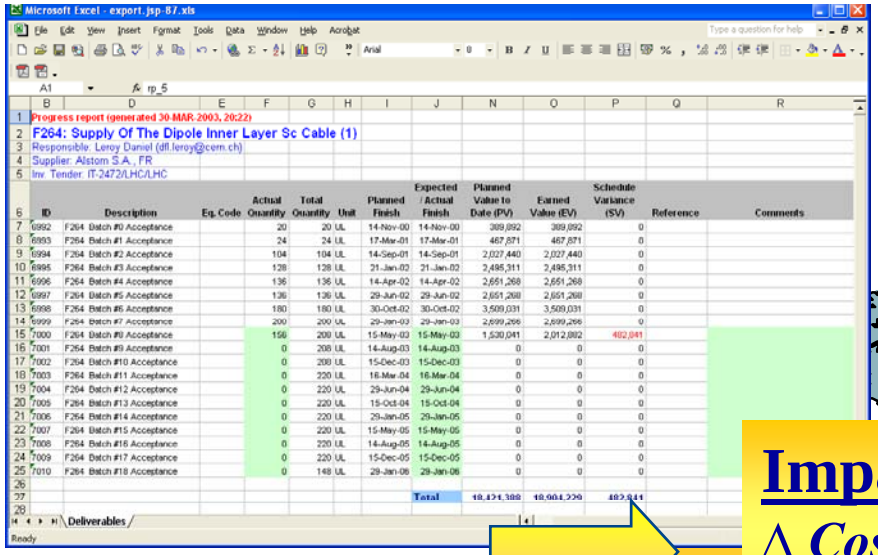
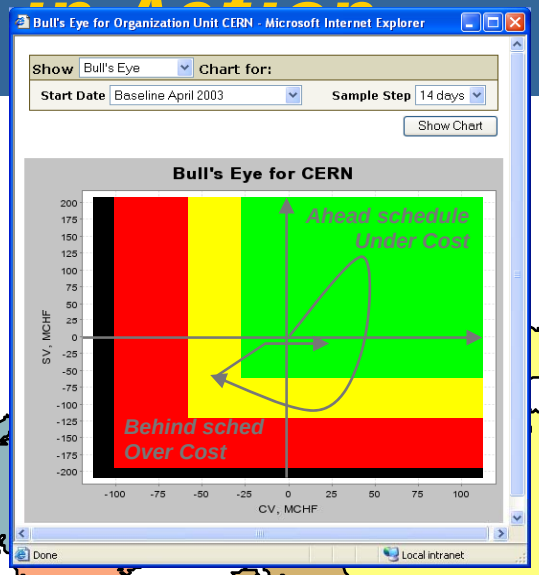
EVM in Action

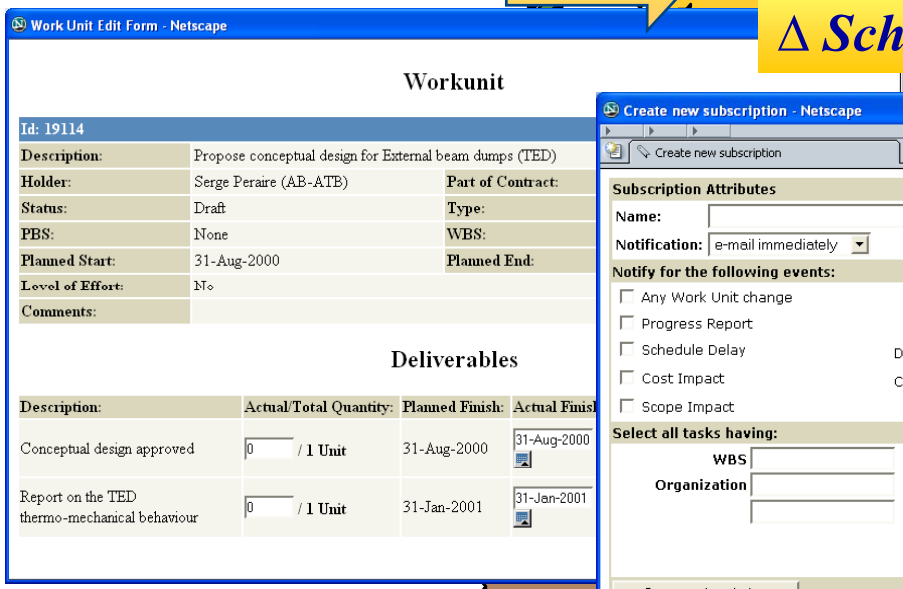


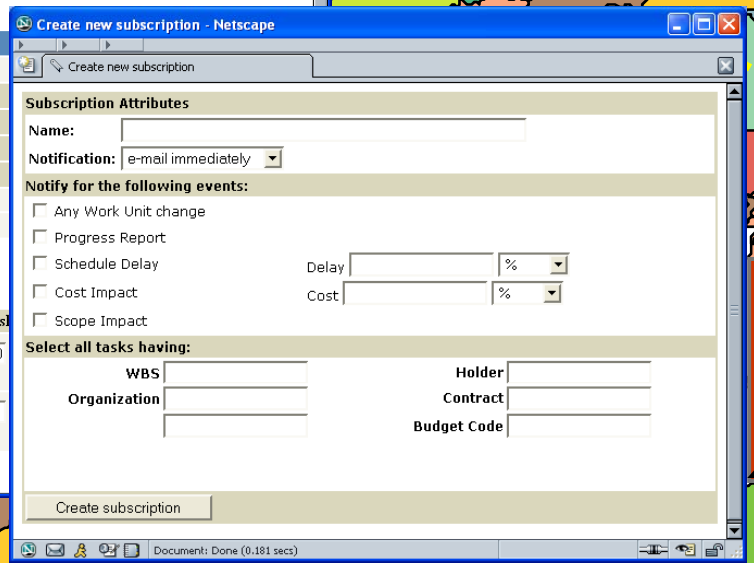


Impact?

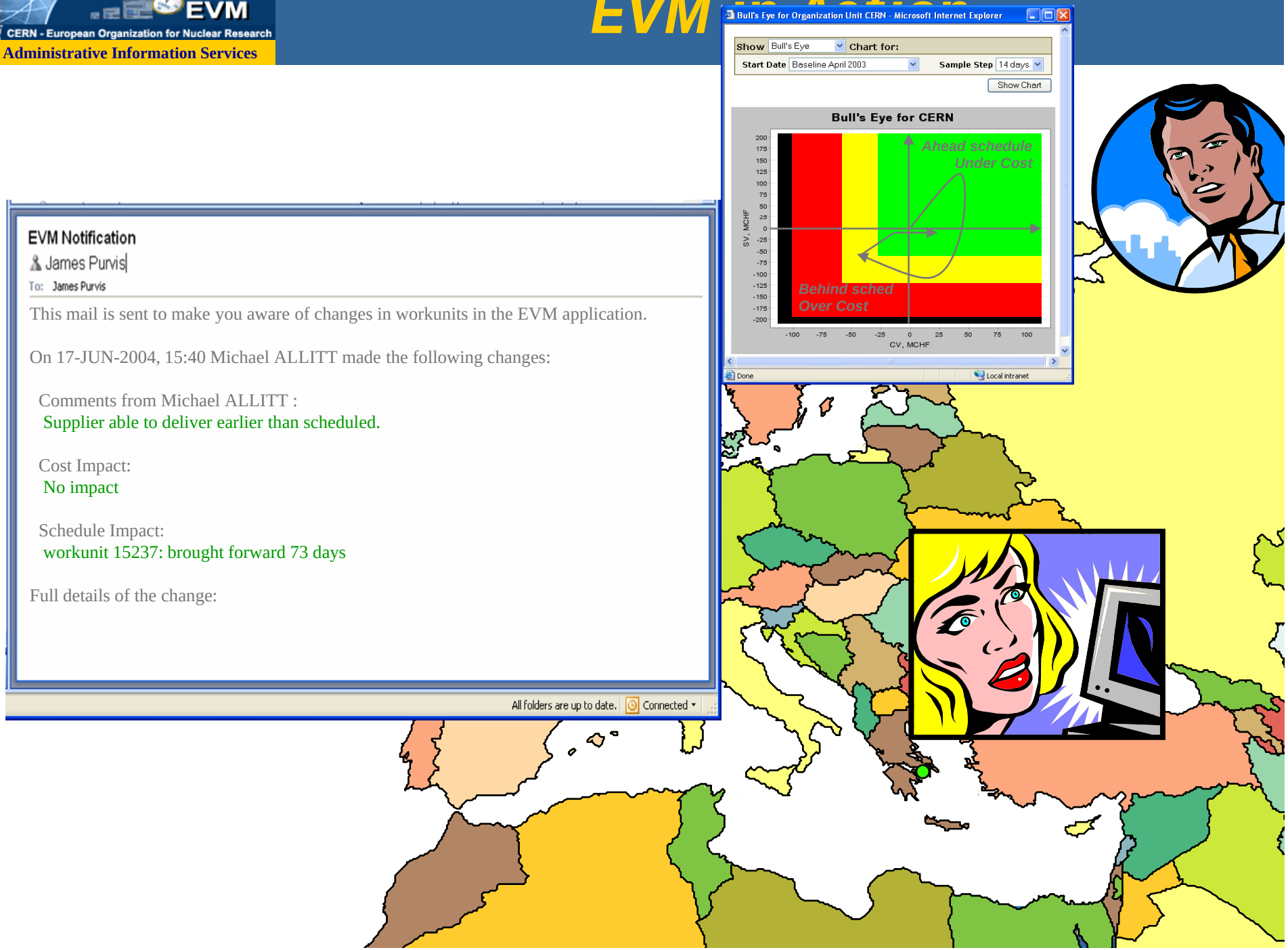
Δ Cost

Δ Schedule





EVM in Action



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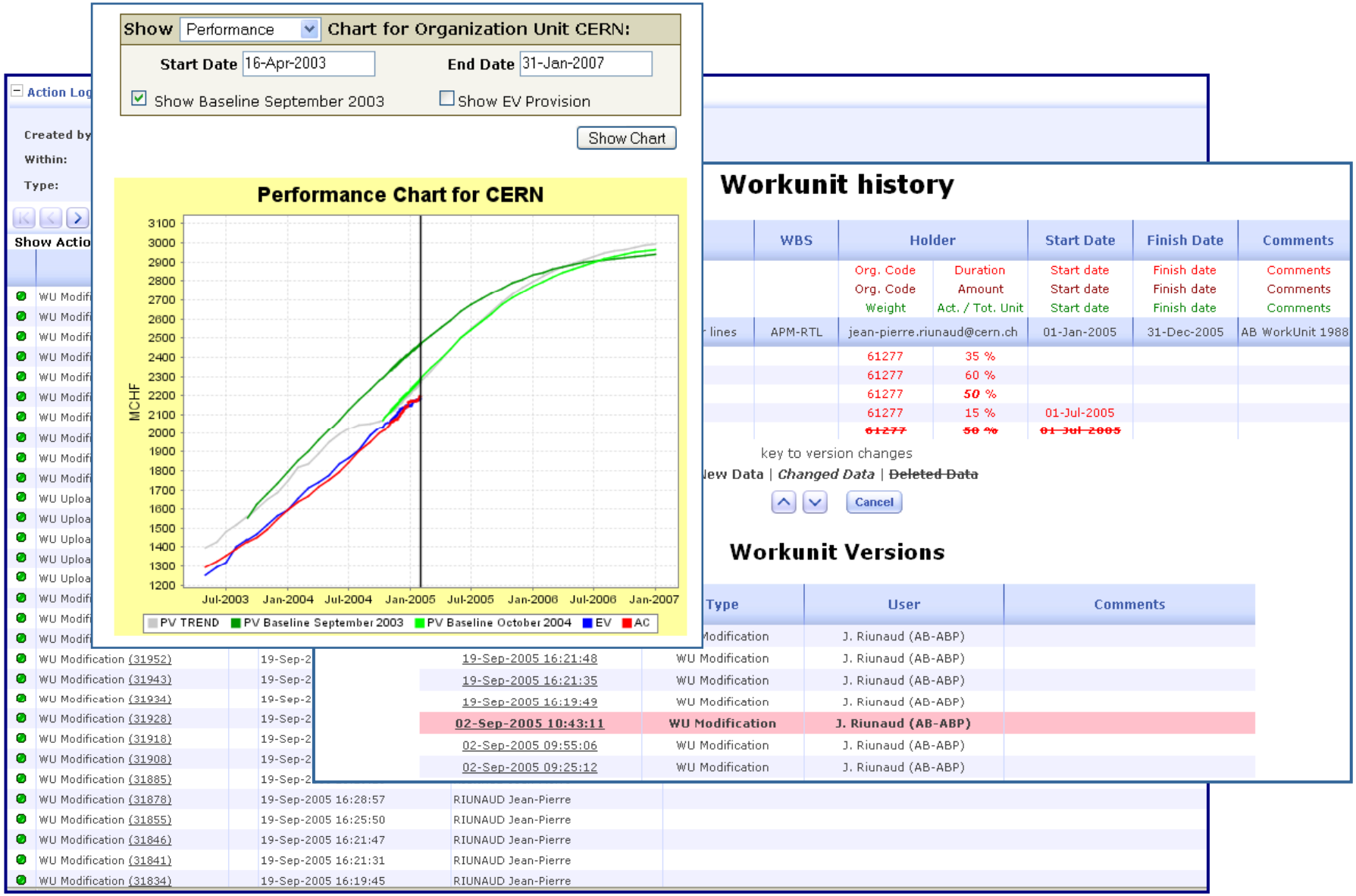
Change Management



Jurgen De Jonghe CERN/IT-AIS

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Dynamic Reports, multiple Breakdown Structures

APT — CERN - European Organization for Nuclear Research

Welcome | Workunits | Reports | Action Log | HR Costing | Issues | Budcode

User: DE JONGHE Jurgen | Help | Support | Logo

Search — Last update: 09-Jun-2006 15:25 Update now — Reports:

Filter

Org (Res):	CERN	Project/Operation:	☐ PROJECT ☐ OPERATION
Org (Per):		Resource Category:	☑ P ☑ PSI ☑ PSL ☑ PFE ☑ PPA ☑ PBU ☑ POM ☑ PIK ☑ M ☑ MSP ☑ MIS ☑ MOM ☑ MTP ☑ MIK ☑ PPJ
Org (Holder):		Workunit Status:	☐ Draft ☑ Planned ☑ Active ☑ Completed ☐ Canceled
Budget Code:		Job Category:	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
WBS:	CERN-PPA	Career Path:	☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G
WBS (Res):		Missing Type:	☐ Not Missing ☐ NEED ☐ REPL ☐ MTOP ☐ POST
Skill:		Time:	2006...2008 (Current+2)

Measure

Personnel + Material (kCHF)

☐ Normalize overallocated

☑ Include EVM/LHC

Show

☑ A — APT

☑ B — MTP 06 New

☑ A-B

☑ Totals ☐ Empty cells

Dimensions

Rows:	WBS	0	1	Org (Res)	0	1	None	0	1	None	0	1		
Columns:	Time	0	1	Project/Operation (WBS)	0	1	None	0	1	None	0	1		

Save as Report | Take Snapshot | Manage Snapshots / Reports | Reset | Search

					2006			2007			2008			Grand Total
					OPERATION	PROJECT	2006 Total	OPERATION	PROJECT	2007 Total	OPERATION	PROJECT	2008 Total	
CERN-PPA	LHC-PPA	CERN	CERN (ROOT)	APT										
				Target B		22,870	**22,870**		78,120	**78,120**				**100,990**
				A-B		-22,870	**-22,870**		-78,120	**-78,120**				**-100,990**
			AB	APT	12,863	97,591	**110,455**	18,604	45,079	**63,683**	27,876	19,457	**47,333**	**221,470**
				Target B	26,930	103,310	**130,240**	46,930	22,720	**69,650**	46,350		**46,350**	**246,240**
				A-B	-14,067	-5,719	**-19,785**	-28,326	22,359	**-5,967**	-18,474	19,457	**983**	**-24,770**
			AT	APT	59,323	292,240	**351,563**	52,651	90,917	**143,568**	52,617	2,686	**55,303**	**550,434**
				Target B	63,360	285,280	**348,640**	38,590	35,295	**73,885**	53,525		**53,525**	**476,050**
				A-B	-4,037	6,960	**2,923**	14,061	55,622	**69,683**	-908	2,686	**1,778**	**74,384**
			DG	APT										
				Target B	800		**800**	800		**800**				**1,600**
				A-B	-800		**-800**	-800		**-800**				**-1,600**
			IT	APT	19,414	26,706	**46,121**	20,317	22,898	**43,215**	16,716	27,346	**44,062**	**133,397**
				Target B	16,165	24,965	**41,130**	14,430	16,635	**31,065**	15,115	21,290	**36,405**	**108,600**
				A-B	3,249	1,741	**4,991**	5,887	6,263	**12,150**	1,601	6,056	**7,657**	**24,797**
			LHC	APT	968	3,380	**4,348**		2,853	**2,853**		1,010	**1,010**	**8,211**
				Target B	7,300	1,975	**9,275**	4,265	6,275	**10,540**	2,320		**2,320**	**22,135**
				A-B	-6,332	1,405	**-4,927**	-4,265	-3,422	**-7,687**	-2,320	1,010	**-1,310**	**-13,924**

Proposal

- Upload of CLIC tailored Excel templates to a central database.

- Additional parameters in this database:
  - labor cost by year
  - commodity cost by year
  - inflation, currency exchange scenario's
  - …

- OLAP engine
  - slice & dice cost measure
  - by any combination of dimensions (PBS, System, WBS, Configuration)
  - summing up along any hierarchy.
  - comparison of detailed cost estimates versus estimates at higher levels…

Proposal, Cont'd

- Management of access rights (who can view, who can modify).
- Management of history of changes (if needed: alert for new changes).

- Optionally: in this early phase we can also support storage cost-related documents along the breakdown structures. At later phases a dedicated "EDMS" will be needed.

Advantages / Disadvantages

- ✓ We have the experience of rolling out this kind of applications, we have the technology, we can reuse existing components. We do have to develop and apply these to the CLIC cost domain.
- ✓ We are in full control of the data, so we can export to another application later if needed.

- Not a standard, commercial-off-the-shelf tool.
- Further development may be required for risk analysis, what-if scenario's.
- We are overloaded and will need help with manpower.

Conclusion

If providing the initial resources is not a problem, we can provide a pragmatic and 'tailored' solution.

And there's no lock-in…