Status of Triad's ICET – 8april09

Peter Garbincius, John Carwardine, Tom Himel, Tetsuo Shidara,
Triad: Spencer Curtis, Larry Lew, Kevin Long

- (almost) weekly WEBEX - Tues 1300 GMT
- Demo at last CMG meeting by TomH and JohnC
- DESY EDMS Jens Kreutzkamp & Daniel Szepielak joined 31march & will join again 9april (tomorrow)
- Triad sent ICET_V1.3 (16march) – Peter is working with it, exercising, finding & reporting small bugs. He can write to desktop mysql DB, run reports from Triad scripts, and export to MS Access DB.

- I won't simply repeat what Tom & John showed last time unless you want to see something
- Example: Level 7 WBS following CF&S summary for the RDR est – Civil_Engineering & Electrical only
  - WBS configuration file:

    http://www-ilcdcb.fnal.gov/CFS-ILC WBS v3.3 truncated.xls
  - Build: (screen shot) – 21 blank Est Mod. files
  - Fill in some dummy $ to test links
  - Download to DB: phg_v1.3_test-T-7april
  - Generate reports:

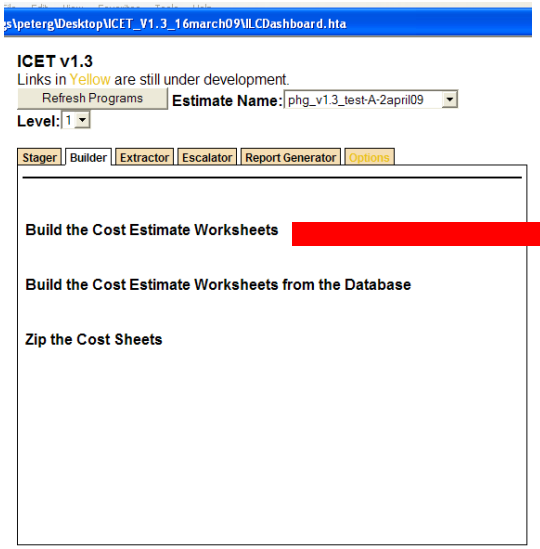
    http://www-ilcdcb.fnal.gov/T-7-CostSummaryExcelallData.xls
  - Basically, this is a test to see that links & logic all work
  - MS Access DB example: http://www-ilcdcb.fnal.gov/march27.accdb

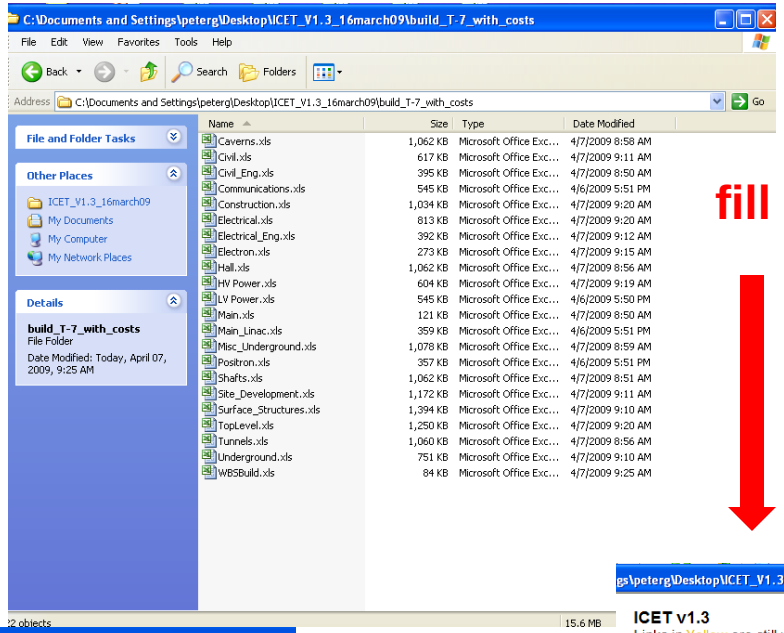
    use costwbs: table and select estimate name = r4x…

WBS Configuration File: ILC WBS v3.3 truncated.xls

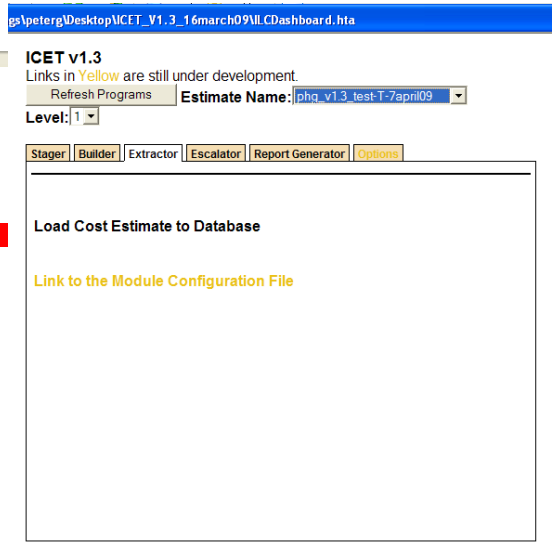
(blank) Estimating_Module.xls workbooks

BUILD

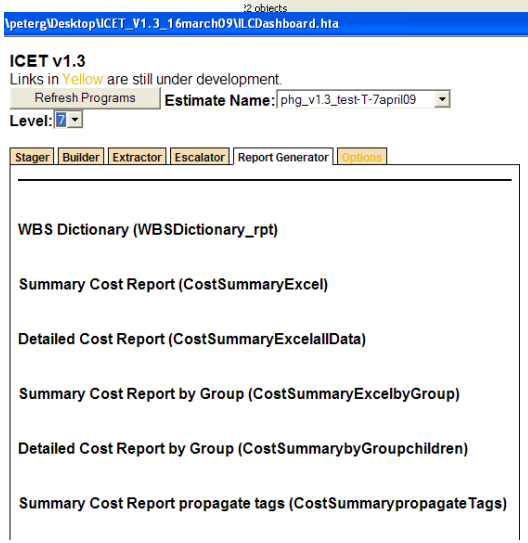




fill by hand



EXTRACT to DB



Generate EXCEL Reports

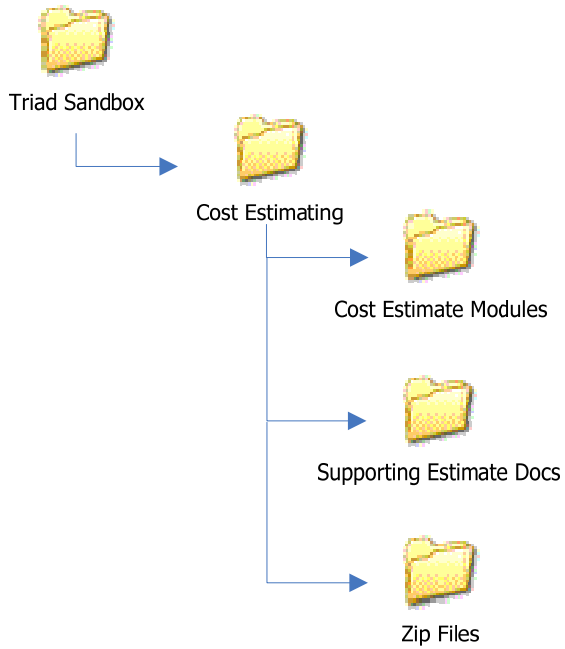
current priority is on **files/folders/versions/EDMS**

- Following Lars' suggestion:
  => download EstimatingModules.xls files
  from EDMS
  => build WBS in desktop ICET workspace
  => store info in mysql database
  => generate EXCEL reports for distribution
  => store all processed files in EDMS
- ICET EM.xls files accessible by AS-TAGL estimators (need 5 teams for confidentiality)
- Triad's example folder structure in EDMS

2. EDMS Workspace

Proposed Overall EDMS Directory Structure for All Estimate Files

Triad testing in EDMS ILC_Cost_Database_Team



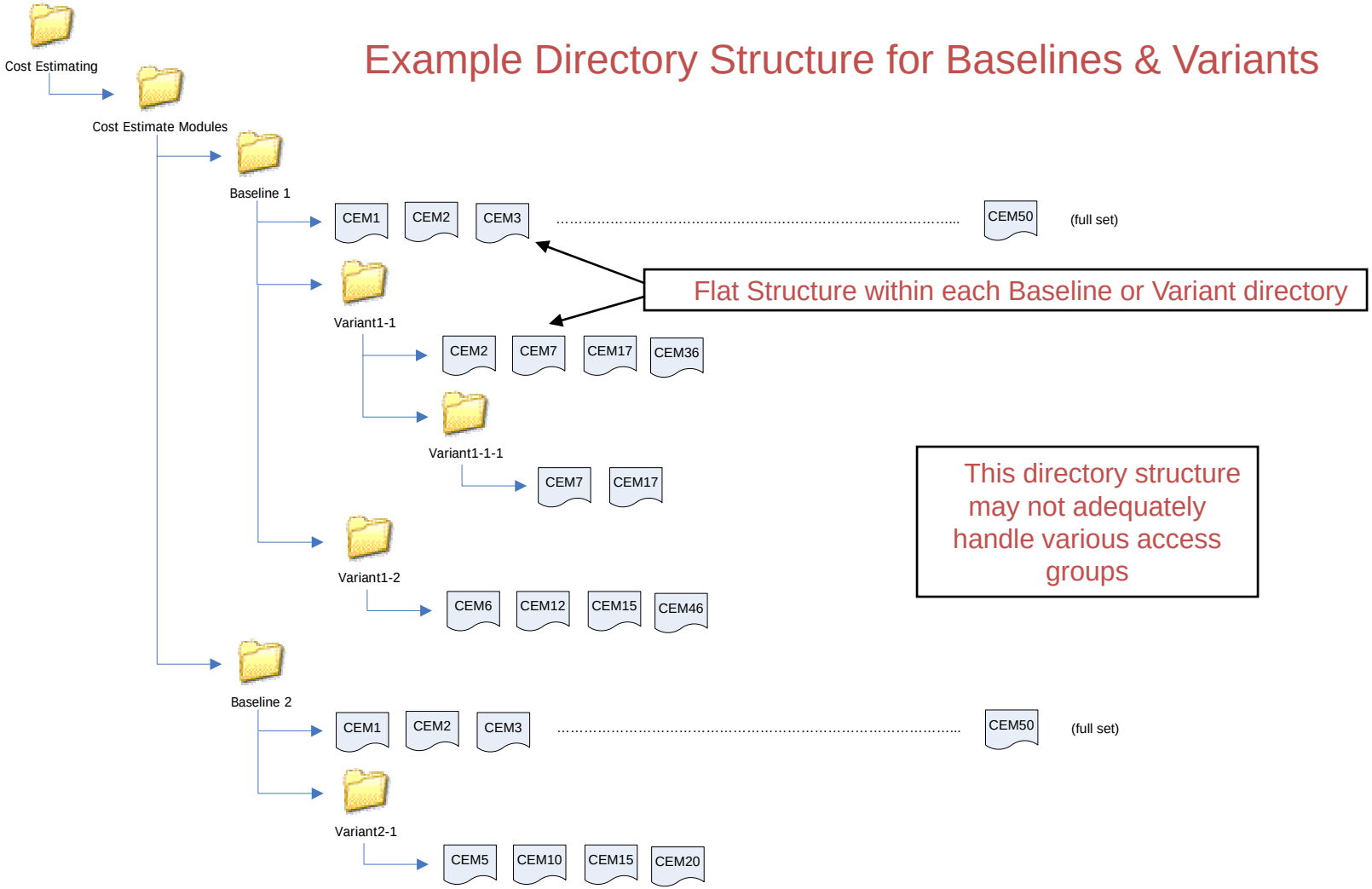
CEM's stored in separate directory to simplify interface with ICET

Need to resolve access issues to CM and RF estimate details?
Can access be controlled at the EDMS Item level vs. directory?

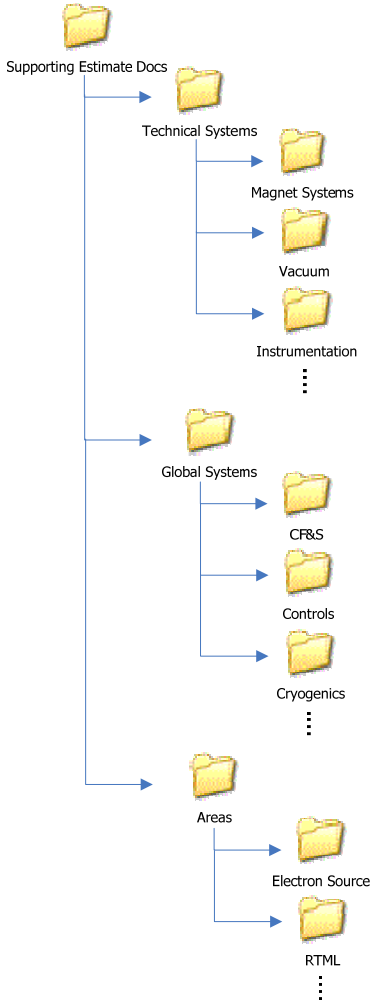
Directory Structure req'd – based on Tech Sys, Global Sys & Area

2. EDMS Workspace (cont'd)

Example Directory Structure for Baselines & Variants



2. EDMS Workspace (cont'd)



Example Directory Structure for Supporting Documentation

		AREA SYSTEM					
		Electron Source	Positron Source	Damping Rings	RTML	Main Linac	Beam Delivery System
Technical Systems	Magnet Systems						
	Vacuum						
	Instrumentation						
	RF Power						
	Cryomodules						
	Cavity Package						
	Dumps & Collimators						
	Accelerator Physics						
Global System	Conv. Facilities & Site						
	Availability & Operations						
	Controls						
	Cryogenics						
	Installation						

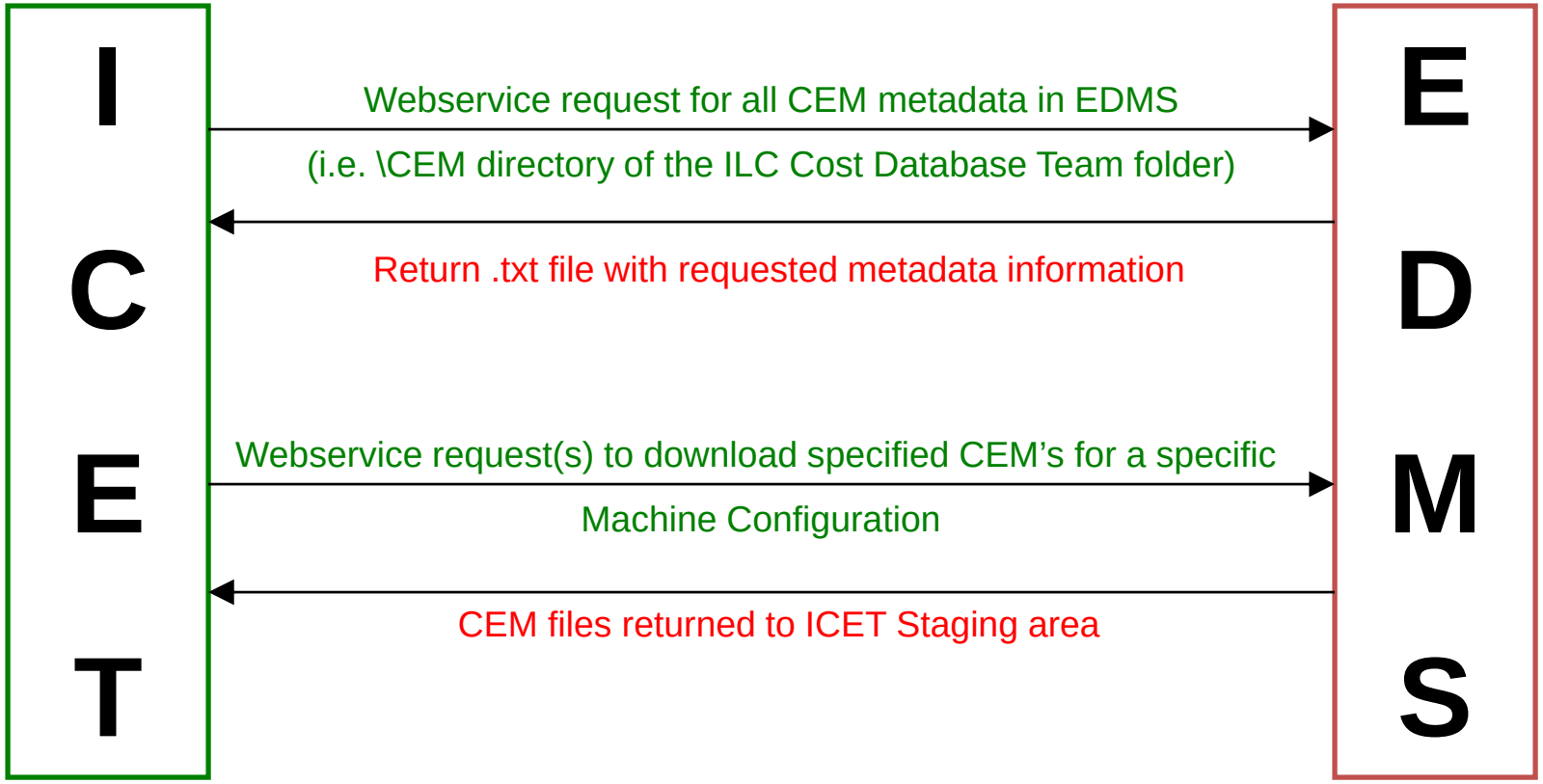
ICET-EDMS interface

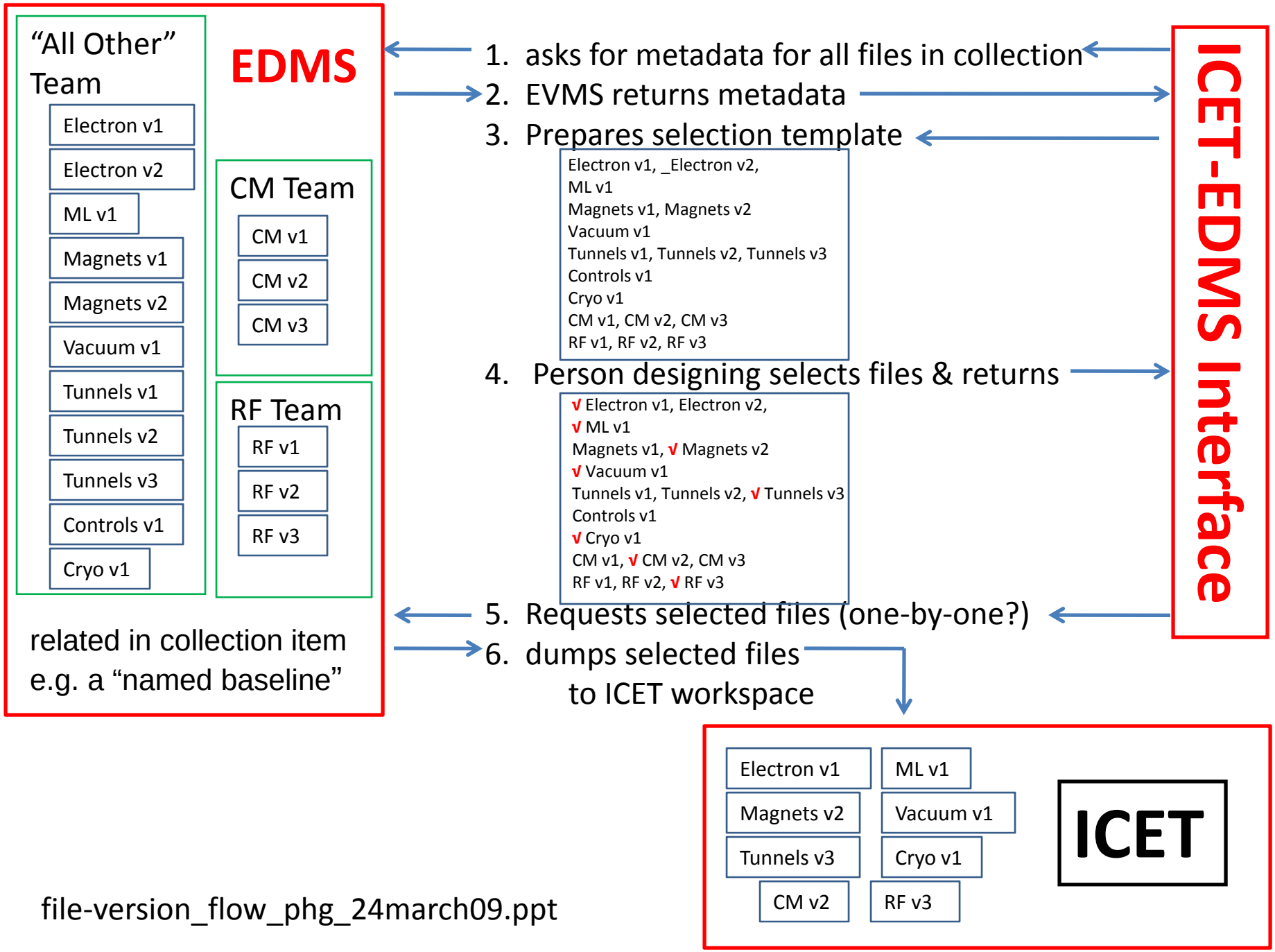
Larry, Kevin, Jens, Daniel

- See Triad's example folder structure above
- EDMS "collection item", e.g. "named baseline" points at all related ICET files for the estimate, regardless of folder or team
- EDMS team will provide scripts to allow:
  - ICET to query "collection item" for metadata of all files, versions, types (i.e. native .xls, not .pdf)
  - ICET to download single file using metadata (loop)
  - Upload of Build folder, WBS config file, reports
- Jens promises sample scripts tomorrow

3. ICET Workspace (cont'd)

ICET Interface with EDMS – 2 interactions via webservices





file-version_flow_phg_24march09.ppt

other things still to do:

- Next, we will need Triad to work on Rebuild – where we use ***existing*** Estimating Modules, ***not blanks***, to build WBS while preserving links
- Learn to use the same standard "atomic" parts in multiple applications,
  e.g. most AS use 8C1Q Cryomodules
- Learn to use "tags" to sort data by Area Sys, Technical/Global Sys, Disciplines, etc.

More:

- Robustness: ***links preserved*** under transport ICET workspace => EDMS (different folders) => back to ICET workspace (no problems so far)
- Parametric application: one can link cells in EMs.xls to an external EXCEL file, e.g. for quantities. The quantities (of # CM, length of tunnel, cryo capacity) in this external EXCEL drive file can be related parametrically to something like total energy, (see next page). I've demonstrated that ***this actually works!***

configuration_parameters.xls

these should link into Estimating Modules as quantities

name: ILC_RDR_Aug07

prepared: Peter H. Garbincius

date: 2-Apr-09

input parameters

500	GeV - CM energy
1	Positron Source: 1/0 = undulator/conventional
3	GeV - energy loss in undulator
2	number of RTML stages
10	GeV - RTML energy gain
238	GeV - electron Main Linac energy gain (- electron source - RTML + undulator)
235	GeV - positron Main Linac energy gain (- electron source - RTML)
31.5	MV/m - nominal cavity gradient for ML (at top end)
80%	cavity yield at this nominal gradien/90%
1.038	meter - effective length per RF cavity
0.032697	GeV - energy gain per cavity at nominal gradient
26	RF Cavities per ML RF unit
0.850122	energy gain per RF unit at nominal gradient
37.956	meters - length per RF unit
279.9598	number of RF units for electron ML (without overhead)
276.4309	number of RF units for positron ML (without overhead)
3%	overhead for RF units
288.3586	number of RF units for electron ML (with overhead)
289	ROUNDED number of RF units for electron ML (with overhead)
289	number of 8C1Q CM for electron ML (with overhead)
578	number of 9C0Q CM for electron ML (with overhead)
10969.28	meters - length of electron ML (with overhead)
284.7238	number of RF units for positron ML (with overhead)
285	ROUNDED number of RF units for positron ML (with overhead)
285	number of 8C1Q CM for positron ML (with overhead)
570	number of 9C0Q CM for positron ML (with overhead)
10817.46	meters - length of positron ML (with overhead)

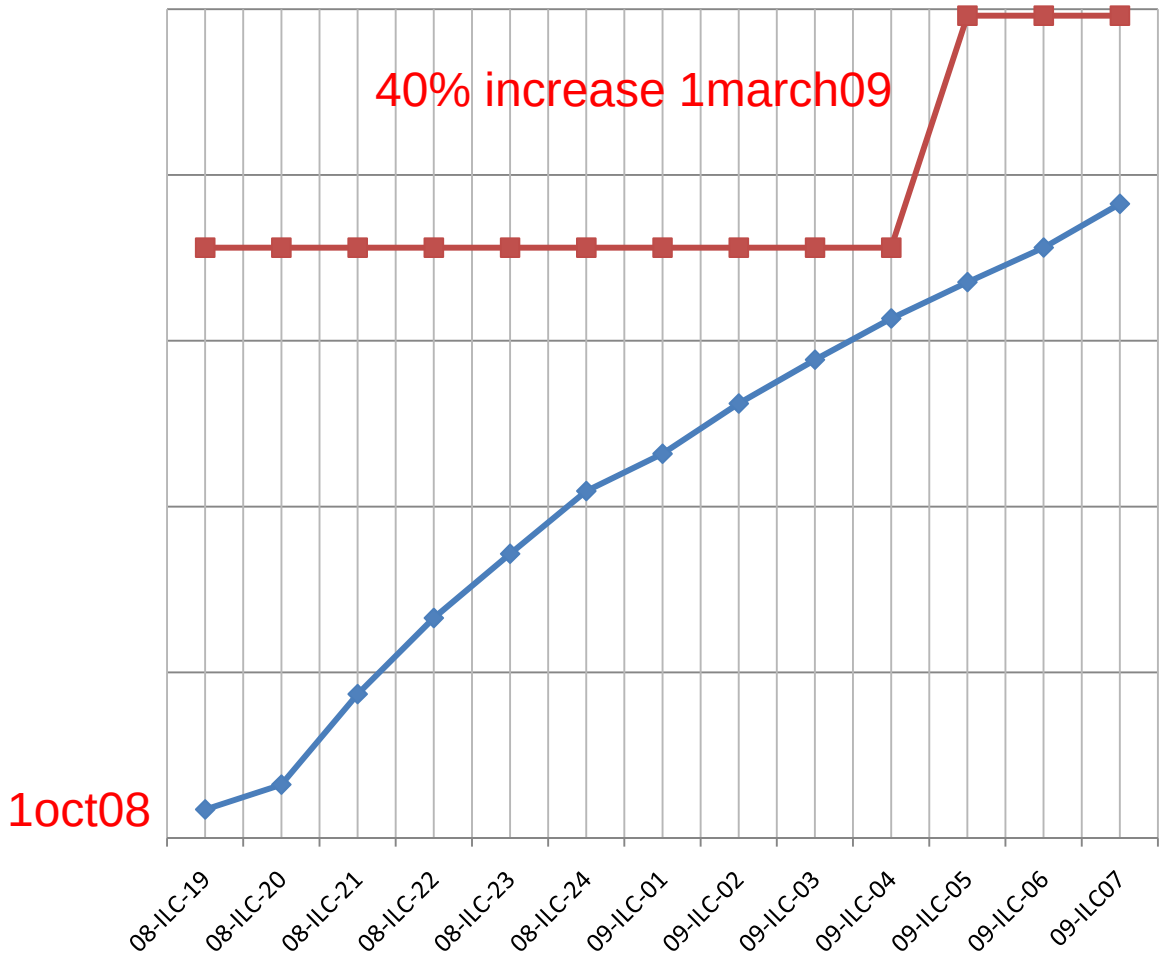
quantities for ICET EM.xls

Still more:

- Maura organized an off-site mysql server at Tourmaline for use as the ICET DataBase (outside of Fermilab firewall)
- JohnC has imported PeterG's MS Access DB into Tourmaline mysql DB, he is trying to understand schema
- Maura is reviewing applications for a summer student to share Maura: web development and Peter: loading Estimating_Modules.xls

Finances for Triad

bi-monthly invoicing



~ 2.4 months remaining at current rate

1april09
1200 hours
avg = 1.4 FTE
@ 83%
time worked

Peter's Personal Predicament

- New Fermilab Associate Director for Research has been named – Peter is slowly off-loading much of his responsibility in this area. Most of his directorate assignments will end by late July. Two assignments will continue indefinitely
- Peter is able to spend more time on ILC tasks: last 3 weeks: 45%, 50%, 60% - hooray! But there will be 4 weeks of mainly directorate work