Castor-dev planning and resources for 2007

Castor Development Team

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CERN / IT

Outline

❖ Evolution of development resources since 6-2006

❖ Update on development plans for (Q1/2) 2007

Evolution of Resources since 06/06

Developer	From	To	%	Main development responsibilities
Olof Barring (FIO/FS)	1999	now	5	Castor-1, tape area maintenance, bughunting
Hugo Cacote (FIO/TSI)	11/05	now	60	Tape driver software (stepping down)
Felix Ehm (tech student)	11/05	*12/06*	100	Repack
Rosa Garcia Rioja	03/06	now	100	GridFTP/xrootd, 64-bit port, web pages, strong authentication
Giuseppe Lo Presti	03/05	*01/08*	100	SRM-2, stager + DB code, ETICS integration
Sebastian Lopienski	11/05	*06/06*	50	Strong authentication
Sebastien Ponce	09/03	now	100	Project leader+main architect, stager, scheduler
Miroslav Siket	01/07	now	30	Tape system optimisations (file recalls)
Giulia Taurelli	01/06	now	100	Test suite, RFIO, stager
Dennis Waldron	11/05	now	50	DLF
Arne Wiebalck (FIO/LA)	11/06	now	50	Tape driver software (taking over from Hugo)
Victor Kotlyar, Vitali Motyakov (Russia)	07/03	now	0.5 FTE	DLF, GridFTP-2
Shaun de Witt (RAL)	04/05	now		

Few changes since Q2 2006 *(compared to Q4 05 ->Q2 06):*

- Team members new in Q1/Q2 06 now trained and up-to-speed
- S. Lopienski reassigned to other tasks outside CASTOR
- H. Cacote being replaced by A. Wiebalck (in FIO/TSI)
- M. Siket (30%) from Q1 2007 on
- Technical Student to replace Felix in Q1/2 2007 (TBC)
- *Giuseppe's contract running out beginning of 2008*

☐ "senior" team member	☐ former team member
☐ "junior" team member (<=1 year)	☐ ext. collaborator

Planning document update

❖ **Latest version of planning document updated beginning of December**

➢ Now 33 pages, 66 tasks defined

❖ **Takes into account collected tracking information (June-November)**

➢ Added 'ongoing' tasks such as 3rd-level support, releases, management

➢ More realistic %FTE allocation for development tasks

  ● Leading to postponed tasks…

➢ Most tasks have now allocated manpower

  ● Avoiding concentrations on Giuseppe/Sebastien

➢ Spent manpower now accounted separately from progress/duration

❖ http://cern.ch/castor/docs/planning

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Castor Planning

Castor development team

December 5, 2006

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R16 : Credible WBS (VI)

❖ **Pending/ongoing:**
  ➢ Define more formal (but lightweight..) mechanisms for reviewing development WBS and progress with Castor Ops team
  ➢ Identify a light-weight effort tracking tool (for both Castor-dev and ops teams) which can be used at a (bi-)weekly basis
  ➢ Include external collaborators in tracking (outside the section)
  ➢ Move to more deliverable-based rather than activity-based planning e.g. GDPM
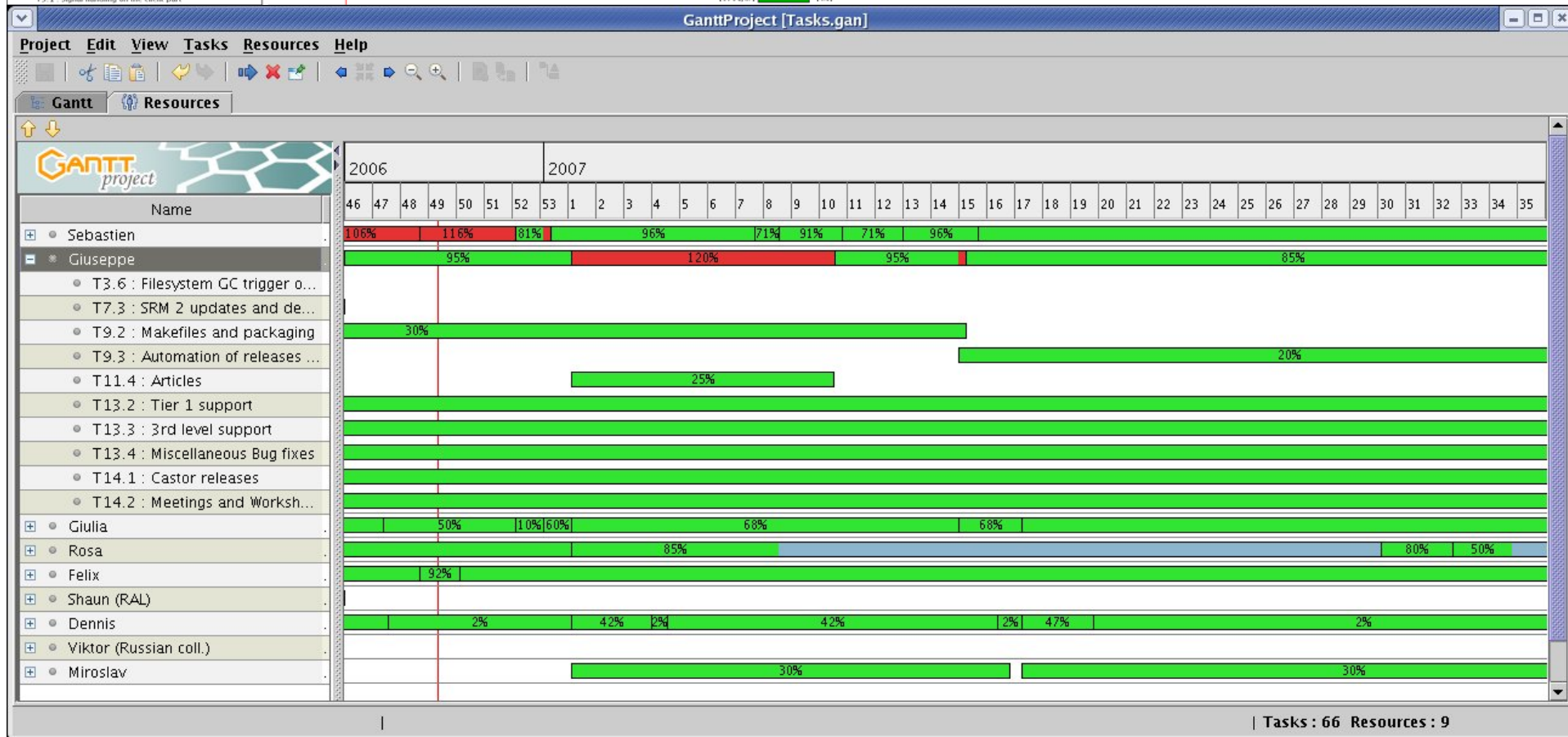
❖ Concerns:
  ➢ High level of interruptions to Castor-development team
    • In particular for 'senior' team members
    • Significantly improved with knowledge build-up on Castor-Ops side, but still too high (e.g. Tier-1 sites)
    • A weekly support rota for developers has been put in place
  ➢ Many external dependencies make planning ahead difficult
  ➢ Management overhead not always appreciated
    • Keep it to the required minimum
    • Resources are limited and not easy to reallocate to this task
    • Not all developers see clear benefits

Yesterday's presentation

Planning support tool

Planning support tool

❖ **Still using GanttProject for helping in the definition of tasks, and their visual representation**

➢ chart information automatically generated from WBS document

❖ **Q4 2006 -> Q4 2007 currently looks as follows:**

❖ **Limitations:**

➢ Unflexible allocation of resources to tasks

- not possible to vary participation of a developer to a given task for a given time interval
- Leading to occasional over-allocations

➢ Time buffers look like gaps in planning

➢ Task, not milestone oriented

- Much detail required on allocations and availability (e.g. holidays, weekends, etc) which is too heavy

➢ ganntproject sometimes crashing

➢ WBS-to-ganttproject conversion script needs improvements..

Update on new+open tasks (1)

- TG1, TG2 (known bugs and testing)

Task	Start;duration progress	Who (%)
T1.3 Memory leak follow-up: verify if the suspected Oracle memleak is really gone so that stager cron restart can be removed *new – followup from T1.1*	15/12/06; 1d	Sebastien(25%)
T1.4 Databases Cleanup provide a PL/SQL script for cleaning up Castor DB's having old leftover stale requests *new – followup from T1.2*	1/12/06; 2d	Sebastien(10%)
T2.2 Test DB hardware configurations for stager (including RAC and DataGuard) *no progress*	Q1 2007; 5d	?

medium, high, low importance

Update on new+open tasks (2)

- TG3 (Stager)

Task	Start;duration progress	Who (%)
T3.1 Signal handling on client part (gracefully handle signals like SIGINT) *rescheduled*	15/4/07; 5d	Giulia (50%)
T3.2 stager_query improvements: reduce load on stager by minimising query overhead (e.g. due to regexps) *partly postponed*	1/4/07; 3d 50%	Sebastien(25%)
T3.3 Automatic cleanup at restart: remove stale DB entries after crashes of components *rescheduled – awaiting higher stability*	1/6/07; 10d	Giulia (50%)
T3.4 SvcClass specific selection policy: allow different filesystem selection policies per service classes and disk pools *rescheduled*	1/5/07; 5d	Dennis (45%)
T3.5 Recall policies: allow for a smarter scheduling and grouping of recall operations *rescheduled*	8/1/07; 5d	Dennis (40%)
T3.8 Accounting: Modify the RH to protect the stager from (DoS) request floods *rescheduled after CMS workaround*	1/9/07; 10d	Rosa (50%)

☐ medium, ☐ high, ☐ low importance

- TG4 (Scheduler)

Task	Start;duration progress	Who (%)
T4.1 LSF limitations: study and improve limitations in LSF plugin for higher job/s throughput rates *work in progress*	15/8/06; 20d 50%	Sebastien(25%)
T4.2 LSF improvements: improve error reporting, configurable # of retries for scheduling a job, study using several LSF queues with different limits *new*	8/1/07; 8d	Sebastien(25%)
T4.3 Avoid scheduling prepareTo requests: bypass LSF when launching prepareTo requests (no scheduling decision needed) *new*	1/12/06; 5d 40%	Felix (80%)

☐ medium, ☐ high, ☐ low importance

Update on new+open tasks (4)

- ## TG5, TG6 (Protocols and Security)

Task	Start;duration progress	Who (%)
T5.1 RFIO common project: provide CASTOR plugin for new modular RFIO developed by IT/GD; adapt CASTOR code base ***work in progress***	1/8/06; 45d 75%	Giulia(40%), Giuseppe(20%)
T5.2 GridFTP: add support for GridFTP2 as internal+external CASTOR-2 protocol ***work in progress***	1/9/06; 40d 90%	Victor(90%),Rosa (60%)
T5.3 XROOTD: assist xrootd developers in integrating/testing support for XROOTD as internal CASTOR-2 protocol ***work in progress***	1/4/06; 20d 90%	Rosa(20%)
T6.1 Strong authentication: Finish the implementation of strong authentication in CASTOR-2; define a rollout plan ***rescheduled***	8/1/07; 40d 5%	Rosa(30%)
T6.2 VOMS support: Add VOMS roles/groups for authorization purposes. ***new***	1/3/07; 25d	Rosa(15%)

☐ medium, ☐ high, ☐ low importance

- TG7, TG8 (Components to improve/change/rewrite)

Task	Start;duration progress	Who (%)
T7.2 DLF archiving GUI: enhance DLF GUI for managing DLF archives *postponed*	1/10/07; 10d	Dennis(20%)
T7.3 SRM-2 updates, deployment: modify existing SRM-2 implementation as agreed by WLCG for post-SC4 *work in progress*	1/5/06; 40d 80%	Shaun(30%), Giuseppe(4%)
T7.4 New VDQM: finish development, test and deploy new VDQM *postponed*	8/1/07; 30d 10%	Giulia(50%)
T8.1 CLIPS to Perl transition: replace complex CLIPS-based expert system by a simpler perl script *postponed*	1/3/07; 2d	Sebastien(20%)
T8.2 Job Dispatching: Redesign scheduler interface part of rmmaster	1/2/07; 20d	Dennis(40%)
T8.3 CUPV: redesign old/unmaintained user privilege validation module, reduce complexity and simplify authorization setup, consider using VOMS	1/4/07; 2m	? (Technical student)

☐ medium, ☐ high, ☐ low importance

Update on new+open tasks (6)

- TG9, TG10 (Tools, platforms)

Task	Start;duration progress	Who (%)
T9.1 Repack for CASTOR-2: rewrite tape repacking tool using new CASTOR-2 API's, address enhancement requests by castor-ops team *work in progress*	1/2/06; 136d 95%	Felix(85%)
T9.2 Makefiles and packaging: Provide a clean, modular, well-organised build/packaging schema *work in progress*	15/7/06; 50d 15%	Giuseppe(30%)
T9.3 Automation of releases and tests: automatic regular builds and execution of test suites using ETICS framework *postponed*	15/4/06; 20d	Giuseppe(20%)
T9.4 Recover tool for Repack2: Develop an easy-to-use tool for re-activating a repacked tape (in case repack went wrong) *new*	22/11/06; 8d 50%	Giulia(40%)
T10.1 Port of servers to 64bits: port CASTOR-2 server parts to 64bit (stager, scheduler, SRM, etc) *work in progress*	1/9/06; 40d 65%	Rosa(20%)

□ medium, ■ high, □ low importance

- TG11,TG12 (Documentation, Tape optimizations)

Task	Start;duration progress	Who (%)
T11.3 Guides: Write a developer guide	1/10/07; 15d	?
T11.4 Articles: publish articles on CASTOR-2 (architecture, deployment, HA, ..) *postponed*	8/1/07; 10d	Giuseppe(25%)
T12.1 Optimization of file recalls: investigate how to optimize tape recalls (e.g. ordering of file recalls within a tape, use/tune recall policies, etc) *new*	8/1/07; 20d	Miroslav(30%)
T12.2 Support for small files: investigate ways of grouping small files for optimized tape usage *new*	1/5/07; 30d	Miroslav(30%)

☐ medium, ☐ high, ☐ low importance

Update on new+open tasks (8)

- Ongoing activities (all TG)

Task	Who (%)
T9.5 Support for Repack2	Giulia(8%)
T11.2 Maintain CASTOR web site: Keep web site updated	Rosa(10%)
T13.1 Project Management	Sebastien(20%)
T13.2 Tier-1 Support in particular CNAF	Giuseppe(20%)
T13.3 3rd-level support	*all*
T13.4 Miscellaneous bugfixes	*all*
T14.1 Castor releases	Giuseppe(7%), Rosa(13%)
T14.1 Meetings and workshops	*all*

Comments, questions?