

JRA1 report



Jon Kerr Nilsen, Univ. of Oslo

Deputy

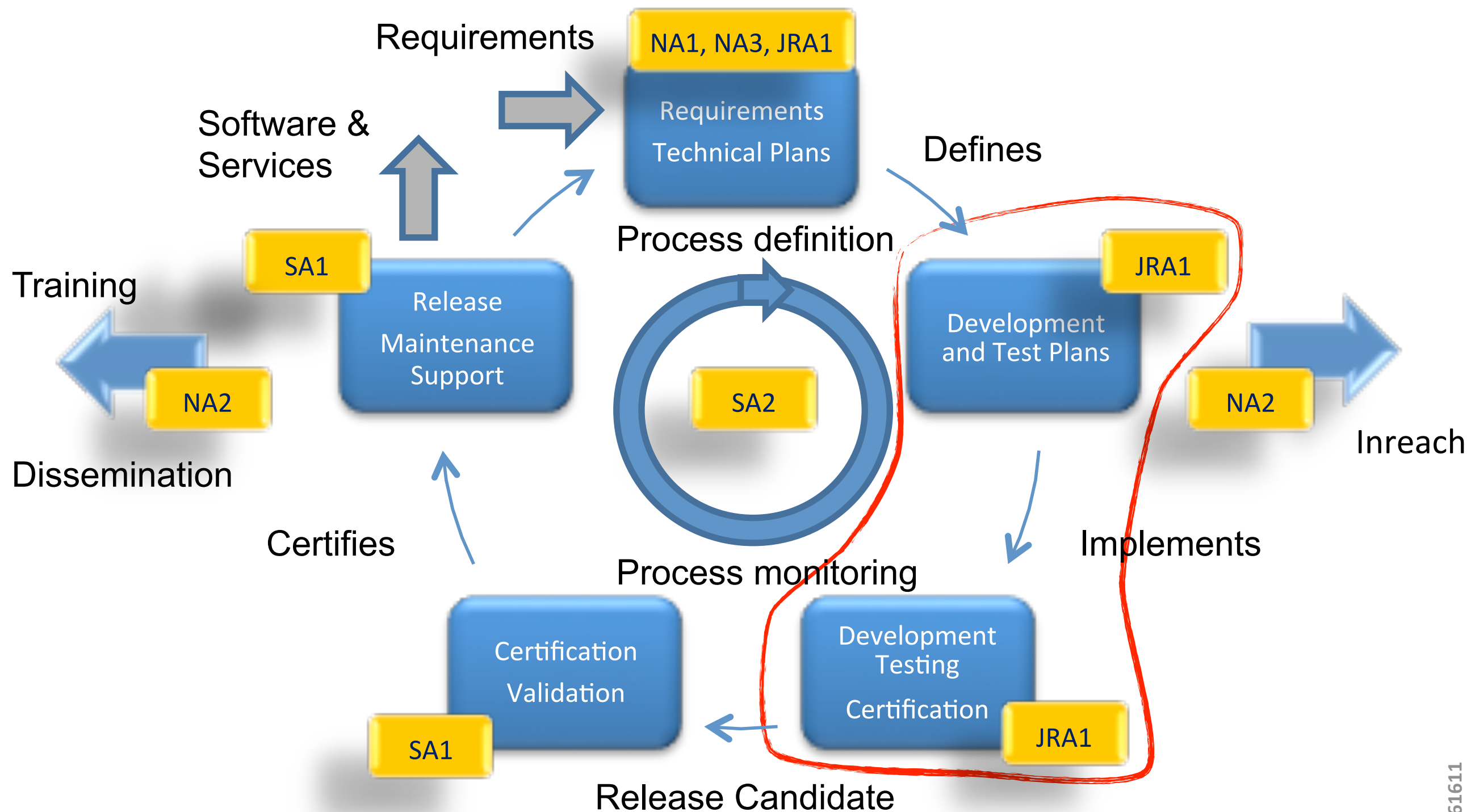
EMI AHM

Hamburg, 08/05/2012

EMI is partially funded by the European Commission under Grant Agreement RI-261611

- What we are
- How we're working
- How we're measured
- What we've done
- What we didn't do
- What we will do

What we are



JRA1

JRA1.1 - Coordination

JRA1.2 - Compute

JRA1.3 - Data

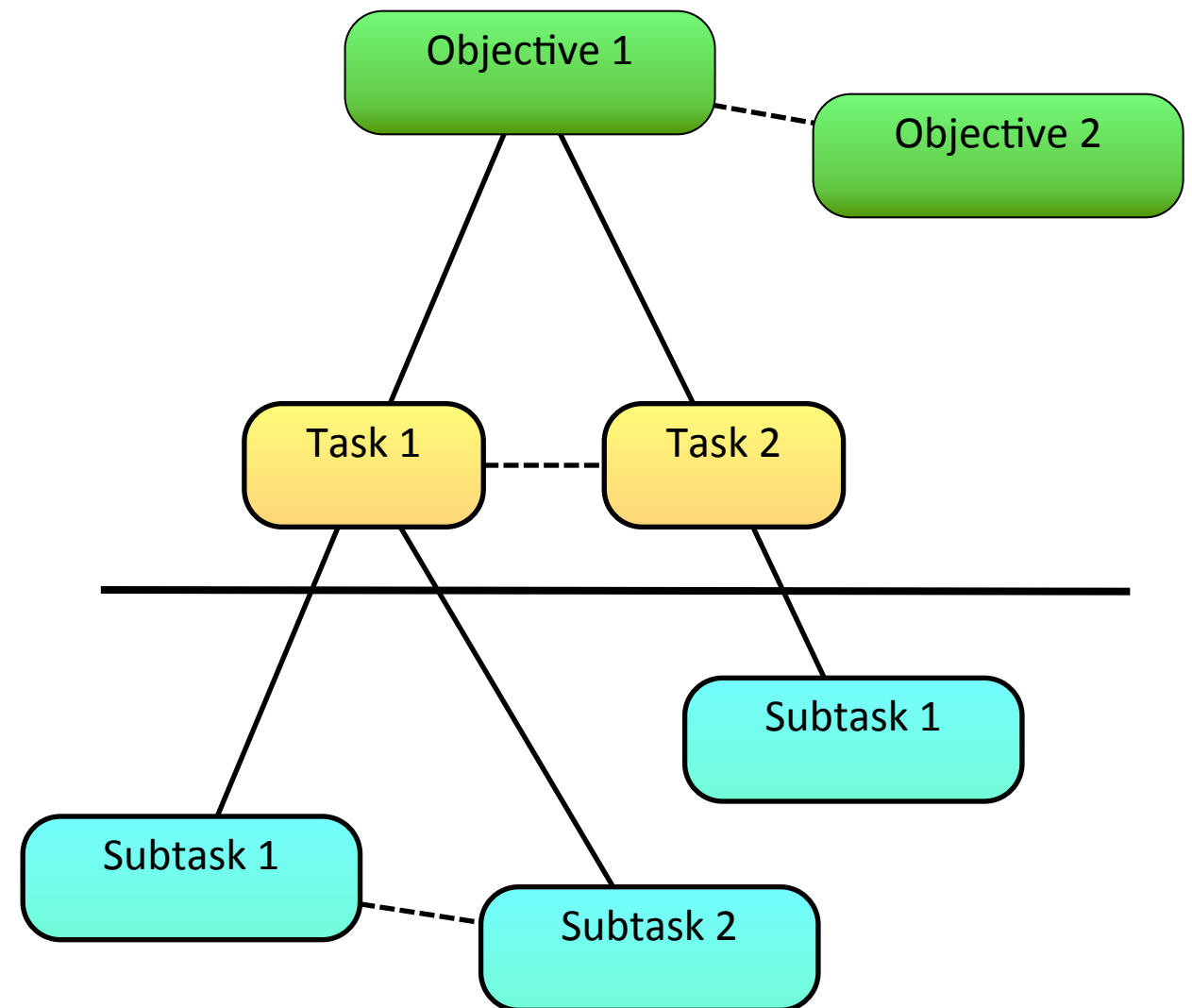
JRA1.4 - Security

JRA1.5 - Infra

- Lead by TD (25%) and deputy (75%)
- Weekly PTB meetings with TD and area leaders
- Mailing lists
 - emi-jra1
 - emi-jra1-{compute,data,sec,infra}
- <https://twiki.cern.ch/twiki/bin/view/EMI/JRA1>
- <https://savannah.cern.ch/task/?group=emi-dev>
- JRA1 in numbers
 - 4 WP tasks
 - 117 developers (according to PPT)
 - 28 PTs
 - 13 ongoing internal TFs, 8 external
 - 62 products

How we're working

- Dev tracker hierarchy
 - Objectives
 - Tasks
 - Subtasks
- **Objectives** are taken from DNA1.3.2
- Broken down to PT level **tasks** by JRA1 lead/PTB
- If needed, task owner can break down the task to **subtasks**
- JRA1 lead monitors objectives and tasks, task owner monitors subtasks



Dev tracker example

LCG Savannah

Logged in as jknilsen

My Incoming Items

My Items

My Groups

My Account Conf

Logout

This Page

Clean Reload

Printer Version

Related Recipes:

Item Privacy

Search

in Projects

Search

Hosted Projects

Register New Project

Full List

Contributors Wanted

Statistics

Site Help

User Docs: Cookbook


User Docs: In Depth Guide

Get Support

Contact Us

Links

GNU/Savane

 **EMI Development Tracker - Tasks: Browse Items**

Group

Main

Docs

Support

Tasks

(-) Display Criteria

Browse with the default query form and Simple selection.

Apply

Area: Any Product: Summary: objective Category: Any Status: Open/Closed: Open Additional constraint deactivated: Any modified since 13 October 2011

Show: 500 items at once ; items with a spam score lower than 5 . Warning: only 150 items can be shown at once, unless using Printer Version.

Click a column heading to sort results (up or down), or sort by priority or reset sort. You can also deactivate multicolumn sort. Currently, results are sorted by Area > Category > Should be Finished on .

64 matching items - Items 1 to 64

Item ID	Summary	Status	Category	Type	Product	Product Team	Area	Priority	Should Be Finished On
#21759	C1: Glue 2.0 support in job management services	problematic	objective	development			Compute	5	2011-08-31 00:00
#21761	C2: Agreements over an EMI compute accounting record	ongoing	objective	agreement			Compute	3	2011-10-31 00:00
#21762	C3: Intractive access of CEs	not started	objective	study			Compute	2	2011-10-31 00:00
#21764	C4: Common parallel execution framework design	ongoing	objective	design			Compute	3	2011-10-31 00:00
#21765	C5: Server-side implementation of EMI-ES	ongoing	objective	development			Compute	5	2011-11-30 00:00

Dev tracker example

Choose **default** to
get readable tracker

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Choose **default** to
get readable tracker

Use search criteria to
find your tasks

task #22398: Server-side implementation of EMI-ES in gLite

Submitted by: Balazs Konya <bkonya>

Submitted on: 2011-09-05 13:52

Submit Changes and Browse Items

Submit Changes and Return to this Item

Should Start On: 1 May 2011

Should be Finished on: 2 July 2012

Planned to be finished:

Assigned to: zangran

Product Team: gLite Compute

Category: * task

Type: * development

Priority: * 5

Status: * ongoing

Privacy: Public

Percent Complete: 80%

Open/Closed: Open

Discussion Lock: Unlocked

Product: CREAM

Area: * Compute

Task page:

Request:

Planned Release: EMI 2

Associated Test: None

Description:

Implementation of the agreed common job submission and management methods (EMI-ES interface) in the gLite CREAM Computing Element.

Summary: * Server-side implementation of EMI-ES in gLite

* Mandatory Fields

Task example

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Task, assigned to PT leader or actual developer

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Owner should modify these

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Product: CREAM

Task page:

Planned Release: EMI 2

And certainly not these!

Description:

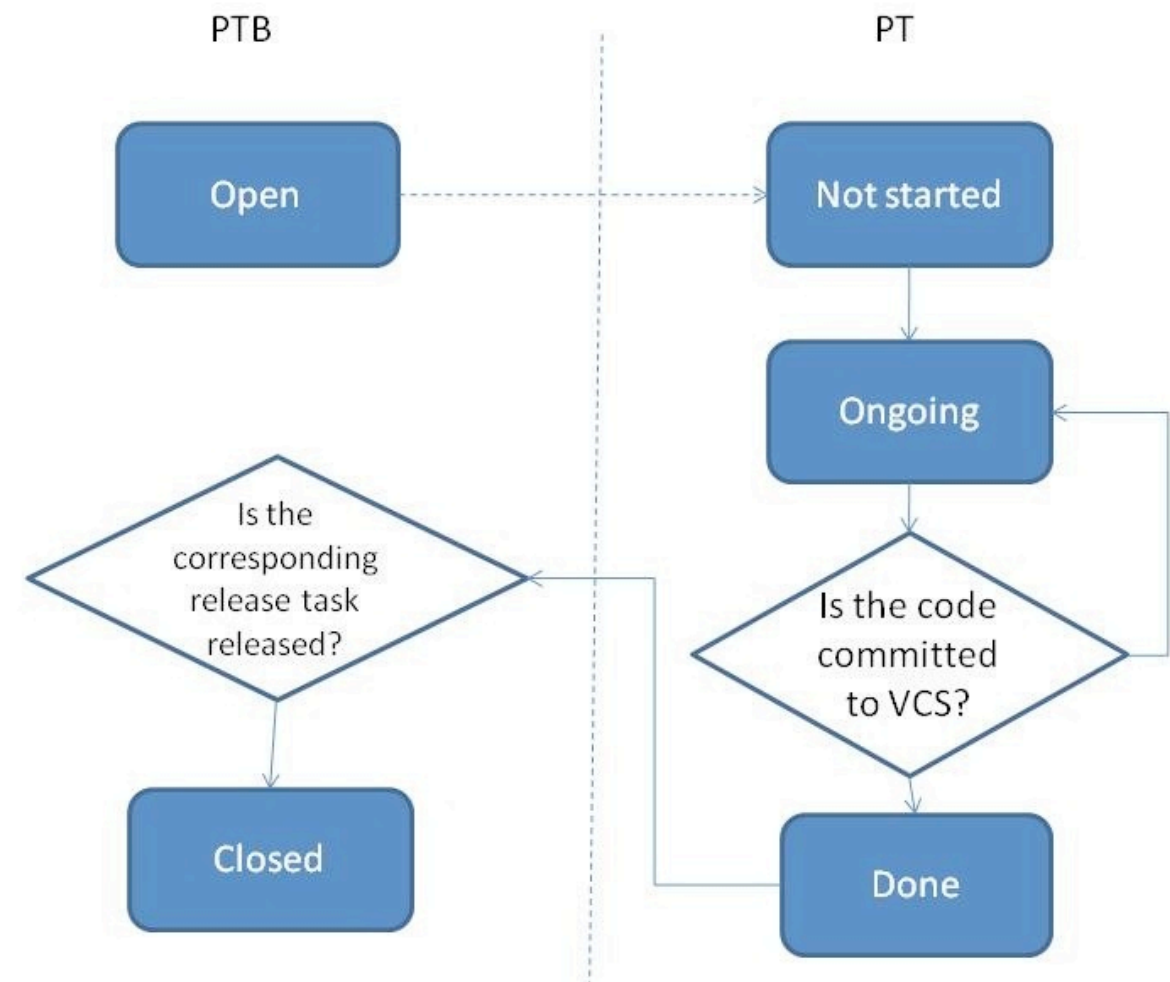
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Dev tracker state transition

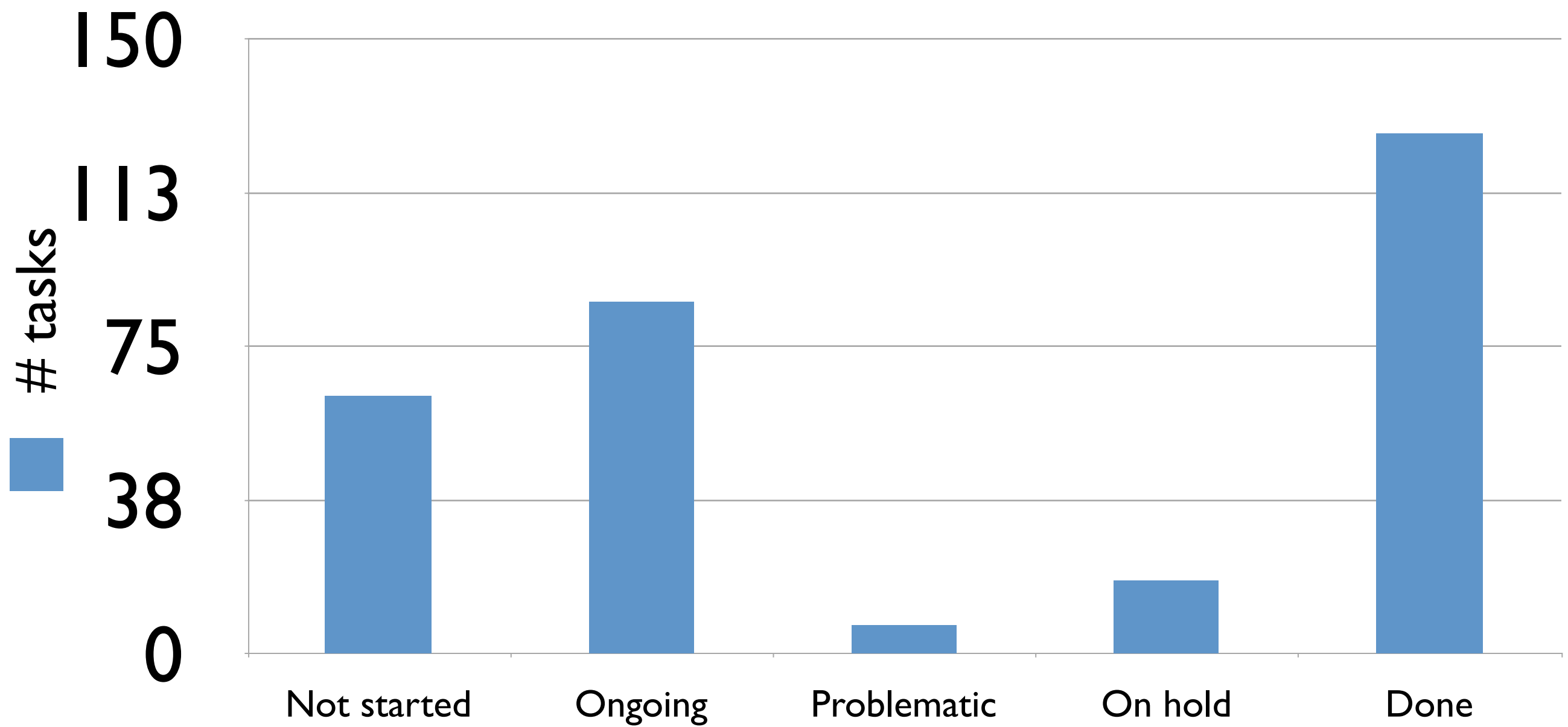
- **Open:** The development task is created by the PTB and assigned to the corresponding PT. The corresponding value in the Status field at this point is Not started.
- **Not started to Ongoing:** Status field change performed by the PT when the PT starts working in the implementation of the development task.
- **Ongoing:** The PT is working in the implementation of the development task.
- **Ongoing to Done:** Status field change performed by the PT when the PT commits the new code implementing the development task in the VCS system.
- **Done:** The code implementing the development task is committed in the VCS system.
- **Closed:** The development task is moved to Closed by the PTB once the corresponding release task has been released to production.



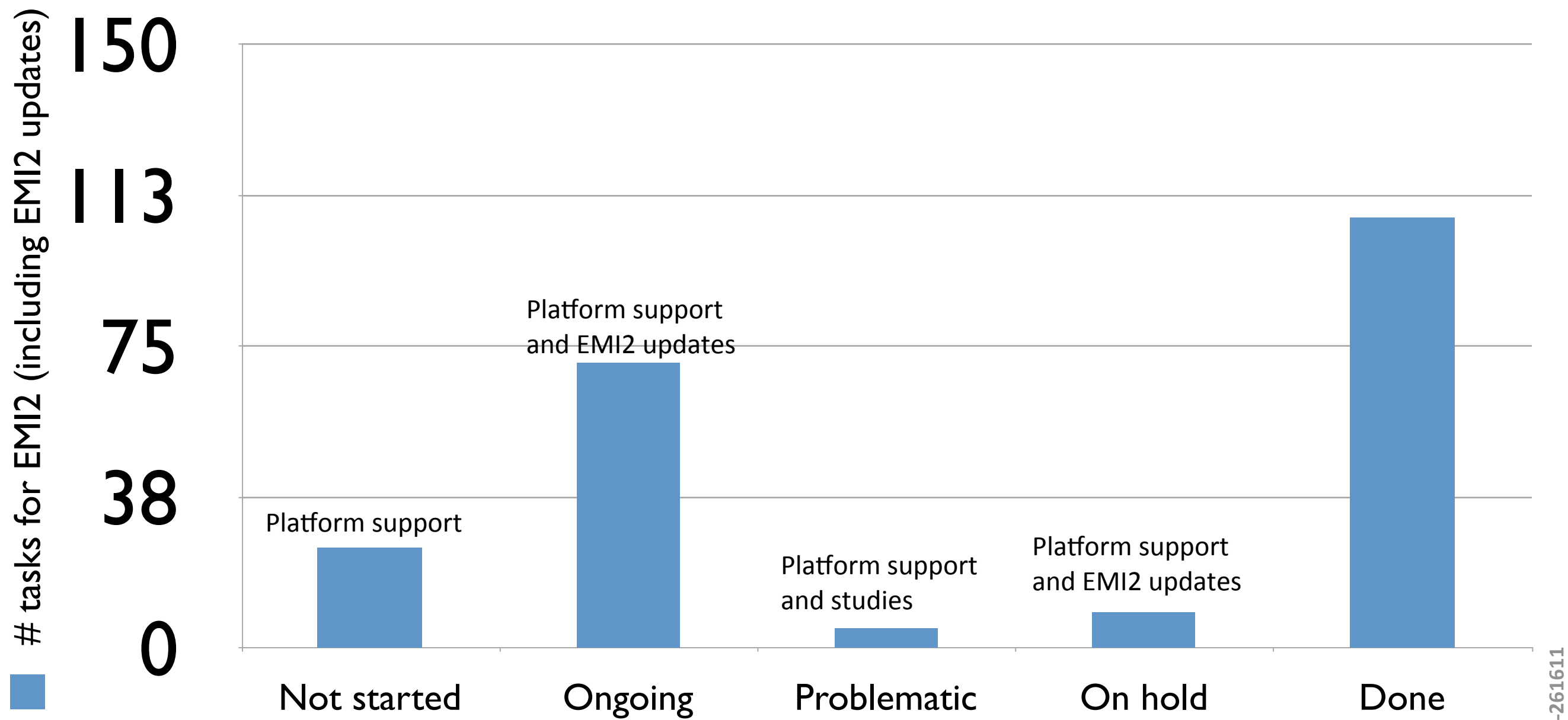
<https://twiki.cern.ch/twiki/bin/view/EMI/EmiSa2ChangePolicy>

Some dev tracker stats

Tasks per status



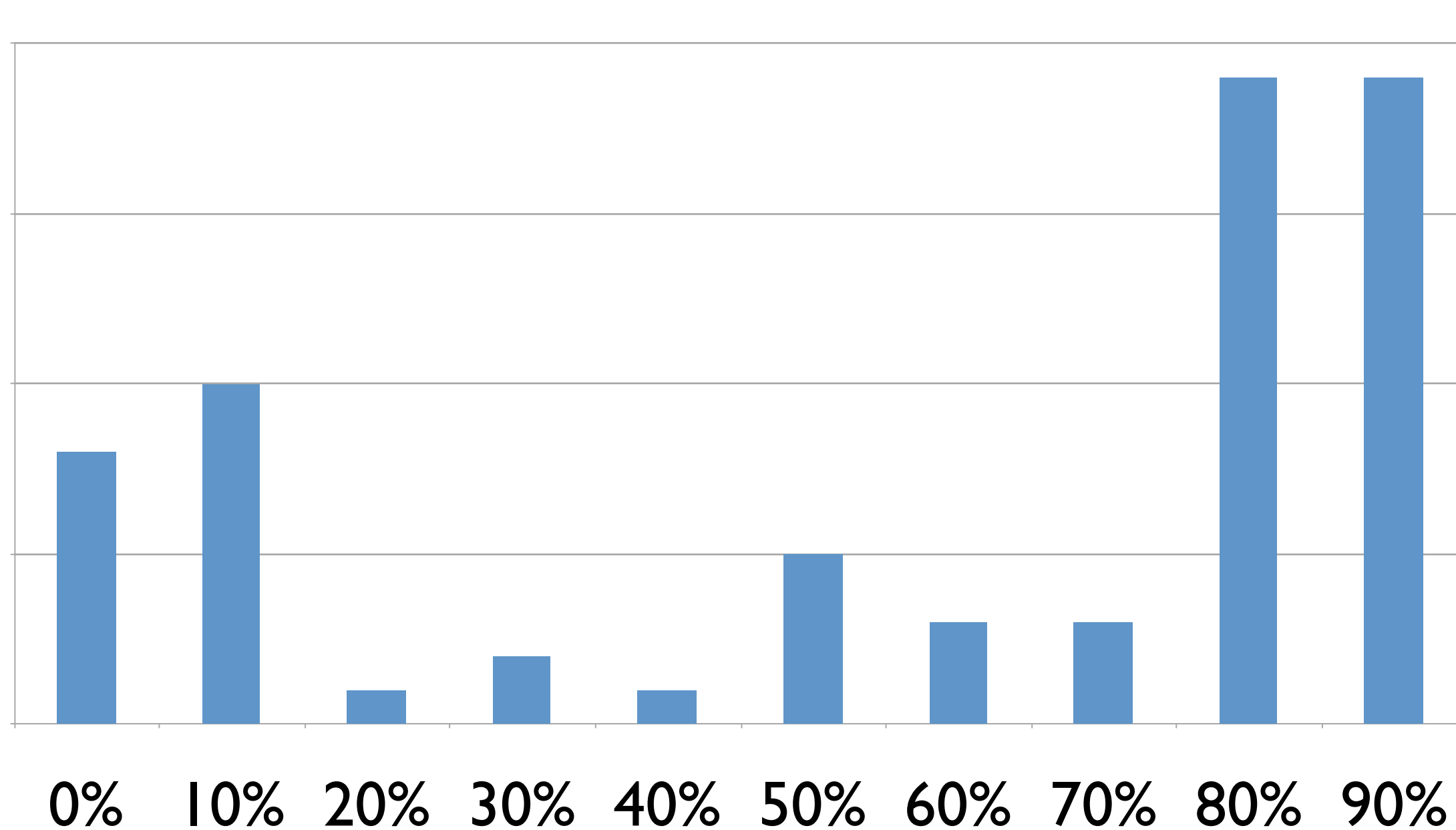
Tasks per status EMI 2



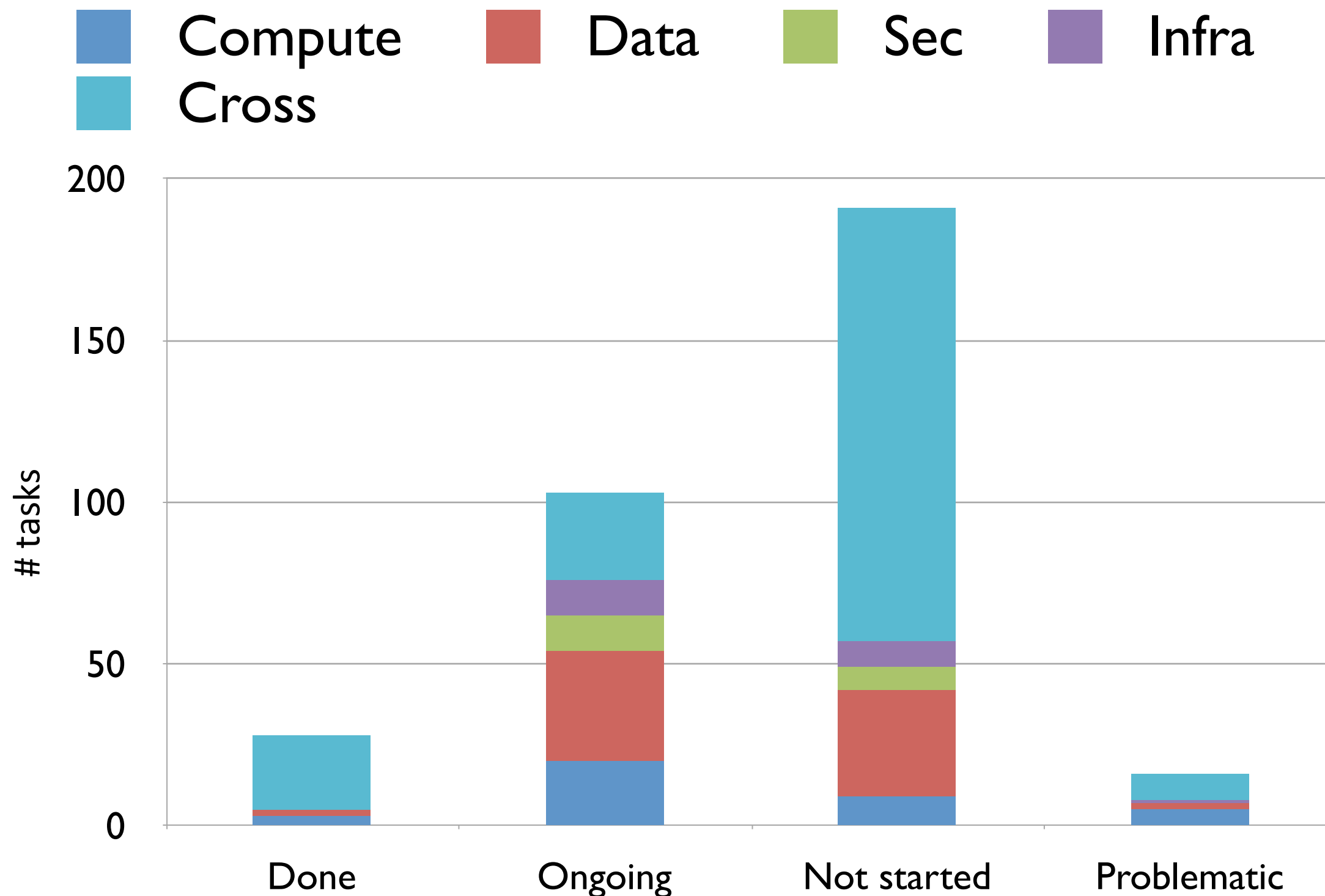
% complete, ongoing tasks for EMI 2



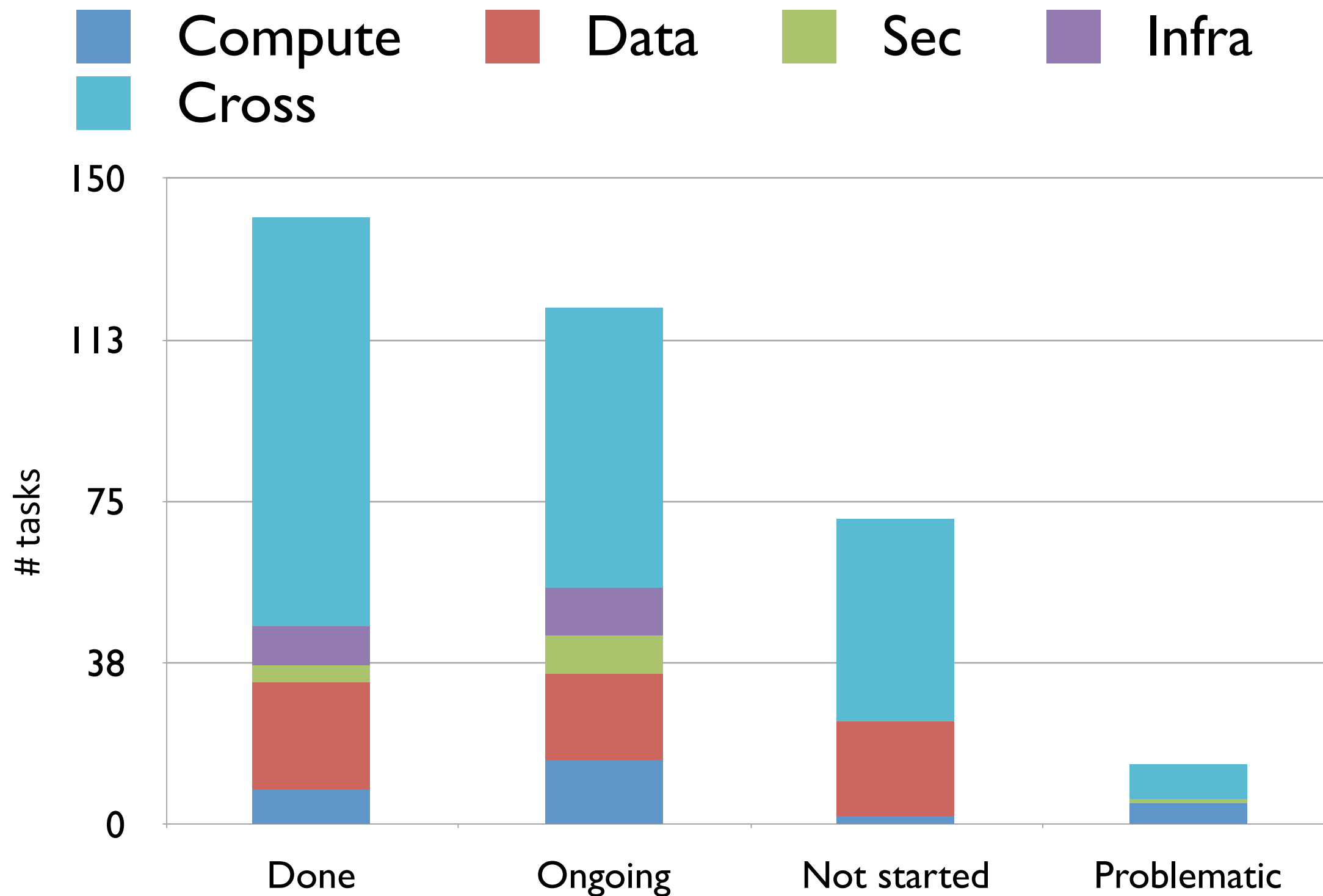
Ongoing tasks for EMI2 (including EMI2 updates)



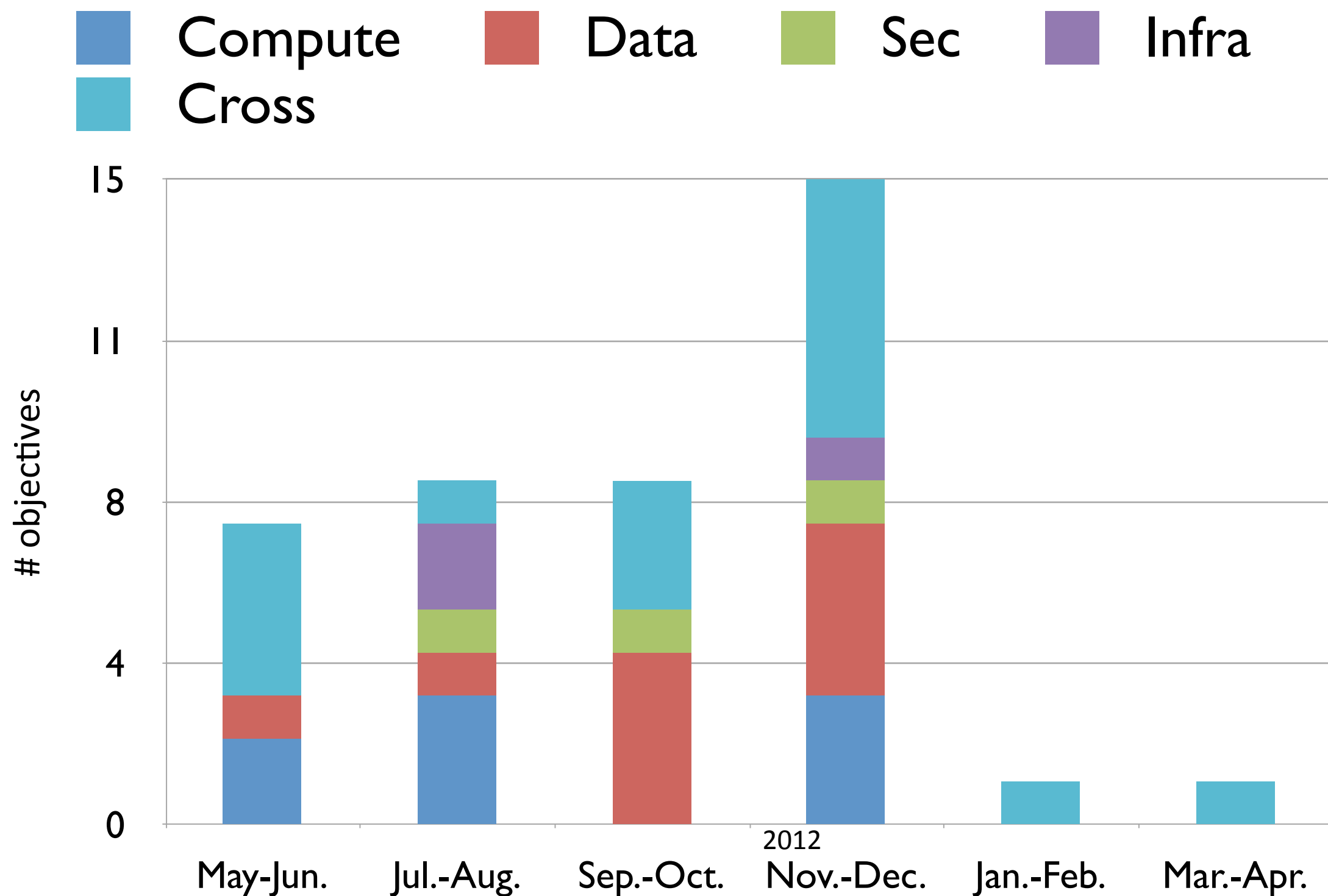
Status per area by Padova AHM



Status per area as of today



Y3 objectives per month



How we're measured

Y2 milestones/deliverables

Title	Due date	Status
MJRA1.6: File Catalogue web service front end	PM15	Done
MJRA1.17: Test suites of compliance checks in place	PM16	Moved to PM30
MJRA1.10: EMI Security Workshop	PM17	Done
MJRA1.3: Successful implementation of EMI ES	PM20	Partially achieved
MJRA1.19.2: Integrated EMI Major Release Candidates (EMI2)	PM22	Late
MJRA1.11: Easier end-user access capability to EMI components in place	PM22	Moved to PM32
MJRA1.7: First implementations of POSIX compliance and HTTP support	PM24	Achieved, report late
MJRA1.12: Common Security Architecture Assessment	PM24	Achieved, report late
DJRA1.1.3: Compute Area work plan and status reports	PM24	In review
DJRA1.2.3: Data Area work plan and status reports	PM24	Being written
DJRA1.3.3: Security Area work plan and status reports	PM24	In review
DJRA1.4.3: Infrastructure Area work plan and status reports	PM24	Being written

Y3 milestones/deliverables

Title	Due date
Y2 milestones and deliverables not yet done	
MJRA1.8 - Full standard compliance and POSIX support	PM30
MJRA1.18 - Transparent use of open standards in the EMI component ecosystem	PM30
MJRA1.15 - Service monitoring and management	PM32
MJRA1.4 - Successful computational usage of emerging computing models	PM32
MJRA1.19.3: Integrated EMI Major Release Candidates (EMI3)	PM32
DJRA1.1.4: Compute Area work plan and status reports	PM36
DJRA1.2.4: Data Area work plan and status reports	PM36
DJRA1.3.4: Security Area work plan and status reports	PM36
DJRA1.4.4: Infrastructure Area work plan and status reports	PM36

New JRA1 KPIs

KPI	Name	How to measure	Target	Q8
KJRA1.1 - "Standard compliance KPI"	Number of EMI service interfaces and libraries passing standard compliance tests	check available test reports generated during the quarter by the PTs	increase by 2 per quarter	1
KJRA1.2 - "Product integration KPI"	Number of passed inter-product tests	<ul style="list-style-type: none"> - check test reports for available tests - for each test, count the number of involved products - the metric is the sum of these numbers 	increase by four per reporting quarter	13
KJRA1.3 - "Harmonization KPI"	Number of EMI products implementing EMI agreements	count ongoing and/or completed tasks in the dev tracker targeting EMI agreement implementation	20 by the end of the project.	16

- TFs typically needed for cross-PT tasks
- KJRA1.2 “Product Integration KPI” gives a measure of the number of passed inter-component tests - clearly a cross-PT task
- ITTF was set up to define high-level integration tests emphasising
 - tests with products from different middlewares
 - tests that actually make sense
- The task force:
Jon (Leader) Danilo (Deputy), Andrea C., Christian Bernardt, Ricardo R., Laurence, Shiraz, Massimo, Gabor R.



- Integration testing survey
 - Asked all product teams about planned integration tests through the EMT tracker
- Used the results and a dash of common sense to define 27 tests
- 1 cancelled after feedback from PTs
- Test results:
 - All tests must be run on the EMI testbed
 - **Test results must be reported in the test reports** as part of the certification
 - Tests should be run as soon as all involved products are on the testbed
 - Test reports should be updated with integration test results before the task owning the test goes to verified

Test Id	Involved products	Responsible PT	Contributing PTs	Short description
1	Product1, Product2	PT1	PT1, PT2	Product1 to use Product2 feature
2	CEMon, Argus	gLite Compute	gLite Compute, Argus	CEMon to use Argus for authorization
3	APEL client, CREAM LSF, CREAM SGE, CREAM Torque, CREAM CE	APEL	APEL, gLite Compute	CREAM jobs executed under different backends is properly treated by APEL client
4	dCache, DPM, StoRM , FTS	CERN Data	dCache, CERN Data, StoRM	With help of FTS automatically move files between different SEs
5	gLite MPI, WMS, CREAM, WN	gLite MPI	gLite MPI, gLite Compute	Submit an MPI job to a CREAM CE and ensure that they can be executed without issues

Passed integration tests (so far)

Test ID	Involved products	Score
11	ARIS, Top BDII	2
12	dCache, DPM, StoRM, A-REX	4
20	ARC data clients, dCache, DPM, StoRM	4
21	EMIR, A-REX, UNICORE/X	3

Integration testing results

- 4 out of 27 defined tests were reported as passed
- 1 was cancelled
- The rest of the test reports
 - used wrong template (not mentioning integration tests in the summary)
 - reported that integration tests were passed but gave no details on which integration tests
 - reported that integration tests were not applicable
- Please fix your test reports

```
*****
EMI Test Report Template
*****

- Product:

- Release Task:

- ETICS Subsystem Configuration Name:

- VCS Tag:

- EMI Major Release:

- Platforms:

- Author:

- Date:

- Test Report Template : v. 3.2

*****
Summary
*****

1. Deployment tests:
  1.1. Clean Installation - PASS/FAIL
  1.2. Upgrade Installation - PASS/FAIL/NA
2. Static Code Analysis - PASS/FAIL/NA
3. Unit Tests Execution - YES/NO
4. System tests:
  4.1. Functionality tests - PASS/FAIL
  4.2. Regression tests - PASS/FAIL/NA
  4.3. Standard Conformance tests - PASS/FAIL/NA
  4.4. Performance tests - PASS/FAIL/NA
  4.5. Scalability tests - PASS/FAIL/NA
  4.6. Integration tests - PASS/FAIL/NA
```


What we've done

Y2 - the year of development

Phase 1 (Kebnekaise): “planning”

- **Software integration:** created a distribution
- Agreements: EMI-ES, STAR, GSI-replacement, messaging use cases
- Design: EMI Authentication Library, EMI Registry
- Completed tasks: ~~server-side GLUE2, consistent SRM, ...~~

Phase 2 (Matterhorn): “the YEAR of the Development”

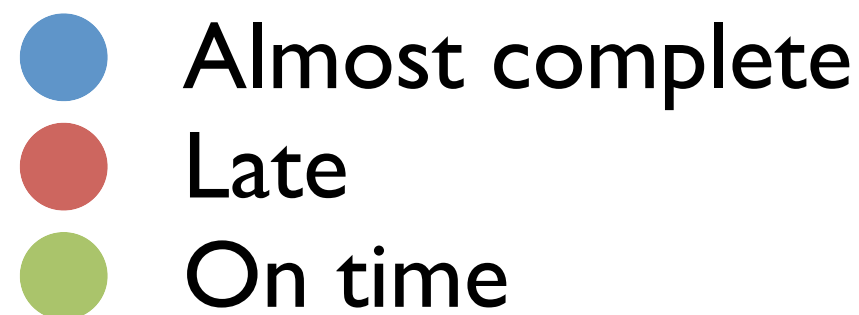
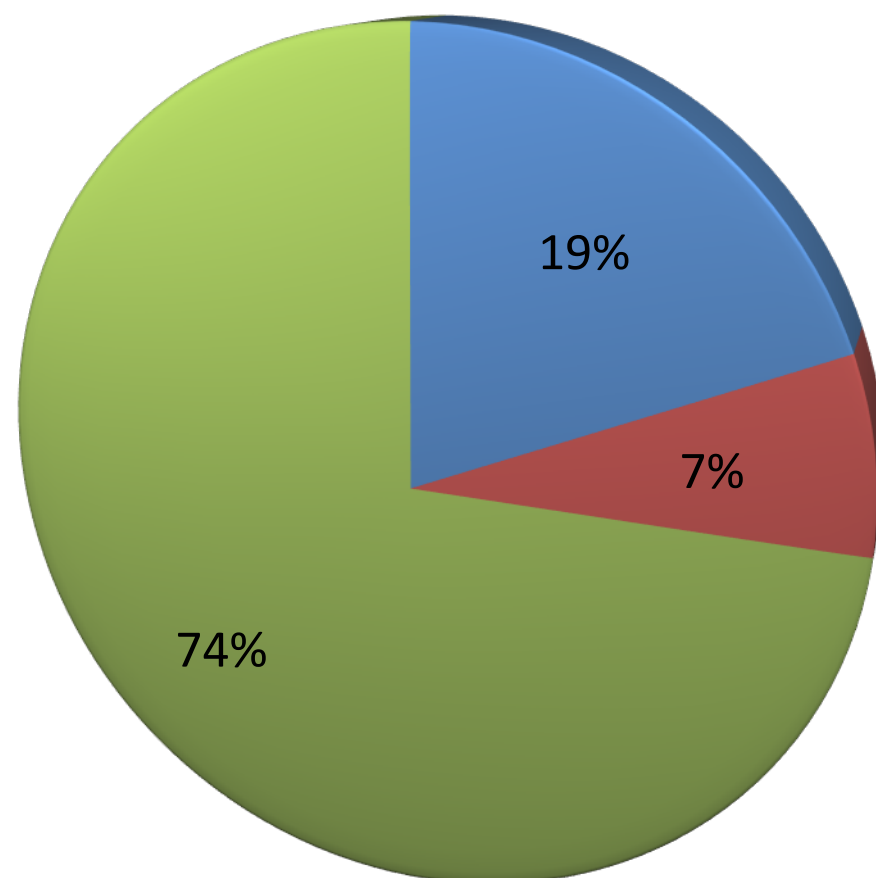
- **Functionality integration**
- Agreements: compute accounting, delegation, ...
- Implementation of all the agreements and first year designs
- Delivery of “EMI products”
- Delivery of the Consolidation plans
- Design: AAI strategy, Cloud strategy

Phase 3 (Monte Bianco)

- **Full realization of the consolidation plans**
- Implementation of AAI and Cloud strategy
- Finalization of new developments by bringing code to production level

Year 2 development in numbers

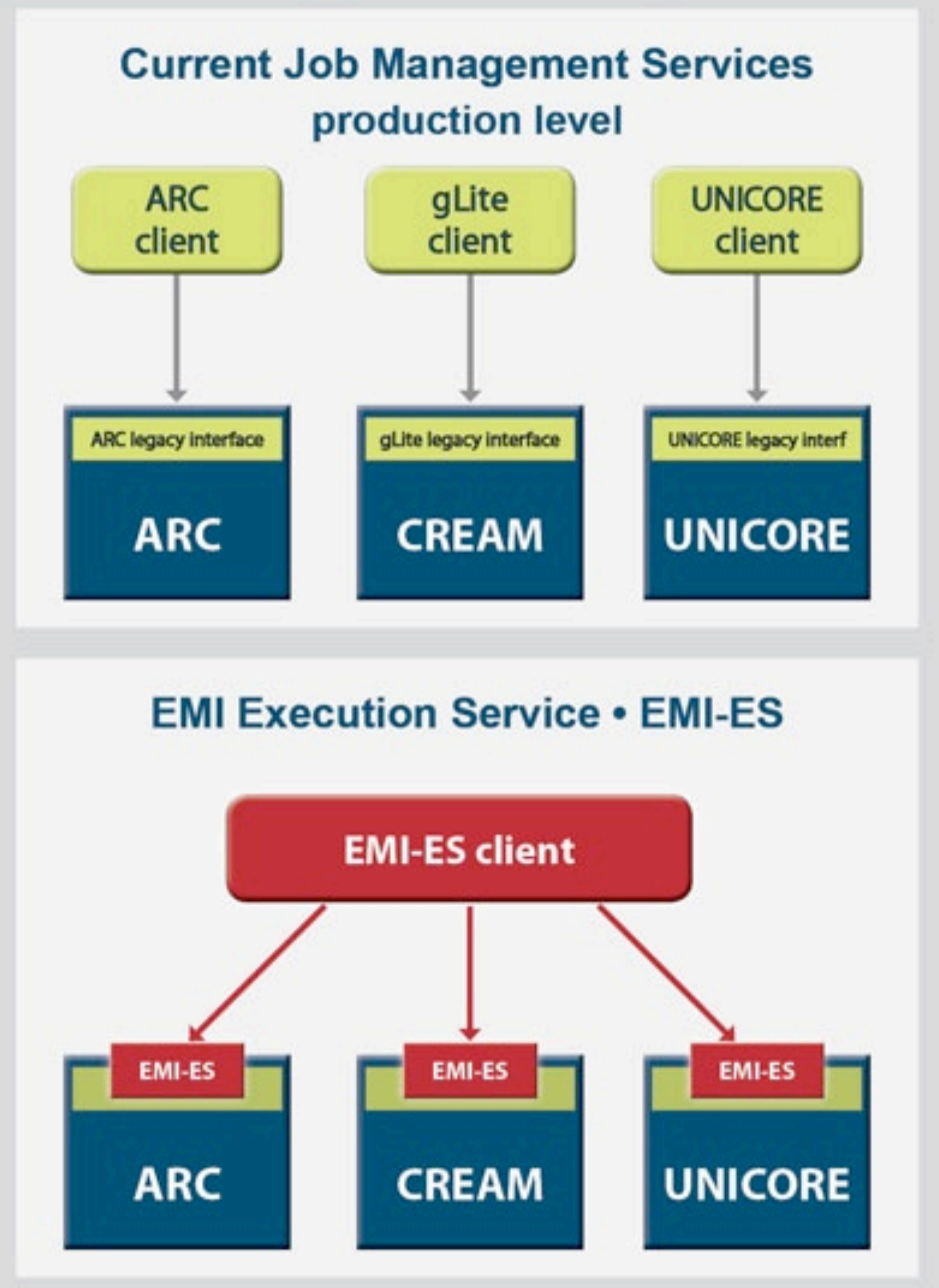
- 29 Product Teams worked on 56 products for EMI 2
- 14 ongoing internal TFs, 8 external
- 101 planned development tasks out of which 75 completed on time, 19 delivered almost complete solution and only 7 were late for EMI 2



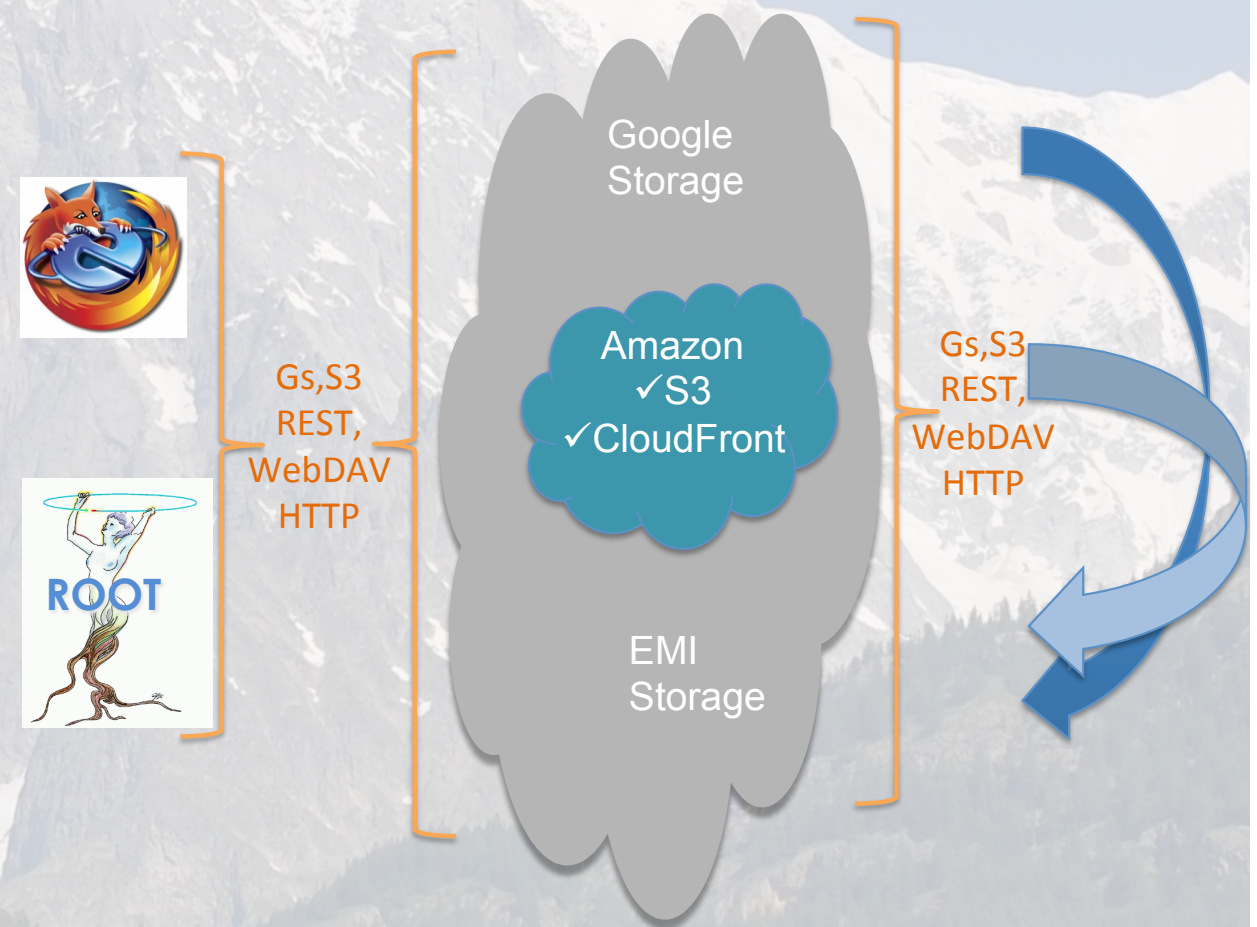
- Compute Area (JRA1.2)
 - Implementation of the agreed EMI interface for job management: EMI-ES support in CEs and compute clients (*MJRA1.3*)
 - The three EMI CEs now can be deployed on all the major batch systems as an official LRMS backend (Torque, SGE, LSF)
- Data Area (JRA1.3)
 - Industry standard protocols for accessing SEs (*MJRA1.7*)
 - DPM and DCache ready for NFS4.1
 - HTTPS offered by DPM, StoRM, dCache
 - WebDAV for DPM and dCache
- Security Area (JRA1.4)
 - Provided a transparent solution for encrypted storage utilizing ordinary EMI SEs: The Hydra and the Pseudonymity
 - Designed and implemented a prototype for the common EMI security library: CANL
- Infrastructure Area (JRA1.5)
 - Delivery of a common service registry, the EMIR service
- Cross Area (JRA1.X)
 - All the EMI services now publish GLUE2 conforming information
 - Positioned ARGUS as the EMI authorization solution by integrating it with all the SEs and CEs
 - Providing solutions for the EGI operation requests:
 - NAGIOS probes for every EMI service
 - Consistent version publishing
 - standard startup scripts and file locations
- Important technical agreements
 - EMI Execution Service interface specification
 - Compute Accounting record (CAR)
 - EMI SAML profile

Matterhorn highlights

- Implementation of the agreed EMI interface for job management: EMI-ES support in CEs and compute clients
- MJRA1.3 - Successful implementation of the common job submission and management methods
- EMI Execution Service interface specification agreed
- Product previews will be released in EMI2 for all three CEs (ARC CE, CREAM, UNICORE/X)
- Client side previews will be released for ARC and CREAM



- Industry standard protocols for accessing SEs
 - MJRA1.7 - First implementations of POSIX compliance and HTTP support
 - DPM and dCache ready for NFS4.1
 - HTTPS offered by DPM, StoRM, dCache
 - WebDAV for DPM and dCache



- Designed and implemented a prototype for the common EMI security library: CANL
 - A standard solution of a common set of authentication (AuthN) libraries has been provided
 - Java, C and C++ implementations will be released in EMI2
 - Now it's time for adoption! → Y3



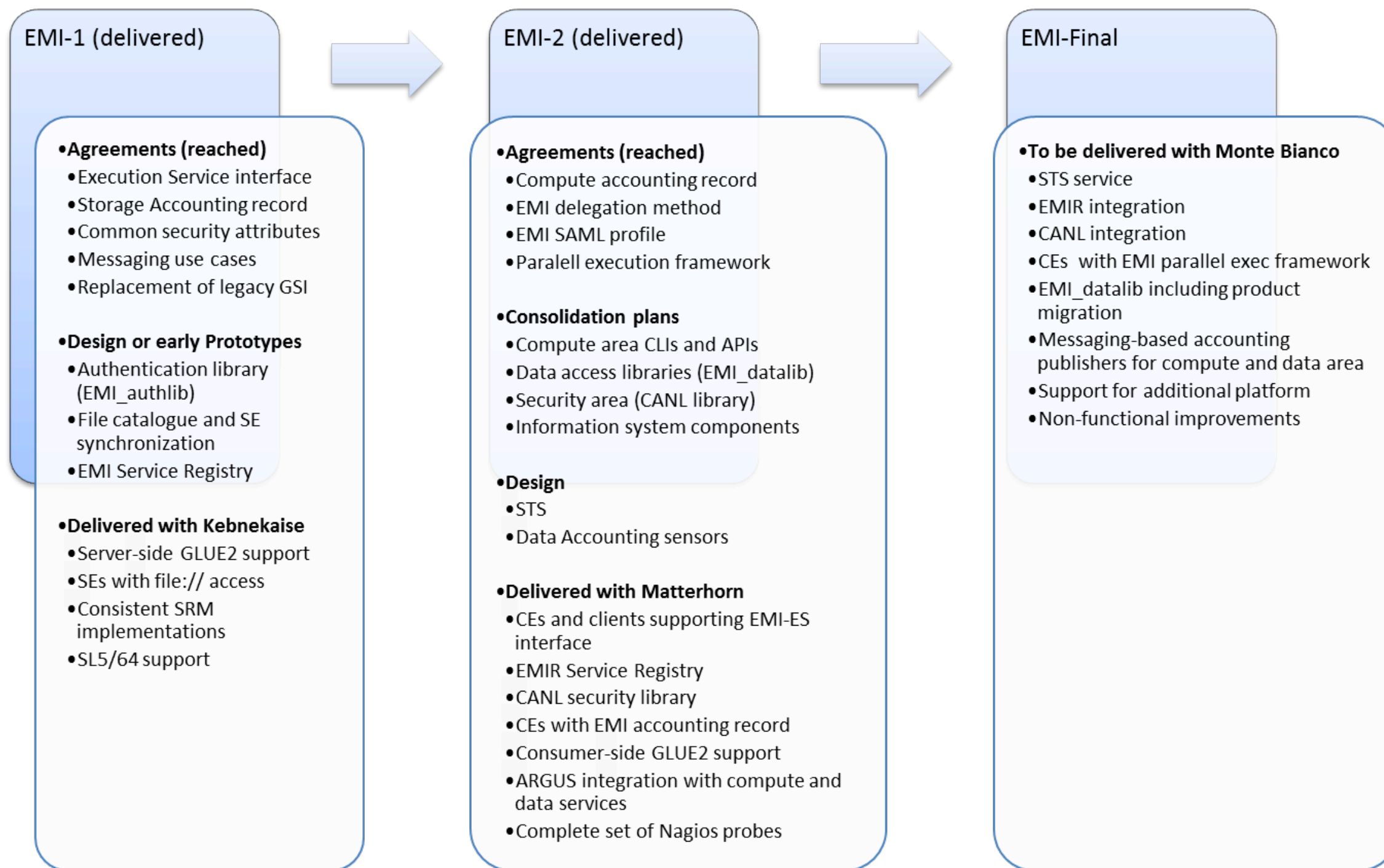
What we didn't do

- Delays
 - E.g., MJRA1.11 Easier end-user access capability to EMI components in place (due PM22)
 - STS was one of the top priorities to be released in EMI2
 - Will not be available (as product preview) until EMI2 update
 - Milestone will be delayed to PM32
 - Design and implementation of EMI_datalib (D5 due PM22) is postponed to PM26
 - Design was delayed
- Overloaded management
 - Deliverables and milestones are delayed because of overloaded area leaders
 - People are idling waiting for management decisions
 - We need your help!
 - Whenever you're finished with a task, take decisions or have questions, please update the dev tracker
 - If you're waiting for an answer, try to work on something else
 - Documentation
 - Standardisation tests
 - ...
- Communication
 - Cross-area work lacks cross-area communication
 - Some EMI agreements are half implemented before they're properly communicated – may cause wasted efforts
 - When taking decisions on cross-area work, please communicate it to emi-jra1 list and dev tracker

Open Issues - Delays

Title	Due date	Status
MJRA1.17: Test suites of compliance checks in place	PM16	Moved to PM30
MJRA1.3: Successful implementation of EMI ES	PM20	Partially achieved
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DJRA1.3.3: Security Area work plan and status reports	PM24	In review
DJRA1.4.3: Infrastructure Area work plan and status reports	PM24	In review

What we will do



- To be delivered with Monte Bianco
 - STS service
 - EMIR integration
 - CANL integration
 - CEs with EMI parallel exec. framework
 - EMI_datalib including product migration
 - Message-based accounting publishers for compute and data areas
 - Support for additional platform
 - Non-functional improvements
- Focus will be on completing ongoing development
 - all Y3 developments are already started in Year 2
 - lots of effort on hardening products and new features
 - special attention to migration scenarios, backward incompatibilities
 - migration over to common EMI libraries and services



- Parallel sessions Tuesday morning:
 - Compute: Status and plans, client consolidation
 - Data: UNICORE, StoRM, DPM, FTS3, GFAL2, cat synch, HTTP federation demo
 - Sec: CANL, STS, Argus EES, Moonshot
 - Infra: General overview with focus on EMIR
- Cross-area block Tuesday morning
 - Y3 cross-area objectives
 - Accounting publishers
 - EMIR integration
- Technical block on Wednesday
 - EMI ES - from specification to implementations
 - CANL - from implementation to adoption
 - EMI delegation - moving away from GSI
 - Nagios probes in EMI 2 and on the testbed
 - FTS3 and GFAL2 - highlights from CERN Data
 - Compute Client Consolidation
- Thursday morning summaries
 - Area summaries
 - STS - a promise for simplified credential management

- EMI Year 3 is the year of wrapping up
- Focus on ongoing improvements
- Hopefully many fruitful discussions at this AHM
- Don't hesitate to contact mailing lists/TF leader/PT leader/area leader/me/TD if you have questions/problems/delays



Thanks!

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Extra slides

- Objectives

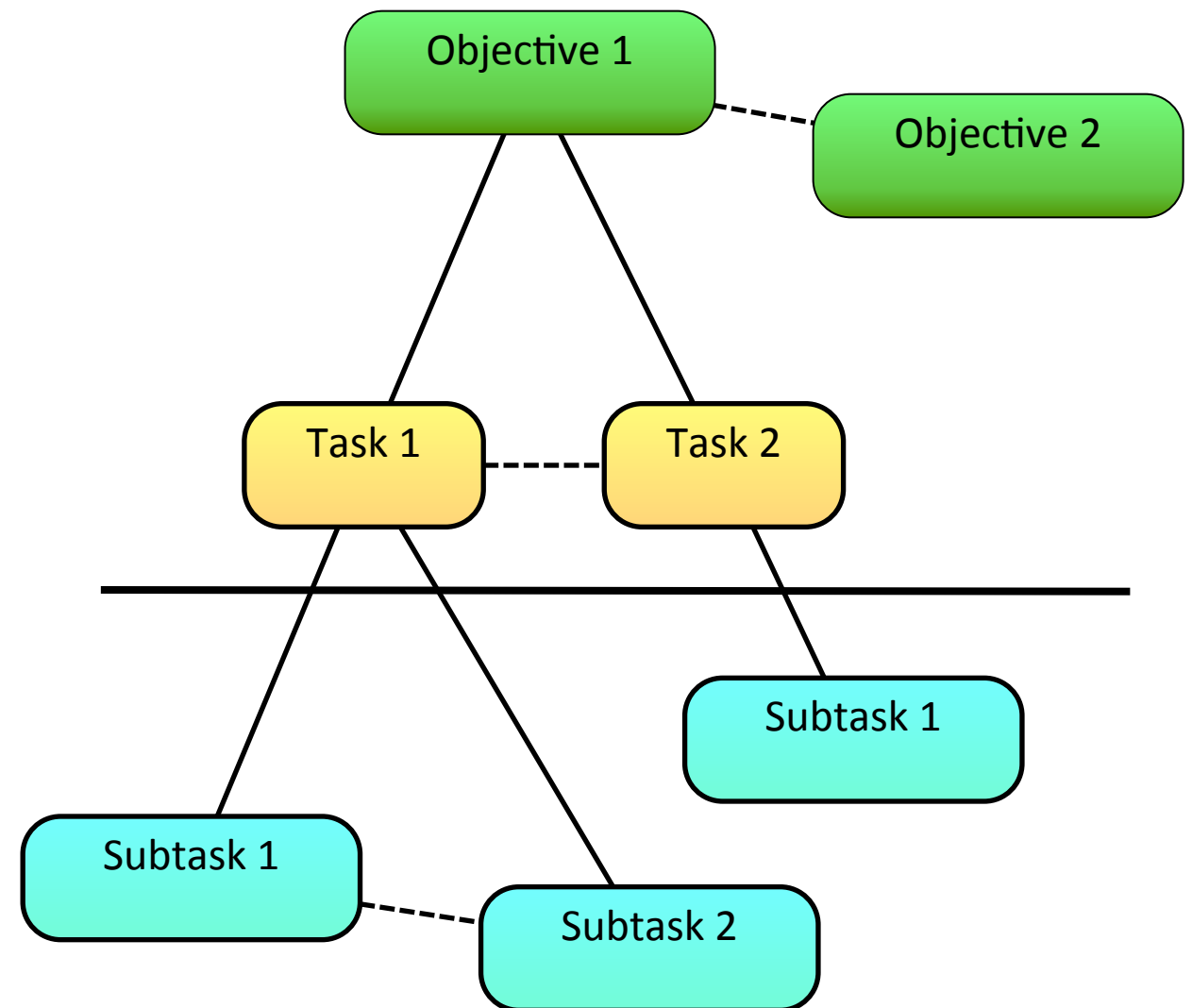
- Taken from DNA1.3.2
- New objectives will only be taken from DNA1.3.3

- Tasks

- Must belong to an objective
- An objective does not need to have tasks (e.g., design, agreement)
- An objective of type “development” needs to have one or more tasks
- Tasks are typically assigned to PT leaders or TF leaders – may (should) also be assigned to the actual developer

- Subtasks

- Must belong to a task
- Some tasks may naturally be split into subtasks
- Subtasks can be created by the task owner as he/she wishes



- Dependencies

- An objective may depend on one or more tasks
- An objective may depend on other objectives
- A task may depend on one or more subtasks
- A task may depend on other tasks
- A subtask may depend on other subtasks
- A task inherits the corresponding objective's dependencies to other objectives
- A dev tracker entry depends only on other dev tracker entries
 - But a comment about which release tracker entry tracks the change would be appreciated

