



eTICS2
The Grid Quality Process

NA2

Dissemination, Training and Certification

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Objectives



Objectives

- “**Disseminate** the knowledge produced by the project”
- “Maintain, improve and promote the **ETICS Automated Quality Certification Model (A-QCM)**”
- “**Train** engineers, scientists and service providers in the use of ETICS”
- “Evaluate **long-term sustainability strategies** and possible business models for the commercialisation of ETICS services”



Major Achievements



New brand identity an promotional material

Objective: "Dissemination"



ETICS 2
The Grid Quality Process

ETICS 2
eInfrastructure for Testing, Integration and Configuration of Software - phase 2

ETICS 2 (e-Infrastructure for Testing, Integration and Configuration of Software) provides software professionals with an out-of-the-box build and test product repository, and auto...

The quality of grid and distributed software has to be applications and to increase trust between software providers.

ETICS 2 aims at expanding and enhancing the ETICS infrastructure during the first phase of the ETICS project. The infrastructure which helps its users to configure, build, and test the development process of their software. ETICS 2 also includes the development process of their software. ETICS 2 also includes the development process of their software. ETICS 2 also includes the development process of their software.

Among the main users of the ETICS services there are:

- CLUSTERS
- ...

ETICS system helps software developers, managers and users to better manage the complexity and improve the quality of their software. It provides software professionals with an out-of-the-box build and test system enriched with an automated quality certification model (A-QCM).

ETICS 2
The Grid Quality Process

ETICS
The Quality Process

ETICS for and of S

Improve your software while reducing your costs

ETICS automates and improves ...

A-QCM: Implementation

A-QCM: Web interface report example

Project level results

Subscription level results

Component level results

The result can be expanded to match the multiple output values for the specific states

ETICS

ETICS automates and improves the execution of:

- Builds
- Tests
- Quality Verification

0:25 / 1:43



Scientific contributions

Objective: “Dissemination”

- ETICS Meta-data Software Editing - From Check Out To Commit Operations (Journal of Physics Conferences Series)
- ETICS: the International Software Engineering Service for the Grid (Journal of Physics Conferences Series)
- A Multi-node Mechanism to interoperability Issue in health care (Transactions of the SDPS: Integrated Design & Process Science Transdisciplinary International Journal)
- The Impact of Grid on Health Care Digital Repositories (Proceedings of the 42nd International Conference on System Sciences)
- Integrated Service and Desktop Grids for Scientific Computing (DCABES)



ETICS events and in the news

Objective: “Dissemination”

- ETICS presented at 27 events to more than 400 people

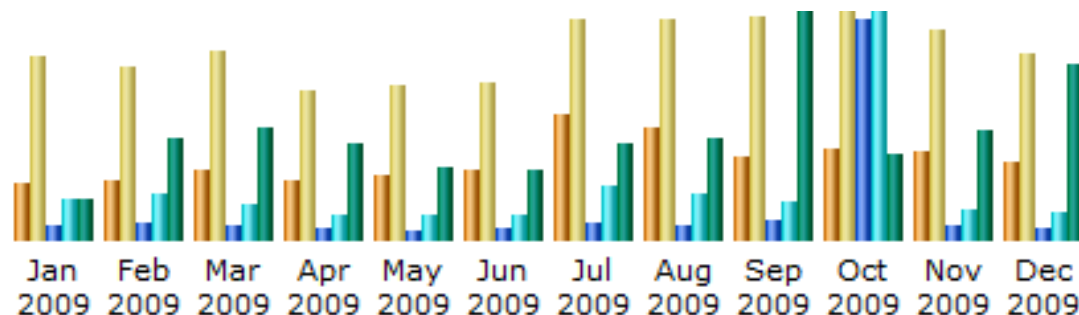
ETICS has reached

- more than 3000 subscribers iSGTW newsletter
- Primeur magazine readers (premier Grid Computing and Supercomputing information source in the world)
- 800 subscribers of the Belief e-Magazine
- Local national newspapers



We raised interest

Objective: “Dissemination”



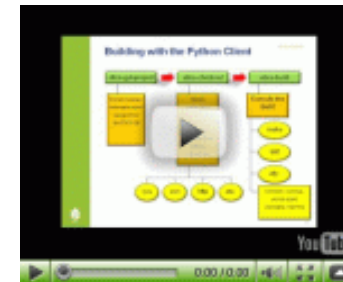
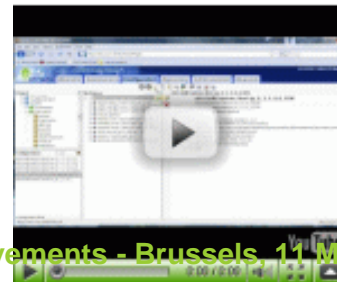
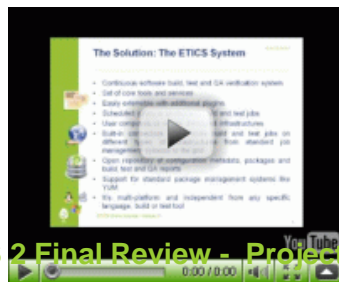
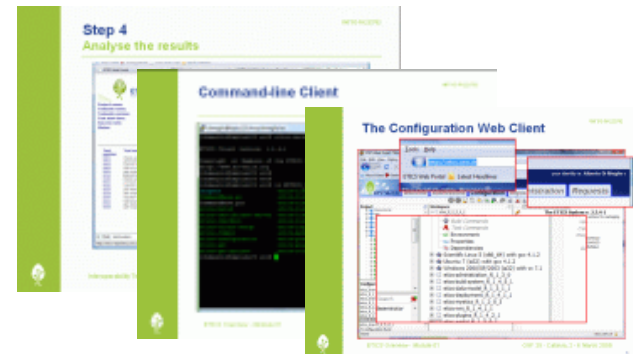
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Jan 2009	644	2107	7180	19902	460.66 MB
Feb 2009	689	2001	8131	21991	1.09 GB
Mar 2009	793	2187	7210	16624	1.21 GB
Apr 2009	700	1731	5353	11914	1.05 GB
May 2009	756	1786	4837	12035	806.49 MB
Jun 2009	807	1820	5275	12307	757.87 MB
Jul 2009	1449	2552	8284	25460	1.02 GB
Aug 2009	1300	2541	7179	22120	1.09 GB
Sep 2009	958	2581	9631	18724	2.55 GB
Oct 2009	1043	2742	105721	113992	952.57 MB
Nov 2009	1010	2421	6750	14633	1.18 GB
Dec 2009	884	2144	6156	12794	1.88 GB
Total	11033	26613	181707	302496	13.98 GB



Trained new users 1/2

Objective: “Training”

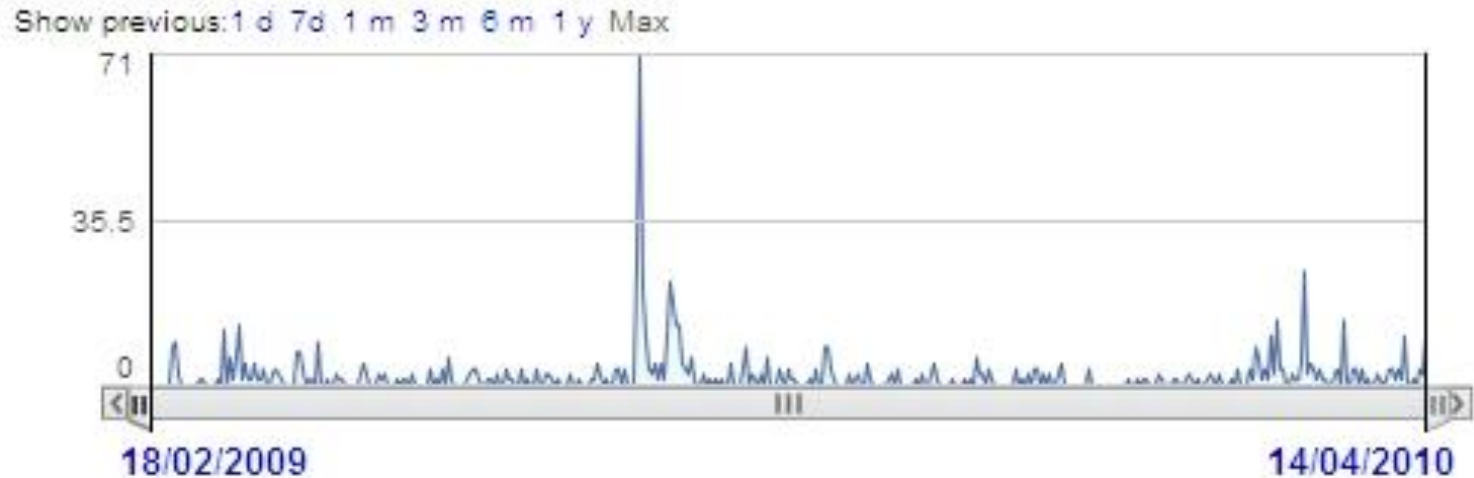
- Participated to public training events and organised specific training events (BalticGrid, GridKA and NorduGrid)
- Prepared clear and well organised training material
 - Slides
 - Training program
 - Exercises
- 14 On-line tutorials for self learning



Trained new users 2/2

Objective: “Training”

- ETICS team trained more than 90 people in two- and three-day courses
- Self-training online tutorials were viewed by more than 800 people



A-QCM

Objective: “A-QCM”

A-QCM is a model for software product verification and certification

During the ETICS project the theoretical model has been refined

- Through expert feedback
- Feedback from trial certifications

It has been

- Verified by the Danish ISO representative to the ISO working group on evaluation and metrics (software and system committee)
- Presented at the ISO WG6 committee meeting on 19th October with positive feedback



A-QCM from theory to practice

Objective: “A-QCM”

- The A-QCM model has been integrated in ETICS
- Trial certifications have been done with partners projects
- Memorandums of Understanding have been signed to formalize the collaboration
- A-QCM is now being used as part of the standard procedures



A-QCM: Trial Certification Results

Objective: “A-QCM”

- The data collected during the trial certifications are being examined by the ISO expert to further revise and extend the model
- The results of the trial certifications show that the model correctly describes the status of the analysed projects
- As further data is collected especially on new projects, the model will be further tuned across the various phases of the standard Rayleigh model, which will allow an increasingly accurate determination of the software quality levels



ETICS Unique Selling Point

Objective: “Long-term sustainability”

For the first time ETICS provides an integrated Software Build, Test and Quality Assurance platform for large distributed projects that can be provided as a managed service from third-party providers

This model fully complies with the increasingly important paradigm of Platform as a Service (PaaS)

The integration in ETICS of Cloud technology has further strengthened the capabilities of the system in this area



ETICS Unique Selling Point (USP) 2/2

Objective: “Long-term sustainability”

**ETICS PaaS
features**



- All in one solution
- Multi-language
- Multi-platform
- Distributed environment
- Test and quality data
- Web-based interfaces
- Extensible with third-party tools and resources



Planning for Sustainability

Objective: “Long-term sustainability”

The different sustainability requirements in the research and commercial environments have been analysed

Research: Open source, integration with mainstream OS repositories, integration with existing packaging and deployment guidelines, distributed development and testing

Commercial: Security and confidentiality, use of third-party resources, accounting, adaptation to existing in-house or customer processes, monitoring, dashboards, quality measurements



Sustainability in the Research Domain

Objective: “Long-term sustainability”

By fulfilling the requirements:

- ETICS is fully open source and a public community has been created in SourceForge
- Integration with OS repositories has been added
- Standard packaging based on Fedora and Ubuntu guidelines
- Automated package deployment verification
- Multi-node design and execution functionalities over distributed networks

The opportunity for sustainability has been created:

- ETICS has been adopted by several FP7 and non-FP7 projects beyond the life most notably EMI and EGI, D4Science 2, EDGI, DEGISCO, EasyRider, VENUS-C



Sustainability in the Commercial Domain

Objective: “Long-term sustainability”

By fulfilling the requirements:

- Added security by removing anonymous access
- Use of Cloud resources (integration with Amazon)
- Logging and accounting of operations
- Dashboards
- A-QCM Reports
- Integration with third-party test tools (e.g. Selenium)

The opportunity for sustainability has been created:

- The three commercial partners have entered into commercial collaborations with their customers
- One contract signed with BHE, bids with EUMETSAT, PTRS (Touristic Information Portal)



Lessons learned and conclusions



Lessons Learned

- Quality Assurance:
 - Perceived as an additional cost
 - Stress the automation aspects of the process
- Education and Training
 - QA is not always properly taught in standard engineering courses
 - Too much at theoretical level, need to teach the impact in real-world situations (costs and benefits)
- Expectations
 - R&D: software is typically considered as a disposable commodity with little or no maintenance needs
 - Commercial: development and maintenance costs need to be amortized over longer period of times



Conclusions

- NA2 has attracted users through several dissemination channels
- Increased the use of ETICS by focused training using modern technologies
- Identified and exploited the unique selling points of ETICS as a system and as a service
- Defined and implemented an efficient, standard-based QA validation system
- Created the opportunities for sustainability in both research and commercial environments



Thanks!



eTICS2
The Grid Quality Process

<http://www.eticsproject.eu>

