

**SEVENTH FRAMEWORK PROGRAMME**  
**Challenge 1**  
**Information and Communication Technologies**



**Trusted Architecture for Securely Shared Services**

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# 1 Executive Summary

This deliverable reports on internal training activity for the TAS<sup>3</sup> project during the 12-month period from January-December 2009. The document is intended for reviewers and project team members and follows on from the D11.7 report delivered at PM12.

The main aim of this phase of activity has been to provide harmonised training to the consortium partners which reflects the current state of the project; key objectives have continued to be: ensuring that internal partners develop and explore a common understanding and application of the concepts and methods used, sharing of knowledge and results arising from the work, and training of technical staff in concepts and technologies to be used for building software components to be used in the demonstrators.

Specific training activity in the first half of the year was limited by the need to concentrate partners' efforts on development of the draft project architecture and redrafting of key deliverables from Year 1. However increased activity and face-to-face meetings in the second half of the year, with a significant increase in both informal and formal training activities, have sought to address this. The systems to support training have now been stabilised with the establishment of new and improved tools, supported by a fresh, customisable online training environment.

The majority of planned training events, including a series of developer integration workshops, were successfully completed; some of these were delivered through more informal routes than originally anticipated. In addition the project conducted a range of short, ad hoc training type activities, including support for project administration tasks, training partners in the use of and protocols for the new project portal and related tools, setting up technical staff involved in production of technical components in use of systems for tracking and monitoring software development and use of the newly-established Pool system administered by WP12.

In addition communication regarding training requirements, activities and outcomes has been linked to regular project activities and communications (in particular the new TRAC project portal which also acts as a repository for key project documents). We have been able to streamline informal training and establish exchange of ideas using the RFC (Request For Comment) facility. For internal partners, this environment needs to be seen as acting in tandem with the more structured Moodle online training environment. We anticipate that this will be more heavily used in later stages of the project when training materials will be released first to pilot partners and then to the wider community.

Training in the second half of the project will need to focus on topics such as legal issues, trust and trust perception, users and usability and supporting delivery of pilots. Pilot training design will need to encompass further training needs analysis to meet the specific needs of particular pilot participants, as well as evaluation of end user perceptions. In anticipation of the final phase of the project, parallel materials on set up and integration of TAS<sup>3</sup> modules with live systems will be developed and tested, and further set up training will be derived to support implementation of the project business plan.

## 2 Introduction

The overall objective of training activities is for all parties involved to reach informed consent on all three levels of the project's success:

- Technical partner expertise
- Pilot partner insight and awareness
- End-user take-up

This activity will be considered successful if all partners have a unified view of the aims and objectives of TAS<sup>3</sup> and its expected outcomes, and that certain parties achieve a deeper understanding of the TAS<sup>3</sup> philosophy, architecture, modules, workflow and integration issues involved.

Training is part of the Dissemination, Exploitation and Training workpackage (WP11). The Description of Work gives the specific objectives for this activity as:

- To organise training sessions for technical partners at the beginning of the project and then iteratively as the need arises and is identified, to accommodate feedback from and support needed for each pilot phase
- Training materials will be re-used as the basis for training for external and associated partners and the wider TAS<sup>3</sup> community.

The key tasks are:

- T11.10 Develop training material and presentations in collaboration with subject matter experts from within the project team. Project staff will be encouraged to develop skills to develop their own training materials for reuse within the project LMS environment
- T11.11 Video recording of internal face-to-face training sessions
- T11.12 Use an LMS platform (i.e. online training environment) for storing and re-using learning objects and delivering training via multiple channels.
- T11.13 Organise face-to-face training sessions and workshops at key points in the project, including before pilot phases.

A key objective of training activity in this year has been to support the development of common understanding and application of the concepts, methods and technologies used in the project, and sharing of knowledge and results between parties from a variety of backgrounds.

We consider that 'training' is directed towards very specific audiences, which differentiates it from dissemination; however we appreciate that some dissemination activity carried out for the project crosses this boundary and can be seen as fulfilling both objectives.

### 3 Audience and topics

The audience for training to date (and the focus of this report) has been internal project team members, particularly technical staff. Training activity in the first half of the year was limited owing to the need to concentrate efforts on development of the draft project architecture following issues arising the first year; however increased activity and face-to-face meetings in the second half of the year have sought to address this, with a significant increase in both informal and formal training activities.

This has included informal training activity on a wide variety of topics between partners, more formal training in use of tools and methodologies (including BPMN, PERMIS and ZXID and use of the Risaris SOA Gateway), and both formal and informal training in core project concepts such as security and trust. Demonstrator partners with specific domain knowledge and expertise have been sharing relevant aspects to inform technical partners developing the project architecture and infrastructure. This has been particularly evident in the area of user centricity, and the project as a whole is now developing a position statement that will be maintained as an internal deliverable (H2.2, Report on User Centricity).

In the main, informal learning has been embedded into daily project activities and communications, and for practical and cultural reasons it is envisaged that a significant proportion of internal training activity will continue to be informal in the next two years. However, we recognise that the management of informal training requires overall coordination and reporting and that there is a need to capture the learning from these exchanges to avoid its being lost. This practice began in the first year of the project, largely via short-term exchanges including extensive discussions on email lists and sharing of background reading and documentation; we are now actively encouraging people to channel these through the Request For Comment (RFC) facility in the new TRAC project Portal, which will both facilitate recording and tracking of discussions, and enable eventual development of established discussions into artefacts that can be published in the online training environment and released to the wider community later in the project. We have given all partners access to basic training materials for use of both the Portal and the online training environment.

We continue to anticipate that the process of 'hardening' the TAS<sup>3</sup> requirements and architecture will result in more face-to-face training requirements which will need to be addressed responsively, but that this is most likely to manifest itself in external, rather than internal training. Formal internal training will most effectively consist of short targeted events to meet a specific need that can be evaluated. A clear need has been identified for project-wide training sessions and materials that address core TAS<sup>3</sup> principles and concepts, such as trust, privacy and security issues. We continue to maintain that all project partners need to develop a unified and deep understanding of the TAS<sup>3</sup> philosophy, architecture, modules, business processes and workflows and integration issues involved; and that, conversely, all partners have a responsibility, as experts in their own domains, to contribute or lead training activities.

## 4 Activities and events summary

As mentioned above, the main focus of training activity during this year has been aimed at technical partners, and has been largely informal to reflect the current project phase. We have used a number of tools and systems to support and manage this. Where the majority of training has been informal, the primary role of WP11 has been in leadership, coordination, monitoring/reporting and communication. Other workpackage leaders and individual partners, in particular WP12 (Integration), remain responsible for identifying any specific competency gaps and requesting or suggesting training.

Under the revised management structure for the project following the Year 1 review, Activity leaders are expected to identify communication and integration problems within their clusters and arrange for mutual training. It is therefore vital that regular communication regarding training requirements, activities and outcomes be linked to regular TAS<sup>3</sup> project activities and communications (e.g. the project portal). Informal training and exchange of ideas is now being carried out using the RFC (Request for Comment) facility within the project Portal, supplementing its function as a repository for key project documents. For most partners, the Portal therefore needs to be seen as acting in tandem with the more structured Moodle training environment, which we anticipate will become more heavily used in later stages of the project when materials will be released to the wider community.

### 4.1 Events

The majority of the planned training events outlined in D11.7, delivered at PM12, were successfully completed although some were delivered through more informal routes than originally anticipated. A range of ad hoc informal training activities were also completed, largely in the form of short sessions delivered in the context of other project meetings, including General Assemblies. This has included activities to support project administration, training of partners in the use of the new project portal and related tools, and setting up and training technical partners in use of systems and protocols for tracking software development and use of the component Pool.

Activities are summarised in the Table below:

Activity and brief description	Target Audience	Provided by	Date	Outcomes
BPM modelling and security workshop	WP 3, 8, 9	INT/ KARL	Feb and July 2009	Pilot partners can model security and business processes
TAS <sup>3</sup> online training environment	ALL	SYN	Mid April (sessions with online help)	Submission and review of initial training resources
TAS <sup>3</sup>	ALL	SYN/	Mid April	Submission of correct

Administration : Form C preparation		KUL	(online via portal and email)	forms
ZXID/XACML workshop	WP3, 4, 8, 9	SYM	August 2009	Developers will be able to use this technology to support SSO and associated web services in components and development of demonstrators
Introduction to Certification authorities and related security	WP3, 4, 8, 9	KUL	August 2009	Understanding basic principles for use of certificates and the notion of certification authorities
PERMIS PDP workshop	WP3, 4, 8, 9	KENT	August 2009	Knowing how to install with Apache, administer (set up policies) and integrate PERMIS with XACML, Shibboleth/SAML2 . Be able to use this technology to support policy handling for demonstrators
Legal – privacy of users in EU	ALL	ORACLE	Initial online content	All partners understand main principles and concepts of use of PII
Architecture Overview	ALL	SYM	Part of developer workshop series	High level of confidence that all partners understand the core principles and concepts of the TAS <sup>3</sup> architecture
Introduction to use of the TRAC portal system	ALL	KUL	Sept/Oct 2009	Unified approach to project communication protocols
Use of the Pool	All developers	KUL	Sept/Oct 2009	Consistent and compliant approach to uploading and testing software components
Common	Unizar	University	Oct 2009	To avoid the problem of

Method Variance	researchers	of Oviedo		Common Method Variance in surveys analysis for TAS <sup>3</sup> users
Technical developer workshop series [see reports in Appendix 4]	All developers	KUL/SYM	Aug/Sept/Oct/Nov 2009	Consistent understanding of application of tools to components and how components inter-relate and fit to architecture; peer training by developers in use of and integration with components they are developing

A joint training course for developers in use of PERMIS and ZXID was held in Lisbon in August 2009. Ten development staff attended. This has been followed up by a series of three technical workshops to the end of 2009, with the joint purpose of getting development staff in the same room to work on practical integration issues, and to deliver and receive further immediate on-the-spot training needed to overcome problems that arose. These created the opportunity for both hands-on tutorials and informal peer-to-peer training (see reports in Appendix 4).

The first workshop was conducted more formally and used an online evaluation tool using SurveyMonkey; following successful use of this, and in the interest of streamlining the toolset used, further evaluation of formal face-to-face events will be done using the LimeSurvey tool being used to track training activities. Evaluation has been encouraged, particularly for more formal events, but not mandatory as the results often identify further training or resource needs. The current evaluation form and a summary of results can be seen in Appendix 1.

In addition to project-wide activities, a number of partners have used the reporting structure to inform WP11 about one-off training events which have provided relevant development opportunities for specific staff engaged in work on the project. For example, new project staff from the University of Nottingham attended a formal Intalio training course to learn to use BPMN modelling techniques and software for project work; a member of the Nottingham project team attended the PrimeLife project's Summer School in Nice in September to extend and enhance understanding of issues in security; a member of Kenteq staff attended a training event on security held at KU Leuven co-organised by another member of project staff. In addition, several partners have reported provision of English language training activities for non-native speaking staff engaged with the project. By tracking these we are able to both gauge the need for and usefulness of such activities, and suggest and recommend their usefulness to other partners expressing similar needs.

The online reporting tool is available to partners to report all training-related activity as and when it happens; however WP11 staff are also conducting regular 6-monthly 'contact and chase' activities to track any activity not reported via this

route. In order to encourage partners to participate in training activities we now plan to include a regular informal summary table in the project portal so that they can both see what others are doing and use this to suggest further needs and opportunities for their own staff.

We are continuing to poll partners on their internal training needs: we anticipate that demand for future formal events will focus primarily on topics such as legal issues, trust and trust perception, users and usability and pilot training. Pilot training will need to address the needs of both pilot partners and end users; we expect that this will require further configuration of the training tools to support training design, prototyping, delivery and evaluation. Materials and categories will develop iteratively as the requirements generated by the pilots become more sophisticated with each phase, and it will be important that these are available in both Dutch and English. Parallel materials will also need to be developed on setup and integration of TAS<sup>3</sup> modules with live systems, and further training will be derived to support implementation of the project business plan. Further developer integration workshops will generate informal training needs as well as supporting creation of resources.

## 4.2 Online tools to support training activity

### 4.2.1 Project online training environment

As a result of changes in the administration of the Xerceo platform used in the first year of the project, we made the decision to migrate the structured online training environment to an open source system and tools to facilitate greater freedom, flexibility and customisation. We have opted to use Moodle<sup>1</sup>, which is widely used in the education sector and familiar to a number of partners and pilot audiences. There is a substantial Moodle user community in both the UK and Europe and we are easily able to access an established body of knowledge about use and customisation of the system. As a result we now have more centralised control, aiding more timely configuration of the training environment which will be necessary to support pilot training activity (and which in turn will need to be delivered in both English and Dutch). To facilitate access, we are investigating linking the system to the user's IDP to support SSO, which will be valuable when we open the system to external partners later in the project; a further potential advantage is that Moodle is able to articulate easily with the Mahara<sup>2</sup> ePortfolio platform which will be used as part of the UK employability pilot in years 3 and 4.

Following an overhaul of project-wide storage and server provision by WP12 which included the implementation of the new TRAC portal, and after a brief experimental period using a local server at the University of Nottingham (which led to issues with local procedures over access and administration rights for non-staff members and therefore had to be migrated) we have now set up a Moodle system hosted on a dedicated VMWare machine within the central TAS<sup>3</sup> cluster and accessible via <http://tas3.training.eu>.

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<sup>1</sup> <http://moodle.org/>

<sup>2</sup> <http://mahara.org/>

We aim for learning objects developed for the environment to be SCORM<sup>3</sup> compliant whenever possible to facilitate future reuse and interoperability. A University of Nottingham developed open source tool, developed to enable simple authoring of SCORM objects, has been made available to project partners to explore in order to support this.

The process of setting up the new environment is documented in Appendix 3. We are configuring this iteratively, beginning with the outline taxonomy and curriculum developed in the first year of the project, and are gathering materials to populate the environment as well as encouraging specialist partners to develop and add materials. A preliminary ‘soft launch’ to allow a discrete set of users, (individuals identified as responsible for co-ordinating training activity within their particular beneficiary) to experiment and develop familiarity with the environment and to build up an initial body of content has been followed by a launch to the project as a whole at the end of the year. We have taken a devolved approach to management for this: while WP11 maintains overall control of the system, the responsible parties within each partner have been granted administration rights to create and manage user accounts for members of their organisation. The structure and tools we have put in place now support the approach described above in a manner that suits the internal user group.



Figure 1: TAS<sup>3</sup> Moodle environment

<sup>3</sup> [http://en.wikipedia.org/wiki/Sharable\\_Content\\_Object\\_Reference\\_Model](http://en.wikipedia.org/wiki/Sharable_Content_Object_Reference_Model)

Starting from the topic taxonomy and curriculum developed in the first year of the project, a variety of materials are now being collected and categorised so that partners can access them freely and according to need using the online training environment, and augment them as they see appropriate. We have also started to produce a set of draft low-fidelity eLearning materials (using a rapid authoring capability that produces modules which can be easily incorporated in the online training environment) on the TAS<sup>3</sup> modules and integration, which will initially serve the project partners themselves, but at a later stage can be converted for end-user training and to form the basis for development into more general public-facing learning materials/courses. To achieve this aim we have begun experimenting with use of the open source Xerte Online Toolkit developed at the University of Nottingham<sup>4</sup> with funding from JISC (the UK Joint Information Systems Committee) to support creation of SCORM-compliant learning objects by non eLearning specialists.

#### 4.2.2 Tracking and reporting tools

We felt that it was helpful to partners to offer an accessible online facility for tracking and reporting on training as a separate facility from the training environment. For monitoring training activity in year 1 of the project we made initial use of the free facility in the PollDaddy<sup>5</sup> survey tool; by year 2 we had concluded that this offered useful results but limitations on flexibility (e.g. only 10 questions allowed) made it inadequate for meeting project needs and matching the remainder of the current toolset. We explored the integration of results into the previous ActiveCollab system used for the project Portal and achieved limited success; however in the interests of finding a more flexible tool that was easier to control, and with the principle of continuing to pursue use of Open Source tools and software where possible, after consideration of a number of alternatives we developed and published a set of survey questions to monitor training activity using the Open Source LimeSurvey<sup>6</sup> tool. This can be integrated with the TRAC portal and offers a variety of reporting options. We hope that this provides a quick and easy method for all TAS<sup>3</sup> members to record training activity, particularly informal training.

#### 4.2.3 Evaluation tools

In the summer of 2009 we offset up a free facility in SurveyMonkey<sup>7</sup> to test the use of online evaluation for project events. In the interests of consistency and of limiting the number of tools we ask partners to interact with, surveys within the same facility will now be used for all future online evaluation of more formal training events, and for recording dissemination activity for the project. All surveys are accessible via the main project Portal site.

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<sup>4</sup> <http://www.nottingham.ac.uk/xerte/toolkits.htm>

<sup>5</sup> <http://www.poll daddy.com/>

<sup>6</sup> <http://www.limesurvey.org/>

<sup>7</sup> <http://www.surveymonkey.com/>

## 4.3 Next steps

In the next 12 months of the project, training will focus primarily on further support for the development, delivery and extension of the initial integrated demonstrator, and on educating pilot partners in the concepts, technical and legal expertise and use of software components for the first set of pilots planned to begin in the middle of the year. We expect to need to deliver training events with greater frequency as project components become available. The emphasis to date has been on equipping technical development staff with skills to work on building and integrating components within the proposed architecture. While we expect this to continue, as the vision and understanding of the project's architecture and technologies mature further in the second half of the project it will become possible to conduct more specific training, broadening the audience first to external partners involved in pilot activities and then to the wider community, when it will need to incorporate training in the business plan and the self-assessment steps service providers will need to follow in order to participate in a TAS<sup>3</sup> network. However the approach to training will continue to be that it should be led by those specialist partners who have a sufficient joint vision to author, collaborate and conduct it, and that this activity will be supported, co-ordinated and reported on by WP11, who will also be responsible for evaluation and analysis of results. As the bank of learning objects and training materials in the online training environment develops, we will share it more widely, first with associate partners, and eventually by the end of the project to a more general audience via a public interface.

We will continue to pursue a blended approach, including iterative development of at least one (reusable) workshop aiming to:

- Introduce the TAS<sup>3</sup> vision, services and components
- Give an understanding of the legal background and framework
- Offer practical training in setting up and use of the TAS<sup>3</sup> environment

This will be underpinned by training evaluation that will feed into D9.2 criteria for pilot assessment.

By the end of the project training materials will be oriented towards supporting those outside the project in the final set-up, usage, installation and configuration of TAS<sup>3</sup> networks in different domains, including the pre-registration and registration processes and the underlying business model. Training in the final year of the project will be primarily aimed at other groups of individuals or communities that express interest in becoming acquainted with or using the TAS<sup>3</sup> infrastructure. This training will continue to be delivered through courses, workshops and web-based material. These are expected to cover

- Introductions to standards
- Practical introduction to use of TAS<sup>3</sup> components
- Workshops to explore deeper benefits from TAS<sup>3</sup>, tailored to a particular community's interests

We will measure the efficiency and outcome of training based on a defined evaluation strategy, using surveys and progress testing. Key performance factor dimensions will be:

- Adherence to TAS<sup>3</sup> philosophy

- Adherence to business rules
- References and resources
- Tools and test regimes
- Performance factor monitoring

We see key next steps as:

- Training of all partners so they interact self-sufficiently with the online training environment
- Increased engagement and activity of informal training underpinned by enhanced communications and reporting
- Further analysis of the training curriculum for technical partners which should result in a detailed topic list with associated responsibilities and will enable more detailed training plans with appropriate evaluation to be defined. In addition activity will continue on defining both informal and formal training activities and resources and adoption and usage of the online training environment.

## 5 Appendices

### Appendix 1: Event evaluation form

Prior to the setup of the LimeSurvey system, which is also being used to track training and dissemination activity, we explored the use of a free account on SurveyMonkey for online collection of evaluation data for events. The survey can be viewed here:

[http://www.surveymonkey.com/s.aspx?sm=vz55\\_2f6kaA5s4f\\_2bRDPO9lMQ\\_3d\\_3d](http://www.surveymonkey.com/s.aspx?sm=vz55_2f6kaA5s4f_2bRDPO9lMQ_3d_3d)

Use of this for evaluation of the ZXID/PERMIS workshops identified that this approach to evaluation worked well and generated timely responses. We were able to identify areas for improvement as well as suggestions for new training or information needs.

### Appendix 2: LimeSurvey questionnaire and results

The survey now in use for tracking and monitoring training activities by partners can be viewed online at <http://survey.eife-l.org/limesurvey/index.php?sid=24615&lang=en>

The screenshot shows a web browser window displaying a LimeSurvey reporting form. The header features the TAS<sup>3</sup> logo and the text 'Trusted Architecture for Securely Shared Services'. Below this, the title is 'TAS3 WP11 Training Activities reporting'. The main content area is titled 'Reporting form for TAS3 WP11 training activities' and includes a progress bar showing 0%. The form is divided into sections, with the first section being 'Contact Info'. It contains four input fields, each with a red asterisk indicating a required field: 'Your full name', 'Your email address', 'Partner name', and 'Which TAS3 WP(s) will be supported as a result of this training?'. Each field has a help icon and an example: 'e.g. John Doe', 'e.g. john.doe@mycompany.com', 'Name of the TAS3 beneficiary you work for', and 'Tell us which WP you needed this training to support work in.' At the bottom of the form, there are four buttons: '<< Previous', 'Next >>', 'Exit and Clear Survey', and 'Resume Later'.

**Figure 2: LimeSurvey reporting form**

Partners are being encouraged to use this for tracking all activity related to training, whether for specific individuals or for groups, delivered both externally and internally. The survey also has a section for suggestions for further activity.

## Appendix 3: Online training environment

The project online training environment is running on a dedicated VMWare machine with 1GB memory and 80GB HDD in the central TAS<sup>3</sup> cluster and integrated into the project server infrastructure organised by WP12. It is available via the URL <http://training.tas3.eu>.

The server is running Moodle v1.8.2 (<http://moodle.org/>), an open source LMS available under the GNU public licence, and widely used in the education community. When users log in they see a welcome page that invites them to install the TAS<sup>3</sup> Root Certificate and then go on to the protected HTTPS site.

We executed "'apt-get install moodle'" and selected PostgreSQL as the database. The only manually edited part of the system was the Apache config:

```

{{{
/var/log/apache2/error.log
  LogLevel warn
  CustomLog /var/log/apache2/access.log combined
  RewriteEngine On
  RewriteRule !^(tas3-logo-large.jpg)?$ https://training.tas3.eu/moodle/
[R] </VirtualHost>

<VirtualHost *:443>
  ServerName training.tas3.eu
  ServerAdmin jeroen.hoppenbrouwers@esat.kuleuven.be
  DocumentRoot /var/www
  ErrorLog /var/log/apache2/error.log
  LogLevel warn
  CustomLog /var/log/apache2/access.log combined
  RewriteEngine On
  RewriteRule !^/moodle/.*$ https://training.tas3.eu/moodle/ [R]

  SSLEngine on
  SSLCertificateFile /etc/apache2/ssl/training.tas3.eu.cert
  SSLCertificateKeyFile /etc/apache2/ssl/training.tas3.eu.key
</VirtualHost>
}}}
```

The topic structure outlined in D11.7 has been refined further in the light of actual needs and user feedback. It will be expanded as training is extended to offer to wider audiences. Eventually, live presentations and demonstrations will provide user communities with necessary information about TAS•.

Initial topic areas for internal training have been set as the following course categories:

- The training environment
  - Using Moodle
- Project General
  - Introductory materials
  - Administration
  - Project Business Model
- User centricity

- Legal
- Trust and Trust Perception
- Policies and Policy Management
- Development and Technical
  - Project Architecture
  - Security
  - Business Processes and Workflow
  - Requirements Gathering
- Demonstrator Domains
  - Employability
  - eHealth
- For External Partners

For external audiences, we expect to extend this further to include:

- Architecture
- Business Model
- System administration/management
- Use
- Co-ordination
- Live demonstrations

## Appendix 4: Reports on developer workshop series

The following reports are derived from the internal WP12 workshop report for the project Technical Board meeting in November 2009, circulated internally as TAS3-WP12-TB-report-2009-11-19.doc.

### Lisbon Workshop, August 2009

The general target was to become familiar with several base technologies required to build TAS<sup>3</sup>-enabled trust networks. The group split up into an "advanced" group to dive into compiling, configuring, and running the XZID library/framework, and a "refresher course" group to go over the basic principles of private/public key encryption, signatures and infrastructures, webs and hierarchies of trust, OpenSSL and OpenSSH, the TAS<sup>3</sup> Certificate Authority, and many associated topics that came up during the discussion.

The group was guided through the process of interfacing with ZXID as an identity provider. This involved getting private (host) keys signed by the TAS<sup>3</sup> CA, setting up the call interfaces and configurations, and doing at least one successful authentication/single sign-on.

The PERMIS day involved comprehensive but fast-paced lectures pace about the principles behind various authorization systems, such as discretionary versus mandatory, RBAC, and policy-based. The PERMIS policy system was presented and typical 'can' and 'cannot' aspects of policies discussed. Subsequently controlled experiments were held to compare the three 'faces' of the PERMIS policy editors which KENT has produced.

A session about SAWS, the Kent secure audit log for web services, rounded off the workshop.

## Budapest Workshop, September 2009

The group was introduced to the available support systems such as the Portal, the Wiki and the Pool, and the administrative protocols set up for using these. There was also a summary of promises made to the Commission, mainly about the WP12 objectives, non-objectives, way-of-working, integration vision, integration process (The Pool), release process (deliverables), developer resources, and component development roadmaps.

In a joint effort, the TAS<sup>3</sup> component list was restructured and brought up to date as far as possible. The group was able to work out a few new architectural challenges such as Delegation and documented these for further precisioning in the next deliverable series. Demonstrator partners were also able to feed in insights into their own expectations for the system.

## Karlsruhe Workshop, October 2009

As an extension of the Lisbon workshop, work proceeded on further integration of the ZXID components. Karlsruhe were now able to project the SSO modules on to the Apache ODE BPEL execution environment and achieved success in getting them to work. The nature of the application-independent PEP was clarified via a teleconference session with Kent. Further work was done to support the use case for the Nottingham integrated demonstrator.

A separate session tried to model the business process of 'escalating the end user's rights to access his audit logs', which surfaced a potential problem needing further work.

## Nottingham Workshop, November 2009

This aimed mostly at clarifying questions around the employability integrated demonstrator planned by Nottingham. The initial purpose was planned as:

- Further specification of security in the Nottingham application set
- Picking up existing procedural descriptions (in the Wiki) as training
- material (in Moodle)
- Preparing some components for upload to the Pool
- Training) in TAS<sup>3</sup> development and integration procedures.

However the technical challenges which emerged meant that much of the procedure and Pool uploading was postponed. All participants worked together to create a UML sequence diagram of the Nottingham demonstrator, tightly linked to the available identified components. Example policies were drafted and filed to the Wiki for retrieval. Further progress was made on understanding and implementation of IDP integration.

## Appendix 5: List of partner contacts with responsibility for training

(These people have also been granted administration rights in the online training environment)

<b>Partner</b>	<b>Person</b>
Kenteq	Dries Pruis
University of Nottingham	Sandra Winfield
KUL	Seda Guerses
SAP	Michele Bezzi
University of Kent	Stijn Lievens
Custodix	Louis Schilders
Synergetics	Luk Vervenne
University of Zaragoza	Carlos Flavian
University of Karlsruhe	Jutta Mülle
VUB Starlab	Quentin Reul
EIFEL	Marc van Coillie
CNR	Antonia Bertolino
Oracle	Joe Alhadeff
Risaris	John Power
TU/e	Jerry den Hartog
University of Koblenz-Landau	Marc Santos
Symlabs	Sampo Kellömaki

## 6 Amendment History

Ver	Date	Author	Description/Comments
0.1	24.08.2009	SEW	First outline draft
0.2	Oct 2009	SEW	More complete draft
0.3	Oct 2009	SEW/DC	Incorporating materials from DC, new template applied
0.4	22.10.2009	SEW/DC	Further comments from DC, additional material on Moodle added
0.5	23.10.2009	SEW	Further rearrangement and refinement. Screen shots added
0.6	28.10.2009	SEW	Minor changes following informal feedback from Marc van C. Version released for internal review.
0.7	17.11.2009	SEW	Accommodating review comments from Dries
0.8	11.12.2009	SEW	Accommodating review comments from Marc van C; textual tidying and revision to improve readability