



D 2.6.2 Report on Research Exchange and Collaboration

York Sure and Rudi Studer (UKARL)

Abstract.

EU-IST Network of Excellence (NoE) IST-2004-507482 KWEB
Deliverable D2.6.2 (WP2.6)

This deliverable presents T-REX, the program in Knowledge Web (KWeb) to support “Topic-oriented Research EXchange”, and gives an overview of the exchanges performed in 2004. The short-term goal of T-REX is to encourage, support and manage the exchange of researchers across KWeb members. The long-term goal of T-REX is to strengthen the European research area by establishing strong and lasting links across research organizations, e.g. visible by shared publications of KWeb members.

Document Identifier:	KWEB/2004/D2.6.2
Class Deliverable:	KWEB EU-IST-2004-507482
Version:	V1.3
Date:	January 31st, 2004
State:	Final
Distribution:	PMB

Knowledge Web Consortium

This document is part of a research project funded by the IST Programme of the Commission of the European Communities as project number IST-2004-507482.

University of Innsbruck (UIBK) – Coordinator

Institute of Computer Science,
Technikerstrasse 13
A-6020 Innsbruck
Austria
Fax: +43(0)5125079872
Phone: +43(0)5125076485/88
Contact person: Dieter Fensel
E-mail address: dieter.fensel@uibk.ac.at

École Polytechnique Fédérale de Lausanne (EPFL)

Computer Science Department. Swiss Federal
Institute of Technology
IN (Ecublens), CH-1015 Lausanne.
Switzerland
Fax: +41 21 6935225
Phone: +41 21 6932738
Contact person: Boi Faltings
E-mail address: boi.faltings@epfl.ch

France Telecom (FT)

4 Rue du Clos Courtel
35512 Cesson Sévigné
France. PO Box 91226
Fax: +33 2 99124098
Phone: +33 2 99124223
Contact person : Alain Leger
E-mail address: alain.leger@rd.francetelecom.com

Freie Universität Berlin (FU Berlin)

Takustrasse, 9
14195 Berlin
Germany
Fax: +49 30 83875220
Phone: +49 30 83875223
Contact person: Robert Tolksdorf
E-mail address: tolk@inf.fu-berlin.de

Free University of Bozen-Bolzano (FUB)

Piazza Domenicani 3
39100 Bolzano
Italy
Fax: +39 0471 315649
Phone: +39 0471 315642
Contact person: Enrico Franconi
E-mail address: franconi@inf.unibz.it

Institut National de Recherche en Informatique et en Automatique (INRIA)

ZIRST - 655 avenue de l'Europe - Montbonnot
Saint Martin
38334 Saint-Ismier
France
Fax: +33 4 7661 5207
Phone: +33 4 7661 5366
Contact person: Jérôme Euzenat
E-mail address: Jerome.Euzenat@inrialpes.fr

Centre for Research and Technology Hellas / Informatics and Telematics Institute (ITI-CERTH)

1st km Thermi – Panorama road
57001 Thermi-Thessaloniki
Greece. Po Box 361
Fax: +30-2310-464164
Phone: +30-2310-464160
Contact person: Michael G. Strintzis
E-mail address: strintzi@iti.gr

Learning Lab Lower Saxony (L3S)

Expo Plaza 1
30539 Hannover
Germany
Fax: +49-511-7629779
Phone: +49-511-76219711
Contact person: Wolfgang Nejdl
E-mail address: nejdl@learninglab.de

National University of Ireland Galway (NUIG)

National University of Ireland. Science and
Technology Building. University Road
Galway
Ireland
Fax: +353 91 526388
Phone: +353 87 6826940
Contact person: Christoph Bussler
E-mail address: chris.bussler@deri.ie

The Open University (OU)

Knowledge Media Institute. The Open University
Milton Keynes, MK7 6AA
United Kingdom.
Fax: +44 1908 653169
Phone: +44 1908 653506
Contact person: Enrico Motta
E-mail address: e.motta@open.ac.uk

Universidad Politécnica de Madrid (UPM)

Campus de Montegancedo sn
28660 Boadilla del Monte
Spain
Fax: +34-913524819
Phone: +34-913367439
Contact person: Asunción Gómez Pérez
E-mail address: asun@fi.upm.es

University of Liverpool (UniLiv)

Chadwick Building, Peach Street
L697ZF Liverpool
United Kingdom
Fax: +44(151)7943715
Phone: +44(151)7943667
Contact person: Michael Wooldridge
E-mail address: M.J.Wooldridge@csc.liv.ac.uk

University of Sheffield (USFD)

Regent Court, 211 Portobello street
S14DP Sheffield
United Kingdom
Fax: +44 114 2221810
Phone: +44 114 2221891
Contact person: Hamish Cunningham
E-mail address: hamish@dcs.shef.ac.uk

Vrije Universiteit Amsterdam (VUA)

De Boelelaan 1081a
1081HV. Amsterdam
The Netherlands
Fax: +31842214294
Phone: +31204447731
Contact person: Frank van Harmelen
E-mail address: Frank.van.Harmelen@cs.vu.nl

University of Karlsruhe (UKARL)

Institut für Angewandte Informatik und Formale
Beschreibungsverfahren – AIFB. Universität
Karlsruhe
D-76128 Karlsruhe
Germany
Fax: +49 721 6086580
Phone: +49 721 6083923
Contact person: Rudi Studer
E-mail address: studer@aifb.uni-karlsruhe.de

University of Manchester (UoM)

Room 2.32. Kilburn Building, Department of
Computer Science, University of Manchester,
Oxford Road
Manchester, M13 9PL
United Kingdom
Fax: +44 161 2756204
Phone: +44 161 2756248
Contact person: Carole Goble
E-mail address: carole@cs.man.ac.uk

University of Trento (UniTn)

Via Sommarive 14
38050 Trento
Italy
Fax: +39 0461 882093
Phone: +39 0461 881533
Contact person: Fausto Giunchiglia
E-mail address: fausto@dit.unitn.it

Vrije Universiteit Brussel (VUB)

Pleinlaan 2, Building G10
1050 Brussels
Belgium
Fax: +32 2 6293308
Phone: +32 2 6293308
Contact person: Robert Meersman
E-mail address: robert.meersman@vub.ac.be

Changes

Version	Date	Author	Changes
1.0	13.12.2004	York Sure	Final Version
1.1	15.12.2004	York Sure	included portal facility
1.2	31.01.2005	York Sure	included feedback from reviewer

Executive Summary

This deliverable is part of the “WP 2.6 Towards a Virtual Research Centre”. It describes the program for exchange of researchers within Knowledge Web called “T-REX: <T>opic-oriented <R>esearcher <EX>change in Knowledge Web”. As planned the exchange program was initiated within the first 12 months of Knowledge Web and already 12 exchanges have taken place.

The short-term goal of T-REX is to encourage, support and manage primarily the exchange of researchers across all Knowledge Web (KWeb) members, but also to encourage exchanges with external parties such as partners of other EU thematic networks of excellence and external industrial partners.

The long-term goal of T-REX is to strengthen the European research area by establishing strong and lasting links across research organizations, e.g. visible by shared publications of KWeb members.

Our recommendations in a nutshell:

- Each KWeb member needs to spend at least **6.5 % of his total eligible costs for JPA** in KWeb for research exchange over the whole duration of KWeb.
- The sending organizations are responsible to cover these costs according to their own financial guidelines, potentially and most likely from their own KWeb budget.
- Members who are not able to send away people (e.g. due to organizational issues) should spend the same amount of money for attracting participants from other members. In this case not the sender, but rather the host is responsible to cover the costs
- As default **2.5 KEUR per person and month of stay** are eligible costs for the sending organization which are granted without further permission. Higher costs need the approval of the KWeb EPMB *before* the beginning of the exchange.
- A **final report** needs to be provided by the participant no later than one month after the end of the exchange about the scientific achievements made during the exchange. All reports are collected within the KWeb portal.
- Exchanges with partners from other EU thematic networks of excellence and external industrial partners are encouraged. They might require different treatment and are expected to be handled on a case by case base.

These recommendations lead to the following situation which represents the average amount of exchange that can be expected with these recommendations (6.5% and 2.5 KEUR):

On average, each of the current Knowledge Web members at least sends away each year one person for one month over the full duration of Knowledge Web.

All issues not fully covered by these guidelines will first be discussed with UKARL (being the WP leader for WP2.6). In case they cannot be settled the final decision is taken by the Knowledge Web EPMB on a case by case base.

Contents

Executive Summary	5
Overview	8
1 Goals	8
2 Timeline	8
3 Actors	8
4 Duration	8
5 Topic	8
6 Final Report	9
7 Process	9
8 Example Calculation	10
9 Recommendations	10
10 Final Remarks	11
11 Exchanges in 2004	11

Overview

In Sections 1-10 we will describe the T-REX program in detail along the sections Goals, Timeline, Actors, Duration, Topic, Final Report, Process, Example Calculation, Recommendations, Final Remarks. In Section 11 we give an overview about the exchanges in year 2004.

1 Goals

The short-term goal of T-REX is to encourage, support and manage primarily the exchange of researchers across all Knowledge Web (KWeb) members, but also to encourage exchanges with external parties such as partners of other EU thematic networks of excellence and external industrial partners.

The long-term goal of T-REX is to strengthen the European research area by establishing strong and lasting links across research organizations, e.g. visible by shared publications of KWeb members.

2 Timeline

To be initiated within first 12 months of KWeb as part of work package "WP2.6 Towards a Virtual Research Centre".

3 Actors

- **<Participant>**: person who is actually exchanged, will be typically a PhD student or Post-Doc
- **<Sender>**: organization to which the <Participant> is affiliated before and after the exchange
- **<Host>**: organization that hosts the exchange, i.e. the organization where <Participant> is staying and working during the time of exchange; needs to be an organization which is different from <Sender>

4 Duration

We expect each <Participant> to stay at least one full month at his <Host>, measured by <Start Time> (time of arrival) and <End Time> (time of departure) of the exchange.

Further classification for later aggregation and reporting is made:

- **<Short Exchange>**: below 3 months
- **<Long Exchange>**: 3 or more months

5 Topic

The <Participant> should work on a pre-defined <Topic> which needs to be fixed at least one month before the <Start Time> (see also section on "Process"). The <Topic> needs to be within the boundaries and goals of KWeb, typically as specified in the Description of Work (more concrete, in the work package descriptions). Exchanges with other EU networks of excellence should cover topics which cross the boundaries of both networks. Exchanges with external industrial partners should emphasize the knowledge transfer

T-REX: Towards Researcher Exchange in Knowledge Web (Y. Sure and R. Studer)

between KWeb and the partner, thus contributing to the strengthening of the KWeb outreach to industry pillar.

To initially describe the <Topic> of an exchange, at least a title and an abstract need to be provided (in the KWeb portal, as soon as the functionality is available, by sending an email to York Sure, else).

6 Final Report

To make the results of the exchange explicit, the <Participant> needs to provide a <Final Report> within one month after <End Time> which describes the results of his work during the exchange. This report is expected to have at least one co-author of the <Host>. All <Final Reports> are collected within the KWeb portal. Ideally, each exchange results not only in deliverables, but rather in a series of shared publications by members of <Sender> and <Host>.

Each <Final Report> should provide at least the following information:

- Topic of exchange
- Work performed
- Results achieved
- Next steps

7 Process

- <Start Time> – **1 month**: Announcement of the exchange within the KWeb portal with the following data:
 - a. participant (name, email, type such as PhD/PostDoc/Master ..)
 - b. sender (contact details such as maintained within the KWeb portal),
 - c. host (contact details such as maintained within the KWeb portal),
 - d. start time,
 - e. end time,
 - f. topic (title, abstract).Goal: The portal should generate an automated message to UKARL which monitors the total exchanges.
- <Start Time> until <End Time>: <Participant> stays at <Host> and works hard on <Topic>
- <End Time> + **1 month**: <Participant> provides a <Final Report> on research advance achieved within the exchange. This should be at least a one page description of the goals achieved during the stay and mention the further plans for cooperation between the organizations.

Remark: the management of the T-REX exchanges will be done in the KWeb portal. In the Appendix you will find a draft version of the T-REX ontology in RDF/S which serves as base for the implementation in the portal.

8 Example Calculation

Before we give our recommendations in the next section, we provide an example calculation to give a feeling for relevant numbers.

We assume that the following exchange costs are eligible KWeb costs:

- Travelling of <Participant> and
- Accommodation of <Participant> at location of <Host>.
- Note: exchanges with partners external to KWeb might require special treatment and are expected to be handled on a case by case base.

As default costs we consider **2.5 KEUR per <Participant> and month of stay** as eligible costs for <Sender>.

Idea: On average, based on the total eligible costs for whole KWeb (~2760 KEUR) and the total number of 18 members, each member should send away one person for ~4 months (~10 KEUR) within the whole duration of KWeb. Or, in other words, on average **each member should send away each year one person for one month over the full duration of Knowledge Web (4 years).**

This results in the following calculation:

$$(10 \text{ KEUR per member} * 18 \text{ members}) / 2760 \text{ KEUR} = 6,5 \%$$

Thus, each KWeb needs to spend (around) 6.5% of his total eligible costs for member of JPA for research exchange over the whole duration of KWeb.

Note: “The total eligible costs for JPA” were chosen as a basis to (i) exclude the management costs and (ii) include also e.g. the Swiss member.

To give a feeling what this actually means for partners we present calculations for the partner with the lowest and the highest amount of total eligible costs for JPA:

- The KWeb member with currently the **lowest** total eligible costs for JPA (~ 80 KEUR) at least sends away one person for **2 months** (5 KEUR) within the whole duration of KWeb (4 years), and
- the KWeb member with currently the **highest** total eligible costs for JPA (~440 KEUR) at least sends away one person for **11 months** (27.5 KEUR) within the whole duration of KWeb (4 years).

9 Recommendations

- **Each KWeb member should spend at least 6.5% of his total eligible costs for JPA in KWeb for research exchange over the whole duration of KWeb.**
- **The <Sender> is responsible to cover these costs according to his own financial guidelines, potentially and most likely from his own KWeb budget.**
- Members who are not able to send away people (e.g. due to organizational issues) should spend the same amount of money for attracting participants from other

members. In this case not the <Sender>, but rather the <Host> is responsible to cover the costs.

- As default **2.5 KEUR per month of stay and <Participant>** are eligible costs for <Sender> which are granted without further permission. Higher costs need the approval of the KWeb EPMB *before* <Start Time>.
- Each <Participant> needs to provide a **<Final Report>** no later than one month after <End Time>. The reports are collected in the KWeb portal.

In future, new KWeb members with less or no funding might require the establishment of new policies.

10 Final Remarks

Since results of each exchange in form of shared publications will be available with some delay, we strongly encourage all KWeb members to start as soon as possible with actively exchanging their researchers.

All issues not fully covered by these guidelines will first be discussed with UKARL (being the WP leader for WP2.6). In case they cannot be settled the final decision is taken by the Knowledge Web EPMB on a case by case base.

In close cooperation with the UPM the KWeb portal is currently being extended to cover the data gathered from partners for exchanges. All data as specified in this document is already available and maintained in the portal, currently missing is the upload facility for reports which will be added soon.

11 Exchanges in 2004

We here present the status of announced T-Rex exchanges on 31.12.2004, the most recent version can be found in the KWeb portal at <http://knowledgeweb.semanticweb.org/>

Start	End	Person	Sender	Host	Topic
25.02.2004	16.04.2004	M. Carmen Suarez-Figueroa	UPM	LivUni	Ontology Evaluation
04.06.2004	09.07.2004	Angel Lopez Cima	UPM	OU	Kweb portal and MagPie integration
20.07.2004	20.08.2004	Wolfgang Nejdl	L3S	EPFL	Semantic Web Query Evaluation in Distributed Environments
21.07.2004	15.09.2004	Axel Polleres	UIBK	NUIG	Reasoning for Semantic Web Services in WSMO/WSML
22.07.2004	30.09.2004	Ruben Lara	UIBK	NUIG	Semantic Web Service discovery in WSMO
22.08.2004	03.09.2004	Wolf Siberski	L3S	EPFL	Semantic Web Query Evaluation in Distributed Environments
24.08.2004	15.10.2004	Rafael Gonzalez Cabero	UPM	USouth	Adequacy of the SW technology for developing the AgentLink III portal
30.08.2004	11.09.2004	Holger Wache	VUA	UniTn	Ontology Modules and Contexts for Ontologies

T-REX: Towards Researcher Exchange in Knowledge Web (Y. Sure and R. Studer)

13.09.2004	15.10.2004	Marta Sabou	VUA	USFD	Extracting web-service ontologies using Natural Language Technologie
01.10.2004	31.10.2004	Pavel Shvaiko	UniTn	INRIA	Ontology Alignment
01.11.2004	31.12.2004	Wolf Winkler	NUIG	UKARL	Ontology Versioning
01.12.2004	31.12.2004	Jeff Z. Pan	VUM	FUB	Information integration on peer to peer semantics

Appendix – T-REX ontology in RDF/S

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE rdf:RDF [
  <!ENTITY kaon 'http://kaon.semanticweb.org/2001/11/kaon-lexical#'>
  <!ENTITY rdf 'http://www.w3.org/1999/02/22-rdf-syntax-ns#'>
  <!ENTITY rdfs 'http://www.w3.org/2000/01/rdf-schema#'>
  <!ENTITY a 'http://knowledgeweb.semanticweb.org/t-rex#'>
]>

<rdf:RDF xml:base="http://knowledgeweb.semanticweb.org/t-rex"
  xmlns:kaon="&kaon;"
  xmlns:rdf="&rdf;"
  xmlns:rdfs="&rdfs;"
  xmlns:a="&a;">

  <rdfs:Class rdf:ID="FinalReport">
    <rdfs:label xml:lang="en">FinalReport</rdfs:label>
  </rdfs:Class>
  <rdfs:Class rdf:ID="Duration">
    <rdfs:label xml:lang="en">Duration</rdfs:label>
  </rdfs:Class>
  <rdfs:Class rdf:ID="Actor">
    <rdfs:label xml:lang="en">Actor</rdfs:label>
  </rdfs:Class>
  <rdfs:Class rdf:ID="Topic">
    <rdfs:label xml:lang="en">Topic</rdfs:label>
  </rdfs:Class>
  <rdfs:Class rdf:ID="Participant">
    <rdfs:label xml:lang="en">Participant</rdfs:label>
    <rdfs:subClassOf rdf:resource="#Actor"/>
  </rdfs:Class>
  <rdfs:Class rdf:ID="Exchange">
    <rdfs:label xml:lang="en">Exchange</rdfs:label>
  </rdfs:Class>
  <rdfs:Class rdf:ID="Sender">
    <rdfs:label xml:lang="en">Sender</rdfs:label>
    <rdfs:subClassOf rdf:resource="#Actor"/>
  </rdfs:Class>
  <rdfs:Class rdf:ID="Host">
    <rdfs:label xml:lang="en">Host</rdfs:label>
```

```

    <rdfs:subClassOf rdf:resource="#Actor"/>
</rdfs:Class>
<rdf:Property rdf:ID="hasHost">
    <rdfs:label xml:lang="en">hasHost</rdfs:label>
    <rdfs:domain rdf:resource="#Exchange"/>
    <rdfs:range rdf:resource="#Host"/>
</rdf:Property>
<rdf:Property rdf:ID="resultsIn">
    <rdfs:label xml:lang="en">resultsIn</rdfs:label>
    <rdfs:domain rdf:resource="#Exchange"/>
    <rdfs:range rdf:resource="#FinalReport"/>
</rdf:Property>
<rdf:Property rdf:ID="hasTopic">
    <rdfs:label xml:lang="en">hasTopic</rdfs:label>
    <rdfs:domain rdf:resource="#Exchange"/>
    <rdfs:range rdf:resource="#Topic"/>
</rdf:Property>
<rdf:Property rdf:ID="hasParticipant">
    <rdfs:label xml:lang="en">hasParticipant</rdfs:label>
    <rdfs:domain rdf:resource="#Exchange"/>
    <rdfs:range rdf:resource="#Participant"/>
</rdf:Property>
<rdf:Property rdf:ID="hasName">
    <rdfs:label xml:lang="en">hasName</rdfs:label>
    <rdfs:range rdf:resource="&rdfs;Literal"/>
    <rdfs:domain rdf:resource="#Actor"/>
</rdf:Property>
<rdf:Property rdf:ID="endTime">
    <rdfs:label xml:lang="en">endTime</rdfs:label>
    <rdfs:range rdf:resource="&rdfs;Literal"/>
    <rdfs:domain rdf:resource="#Duration"/>
</rdf:Property>
<rdf:Property rdf:ID="hasSender">
    <rdfs:label xml:lang="en">hasSender</rdfs:label>
    <rdfs:domain rdf:resource="#Exchange"/>
    <rdfs:range rdf:resource="#Sender"/>
</rdf:Property>
<rdf:Property rdf:ID="hasDuration">
    <rdfs:label xml:lang="en">hasDuration</rdfs:label>
    <rdfs:domain rdf:resource="#Exchange"/>
    <rdfs:range rdf:resource="#Duration"/>
</rdf:Property>
<rdf:Property rdf:ID="startTime">
    <rdfs:label xml:lang="en">startTime</rdfs:label>
    <rdfs:range rdf:resource="&rdfs;Literal"/>
    <rdfs:domain rdf:resource="#Duration"/>
</rdf:Property>
</rdf:RDF>

```