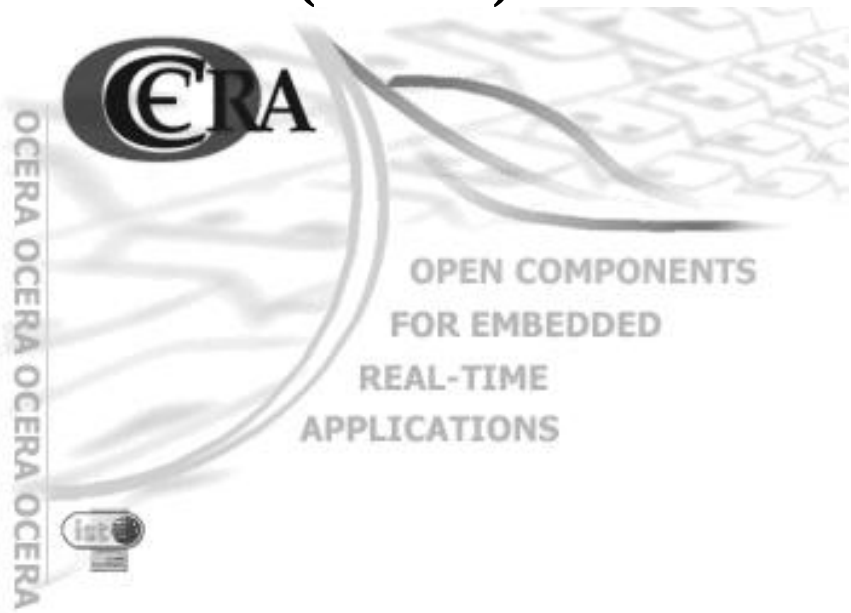
WP11 - Dissemination and Implementation (WWW)



D11.7 Dissemination activities II period

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by A. Crespo

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Document Presentation

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CR	3	Czech Technical University in Prague	CTU	CZ
CR	4	CEA/DRT/LIST/DTSI	CEA	FR
CR	5	Unicontrols	UC	CZ
CR	6	MNIS	MNIS	FR
CR	7	Visual Tools S.A.	VT	E

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1_0	15/02/05	First release

Chapter 1. Introduction

In the deliverable D11.5 Dissemination and Use Plan a description of the general efforts dedicated to the promotion of the OCERA project was planned. This promotion required to identify and describe the activities to be performed in order to promote and disseminate the knowledge gained during the project, the project's results and the practical advantages of the OCERA use in the development of embedded real time systems. The medium-term result of the OCERA project will be the dissemination of novel software technologies from the academic world to final user, in order to realize the next generation real-time computer systems.

The Dissemination activities have been focused to a wide range of target audiences and groups selecting the appropriated information to be disseminated as:

The work of the OCERA project will be of interest to a wide range of groups across Europe and beyond. These groups and the focus of their interest can be:

- **Industrial developers:** working in the design and development of hard and soft real-time embedded systems for a wide spectrum of applications (multimedia, process control, aeronautics, robotics, etc.) based on Linux and RT-Linux.
- **Operating system developers:** interested in new real-time features to be included in the Linux operating system and the generation of embedded systems.
- **Real-time systems community:** opened to new advances in specific aspects of the development (scheduling techniques, faul-tolerant mechanisms, resource reservation policies and communications).
- **Groups in EC projects:** interested in the use of the development of new software technologies for the control of hard and soft complex real-time distributed systems addressing aspects as methodologies, tools, development environments and certification of components

The types and levels of information disseminated are:

- General information
- Project deliverables
- Technical publications
- Training and technical support
- Marketing activities

A description of the activities carried out during the second project year is detailed in the next sections.

Chapter 2. Dissemination Activities

This section describes the specific results of the activities carried out in the first year of the project. These activities are presented in the following way:

- Publications and attended events
- Events organised or supported by the Consortium
- Actions in the Real time Linux Community
- OCERA web site dissemination
- Marketing activities
- OCERA in the proposals

2.1. Publications and attended events

2.1.1. Conferences

- **10th International Conference on Reliable Technologies Ada-Europe 2005. June York (UK)**
  - "Efficient alternatives for implementing fixed-priority schedulers". Sergio Saez, Vicent Lorente, Silvia Terrasa and Alfons Crespo
  - "Distributing Criticality Across Ada Partitions"
    Miguel Masmano, Jorge Real, Alfons Crespo, and Ismael Ripoll
- IEEE **Workshop on Parallel and Distributed Real-Time Systems** 2005
  - Waszniowski, L., Hanzálek, Z.: Over-approximate model of Multitasking Application Based on Timed Automata Using Only One Clock,
  - Hanzálek, Z.: preparation of a Special Session on Formal Methods for Real-Time Systems
- IEEE **International Real-Time Systems Symposium**, December 5-8, 2004, Lisbon, Portugal (WIP session at 25th)
  - Formal Verification of OSEK/VDX Based Applications,
    Waszniowski, L., Hanzálek, Z.:
- **RealTime Embedded Systems 2005 Conference**. April 5-6, 2005, Paris, France
  - Towards providing fault-tolerance facilities in RT-Linux: the OCERA degraded mode management framework
    Agnès Lanusse, Patrick Vanuxeem
- **15th IFAC World Congress on Automatic Control**. July 2005. Prague (CZ)
  - "Embedded control systems: some issues and solutions".
    P. Albertos, A. Crespo, M. Valles, P. Balbastre
- **15th Euromicro Conference on Real-Time Systems**. June 2004. Catania (Italy)

    - TLSF: a new dynamic memory allocator for real-time systems
      M. Masmano, I. Ripoll, A. Crespo
- **9th International Conference on Reliable Technologies** Ada-Europe 2004. June 14-18 Palma de Mallorca (Spain)
    - Extending the capabilities of Real-Time Applications by combining MaRTE-OS and Linux
      M. Masmano, J. Real, I. Ripoll and A. Crespo
- **Real Time Application Symposium RTAS**, May 2004. Toronto (Canada)
    - IRIS: A new reclaiming algorithm for server-based real-time systems
      Luca Marzario, Giuseppe Lipari, Patricia Balbastre and Alfons Crespo
    - Adaptive reservations in a Linux environment
      L. Abeni, T. Cucinotta, G. Lipari, L. Marzario, L. Palopoli
    - Scheduling of Iterative Algorithms on FPGA with Pipelined Arithmetic Unit
      P. Sucha, Z. Pohl, Z. Hanzalek
- **World Automotive Congress, Barcelona**, May 2004
    - Verifying Real-Time Properties of CAN Bus by Timed Automata
      J. Krakora, Z. Hanzalek
- **IFAC Symposium on Advance in Automotive Control**, Salerno, Elsevier, April 2004.
    - Analysis of OSEK/VDX Based Automotive Applications
      L. Waszniowski, Z. Hanzalek
- 11th **IFAC Symposium on Information Control Problems in Manufacturing**, INCOM, Salvador, Elsevier, April 2004.
    - Timed Automata Approach for CAN Verification
      J. Krakora, Z. Hanzalek

2.1.2. OCERA at IST Exhibition 2004

OCERA project was present at the IST 2004 Exhibition at The Hague in November 2004. We prepared a stand with some demos and leaflets to promote the OCERA Components.

The list of demos and leaflets prepared were:

Leaflets

OCERA main features
OCERA RTLinux-GPL
Stand Alone RTLinux
Degraded Mode Management Framework
FT Design Build Tool: FTbuilder
LPTracing and Metrics
Quality of Service
RTLGnat: Ada for OCERA RTLinux

Demos

Robotic demonstrator videos
Stand-alone RTLinux-GPL application
Motor control using LinCan drivers
Stand-alone control of a Biped robot

2.2. OCERA web site dissemination

The OCERA web site aims at disseminating the goals, partners, deliverables and components of the project. From the beginning of the project, the web site was built to provide the project information.

This is a summary of the web reporting from the beginning of the project.

Item	Value
Summary Period	Dec 29 2002 to Feb 1 2005
Requests Received	744761
Bytes Transmitted	22.89 gigabytes
Average Requests Received	1022
Average Bytes Transmitted	32.16 megabytes
Total days	729

The following figures show the evolution of OCERA web site impact in transferred kilobytes and requests per day.

The 2nd phase components are available at the web site in the download area of the web. In this area a list and description of each component can be obtained. All the developed components are available with the status of the component and examples of use. Next chapter will detail some dissemination indicators through the web site.

2.3. OCERA in other European Projects

OCERA results has been promoted between other projects to be considered as part of the current operating system or future developments.

The activities and contacts established are summarised below:

ARTIST2: SSSA, CTU and UPVLC are involved in the approved network of excellence ARTIST2.

Chapter 3. Dissemination indicators

The OCERA web site was designed for dissemination purposes, so the success of this goal can be, at this moment, evaluated in terms of number of accesses to the different parts of the web. Of course, this is not a criteria for the evaluation of the project, it is only a indicator of the success or not of the dissemination process using the web. We concentrate the analysis in the period January-July of 2003 because ii is the period when the information was more mature.

Several indicators can be used to analyze the results:

- General statistics
- Number of visitors
- Geographical location for the visitors
- Hits par week
- Number of downloads and Most requested files
- OCERA in Goggle

3.1. General statistics

This is a summary of the web during 2004

Summary by Month										
Month	Daily Avg				Monthly Totals					
	Hits	Files	Pages	Visits	Sites	KBytes	Visits	Pages	Files	Hits
Dec 2004	1434	1273	651	162	201	2276379	5324	21303	32547	42869
Nov 2004	1989	1718	951	207	2624	3943524	6221	28548	51549	59699
Oct 2004	3279	3066	1836	125	2436	1578893	3892	56946	95076	101659
Sep 2004	1781	1585	749	105	2072	1201983	3175	22499	47574	53439
Aug 2004	2189	2025	805	93	1739	1243305	2900	24980	62800	67872
Jul 2004	2514	2283	886	105	2003	1223280	3264	27476	70786	77956
Jun 2004	4214	3955	1917	122	2298	2123870	3681	57512	118671	126433
May 2004	3340	2895	1486	210	3592	2551744	6307	44582	86862	100207
Apr 2004	1638	1430	709	83	1754	889374	2513	21273	42904	49160
Mar 2004	1440	1190	613	108	2336	1163364	3349	19020	36899	44645
Feb 2004	1226	1053	498	83	1799	681599	2420	14462	30546	35564
Jan 2004	595	460	222	82	1140	428621	1979	5337	11057	14280
Totals						**17305936**	**45025**	**323938**	**657271**	**733783**

3.2. Number of visitors

The most relevant information is the number of visiting users (45.025 users) and the average hits par day (1.898). The number of unique IP addresses is lower (**2.624** IP addresses) can be consequence of the use of a proxy.

3.3. Geographical location for the visitors

The following table shows the domain distribution of the users. Only the top 30 domains have been listed.

Domain Name	Requests	%	Megabytes	%
Commercial (.com)	408632	23,58	5526,29	54,87
Network (.net)	66258	13,22	3099,77	8,89
France (.fr)	12098	4,96	1163,06	1,62
Spain (.es)	11295	7,46	1747,66	1,52
Czech Republic (.cz)	9829	1,90	445,36	1,32
Portugal (.pt)	9027	2,66	624,63	1,21
Italy (.it)	8868	2,34	547,68	1,19
Germany (.de)	7565	3,87	907,11	1,01
China (.cn)	5476	0,49	115,69	0,74
Japan (.jp)	5137	1,68	393,31	0,69
Educational (.edu)	5133	1,11	259,81	0,68
Lithuania (.lt)	4279	1,16	272,7	0,57
India (.in)	3711	0,62	144,8	0,50
Poland (.pl)	3443	1,96	458,48	0,46
Netherlands (.nl)	3179	0,62	146,38	0,43
Switzerland (.ch)	2663	0,29	68,48	0,36
Brazil (.br)	2405	0,41	96,57	0,32
Canada (.ca)	2184	0,38	88,73	0,29
Sweden (.se)	2102	0,86	201,33	0,28
Australia (.au)	2090	0,38	88,97	0,28
Mexico (.mx)	1837	0,26	60,73	0,25
Belgium (.be)	1742	1,02	239,05	0,23
Austria (.at)	1583	0,39	92,11	0,21
United Kingdom (.uk)	1437	0,35	82,94	0,19
Russian Federation (.ru)	1417	0,37	87,07	0,19
Korea (South) (.kr)	1328	0,23	53,1	0,18

3.4. Number of downloads and Most requested files

To detect which are the most interested documents downloaded, next table shows the list of the top 30 documents (pdf documents) sorted by the number of hits.

Document path	Hits
/archive/deliverables/ms1-month6/WP1/D1.1.pdf	3541
/archive/deliverables/ms1-month6/WP2/D2.1.pdf	3084
/archive/deliverables/ms1-month6/WP3/D3.2_Not_in_Open_RTOS/D3.2.pdf	1595
/archive/upvlc/public/reports/architecture/Arch_db.pdf	1416
/archive/deliverables/ms2-month12/WP5/D5.1.pdf	1154
/archive/deliverables/ms1-month6/WP3/D3.3_New_Approaches/D3.3.pdf	1123
/archive/deliverables/ms2-month12/WP5/D5.2_rep.pdf	1086
/archive/deliverables/ms2-month12/WP7/D7.1.pdf	926
/archive/deliverables/ms1-month6/WP3/D3.1_Feedback/D3.1.pdf	920
/archive/upvlc/public/reports/whitepaper/whitepaper.pdf	892
/archive/deliverables/ms2-month12/WP9/D9pc1.pdf	847
/archive/deliverables/ms1-month6/WP11/D11.1/D11.1.pdf	824
/archive/deliverables/ms2-month12/WP9/D9rb1.pdf	696
/archive/deliverables/ms3-month18/WP10/D10.3.pdf	645
/archive/upvlc/public/reports/memory-protection/memory-protection.pdf	616
/archive/deliverables/ms4-month24/WP11/dissemination.pdf	590
/archive/deliverables/ms3-month18/WP5/D5.3.pdf	572
/archive/deliverables/ms2-month12/WP10/D10.2.pdf	568
/archive/deliverables/ms2-month12/WP4/D4.1.pdf	559
/archive/deliverables/ms4-month24/WP5/D5.4.pdf	554
/archive/deliverables/ms1-month6/WP12/D12.1_Assesment/D12.1.pdf	532
/archive/deliverables/ms3-month18/WP10/D10.4.pdf	531
/archive/deliverables/ms2-month12/WP4/D4.2_rep.pdf	524
/archive/deliverables/ms2-month12/WP7/D7.2_rep.pdf	515
/archive/deliverables/ms2-month12/WP9/D9mm1.pdf	505
/archive/deliverables/ms4-month24/WP7/D7.4.pdf	504
/archive/deliverables/ms2-month12/WP6/D6.1.pdf	493

With respect to the components, next table shows the number of downloads of most popular components that are distributed in the OCERA web site. Other components (as POSIX Timers, POSIX Signals, etc) are included in the new release of the GPL RT Linux.

Component name and version	Hits
/archive/ctu/public/components/lincan/lincan-0.2.tgz	237
/archive/ctu/public/components/candev/candev-0.91.tgz	218
/archive/tools/test/ltp-full-20031002-ocera.tgz	164
/archive/ctu/public/components/canmon/canmon-0.99.tgz	163
/archive/upvlc/public/components/appsched/appsched-0.2-1.tgz	163
/archive/upvlc/public/components/pmqueue/pmqueue-0.2-1.tgz	155
/archive/upvlc/public/components/rtlgnat/rtlgnat-1.0.tgz	148
/archive/sssa/public/components/pcomp/pcomp-1.0-1.tgz	143
/archive/upvlc/public/components/sa-rtl/sa-rtl-2.0.tgz	142
/archive/ctu/public/components/canvca/canvca-0.90.tgz	137
/archive/ctu/public/components/ethdev/ethdev-0.1.tgz	129
/archive/upvlc/public/components/ptimers/ptimers-0.2-1.tgz	125
/archive/upvlc/public/components/ptrace/ptrace-1.0-1.tgz	119
/archive/ctu/public/components/ethdev/ethdev-0.2.2.tgz	117
/archive/ctu/public/components/lincan/lincan-0.1.tgz	116
/archive/sssa/public/components/qmgr/qmgr-1.0-1.tgz	115
/archive/sssa/public/components/qlib/qlib-1.0-1.tgz	112
/archive/upvlc/public/components/rtlcbs/rtlcbs-0.1-1.tgz	111
/archive/upvlc/public/components/psignals/psignals-0.2-1.tgz	110
/archive/sssa/public/components/qres/qres-1.0-1.tgz	102
/archive/ctu/public/components/canvca/canvca-0.01.tgz	100
/archive/upvlc/public/components/dynmem/dynmem-0.70-1.tgz	99
/archive/sssa/public/components/gensched/gensched-1.0-1.tgz	90
/archive/ctu/public/components/canmon/canmon-0.01.tgz	85

It has to be taken into account that some of these packages appear more than once, but with different version numbers.

3.5. OCERA in Google

One important indicator is the visibility of the project through the Google motor. Several search strings have been searched in Google in order to look the position to any OCERA reference. Next table shows some of the results of the search using general or specific strings.

Search Pattern	Position	Number of references
Open Components	1	**17000000**
Open Real-Time Components	1	**2620000**
Embedded Real-time Applications	1	**3220000**
Resource Management components	1	**6610000**
Real-Time Scheduling components	1	**719000**
Fault-Tolerance components	1	**424000**
Real-Time Communication components	1	**2260000**
Embedded RTLinux Applications	3	**14200**
Real-Time components for embedded systems	1	**1430000**
POSIX Timers	2	**55700**
POSIX Signals	2	**156000**
POSIX Barriers	1	**16000**
POSIX Message Queues	2	**64100**
Real-Time Memory Allocator	1	**24800**
CANOpen device	1	**35300**
RT Ethernet	1	**261000**
CBS Scheduler	1	**12200**
Application Defined Scheduler	1	**310000**
Linux CAN driver	4	**5840000**

Date of this information: 22/02/2005

3.6. OCERA results in external websites

Some of the OCERA project results has been also published in other developers websites. This section presents a brief summary of access statistics in such external websites.

The Universidad Politecnica de Valencia maintains another website, “RTPortal”, that is devoted to RTLinux developments. In this website, some of the components developed in the OCERA project have been also made available. Some of this components are: EDF + SRP scheduler, POSIX Trace, POSIX Signals, POSIX Timer, RTL-Linux wait queues, Ada for RTLinux, Stand-Alone RTLinux, RTLide + RTLfs and the TLSF allocator.

The following table shows information about some of this components in the RTPortal web-site.

Component	Hits
Ada for RTLinux	200
TLSF Memory Allocator	155
POSIX Timers	54
EDF + SRP scheduler	37
POSIX Signals	34
RTL ide + fs	26
RTLinux Stand-Alone	25

Some of the communication components has also been offered through the “freshmeat.net” web site (http://freshmeat.net/projects/lincan). Linux CAN driver has gained some popularity since its publication in this website, and there are an increasing list of contributors and interested companies on testing is capabilities. To obtain statistics from this website are quite complicated, because only maintains the very last accesses.

Also there is a list of industry who have shown interest and have donated hardware to help the development of LinCAN:

- BFAD GmbH & Co.KG http://www.bfad.de/
- PiKRON Ltd.
- Unicontrols a.s. http://www.unicontrols.cz/
- Kvaser AB http://www.kvaser.com/
- Artificial Vision and Intelligent Vision Lab
  Dipartimento di Ingegneria dell'Informazione
  Universita' degli Studi di Parma
  http://vislab.ce.unipr.it/