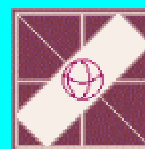


COVE News



WG5.5

Newsletter on Co-operation infrastructures for Virtual Enterprises and electronic business

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IFIP WG 5.5
www.uninova.pt/~cove

KEYNOTE

A long time has passed since the last issue of our newsletter but this by no means signifies that COVE activities have slowed down.

In fact although not all plans were accomplished, which is natural given the “voluntary nature” of this initiative as there is no specific funding for COVE, a good number of activities took place and results have been achieved.

In summary:

- Meetings
COVE members participated in a joint meeting with the IST THINKcreative project during the PRO-VE'02 conference in Sesimbra, Portugal. Also in cooperation with THINKcreative, COVE members organized a panel on “Future collaborative networks” during the BASYS'02 conference in Cancun, Mexico (Sep 2002).
- PRO-VE'02
COVE was a major contributor to the organization of PRO-VE'02 (1-3 May 2002). A good number of technical papers submitted by COVE members were included in the program.
- BASYS'02
COVE was one of the two IFIP working groups organizing BASYS'02 (25-27 Sep 2002). Several papers presented at the conference were produced by COVE members.
- Transformation into WG
IFIP adopted the resolution of creating a new working group, the WG 5.5, under TC5 based on the original COVE project. This new organizational form creates opportunities for a more long-term cooperation among COVE members.

Furthermore, various members have been actively engaged in launching new research projects, edition of special issues of journals, organizing courses on virtual enterprises, etc.

I take this opportunity to thank those that have contributed to the mentioned activities and to encourage all of you to get involved in COVE and its future activities.

Luis M. Camarinha-Matos

Rinaldo C. MICHELINI

FOREWORD. Information and communication technologies are basic tools for creating *added* value with high bent in intangibles and are, therefore, prized for preserving the current welfare, while lowering material resources consumption. The infrastructures of **co-operative virtual enterprises COVE** are, hereafter, addressed in that context, to show that, technically, they are effective complement for *products-services* delivery, recently recognised as critical option for modifying the manufacture market toward conservative patterns. These changes, however, are by themselves, *not sufficient*, as sustainability needs properly look at pricing resources consumption and at making transparent account of tangibles actually exploited with manufacturers profit and users benefit. Fair-trade requires worldwide regulation by objective assessments and third party overseeing and control; the **COVE** project could represent effective reference to make available the instrumental aids for *eco-labelling*, into co-operative frames, where sellers and users interact with certification bodies to grant sustainability. The note summarises general concepts, previously presented as plenary paper at the *IFIP-PROLAMAT* Conference of Budapest, where an extended list of references is also supplied (the all test can be forwarded, if required at: michelini@dimec.unige.it).

1. INTRODUCTION

The economic return of manufacturing business is traditionally related to the benefits obtained by buyers satisfying given individual needs and by sellers winning prices higher (as an average) than the underlying costs. The delivery **Q** was, as an all, linked to the capital **C** and to the labour **L** productivity by the simple relation: $Q = a C L$, until, quite recently, was found that know-how and technology **K** bring in independent effects that shall be considered to balance the actual delivery within the *new economics* of *high-tech* companies. The unbalance, first found as 2-3 % residual, was claimed to be 20 % or more for knowledge-intensive deliveries, when the value-cycle in manufacturing is grounded on intangibles, rather than on tangibles, processing.

The profits account starts facing further changes once technological sustainability is made explicit, affecting every artefact due to spoil of non-renewable tangibles, **T**, they yield during life-cycle. These more attentive descriptions (*KILT*-models) refer to *human* and *materials* capital assets, besides invested capital **I**, to bring out the dependence on *specialised knowledge* and on *natural resources* efficiency. The proper balancing of the (four independent) effects is mainly sought by a relation showing negative issues, when any single contribution is missing: $Q = a_0 K I L T - a_1 K - a_2 I - a_3 L - a_4 T$. When dealing with given artefacts deliveries, the assessment of knowledge-driven productivity is suitably recognised as inherent fall-off of information technology and related options as for offer quality (e.g. product-service) or infrastructure (e.g. virtual organisation). The resource-conditioned productivity starts to crop out, promoted by the *green engineering* approaches and some-how advertised by conceited eco-labels.

In the following, generalities on technological sustainability are summarised, to show the relevance of the ICT tools, at the different life-cycle steps and environment impact levels. First, the framework requiring eco-compatibility is recalled, with focus on bylaws progressively enacted to grant future survival. The changes in tangibles market is, then, considered, with links to life-cycle transactions visibility. The reference overseeing and control infrastructures are, finally, mentioned, with attention on knowledge management options. The information and communication technologies are enabling opportunities to create wealth based on processing intangibles, and represent a turn of the manufacture economy, previously extensively thriving by exploiting tangibles.

2. SUSTAINABILITY CONCERNS

The original industrial revolution looked after wealth creation without concern on the natural

resources decay: the manufacturing delivery, indeed, simply refers to capital and labour. Then the ceaseless replacement of artefacts (typical of the affluent society) is dominant feature, as if transformation added value is the only competition figure, with no value for raw material consumption. During the last fifty years, a set of studies did show that *overpopulation*, *over consumption* and *over pollution* will bring the development trend to saturate, stopping any further wealth creation. For a while, the issues were hindered by the uneven distribution of the welfare, leaving higher margins of development to subsets of world countries. The consciousness that the spoils will affect future generations way of life is starting to surface, with the acknowledgement of requesting worldwide remedial incumbents. These, once *social-economic* acceptance is won, need *political-legal* acts, objectively grounded on *technical-scientific* rules.

We are today at the very beginning of a new age of the industrial revolution, still the enacted bylaws already show two possibilities:

- to forbid the use of given materials or artefacts, when their impact on the ecosystem could yield (unbearable) nuisance;
- to tax the use of given materials or artefacts (or to support eco-friendly alternatives), to obtain a return for the benefit of third (and future) people.

The protection acts of the compulsory approach, whether needed, presume an information background to establish the soundness of any prohibition and enjoyment, easily reached, e.g., when direct health or safety risks exist. The taxation approach offers valuable means to reset fairness, since product profit is no more confined between seller (manufacturer) and buyer (user), as some benefit, with transparency, is moved to the overall society.

Summing up, the concerns of sustainability would aim at consistent rules, whether:

- natural resources consumption is accounted by monitoring and assessment frames;
- bylaws are enacted on objective material and energy efficiency standards.

This leads at explicitly acknowledging the natural resources spoilage, to establish overall prices of the delivered artefacts within the expected operation span. Several metrics are foreseen, typically based on characterising figures, such as *TYPUS*, *tangibles yield per unit of service*, accounting the all material-and-energy flows activated along the life-cycle of the exploited artefact; they correspond to the assumption that net depletion is assessed at the life-cycle end, with account of recovery.

At company level, five dimensions require changes:

- # pricing based on enterprise productivity, involving *resource* (vs. *labour*) effectiveness, besides *investment* and *technology* effectiveness;
- # information infrastructures, with access on supporting know-how and transparency of artefacts life-cycle performance (enterprise *extension*);
- # product-service offers, by all-inclusive indentures, with visibility on the sustainability prescriptions (assured by appropriate artefact *extension*);
- # ecological responsibility up to the points-of-service, with eco-monitoring, further to clients' satisfaction at the points-of-sale;
- # accredited *ecoconsistency*-driven quality systems, by third party overseeing and control of the supplied product-service, through interoperated nets.

For sustainability, fair-trade conditions require that the *true* price of any artefact includes the eco-consistency costs. These costs (paid by the consumers who profit of the delivered functions) ought to be assessed by standards (through international agreements, according to legal metrology), such as *TYPUS* or similar scheme, to grant reciprocity by objective patterns. The issues presume the development and marketing of *extended* artefacts, with the backing of *extended* enterprises, and management of the environmental impact under (independent) accreditation schemes.

3. ECO-DESIGN DEVELOPMENTS

To keep the existing welfare trends, the attention on sustainability requires a different approach in wealth creation, as compared to the (earlier) *manufacture* market. The *new economy* benefits from trading knowledge-driven artefacts, whose value build-up is less dependent on tangibles consumption. A critical aid, moreover, reflects in the market of tangibles (e.g., instrumental goods; less, consumables), with resort to *extended* artefacts, or *products-services*. The customer's satisfaction aims at the supplied *functions*, out of goods delivery; the traded offers include *extensions*, covering the requested functions at the *point-of-service*, along the artefact life,

irrespective of the *point-of-sale*. This (sought) *service* market is expected to be more conservative as for resources decay, provided that *method*-innovation would balance the rebound effects, by properly compressing the *TIUS* of the actually provided functions.

The challenge of an eco-consistent service market is already understood (for instance, the V European Framework Programme included product-service topics among Growth lines). Current trends show that twofold achievements are required:

- artefact innovation, through *extended* characterisation with pro-active up-keeping to grant *life-cycle* performance (in terms, also, of eco-consistency);
- infrastructure innovation, through interconnected nets (*virtual* organisation), to provide visibility at the *points-of-service* (also for environmental protection).

The eco-design of *extended*-artefacts can be established turning the structured schemes of life-cycle characterisation to include data on sustainability (e.g., *TYPUS* figures) and prearranging an *extended* organisation to support the delivered goods at the points-of-service. The traded exchanges will, thus, be intangibles for larger amounts, provided by selling technologies (native or acquired intelligence) and with benefits for artefacts *smart* use, due to (original and on-duty built) knowledge content.

The concept of *extended* artefact introduces to a *product-service*, where: a *product* is a material item providing a function, and a *service* is a mainly immaterial activity, supplied to make the function effective; if combined, the pair out-performs separate provisions, at least, as for eco-consistency, making possible - to lower material and energy depletion intensity (at production, use and dismissal); - to lower toxic dispersion and force back pollution, with visibility of falls-off; - to enhance using renewable resources and re-using of exhausted tangibles; - to increase service intensity (by artefacts sharing, by functions dispensing, etc.). Eco-design, while building up technical construction files, aims at adding sustainability assessments, along with the life-cycle specification of operation and maintenance guides. The procedural steps of eco-design are (formally) well established; the expected issues can (possibly) bring forth to-day unexpected innovations, the as eco-consciousness grows and the enacted bylaws broaden the goals to be achieved. Actually, when we look at today product-service pairs, we might distinguish three classes, say:

- service-reinforced products, when up-keeping actions are sold on the life-cycle span;
- leased products, when the delivery is personal, but the point-of-sale is omitted;
- functional replacements, when consumers' needs are satisfied by selling services;

based on the artefacts ownership contractual form, while this does not affect the designer' activity so forth as basic technical aspects are involved. The artefacts *extension* built-up, however, presents with particular meaning: - the progressive widening of the engineering concern by integrated-design patterns, covering all life-cycle attributes; - the constant use of the economy of scope patterns, with specially thrift-driven orientation.

The concept of *extended* enterprise leads to *virtual* organisations, or *factual* alliances of companies, which merge together to share skills and know-how and inter-link resources and facilities, to better respond to business emergencies. In the alliance, partners focus on own competency and join efforts to co-design, co-manufacture, co-market, co-maintain, co-servicing and co-recycle, to yield *product-service* at clients' benefit and environment safety. In the co-operative cluster, each partner is a *node*, adding value to the networked business, and assuring a *step* of the supply chain; the responsibility enjoys integration and grants the infrastructure orientation with *added* value built on *smart* terms (intangibles): shared knowledge, check-points, special brands, relationships, etc.; whereas the factory of the earlier industrial revolution aimed at tightly integrating the supply-chain, the focus now shifts towards networked co-operation, by productive break-up and outsourcing of *special* activities delegated to partners having the expertise to perform given tasks better (as for technicalities, eco-consistency included) and more cost-effectively. The two facts, *extended* artefact and *extended* enterprise, are, at times, addressed as independent issues; they are actually two facets of akin options opened by the information technology, to deal with knowledge and know-how as primary factors for manufacture delivery. It is hard to conceive *product-service* delivery without *virtual* organisation support; the opposite way, the infrastructure is instrumental means to grant life-cycle artefacts *extensions*, without the risk of losing leanness, while aiming at provision reliability.

Summing up, the *product-service* schemes, within *virtual* organisation set-ups present as winning option, susceptible of economical return and of ecology safety, in fact:

- ◇ *for companies*, new markets, out of artefacts pure sale, appear: manufacturers anticipate future take-back legislation; service providers might extend their business plans;
- ◇ *for consumers*, diversity of choices is offered, with delayed investment and relief from responsibility of life-long owned artefacts, when only functions provision is wanted;
- ◇ *for government*, the product-service *function*-bent opens job creation in labour-intensive and resource protective areas, by task supply tied to local duties, facing globalisation by district economy developments.

Aiming at *extended*-artefact market eligibility, we need assess know-how and technology requests to support it economically *and* with thriftiness balance. Restricting the concern to (tangible) artefacts, the transition to *knowledge*-based frames will modify:

- the manufacture organisation by intelligence-driven rethinking the design departments;
- the artefacts use, by incorporated recording life-cycle asset and environment impact;
- the certification bodies, with monitoring and control tasks for eco-consistency checks.

The engineering activity will evolve, approaching conditions of efficient *scale*-economy in *knowledge* processing, as the market of intangibles overpasses the market of tangibles, by including incorporated services and reporting ecological imbalances. A *virtual* set-up is tightly dependent on the availability of the co-operating infrastructures and the related new way of managing the industrial businesses: these are technical aid for collaboration, with different ranges of partners interoperability. The net organisation is an added value (intangible) service, with domain knowledge in legacy systems and information intensive features of flexibility, agility, reconfigurability, etc., and the instrumental task to supply commodities and utilities is readily modified as requests arise. On these objective facts, the actual industrial revolution is *knowledge*-based, with value-creation and no resource consumption, when intangibles are dealt with; the market of tangibles, also, modifies by falls-off on the design and manufacturing steps and, specially, on the life-cycle operation, up-keeping and dismissal steps, so forth as performance transparency is supported at the *points-of-service* (with due concern, also, for environmental protection).

4. ECO-ASSESSMENT RULINGS

The few comments up now recalled show: - **(a)** the changes in industrial artefacts due to falls-out of knowledge-intensive opportunities, properly assessed by adding the factor **K**, as independent entry for manufacture delivery; - **(b)** the urgency of sustainability checks and tangibles decay, actually accounted by the factor **T** entry, to deal with resource consumption on manufacture delivery. The former fact makes feasible the development of *extended*-artefacts, by including *intelligence* into traded goods, with data processing and classification options, life-cycle monitoring, knowledge build-up and action setting abilities, to allow fit-for-purpose setting at users' whims and to grant eco-consistent on-duty performance. The very *product-service* pair is consistent with different trends, e.g.:

- manufacturers could be spurred to keep in charge the all *service*: artefacts supply, life-cycle performance and dismissal incumbent, so that the trade regulation would depend on single indentures;
- independent enterprises could benefit by safety rules and environment acts expansion to become *service* dealers for several products, with technology-oriented qualification and infrastructure-based organisations.

The two prospects distinguish the corporate policies: - the first aims at combined product-service offers, expanding the enterprise business out of the original manufacture; - the latter deals with out-sourcing and networked break-up, prising specialised job providers. The scenarios looks after restructuring the engineering concerns at the design steps (when life-cycle reliability is stated), scattered among varied technical duties (check and control, maintaining and repairing, dismantling and recycling, etc.), based on the visibility of the (native and on-progress) artefacts properties, listed by the technical construction files and the annexed use and maintenance guides.

Both policies aim at dematerialised *new*-economy staples, based on the value added as inherent intelligence, e.g.: *credited* native quality, *assessed* on-duty reliability, *certified* eco-consistency or any other *acknowledged* property testifying the users' benefits *and* the technological sustainability. *Extended*-artefacts and related *extended*-enterprises, while typically technology-driven issues with high value in intangibles, do not address directly eco-consistency

and resource preservation rules. These, besides scientific and technical conjectures, develop (whether the social and economical appropriateness is achieved) on condition that proper political and legal frames are enacted. The environment protection acts shall obviously be linked to that part of the manufacture market, that exploits the transformation of tangibles for wealth support; little, however, has been done, unless to forbid *very* unsafe behaviours against men health and nature safety; *green* engineering, only, starts to propose eco-consistency labels for the traded artefacts, with little success, as the impact of material resources productivity is far from having reference metrics and current habits, still, to much run in the opposite direction, according to the *use-and-dump* culture, due to pricing mechanisms that, mainly, do not facilitate life-extension policies.

We may conclude that technology-driven developments, while needed to make possible actual solutions, are not *sufficient* to generate sustainability conscious issues; something has to be done by the governmental side, according to two lines: • to stimulate better eco-consistency in consumers' behaviour; • to discourage (or to forbid) using and marketing highly penalising tangibles. If suppliers have the contract obligation of supporting the fit-for-purpose life-span of sold items, trading price shall include eco-consistency charges for usage, maintenance, refurbishing and replacement; therefore: # pricing becomes main duty, with life-cycle data (and new competition features between enterprises); # fair trade set-ups need be assured, grounded on objective references and controlled by independent authorities. The eco-assessment *ruling* is, at the moment, critically driven by generalised social acceptance of its urgency, and deeply linked to legal prescriptions on accounting for resource decay (by *TYPUS* or similar metrics) and on controlling actual environment impacts by accredited (third party) bodies. The *value* of life-cycle visibility establishes, when reported to compulsory requests, driven by fair-trade contexts: general principles need be issued (e.g., by CERES, Coalition for Environmentally Responsible Economies), so that companies are pushed to include *green*-guidelines in the design constraints, to be allowed of eco-labels, testifying achievement of sustainability records and conformance to enacted rules.

On these facts, the build-up of bylaw frames, rather than an obstacle, will be a spur toward economical returns, giving visibility of the performance of competing solutions. The *intelligent* factory, with *extended*-artefacts, increases its market share, with basic role played by information *extended* frames, monitoring their eco-consistency by *virtual* set-ups, binding, at the points-of-service, suppliers and users *with* accredited control bodies. Indeed, sustainability is satisfied by integrated design accomplishments, showing how ecology concern is dealt with, for materials choice, energy saving, waste avoidance, etc.: - while manufacturing, as inner-enterprise duty; - during artefacts use, up-keeping, refurbishing, etc., by teaching the users with the operation and maintenance guide; - at recycle or discharge of damaged items and scraps, by detailing environment-safe actions. The virtual organisation is the natural support for product-service management, fostering technology innovation, by market-driven changes (to win new buyers, facing world-wide competition) and official bylaws (to satisfy enacted running and dismantling rules), while moving the legal responsibilities on the environment preservation out of individual seller-buyer pairs, by means of the (independent) certification schemes.

The concepts show how the *new*-economy might be turning point in mankind progress. Sustainable development is community survival requirement and its overseeing has to be transferred to third-party bodies, by giving rules about resource efficiency, on tangibles stewardship, as for: # raw materials consumption; # energy saving; # safe operation life; # recovery or revamping options; # product end-of-life plans; # old crocks disposal; # etc.. The eco-management is duty to be performed by recording every accomplishment, to be aware of ecological burdens, from material procurement and in-use falls-out (including pollution and serviceability), to trash and worn-out items dismantling. The knowledge-intensive aids of *extended*-artefacts and *virtual* set-ups are facets of akin technical issues, and are prerequisites for the eco-consistency ruling by accredited authorities, exploiting:

- control and supervision of distributed processes, with eco-consistency recording;
- collaboration through networked organisations between suppliers and users;
- safe communications and authentication frameworks, for point-to-point service;
- proprietary paradigms and methods to support co-ordination and control;
- hierarchical/federated knowledge management, with privacy protection;
- value acknowledgement and assessment for resource efficiency graduation;
- supporting functions for the *extended*-artefacts life cycle (dismissal included);
- reference architectures for the *virtual* set-ups life cycle (legal frames included);

- interoperable infrastructures, within shared web-based opportunities;
- and any other option offered by knowledge-intensive frames.

All in all, the (third party) certification schemes: - on one side, are critically linked to the knowledge aids offered by *extended-artefacts* and *virtual* set-ups; - the other side, provide objective added *value* to exchanged goods, with simultaneous eco-labelling ability.

5. CONCLUSIONS

The discussion moves from changes already brought in by the *new-economy*, with **K** as independent productivity factor, and looks after the sustainability falls-out, which make sound to include also **T** as explicit productivity factor, to account for material resources decay, within fair-trade contexts. The changes will not happen by themselves; they might progressively develop on the availability of *artificial* intelligence, as instrumental aids of the *service* market (as *artificial* energy promoted the changes to the *manufacture* market). The build-up of the *service* market, however, could establish after widely modifying the relationships between citizens, as for trade acts and civil codes. Leasing-like indentures, e.g., for instrumental *durables* will up-date the way to control ownership regulations. Restriction on *consumables* might imply user enjoyment restrictions for given artefacts. These are but examples and deserve careful interpretation, as the *new* developments (products-services and extended enterprises) are instrumental aids.

The centrality of the designers concern for sustainability shall be recognised and linked to enabling options (say, virtual set-ups incorporating certified ecological control). The designers duty shall be engaged in conceiving *smart* products and in specifying *smart* operation guides; to that purpose, the *TYPUS* or similar other metrics will be addressed to express resource efficiency and to look after *true* prices with included eco-consistency costs. The technical coherence of *smart* goods and *fair* trade rules will help consumers to aim at sustainable choices and environment respectful behaviours. Still, the technological feasibility of *new* developments does not mean that economic effectiveness is achieved: recent falls-off with *new-economy* trends show that *old-economy* keeps, today, critical relevance in the market of tangibles, to preserve current welfare levels. At the same time, the consciousness that technological sustainability has to suffer limitations suggests to look after changes assuring to balance eco-charges as for tangibles (the factor **T**), by knowledge-based returns (the factor **K**). This leads to replace the *manufacture* market, with the *service* market. However, by simply moving the suppliers responsibility from the *point-of-sale* to the *point-of-service*, more severe environmental burden might issues, as, e.g., leased items may age faster than owned one, due to irresponsible use of the lessee in wear-out protection and up-keeping carelessness; that is why third-party overseeing and control are needed.

Facts complexity, nevertheless, needs not hinder the obligation to put sustainability in charge to parties having benefits and not poured on other peoples, so that transparent pricing can keep environment impact within allowed limits. The bylaw frames shall:

- # be stated with world-wide covering, to prevent unfair biases in competition;
- # act on consumers side, to foster a *restore* society, instead of a *throw-away* society;
- # re-orient the supplier side, to offer *functions* (not *artefacts*), to satisfy current needs;
- # discourage behaviours and processes with intensive tangibles spoilage;
- # support the infrastructures of a service market with proper eco-labelling schemes;
- # stimulate jobs to re-use tangibles, by *reverse* logistic (to collect, disassemble, recover, classify, sell, etc. all material resources);
- # establish positive actions (not series of vetos, that give rise to hidden bargains), in order to empower, by *fair* trade rules, a *service* market, respectful of the ecological side of the human welfare.

In such frameworks, the information infrastructures play critical roles at different ranges, as shortly summarised in the note. The **COVE** project, accordingly, could profit, whether properly addressed to play the expected role.

Genova, 02.02.02

COVE as a new Working Group in TC 5

COVE was initially launched as a pilot project in the context of the Technical Committee 5 of IFIP. Due to the dynamism of the group gathered around this project IFIP decided to transform it into a more permanent structure, the **Working Group 5.5** with the following aims and scope:

AIMS

To promote and encourage research and technological development on many aspects of business practices, advanced tools and mechanisms, and forthcoming standards, in the areas of virtual organizations, virtual enterprises, and advanced electronic business models.

To contribute to the harmonization and knowledge dissemination of world-wide research results on virtual organizations, and to foster needed collaborative developments.

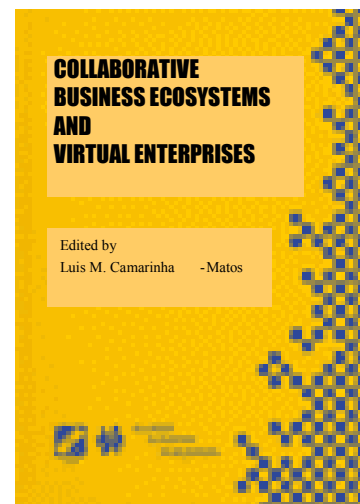
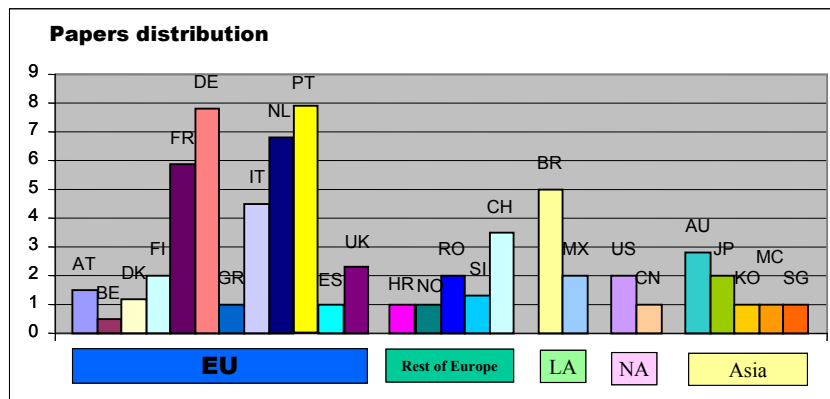
SCOPE

- Reference architectures for virtual organizations including life cycle models
- Collaboration models in networked organizations
- Interoperability infrastructures in collaborative web-based environments
- Safe communications and authentication frameworks
- Distributed/federated information and knowledge management
- Assessment of the role of ontology and standards
- Planning and supervision of distributed business processes
- New value systems and assessment methods
- Collaboration coordination and management
- Supporting functions for the full life cycle of virtual organizations
- Novel paradigms and methods to support distributed collaborative processes

PRO-VE'02

COVE was one of the main co-sponsors of PRO-VE'02 – 3rd IFIP Working Conference on Infrastructures for Virtual Enterprises, held in Sesimbra, Portugal, 1-3 May 2002.

The Call for Papers attracted 106 submissions of which 67 were selected for presentation at the conference.



In addition to the submitted papers, 11 additional presentations were included in the program, with particular reference to the organization of a special session on Industry Case Studies.

More information on the program can be found at www.uninova.pt/~prove.

The conference was attended by about 110 participants. 13 COVE members attended the conference. The proceedings were published by Kluwer Academic Publishers:

Collaborative Business Ecosystems and Virtual Enterprises. ISBN 1-4020-7020-9.

PRO-VE'02 was also an opportunity to organize a joint meeting between COVE and the IST THINKcreative project.

The IFIP TC5 also had its annual meeting on the same occasion.



BASYS'02

COVE was one of the co-sponsors of BASYS'02 – 5th IFIP Conference on Information Technology for Balanced Automation Systems in Production and Services, held in Cancun, Mexico, 25-27 Sep 02.

In spite of the perturbations caused by the hurricane "Isidore", the conference was a successful one including good technical presentations under four main tracks:

- Systems interoperability and enterprise modeling
- Networked enterprising
- Multi-agent and holonic manufacturing systems
- Integration of product and service life cycles.

As a collaboration between COVE and THINKcreative, a panel devoted to the topic "Towards New Collaborative Organizational Forms" was organized. Arturo Molina, member of COVE and chairman of the organizing committee, also organized a special industry session where several industrial cases were presented and discussed.

The proceedings were published by Kluwer Academic Publishers:

Knowledge and technology integration in production and services

V. Marik, L.M. Camarinha-Matos, H. Afsarmanesh (Editors), ISBN 1-4020-7211-2, Sep 2002

NEWS



PRO-VE'03

Next PRO-VE conference, a flagship of COVE, will take place in Lugano, Switzerland.

Date: 29-31 Oct 2003.

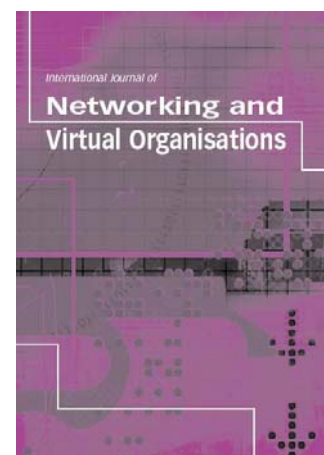
The Call for Papers will appear soon on the web site: www.pro-ve.org. COVE members are invited to take an active role in this conference that is becoming a well-recognized scientific event.

IJNVO

International Journal of Networking and Virtual Organizations

Several COVE members are involved in the Editorial Board of this new journal published by Inderscience, UK.

Two special issues are being prepared with basis on the best papers of PRO-VE'02.



BASYS'04

The preparation of the 6th BASYS Conference is starting

The planned location is Vienna, Austria.

COVE members are invited to take an active role in the conference.

RELATED PROJECTS

The IST program of the European Commission launched a number of initiatives on virtual organizations / virtual enterprises that have a very close relationship with the scope and objectives of COVE. Three of these initiatives are:

THINKcreative

Thinking network of experts on emerging smart organizations

Jun 2001 – Dec 2003



THINKcreative aims at establishing a working group to act as a European advisory group in the area of smart and emerging organizations in the framework of the "knowledge and skills economy". The general goal is to identify and characterize the emerging organizational forms, the required infrastructures, modeling and application tools, and socio-organizational needs for the next 5, 10, and 20 years.

Specific goals include:

- Characterization of these evolving and highly unpredictable systems;
- Identification of required tools;
- Understanding of cooperation forms, and suitable agreement models;
- Clarification of the new relationships between humans and organizations (stationary workers, teleworkers, e-lancers);
- Definition of new value systems and performance measures for intangible assets;
- Identification of necessary inter-linking between global production and the local customization;
- Identification of training requirements and social needs.

THINKcreative is a network of recognized experts from Academia and Industry in different regions of Europe, who have complementary expertise in the areas such as: smart and virtual organizations, collaborative systems, interoperation, knowledge and information management, business process modeling, social and ethical issues, and electronic business.

4 COVE members are involved in THINKcreative.

More information can be found at: www.thinkcreative.org.

VOSTER



The overall aim of VOSTER is to collect, analyze and synthesize the results from a number of leading European research projects on Virtual Organization (VO), i.e. "geographically distributed, functionally and culturally diverse, dynamic and agile organizational entities linked through ICT". In addition to the European projects, and although taking into account the limited resources available, VOSTER also intends to consider some relevant projects from other

geographical areas (e.g. USA, Canada, Australia, Mexico, Brazil, Japan).

4 COVE members are involved in VOSTER. More information: <http://cic.vtt.fi/projects/voster/public.html>

VOmap

Roadmap design for collaborative virtual organizations in dynamic business ecosystems

Jul 2002-Jun 2003



VOmap aims to identify and characterize the key challenges, required multi-disciplinary constituency, and an implementation plan for a comprehensive initiative to affirm the EU leadership on emerging collaborative virtual organizations (VO). VOmap focuses on the feasibility study and developing a

roadmap to the necessary integrated research and technological development, with the aim to address the full innovation cycle of a sustainable new generation of businesses with the wide industrial impact. Further scientific and technical objectives include: Consolidate multi-disciplinary paradigms, Establish a clear baseline and wide consensus on concepts and terminology; Identify future scenarios, Build a vision of future VOs, Understand and characterize the VO nesting environments, Plan the necessary IT and non-IT developments based on a common reference model; Design a strategy and implementation mechanisms for a major initiative on VO.

3 COVE members are involved in VOmap.

More information can be found at: www.vomap.org.