Subject: Re: New Aims and Goals
Resent-Date: Sat, 22 Jul 2000 09:10:38 -0400
Resent-From: Geoffrey Fox <gcf@mailer.scri.fsu.edu>
Resent-To: Geoffrey Fox <gcfpc@csit.fsu.edu>
Date: Sat, 22 Jul 2000 03:48:31 +0100
From: ajgh <ajgh@ecs.soton.ac.uk>
To: fox@csit.fsu.edu
CC: ahalliga@wiley.co.uk, A.J.G.Hey@ecs.soton.ac.uk

Geoffrey, Anne-Marie

1) Here are some suggested edits to your draft - inserts in [...]. It would be good to get something out before Europar - and maybe have a flier with this on and the date for the change of name.

2) Anne-Marie - we discussed rewards and duties of Editorial Board members - before I write to new member (before Europar if possible) I would like to be able to specify what they get annually in return. Please can you remind me of what you thought would be possible?

On vacation till the 13 th August.

Tony

At 23:02 21/06/2000 -0400, you wrote:

> As this was updated to include the Internet etc some 3 years ago, I didn't change in a major way
> I added Grids Palmtop Wireless
> Please comment
> Thank you
> xmlns:o="urn:schemas-microsoft-com:office:office" xmlns:w="urn:schemas-microsoft-com:office:word"
> xmlns="http://www.w3.org/TR/REC-html40">

Computing and Communication technology is changing business, academia and society. Research advances are increasingly driven by the practice and experience from using large-scale distributed and parallel systems. Concurrency is central to enabling the new computational systems. We have tens of millions of concurrent clients on the World Wide Web and many thousands of powerful nodes in high-end massively parallel machines (MPP) [or commodity Beowulf clusters].The world wide deployment of intelligent cellular phones and other palm-sized devices with wireless connections will lead to even greater power and much higher degrees of concurrency. Equally complex issues come from the networks of intelligent devices in vehicles and homes. [Moore's Law will continue to drive the silicon industry for some years yet, although there may be some slowing down in the next decade.] One can [certainly] project continued rapid progress within ten years, Exaop performance from the Web and Petaflop capabilities in closely coupled parallel machines. This leads to a confusing rich choice of architectures with distributed memory PC clusters or Web-based computers and shared memory MPPs. These are enabled and coupled with corresponding boosts in wide-area network performance and deployment with a blurring and convergence of computing and communication. Optical and wireless technologies will enable even more powerful systems. This hardware juggernaut is coupled to new languages and programming paradigms, such as Java and XML for the Web and multithreading, HPF and MPI for parallel systems. The combination of concurrent digital and optical technology is expected to create a [new] Global Information Infrastructure (GII) [or Grid] that will enable new applications, and open up a new set of communication and computer software and

architecture challenges. Each application areas will spawn computation, information [and knowledge] grids with portals as the integrated user interface. We need portable, scalable, [dependable and secure] solutions. These technology developments will be driven by [this global 'e-science agenda] and [deployed] in a wide range of academic, research, and commercial application areas. [Users are already gaining] a substantial amount of practical experience in the type of problems that are enabled or enhanced by this amazing infrastructure. New computational methods, such as mobile agents, cellular automata and massively parallel neural networks are particularly suited to concurrent execution. There is a rapid growth in both scientific (grand challenges) and information (national challenge) applications that drive both the functionality and high performance of the base technologies. These challenges [will increasingly be global in nature and] will impact academia, business, the homes and education. Advances in human-computer interfaces are also opening up new applications with full immersive environments becoming available, and tools to support those with disabilities broadening the reach of the computer and communication revolution.

This journal will [continue to] focus on practical experience, and will cover the application of these converging trends to solve real problems. In particular, themes [for] our papers [could] include:

- The computer science or application aspects of using modern computing, communication and information technology to solve specific problems in academia, industry and society. [Increasingly these will be global e-science problems using some form of grid infrastructure.]
- Concurrent algorithms and computational methods
- Applications and Technologies for petaflop parallel computing; novel ideas for high performance systems
- Computational Grids, Metacomputing, Problem Solving Environments and Portals
- [Information and Knowledge Grids, Data-mining, Knowledge Discovery]
- Programming environments, operating systems, tools, concurrent languages, compilers, interpreters
- Relevance of new languages such as Java for large-scale systems
- Relevance of distributed objects and their integration into large scale systems
- Implications of the growing power and use of wireless enabled palm-sized devices
- Performance prediction, analysis, models and results
- Applications, and algorithm and software technologies arising from the World Wide Web including novel areas, such as education
- Unification of computing and communication; unification of parallel and distributed computing

- [Dependability and security issues, adaptable and mobile grids]

[To recognize this broadening of the remit of the journal, it will appear under the new name of 'Concurrency and Computation: Practice and Experience from January 2001. We hope that readers will welcome these changes.]

I hope these comments are useful. Please feel free to edit. I do thoink that we need a concluding paragraph announcing the name change.

Best wishes

Tony