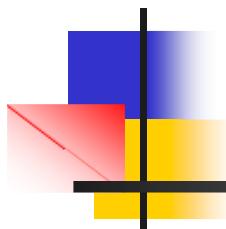




Proposal for TC Status: Technical Committee on Clusters and Grids (TCCG)



Mark Baker

University of Portsmouth, UK

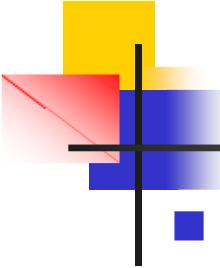
Mark.Baker@Computer.org

Rajkumar Buyya

University of Melbourne, Au

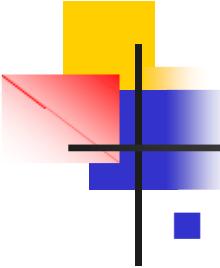
raj@cs.mu.oz.au

<http://www.ieeetfcc.org>



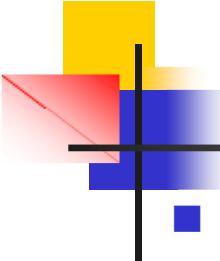
Overview

- Introduction
- Conferences and Events
- Book Donation programme
- Cluster Computing Archive
- Top Clusters Project
- TFCC Whitpaper
- TFCC Newsletter
- Summary
- Request for TC Status



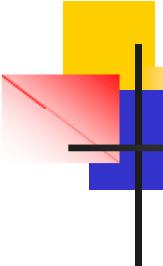
A Little History

- In 1998 there was obvious huge interest in Clusters, so it seemed natural to set up a focussed group in this area.
- A Cluster Computing Task Force was proposed to the I EEE CS.
- The TFCC was approved and started operating in February 1999.
- The TFCC is serving as an international forum to promote cluster computing research and education, and participate in setting up technical standards in this area.



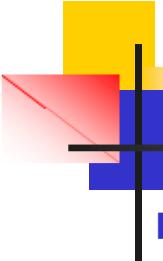
Current Activities

- We are involved with issues related to the design, analysis and development of cluster systems as well as the applications that use them.
- TFCC organises and sponsors professional meetings, produces publications, sets guidelines for educational programmes, and help co-ordinate academic, funding agency, and industry activities.
- We publish a bi-annual newsletter to help the community keep abreast of activities in field.



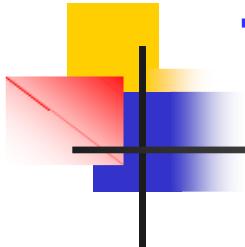
Activities Scope

- The TFCC brings together all the activities/ technologies used with Cluster Computing into one area - so instead of tracking four or five I EEE TCs there is one...
- Cluster Computing is NOT just Parallel, Distributed, OSs, High-Availability, or the Internet, it is a mix of them all, and consequently different.
- The TFCC has been an appropriate body for focusing activities and publications associated with Cluster Computing.



Activities Scope

- Since its inception, the TFCC has promoted all aspects of Clusters, this has naturally extended to using clusters of clusters and then the Grid.
- It has been organizing three major annual events:
 - IEEE International Conference Cluster Computing,
 - IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid),
 - IEEE International Workshop on Grid Computing.



The TFCC Web Portals

- TFCC Web page:

<http://www.ieeetfcc.org>

- Mirrors in Australia,
UK, and US



TFCC

IEEE Task Force on Cluster Computing



- [Introduction](#)
- [Technical Areas](#)
- [Education](#)
- [Book Donation](#)
- [Conferences](#)
- [Membership](#)
- [Press Articles](#)
- [Newsletter](#)
- [Annual Reports](#)
- [Regional Activities](#)
- [Executive Committee](#)
- [Advisory Committee](#)
- [Service Awards](#)
- [TopClusters Project](#)
- [CC Archive](#)
- [www.ieeetfcc.org](#)
- [Mirrors: AU & UK](#)
- [Contact Details](#)

Welcome to the IEEE Computer Society Task Force on Cluster Computing!

Invitation: [CCGrid 2005](#) and [Cluster 2004](#), and [Grid 2004](#) events.

The TFCC is an international forum promoting cluster computing research and education. It participates in helping to set up and promote technical standards in this area. The Task Force is concerned with issues related to the design, analysis, development and implementation of cluster-based systems. Of particular interest are: cluster hardware technologies, distributed environments, application tools and utilities, as well as the development and optimisation of cluster-based applications.

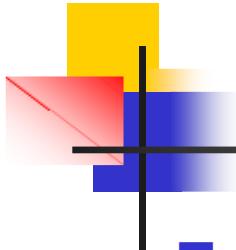
The TFCC sponsors and helps to coordinate a number of workshops that would span the range of activities sponsored by the Task Force. In addition, the TFCC publishes a bi-annual newsletter to help IEEE/Computer Society members keep abreast of the events occurring within this field.

<http://www.ieeetfcc.org>

onal programs, as well as annual conferences and

For latest updates in cluster computing, please check out our TFCC newsletter at: <http://www.clustercomputing.org/>.





TFCC Mailing Lists

- Currently three emails lists:

- **tfcc@clustercomputing.org** – a discussion list open to anyone interested in the TFCC.
- **tfcc-exe@port.ac.uk** – a closed executive committee mailing reflector.
- **tfcc-adv@port.ac.uk** – a closed advisory committee mailing reflector.

Technical Areas and Leaders

IEEE Task Force on Cluster Computing - Microsoft Internet Explorer

File Edit View Favorites Tools Help [defax](#)

Back [Search](#) Favorites Media [Email](#) [Print](#) [New](#) [Open](#) [Save](#) [Save As](#) [Properties](#)

Address <http://www.ieeetfcc.org> Go Links >

  **TFCC**
IEEE Task Force on Cluster Computing 

Technical Areas

The TFCC's technical areas (but not limited to) and its coordinators are listed below. Please contact respective coordinators or TFCC chairs if you have any comments links to be added.

Network Technologies	Salim Hariri (Arizona, USA)
OS Technologies	Hank Dietz (University of Kentucky, USA)
Programming Environments	Tony Skjellum (MPI Softech, USA)
Parallel I/O	Erich Schikuta (Wien, Austria)
Java Technologies	Geoffrey Fox (NPAC, Syracuse, USA)
Algorithms and Applications	Marcin Paprzycki, (USM, USA); and David Bader , Uni. of New Mexico, USA.
Analysis and Profiling Tools	Dan Reed (UIUC, USA)
Storage Technologies	Mazin Younis (IBM, USA)
High Throughput Computing	Miron Livny (University of Wisconsin at Madison, USA)
High Availability	Ira Pramanick (Sun Microsystems, USA)
Single System Image	Toni Cortes (Universitat Politecnica de Catalunya, Spain)
Performance Evaluation	Jack Dongarra (University of Tennessee at Knoxville and ORNL, USA)
Software Engineering	Peter Luksch (Technical University, Muenchen, Germany)
Education	Barry Wilkinson (UNCC, USA)
Newsletter	Frank Sommers, University of Southern California
Industrial Contact	Rawn Shah (Sun World Journal, USA)

 **IEEE**
TFCC

Internet

Area Coordinators maintain their own dedicated Web Portals – e.g., Education

The screenshot shows a Microsoft Internet Explorer window displaying the IEEE CS Task Force on Cluster Computing (TFCC) Education Page. The page has a blue header bar with the URL <http://www.coe.uncc.edu/~abw/parallel/links.html>. Below the header is a toolbar with standard buttons like Back, Forward, Stop, Refresh, and Search. The main content area features the IEEE logo on the left and the TFCC logo with the text "IEEE Task Force on Cluster Computing" in the center. To the right is a large logo for the Technical Area Education. A sidebar on the left contains the title "IEEE CS Task Force on Cluster Computing (TFCC) Education Page" and a "Contents" section with a list of links. The main body of the page includes text about the purpose of the site, a link to the NSF/TFCC Workshop on Teaching Cluster Computing, and sections for other IEEE CS Task Force pages, related IEEE Computer Society sites, and home pages containing educational materials.

http://www.coe.uncc.edu/~abw/parallel/links.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Favorites Media

Address <http://www.coe.uncc.edu/~abw/parallel/links.html> Go Links

IEEE CS Task Force on Cluster Computing (TFCC) Education Page

Contents

- [Top](#)
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- [Reports](#)
- [Cluster projects](#)
- [Cluster resources](#)
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[Single Frame Display](#)

TFCC
IEEE Task Force on Cluster Computing

Technical Area Education

The purpose of this site is to maintain a repository of links to sites directly related to teaching cluster computing.
This work is part of the overall activities of the IEEE CS Task Force on Cluster Computing.
Please help us by letting us know of your site which we can add to the list. Send email to [Barry Wilkinson](mailto:Barry.Wilkinson@uncc.edu) (abw@uncc.edu).

[NSF/TFCC Workshop on Teaching Cluster Computing July 2001](#)
[TFCC-Education Promotion Program -- Book Donation](#)

Other IEEE CS Task Force on Cluster Computing Pages:

- [Main TFCC Page](#)
- [TFCC Newsletter](#)

Related IEEE Computer Society Sites:

- [IEEE CS Technical Committee on Parallel Processing \(TCPP\) - Newsletter](#)
- [IEEE CS ParaScope A Listing of Parallel Computing Sites](#)

Home Pages Containing Educational Materials:

Regional Activities

IEEE Task Force on Cluster Computing - Microsoft Internet Explorer

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Address  http://www.ieeetfcc.org  Go Links >

  **TFCC**
IEEE Task Force on Cluster Computing 

TFCC Regional Activities

Africa	Yinong Chen , University of the Witwatersrand, South Africa
Australia	Hong Shen , Griffith University, Brisbane
Canada	Harjinder Sandhu , York University, Toronto
China	Hai Jin , HUST, China / Uni of Southern California, USA
Europe	Wolfgang Gentzsch , Genias Software, Germany
Hong Kong	Cho-Li Wang , Hong Kong University, HK
India	Sriram Chakravarthi , MPI Software Technology India, Bangalore and R. K. Shyamasundar , Tata Institute of Fundamental Research, Bombay
Israel	Orly Kremien , Bar-Ilan University, Israel
Japan	Yutaka Ishikawa , Real World Computing Partnership
Middle-East	Shahriar Shahhoseini , Iran University of Science and Technology
South America	Ricardo Bianchini , Federal University of Rio de Janeiro, Brazil
Thailand	Putchong Uthayopas , Kasetsart University, Bangkok
Taiwan	Chung-Ta King , National Tsing Hua University, Hsinchu
USA	Daniel S. Katz , NASA Jet Propulsion Lab., California Institute of Technology and Amin Vahdat , University of California @ San Diego.



Internet

Regional Coordinators maintain their own dedicated Web Portals – e.g., Japan

The screenshot shows a vintage Netscape 6 browser window titled "TFCC JapanPage - Netscape 6". The address bar displays the URL <http://pdswww.rwcp.or.jp/TFCC/>. The page content features the IEEE logo and the TFCC logo with the text "IEEE Task Force on Cluster Computing". The main heading is "TFCC Japan". Below this, there is a link to the "IEEE CS Task Force on Cluster Computing (TFCC) Home page". A section titled "Cluster Computing Projects in Japan" is listed under "Alphabetical order". The projects include:

- Aoyama-Gakuin University
 - Department of Physics
[Aoyama+ Project](#)
- Electrotechnical Laboratory, MITI
 - ETL Supercluster computing servers
[Ninf Project](#)
 - Visual Computing Laboratory
[ViVo: Visible Volumetric Processing Project](#)
- Gifu National College of Technology
 - [NSPX: New Structural Analysis System with Parallel Extension](#)
[NSPX01 PC-Cluster System](#)
- Japan Science and Technology Corporation
 - ERATO-1 Beowulf-class Cluster Project
[ERATO, Kitano Symbiotic Systems Project](#)
- Nagoya Institute of Technology
 - VIOS Project
[Parallel and Distributed processing Team](#)
- Osaka University
 - Machikaneyama Project
[Department of Physics/Cybermedia Center](#)
- Real World Computing Partnership
 - RWC PC Clusters and SCore Cluster System Software
[Parallel and Distributed System Software Laboratory](#)
 - RWC COMPaaS Clusters and Omni openMP programming environment for a cluster of SMPs
[Parallel and Distributed System Performance Laboratory](#)

The browser's status bar at the bottom shows "Document: Done (0.312 secs)". The taskbar at the very bottom includes icons for Start, My Computer, My Network Places, Internet Explorer, and other system tools.

Annual Cluster Conference Series

The screenshot shows a Microsoft Internet Explorer window displaying the IEEE Annual International Conference on Cluster Computing website. The title bar reads "IEEE Annual International Conference on Cluster Computing - Microsoft Internet Explorer". The address bar shows the URL "http://www.clustercomp.org/". The main content area features a banner with "IEEE CLUSTER COMPUTING" and "TFCC Annual Conference". Below the banner is a world map with red dots indicating conference locations: 2001 (USA), 2002 (USA), 2000 (Europe), 2003 (Asia), and 1999 (USA). A yellow bar at the bottom contains the website address "http://www.clustercomp.org". The browser interface includes standard menu items like File, Edit, View, Favorites, Tools, Help, and a toolbar with icons for Back, Forward, Stop, Refresh, Home, Search, Favorites, Media, Mail, Print, and others.

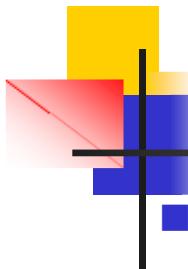
Introduction

The IEEE Computer Society Task Force on Cluster Computing (TFCC), formed in early 1999, is committed to the promotion of all aspects of cluster computing including research, technological development and education. In order achieve this, we have launched several activities including promoting an open community discussion, holding events that bring leading experts together, the instigation of a popular book donation programme and the provision of advise to commercial bodies.

Mission and Scope

The Task Force annual conference series serves as a major international forum for presenting and sharing recent accomplishments and technological developments in the field of cluster computing as well as the use of cluster systems for scientific and commercial applications. It involves participants (researchers, developers, and users) from academia, industry, laboratories, and commerce, coming together to discuss recent advances and trends in, but not limited to:

- system modelling and architecture
- hardware systems and networks
- single system image
- system software and tools
- programming models, environments, and languages



Annual Conference – Cluster XY

- Cluster 1999, Melbourne, Australia, December 1999, **105** delegates.
- Cluster 2000, Chemnitz, Germany, November, 2000, **160** delegates.
- Cluster 2001, Newport Beach, California, October 8-11, 2001, **300** delegates.
- Cluster 2002, Chicago, September 23-26, 2002, **300** delegates.
- Cluster 2003, Hong Kong, Dec. 1-4, 2003.
- Cluster 2004, SDSC, California, 2004

File Edit View Favorites Tools Help [Fax](#)

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Address <http://www.csis.hku.hk/cluster/2003/>

IEEE International Conference on Cluster Computing www.csis.hku.hk/cluster/2003/

DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION SYSTEMS, THE UNIVERSITY OF HONG KONG



CLUSTER 2003
December 1-4, 2003

Hong Kong

MENU

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Latest News

Cluster 2003 was a great success with delegates all seemed to enjoy the event.

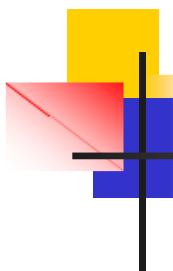
Presentation materials are available on the [Program](#) page.

Take a look at the photo album, those pictures should bring back a lot of good memory about the event.

Hope to see you in next Cluster Series Conference - Cluster 2004 at San Diego, California

Dates to Remember

Submission Deadline:
June 30, 2003 (CLOSED)



Annual Conference – IEEE/ ACM CCGrid

- CCGrid 2001, Brisbane, Australia, May 15-18, 2001, **165** delegates
- CCGrid 2002, Berlin, Germany, May 21-24, 2002, **250** delegates.
- CCGrid 2003, Tokyo, Japan, May, 2003, May 11-16, 2002.
- CCGrid 2004, Chicago, USA, May, 2004.
- CCGrid sponsors associated workshops on emerging technologies.
- Each year, CCGrid and workshops together received over **250 papers submissions**.

CCGrid: International Symposium on Cluster Computing and the Grid - Microsoft Internet Explorer

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Back [Go](#) Search Favorites Favorites Media [Media](#)

Address <http://ccgrid.org/ccgrid2001/>

Links >

acm

IEEE

QUT

TFCC

IEEE Task Force on Cluster Computing

CCGrid2001

IEEE International Symposium on Cluster Computing and the Grid

15 - 18 May 2001, Brisbane, Australia

A wide-angle photograph of the Brisbane skyline, featuring numerous skyscrapers and modern buildings along the riverbank. In the foreground, there's a sandy beach with palm trees and people. The water of the river is visible in the lower left.

Across the river from the Queensland University of Technology, South Bank in Brisbane

Call for Demos.html.DOC

Done

Internet

CCGrid2002 - Microsoft Internet Explorer

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Back

Address <http://ccgrid2002.zib.de/>

2nd IEEE/ACM International Symposium on Cluster Computing and the Grid

CCGrid2002

21 - 24 May 2002, Berlin, Germany

Brandenburger Tor

© Presse- & Informationsamt Land Berlin/The

Presented by: ZIB Berlin, Freie Universität Berlin, Humboldt-Universität zu Berlin

Sponsored by: IEEE Computer Society through the IEEE Task Force on Cluster Computing

Internet

Home Call for Papers PDF PS TXT Paper submissions Program [ppr 0.6MB] Keynotes (Slides available) Special Session (Slides available) Tutorials Workshops Chairs & Committees Registration Sponsors Location and Symposium Information Accommodation/Travel Tourist Information CCGGrid Series Info 2001 best papers Contact Imprint

IEEE TCC www.ieee-tc.org

acm

siam

ZIB

Humboldt-Universität zu Berlin

Freie Universität Berlin

Brandenburger Tor



CCGrid2003 - Microsoft Internet Explorer

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Address [http://ccgrid2003.apgrid.org/](#)

Links > Go Links >

CCGrid2003

3rd IEEE/ACM International Symposium on cluster computing and the Grid



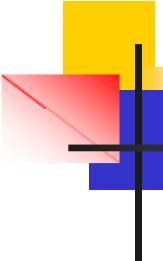
[Home](#) [Program](#) [Workshops](#) [Tutorials](#) [Registration](#) [Accommodation](#)

[Local Info.](#) [How to get around Japan \(updated 4 May 2003\)](#) [Chairs & Committees](#)

[Sponsors](#) [Supporting Organization](#) [Call for Posters & Research Demo](#) [Paper Submissions](#)

 Grid Research Inc.
   

Done



Associated Events – IEEE/ ACM Grid Workshops

- Grid 2000, December 17, 2000, Bangalore, India,
Grid 2001, November 12, 2001, Denver, Colorado,
held in conjunction with Supercomputing 2001,
 - Proceedings published by Springer-Verlag in the LNCS Series.
 - Paper: 28 submitted (16 papers accepted)
 - Funding: SC \$2000 towards publication
 - Numbers that attended: 150+.
- Grid 2002, November 18 2002, Baltimore, MD held in conjunction with Supercomputing 2002,
 - Proceedings are being published by Springer-Verlag.
 - Paper: 78 submitted (22 full paper and 6 short papers accepted)
 - Funding: NSF \$5000 towards publication
 - Numbers that attended: 150+.

External Sponsors (donated money) for TFCC events include:

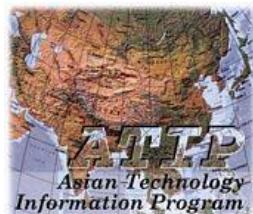


**HEWLETT[®]
PACKARD**



COMPAQ
Better answers

Microsoft



Gridware

CDCC
Centre for Development
of Advanced Computing

Akamai
Delivering a
Better Internet

PLATFORM

FUJITSU
SIEMENS COMPUTERS

Api
NetWorks

ivu

SuSE

T... Systems

MEGware[®]
Computer

s d & m
software design & management



Agilent Technologies
Innovating the HP Way

Dolphin
systems solutions

IBM®

Euro-Par - Netscape

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Back Forward Bookmarks Bookmarks Location: <http://homer.csm.port.ac.uk/events/europar2001/>

Euro-Par 2001 Manchester

28th - 31st August
Manchester, United Kingdom
European Conference on parallel computing



TOPIC 16:

CLUSTER COMPUTING

Keydates

Location

Download Call For Papers:

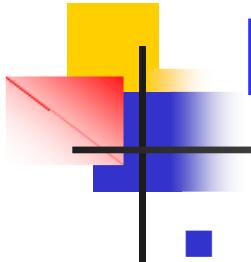
DESCRIPTION

- Colour PDF (1,206KB)
- Colour zipped PDF

The availability of high-speed networks and increasingly powerful commodity microprocessors are making the adoption of clusters, or networks of computers an appealing vehicle for cost effective parallel computing. Clusters, typically built using commodity-of-the-shelf (COTS) hardware components as well as free, or commonly used, software, are playing a major role in redefining the concept of high performance and availability computing.

Document: Done

Start Z-Mail Pro - bak... File Manager Z-Mail Pro - bak... Mark's HomePa... Euro-Par - Net... Mark's HomePa... Microsoft Powe... 8:54 PM



Book Donation Program

- <http://www.ieeetfcc.org/edupromote.html>
- Over 1100 copies of books and journals have been donated to faculties all over the world as part of educational promotion programme.
- In co-operation with many international publishers and authors.
- 75% to less well off faculties!

IEEE Task Force on Cluster Computing - Microsoft Internet Explorer

File Edit View Favorites Tools Help

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Address http://www.ieeftfccc.org/edupromote.html

To achieve the above, we need to request book publishers to donate books to TFCC, which we then distribute to faculties teaching (or plans to teach) cluster computing. Publishers will agree/happy to donate when we assure/ensure that books donated by them are used in developing the course (at least some percent). If you have authored/coauthored book related to cluster computing, please request the publisher to donate books to TFCC!

It begins...!!!

March 25, 99: TFCC is happy to inform that Prentice Hall has agreed to donate 50 copies of the following books: (*nomination closed!, already donated*)

- High Performance Cluster Computing: Architectures and Systems, Rajkumar Buyya (ed.), vol. 1, Prentice Hall PTR, NJ, USA, 1999.
- High Performance Cluster Computing: Programming and Applications, Rajkumar Buyya (ed.), vol. 2, Prentice Hall PTR, NJ, USA, 1999.

April 18, 99: Prentice Hall has agreed to donate 25 copies of the book (*nomination closed!, already donated*)

- Parallel Programming Techniques and Applications Using Networked Workstations and Parallel Computers, Barry Wilkinson and Michael Allen (auth.), Prentice Hall, 1999.

April 24,99: Prentice Hall (thanks to Greg Doench) has agreed to donate 25 copies of the book (*nomination closed!, already donated*)

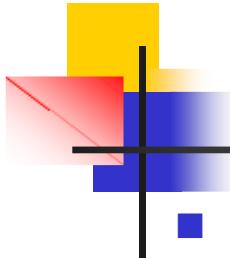
- In Search of Clusters, Greg Pfister (auth.), 2nd Edition, Prentice Hall PTR, NJ, 1998.

May 10, 99: Elsevier Publisher agreed to donate 50 copies of the EGCS Special Issue on Metacomputing and this special issue will appear in October, this year, and contains a collection of 23 contributions about metacomputing architectures, building blocks and applications. Please contact Monika Grobecker (mgro@geniasoft.com) if you wish to receive a copy of this special issue. (*nomination closed!, already donated*)

May 13, 99: Morgan Kaufmann Publishers would provide related books that may be of interest to the community of faculties (TFCC members) involved in teaching cluster computing. Please select book(s) of your interest from: http://www.mkp.com/books_catalog/areas/parallel_distributed.asp and then fill the form located at: http://www.mkp.com/orders/exam_form.htm

September 14, 99: Baltzer Science Publishers agreed to donate up to 40 copies of the Cluster Computing Journal. Please contact Monika Grobecker (mgro@geniasoft.com) if you wish to receive a copy of this special issue. (*nomination closed!, already donated*) **September 15, 99:** TFCC members get a highly subsidised price (low-cost) for online subscription to the Cluster Computing Journal. Baltzer Science Publishers offer each one of the TFCC members an online subscription to the journal at \$40. These would be personal subscriptions. Links to libraries may not be made. Subscriptions must be paid from personal accounts and paid directly to Baltzer (not through subscription agents). Members can fill in the order form (http://www.baltzer.nl/cluster/cluster.order.html) mentioning being "TFCC member" and have access to the Cluster Computing Journal at low-cost.

November 25, 99: ESRPT Network of Excellence, Working Group 22582 (SCMWG) announced the donation of 50 copies of the book to TFCC members. Thanks



Cluster Computing Archive

- <http://www.ieeetfcc.org/ClusterArchive.html>
- CoRR CC is an initiative of the TFCC in collaboration with the ACM, the Los Alamos e-Print archive, and NCSTRL (Networked Computer Science Technical Reference Library).
- The aim of the CoRR e-Print archive is to promote science and technology by providing a information store house that is accessible to colleagues all over the world.



The Computing Research Repository (CoRR)

Welcome to the Computing Research Repository (CoRR), sponsored by [ACM](#), the [arXiv.org e-Print archive](#), NCSTRL (Networked Computer Science Technical Reference Library), and [AAAI](#). From here you can

- [browse](#) the Repository and peruse recent submissions or browse the entire [NCSTRL collection](#)
- [search](#) the Repository or the [NCSTRL collection](#)
- [subscribe](#) to the Repository or the [NCSTRL collection](#), and get regular email notification of new submissions
- [submit](#) a document to the Repository using web upload, if you have already registered.
- [get help](#) on many topics, including
 - [submission](#), including registration and using email or ftp submissions (which do not require registration). (Click on [web upload help](#) in the submission help file to get more help on submitting by web upload and author registration.)
 - [searching](#)
 - [submitting Latex source](#)
 - [downloading papers](#)
 - [other frequently-asked questions](#)
- [find out more](#) about [CoRR](#), including a list of frequently-a
- go to [mirror sites](#), for potentially faster access to CoRR if y

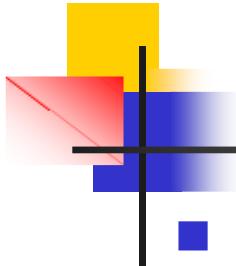
Preprint on Web – with Educational section:

**TFCC Championed introduction of a new subject area:
Distributed, Parallel, and Cluster Computing**

Papers in CoRR are classified in two ways: by subject area from a list of subject listed below and by using the [1998 ACM Computing Classification System](#). The ACM classification scheme provides us with a relatively stable scheme that covers all of computer science. The subject areas are not mutually exclusive, nor do they (yet) provide complete coverage of the field. On the other hand, we hope that they better reflect the active areas of research in CS. We expect to add more subject areas and subdivide current subject areas according to demand. Authors who cannot find an appropriate subject area should use subject area Other. We welcome constructive comments and suggestions; send them to www-admin@arXiv.org.

Here is the current list of subject areas and their moderators:

- **AR - Architecture** - William Waite
 - Covers systems organization and architecture. Roughly includes material in ACM Subject Classes C.0, C.1, and C.5.
- **AI - Artificial Intelligence** - Erik Sandewall
 - Covers all areas of AI except Vision, Robotics, Machine Learning, Multiagent Systems, and Computation and Language (Natural Language Processing), which have separate subject areas. In particular, includes Expert Systems, Theorem Proving (although this may overlap with Logic in Computer Science), Knowledge Representation, Planning, and Uncertainty in AI. Roughly includes material in ACM Subject Classes I.2.0, I.2.1, I.2.3, I.2.4, I.2.8, and I.2.11.
- **CC - Computational Complexity** - Lane Hemaspaandra
 - Covers models of computation, complexity classes, structural complexity, complexity tradeoffs, upper and lower bounds. Roughly includes material in ACM Subject



TopClusters Project

- <http://www.TopClusters.org>
- TFCC collaboration with Top500 project.
- Numeric, I/O, Web, Database, and Application level benchmarking of clusters.
- Joint BOF with Top500 at SC2000 on Cluster-based benchmarking.
- Ongoing effort ...

Clusters @ TOP500

We welcome to clusters@top500.org!

[Home](#) | [Top500 Site](#) | [IEEE TFGCC](#) | [Cluster Database](#) | [about this site](#)

User Functions

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Call for Participation in 20th TOP500 List

Tuesday, October 01 2002 @ 06:32 AM CDT
[Call for Participation in New Version of Top500 List \(More Info\)](#)

Linux NetworkX to build 'largest' Linux supercomputer

Monday, July 15 2002 @ 11:01 AM CDT
 Linux NetworkX has announced that it will be delivering a Linux-based cluster to Lawrence Livermore National Laboratory. "The Linux NetworkX Evolocity cluster, when delivered to LLNL, will be the fastest inter-based or Linux cluster machine ever built, as it will harness 1,920 Intel Xeon(TM) processors at 2.4 GHz with a theoretical peak of 9.2 teraFLOPS, or 9.2 trillion calculations per second." (Source: LWN)

[Full Story](#) [Post a comment](#)

Implications of Linux supercomputers for AMD, Intel

Wednesday, July 10 2002 @ 02:13 AM CDT
 Slowly, but steadily Linux is making its presence in the top performing supercomputers of the world. Teraflop level Linux machines are becoming the norm and Linux commodity clusters are redefining high performance computing. This increases the relevance of both Intel and AMD against the established players such as IBM, Sun and Cray.

[Read more](#) [Post a comment](#)

AMD Athlon MP Processors Drive Most Powerful x86 Cluster Supercomputers in Europe and Asia

Tuesday, June 25 2002 @ 06:06 AM CDT
 Here is a press release from AMD, describing the Linux cluster at the University of Heidelberg, Germany. It recently made its way onto the TOP500 supercomputer list "The University's Heidelberg Linux Cluster System (HELIOS) supercomputer performs scientific research at its interdisciplinary Center for Scientific Computing (CSC)." (Source: LWN)

[Post a comment](#)

Supercomputing Online

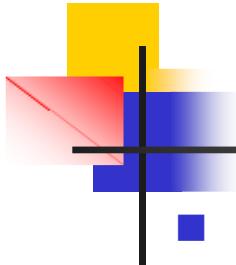
Primeur

- TurboGenomics introduces TurboBench 2.0 for life science computing
- San Diego Supercomputer Center to play major role in six NSF IT research awards
- National Science Foundation creates million Center for Theoretical Biological Physics at UC San Diego
- DKRZ opens its services for Germany
- Cray sells two Cray SX-6 supercomputers to the University of Toronto

SGI Hires Larry McArthur To Lead Manufacturing Industry Initiative

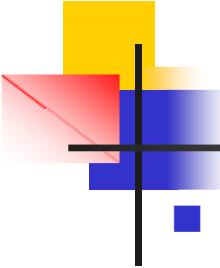
- Mental Images & ILM Announce Licensing Agreement
- Sandia Pursues Biotechnology As New Technology Focus Area
- Databases Can Heal Themselves On-The-Fly

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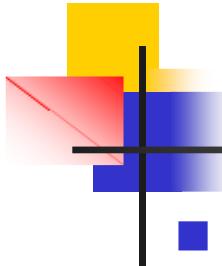
TFCC Whit epaper

- A Whit epaper on Cluster Computing, submitted to the International Journal of High-Performance Applications and Supercomputing, November 2000
- Snap-shot of the state-of -the-art of Cluster Computing.
- Became special issue of International Journal of High Performance Computing, Sage Science Press.
- Preprint , dsg.port.ac.uk/mab/tfcc/Whit ePaper/



TFCC talks and tutorials

- Vancouver , Canada
- Munich, Germany
- Perth & Melbourne, Australia
- Portland, Oregon, USA
- Dallas, Texas, USA
- Hyderabad & Bangalore, India
- Chemnitz, Germany
- Paris, France
- NAG, Oxford, UK
- London, Liverpool and Cardiff , UK
- Japan...



TFCC Newsletter

- Bi-yearly electronic publication.
- See the November 2002 issue at ,
<http://www.clustercomputing.org>

IEEE Task Force on Cluster Computing Newsletter - Netscape 6

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Summer/2002 Vol. 4, No. 1 IEEE

Newsletter of the IEEE Task Force on Cluster Computing

Current issue TFCC Corner Conferences Resources Archives Join the TFCC! Search:

This issue presents articles on the design, building, management, and evaluation of clusters consisting of several hundred to several thousand nodes... Continue...

TFCC News... ** CCGrid 2003 CFP...** Contribute... Comment... About the Newsletter... *

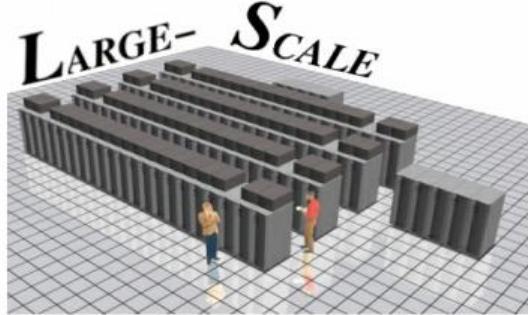
IEEE Task Force on Cluster Computing

Co-Chairs:
Mark Baker
University of Portsmouth
Rajkumar Buyya
University of Melbourne

Vice Chairs:
Jack Dongarra
University of Tennessee
Oak Ridge Nat. Lab.
Greg Pfister
IBM Server Technologies

Newsletter editor:
Frank Sommers
Autospaces
in conjunction with
USC Database Systems Laboratory

LARGE- SCALE



CLUSTER COMPUTING

Agenda

Large-scale clusters research:
First HEPiX Large-Scale Cluster Computing Workshop
Alan Silverman
CERN
Dane S
Fermi N

http://www.clustercomputing.org

Conceptual corner

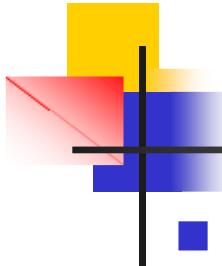
Farms, clones, partitions, packs, RAPS, and RACS:
Improve your scalability vocabulary
Bill Devlin, Jim Gray, Bill Laing, George Spix
Microsoft Research

Parallel Virtual Machine:
Tuning PVM 3.4 for large clusters
Al Geist
Oak Ridge National Laboratory

Towns, mayors, or divide and conquer:
The Chiba City Scalable management architecture
John-Paul Navarro, Narayan Desai, Rémy Evard, Dan Nurmi
Argonne National Laboratory

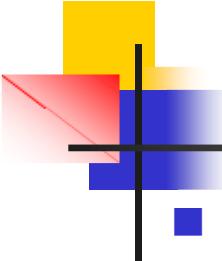
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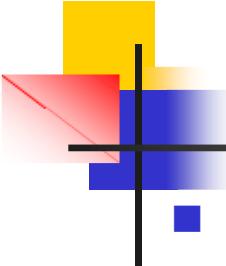
TFCC Membership

- Over 608 registered members
 - Free membership **open to all**, but few benefits may be restricted - (reduced registration fee for IEEE members)
- Over 550 on the TFCC Open Technical Discussion list <tfcc-l@bucknell.edu>



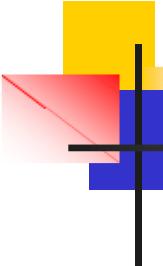
Summary

- We have started three successful conference series, that have significant attendance and commercial sponsorship.
- Promoting many aspects of Clusters through the TFCC sponsorship.
- Helping the community with our book donation programme.
- Engendering debate and discussion through mailing forum.
- Keeping the community informed with our information rich TFCC Web presence.



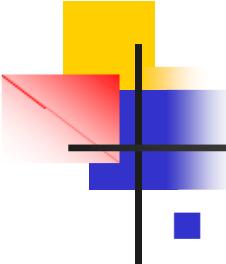
Request for TC Status

- We have expanded our activities far beyond our original scope.
- Now cover a community that is interested in Clusters through to the Grid.
- We believe that TFCC has been hugely successful in building up a cluster community and has realised its original objectives and goals.
- We aspire to continue to serve the community by continuing current programs and developing new innovative programs.
- On behalf of the TFCC community, we request the TAB to grant us TC status.



TC to emphasise Clusters and Clusters of Clusters (Grids)

- In recognition of TFCCs successful involvement with both the Cluster and Grid communities over the last 3 years, we propose that a new Technical Committee on Clusters and Grids (TCCG) be set up.
- The TCCG will take over from the TFCC and formally serve the Cluster and Grid communities.
- Strategically cover the Grid community is very important as this area is emerging as a major academic, industrial and commercial target.
- The TCCG will adopt a formal charter and will act as body that on behalf of the IEEC acts as a champion Cluster and Grid communities.



Some Proposed new activities

- Dedicated Student Forums
- Enhance Newsletter: to feature a series of invited and referred articles on emerging areas.
- Develop Cluster and Grid Portals
- Collaborative programs with strong relationships with the likes of the Global Grid Forum.
- Investigate the possibility of publishing transactions on Clusters and Grids.



We look forward for your support and
endorsement towards gaining the TCastus!
- The TFCC Community

