

Oct 29, 2001.

Deborah Scherrer,  
Chair, Technical Activities Board (TAB)  
IEEE Computer Society,  
USA

Dear Deborah,

It is our pleasure to report to you the activities of the IEEE CS Task Force on Cluster Computing (TFCC) for the year 2001. Since its inception in 1999, the TFCC has started, and continues to run, a number of successful activities under its patronage, direction and sponsorship. These activities include conferences, online discussion forums, publications, educational leadership, book donations, and general knowledge sharing. The enclosed report highlights our current and some of our future activities.

We planned to submit and present a proposal to November TAB meeting to request that the TFCC gain technical committee status. Unfortunately, due to the current political situation around, we are unable to attend the November TAB meeting. As we discussed over email, we now aim to submit our proposal early in 2002.

The details on TFCC activities can be found at TFCCs homepage:  
<http://www.ieeetfcc.org>

If you have comments and suggestions on TFCC activities, please let us know.

Thank you very much.

Sincerely Yours,

R. Buyya and M. Baker

Co-Chairs, IEEE CS Task Force on Cluster Computing

# The Task Force on Cluster Computing (TFCC)

## TFCC 2001 - Annual Report

(Activities since the last TAB meeting in Dallas, TX, Nov. 2000)

**Rajkumar Buyya and Mark Baker**  
TFCC Co-Chairs

### 1. Web Presence

TFCC home page: <http://www.ieeetfcc.org>

Mirror sites:

AU: <http://www.csse.monash.edu.au/~rajkumar/tfcc/>

UK: <http://www.csm.port.ac.uk/~mab/tfcc/>

US: <http://www-unix.mcs.anl.gov/~buyya/tfcc/>

Web Master: R. Buyya

### 2. Major TFCC hosted Flagship Conferences and Events

#### • 2001 TCCC Conferences:

1<sup>st</sup> IEEE/ACM/SIAM International Symposium on Cluster Computing and the Grid (CCGrid 2001) – <http://www.ccgrid.org>, May 14-17, 2001, Brisbane, Australia.  
200 Delegates

3<sup>rd</sup> IEEE International Conference on Cluster Computing (IEEE Cluster 2001) – <http://www.clustercomp.org>, Oct 8-11, 2001, Los Angeles, USA.  
300 Delegates

2<sup>nd</sup> IEEE/ACM International Workshop on Grid Computing (Grid 2001) – <http://www.gridcomputing.org>, November 12, 2001, Denver, Colorado, USA.

#### • Upcoming (2002) TCCC Conferences:

4<sup>th</sup> IEEE International Conference on Cluster Computing (IEEE Cluster 2001) – <http://www.clustercomp.org>, September 2001, Chicago, USA.

2<sup>nd</sup> IEEE/ACM/SIAM International Symposium on Cluster Computing and the Grid (CCGrid 2002) – <http://www.ccgrid.org>, May 22 – 24, 2002, Berlin, Germany.

### 3. Book Donation Program

<http://www.ieeetfcc.org/edupromote.html>

Over 1000 books have been donated to the TFCC who under its Book Donation Programme have passed these onto to University faculties all over the world. This programme is in co-operation with many international publishers and authors.

### 4. TFCC New (Bi annual) Letter – April-Oct and Nov-March issues

<http://www.eg.bucknell.edu/~hyde/tfcc/>

The TFCC puts together a bi-annual electronic newsletter that can be found via the TFCCs Web site. The Newsletter contents includes,

- Announcements about TFCC activities and achievements;
- Conference announcements;
- Call for papers – conferences;
- Call for Papers – journals;
- Journal announcements;
- Special issues on cluster computing in journals;
- Workshops;
- Tutorials;
- Book announcements;
- Project announcements, e. g., formation of new research groups;
- Product announcements;
- New Web sites on cluster computing;
- Short “News” articles.

##### **5. ACM/LANL CoRR and TFCC – Cluster Computing Archive**

<http://www.ieeetfcc.org/ClusterArchive.html>

The Computing Research Repository (CoRR) on Cluster Computing 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 an information repository that is accessible to colleagues all over the world. This Internet-based digital library has been mirrored in many countries to enable faster access to wealth of information.

This archive operates as part of the subject area know as “Distributed, Parallel, and Cluster Computing” and is moderated by Rajkumar Buyya (Monash University) and Tushar Chandra (IBM)

TFCC Body of Knowledge:

- Proceedings of the 3<sup>rd</sup> IEEE International Conference on Cluster Computing (Cluster 2001), Edited by Daniel S. Katz, Thomas Sterling, Mark Baker, Larry Bergman, Marcin Paprzycki, and Rajkumar Buyya, CS Press, October 2001, ISBN 0-7695-1116-3
- Proceedings of the 1st IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid 2001), Edited by Rajkumar Buyya, George Mohay, and Paul Roe, CS Press, May 2001, ISBN 0-7695-1010-8
- Proceedings of the 1<sup>st</sup> IEEE/ACM International Workshop, Grid 2000, Edited by R. Buyya and M. Baker, Lecture Notes in Computer Science 1971, Springer-Verlag, December 2000, ISBN 3-540-41403-7
- Proceedings of the 2<sup>nd</sup> IEEE International Conference on Cluster Computing, Cluster 2000, IEEE Computer Society Press, November 2000, ISBN 0-7695-0898-0
- M.A. Baker (ed), *Cluster Computing Whitepaper*, International Journal of High-Performance Computing Applications, Sage Publications, Inc., Volume 15, No. 2, May 2001, ISSN 1094-3420
- Craig Lee, *Cluster Computing and the Grid (CCGrid 2001) Report*, Usenix Journal and Asian Technology Information Program (ATIP), Japan, June 2001.
- Proceedings of the 2nd IEEE/ACM International Workshop, Grid 2000, Edited by Craig Lee, Lecture Notes in Computer Science 1971, Springer-Verlag, November 2001.

## **6. TFCCs Presence Around the World.**

The TFCC have regional co-ordinators around the world, including Australia, Europe, US, India, Japan, Canada, South America, Africa, Hong Kong, China, Taiwan, Thailand, Israel, and Middle East. Each of these co-ordinators maintains their own TFCC regional Web sites.

## **7. TFCC Awards**

We have presented 2001 volunteer services awards to the TFCC Education Coordinator, Barry Wilkinson – for his outstanding contributions to the IEEE TFCC educational programme and for leadership in promoting cluster computing education by organising and teaching cluster computing workshops. Barry is our newsletter editor and was the conference registration chair of our first annual event.

We presented two best paper awards in CCGrid 2001 symposium. At Cluster 2001 we presented awards for best exhibitor software and hardware.

## **8. New Volunteers**

Vice Chairs – Jack Dongarra (University of Tennessee at Knoxville) and Greg Pfister (IBM, Texas)

## **9. TOP500 and TFCC Initiative on World's TopClusters List**

<http://www.TopClusters.org>

The TFCC initiated in collaboration with the organisers of the TOP500 ([www.top500.org](http://www.top500.org)) supercomputers to develop a similar list for clusters. In addition to numerical benchmarks, we are looking into other parameters such as System I/O, Web, Database, and Application level performance for clusters.

## **10. TFCC Oriented Talks and Tutorials**

### *Talks*

- R. Buyya, Emerging Trends in Cluster and Internet Computing, IEEE Computer Society Hyderabad Section, Hyderabad, India, Dec. 21, 2000.
- M. Baker (University of Portsmouth), Current and Emerging Trends in Cluster Computing, Daresbury Laboratory, UK, January 2001
- M. Baker (University of Portsmouth), Current and Emerging Trends in Cluster Computing, Brunel University, UK, July 2001
- W. Gropp (ANL), The TFCC and Its Activities, Fermilab, Chicago USA, June 2001.
- M. Baker, New and Emerging Cluster Components, Linkoping, Sweden, October 2001.

### *Tutorials*

1. R. Buyya, Hot Topics in Network Computing: Clusters and Grids, Gold Coast, Australia, Jan. 28-Feb.2, 2001.
2. M. Baker, Practical Experiences with Clusters, EuroPar 2001, Manchester, UK, August 2001.
3. M. Baker, Emerging Technologies for MultiCluster/Grid Computing, Los Angeles, USA, Oct. 8, 2001

## **11. TFCC Membership**

- Over 300? Registered members with the CS directly.
- 523 on the TFCC – Open Discussion Forum (as of Oct 2001)

## **12. Future Activities**

We are planning to start student chapter on cluster computing to develop future leaders.

### **Summary**

The TFCC has continued to increase and expand its activities. There are now over 300 members registered with the CS directly and we run an active discussion mailing list with over 500 members. The TFCC is now well established and appears to be having a significant impact on the Cluster computing community. We believe that the TFCC is helping to guide the community in a number of significant ways.

We have established two related international conference series' (ClusterXY and CCGridXY) – membership of these events has grown each year they have been held. Also, the events have attracted the leaders in each field to not only attend, but also to contribute to them. Both events seem to be well established and should run for some years to come. The TFCC has also established the Grid workshop series. This year's event will be held at the end of Supercomputing 2001 in Denver.

Our educational programme, and our book donation programme in particular continues to be popular – the evidence for this is that books continue to be donated and TFCC members are keen to take advantage of the books offered.

The TFCC will continue with its existing efforts, but also plans to expand some other key activities. In particular we wish to encourage a student chapter, which will ensure future expertise in Clusters, and also encourage key members of the TFCC to help produce more educational materials for the Cluster community.

In summary, we see the TFCC as being a well thought of, and successful activity that is focussing efforts in Cluster Computing and encouraging the community to collaborate in a number of interesting and key activities.