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Announcement and Call for Participation
Workshop on NFS Extensions for Parallel Storage

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Introduction

IETF standardization of NFS is stimulating innovation in architectures for high performance storage systems, including aggressive coherent client caching, hardware TCP/IP acceleration, and NFS over RDMA. Nevertheless, scalability remains limited by the requirement that network traffic for an individual file or mountable filesystem be handled by a single server. This architectural bottleneck limits aggregate file and file system bandwidth, and relegates to customers and end users the challenge of balancing load across multiple servers.

Some commercial products overcome this limitation by various means. For example IBM Sanergy, EMC High Road, and Sun QFS allow client file system code to inspect file location when storage is spread over many (SAN) network addresses. Others products parse NFS commands in a network component and "route" these commands to different servers that are virtualized by such storage routers.

Unless and until such techniques are standardized, e.g., as IETF standard extensions to the NFS protocol, multi-platform client code will be expensive to support and cross vendor interoperability rare.

Workshop Announcement

A workshop on NFS extensions for parallel storage (NEPS), to be held at the University of Michigan on December 4, 2003, will address questions of parallelism, out-of-band or asymmetric storage access, and file virtualization in an extended NFS protocol, with a focus on the following issues:

• Requirements for parallel distributed file systems
• Technology trends and drivers
• Application space and issues
• Naming, reliability and manageability
• Competitive technology: contrasts and alternatives
• Design proposals
• Implementation issues

Many commercial products address the questions in the upper half; the goal of the workshop is to assemble consensus on how to advance NFS to provide a way to offer these advantages in an open standard.

Call for Participation

Participants are encouraged to submit focused white papers or position statements (one to four pages) on these topics by November 6, 2003 to facilitate in-depth discussions. All submissions will be posted on a University of Michigan web site. Submissions should be sent to neps-wp@citi.umich.edu

Based on the submissions, the organizers will prepare a full day program, approximately as follows:

Morning session: Invited presentations that set the agenda for the workshop
Afternoon session: Presentations by selected participants, based on submitted
                    position papers
Evening session: Discussion groups focused on engineering

An optional and informal "morning after" session is planned to organize future activities that follow from the workshop.

Position papers will be published on the conference web site two weeks prior to the NEPS workshop. A summary of the workshop will be posted to the web site four weeks after the NEPS workshop and will be circulated to IETF NFS mailing lists to promote discussion and development of an IETF standard extension to NFS.

Registration

The workshop hotel is the Campus Inn, 615 East Huron St, Ann Arbor. You may call the hotel at 1-800-666-8693 to reserve your room. The room block expires November 3, 2003, so be sure to reserve your room as soon as you can; ask for the UM CITI block or the group number 4924. The prices available to us are from $129 to $178 for single occupancy, depending on the type of room requested. There are 40 rooms available at the lower rate and 10 at the higher.

The workshop will be held at the Campus Safety Services Building Conference Center, 1239 Kipke Drive, Ann Arbor.

See http://www.citi.umich.edu/NEPS/ for registration and contact information.

Organizers

Garth Gibson, Panasas and Carnegie-Mellon University
Peter Honeyman, University of Michigan