

I n v i t a t i o n  
for  
**Z H R - K o l l o q u i u m**

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**Title:**            **Networking Aspects of Distributed Computing**

**Referent:**       **Jaroslav Nabrzyski**  
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**Abstract:**

Distributed computing exploits the aggregate power of networked collections of computers ranging from PC computers to parallel supercomputers of various architectures. The approach is still evolving and it has drawn increasing attention in the parallel processing community. However, one can not forget that the success of distributed computing strongly depends on the performance and quality of service of the underlying network. Recent progress in high speed local and wide area networks allows to design very efficient distributed applications. Such networks as Gigabit Ethernet, HiPPI and ATM give the opportunity to connect locally and geographically

distributed supercomputers to build the meta-environments, or metacomputers, that can solve new challenge applications - metaproblems. Everything much quicker and much better than before.

In this lecture we present the aspects of mutual relationships between distributed computing and high performance networks. On the one hand, systems require access to high speed computer networks that are characteristic of specific parameters of Quality of Service; on the other hand, the systems may be required to automatically modify themselves and adapt to the underlying networks to use them effectively. Starting with a short description of different networks, we want to present how these networks can be effectively used by distributed applications. Different improvements of communication operations in distributed system will be described. The concepts rely on the multimethod communication and specialized parallel communication. The presentation will be based on the metacomputer installed in PSNC and its distributed applications. The metacomputer at PSNC consists of such systems as CRAY (Y-MP EL, J90, T3E), SGI PowerChallenge, and IBM SP2, all connected via FDDI, ATM, and HIPPI networks.

**Location:**

**Willers-Bau, Raum C 106**

**Time:**

**Monday, June 8th in 1998, 3.00 p.m.**

**gez. Prof. Dr. W.E. Nagel**

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