Analysis of PVM Structure*

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Abstract

PVM (Parallel Virtual Machine) is a generic message-passing system composed of a programming library and manager processes. It permits a network of computers (possibly of different types) to be used as a single large parallel computer. It is fault-tolerant, convenient to use and portable to a wide variety of machine architectures and operating systems, include workstations, supercomputers, PCs and multicomputers.

In this paper, we first describe the PVMD (PVM Dameon) as the core of PVM system and analyze its implementation in details. The top level of PVMD handles the packets from remote hosts and the packets from local tasks separately. Then the entry points for messages from local tasks, which are used to support the user level of libpvm, are presented. Finally, some deficiency in PVM and the improving methods are discussed.

Keywords: PVM (Parallel Virtual Machine), message, packet, dameon, host

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