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Performance of DCE RPC

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ABSTRACT

This report focuses on the performance of the Open Software Foundation's Distributed Computing Environment (OSF/DCE) remote procedure call (RPC). We test the performance of DCE RPC with no security over the connectionless datagram protocol on IBM RS/6000s running AIX 3.2.4 connected with 10 Mbps Ethernet, and report the round trip time and throughput as measures of the overall performance of DCE RPC. We also investigate the effect of using application level DCE threads for improving the throughput.

Our experiments measure the average completion time of various steps of single inter-machine RPCs. The results tell us exactly where time is spent in DCE RPC. Not all RPC steps performed by the client, server, or the network contribute to the round trip time of the RPC; we show those that do contribute to the round trip time for RPCs with various data sizes. The close match between the sum of the completion times of these steps and the measured round trip time validates our measurements.

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