A Local Event Service for CORBA Collocated Components

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Abstract
Current implementations of CORBA Component Model often suffer from unreasonable communication overheads when components are collocated. This is because calls to collocated components also go through ORB and create lots of unnecessary communication overheads such as marshaling and de-marshaling of request and reply messages in the same address space. Elimination of these overheads is quite beneficial to crucial applications especially real-time ones. Several attempts had been made to minimize collocated components communication overheads by differentiating remote requests, which are passed through ORB, from local requests, which are handled locally without intervention of ORB. One such solution has only provided support for local requests of method call type and implemented it in CCM; naming and event services have been proposed but not implemented. This paper augments this solution by providing a real event service support for local components. The local event service is implemented in OpenCCM. Experimental results show considerable reduction of time during collocated components event publication and consumption using our local event service in comparison with when the ORB event service is used instead.