Abstract

Title: Supporting multiplatform applications with YA-RPC
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Abstract:

Over the last three decades, Remote Procedure Call (RPC) has become a popular inter-computer and inter-process communication paradigm widely used by a variety of interconnected computer systems. Even though a number of RPC protocols and implementations evolved over those years, no single system offers a significant set of features, while providing an easy-to-use application programming interface.

In this thesis, we present Yet Another Remote Procedure Call – YaRpc, a specification of a flexible and programmer friendly middleware that offers advanced features such as pluggable transports and protocols, callbacks, and configurable method dispatch. Additionally, we define YaRpc Native Protocol (YNP), a new light-weight high-performance RPC protocol with a rich set of features. We provide a native implementation of both YaRpc middleware and YNP protocol for Java and .NET Framework, and compare its usability with Java RMI, .NET Remoting and SOAP web services.

Keywords: YaRpc, remote procedure call, distributed system