Web Services Performance

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"Learning is fun!"



Agenda

- Areas where performance overhead occurs
- Web services perfermance tuning tips
- Fast Infoset



Areas of Performance Overhead

Performance Overhead

- Marshalling (serialization) and unmarshalling (unserialization)
 - Java objects to XML and vice-versa
- XML encoding
 - Compression, XML Infoset, Binary encoding will help
- XML parsing
 - Skip validity check
- Business logic processing



Web Services Performance Tuning Tips

Remote Communication is Expensive

- Web services best practices are mainly the same as guidelines for developing other distributed systems
 - > Assume remote communication is expensive
 - Do use course-grained RPC, that is, use Web services that "do a lot of work, and return a lot of information"
 - Cache data on the client whenever possible to avoid requests to the server

Consider Overall System Performance

- Always take the overall system performance into account
 - Don't optimize until you know where the bottlenecks are, i.e., don't assume that XML's "bloat" or HTTP's limitations are a problem until they are demonstrated in your application.

Use Asynchronous Comm. Model When Appropriate

- Asynchronous messaging can improve throughput, at the cost of latency
- When the transport may be slow and/or unreliable, or the processing is complex and/or long-running, consider an asynchronous messaging model



Fast Infoset

What is Fast Infoset?

- Fast Infoset (or FI) is an international standard that specifies a binary encoding format for the XML Information Set (XML Infoset) as an alternative to the XML document format.
- It aims to provide more efficient serialization than the text-based XML format.

Java Implementation of Fast Infoset

- Part of JAX-WS reference implementation that comes with GlassFish
- NetBeans support

Thank you!

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