

The Efficiency of XML as a Wireless Middleware Protocol

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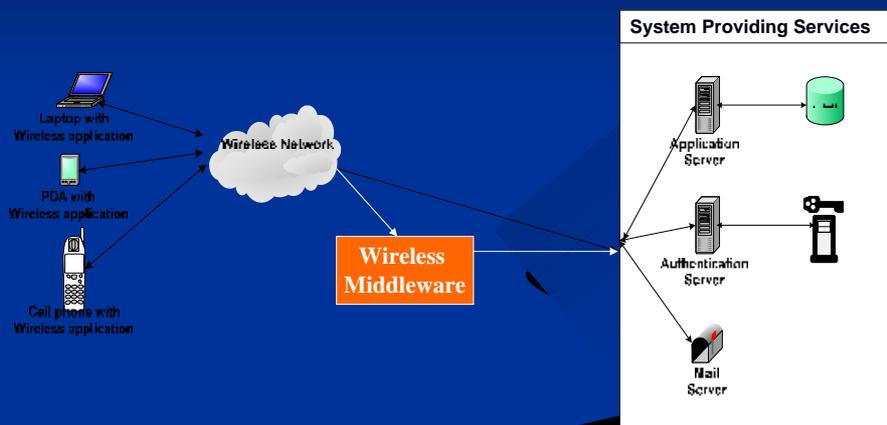
Introduction

- Advances in wireless networking technologies:
 - Wireless LAN's – WiFi or Hotspots
 - Broadband Cellular Networks – 2G, 2.5G, 3G
- Advances in mobile computing devices:
 - Laptops
 - PDA's
 - Cellular Phones
- Companies are investing – makes employees more efficient

Challenges

- Wireless Networks characteristics:
 - Unreliable
 - Low bandwidth and high latency
 - Weak security features
- Many mobile device types
- Application/System integration
- Possible place for solutions:
 - Wireless Middleware

Implementation



The Proposed Solution

- Message Oriented Middleware (MOM) - JMS
 - Asynchronous/Pseudo-Synchronous Communication
 - Persistent message storage
 - Reliable communication
 - Loosely coupled to dynamic environment
- eXtensible Markup Language (XML)
 - Platform and language independent
 - Loosely coupled
 - Transformable
 - Web Services
 - **Verbose**
- JMS + XML = Platform neutral behaviour and platform neutral data



Testing & Questions

- The **efficiency** of **marshalling** data with XML, how does this affect performance?
 - Parsing and transforming messages
 - XML message sizes compared to JMS and RMI
 - Scalability under heavy loads
 - XML Compression methods
- The types of **security** that can be offered with XML.
 - End to end encryption
 - XML Security (XMLEncryption and XMLSignature)
- How easily does the middleware **integrate** and **adapt** to different systems and applications?
 - Client device detection and storage
 - XML Profiling

Anticipated Outcomes

- XML messages will be larger
- This will increase transmission times
- Compression should help to improve this
- Transformation of data will incur a heavy processing overhead
- Parsing could be a possible bottleneck

Finally

- Questions?
- Comments?



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