MIST: Cellular Data Network Measurement for Mobile Applications

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Introduction

- Cellular data network growth
 - SMS, email, Internet, Video
- Mobile application developers ready to cash in
- Quick-and-quality application development
- Unknown device and network performance

Mobile Application Challenges

Application Type	Challenges	Optimization Techniques
Streaming Media	- limited bandwidth	- layered encoding
Pervasive Gaming	- latency variation	- system specific timeouts
Two-way Database	- radio timeout	- keep alive packets

Mobile Internet Services Test (MIST)

MIST Network Measurement

Latency

Throughput

Timeout Interval

Uplink and Downlink Latency

Latency and Mobility

Service Throughput

Throughput (KBPS)	Uplink	Downlink
Minimum	0.79	1.82
Average	2.05	4.67
Maximum	4.47	11.17

Timeout Interval

Conclusions

- Multiple device and service provider combinations
- Geographically distributed measurement
- Application emulation
- Better tools for data visualization
- Processing power, flash crowds, other

Thank you

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