Mobile Data:
How to avoid the latency trap when using web services
What is the latency trap?
Mobile
Web Service

My Server
Optical Fibre
Radio Waves
Web Services
Bigger than mobile?
Wifi sucks.
Ofcom study

- UK study into Wi-Fi interference (PDF)
- Up to 90% of bandwidth used on protocol
- Many other sources of interference
  - Baby monitors
  - Microwaves
  - Cordless Phones
Interference sucks.
So how do we fix it?
I. Reduce Requests
Reducing requests

• Yahoo! Performance Guidelines
  http://developer.yahoo.com/performance

• Reduce web service requests
  • Bundle requests from device logically
  • Gzip all web service responses
2. Shape to packets
Indiana Packet and the Byte of Doom
Packet #1 Payload

Packet #2 Payload
I extra byte means I extra packet
Reduce number of packets
Packet sizes

• Make sure static assets (JS, images, etc) fit in discrete packet boundaries

• Don’t forget Gzip

• Try and figure out ‘high latency’ connections to send inlined assets to

• E.g. detect ‘iPhone’
Packet Research

http://developer.yahoo.net/blog/archives/2009/10/a_engineers_gui.html
• What is YQL?

• Why is YQL *bad-ass* for mobile development?

• How you can use YQL in mobile development

• Examples
What is YQL?
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Wednesday, October 14, 2009
Yahoo! Maps Web Services

Getting Started Guide

Learn the fundamentals of the Yahoo! Maps AJAX API and start creating your own maps. This page contains:

Yahoo! Maps Web Services - AJAX API Getting Started

Flickr Services

API Documentation | Feeds | Your API Key

flickr.places.getPlace

Fetched a list of available places

Authentication

This method does not require authentication.

Arguments

api_key (Required)
Your API application key. See here

Example Response

Response:

<place_types>
  <place_type place_type_id="1">city</place_type>
  <place_type place_type_id="2">country</place_type>
  <place_type place_type_id="11">region</place_type>
  <place_type place_type_id="22">neighbourhood</place_type>
  <place_type place_type_id="7">locality</place_type>
</place_types>

Error Codes

100: Invalid API Key
The API key passed was not valid.

105: Service currently unavailable
The requested service is temporarily unavailable.

111: Format "xxx" not found
The requested response format was not found.

112: Method "xxx" not found
The requested method was not found.

114: Invalid SOAP envelope
The SOAP envelope send in the request is not valid.

115: Invalid XML-RPC request document
The XML-RPC request document is invalid.

API Explorer

API Explorer: flickr.places.getPlace

Yahoo! Weather RSS Feed

YDN / Weather RSS Feed

Yahoo! Weather RSS Feed

The Weather RSS feed enables you to get up-to-date weather data for Sunnyvale, CA and other places.

The request URL is:

http://weather.yahooapis.com/WeatherRSS?u=us&c=US&g=us&appid=appid&callback

YAHOO! GROUPS DISCUSSIONS
view all

Search
MY PROJECTS
APIs & WEB SERVICES
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SUPPORT

Get an App ID

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Get an App ID

YAHOO! DEVELOPER NETWORK

MY PROJECTS
APIs & WEB SERVICES
RESOURCES
SUPPORT

READY TO GET STARTED?

By applying for an AppId for this service, you hereby agree to the Terms of Use

Get an App ID

Welcome, guest  Sign In

Yahoo! My Yahoo! Mail Welcome, guest  Sign In

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YQL

- Unified interface to Web services
- Self-describing to avoid documentation
- Uses a common way to return data
YQL is like SQL

- Uses SQL verbs
- Uses SQL syntax
- Returns rows of data
- Self-describing
  - show tables;
  - desc table;
Verbs

• show - show tables;
• desc - desc search.web;
• select - select * from flickr.photos.recent;
• use
• insert
• update
• delete
Demo

http://developer.yahoo.com/yql/console
Web Services
YQL Example
select * from flickr.photos.info
where photo_id in (select id from flickr.photos.search where query = "lolcats")
Conclusion

- Latency hurts anything wireless
- Fight latency by reducing connections
- Fight latency by reducing the number of unnecessary packets
- YQL can help you bundle your requests to mobile device without a backend
follow me on twitter.com/sh1mmer

Slides? Feedback?
www.speakerrate.com/sh1mmer