# Web services in a Web company

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YAHOO!

# Yahoo!

- Web company
- Various platforms & tools:
  - C/C++, PHP, Perl, some Java
  - Open-source
- Several POVs about services

# Web services flavors

- Anything which exposes an API
- Several flavors:
  - HTTP-based (I.e. not SOAP)
  - SOAP-based
- Each have their advantages and issues

# SOAP-based Web services

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# Advertiser Web Services

YAHOO! SEARCH MARKETING

Search Marketing Home - Help

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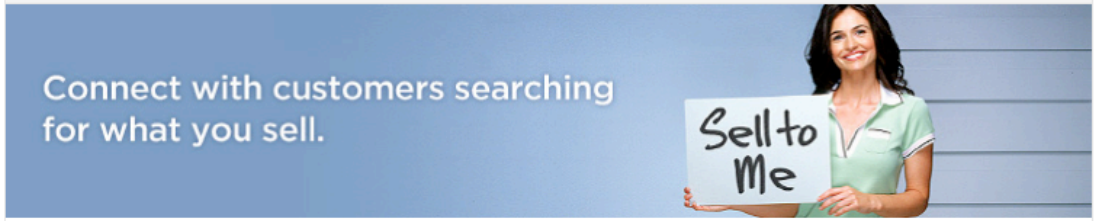


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- Key Statistics
- Why use Sponsored Search
- See Sponsored Search Demo

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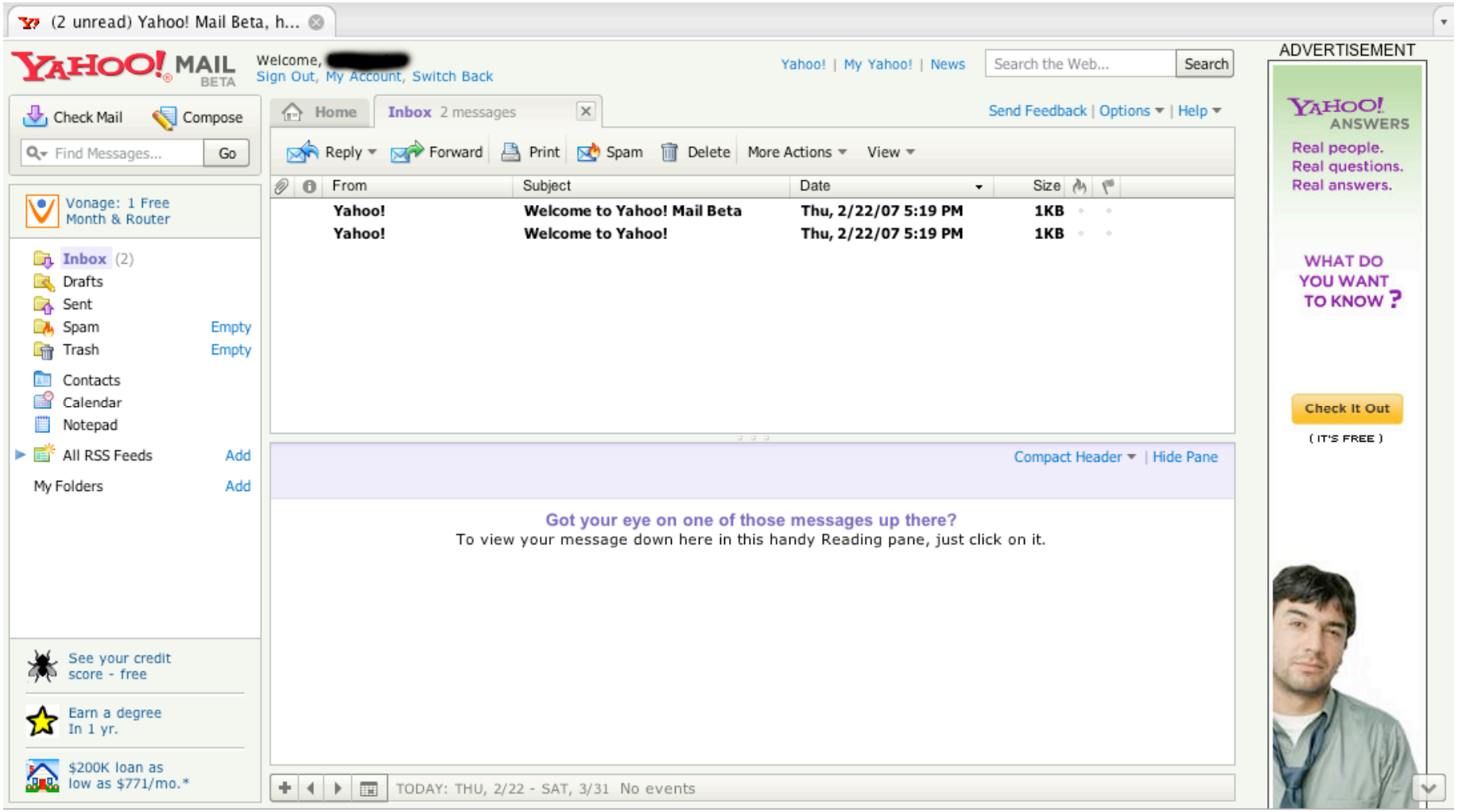
# Yahoo! Mail: 2B+ SOAP messages / week



# What pushes people towards SOAP

- Mainly: code generation
- Who our customers are
- Other reasons: historical, etc.

# Issues with SOAP

- Interoperability: when the code generation dream becomes a nightmare
- WS-* support poor; typically, not used at Y!
- Complexity

# HTTP-based services

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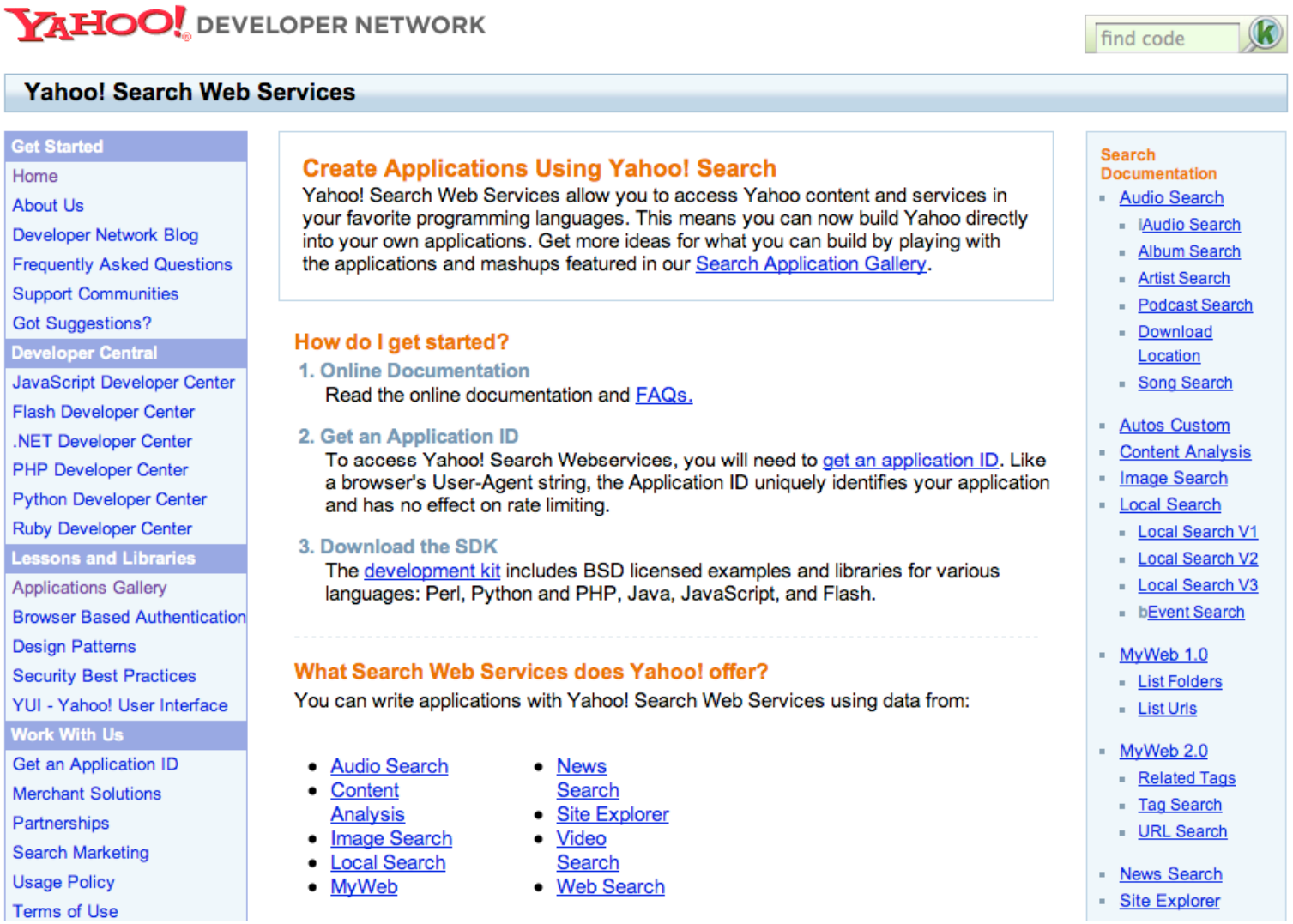
# Most of our external services



YAHOO! DEVELOPER NETWORK

find code

**Yahoo! Search Web Services**

**Get Started**
- Home
- About Us
- Developer Network Blog
- Frequently Asked Questions
- Support Communities
- Got Suggestions?

**Developer Central**
- JavaScript Developer Center
- Flash Developer Center
- .NET Developer Center
- PHP Developer Center
- Python Developer Center
- Ruby Developer Center

**Lessons and Libraries**
- Applications Gallery
- Browser Based Authentication
- Design Patterns
- Security Best Practices
- YUI - Yahoo! User Interface

**Work With Us**
- Get an Application ID
- Merchant Solutions
- Partnerships
- Search Marketing
- Usage Policy
- Terms of Use

**Create Applications Using Yahoo! Search**

Yahoo! Search Web Services allow you to access Yahoo content and services in your favorite programming languages. This means you can now build Yahoo directly into your own applications. Get more ideas for what you can build by playing with the applications and mashups featured in our Search Application Gallery.

**How do I get started?**

1. Online Documentation
   Read the online documentation and FAQs.
2. Get an Application ID
   To access Yahoo! Search Webservices, you will need to get an application ID. Like a browser's User-Agent string, the Application ID uniquely identifies your application and has no effect on rate limiting.
3. Download the SDK
   The development kit includes BSD licensed examples and libraries for various languages: Perl, Python and PHP, Java, JavaScript, and Flash.

**What Search Web Services does Yahoo! offer?**

You can write applications with Yahoo! Search Web Services using data from:

- Audio Search
- Content Analysis
- Image Search
- Local Search
- MyWeb
- News Search
- Site Explorer
- Video Search
- Web Search

**Search Documentation**
- Audio Search
  - Audio Search
  - Album Search
  - Artist Search
  - Podcast Search
  - Download Location
  - Song Search
- Autos Custom
- Content Analysis
- Image Search
- Local Search
  - Local Search V1
  - Local Search V2
  - Local Search V3
  - bEvent Search
- MyWeb 1.0
  - List Folders
  - List Urls
- MyWeb 2.0
  - Related Tags
  - Tag Search
  - URL Search
- News Search
- Site Explorer

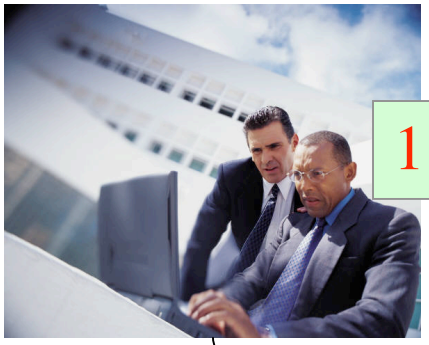
# Why?

- Developers familiar with the Web
- No special tool or library needed
- Audience:
  - Web developers doing PHP, Python, JavaScript, etc.

# Description and code generation

- People want to write code fast
- Big draw towards SOAP
- However: beware of interoperability issues
- Description language:
  - Documentation
  - Code generation

# Authentication headache



1. User

Web application

3. Application

Partner

2. Partner

Cache

4. Cache

Service 1

5. Service 1

Service 2

Yahoo!

# Limitations of existing HTTP authentication schemes

- Limitation of the number of entities identifiable
- Cross-host in a domain
- Basic auth:
  - Poor security
- Digest auth:
  - Not widespread implementation
  - Chatty
- Not to mention browser-side issues

# Real world work-arounds

- Cookies
- In-URL credentials
- Custom authentication schemes
- Custom headers
- Main challenges:
  - Tool support
  - Caching

# Major issue

- Some requirements
  - Support for multiple credentials
  - Support for both browser & tools
  - Cross-host
  - Support for custom login interface
- SOAP not much better: WS-Security not widespread

# Suggestions

# SOAP-based services

- Stop doing more extensions!
- Make the basic stuff work in an interoperable way first
- XML Databinding: saddened by lack of vendor recognition of the issue
- WSDL 2.0
- Focus on **interoperability**

# HTTP-based services

- Tools
- Recognize the use of cookies for authentication
- Interest in HTTP auth in various places (e.g. IETF)
  - Put down requirements
  - Work with the community at large

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