The next generation of Mozilla

Firefox 3.1, TraceMonkey, Mozilla Labs

a presentation for COSCUP 2008

on Mozilla

- Global community and public benefit (non-profit) organization dedicated to improving the Internet experience for people everywhere
  - 180,000,000 users worldwide
  - Free and open source software

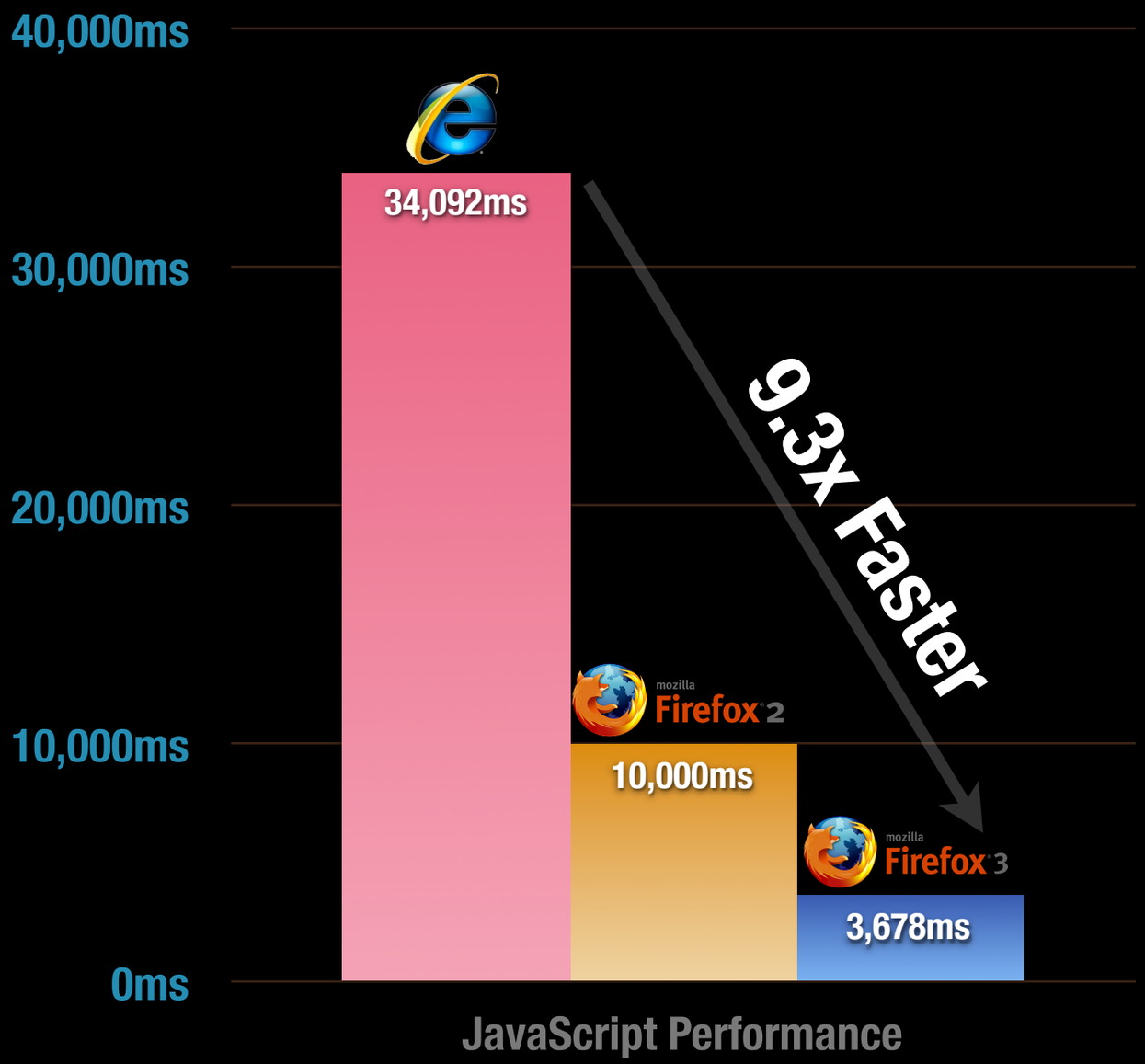
on Mozilla

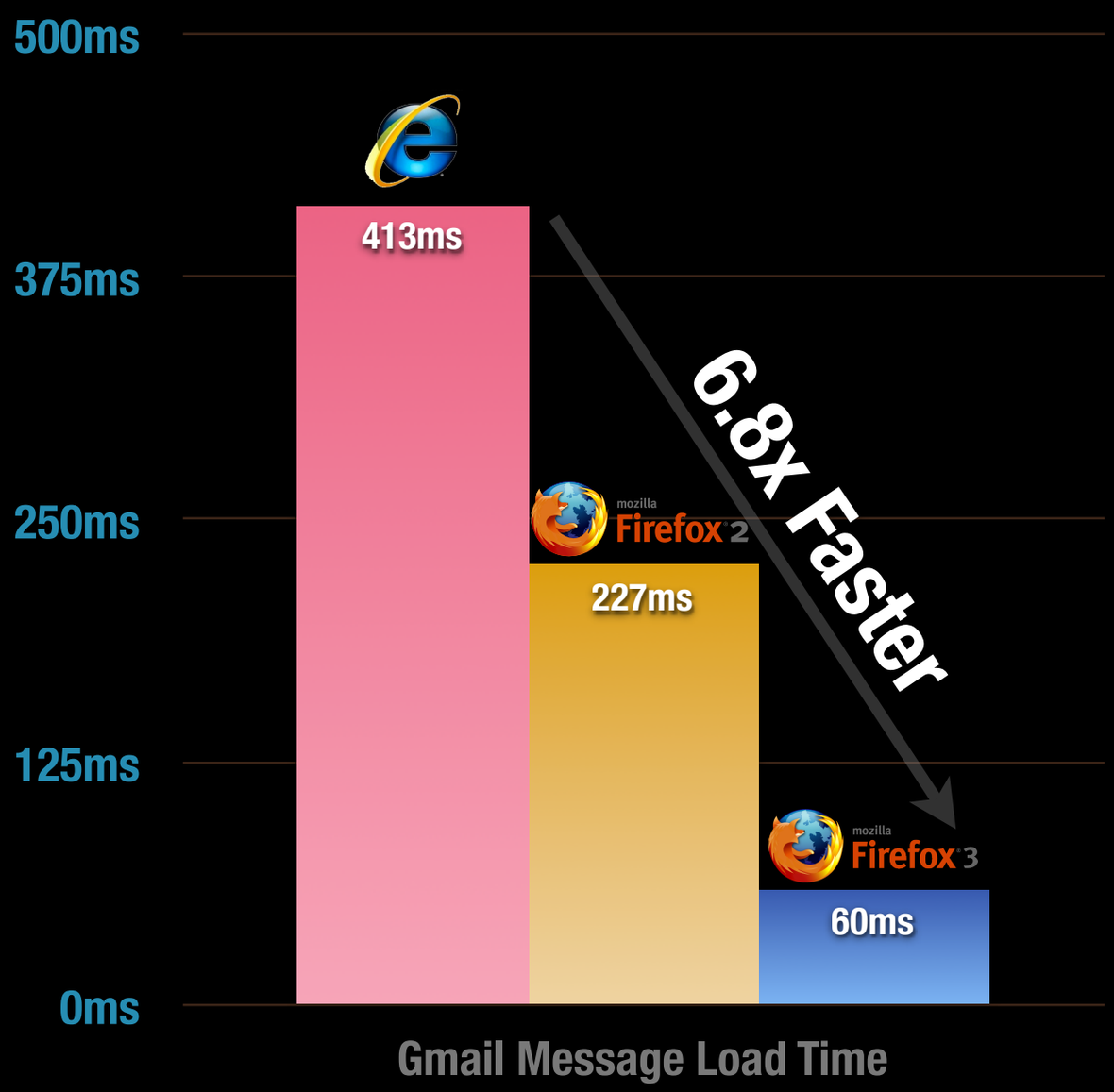
- Highly disciplined, transparent, and cooperative development process
  - 100's of active technical contributors
  - 10,000's of nightly testers
  - 100,000's of volunteer evangelists and marketers

on Firefox 3

- Firefox 3 shipped in 48+ languages simultaneously
- More than 500 million downloads
- Over 8,000,000 downloads in first 24 hours of Firefox 3

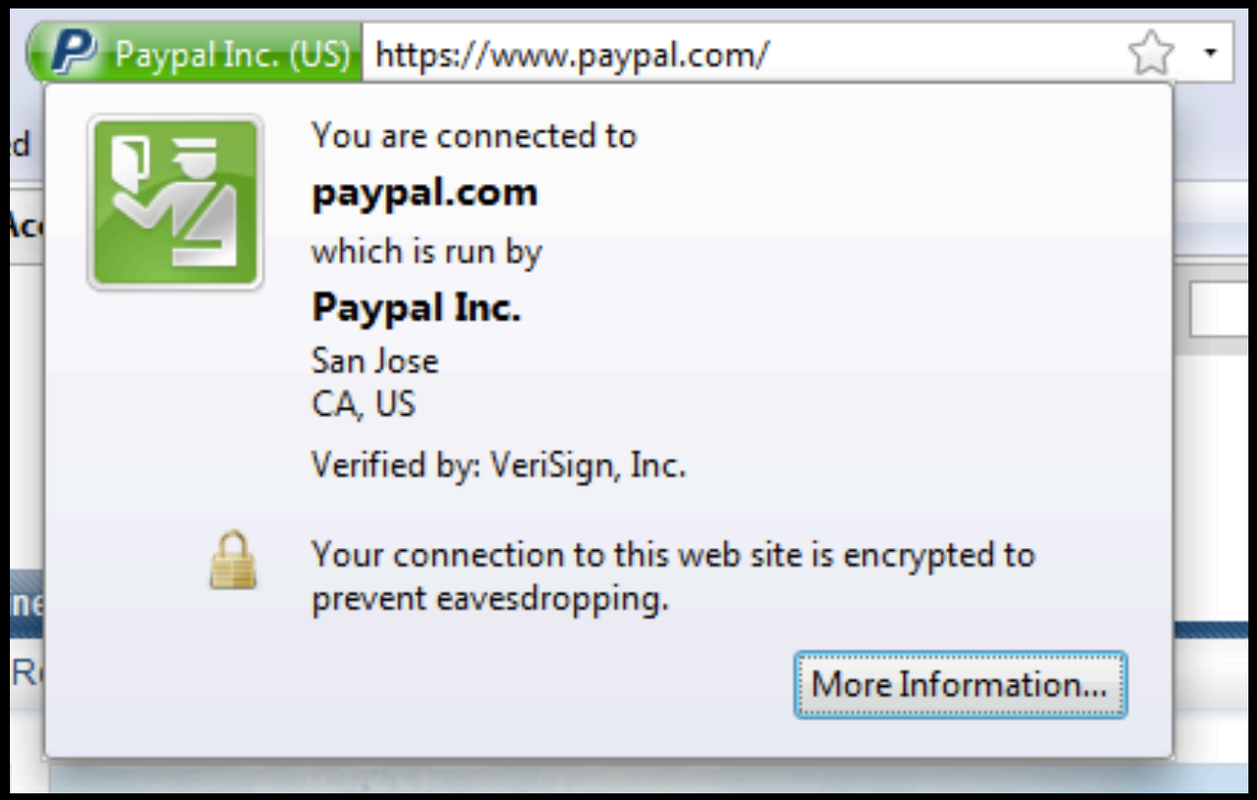
Fastest Firefox yet (time, lower is better)

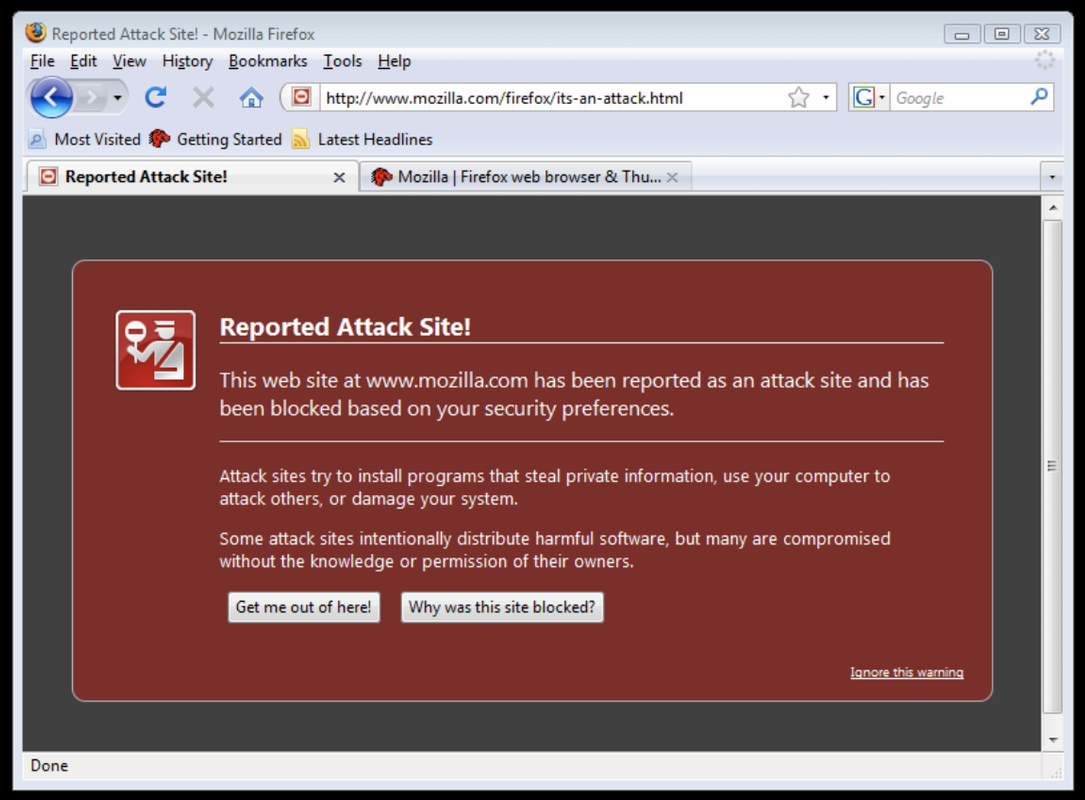




Internet Explorer 7
Firefox 2
Firefox 3

Safest Firefox yet





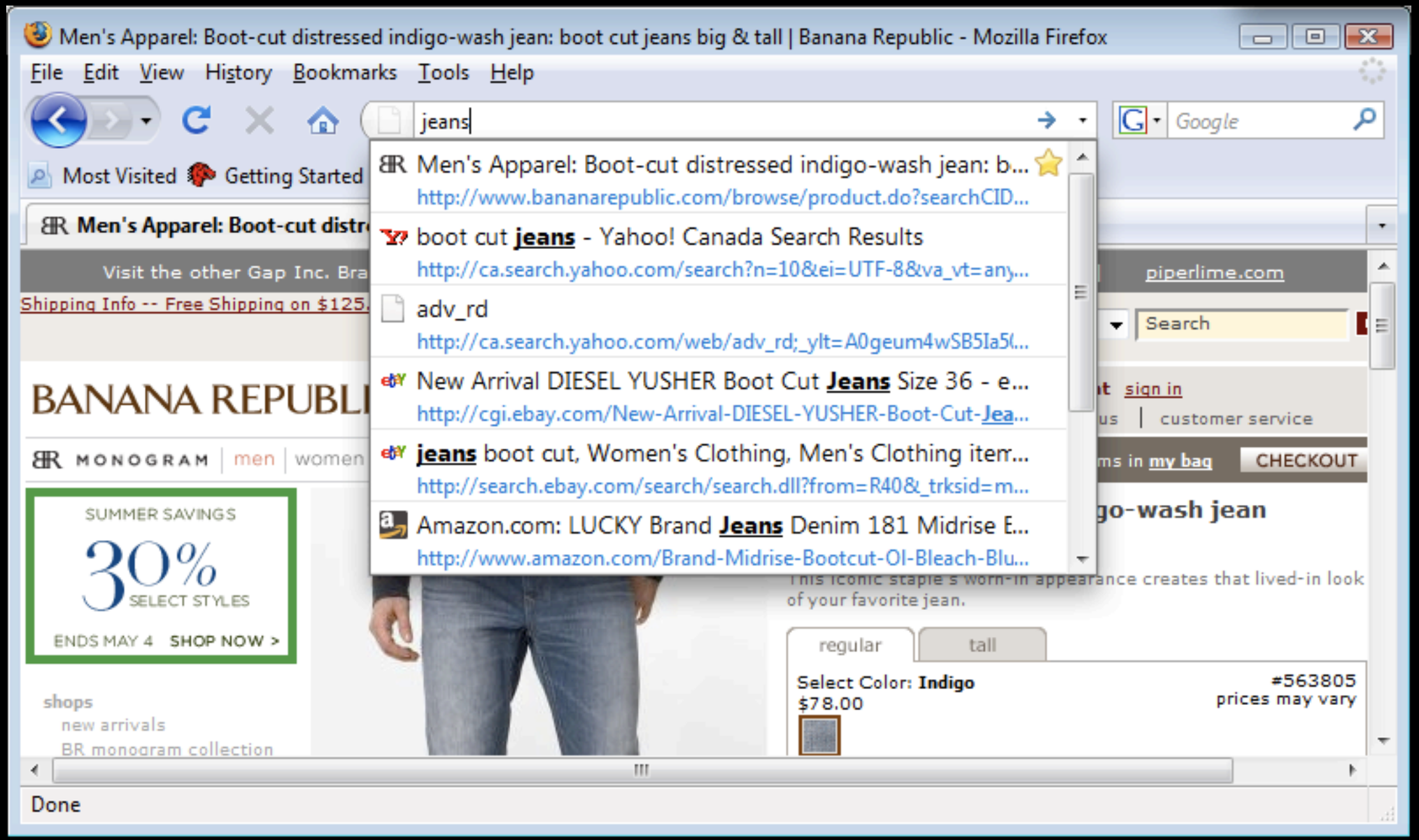
Instant Web Site ID

Lets you avoid Web forgeries and make sure a site is what it claims to be.

Malware protection

Protects consumers from 25,000 new phishing sites and 3,000 new malware sites per month

Search inside the browser



Firefox 3.1 “Shiretoko”

- Flickr: Nemo’s great uncle

Firefox 3.1

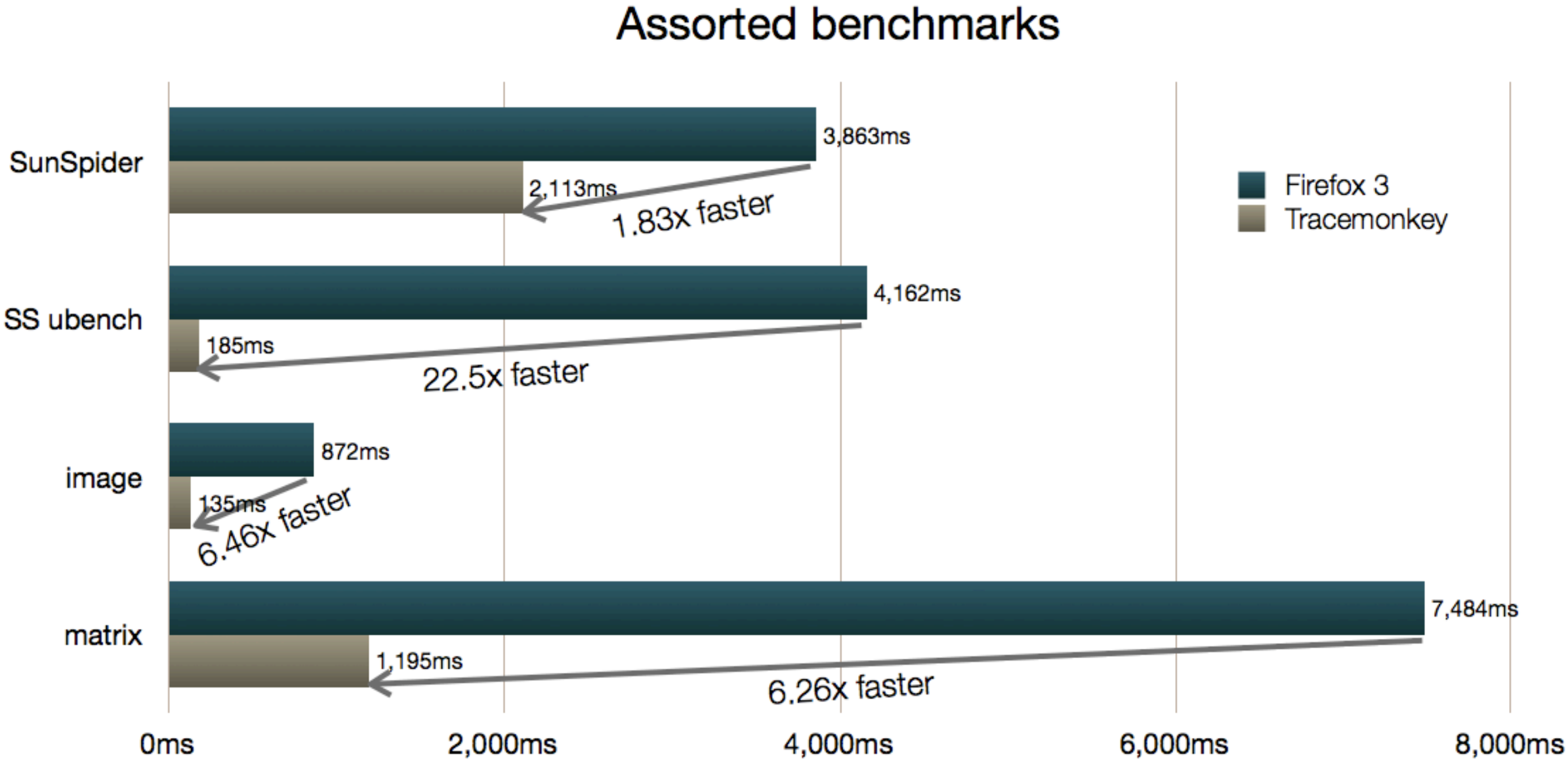
- Codename: “Shiretoko”
- Improved HTML 5 support
- Significantly JavaScript support
- Improved CSS support
- Native <audio> and <video>
- Improved <canvas> support
- (list subject to change)

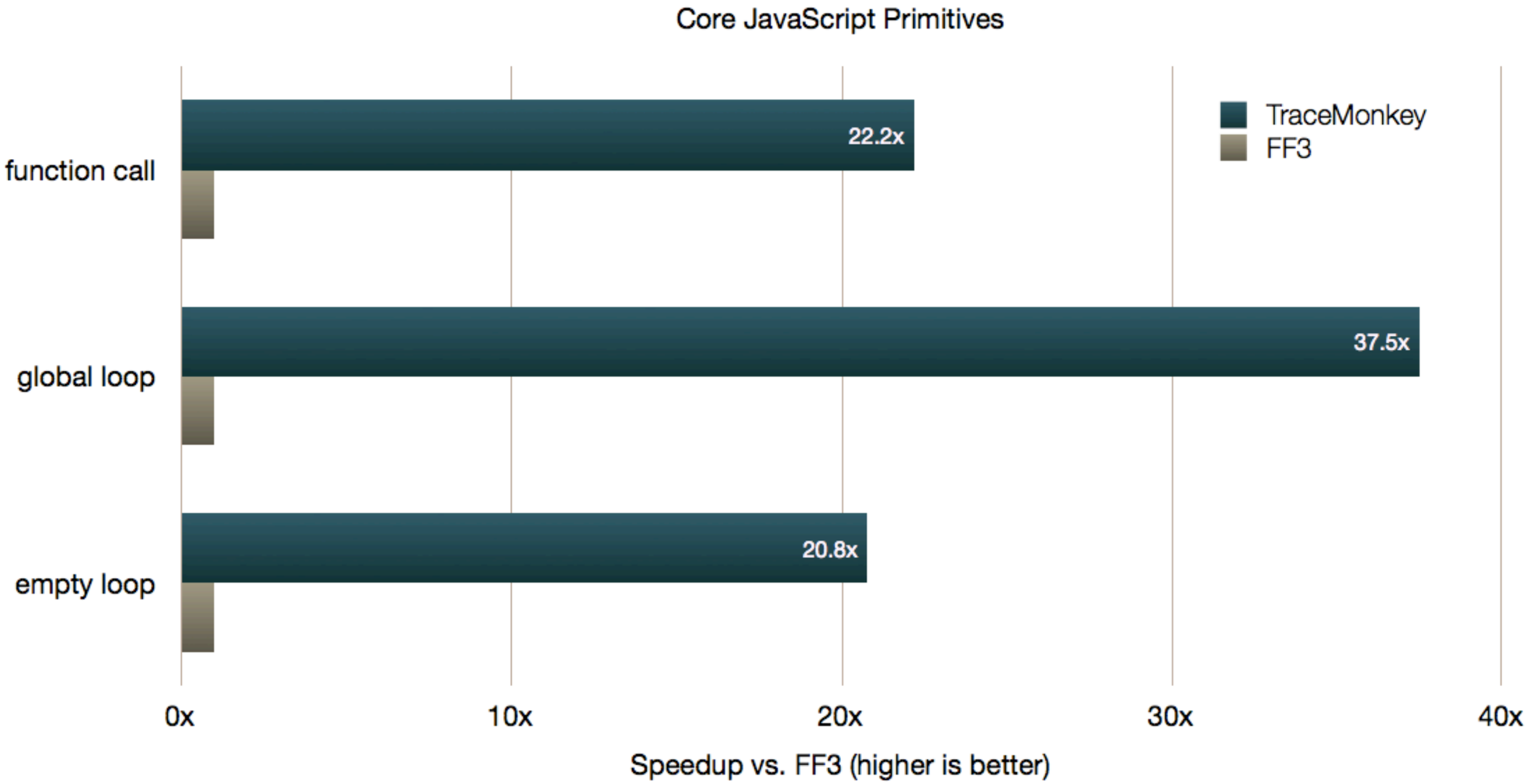
Firefox 3.1

- Gecko 1.9.1
- Downloadable fonts
- Support for cross-site XMLHttpRequests
- Improvements to the AwesomeBar
- Control-Tab new tab interface
- Much more...

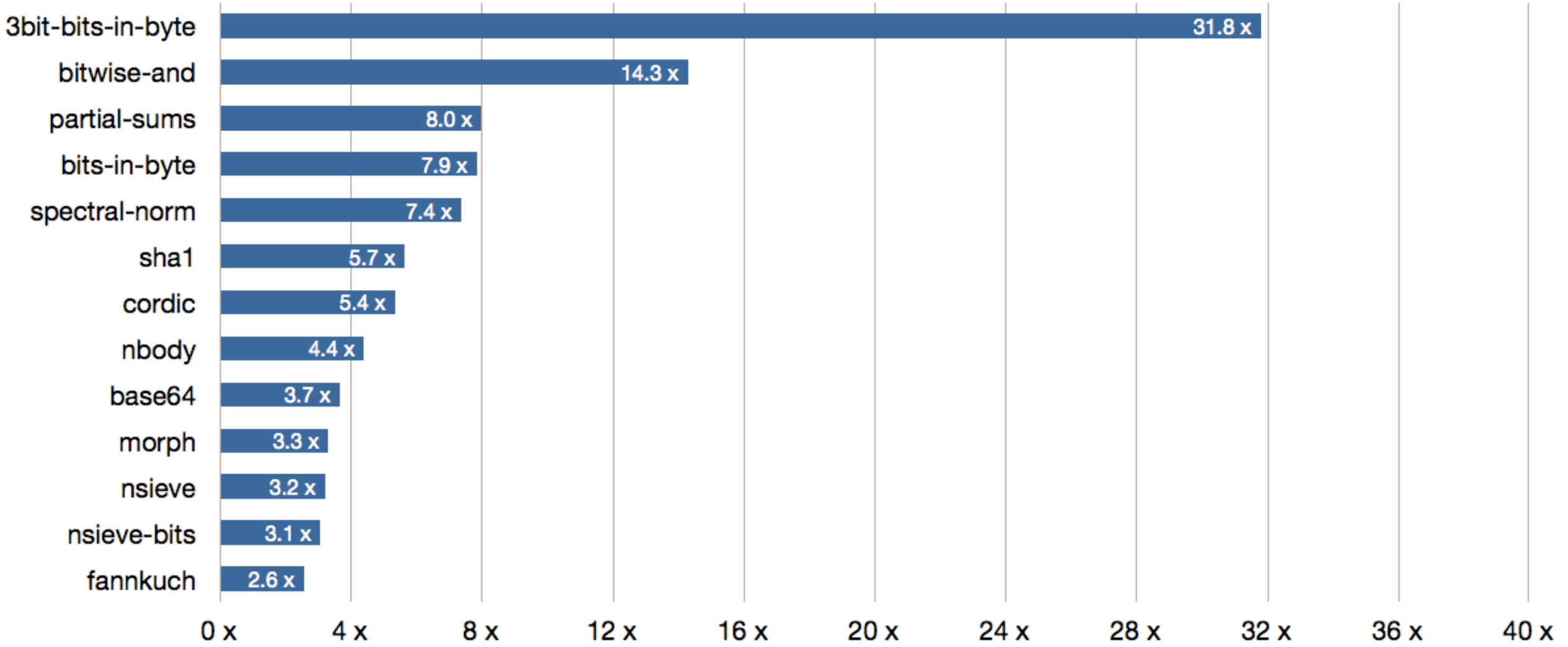
TraceMonkey

- NEW just-in-time JavaScript compiler
- SpiderMonkey + tracing = TraceMonkey
- Goal: make JS in Firefox as fast as native code
- On average 10X speed improvement
  - at times 20-40X speed improvements
- Many more improvements to come

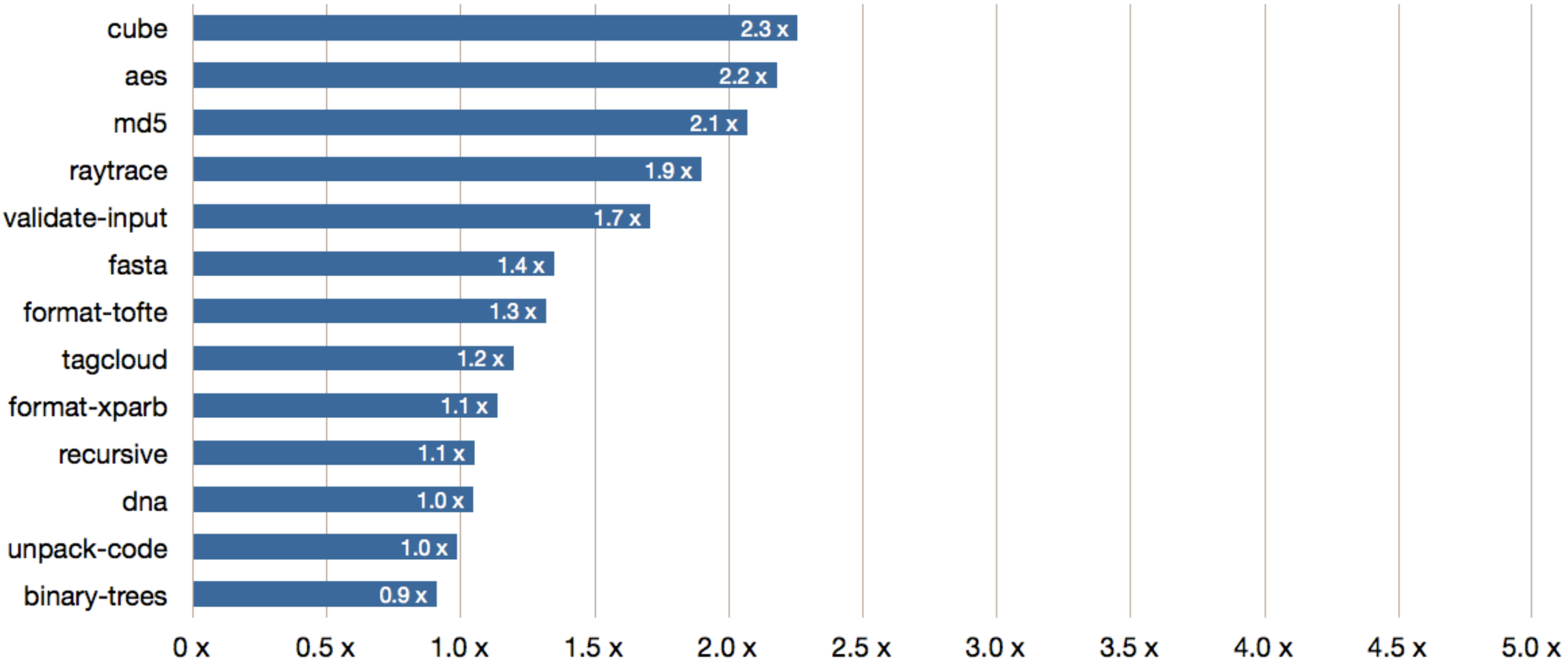

Assorted benchmarks
SunSpider
3,863ms
2,113ms
1.83x faster
SS ubench
4,162ms
185ms
22.5x faster
image
872ms
135ms
6.46x faster
matrix
7,484ms
1,195ms
6.26x faster
Firefox 3
Tracemonkey
0ms
2,000ms
4,000ms
6,000ms
8,000ms


Core JavaScript Primitives
TraceMonkey
FF3
function call
22.2x
global loop
37.5x
empty loop
20.8x
0x
10x
20x
30x
40x
Speedup vs. FF3 (higher is better)

Firefox 3.1 with Tracing v.s. Firefox 3



Firefox 3.1 with Tracing v.s. Firefox 3



TraceMonkey

- Support: x86, x86-64, ARM (mobile)
- Will also benefit native video support, HTML5 Canvas, etc.
- Developed by Andreas Gal (UC Irvine)

TraceMonkey

- http://hg.mozilla.org/tracemonkey/

Mozilla Labs

- Is it possible to innovate in the open?
- Open source R&D
- Many new projects & open participation

Labs: Weave

- Optional Mozilla-hosted online services
- Full control and customization of data
- Respect privacy
  - full data encryption on client, transport, server
- Extensible architecture
- Standards-based services any user can run

Labs: Weave

- Fully open source platform (unlike others)
- Can run Weave on your own server
- Backup & sync:
  - Bookmarks
  - History
  - Cookies
  - Passwords
  - Tabs, form content, and more tbd

Labs: Weave

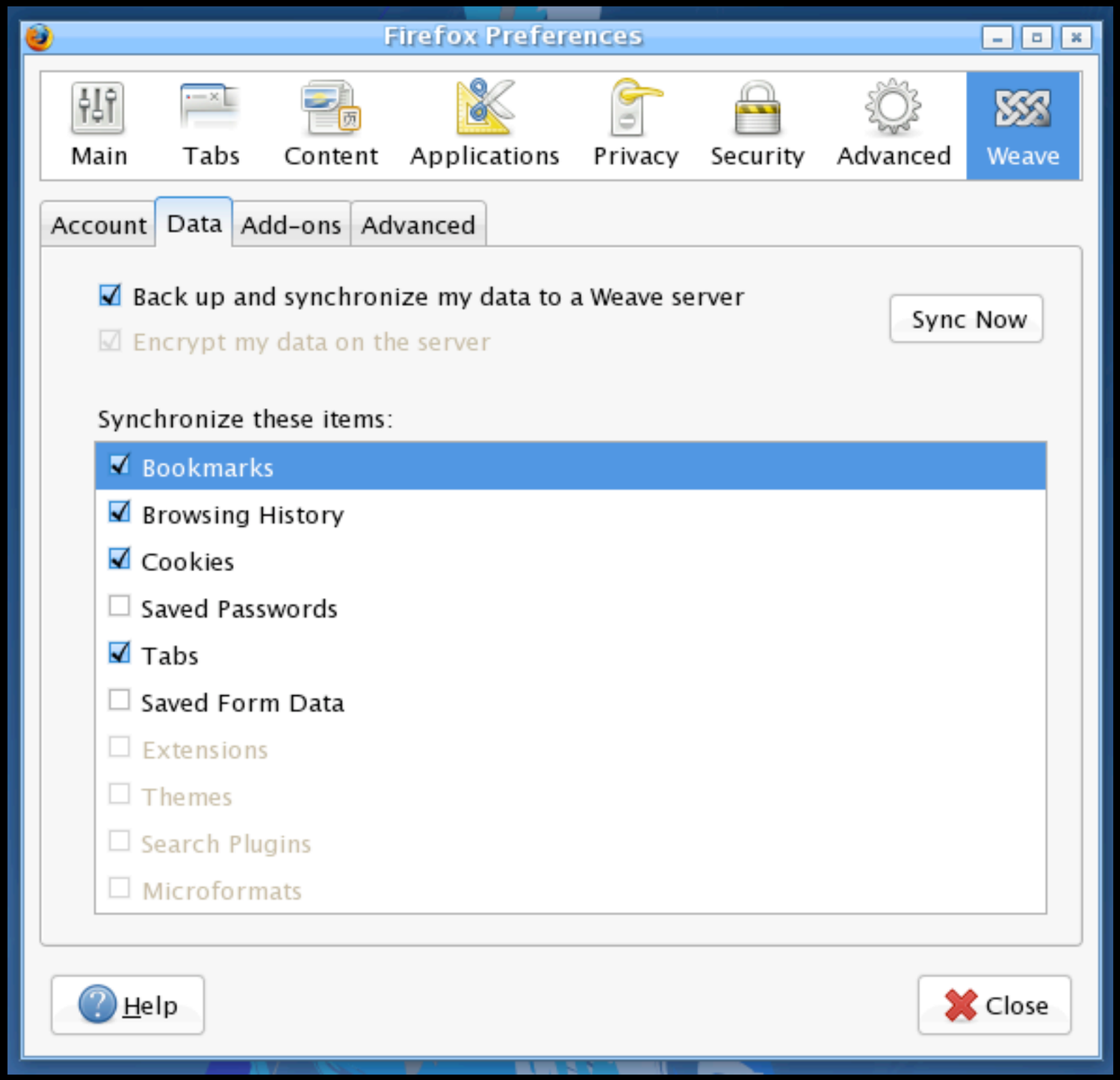
- Future functionality: backup/sync extensions, themes, search plugins
- Future: API for 3rd party extensions to use Weave data sync & storeage
- Key functionality for Mobile Firefox

Labs: Weave

Weave Setup
weave
mozilla labs
Welcome to Weave
Weave is an experiment from Mozilla Labs that provides a framework for the deep integration of online services with the browser to enable exciting new user experiences.
This development milestone adds additional data synchronization, encryption, and messaging capabilities to the platform.
When you install this version of Weave, it will encrypt and back up most of your browser settings and metadata to a server (e.g. bookmarks, browsing history, cookies, etc.) and synchronize them between multiple computers. It will also enable read-only sharing of bookmark folders with another Weave user.
Warning: Use at your own risk! Back up Firefox data before continuing with installation.
Cancel
Next

mozilla labs weave

Labs: Weave



Labs: Aurora

- Mozilla Labs collaboration with Adaptive Path
- Vision of future web usage

adaptive path

Labs: Aurora

AURORA

The **spatial view** contains every object on the Web that the user has ever interacted with. Older objects are farther away.

The **shelf** is a collection of objects put there by the user, and serves as a longer-term mechanism for quick access to objects.

The **frame** runs along the edges of the screen, but only when the user asks for it.

Objects are visual representations of resources on the web. They can be people (circles), places (rounded rectangles), or things (hexagons).

The **user stack** fills in from bottom to top with objects placed there by the user, and serves as a temporary storage area for objects the user may want to return to.

The **history stack** fills in from top to bottom with objects the user has recently put away.

Clusters are usually created by the browser, which groups objects according to their semantic similarity or the user's patterns of use.

The **corners** provide quick ways to filter the spatial view by people, places, and things, or to search for something specific.

Everything in Aurora can be **grabbed**, manipulated, pushed, pulled, picked up, and put down.

The **wheel** curves away from the user along the bottom edge of the screen, and contains all the objects the user has active.

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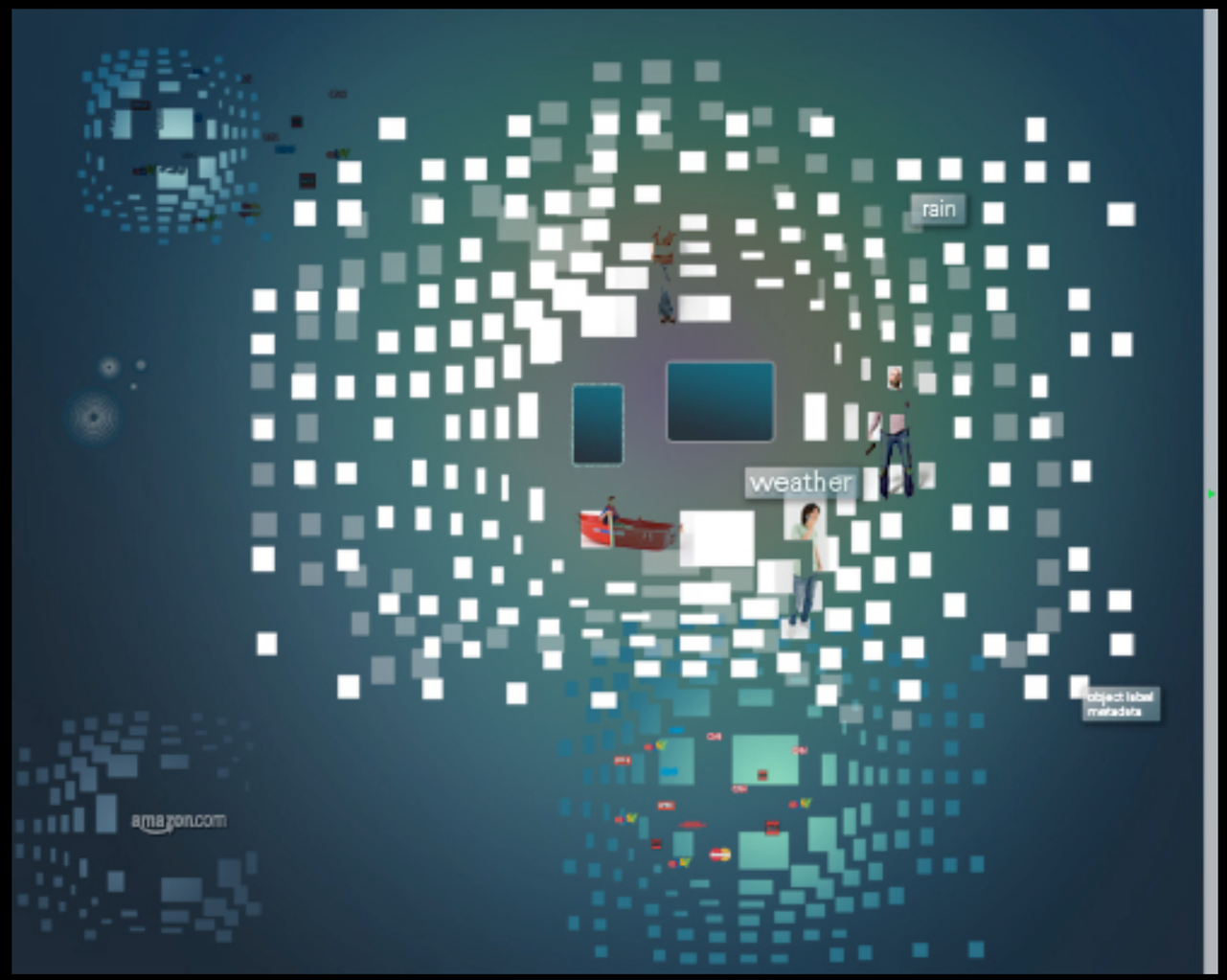
Labs: Aurora

CNN Politics.com
McCain looks ahead as Dems duke it out
Top Stories
The Political Ticker
CNN•Politics Daily
Best Political Podcast
ElectionCenter 2008 Primaries and Caucuses
Listen to your favorite artists on Rhapsody

Labs: Aurora

P
B
CNN Politics.com
Clinton drops hospital story from stump speech
Top Stories »
The Political Ticker
CNN=Politics Daily
ElectionCenter 2008 Primaries and Caucuses
H
T

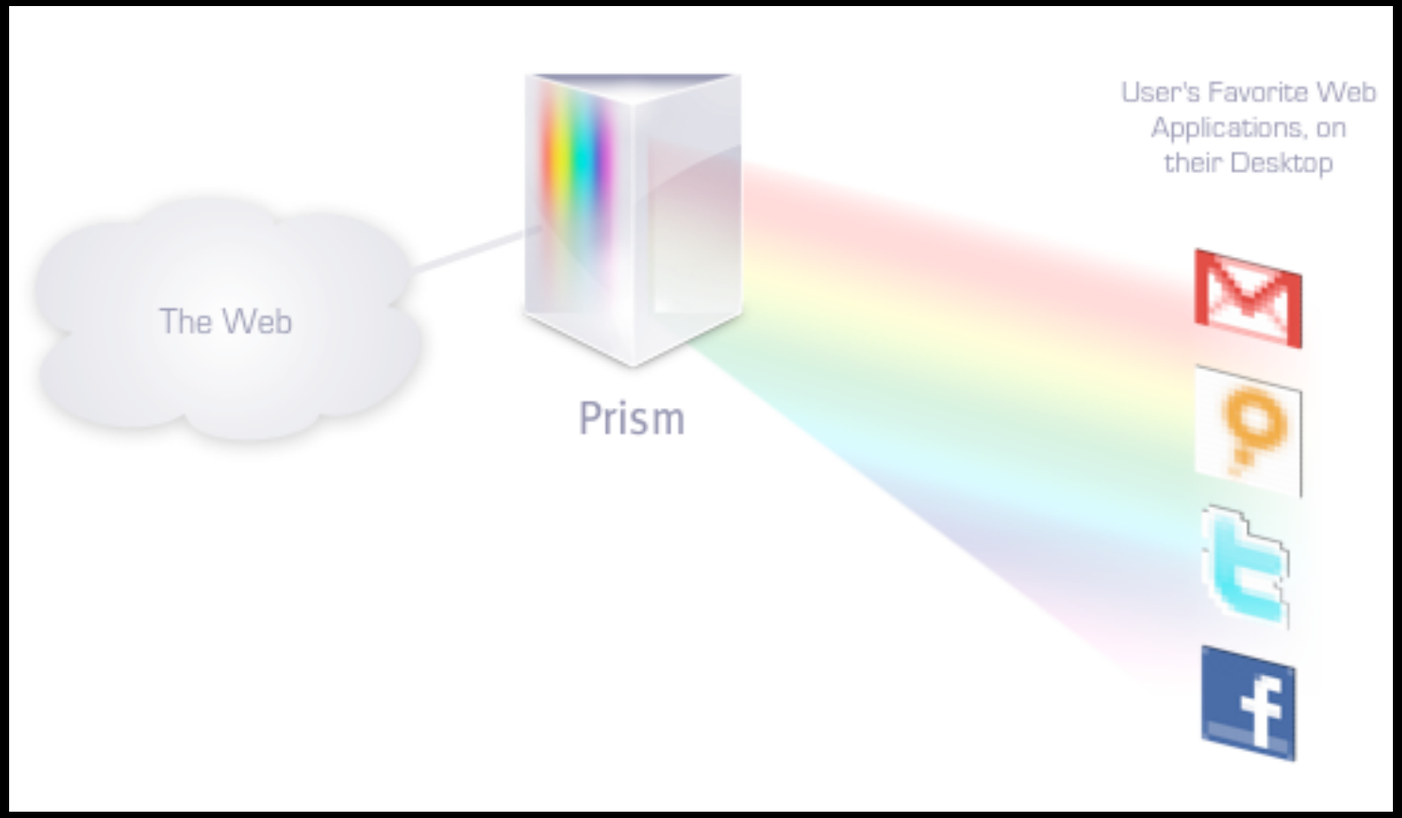
Labs: Aurora



Labs: Prism

- Turn web applications into desktop apps
- Same Gecko 1.9 as Firefox 3
- Separate runtime
- Offline support
- Best for frequently used web apps

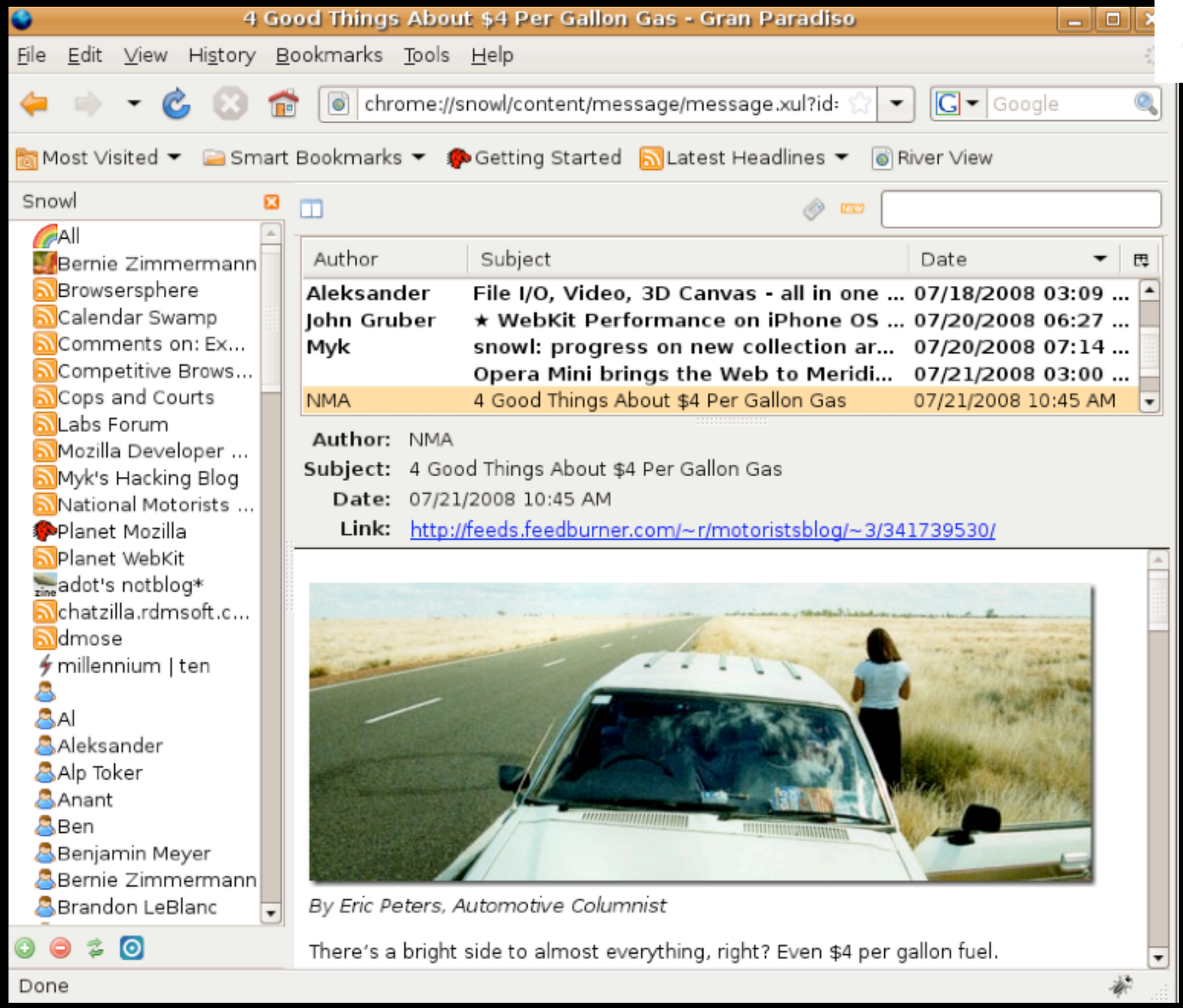
Labs: Prism


The Web
Prism
User's Favorite Web Applications, on their Desktop

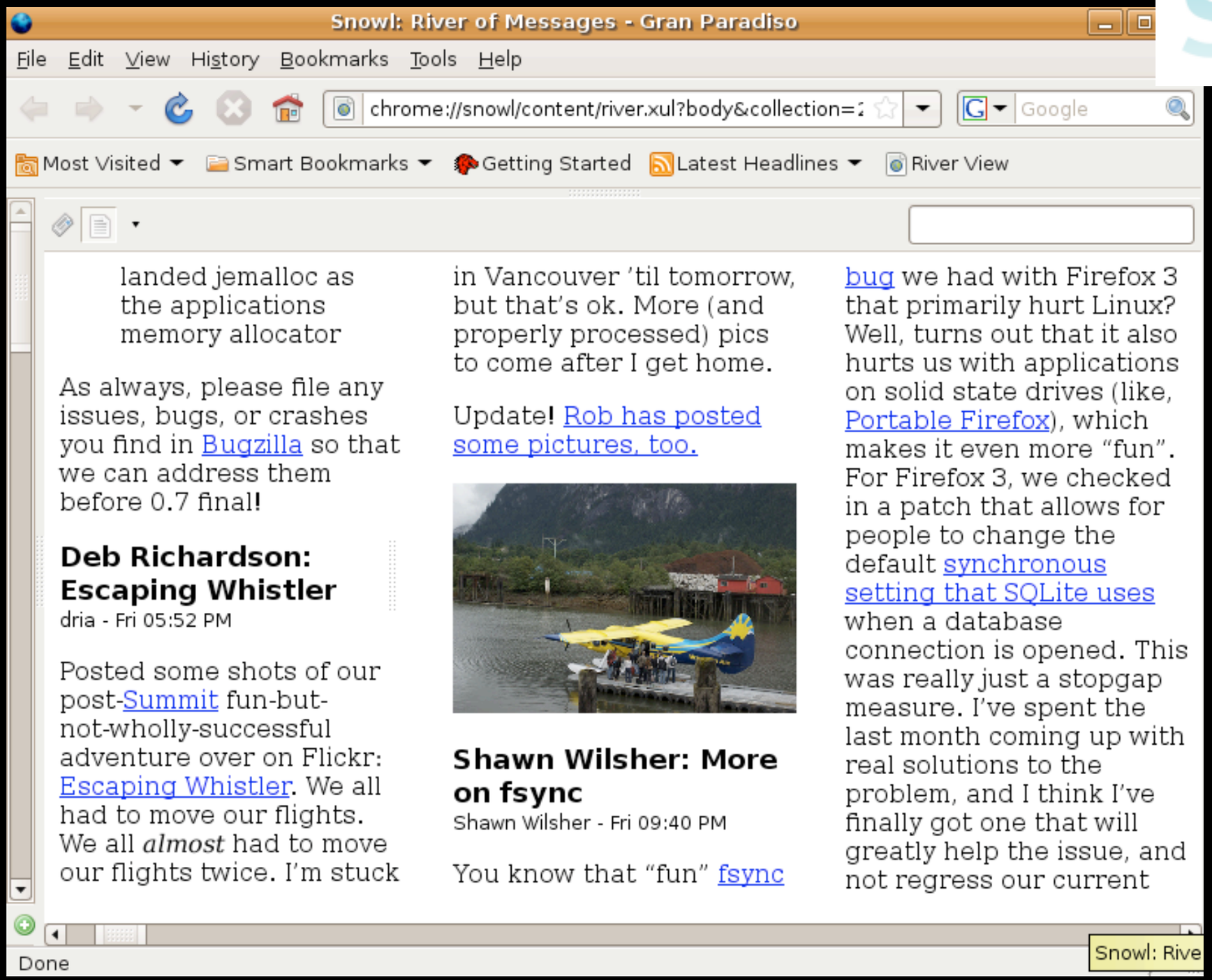
Labs: Snowl

- Support for messaging in the browser
- To "help you participate in online discussions"
- First prototype supports RSS/Atom & Twitter
- 3-pane view or "river of news"
- Support for searching of your messages
-

Labs: Snowl


4 Good Things About $4 Per Gallon Gas - Gran Paradiso
File Edit View History Bookmarks Tools Help
chrome://snowl/content/message/message.xul?id:
Google
Most Visited
Smart Bookmarks
Getting Started
Latest Headlines
River View
Snowl
All
Bernie Zimmermann
Browsersphere
Calendar Swamp
Comments on: Ex...
Competitive Brows...
Cops and Courts
Labs Forum
Mozilla Developer ...
Myk's Hacking Blog
National Motorists ...
Planet Mozilla
Planet WebKit
adot's notblog*
chatzilla.rdmsoft.c...
dmose
millennium | ten
Al
Aleksander
Alp Toker
Anant
Ben
Benjamin Meyer
Bernie Zimmermann
Brandon LeBlanc
Author
Subject
Date
Aleksander
File I/O, Video, 3D Canvas - all in one ...
07/18/2008 03:09 ...
John Gruber
★ WebKit Performance on iPhone OS ...
07/20/2008 06:27 ...
Myk
snowl: progress on new collection ar...
07/20/2008 07:14 ...
Opera Mini brings the Web to Meridi...
07/21/2008 03:00 ...
NMA
4 Good Things About $4 Per Gallon Gas
07/21/2008 10:45 AM
Author: NMA
Subject: 4 Good Things About $4 Per Gallon Gas
Date: 07/21/2008 10:45 AM
Link: http://feeds.feedburner.com/~r/motoristsblog/~3/341739530/
By Eric Peters, Automotive Columnist
There's a bright side to almost everything, right? Even $4 per gallon fuel.
Done

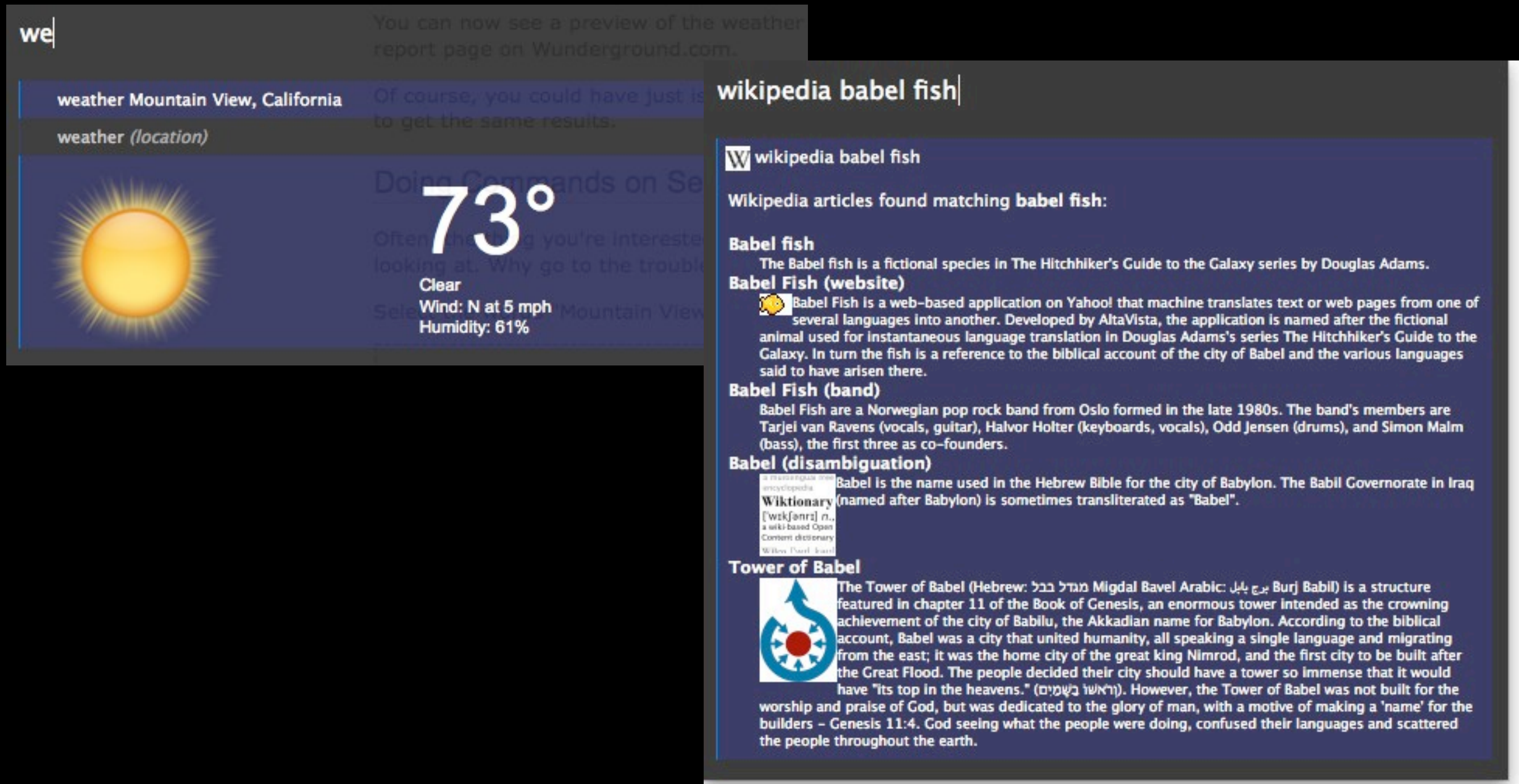
Labs: Snowl


Snowl: River of Messages - Gran Paradiso
File Edit View History Bookmarks Tools Help
chrome://snowl/content/river.xul?body&collection=
Google
Most Visited
Smart Bookmarks
Getting Started
Latest Headlines
River View
landed jemalloc as the applications memory allocator
As always, please file any issues, bugs, or crashes you find in Bugzilla so that we can address them before 0.7 final!
Deb Richardson: Escaping Whistler
dria - Fri 05:52 PM
Posted some shots of our post-Summit fun-but-not-wholly-successful adventure over on Flickr: Escaping Whistler. We all had to move our flights. We all almost had to move our flights twice. I'm stuck in Vancouver 'til tomorrow, but that's ok. More (and properly processed) pics to come after I get home.
Update! Rob has posted some pictures, too.
Shawn Wilsher: More on fsync
Shawn Wilsher - Fri 09:40 PM
You know that "fun" fsync bug we had with Firefox 3 that primarily hurt Linux? Well, turns out that it also hurts us with applications on solid state drives (like, Portable Firefox), which makes it even more "fun". For Firefox 3, we checked in a patch that allows for people to change the default synchronous setting that SQLite uses when a database connection is opened. This was really just a stopgap measure. I've spent the last month coming up with real solutions to the problem, and I think I've finally got one that will greatly help the issue, and not regress our current
Done
Snowl: Rive

Labs: Ubiquity

- Combine power of command line with GUI
- Text-based commands to interact with web
- Completely customizable

Labs: Ubiquity



http://labs.mozilla.com/

Much more to come

- Use Mozilla; spread the word
- Participate locally (MozTW.org)
- Participate globally (Mozilla)
- Contribute, file bugs, test

Thank you very much!

gen@mozilla.com