Bidirectional HTTP
Design Implications for HTTP

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Four Approaches

**BOSH**
XEP-0124: Bidirectional-streams Over Synchronous HTTP, XMPP

**Bayeux**
Bayeux Protocol, The Dojo Foundation
http://svn.cometd.org/trunk/bayeux/bayeux.html

**WebSock**
The Web Sockets API, W3C
http://dev.w3.org/html5/websockets/

**rHTTP**
Reverse HTTP
Four Motivations

**BOSH**  Work around firewalls or environments that are restricted to HTTP

**Bayeux**  Operate in an application environment (web page) where the only network functionality is XMLHttpRequest()

**WebSock**  Create a bi-directional network facility for DOM environments

**rHTTP**  Provide full HTTP request/response semantics in network environments where the responder can’t accept connections
Common Aim

Support reversed flow over HTTP

-or-

Get data to the client at the server’s whim!
Layering on HTTP

How the underlying HTTP connection is used:

Poll / Long Poll

BOSH, Bayeux

Upgrade

WebSock, rHTTP
Polling vs. Long Polling

**Polling**

- Client
- Network
- Server

- Events

- polling period
- latency

**Long Polling**

- Client
- Network
- Server

- Events

- max polling period
- latency
Content Transport

Data is moved through the system in:

- Message Bodies
- Web Socket protocol
- HTTP
- BOSH, Bayeux
- WebSock
- rHTTP
Features of HTTP

- URLs
- Headers
- Content Negotiation

All use them in establishment to different degrees

Only rHTTP uses them once operating
Connections

How many connections it takes

1

BOSH, WebSock

1 or 2

Bayeux

2

rHTTP
Proxies

How do the work with proxies:

No Problem

BOSH, Bayeux

Need CONNECT

WebSock, rHTTP
Caching

We don’ need no stinkin’ caching!
GET /contributors HTTP/1.1

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