Instant Feeds for Social Networks

INTRODUCTION AND PROBLEM STATEMENT

Nearly all of the social networking services produce some sort of activities (according to opensocial terminology) and in most of the cases the consumers of these activities feeds are interested on receiving them as soon as possible through some kind of notification system avoiding the necessity of continuously reloading the browser. The main motivation of this instantaneous notification feature is the reply capabilities that most of the services include in the activities (for example to comment a new photo or to reply to a microblogging post).

Nowadays most of this networking sites uses the traditional approach of generating RSS or Atom feeds and rely on standard news feeds or implement custom applications that continuously polls these feeds trying to offer the instantaneous notification experience overcoming artificially the limitations of this feeds mechanisms.

But that approach has important limitations; it imposes a high load in the server due to the continuous flow of requests done by the clients (typically 1 per minute), it doesn't achieve real instantaneity, it requires the installation of new specific software in the customers' equipment (usually new software per service). In addition, in mobile environments it introduces a lot of network traffic reducing the battery duration and increasing the network costs both for the Network Providers and the users (in case of not having flat rates).

PROPOSED SOLUTION

The proposed solution consists on reusing existing instant communication platforms (typically Internet IM systems or telco Next Generation Networks) to deliver the notifications to the users. The social site would just be responsible of generating the notifications for each user and the communication platform would be then responsible of distributing them. The global picture and the platforms interconnection is shown in the Figure 1.

Some social networks (like Twitter) have tried to some extent to do this connecting a *bot* to a messaging infrastructure and sending standard instant messages to the users when required. This is far from the optimal solution but it is first step towards the expected user experience.

The system shouldn't impose any requirement in the instant communication platforms, but in case of nowadays standard solutions (namely XMPP and SIP) the use to support the concept of Publish/Subscription/Notification system that is fully aligned with the requirements of a social notification system.

The work to be done to put the full solution in place consists on the following aspects:

- **Discovery** of the way each user is willing to receive the notifications (the user network and identity). This can be done using OpenID attributes or XRDS discovery.
- **Authorization** to the social networking sites to publish notifications for the users. OAuth fits perfectly to satisfy the access control requirements.

- **Publication Protocol** to be used by the social networking sites to send the notifications to the instant communications platforms. This can be done with the native protocols (like SIP or XMPP), but it would be much more easier, transparent and interoperable if done using some protocol (like AtomPub) on top HTTP.

One additional issue that must be considered here is the business implication of reducing the number of page views of the users receiving instant notifications, that would produce a decrease in the advertisement that must be compensate with the increase of users of the platform with this new feature or for example with embedded advertisement as done in some RSS distribution platforms today.

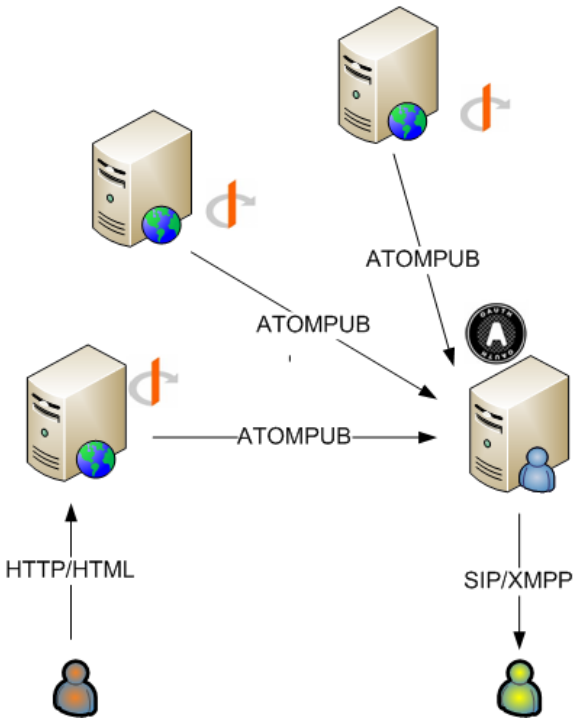

Figure 1 Instant Feeds Architecture