**Adaptive Web Caching**

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This project is a collaboration between Lixia Zhang (UCLA) and Sally Floyd and Van Jacobson (LBNL).

URL http://irl.cs.ucla.edu/awc.html.

**What is the project about?**

There are three separate levels to this work that inform each other, and that each have to be kept in mind:

1. Our vision of a global data dissemination infrastructure of the future, with a self-organizing data transport substrate and self-organizing information flow.

2. The incremental deployment of this vision in the current web caching infrastructure in the Internet.

3. The general question of self-organization in networks.

**Our vision of a global data dissemination infrastructure:**

1. Data has unique names, and data integrity is a property of the data.

2. Servers make data available.

3. Clients ask for data.

4. The web caching/data dissemination infrastructure conspires to deliver the data to clients.

**Why use the word “self-organizing”?**

1. Instead of manual configuration of communications between nearby web caches, web caches find neighboring web caches, and organize themselves into overlapping multicast groups.

2. Instead of the manual configuration of paths for requests for data, web caches exchange information among themselves and, for each request, determine the appropriate forwarding path.

3. This allows scalability, robustness, and adaptation to changes in topology and load.