

Watching Prefix

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I. Introduction:

‘Watching Prefix’ is a new protocol for repo insertion. Under this protocol, repo will keep sending interest to request the data with same prefix but with different exclude selectors(updated every time). Repo will stop watching the prefix until a command interest tell it to stop, the total amount of sent interests reaches a specific number or time out.

II. Exact Protocol

A. Starting watching prefix

Repo will start the mode of watching prefix by receiving a command interest. The command interest should at least specify:(1) the prefix that should be watched, (2) the timeout for interest, (3) the maximum number of interests to be sent, (4) the timeout for watching prefix and (5) status of this interest (start or stop). The command to start should be specified as “watch” and the status should be “start”. If the timeout value for watching prefix is not specified, repo will keep watching this prefix. Besides, the command interest can also specify the basic selectors to make sure only data that satisfy selectors can be inserted into repo.

B. Processing

Repo should send the interest with the prefix and initial selectors when it receives the command interest. When repo receives the data, (1)the exclude selector should be updated to exclude all the received data and (2) data should be inserted into repo, and then (3) it will immediately send an interest with updated selectors. Repo should also issue the refresh interest when no data is received and interest times out. Whenever an interest is sent, a counter will update the total amount of interest has been sent.

C. Stop watching prefix

There are three conditions that repo will stop watching the specific prefix.

- (1) Certain command interest is received. The command interest should be specified as “watch” and status should be specified as “stop”.
- (2) The total amount of interest has been sent reaches the limit specified by command interest.
- (3) Watching prefix times out.

III. Flow Chart

