SCG Backend Cache

by Stockholm Code Group

Product Highlights

Stockholm Code Group Backend Cache is a backend caching product that will boost the performance of your web site.

SCG Backend Cache will...

- guarantee predictable response times for your visitors.
- decouple your dependencies to external and internal systems which don't have reliable response times.
- relieve your web front servers, which will let you run your site using fewer fronts.
- benefit all cachable or partly cachable web sites.
- give you an easy way to dramatically increase the performance of your website.

The Problem

Today, many web pages are composed by fragments generated by program code. Some page fragments may be slow to process and render (like search or query based lists). Other fragments may have a dependency towards external or internal systems that are unreliable (like lists generated from rss feeds).

If you want the visitor response times to be fast and predictable, you cannot let the visitors' web requests take the penalty to render these slow and unpredictable page fragments.

Normal cache solutions don't adress this problem, because eventually, a cache entry for a fragment or a whole page will expire and a visitor request will have to take the hit of running the slow code and refill the cache entry. While this slow request is being processed, the cache entry will still be stale, causing all other visitors to also render the fragment/page, without using the cache. This causes bursts of slow requests on your web fronts.

Most likely, there will be occasions when some fragments are even slower, causing web threads to peak on your web fronts. This makes the site "shaky". Sometimes the site is fast, but sometimes it is not. The problem gets even worse when the traffic volume is high, causing severe bursts of requests flowing past the standard cache mechanism.

The Solution

SCG Backend Cache provides a solution where all heavy processing is decoupled from your user requests. Page fragments or whole pages in your web application will ask SCG Backend Cache for the latest successful response for a specific url. When asked for this information, SCG Backend Cache will immediately deliver the latest response from its internal cache.

At the same time, SCG Backend Cache will schedule updates of this url to update its internal cache. The call from your web application will include parameters that tell SCG Backend Cache how often and how long the cache entry should be updated.

This way, the user requests are decoupled from the actual process of generating the page fragment. This ensures predictable response times for your visitors.

Examples of slow page fragments that benefits from being cached in SCG Backend Cache:

- External content generated from serverside http requests, i.e. generating a list of articles based on an external rss feed.
- Complete HTML fragments from other sites/partners.
- Search, query and other heavy operations in the local web application.

Note that the fragments that you want to cache may often be generated by heavy requests back to the very same web application that makes the call to SCG Backend Cache. In fact, this is a very common programming pattern when using SCG Backend Cache.

The Features

- Very fast cache and scheduling mechanism.
- Admin GUI where you can manage all cache entries and retrieval jobs.
- Easy deployment. Use SCG Backend Client to call SCG Backend Server, which is implemented as a standard java webapp.
- Highly scalable, SCG Backend Server can be run on several servers if necessary
- Monitoring agent

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