Redirecting LLC Accesses:

Using SRRIP replacement policy.

IPC:

444.namd : 1.855 (no change from original)
445.gobmk : 0.786951 (no change from original)
473.astar : 0.663293
605.mcf : 0.150698

HIT-Count:

444.namd : 9624
445.gobmk : 516
473.astar : 170604
605.mcf : 2017870

Redirection Algorithm:

1. The redirection has been entirely done inside the get_set function:
2. Every 10000 instructions there is a sorting of the vector containing a count of evictions from every set.
3. Additionally every 10000 instructions there is also a map which gets updated in the way that key values (0 to 2047) get mapped to set numbers based on their degree of hotness with higher key value going to a hotter set.
4. Now inside the get_set function whenever there is an element which is not found in maps containing the mapping of the currently existing addresses inside the cache then this address is mapping to a key with the value mapping_constant (modulo 512) where mapping constant is incremented after every new address to map assignment inside the get_set.

5. So basically for 10000 instructions the entire traffic gets diverted to the coldest 512 sets and the data that was stored in the now hotter sets is not evicted.