

Symbol	Description
$\alpha$	time decaying factor
$\theta$	threshold for the hot key identification
$c_k$	counter of a key $k$
$d_{min}$	minimal number of workers for hot key
$f_{top}$	the highest frequency
$f_k$	frequency of a key $k$
$k, v$	key identifier
$t_{pri}, t_{cur}$	prior and current timestamp
$w$	worker identifier
$A$	set of candidate workers
$C_w$	unprocessed tuples for worker $w$
$D$	set of input stream data
$K$	set of top frequent keys
$K_{max}$	the maximum capacity of the set $K$
$M$	set of assignable workers for each key
$N_{epoch}$	the number of sequential tuples in an epoch
$N_w$	the number of assigned tuples to worker $w$
$P_w$	the processing capacity for worker $w$
$T_w$	the estimate waiting time for worker $w$
$W_{num}$	the number of workers