

Fig. 1. Execution elapsed time measured in seconds for DellIDVDStore. We compare average elapsed times of each transaction in first and last generations. The x-axis corresponds to the first and last generations, and y-axis corresponds to systems' average elapsed time. The experiments were repeated for 30 runs.

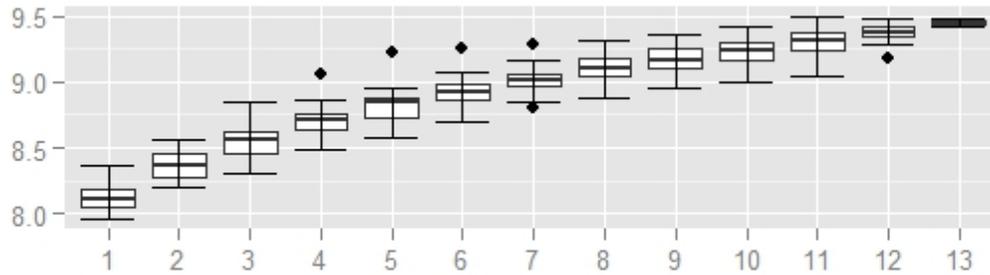


Fig. 2. The results for elapsed execution time across every generation for DellIDVDStore, measured in seconds. The x-axis corresponds to generations, and y-axis corresponds to average elapsed time.

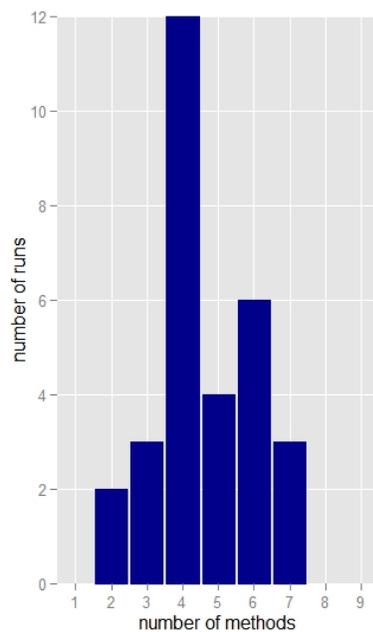
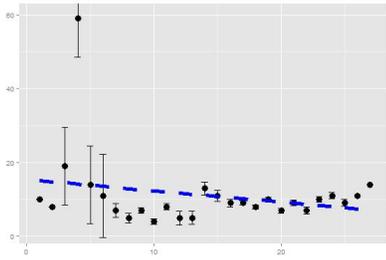


Fig. 3. Distribution of the quantity of captured injected bottlenecks. The x-axis corresponds to the number of injected bottlenecks that are captured by one certain GA-Prof run. The y-axis corresponds to the number of GA-Prof runs.

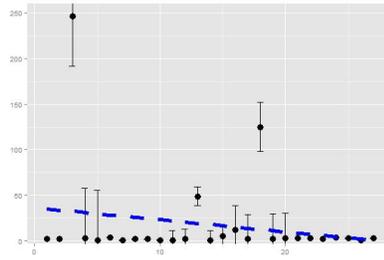
	Name	Container
$m_1$	getBrowsestype()	/com/ds2/ConnectionManager
$m_2$	setNew_item_length()	/com/ds2/ConnectionManager
$m_3$	setCustomerid()	/com/ds2/ConnectionManager
$m_4$	getBrowse_actor()	/com/ds2/ConnectionManager
$m_5$	getBrowse_category()	/com/ds2/ConnectionManager
$m_6$	getItem()	/com/ds2/ConnectionManager
$m_7$	setBrowse_category()	/com/ds2/ConnectionManager
$m_8$	setItem()	/com/ds2/ConnectionManager
$m_9$	getLimit_num()	/com/ds2/ConnectionManager

TABLE I

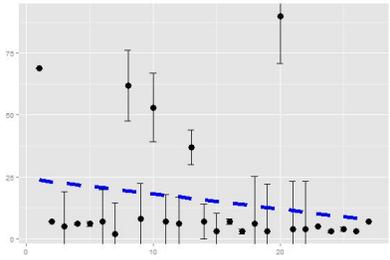
THE LIST OF METHODS THAT ARE ARTIFICIAL DELAYS ARE INJECTED INTO. THE THREE COLUMNS INDICATE THE METHOD ID, THE METHOD NAME AND METHOD CONTAINER, RESPECTIVELY.



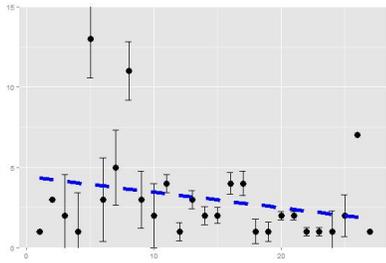
(a) getBrowsestype()



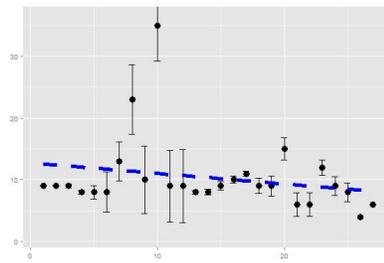
(b) setNew\_item\_length()



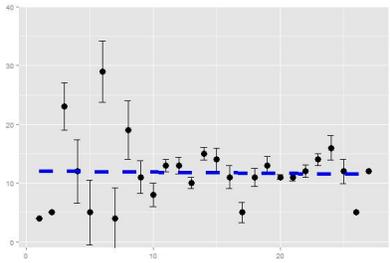
(c) getBrowse\_actor()



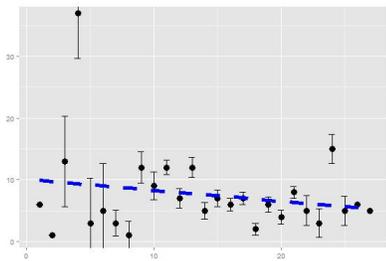
(d) getBrowse\_actor()



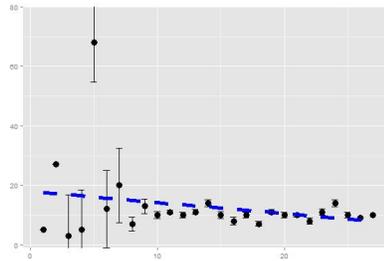
(e) getBrowse\_category()



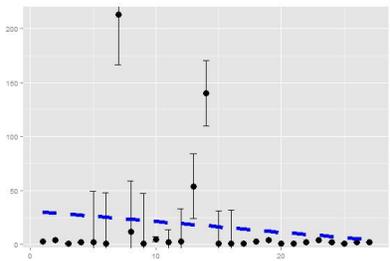
(f) getItem()



(g) setBrowse\_category()



(h) setItem()



(i) getLimit\_num()

Fig. 4. Understanding the trend of ranks of injected bottlenecks. These figures take one run for example. The x-axis corresponds to generations, and y-axis corresponds to the rank of bottlenecks. In each subfigure, the rank of the method is shown in black circles. The standard deviation at each generation is shown in black vertical lines and whiskers. The fit straight line is shown in blue dashed lines.