To get accurate results, tests were run on 16 threads, 1,000,000 swaps, array = [10, 20, 30, 40, 50]. The large number of swaps were required to get an appropriate average.

Synchronized: Total average ~7400 ns/transition. 100% Reliable.

Unsynchronized: Total average ~1300 ns/transition. <<<%100 reliability. Sum should = 150, avg'd 20,000

GetNSet: Total average ~1800 ns/transition. < %100 reliability. Sum should = 150, avg'd 200

BetterSafe: Total average ~4500 ns/transition. 100% reliability.

BetterSorry: Total average ~3500 ns/transition. 100% reliability.

DRF Models:

Synchronized – never lets any threads run a swap simultaneously.

BetterSafe – Increments and decrements atomically.

BetterSorry – Utilizes locks to prevent race conditions.

Non-DRF Models:

Unsynchronized – Obviously, no restricitons to data access leads to many race conditions

GetNSet – Slight delay between getting a value, incrementing, and updating it that allow for race conditions.

The best model for GDI would most likely be GetNSet. It is very fast and has only minimal lapses of reliability.