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APPENDICES

APPENDIX A

Simulation Results: The effect of correlation between intermediate results and final results

A.1 The generated intermediate results and final results

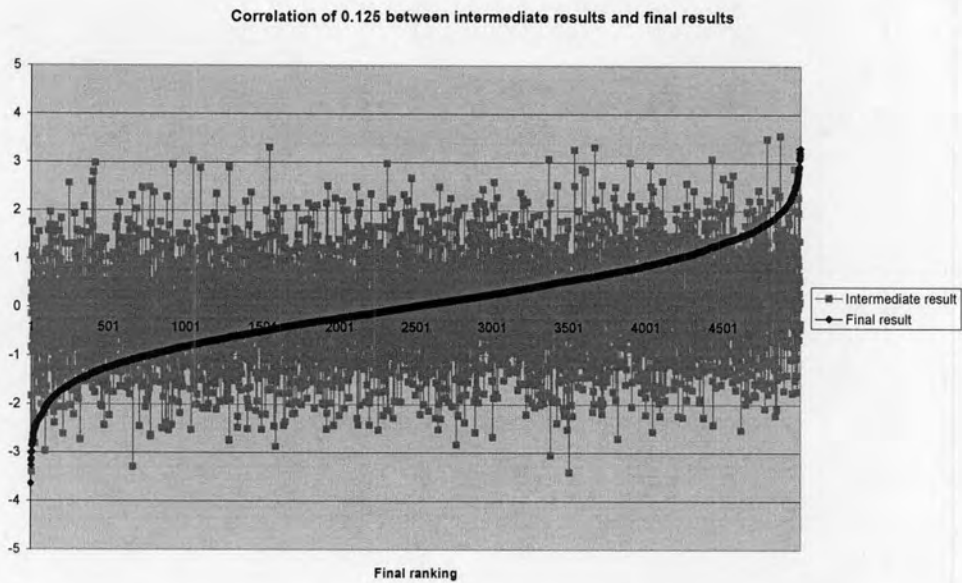


Figure A.1 Correlation 0.125

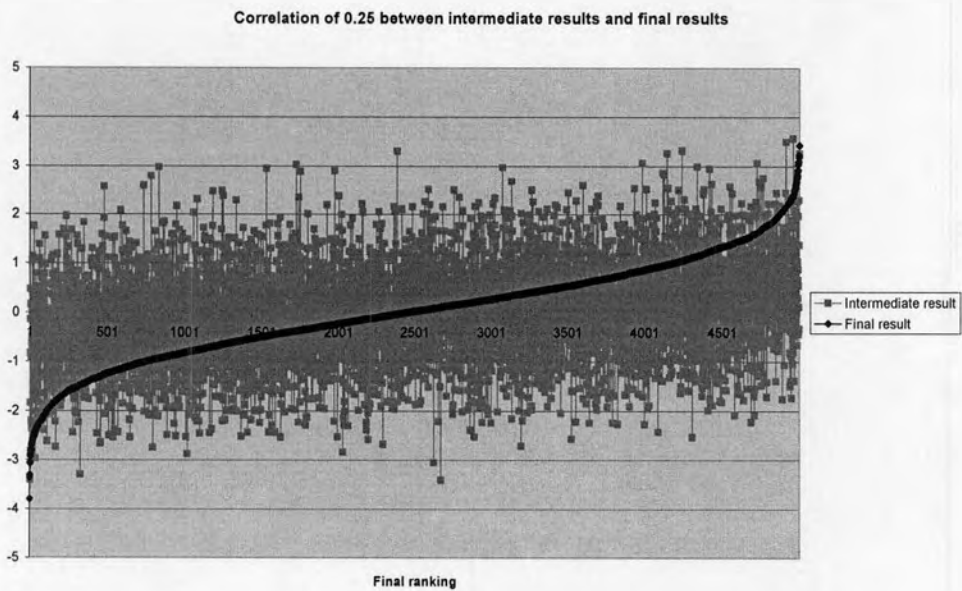


Figure A.2 Correlation 0.25

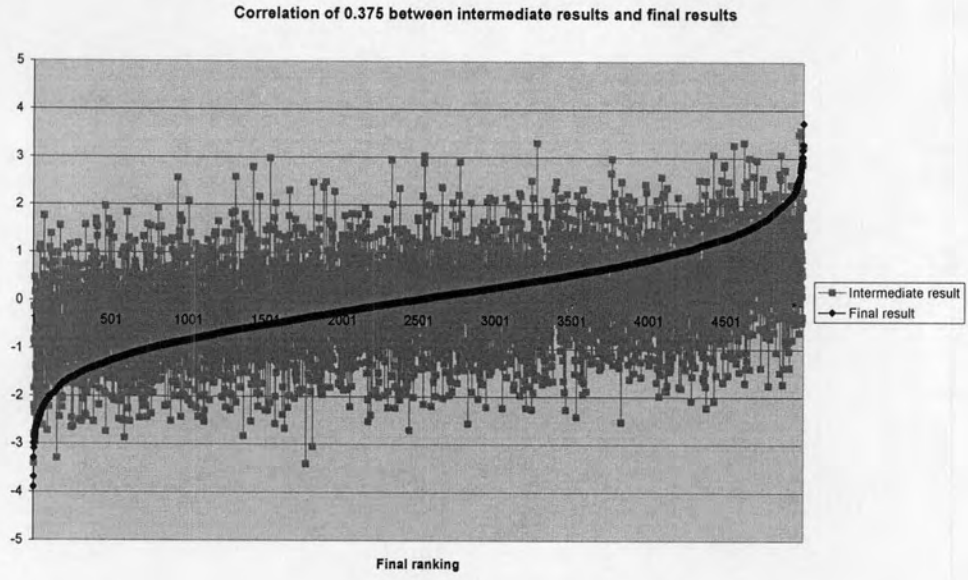


Figure A.3 Correlation 0.375

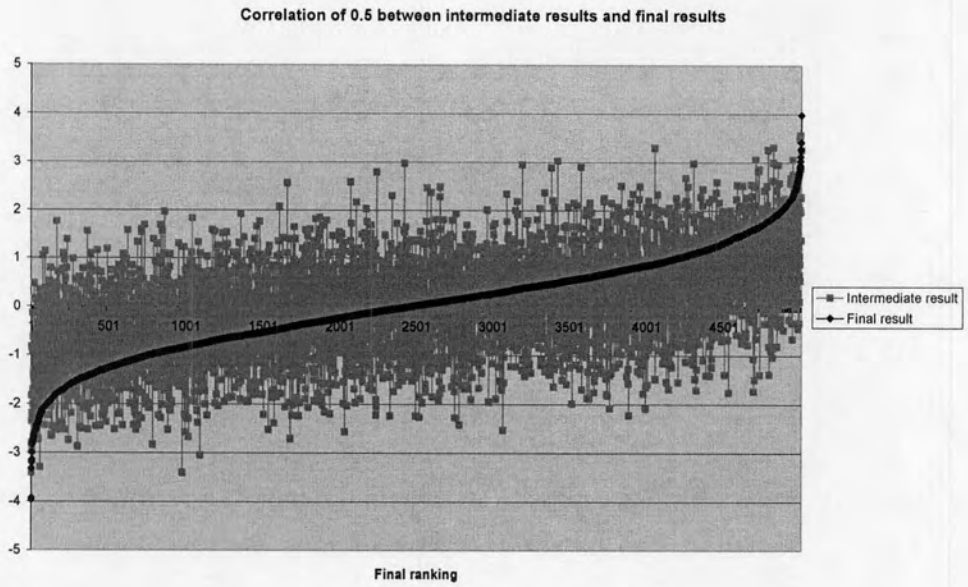


Figure A.4 Correlation 0.5

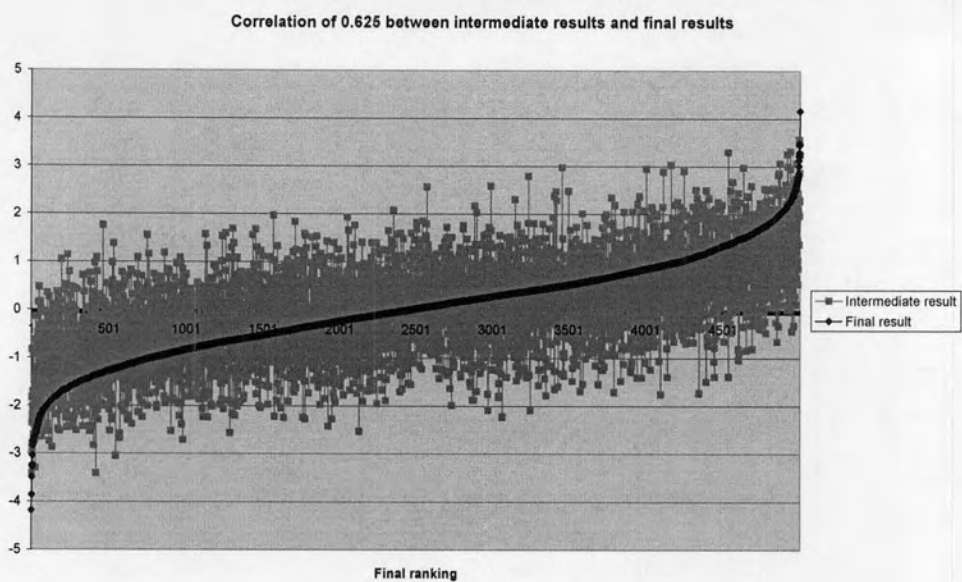


Figure A.5 Correlation 0.625

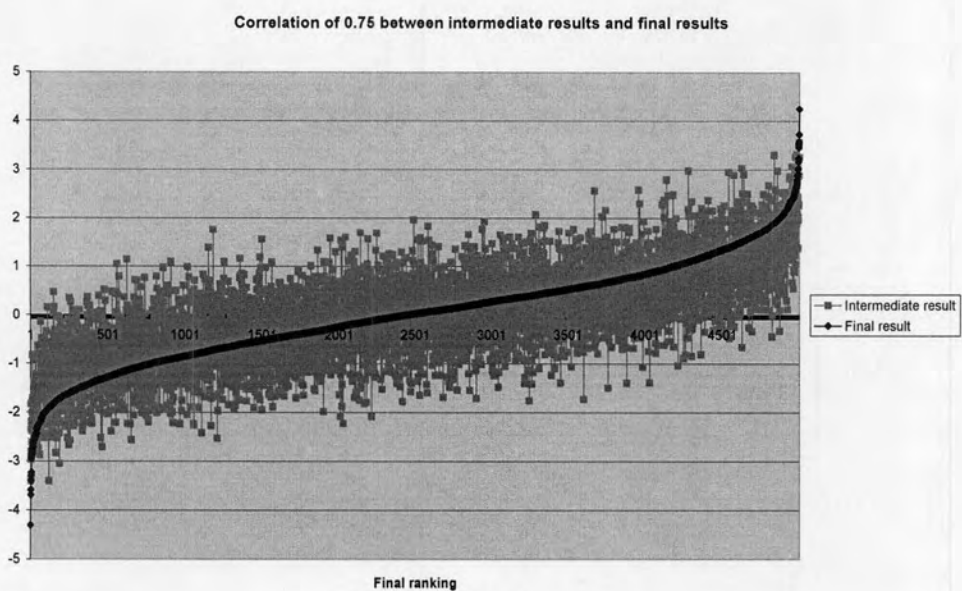


Figure A.6 Correlation 0.75

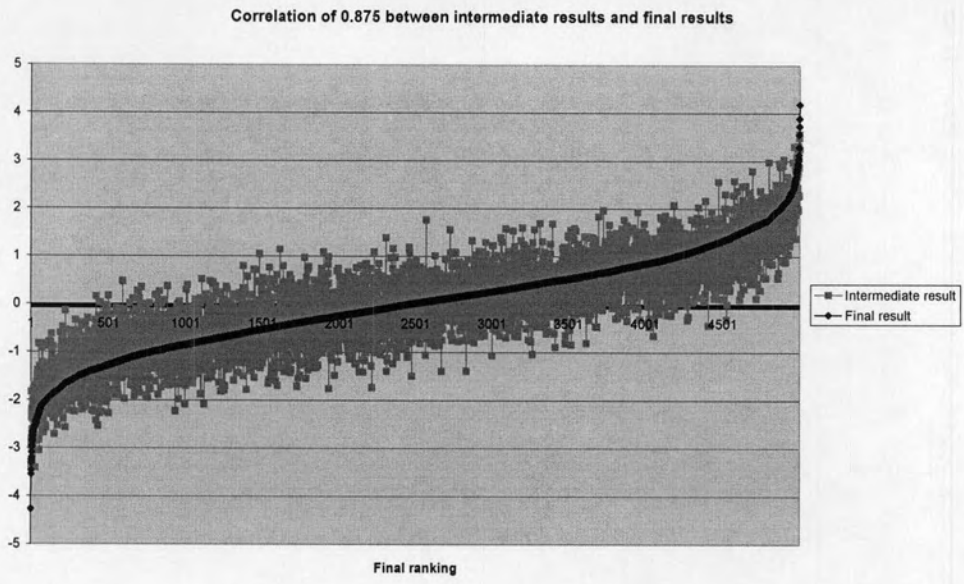


Figure A.7 Correlation 0.875

A.2 The effect on order of workflow completion

a) Relationship between average final ranking and order of workflow completion

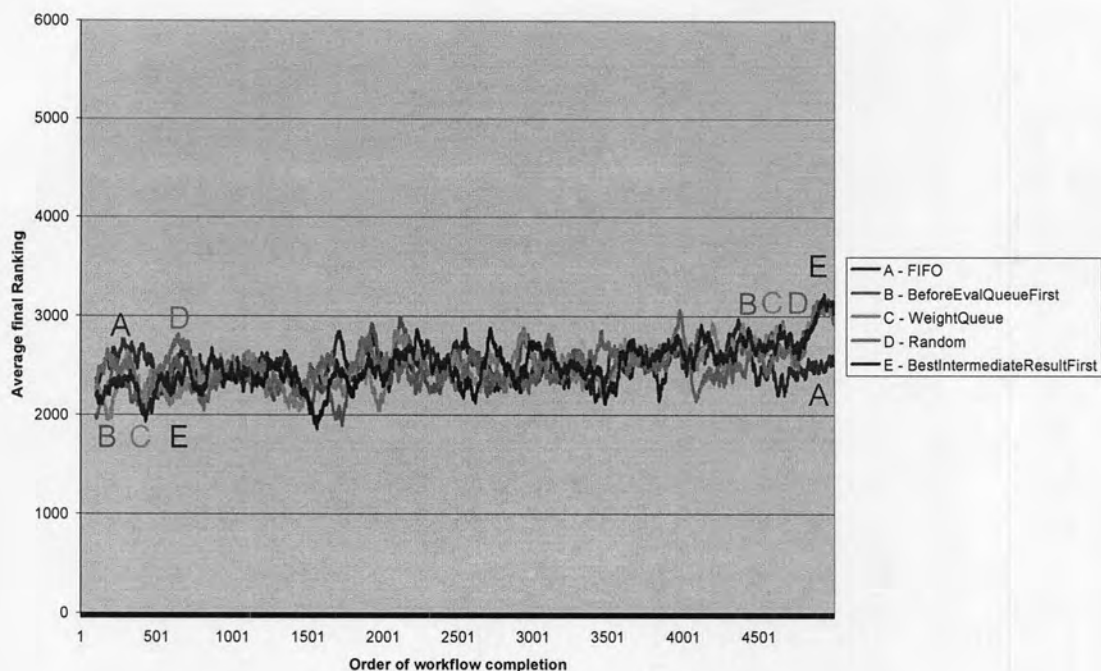


Figure A.8 Relationship between average final ranking and order of workflow completion in correlation 0.125

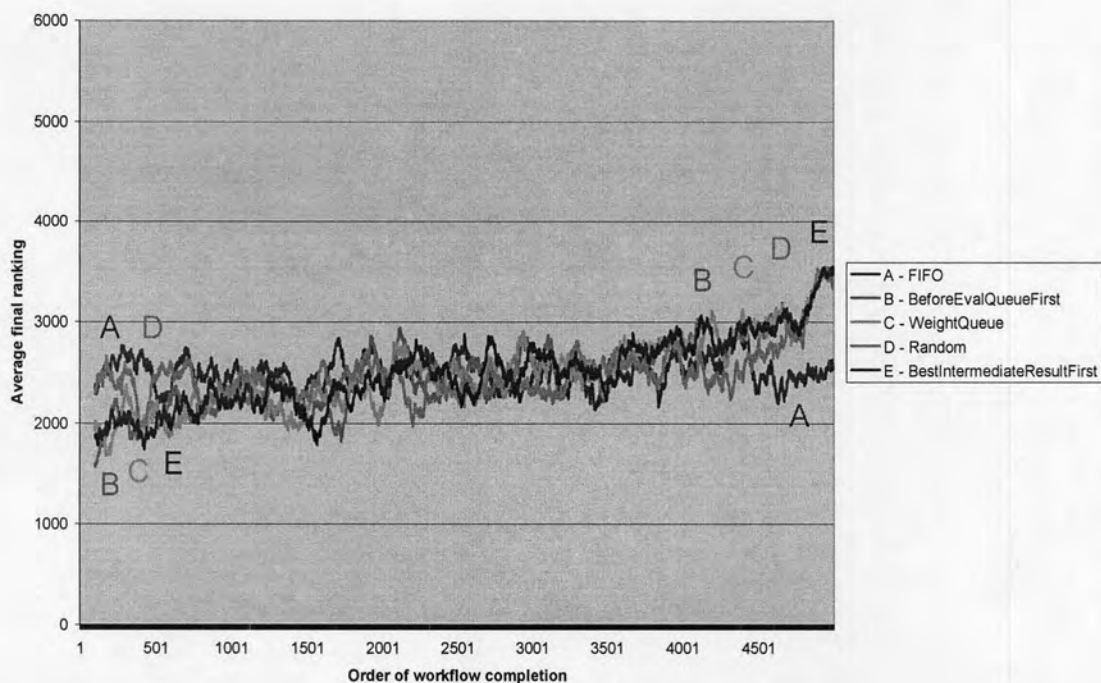


Figure A.9 Relationship between average final ranking and order of workflow completion in correlation 0.25

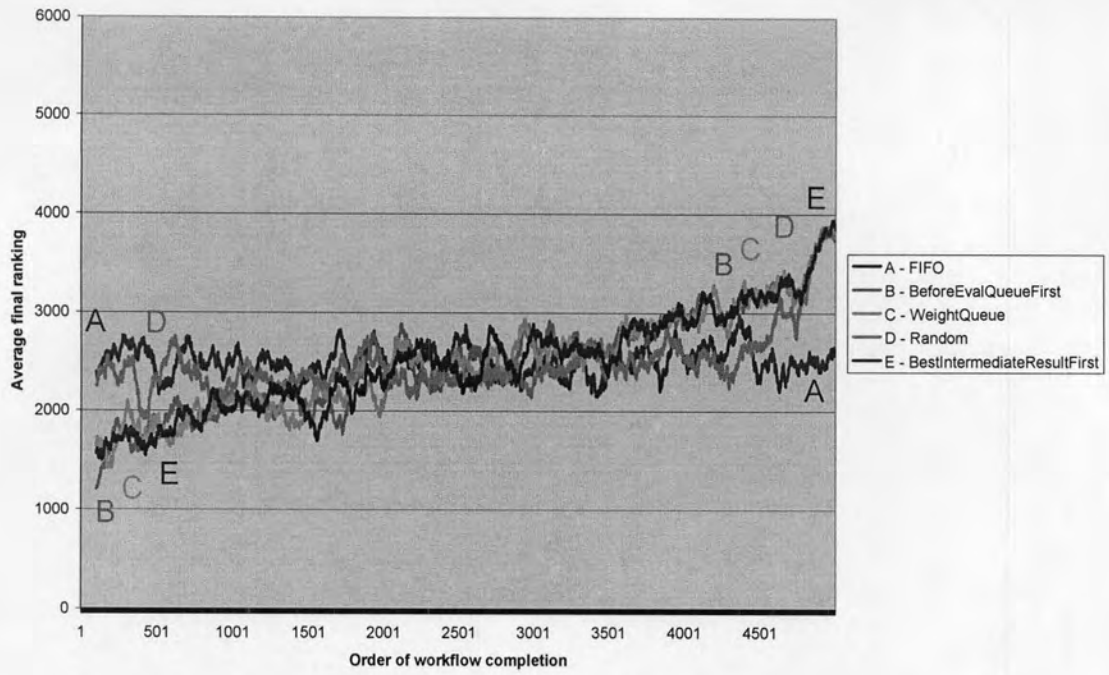


Figure A.10 Relationship between average final ranking and order of workflow completion in correlation 0.375

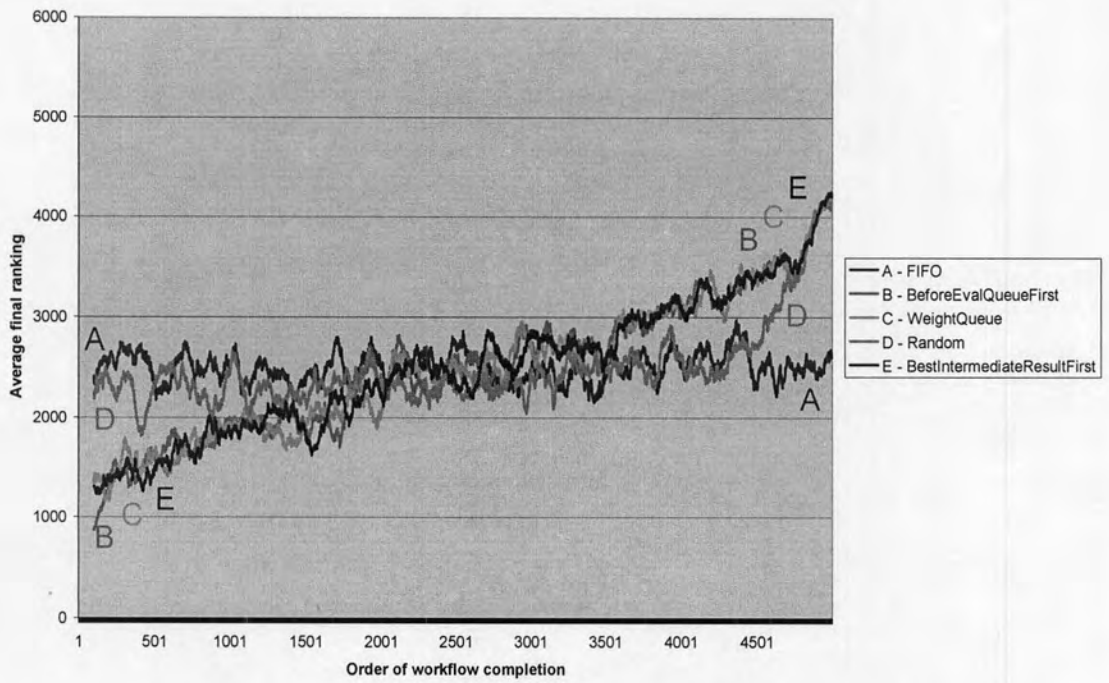


Figure A.11 Relationship between average final ranking and order of workflow completion in correlation 0.5

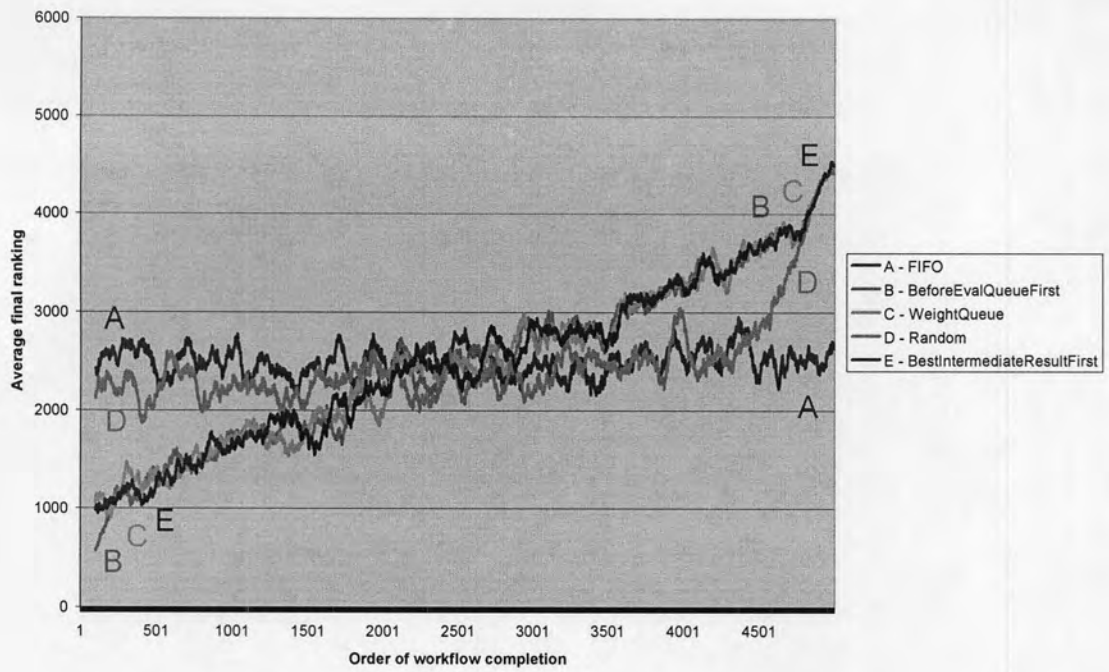


Figure A.12 Relationship between average final ranking and order of workflow completion in correlation 0.625

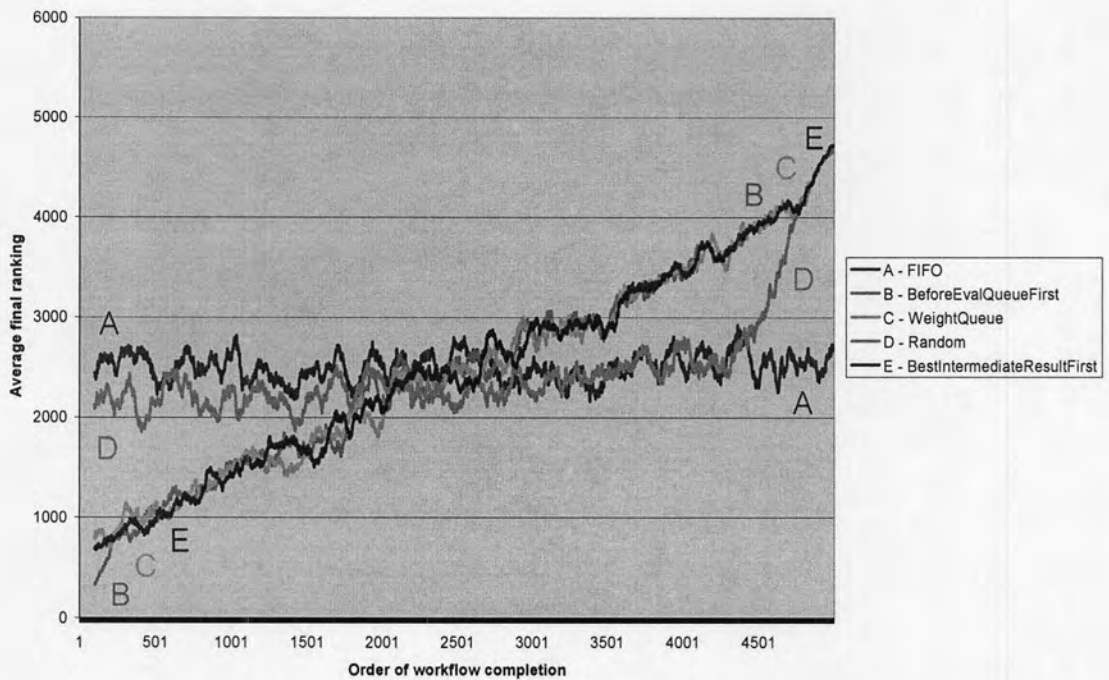


Figure A.13 Relationship between average final ranking and order of workflow completion in correlation 0.75

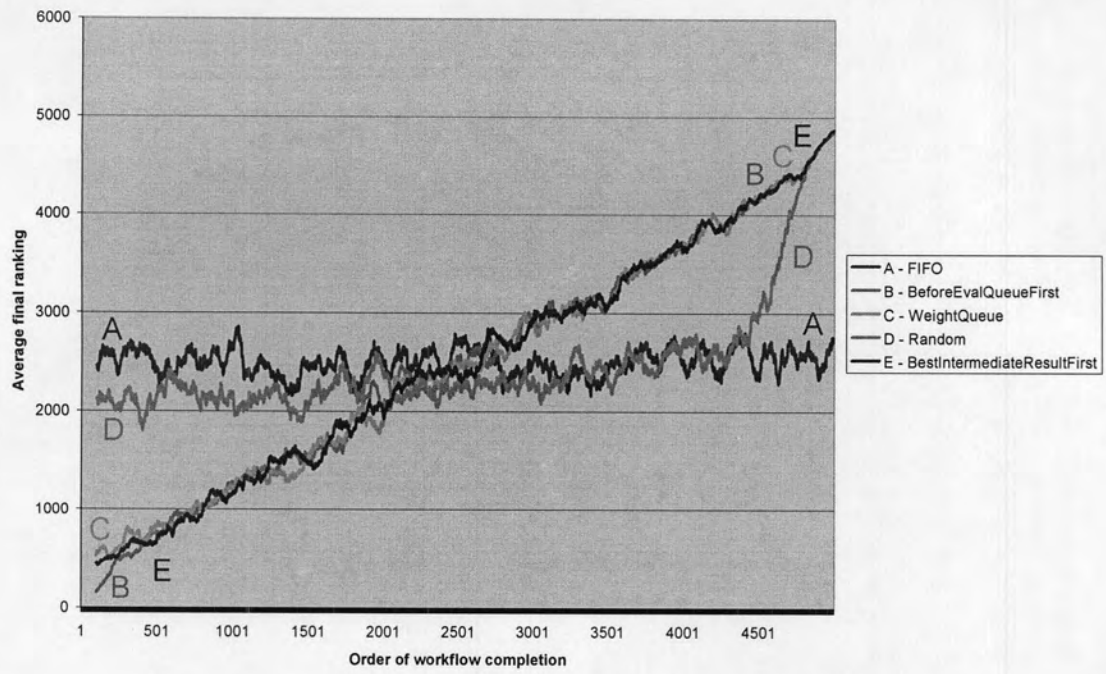


Figure A.14 Relationship between average final ranking and order of workflow completion in correlation 0.875



A.3 The effect on final ranking

a) Relationship between average completion time and final ranking

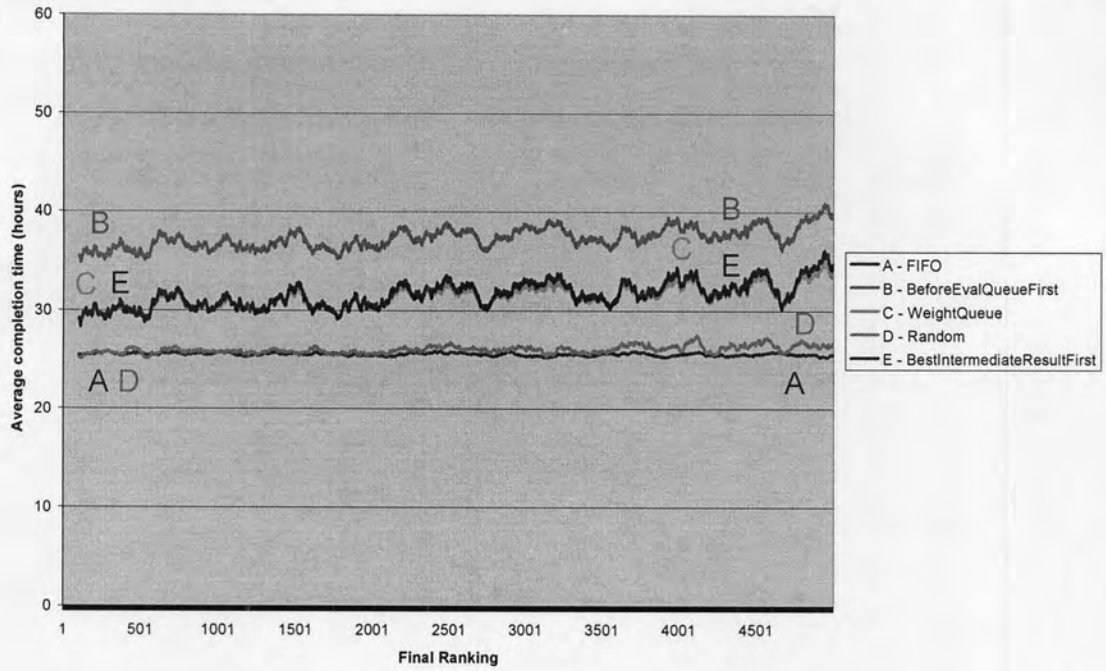


Figure A.15 Relationship between average workflow completion time and final ranking in correlation 0.125

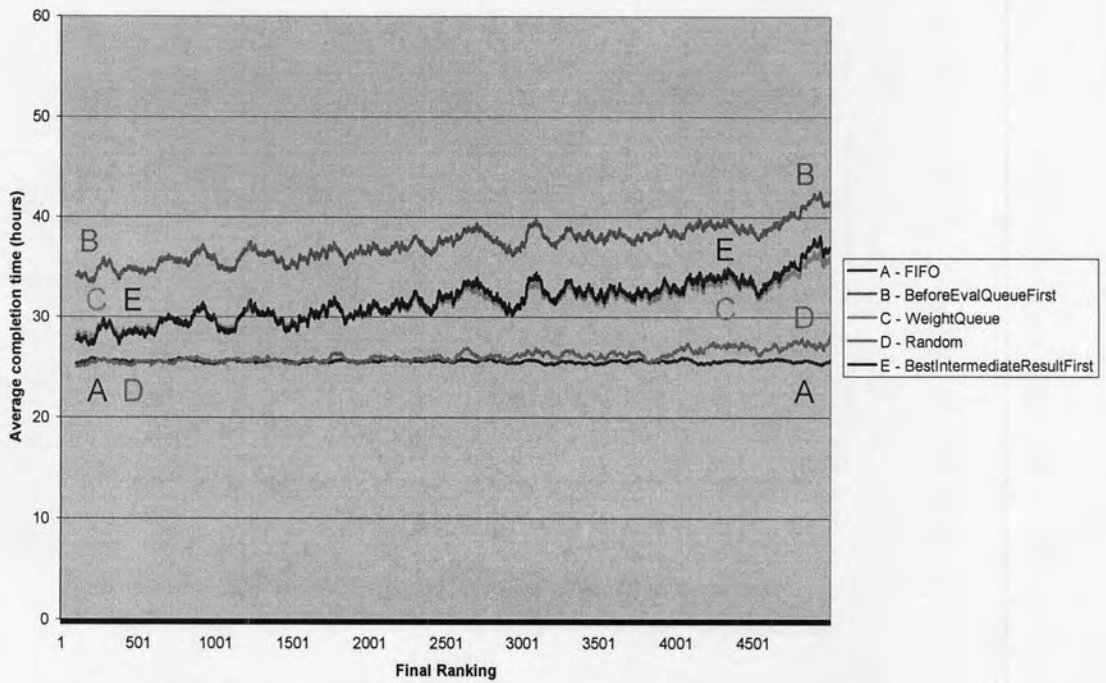


Figure A.16 Relationship between average workflow completion time and final ranking in correlation 0.25

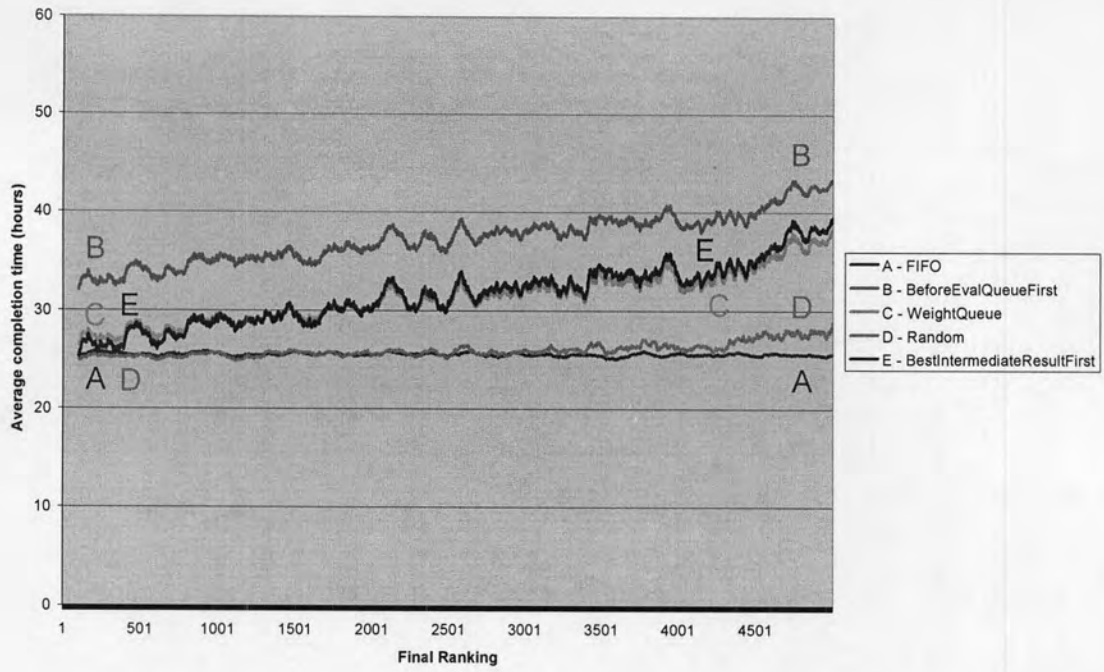


Figure A.17 Relationship between average workflow completion time and final ranking in correlation 0.375

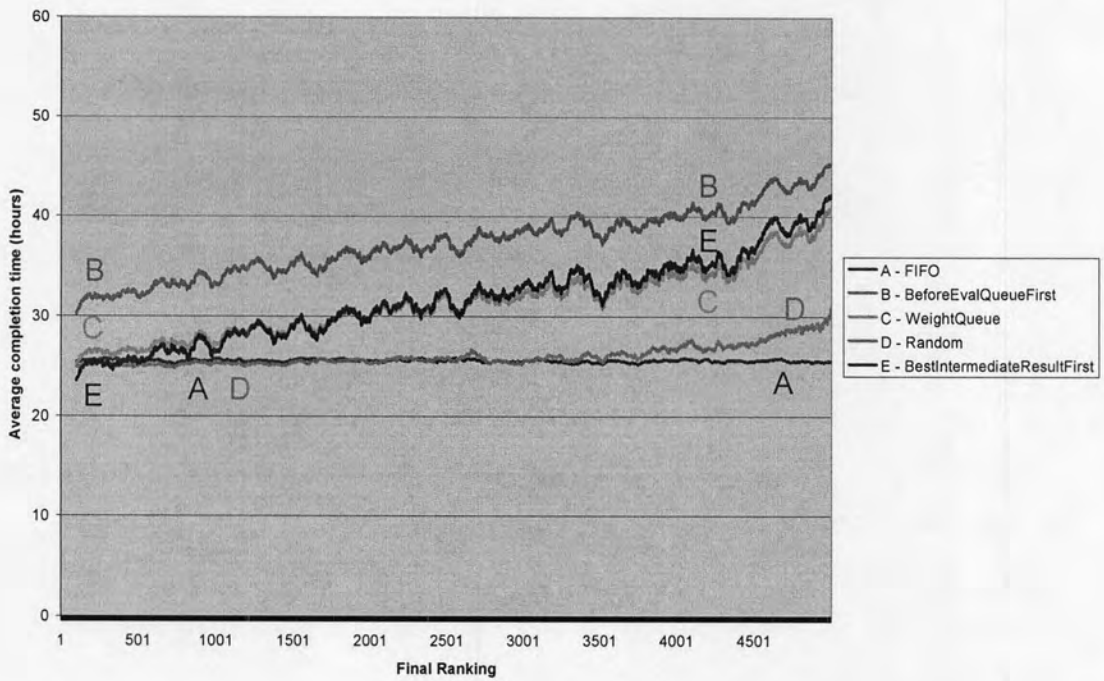


Figure A.18 Relationship between average workflow completion time and final ranking in correlation 0.5

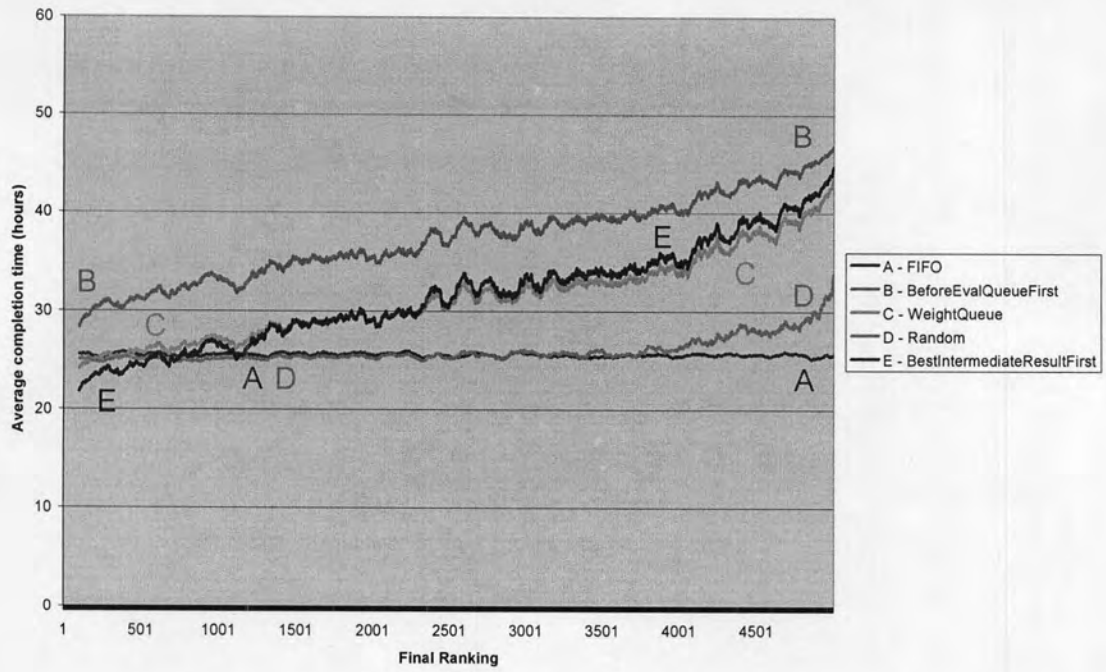


Figure A.19 Relationship between average workflow completion time and final ranking in correlation 0.625

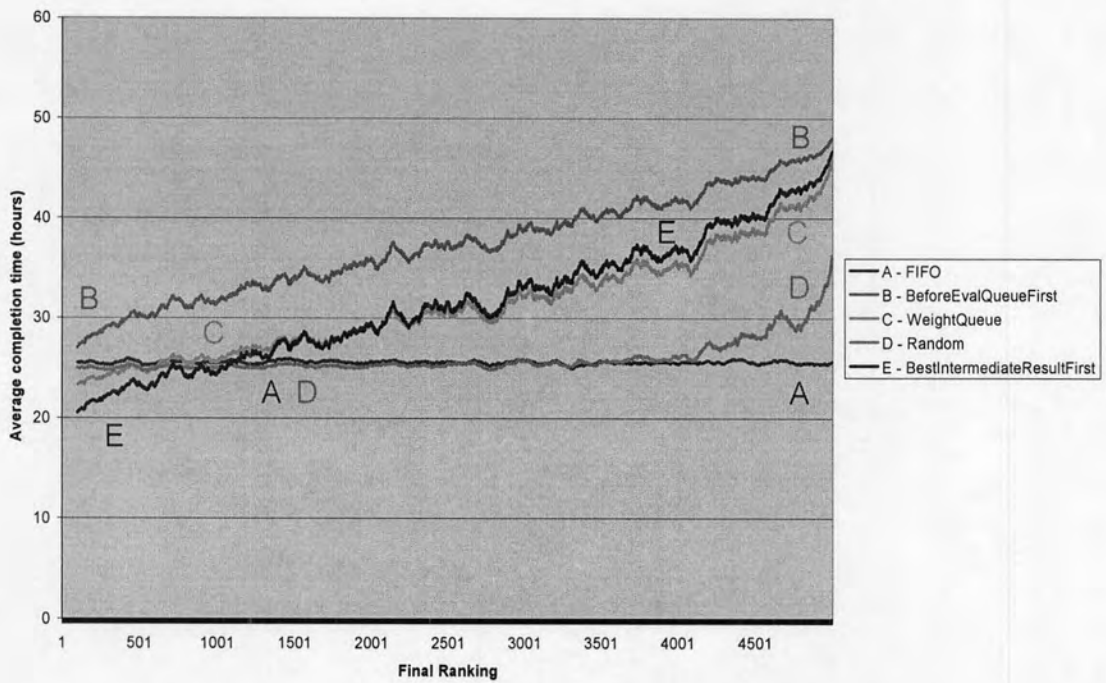


Figure A.20 Relationship between average workflow completion time and final ranking in correlation 0.75

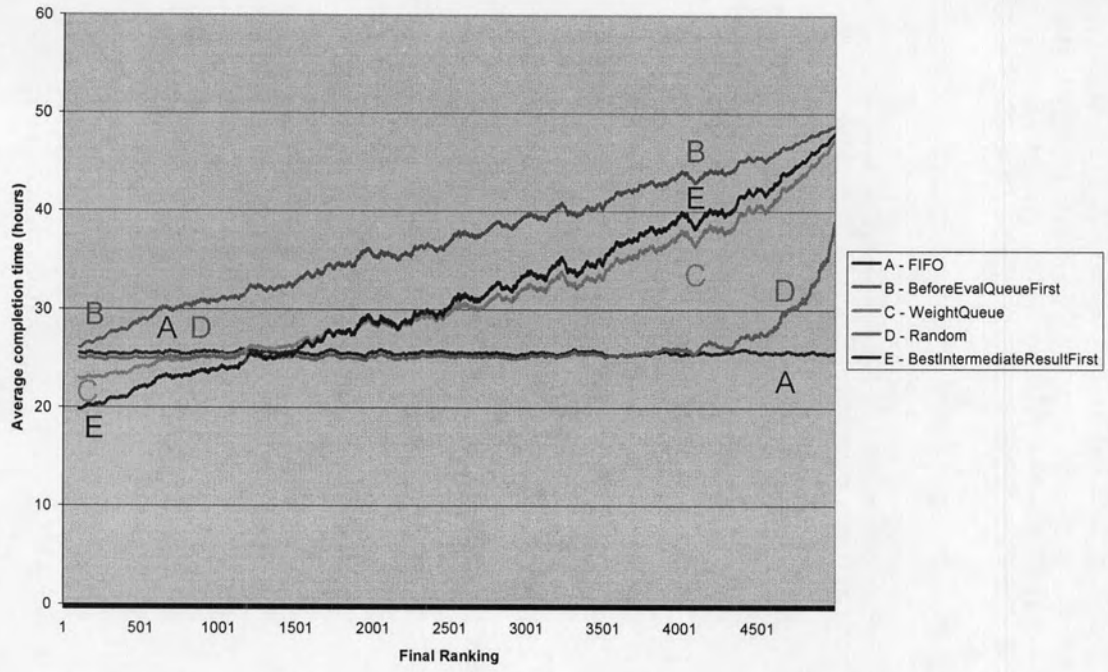


Figure A.21 Relationship between average workflow completion time and final ranking in correlation 0.875

b) Relationship between average completion time and range of final ranking

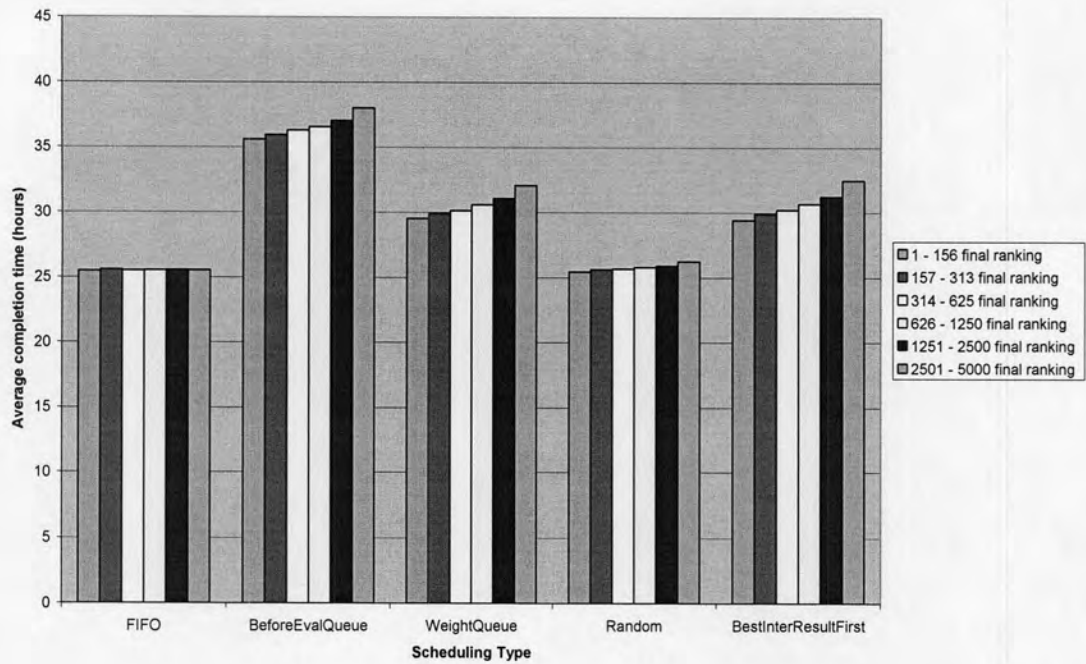


Figure A.22 Relationship between average completion time and range of final ranking in correlation 0.125

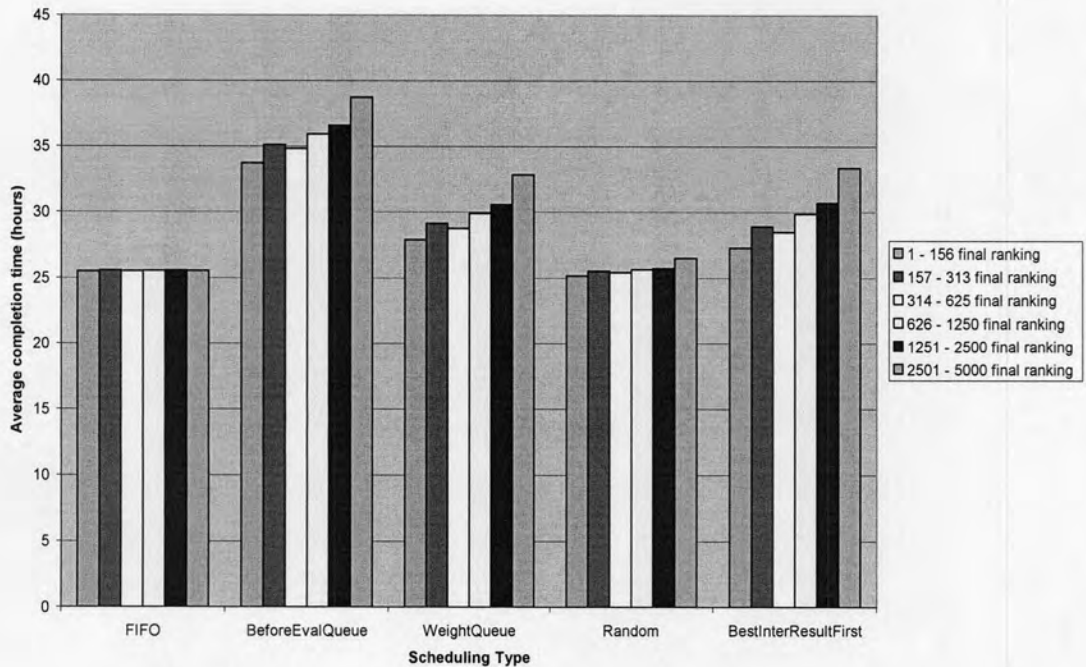


Figure A.23 Relationship between average completion time and range of final ranking in correlation 0.25

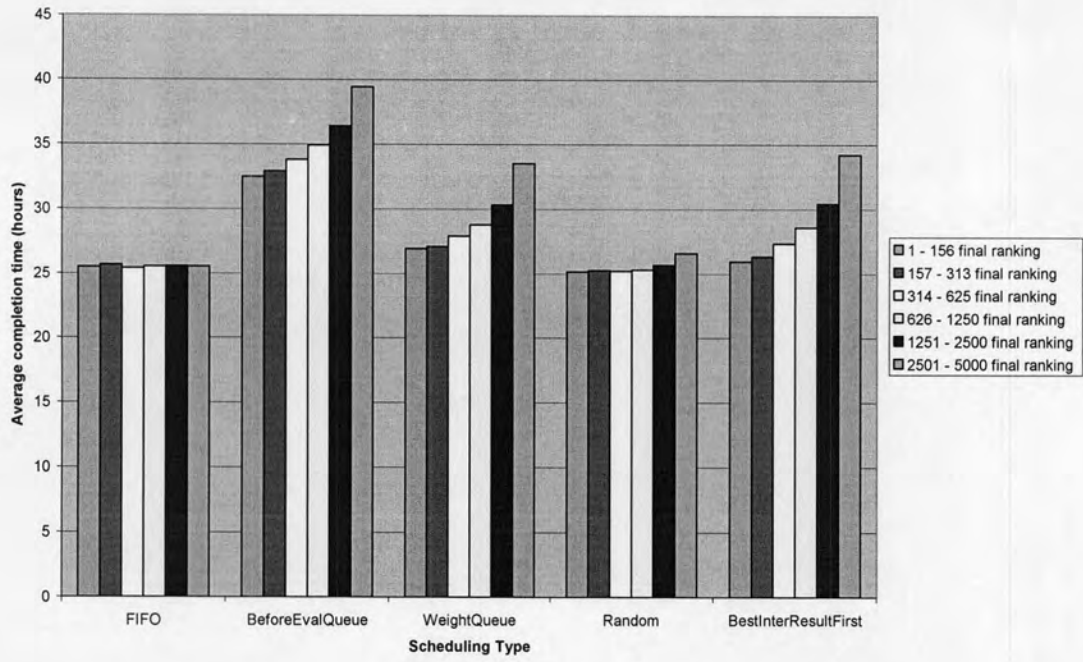


Figure A.24 Relationship between average completion time and range of final ranking in correlation 0.375

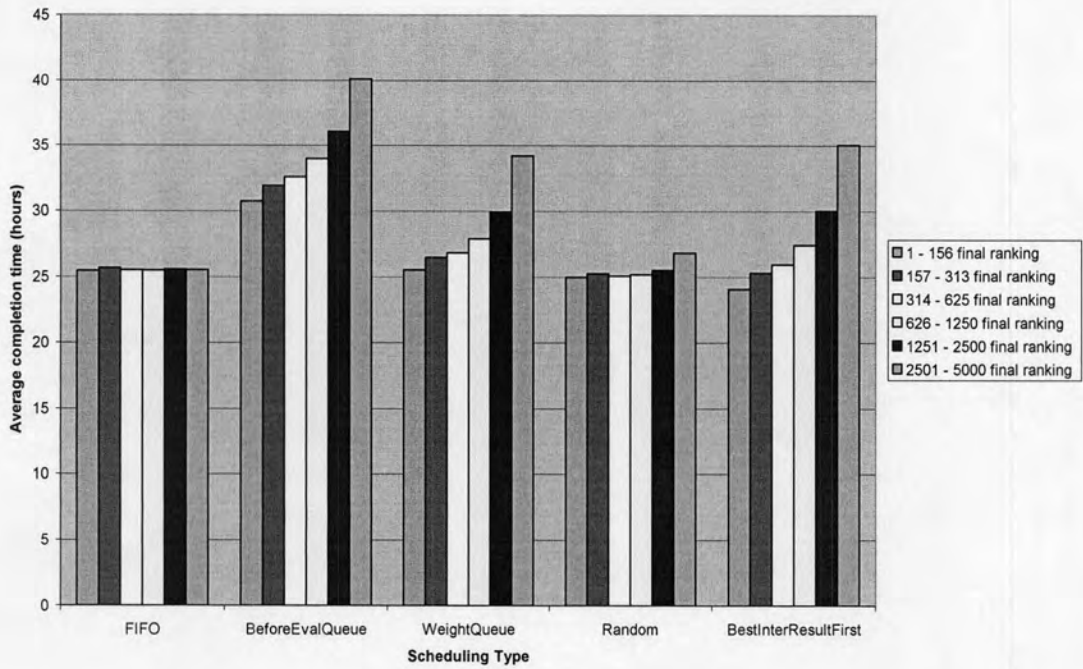


Figure A.25 Relationship between average completion time and range of final ranking in correlation 0.5

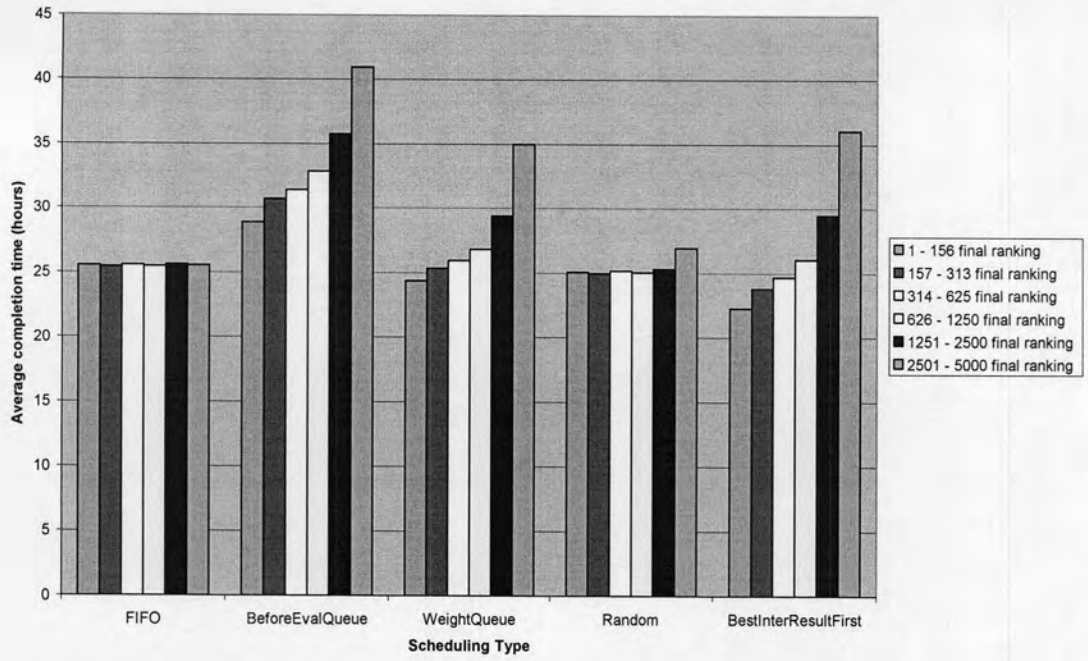


Figure A.26 Relationship between average completion time and range of final ranking in correlation 0.625

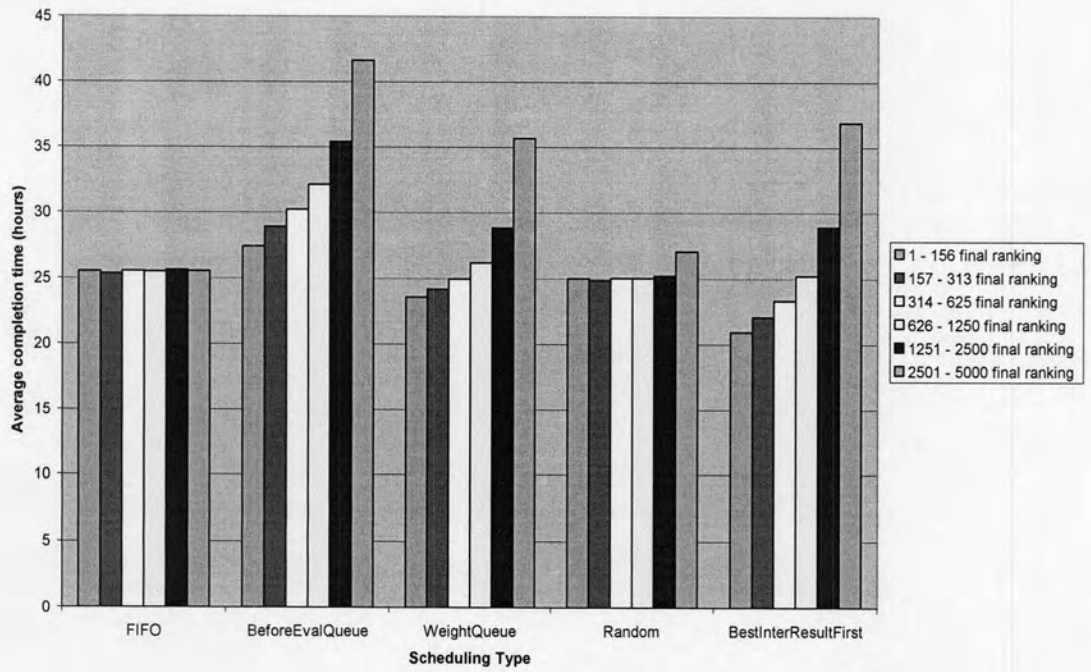


Figure A.27 Relationship between average completion time and range of final ranking in correlation 0.75

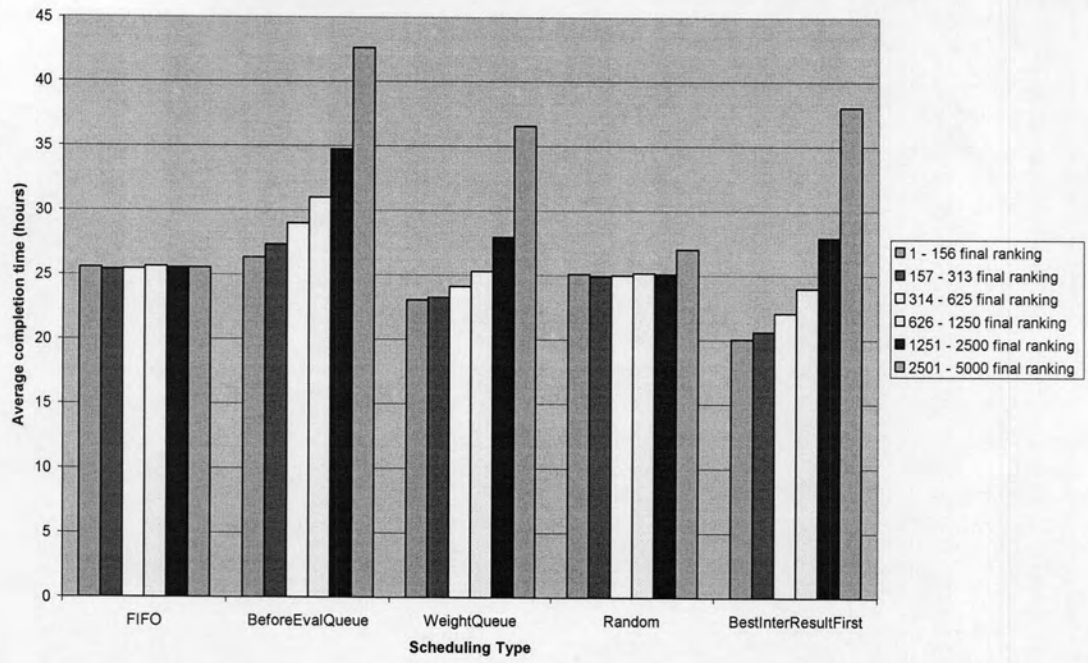


Figure A.28 Relationship between average completion time and range of final ranking in correlation 0.875

APPENDIX B

Simulation Results: The effect of evaluation point

B.1 The effect on order of workflow completion

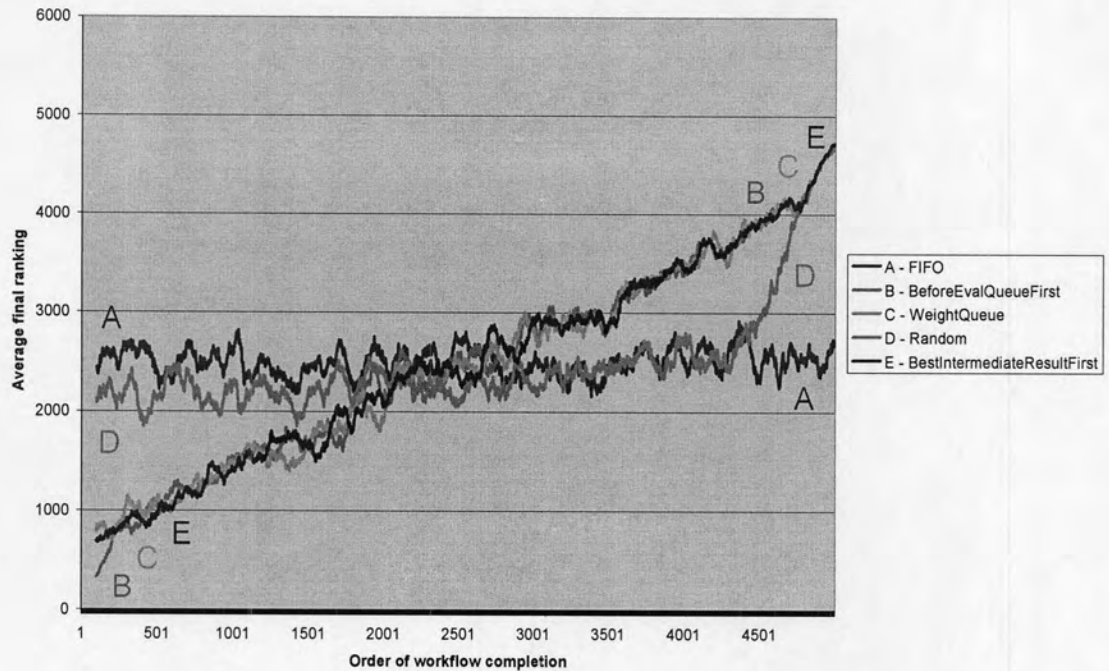


Figure B.1 Relationship between average final ranking and order of workflow completion in evaluation point 10% – 90%

B.2 The effect on final ranking

a) Relationship between average completion time and final ranking

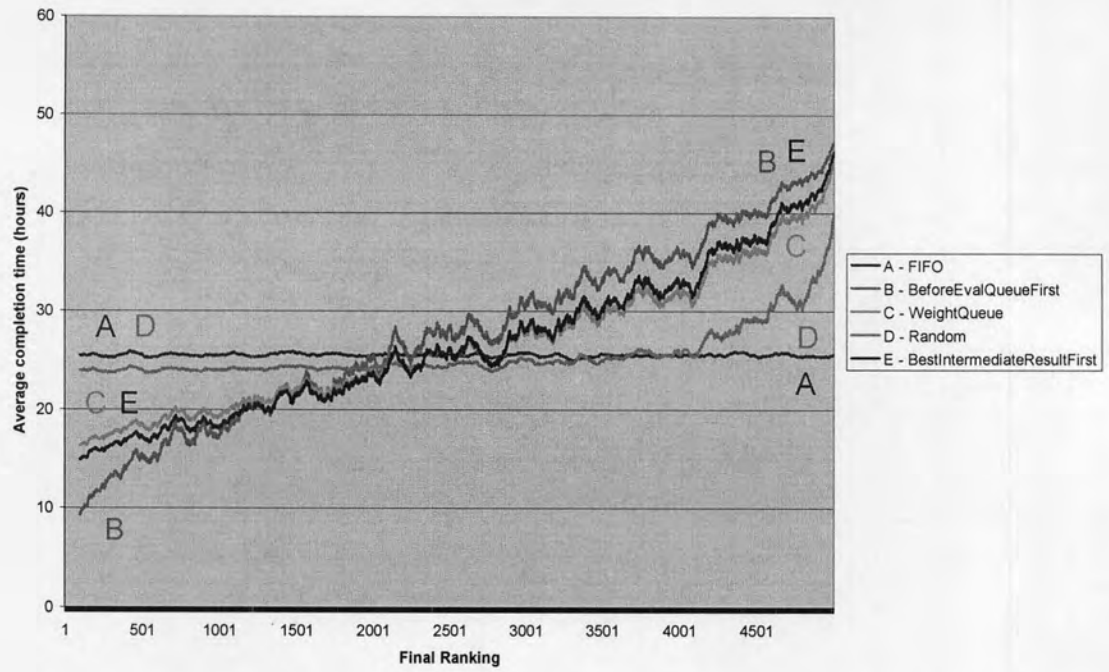


Figure B.2 Relationship between average final ranking and order of workflow completion in evaluation point 10%

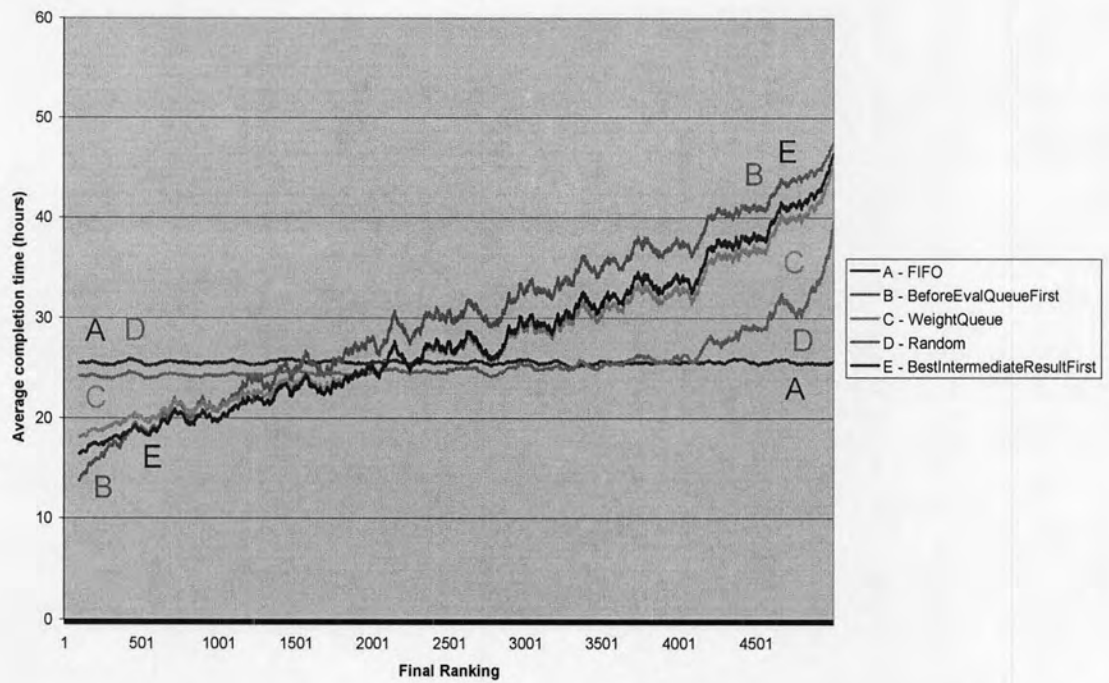


Figure B.3 Relationship between average final ranking and order of workflow completion in evaluation point 20%

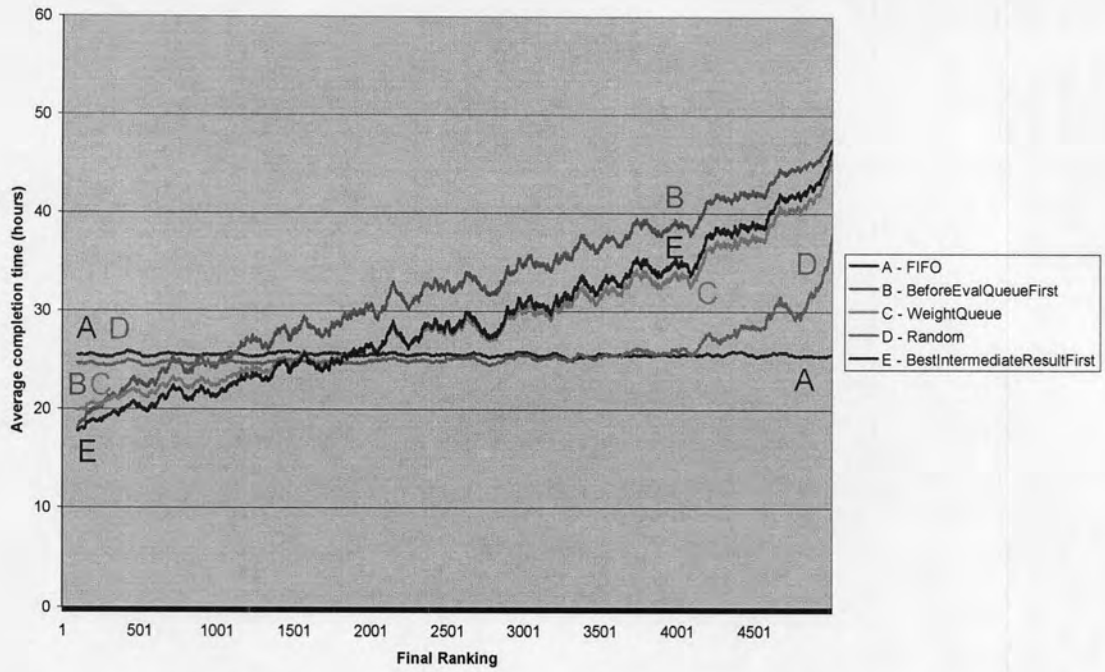


Figure B.4 Relationship between average final ranking and order of workflow completion in evaluation point 30%

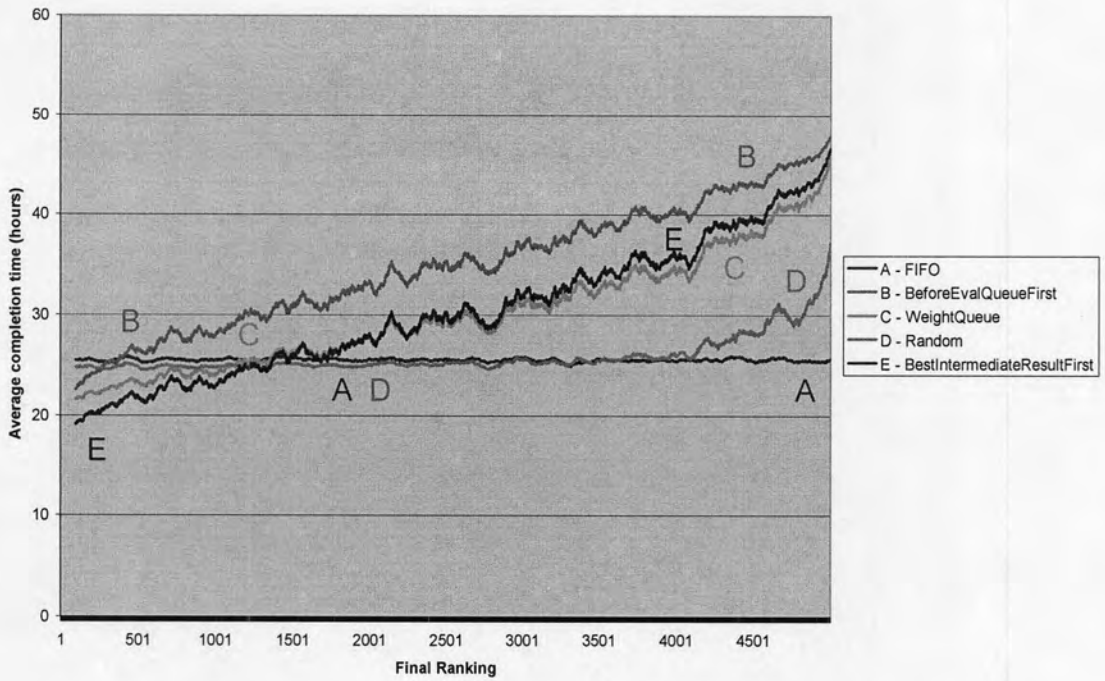


Figure B.5 Relationship between average final ranking and order of workflow completion in evaluation point 40%

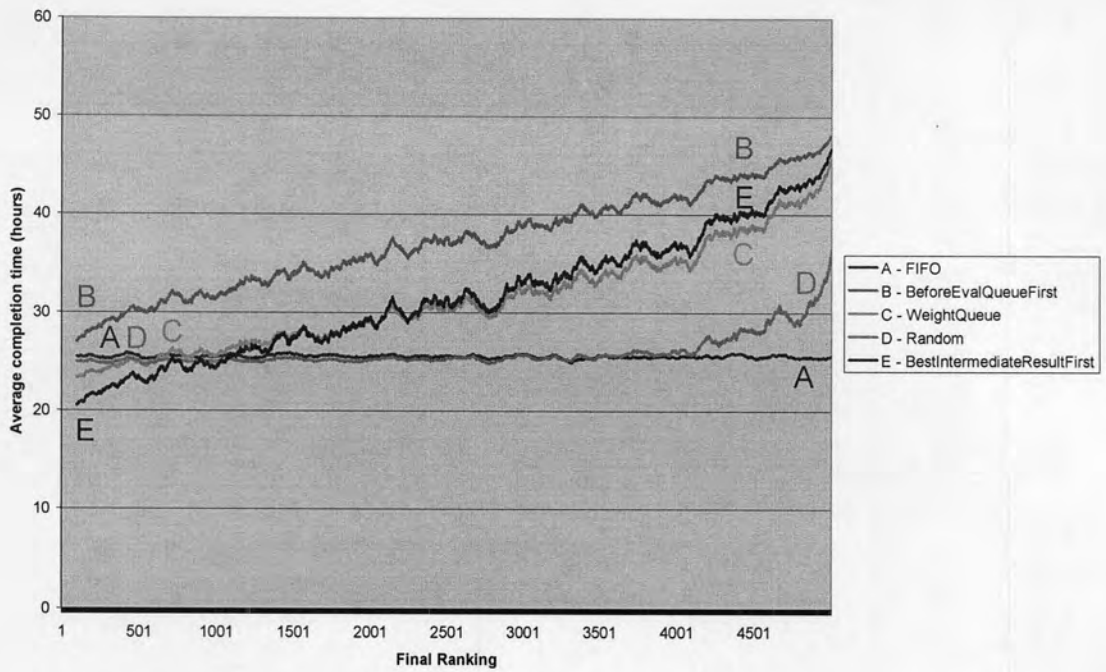


Figure B.6 Relationship between average final ranking and order of workflow completion in evaluation point 50%

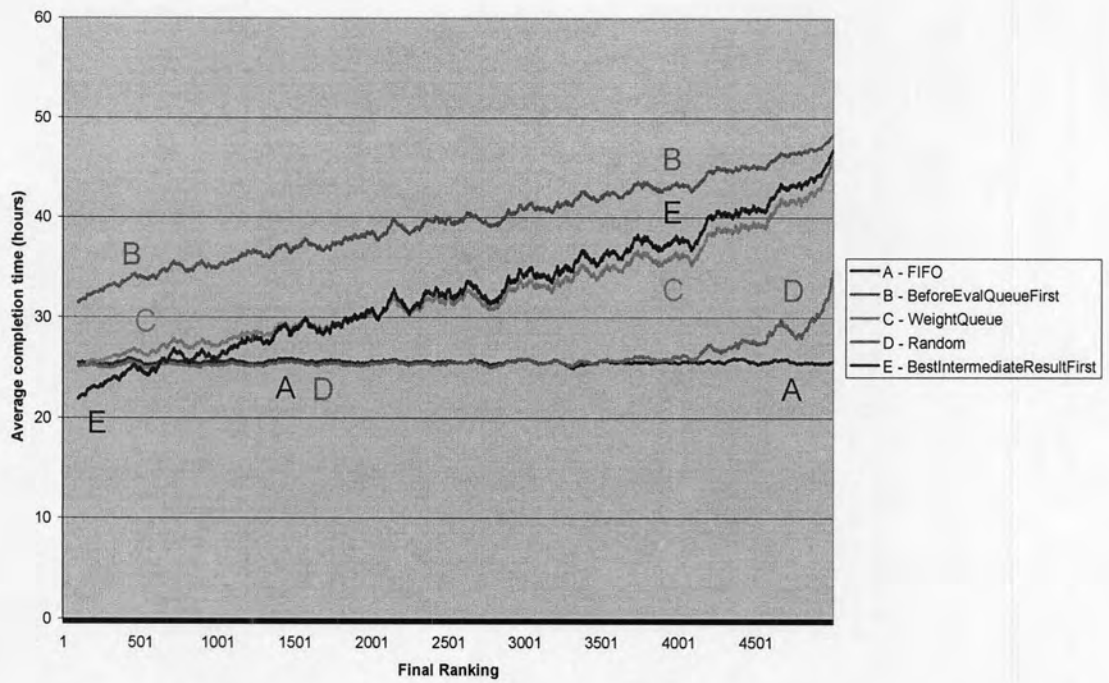


Figure B.7 Relationship between average final ranking and order of workflow completion in evaluation point 60%

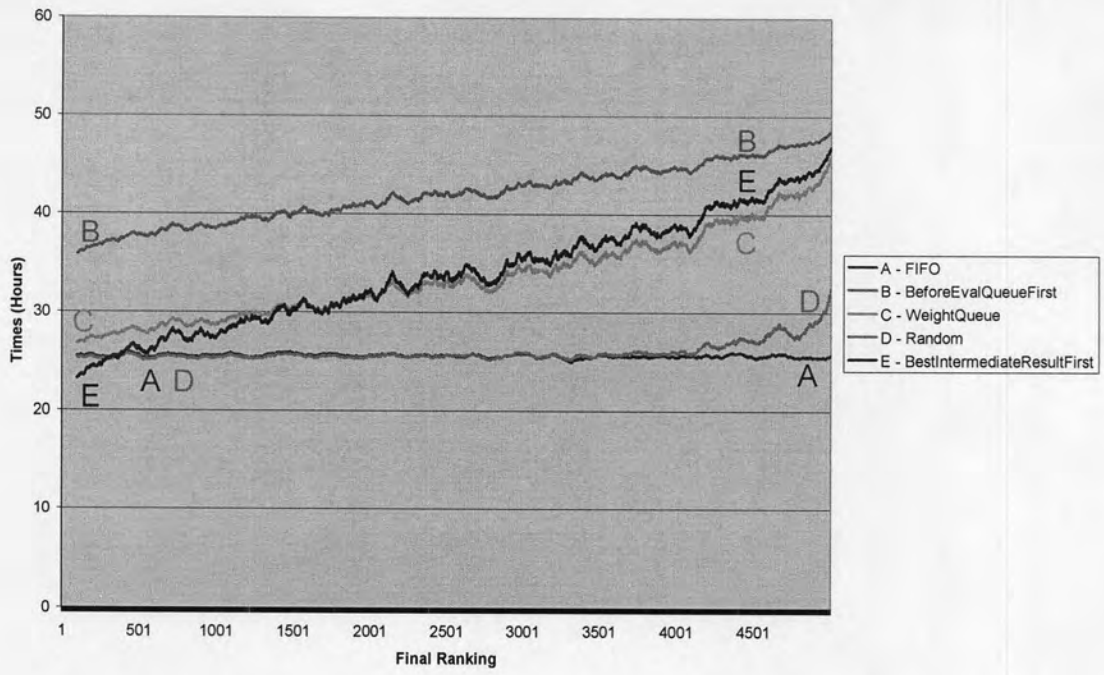


Figure B.8 Relationship between average final ranking and order of workflow completion in evaluation point 70%

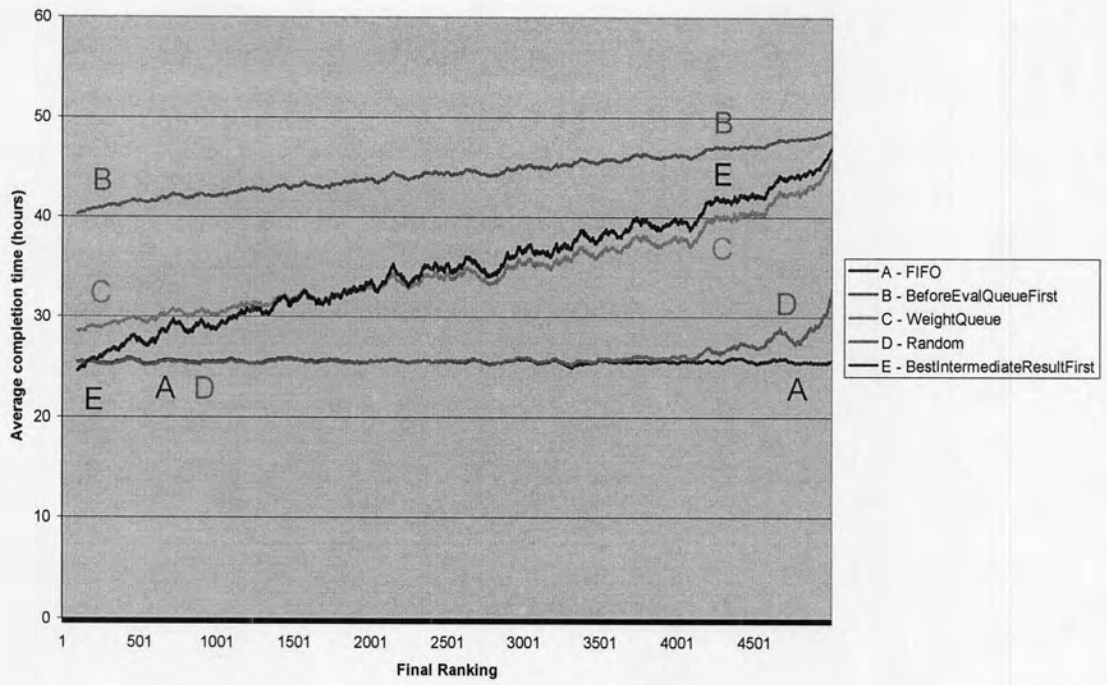


Figure B.9 Relationship between average final ranking and order of workflow completion in evaluation point 80%

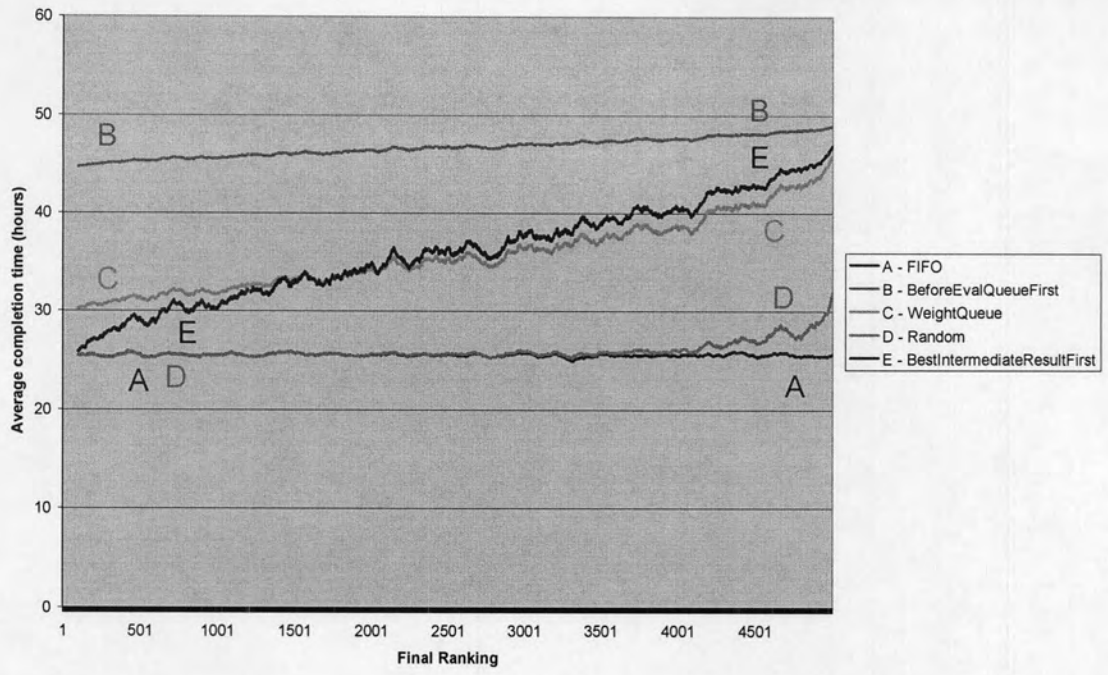


Figure B.10 Relationship between average final ranking and order of workflow completion in evaluation point 90%

b) Relationship between average completion time and range of final ranking

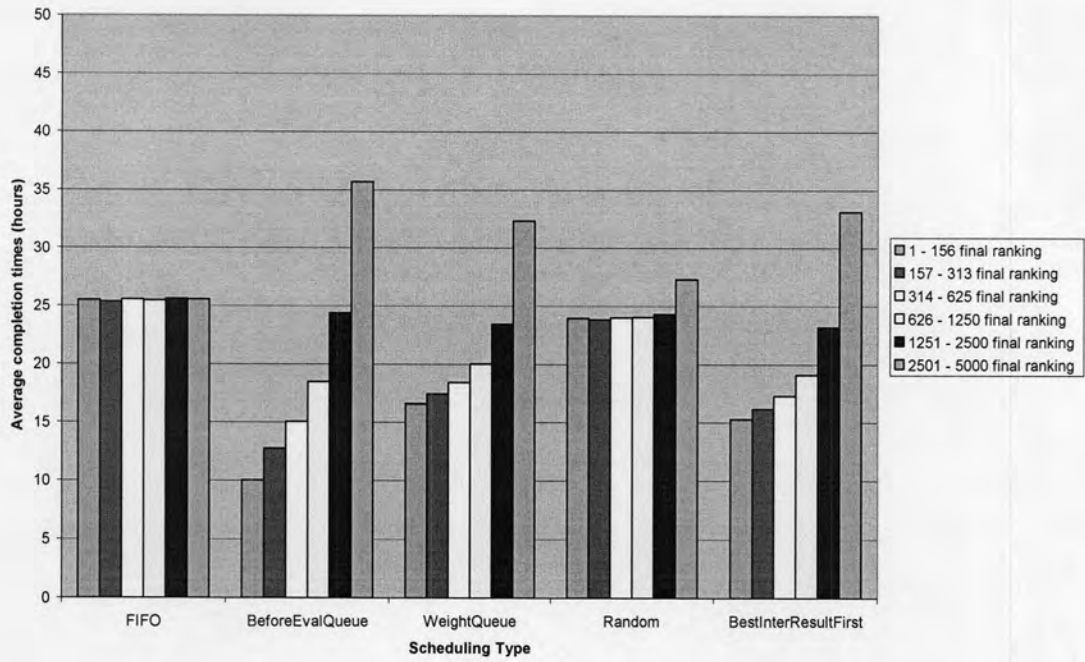


Figure B.11 Relationship between average completion time and range of final ranking in evaluation point 10 %

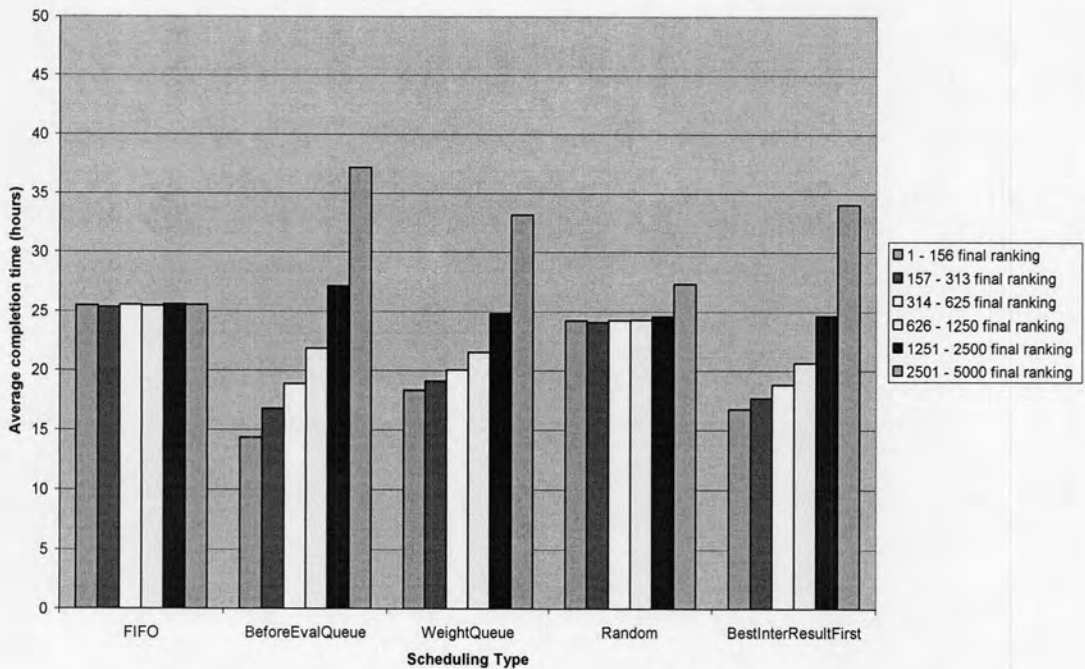


Figure B.12 Relationship between average completion time and range of final ranking in evaluation point 20 %

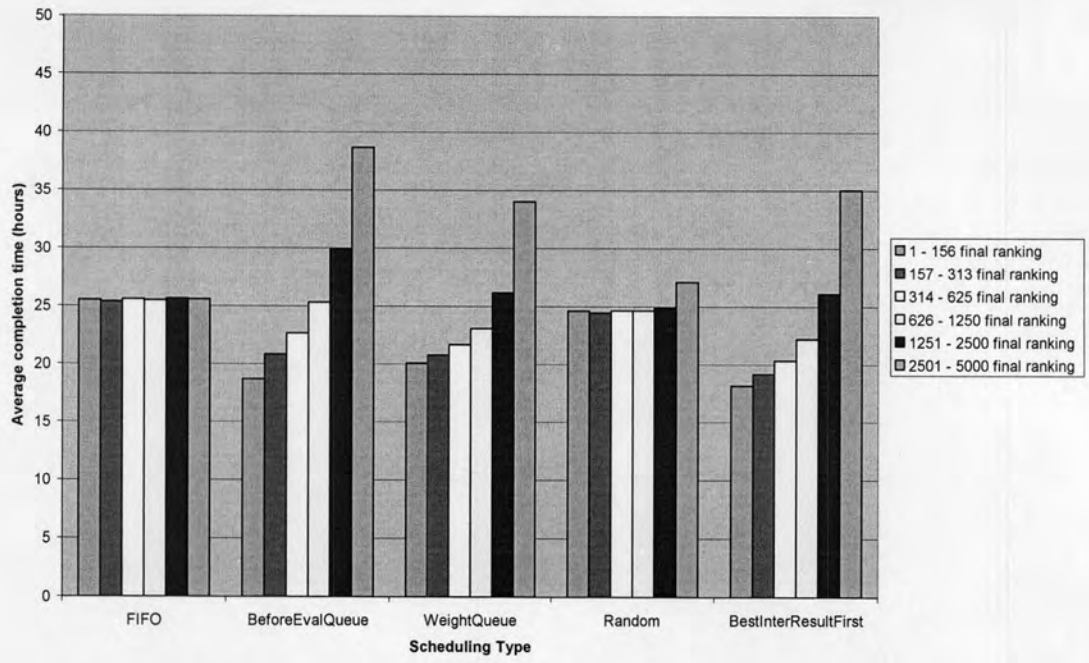


Figure B.13 Relationship between average completion time and range of final ranking in evaluation point 30 %

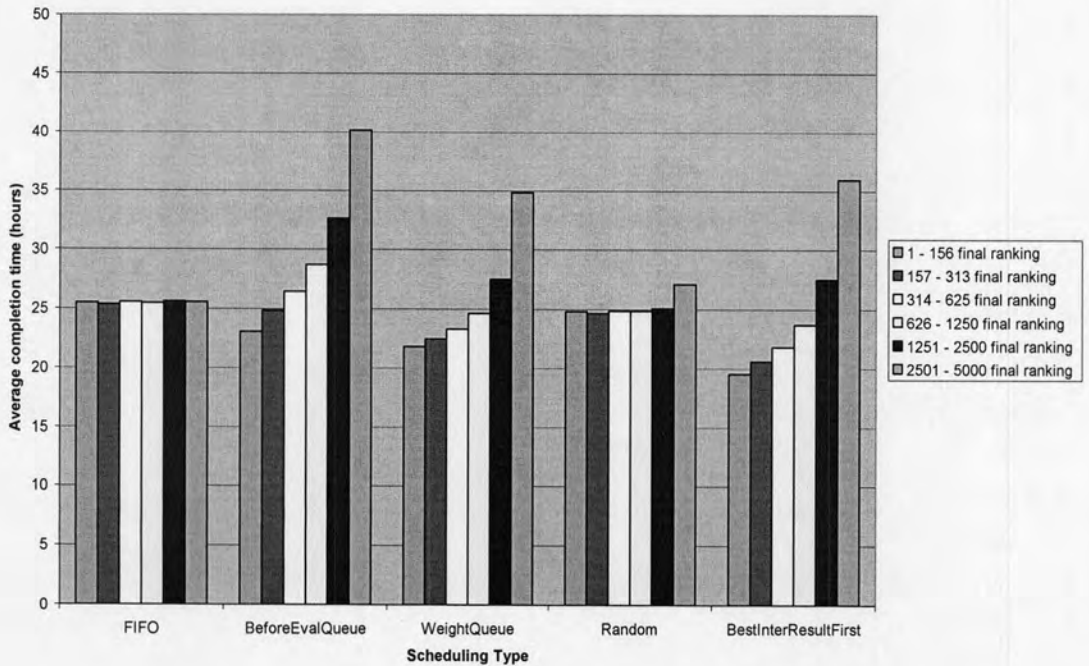


Figure B.14 Relationship between average completion time and range of final ranking in evaluation point 40 %

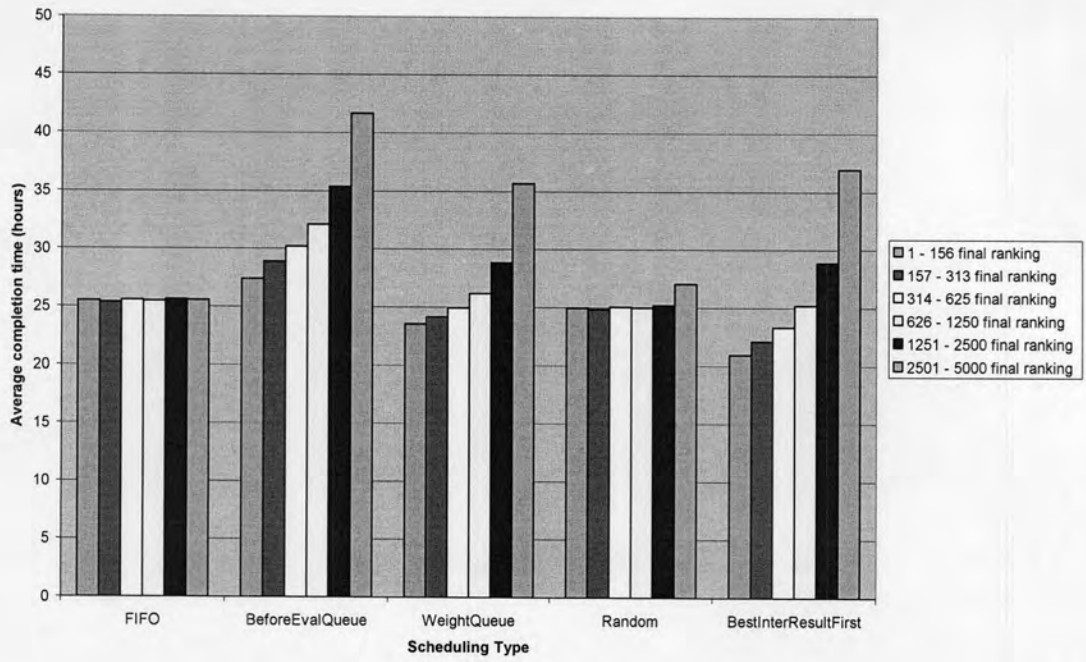


Figure B.15 Relationship between average completion time and range of final ranking in evaluation point 50 %

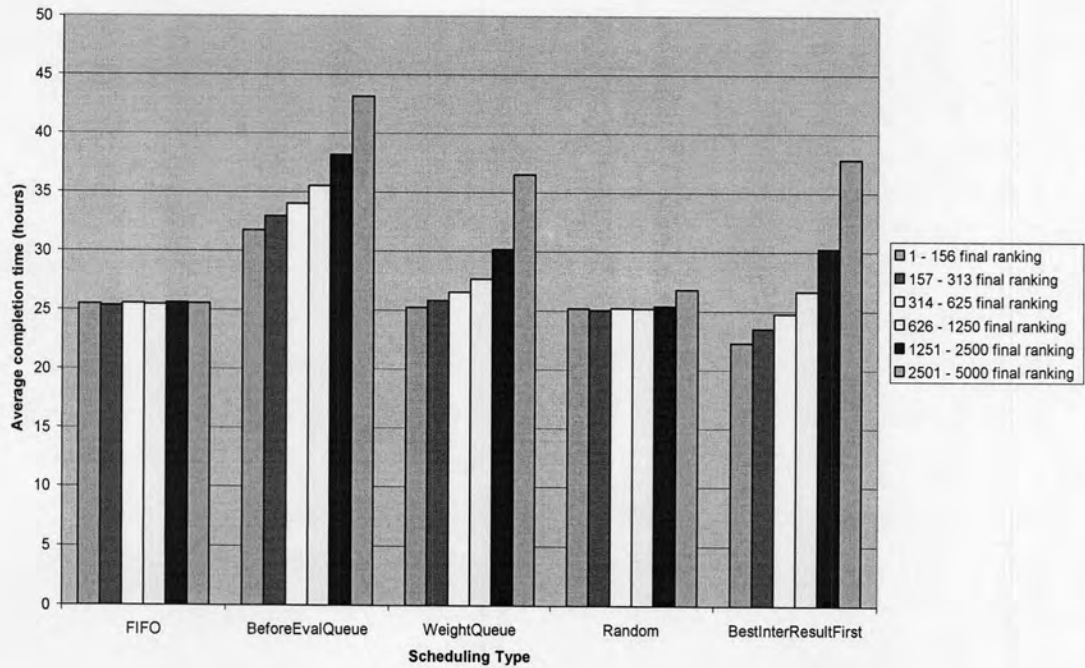


Figure B.16 Relationship between average completion time and range of final ranking in evaluation point 60 %

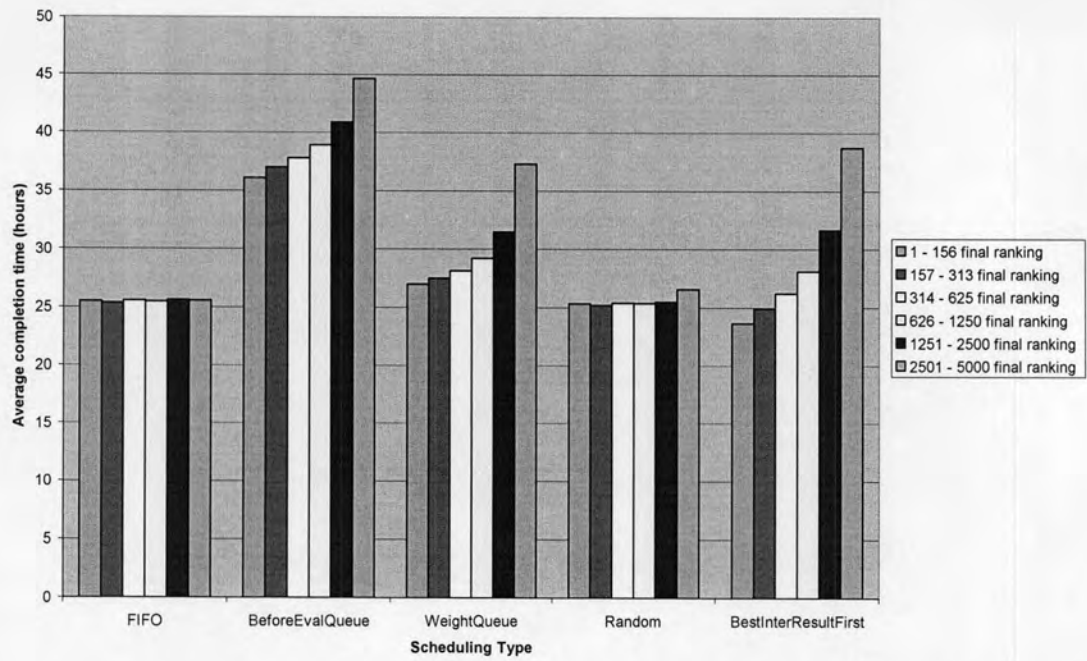


Figure B.17 Relationship between average completion time and range of final ranking in evaluation point 70 %

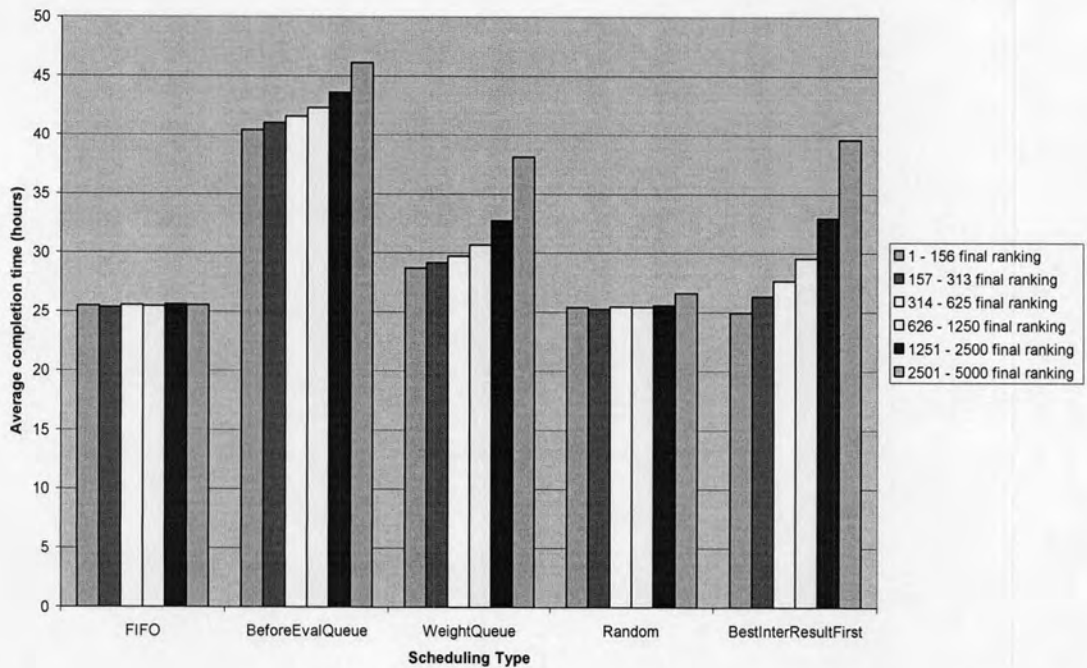


Figure B.18 Relationship between average completion time and range of final ranking in evaluation point 80 %

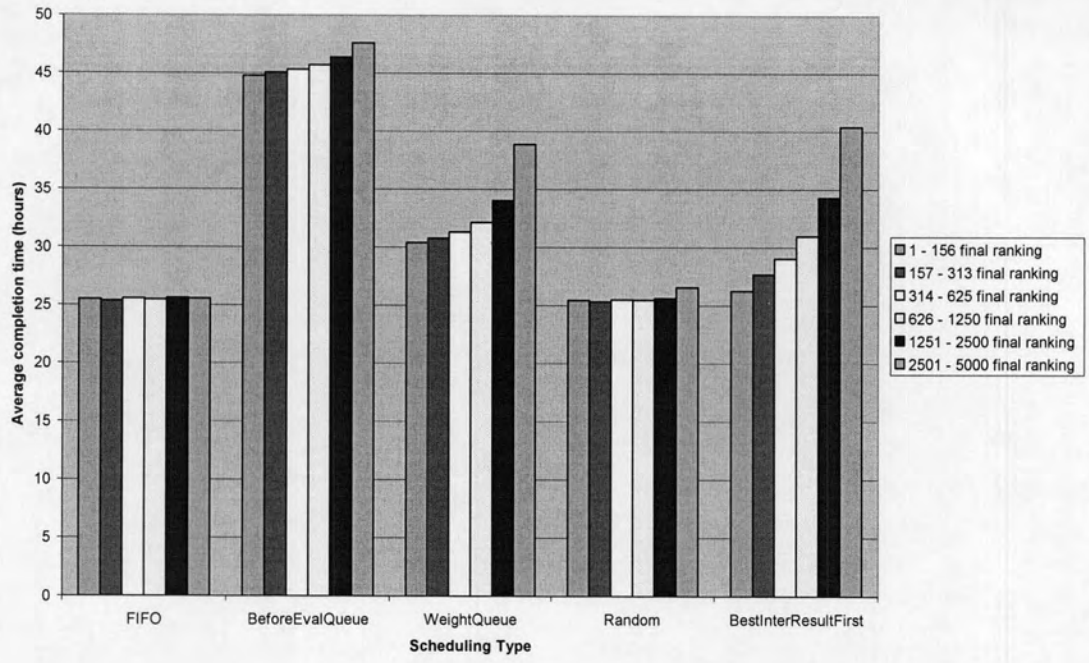


Figure B.19 Relationship between average completion time and range of final ranking in evaluation point 90 %

APPENDIX C

Simulation Results: The effect of workflow computation size

C.1 The generated workflow computation size

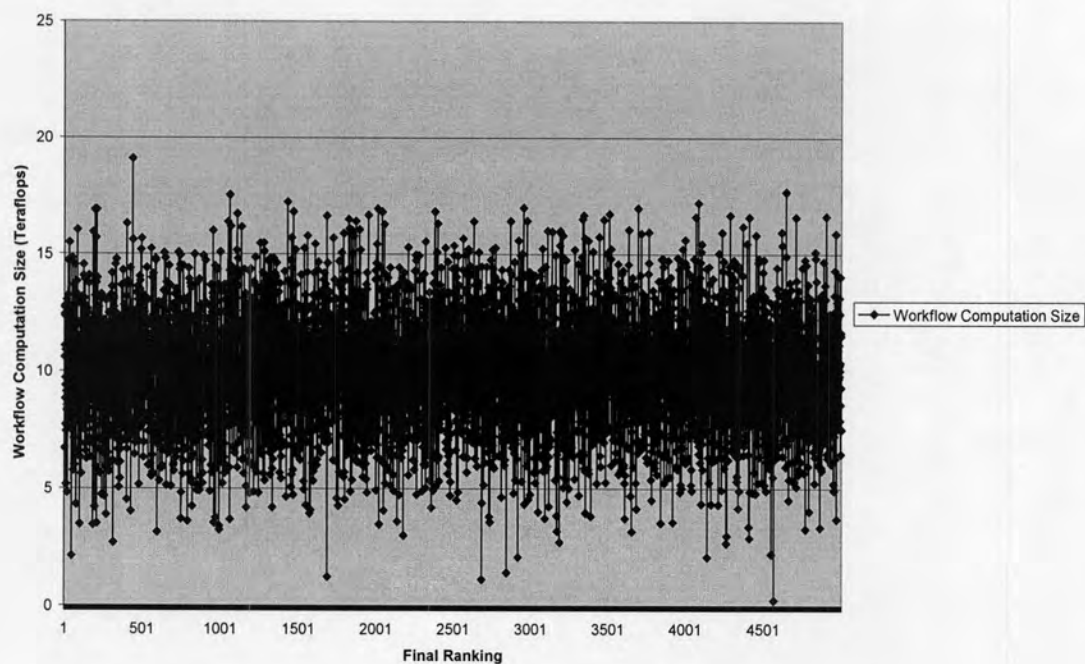


Figure C.1 Workflow Computation Size

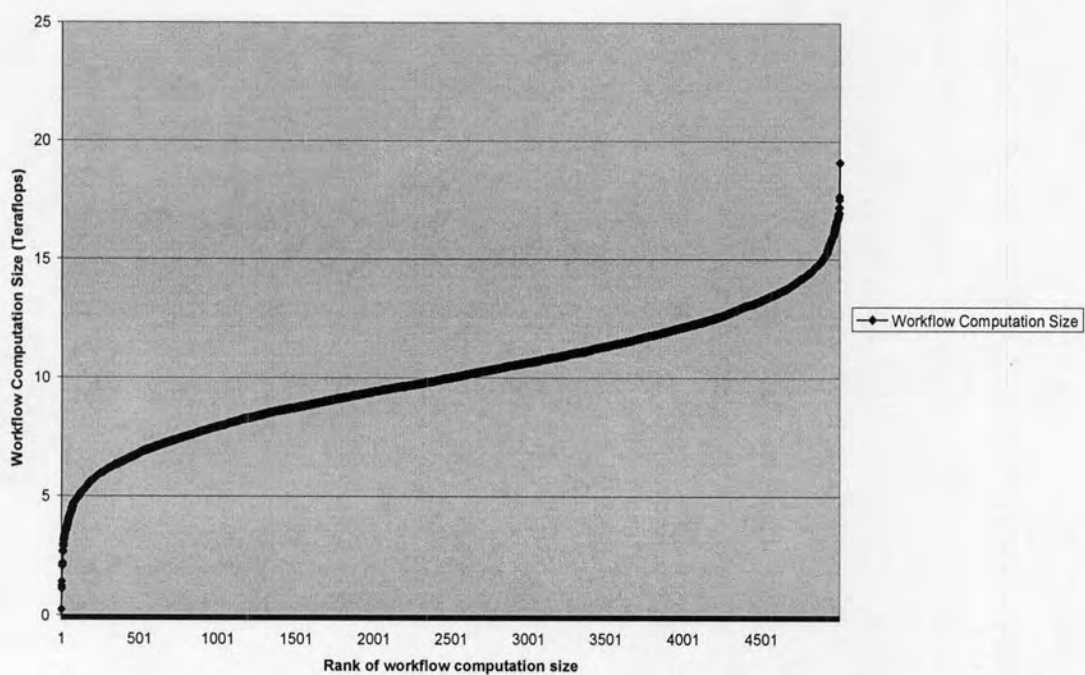


Figure C.2 Relationship between rank of workflow computation size and workflow computation size (Teraflops)

C.2 The effect on order of workflow completion

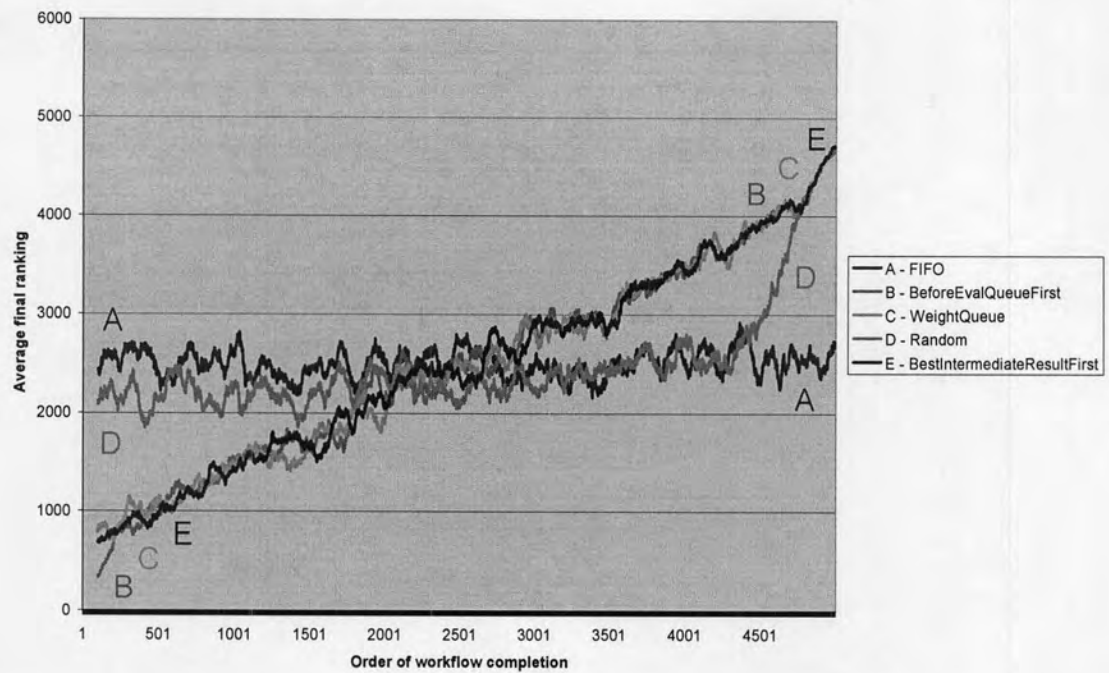


Figure C.3 Relationship between average final ranking and order of workflow completion in difference workflow computation size

C.3 The effect on final ranking

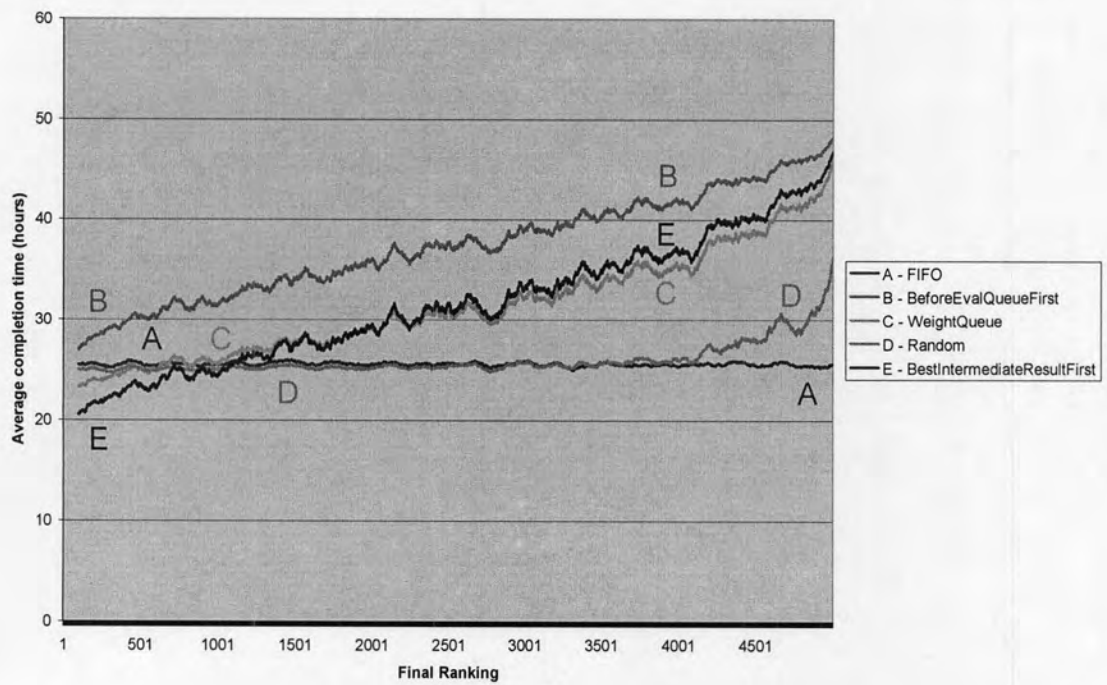


Figure C.4 Relationship between average completion time (hours) and final ranking in difference workflow computation size

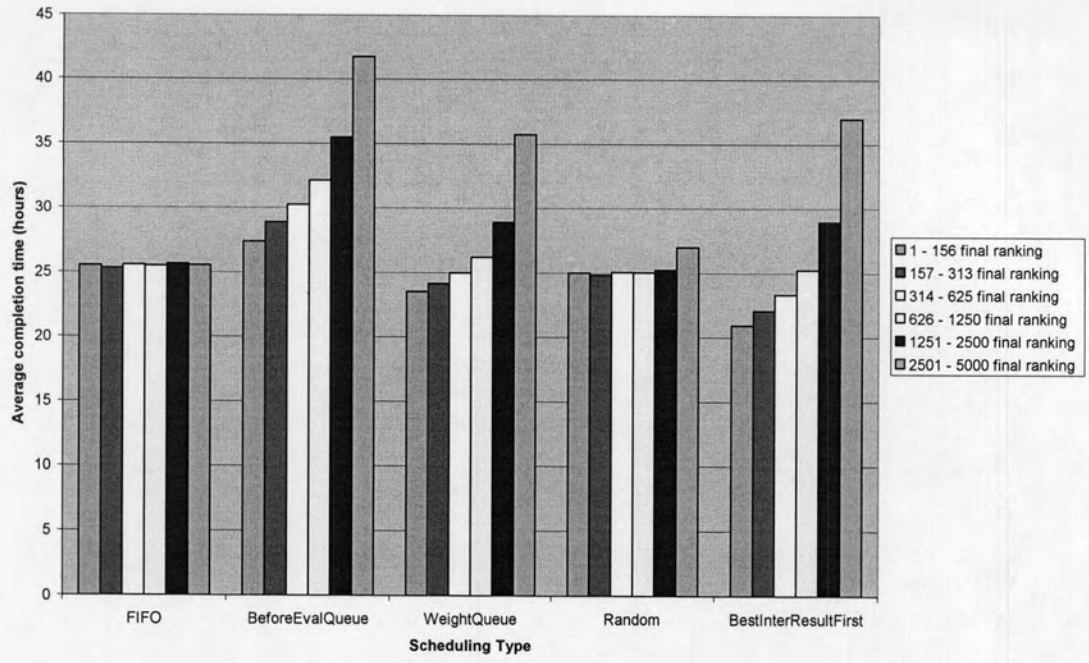


Figure C.5 Relationship between average completion time and range of final ranking in difference workflow computation size

BIOGRAPHY



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1. Kunaporn Srimanotham and Veera Muangsin. 2006. Scheduling Workflow-based Parameter-Sweep Applications with Best-Intermediate-Result-First Heuristic. IEEE International Conference on Cluster Computing (CLUSTER2006), September, Barcelona, Spain.
2. Kunaporn Srimanotham and Veera Muangsin. 2006. High-Level Workflow Scheduling and Management on Clusters. Proceedings of The Tenth Annual National Symposium on Computational Science and Engineering 2006 (ANSCSE10th), March, Chiangmai, Thailand.