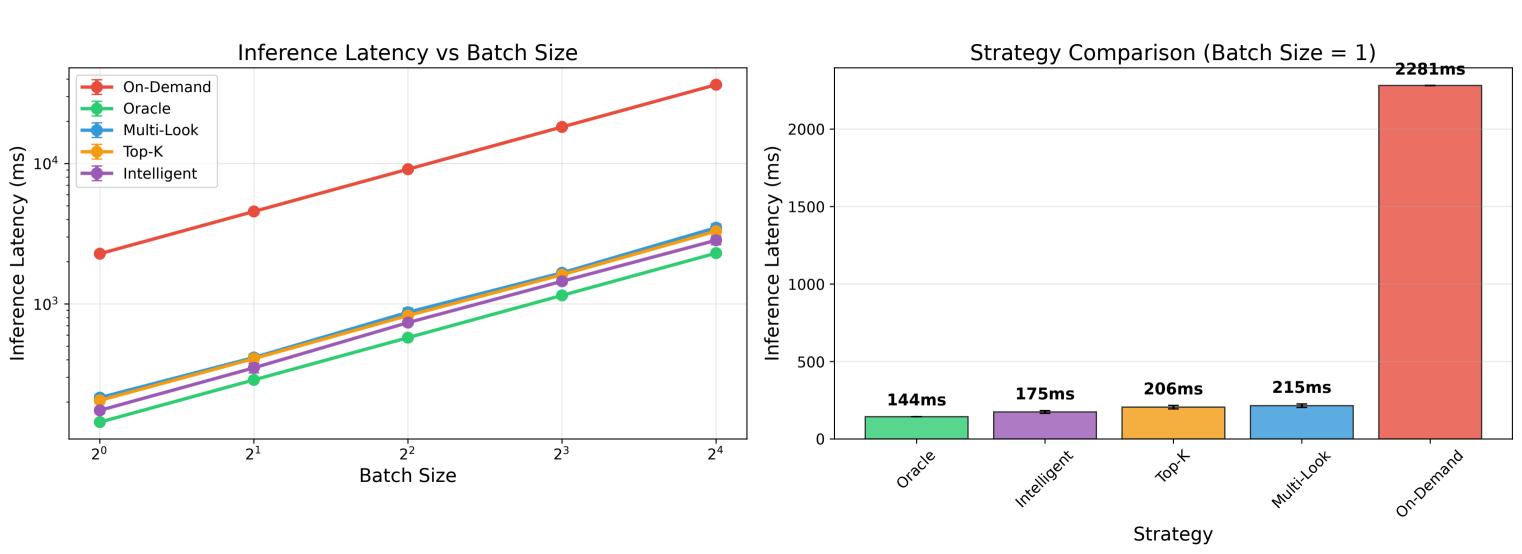
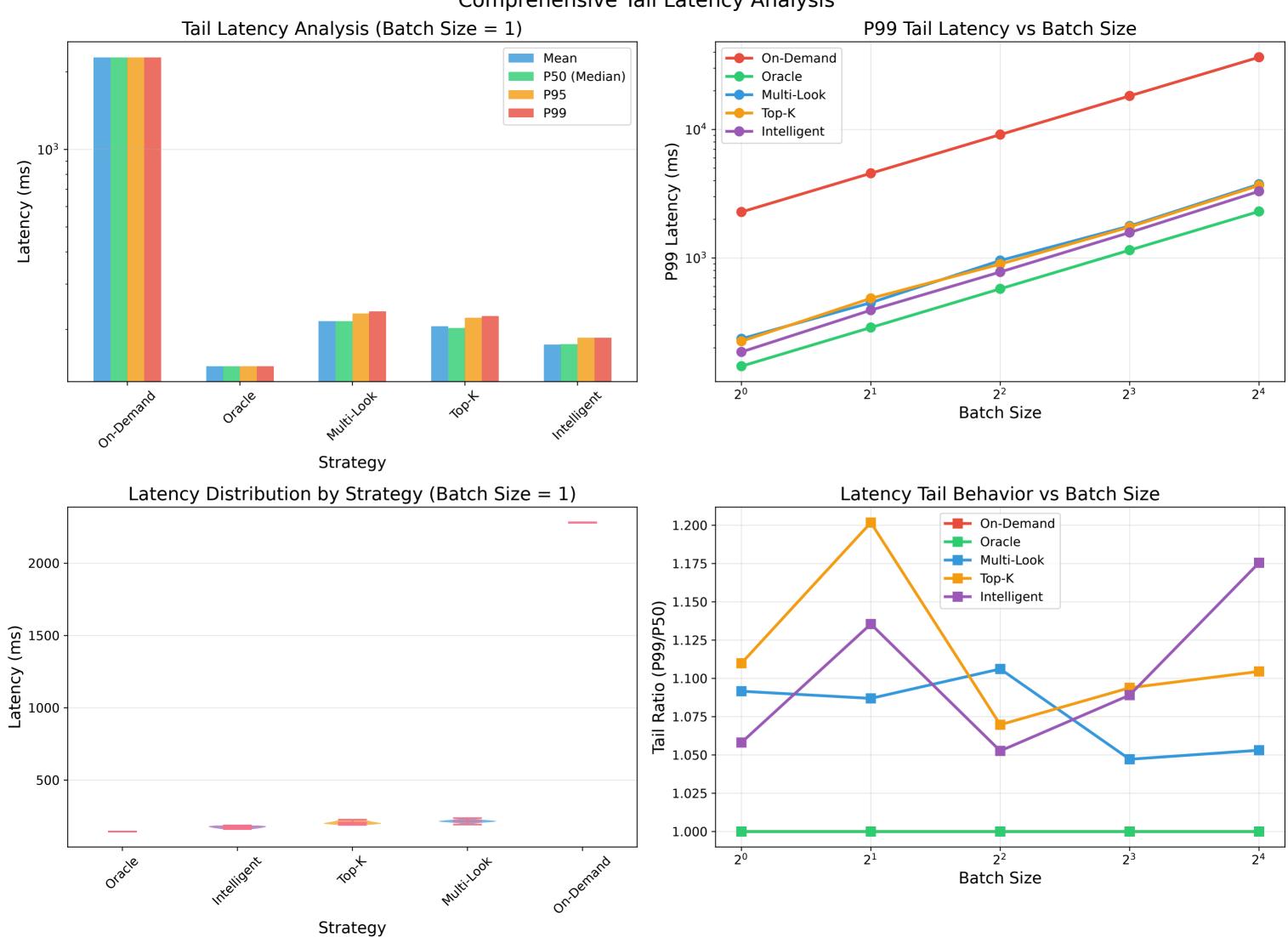
Switch Transformer Prefetching Performance Analysis



Comprehensive Tail Latency Analysis



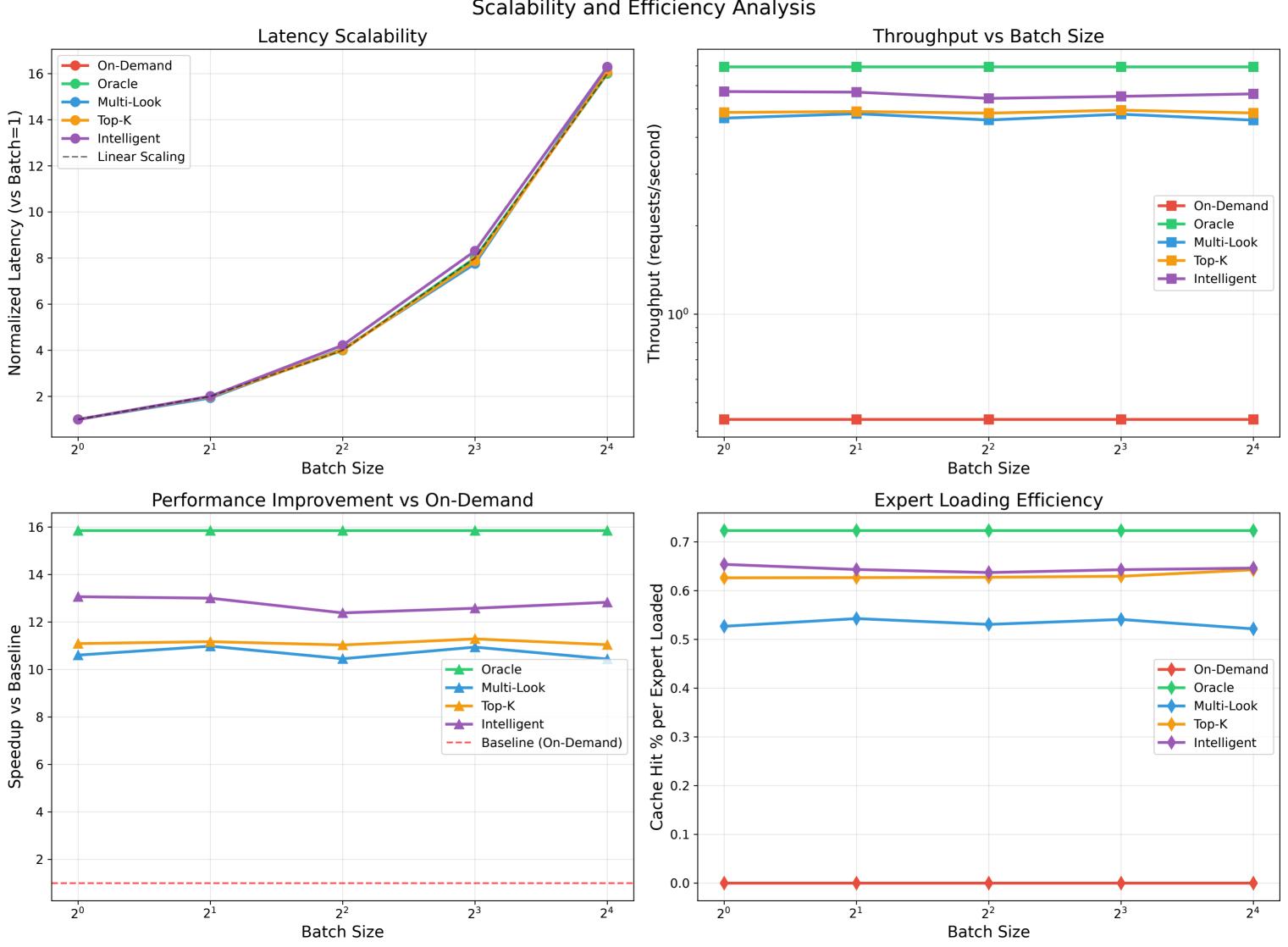
Cache Performance and Memory Analysis Cache Hit Rate vs Batch Size Memory Usage vs Batch Size 100 3500 3000 80 Wemory Usage (MB) 2000 1500 1000 Cache Hit Rate (%) On-Demand On-Demand 60 Oracle Oracle Multi-Look Multi-Look Top-K Top-K Intelligent Intelligent 1000 20 500 0 2^1 21 Batch Size Batch Size Prefetch Accuracy vs Batch Size Memory Efficiency vs Batch Size 100 **→** Oracle → Multi-Look → Top-K 0.25 Memory Efficiency (Hit Rate / GB) → Intelligent 80 Prefetch Accuracy (%) 60 On-Demand Oracle Multi-Look Top-K → Intelligent 40 20 0.00

Batch Size

 2^{1}

Batch Size

Scalability and Efficiency Analysis



Statistical Analysis and Significance

