



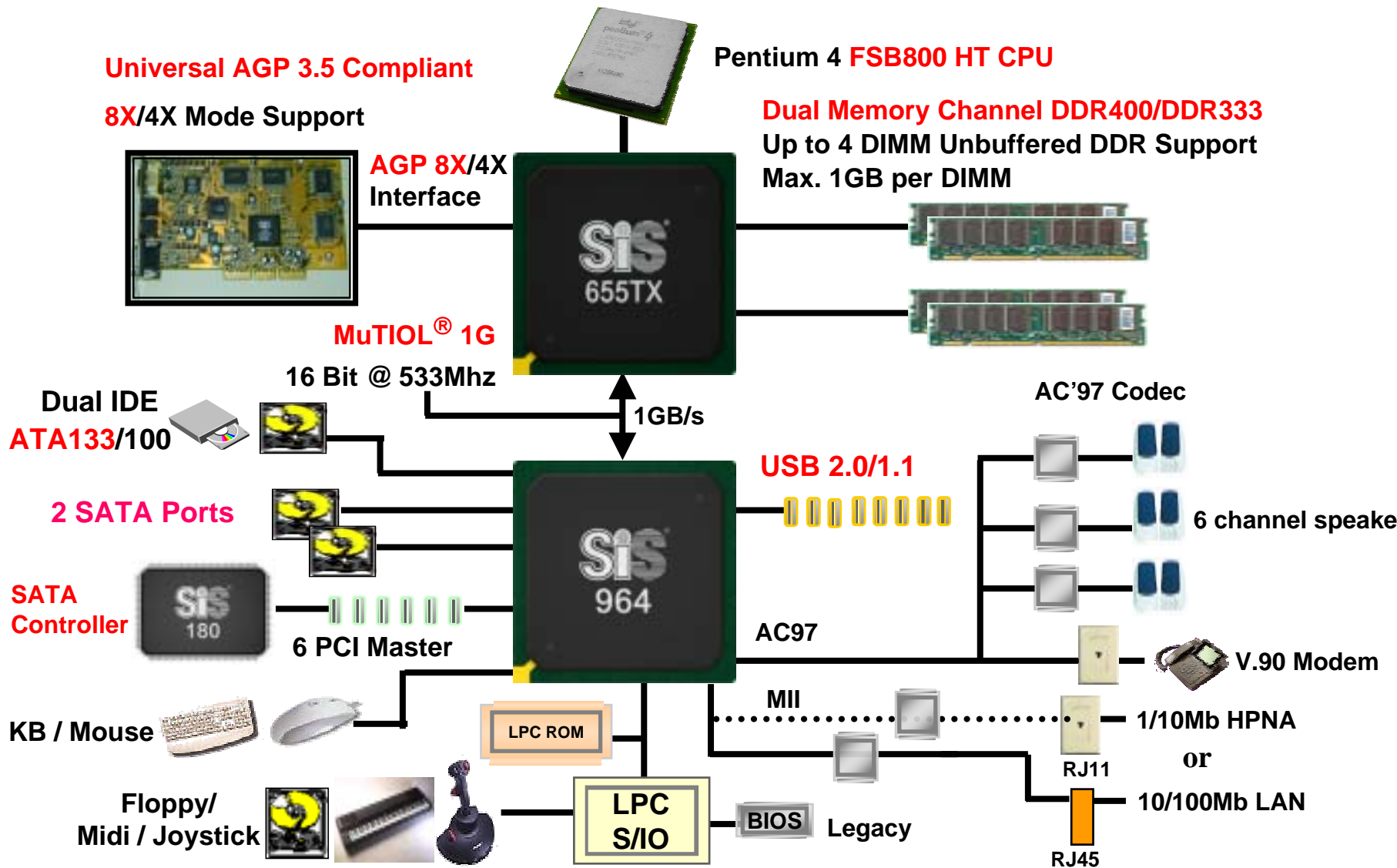
SiS655TX/964/180

Pentium 4 Open-Architecture Chipset

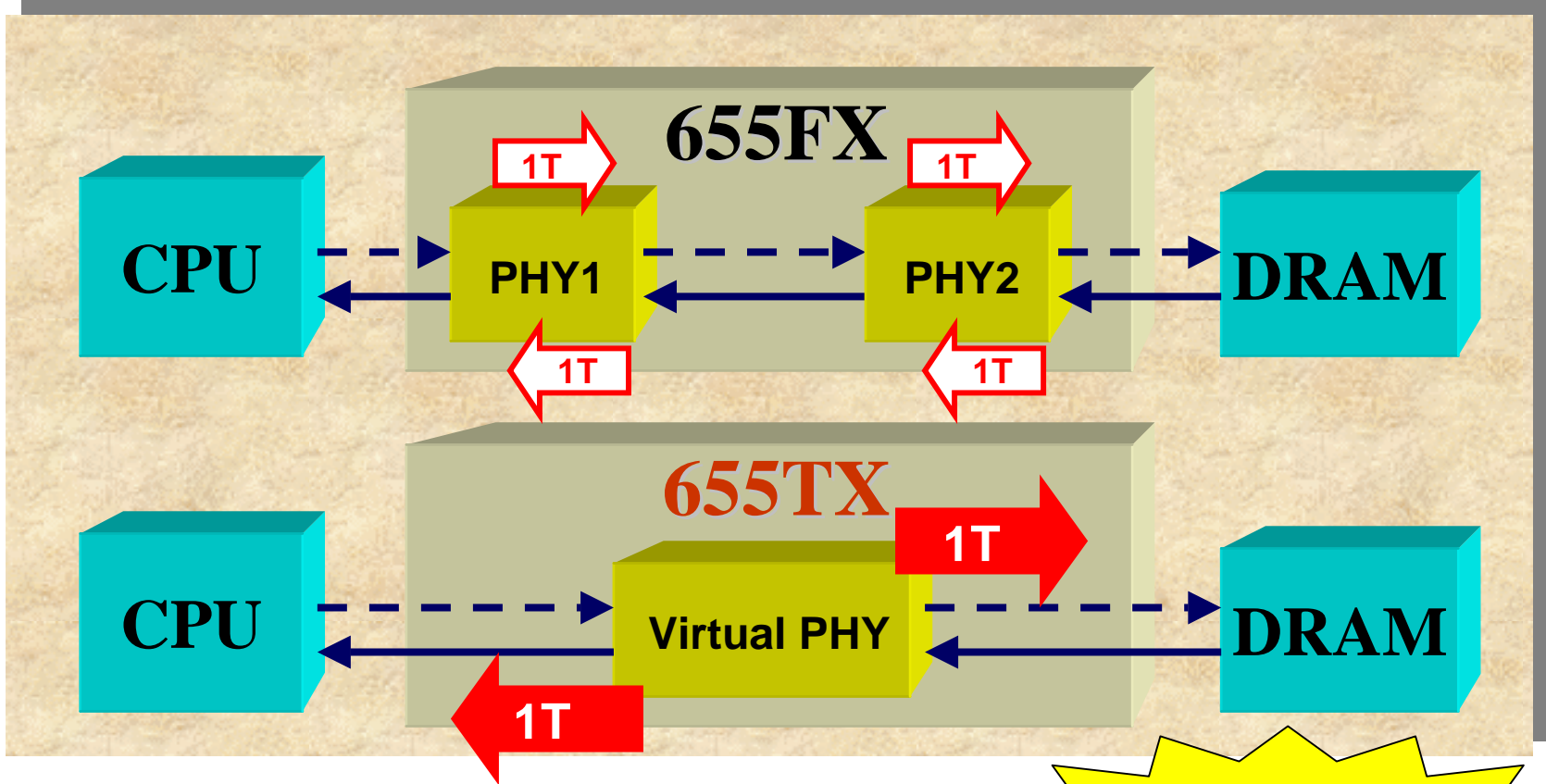
Silicon Integrated Systems Corp.



SiS655TX/964 Advanced HyperStreaming Platform



-- PC2001 Compliant --



Data Transmit through 655FX/TX:

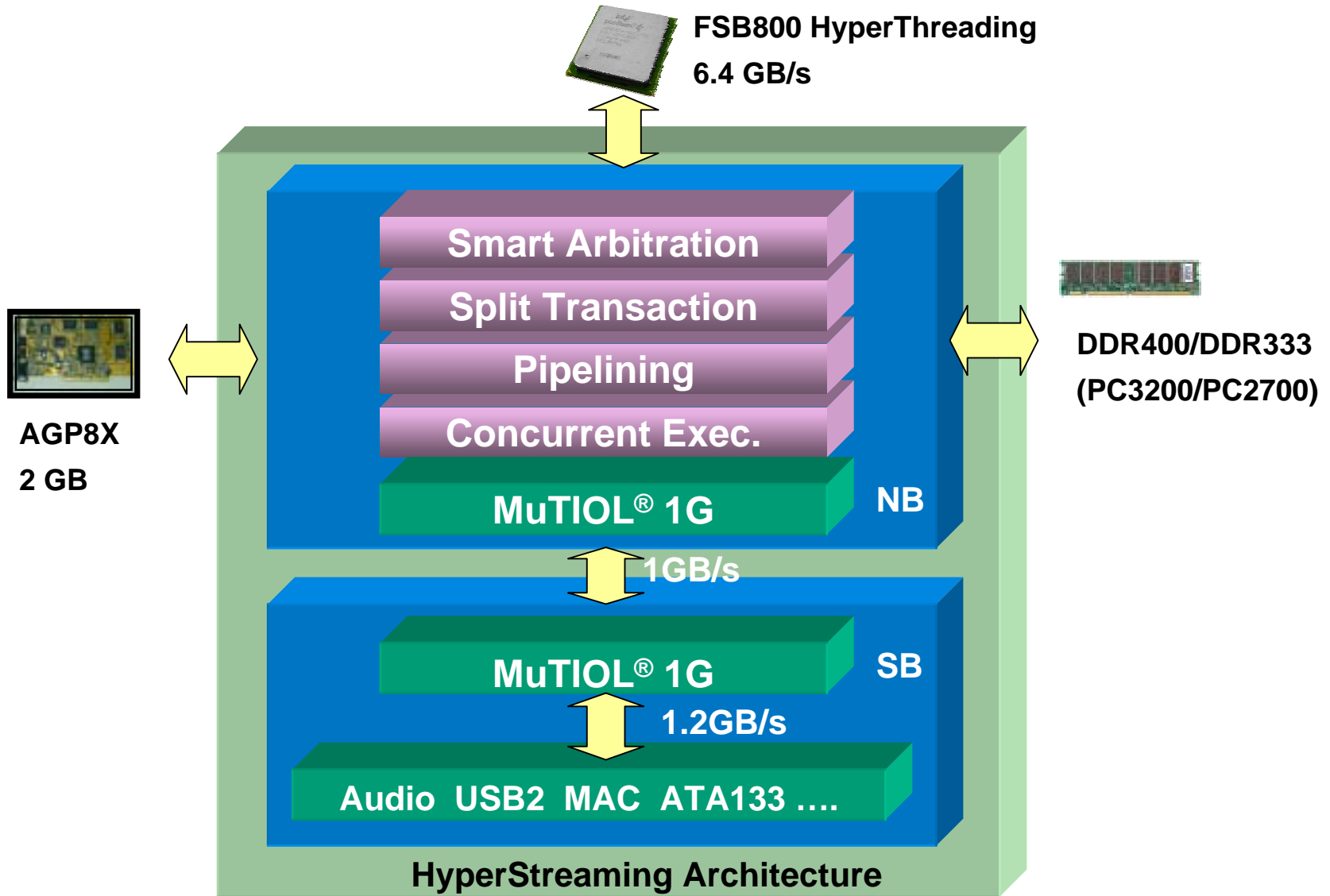
- ❑ 655FX- PHY1 and PHY2 are 2T required
- ❑ 655TX- Virtual PHY 1T required only

2T Faster !!

- **“HyperStreaming”** Makes Streams of Data Flow All Over the Paths
 - ✓ Efficiently
 - ✓ Concurrently
 - ✓ Smoothly
 - ✓ Intelligently

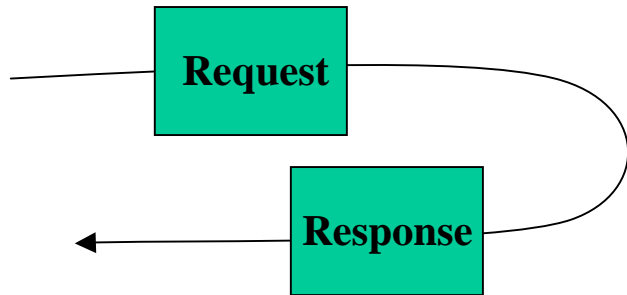
- **Optimizing System for**
 - **“Low Latency”** with Single Stream
 - **“Pipelining”** and **“Concurrent Execution”** with Multiple Stream
 - **“Prioritized Channel”** with Specific Stream
 - **“Smart Flow Control”** and **“Intelligent Arbitration”** with Smart Stream

HyperStreaming Architecture (I)

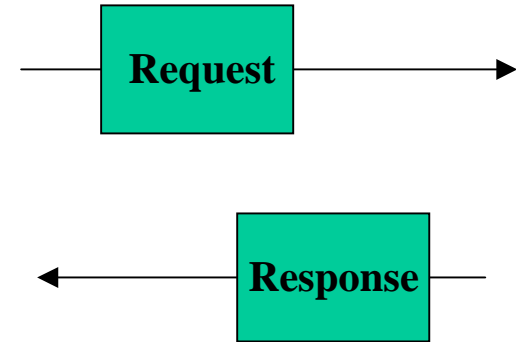
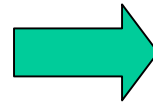


HyperStreaming Links Fast Together

Split Transaction:

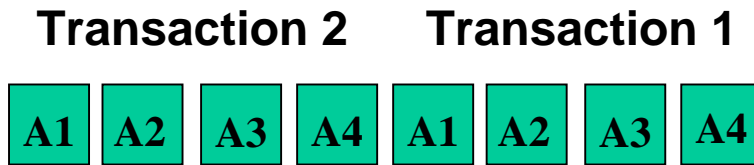
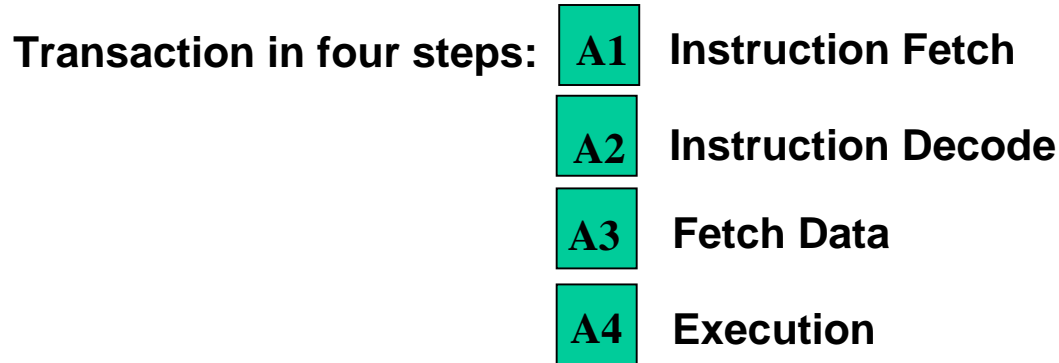


Bus occupied until “Response” is returned. Bus can not be released until the request and response phase completed.

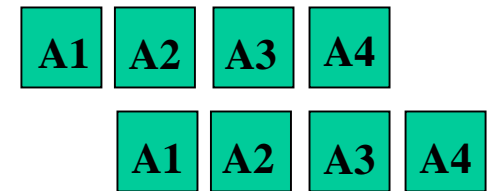
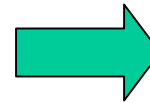


Bus released after “Request” phase and Bus can be used by next transaction (either request or response), then be occupied while the response is return. The Bus utilization is better.

Pipelining Transaction:

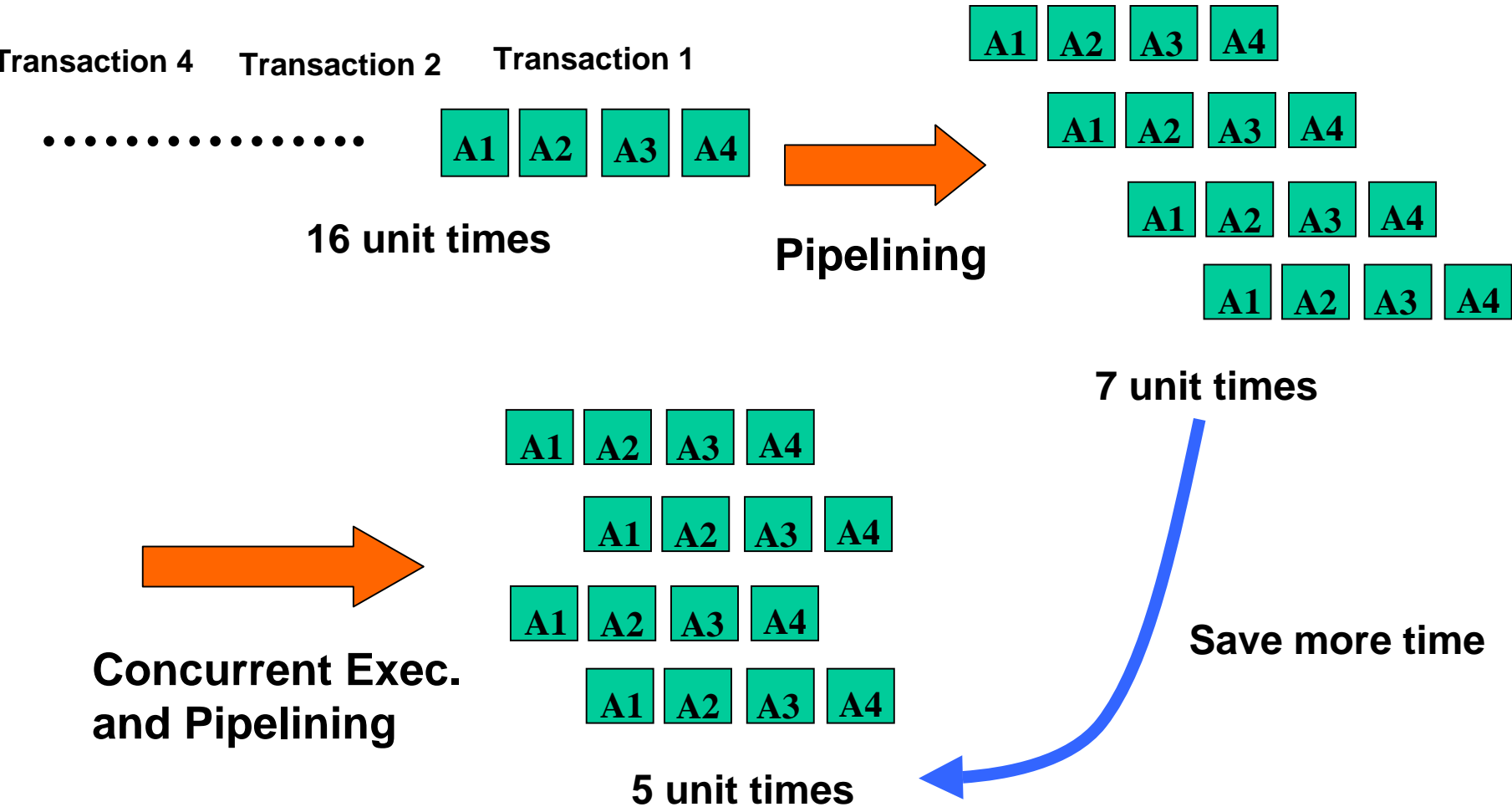


8 unit times



5 unit times

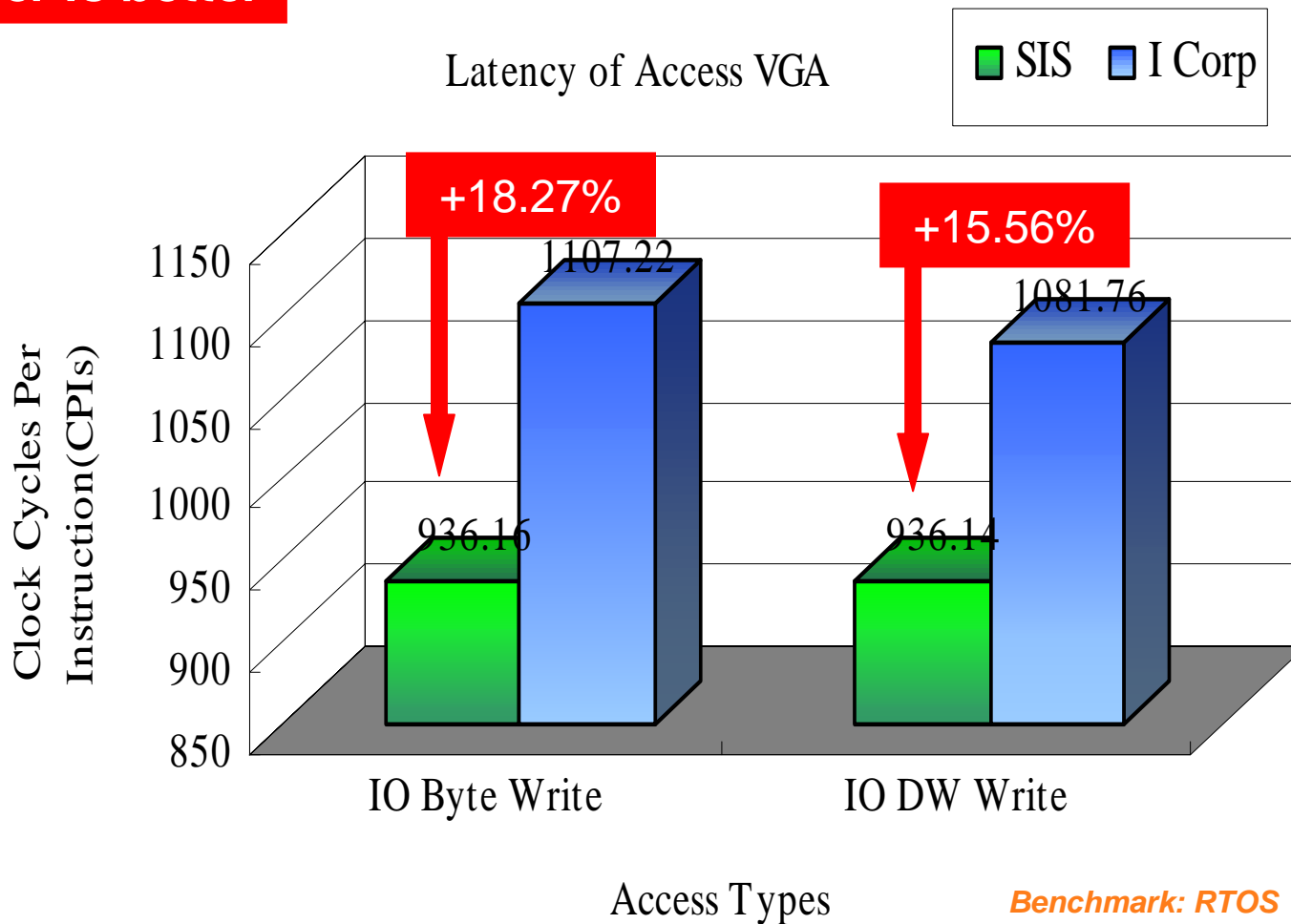
Concurrent Exec. and Pipelining Transaction:



Performance Advantages w/ Single Stream



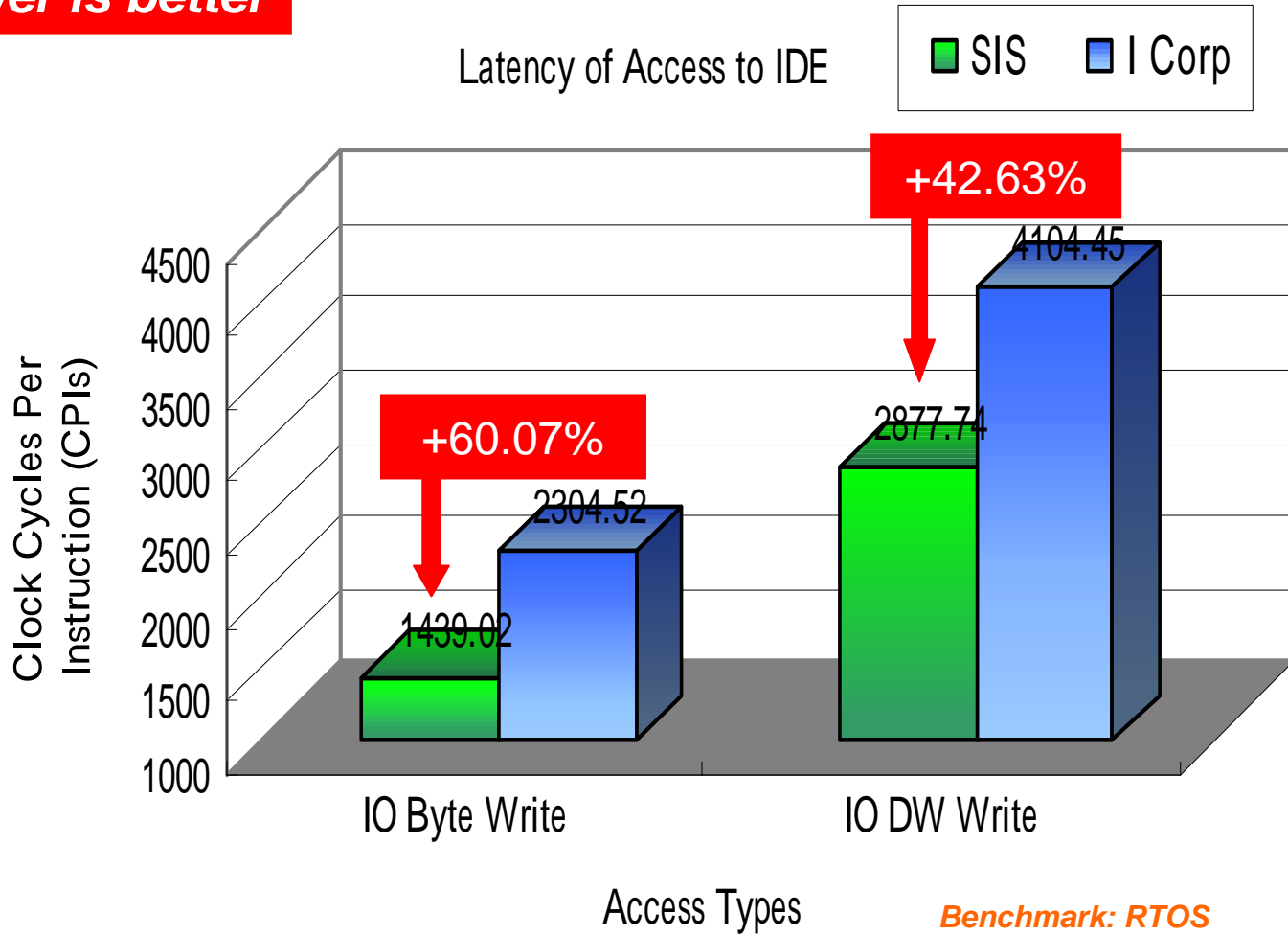
➡ Lower is better



Performance Advantages w/ Single Stream



→ Lower is better



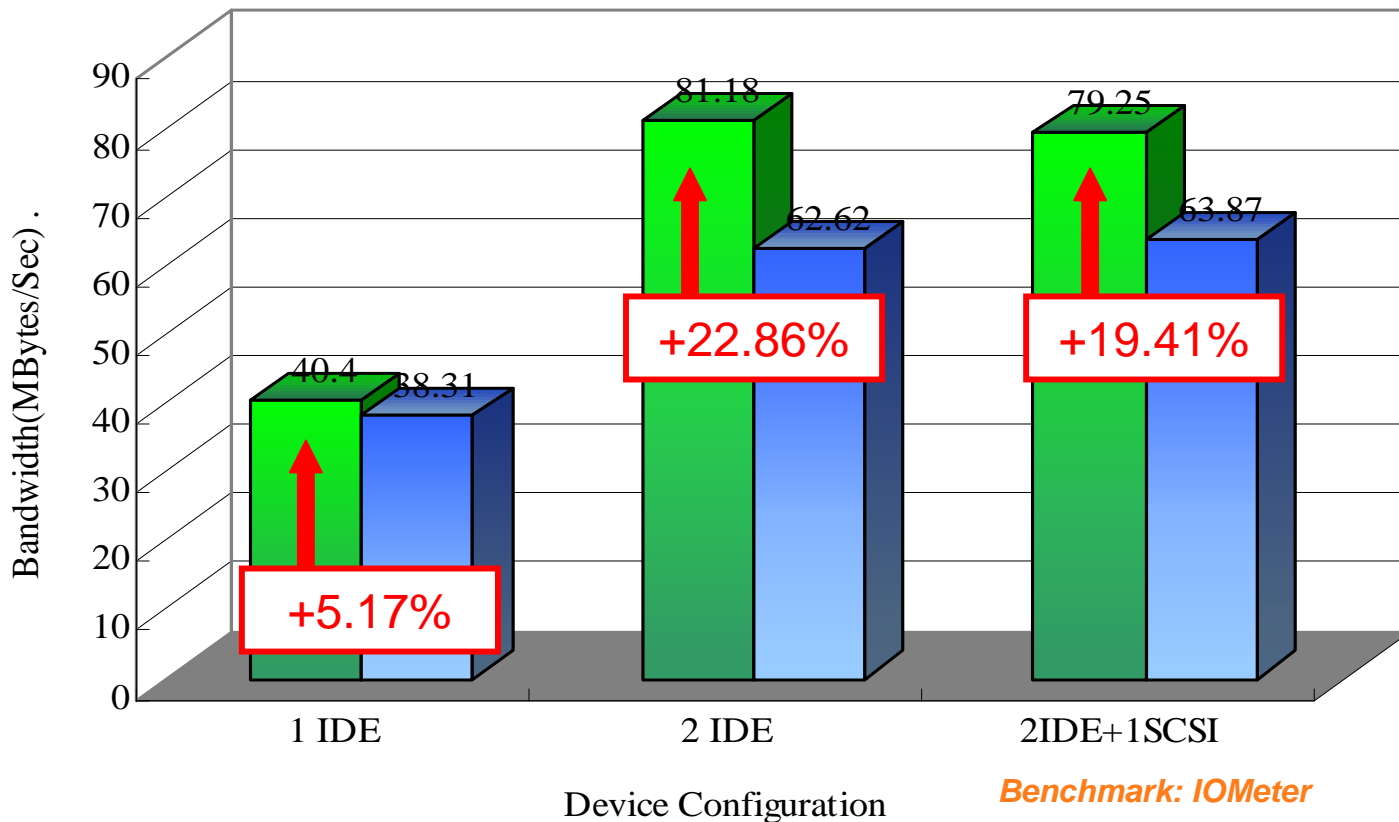
Performance Advantages w/ Multiple Streams



➔ Higher is better

WorkStation Benchmark Bandwidth

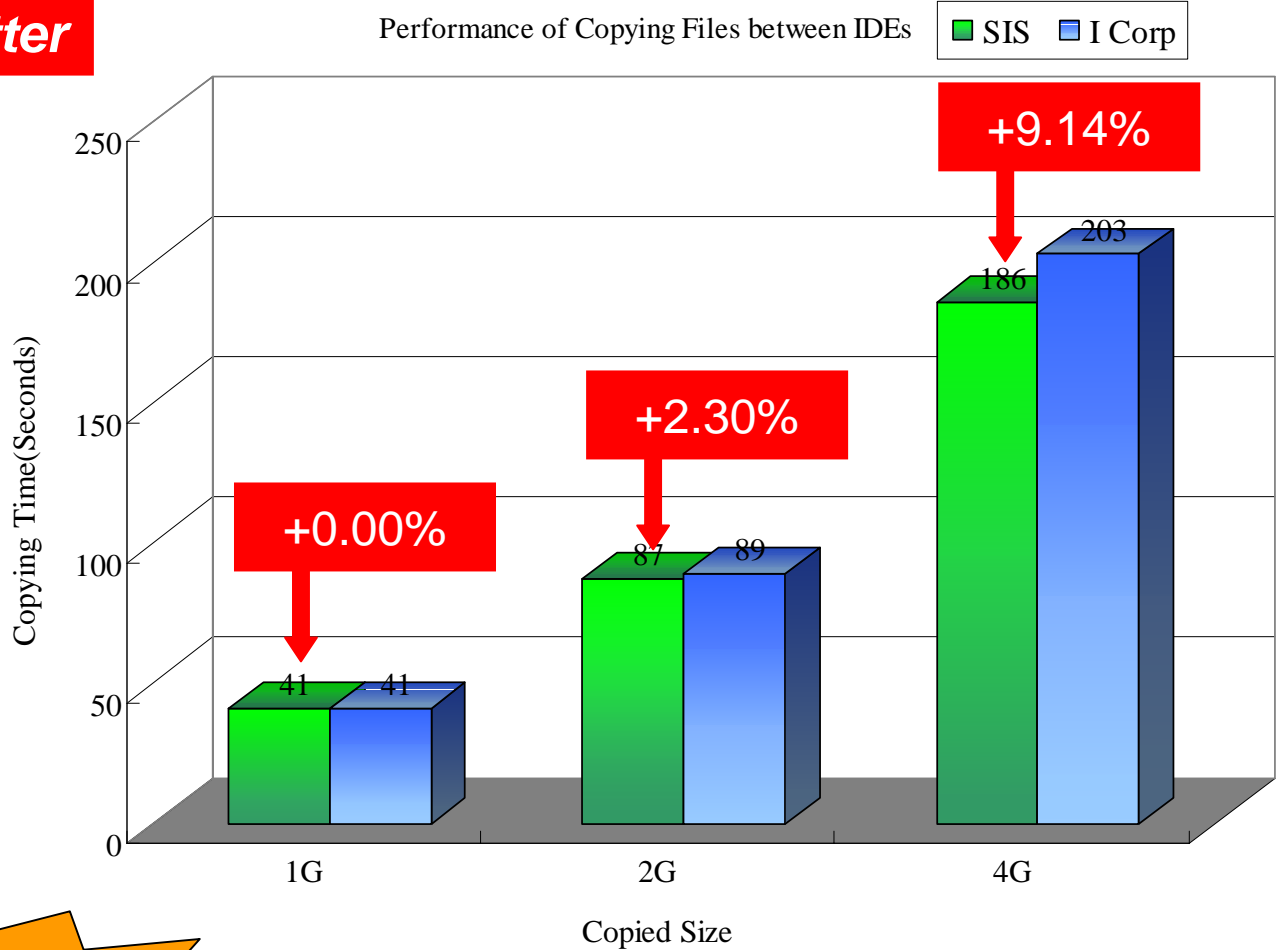
■ SIS ■ I Corp



Performance Advantages w/ Multiple Streams



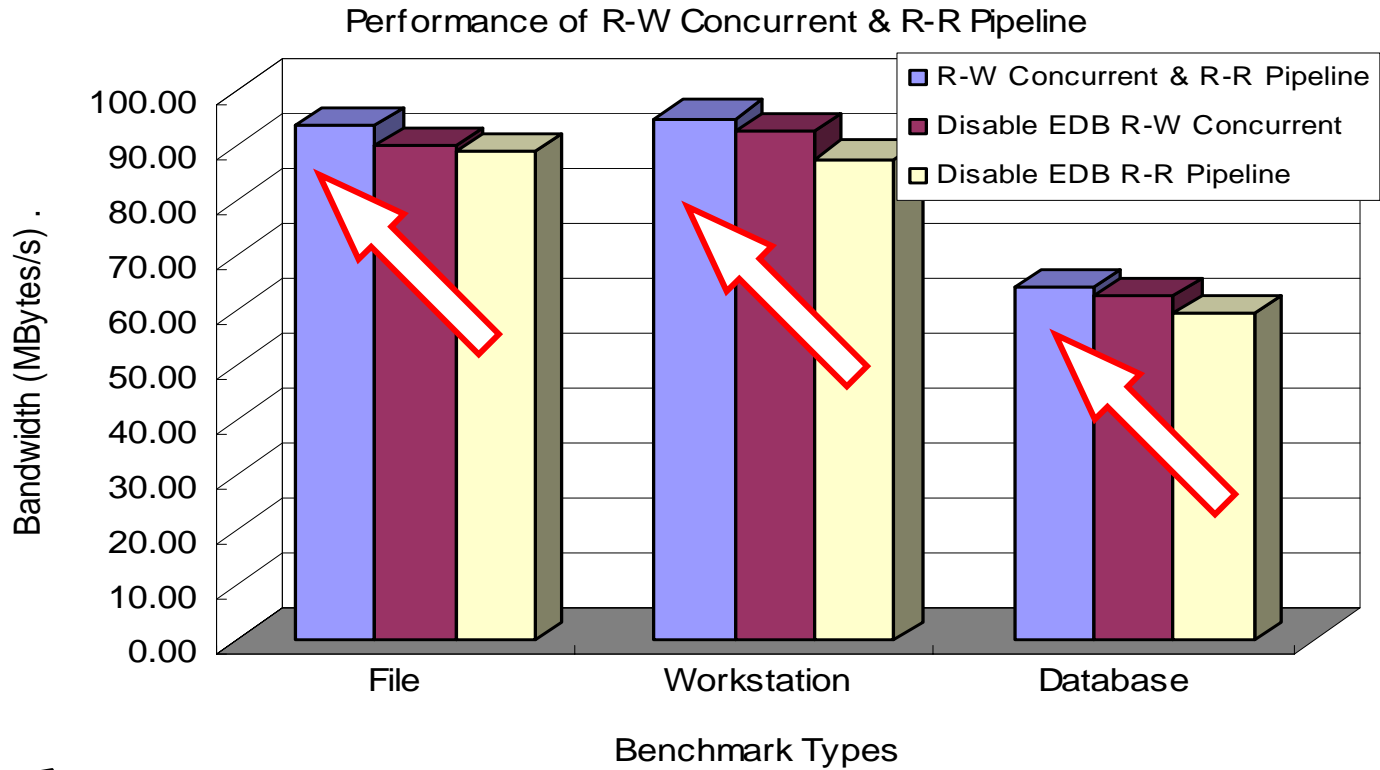
Lower is better



Performance of File Copying

Performance Advantages w/ Pipelining & Concurrent

 **Higher is better**

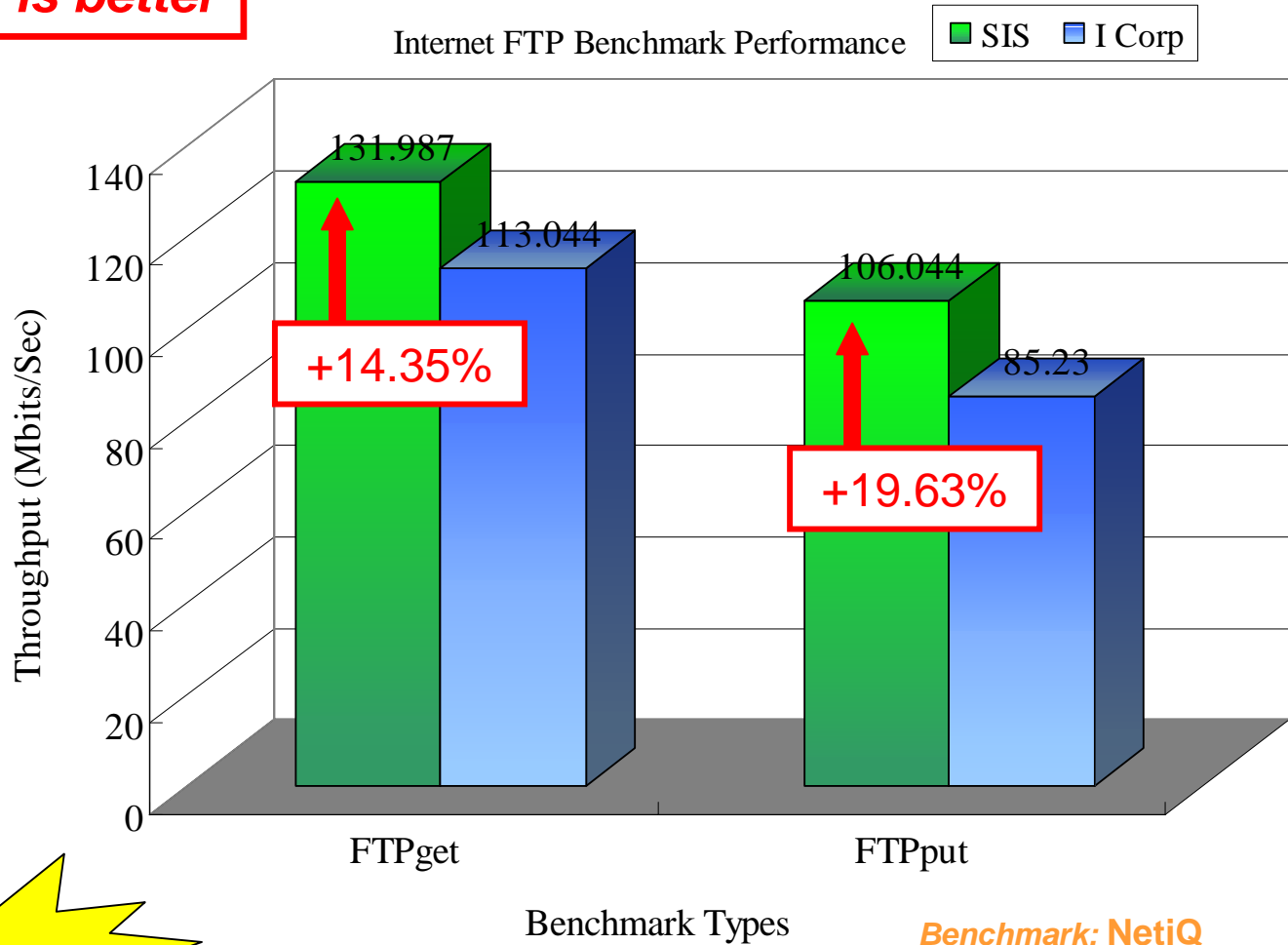


Performance of Device Concurrency

Performance Advantages w/ Specific Stream



 **Higher is better**



High Throughput

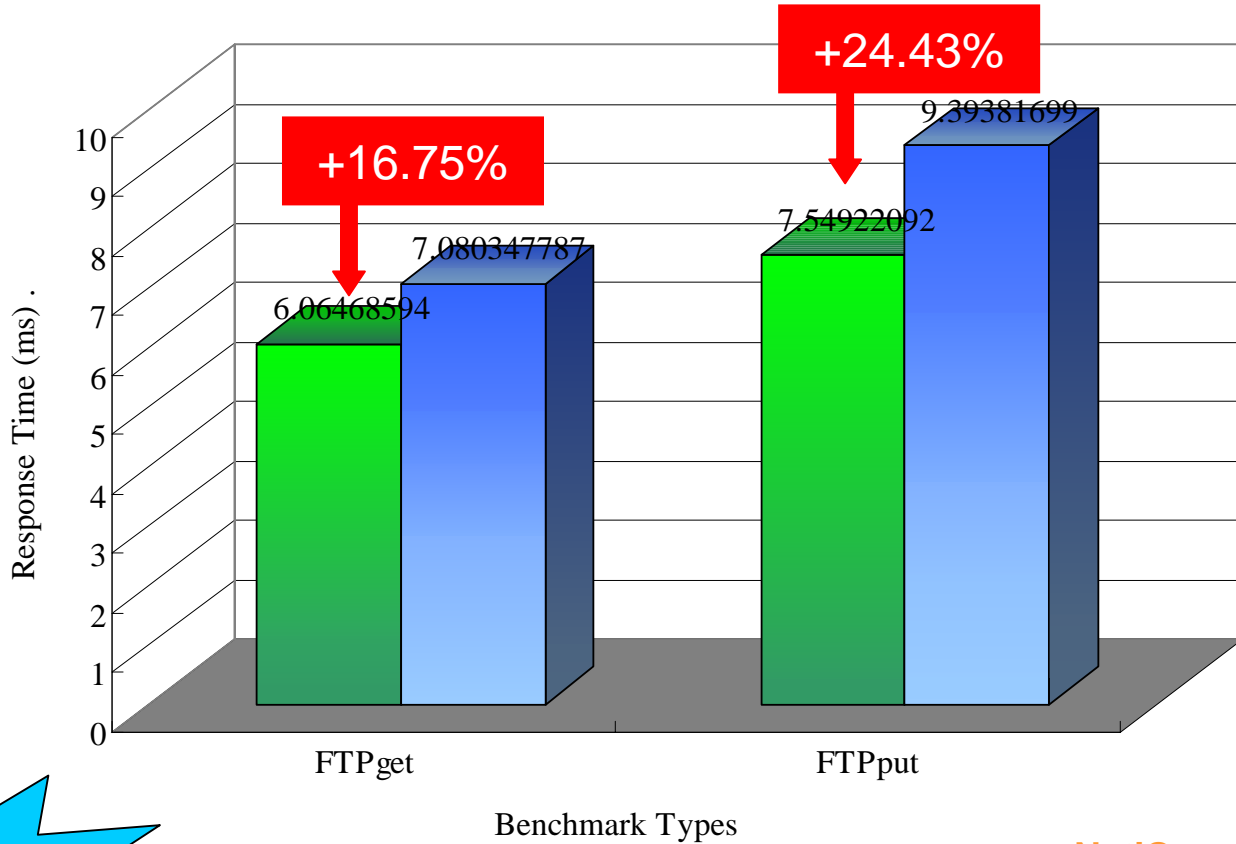
Performance Advantages w/ Specific Stream



 **Lower is better**

Internet FTP Benchmark Performance

■ SIS ■ I Corp



Benchmark: NetIQ

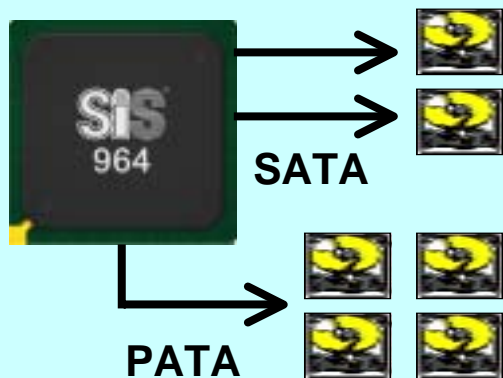
Low Response Time

SiS655TX/FX SATA & RAID Support



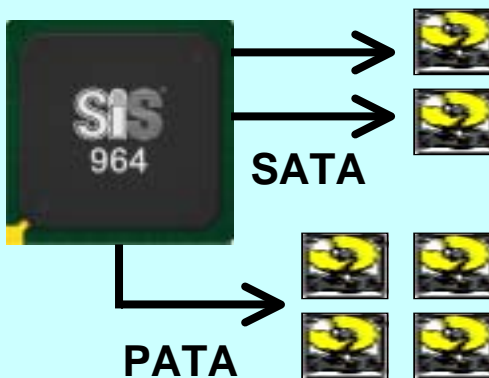
PATA Device ID: 5513

SATA Device ID: 0180

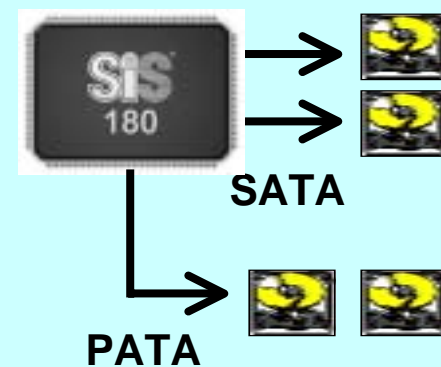


PATA Device ID: 5513

SATA Device ID: 0180



Device ID: 0180

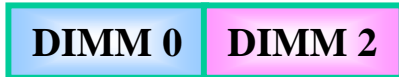


- Support RAID0, RAID1 and JBOD on 964 SATA
- One RAID0 Performance Group
- Support total 6 devices

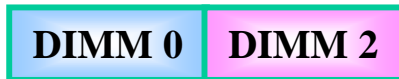
- Support RAID0, RAID1 and JBOD on 964 SATA
- Support RAID0, RAID1, RAID0+1, and JBOD on SiS180
- Two RAID0 Performance Group
- Support total 10 devices

2 DIMMs Population:

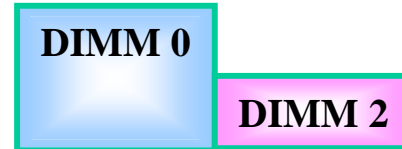
1) 128 Bit Mode: Exactly the same size and type DIMMs on Channel 0 and Channel 1



2) Dual 64 Bit Mode: DIMMs populated on different Channels



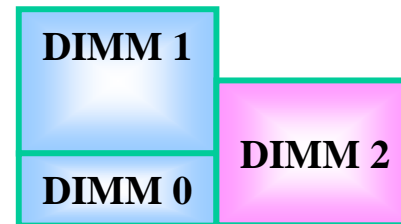
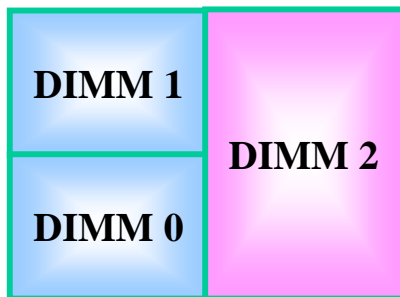
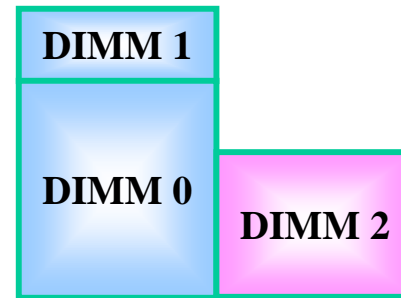
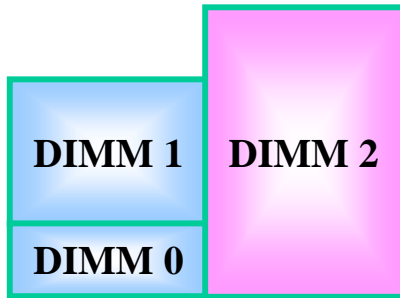
Same Size



Different Size

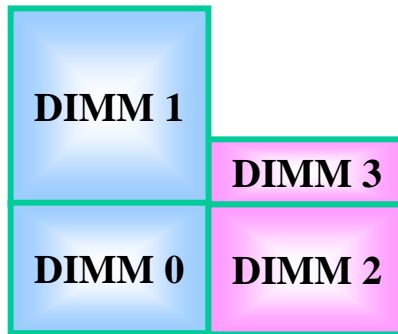
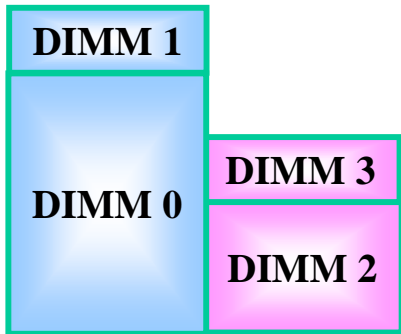
3 DIMMs Population:

1) Dual 64 Bit Mode: DIMMs populated on different Channels



4 DIMMs Population:

1) Dual 64 Bit Mode: DIMMs populated on different Channels



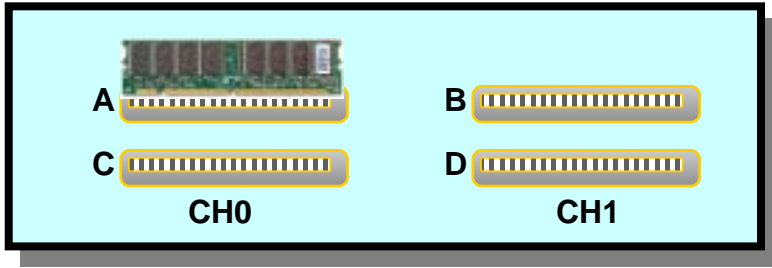
2) 128 Bit Mode: Exactly the same size and type DIMMs on Channel 0 and Channel 1



SiS655TX/FX Dual Memory Controller Advantage - 128 bit & Dual 64 bit Mode

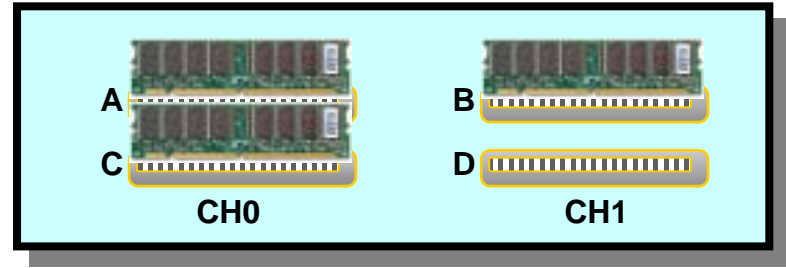


SiS655TX/FX Better Upgrade flexibility



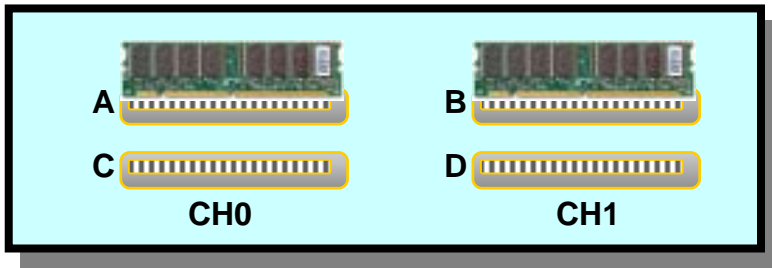
SiS: Legacy 64 bit mode

865/875: Legacy 64 bit mode



SiS: Dual 64 bit mode

865/875: Legacy 64 bit mode

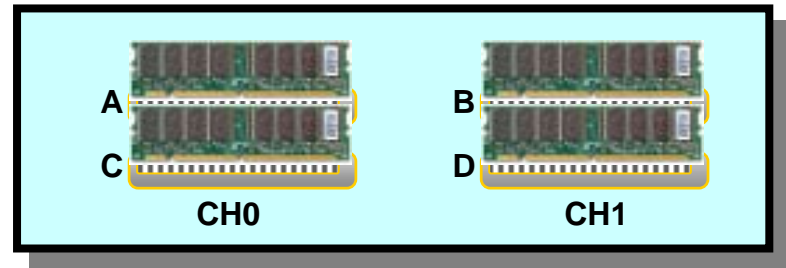


A=B, SiS: 128 bit mode

865/875: 128 bit mode

A ≠ B, SiS: Dual 64 bit mode

865/875: Legacy 64 bit mode



Four identical DIMM or two identical pairs,

SiS: 128 bit mode

865/875: 128 bit mode

Any Different type DIMM,

SiS: Dual 64 bit mode

865/875: Legacy 64 bit mode

SiS655TX

ES: NOW!

MP: NOW!

SiS655FX

ES: NOW!

MP: NOW!

SiS964

ES: NOW!

MP: NOW!