When we travelled to Dublin we came

VIA

Copenhagen from Oslo to get to the

SCI

summer school.

VIRTUAL INTERFACE ARCHITECTURE

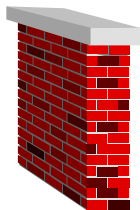Introduced by Intel, Microsoft and Compaq Dec'97

The 1 commercial cluster API

General API to suit different needs

a thin message passing layer - bypassing OS

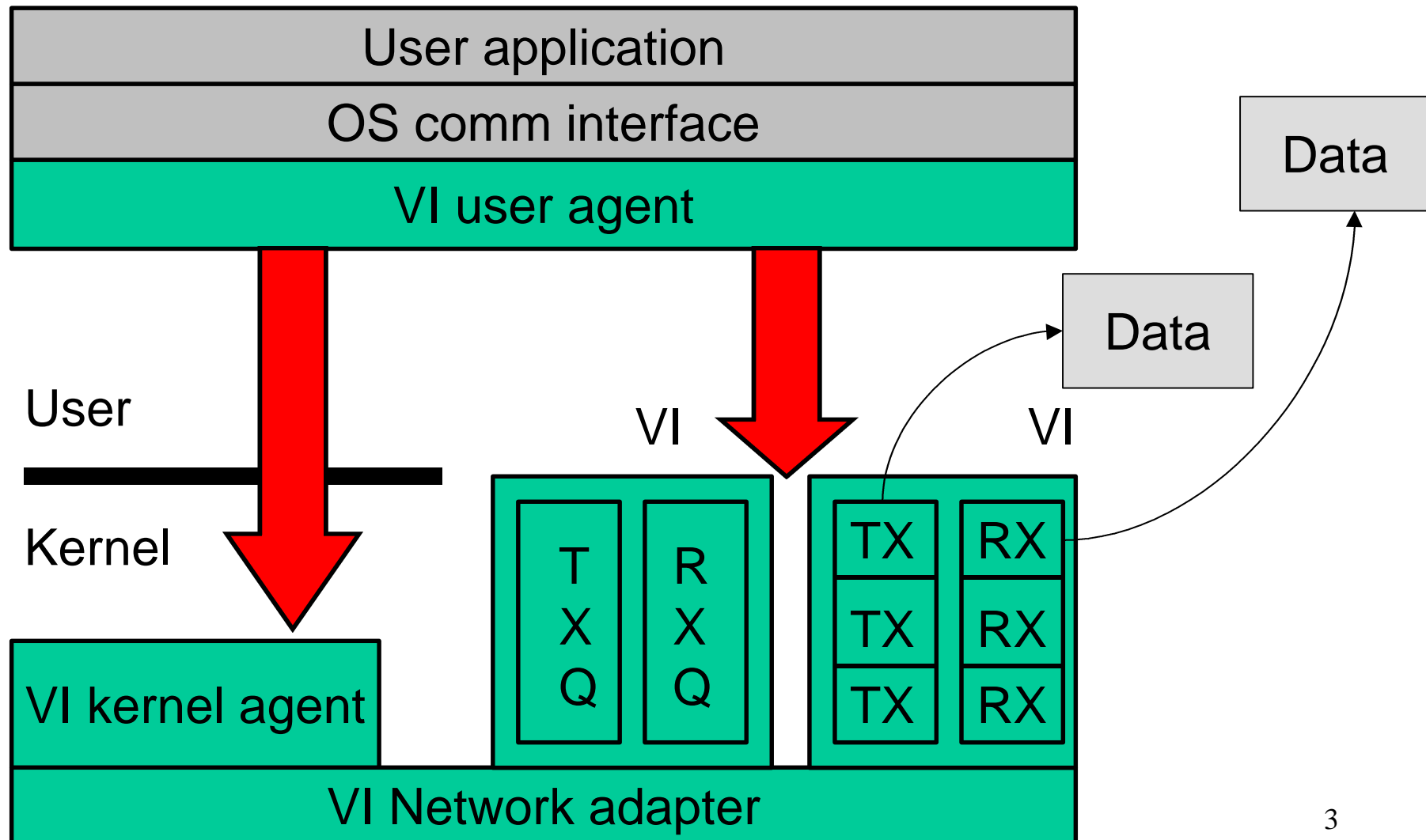**Issues:** Low latency & high Bandwith

A building block for MPI, Sockets etc.

28sep2000

2

VIRTUAL INTERFACE ARCHITECTURE

User application

OS comm interface

VI user agent

User

Kernel

VI kernel agent

VI

T X Q

R X Q

VI

TX RX

TX RX

TX RX

Data

Data

VI Network adapter

3
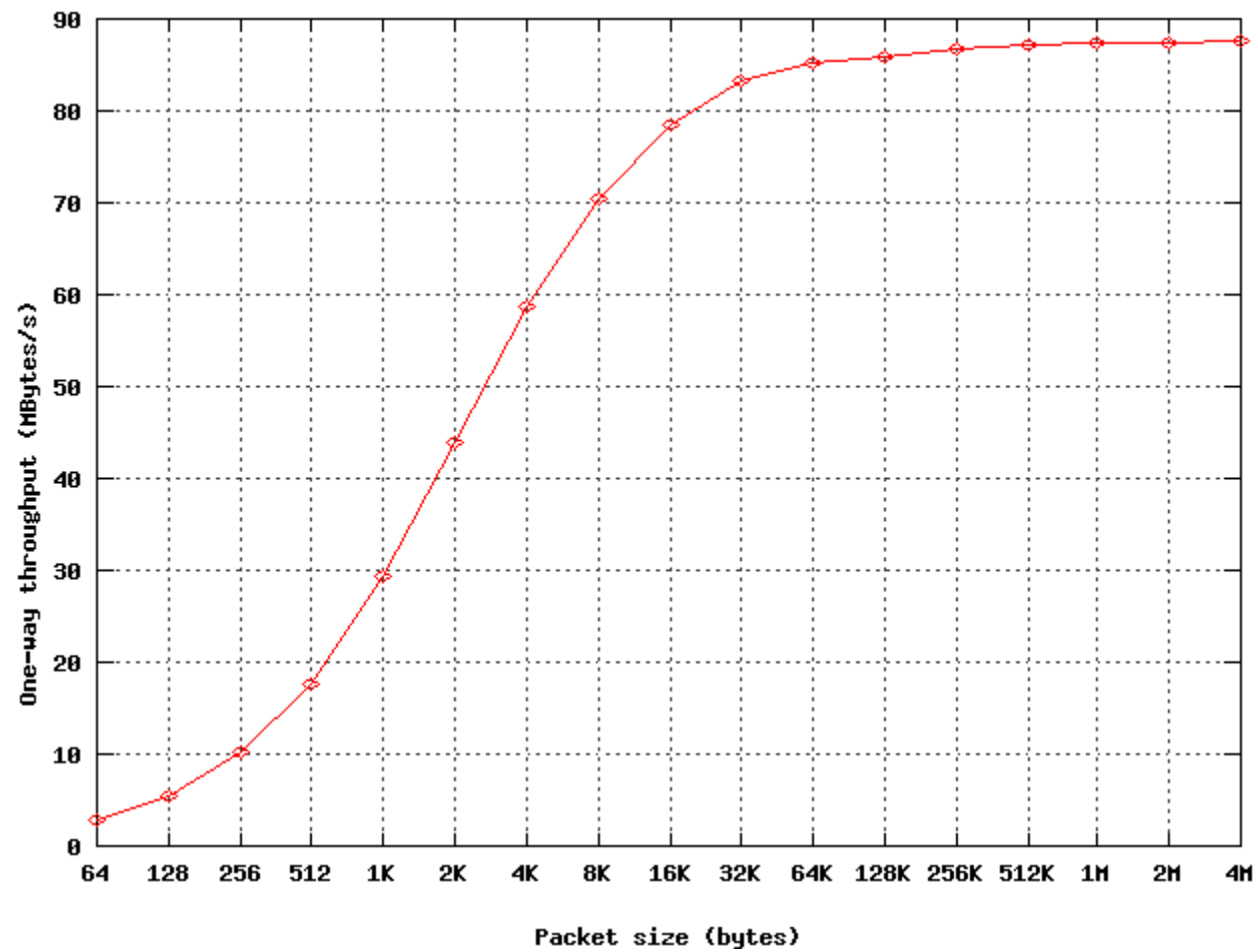
VIA
SCI

\+
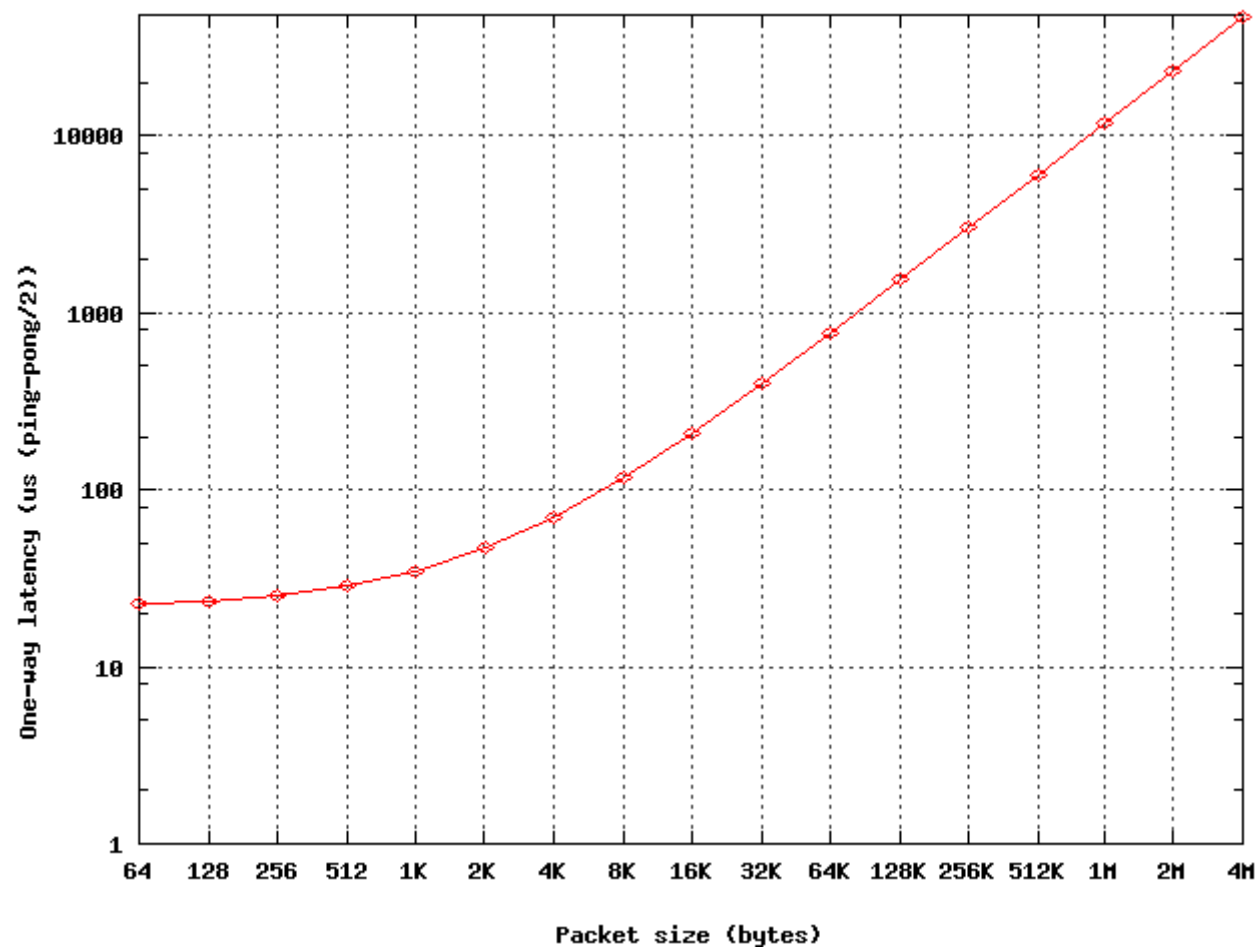Zero copy maps easy to SCI remote mapping

\-
Virtual memory is eaten up

VIA

VIA

VIA   Data transfer model today - zero copy
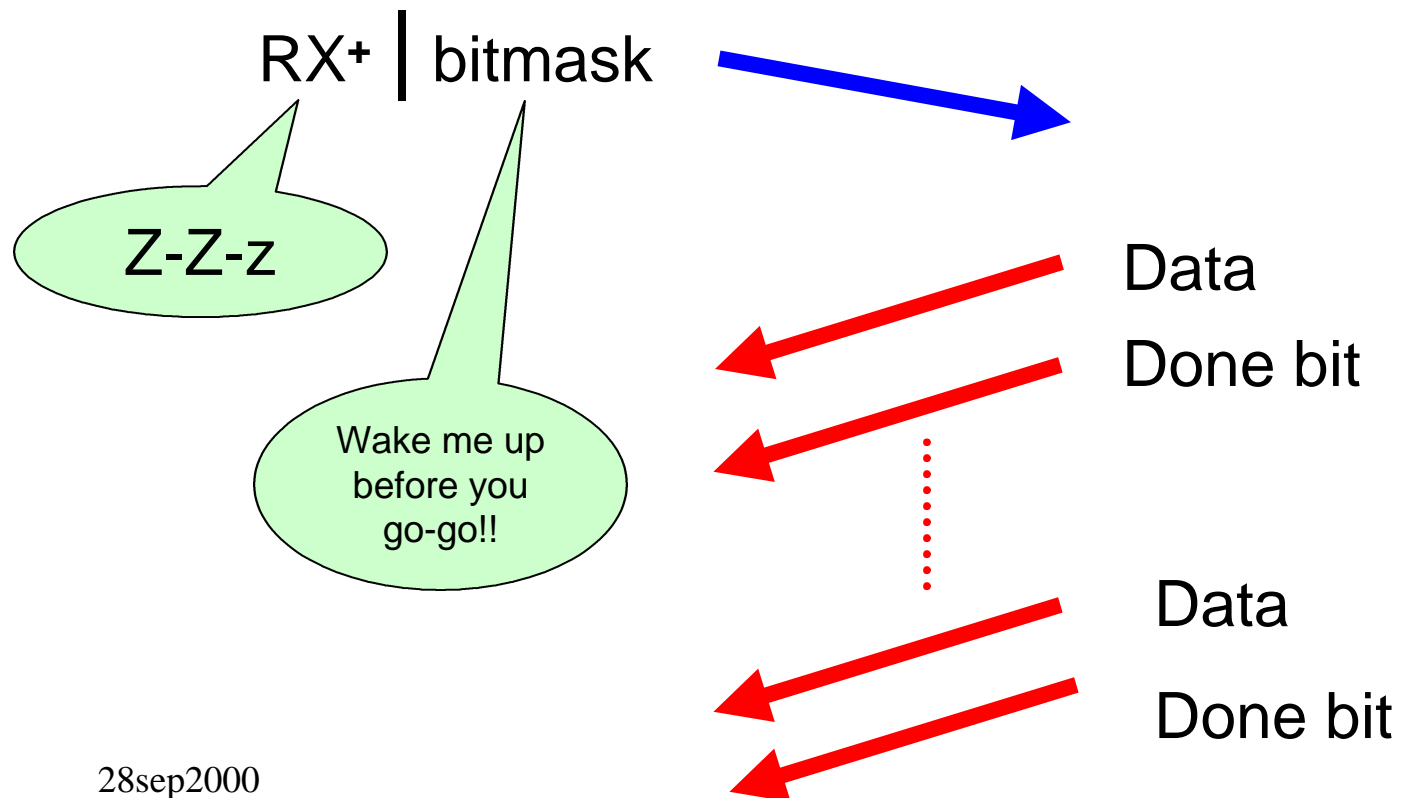
Receiver   Sender

RX

Flag

Data

Done bit
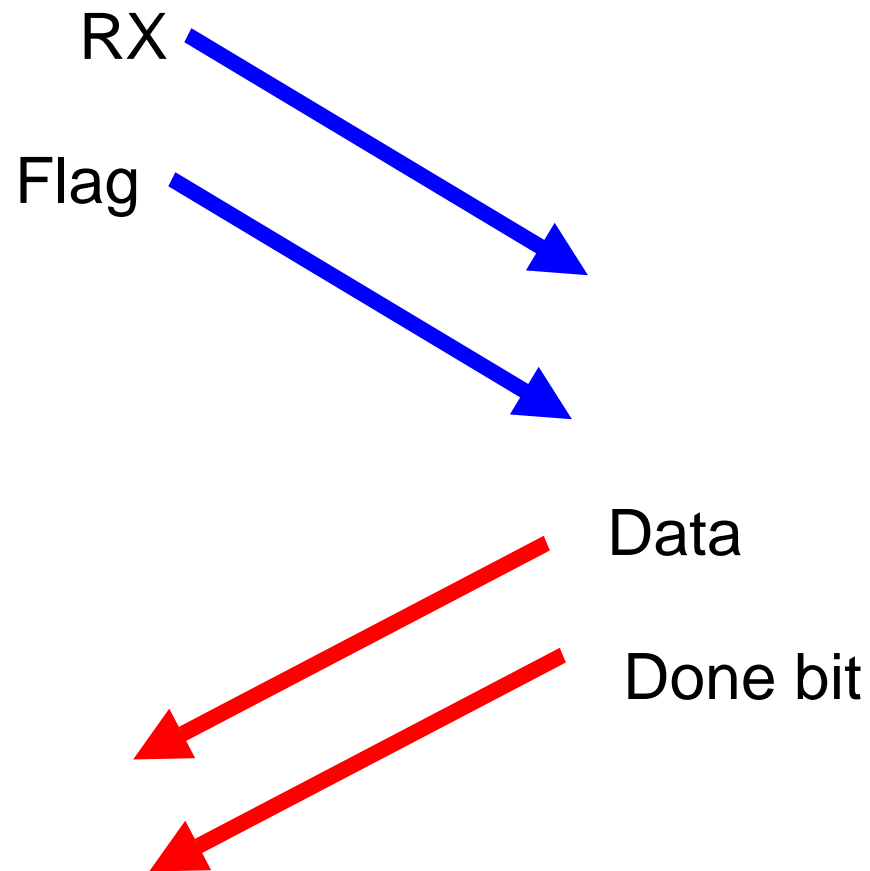
VIA

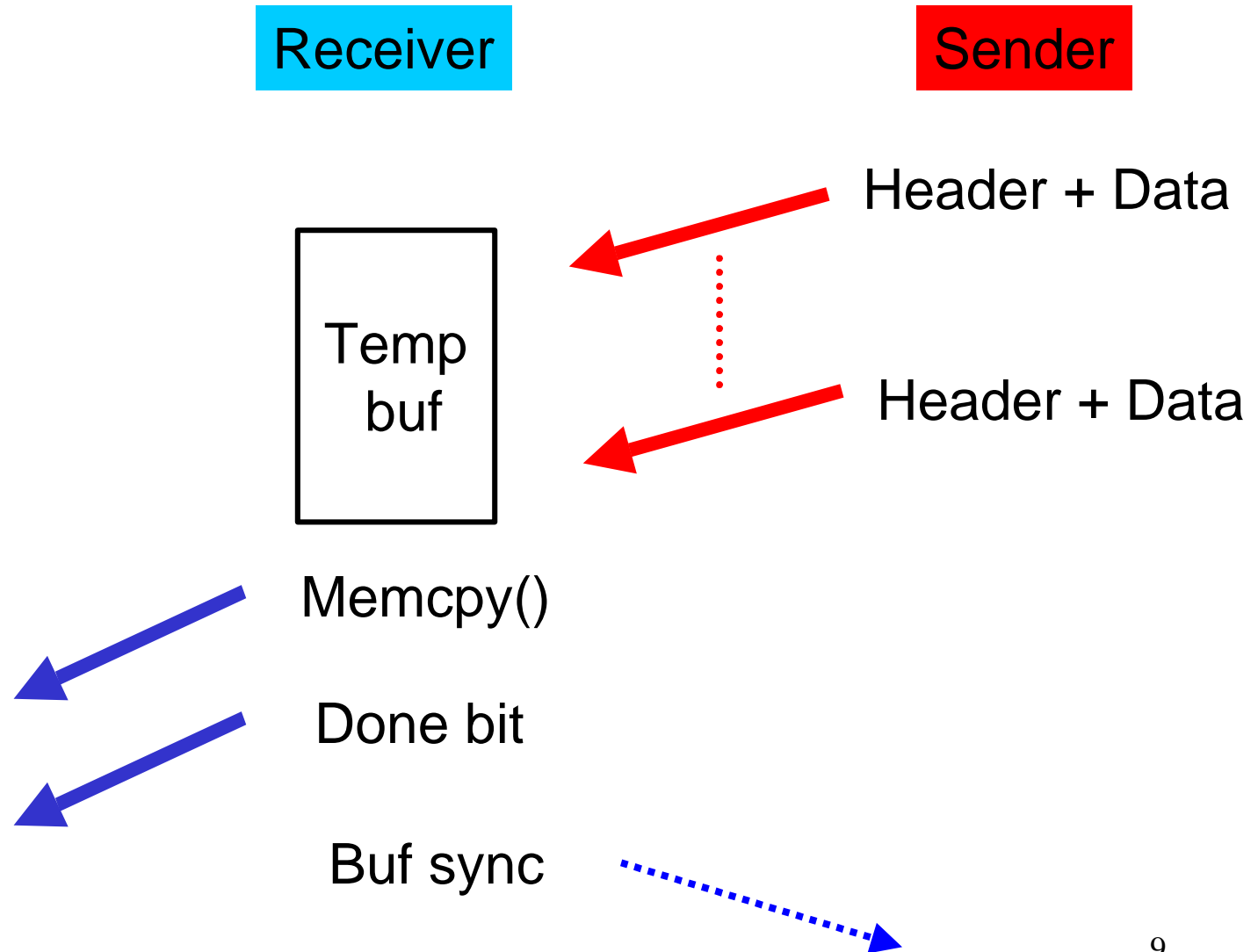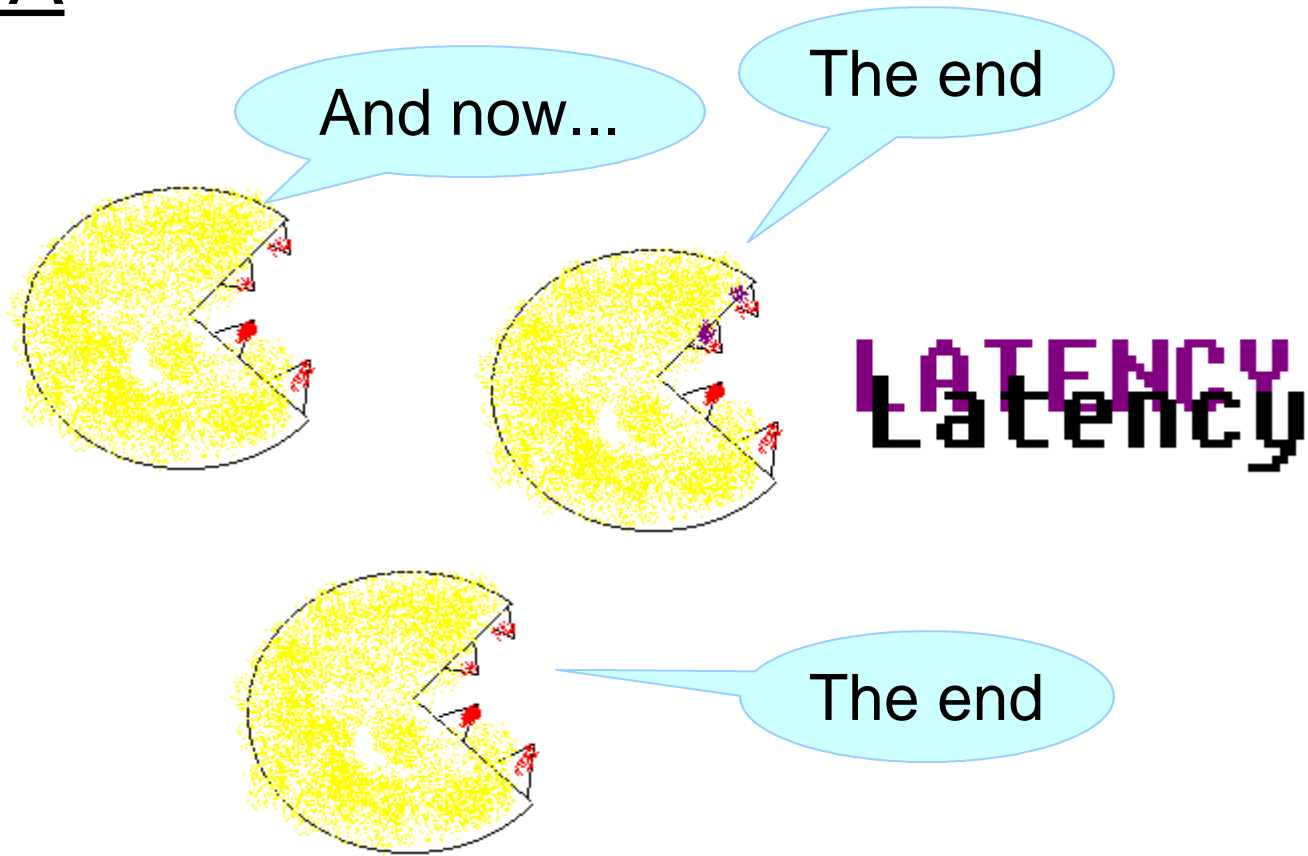Optimized large messages - zero copy

Receiver

Sender

RX+ | bitmask

Z-Z-z

Wake me up before you go-go!!

Data

Done bit

Data

Done bit

VIA

Small messages - **one** copy

Receiver   Sender

Header + Data

Temp buf ← Header + Data

Memcpy()

Done bit

Buf sync

VIA

Happy **hacking** from Scali's monster latency killer!