Overview & Goals

Developers' Conference

October 19 - 20, 2000

Durham, NC

Data Center of the Future

DAFS <collaborative>

Application Servers

Web Clients

Data Base Servers

Web Servers

Internet

Secure Network

Ethernet,
Fibre Channel,
Proprietary, or
InfiniBand Switches

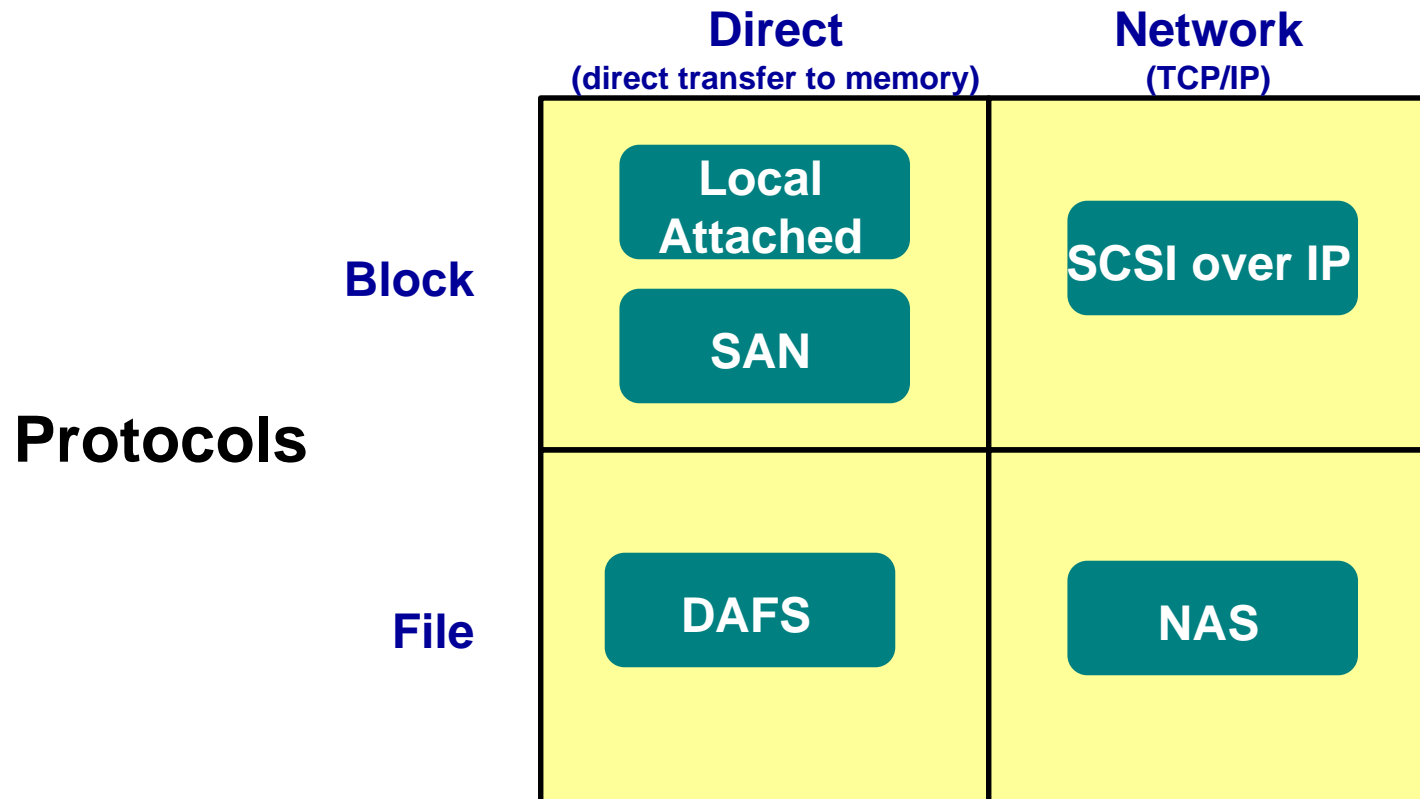**File Servers**
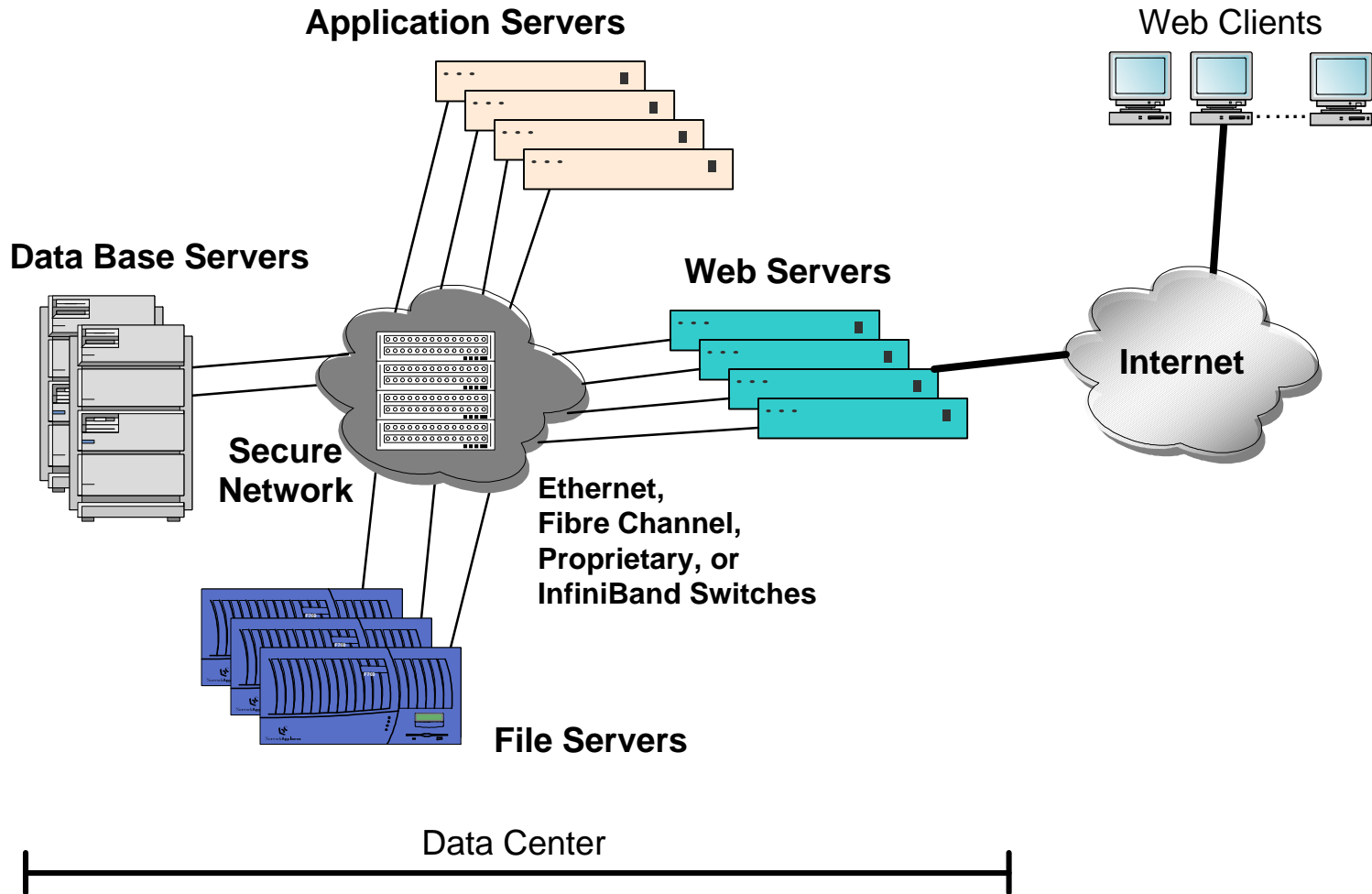
Data Center

Data Center Requirements

- ## Scalability
  - ### Independently scalable compute and storage

- ## Fast Data Transfer
  - ### Low Latency; High Throughput

- ## Resiliency
  - ### Application server and file server fail-over

- ## Cost-Effectiveness
  - ### Heterogeneous, standards-based hardware

- ## Ease of Management
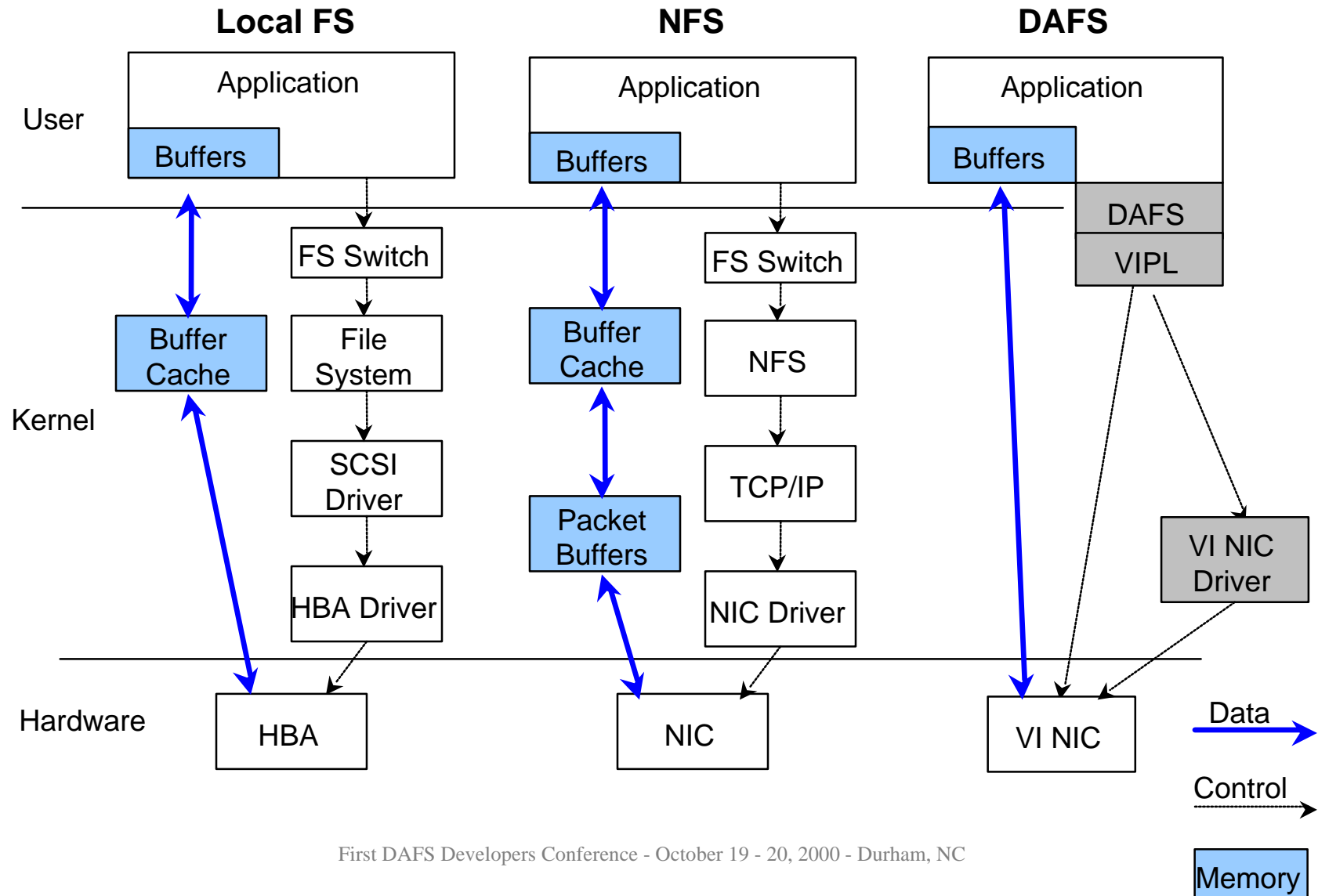
Data Access Methods

Wires

	Direct **(direct transfer to memory)**	**Network** **(TCP/IP)**
Block	Local Attached SAN	SCSI over IP
File	DAFS	NAS

Protocols

File Access Methods

DAFS
<collaborative>

Local FS **NFS** **DAFS**

User

| Application | Application | Application |
| Buffers | Buffers | Buffers |

DAFS
VIPL

Kernel

| FS Switch | | FS Switch |

| Buffer Cache | File System | Buffer Cache | NFS |

| | SCSI Driver | | TCP/IP |

| | | Packet Buffers | |

| | HBA Driver | | NIC Driver |

VI NIC Driver

Hardware

| HBA | NIC | VI NIC |

Data →

Control →

Memory

DAFS Benefits

- **File access protocol with implicit native data sharing**

- **Direct application access**

- **Leverages VI for transport independence**

- **Optimized for high throughput and low latency**

- **Consistent high speed locking**

- **Graceful recovery/fail-over of clients and servers**

➢ **Enabling Technology for the Data Center of the Future**
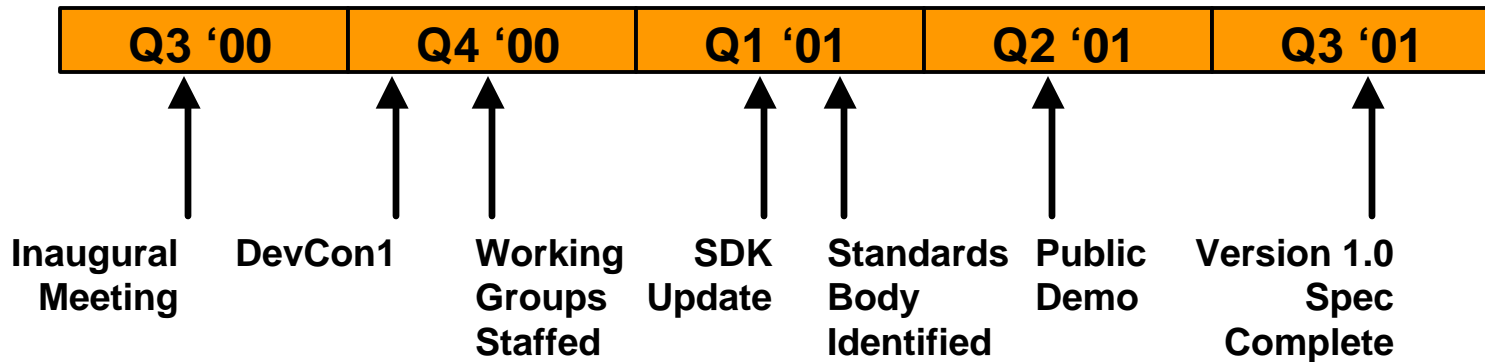
DAFS Collaborative

- **Informal Special Interest Group**
- **"Just Publish" IP model**
- **Contributor Agreement signed by 35 companies**
- **Structured to move fast**
    - **Executive Director – drive day-to-day operations**
    - **Co-chairs – direct overall Collaborative activities**
    - **Technical Editor – direct spec development**
    - **Working Group Leaders – drive resolution of issues**

Future Considerations

- **Whether/when the DAFS Collaborative should become a more formal ''Implementers' Forum''**
  - Spec development sunset clause at version 1.0
- **IP Policy**
  - Will be influenced by IP policy of selected standards body
  - Network Appliance intention to offer royalty-free license
  - Will also depend on disposition of other contributors

DAFS Target Timeline

Q3 '00	Q4 '00	Q1 '01	Q2 '01	Q3 '01

Inaugural Meeting

DevCon1

Working Groups Staffed

SDK Update

Standards Body Identified

Public Demo

Version 1.0 Spec Complete

Spec Development Milestones

SDK Roadmap

Marketing/PR Roadmap