

Networked Device Drivers

Cynthia Taylor, Joe Pasquale
 Center for Networked Systems
 Computer Science Department, University of California, San Diego

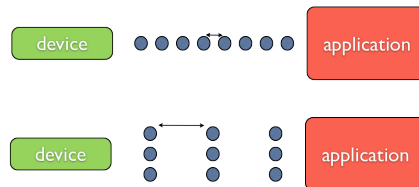
Small Devices



We Need a Generic System for Remote I/O

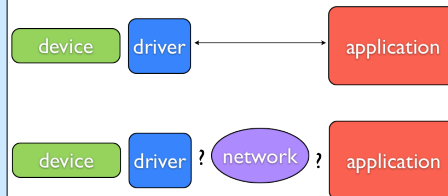
- Flexible
- Easy to extend/edit
- Performance Sensitive

I/O Performance



Updates go from single and frequent, to grouped and farther apart.

I/O Architecture

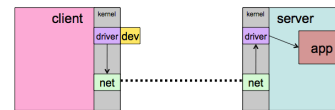


Applications can no longer communicate with drivers via API calls.

The Cloud

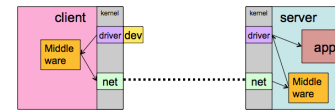


Architecture

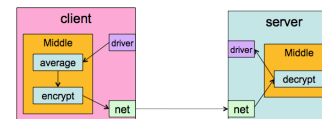


Functionality

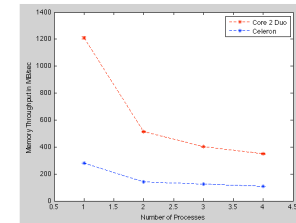
- Functionality needs change on an application-device basis
- Device designers, application designers and users may all have different functionality needs



Middleware Example



Multi-Process Pipes



Preliminary : Space Navigator



Preliminary: Webcam

