DCAN
Devolved Control of ATM Networks

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DCAN Background

- ATM has gained a foothold, but…

- Take-up is not as fast as expected

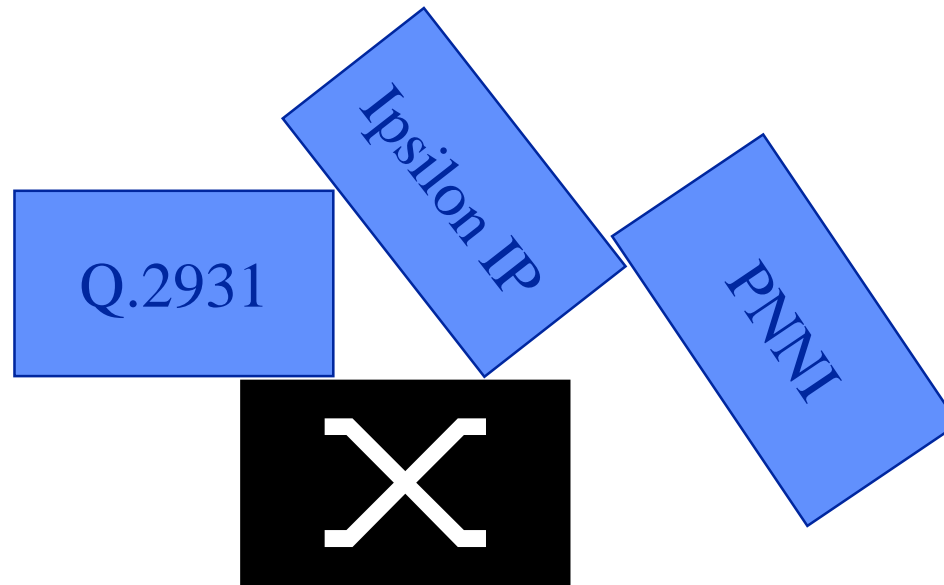- Switch control protocols are complex

- So switches are complex

ATM Questions

- What are the applications going to be?

- What are the protocols going to be?

- How do we experiment to find out?

- How do we manage the change?
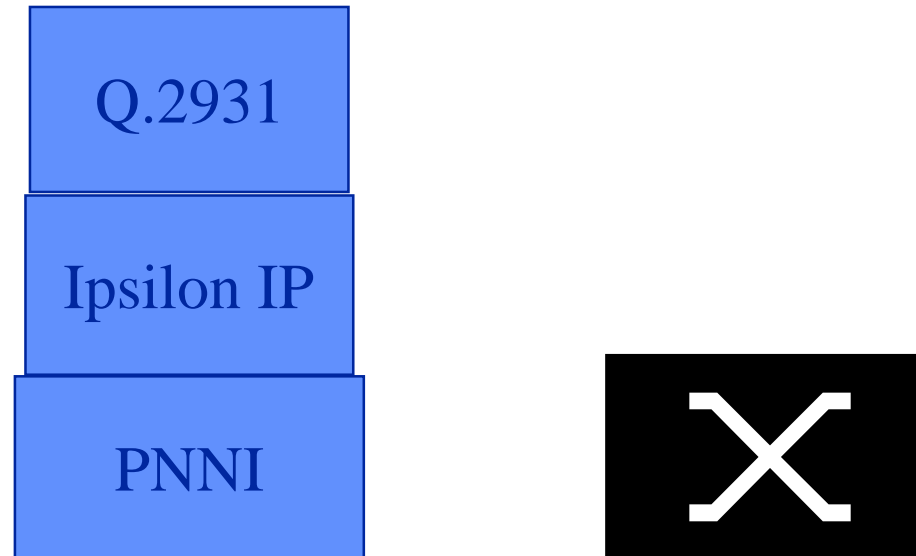
- How do we make room for innovation?

The Switch Problem

Q.2931

Ipsilon IP

PNNI

X

How do we keep our options open without overburdening switches?

The DCAN Solution

Q.2931

Ipsilon IP

PNNI
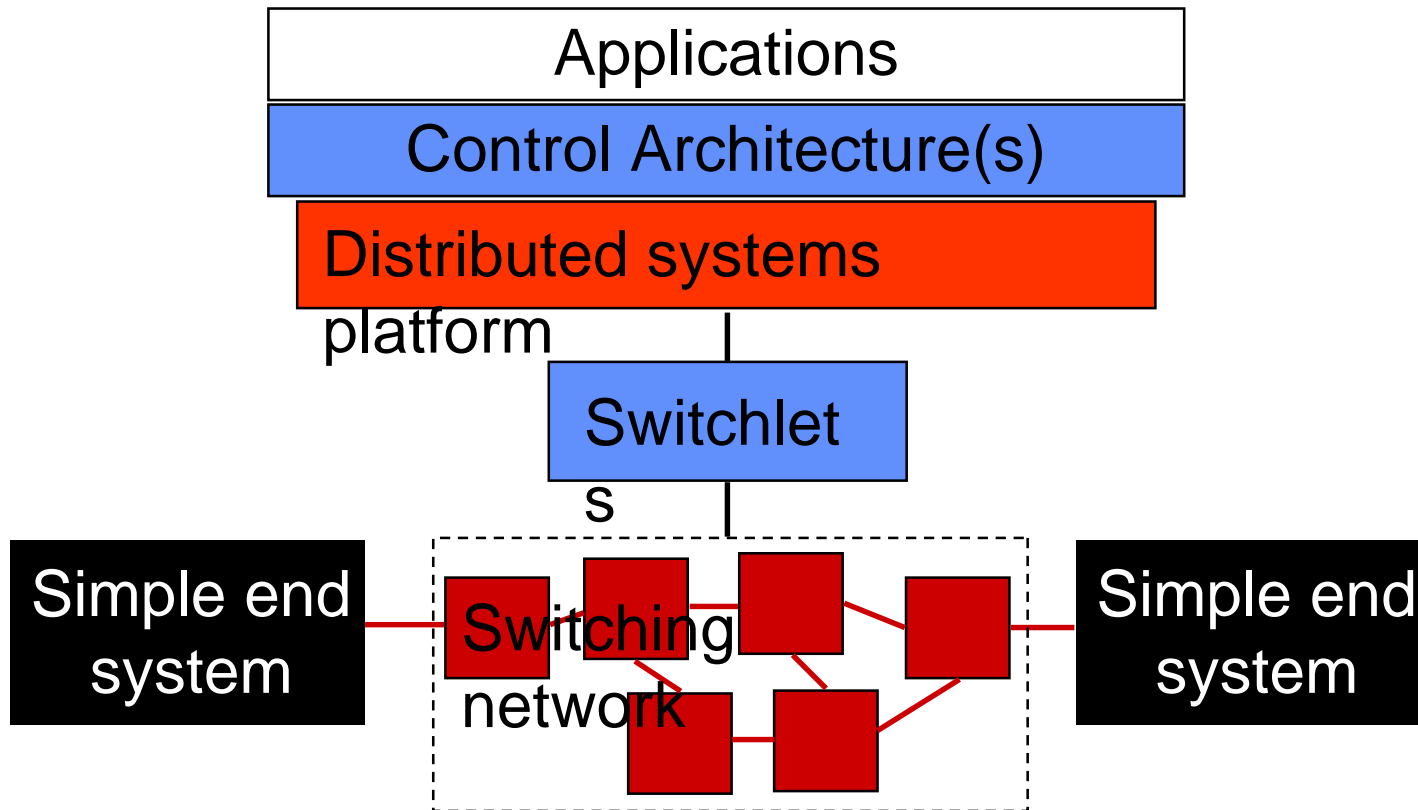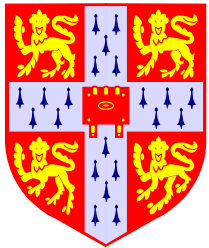
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Out of band processing out of switches

DCAN Architecture

DCAN Partners

- APM
  - Provided project management and middleware platform
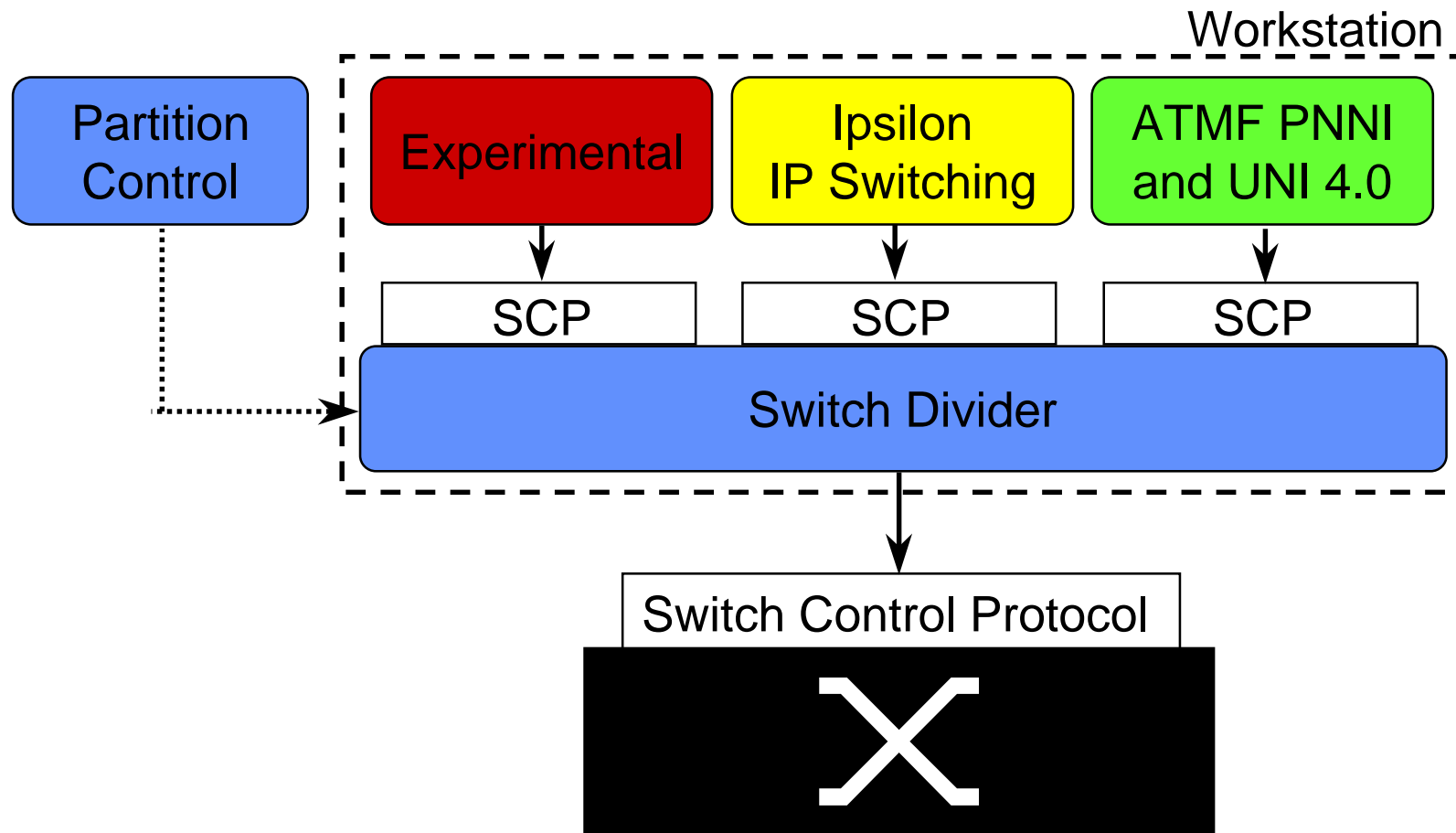
- Cambridge University Computer Laboratory
  - Provided control architectures, real-time OS and sample applications

- Fore Systems
  - Provided simple end devices and management protocol

Switchlets

Other Key Technologies

- DIMMA

- Simple end devices

- Hollowman control architecture

- "Networks on Demand"

Publications

- The following are available from the APM web site:
    - DIMMA - A Multi-Media ORB
    - Switchlets and Dynamic Virtual ATM Networks
    - Hollowman - an innovative ATM control architecture
    - An Optimised Implementation of the DCAN Divider Server on the Nemesis Operating System
- Cambridge web site has other interesting material:
    - http://www.cl.cam.ac.uk/Research/SRG/dcan/