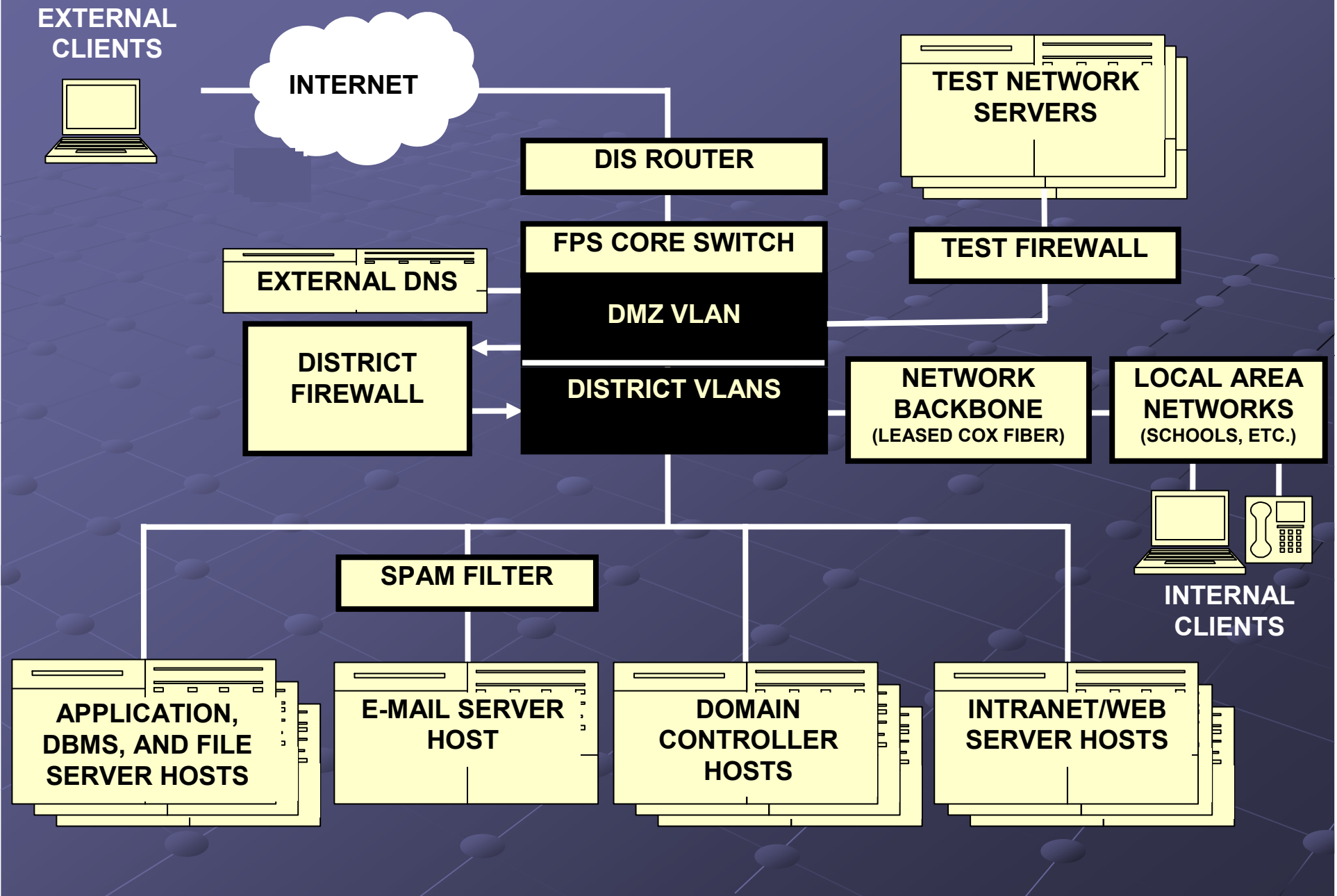


# Fayetteville Public Schools

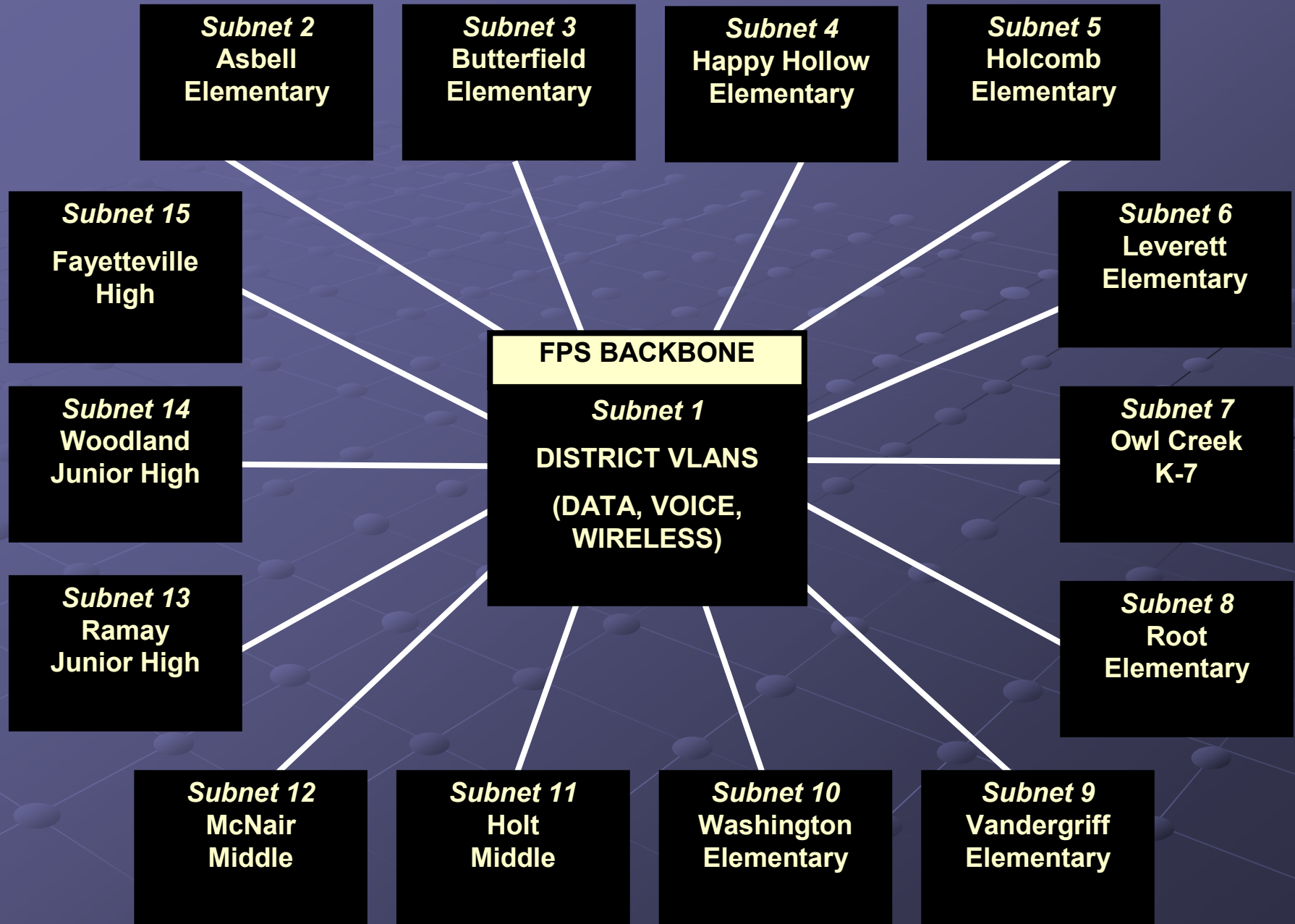
Technology Infrastructure  
and  
In-House Applications Development

Andy Mayes

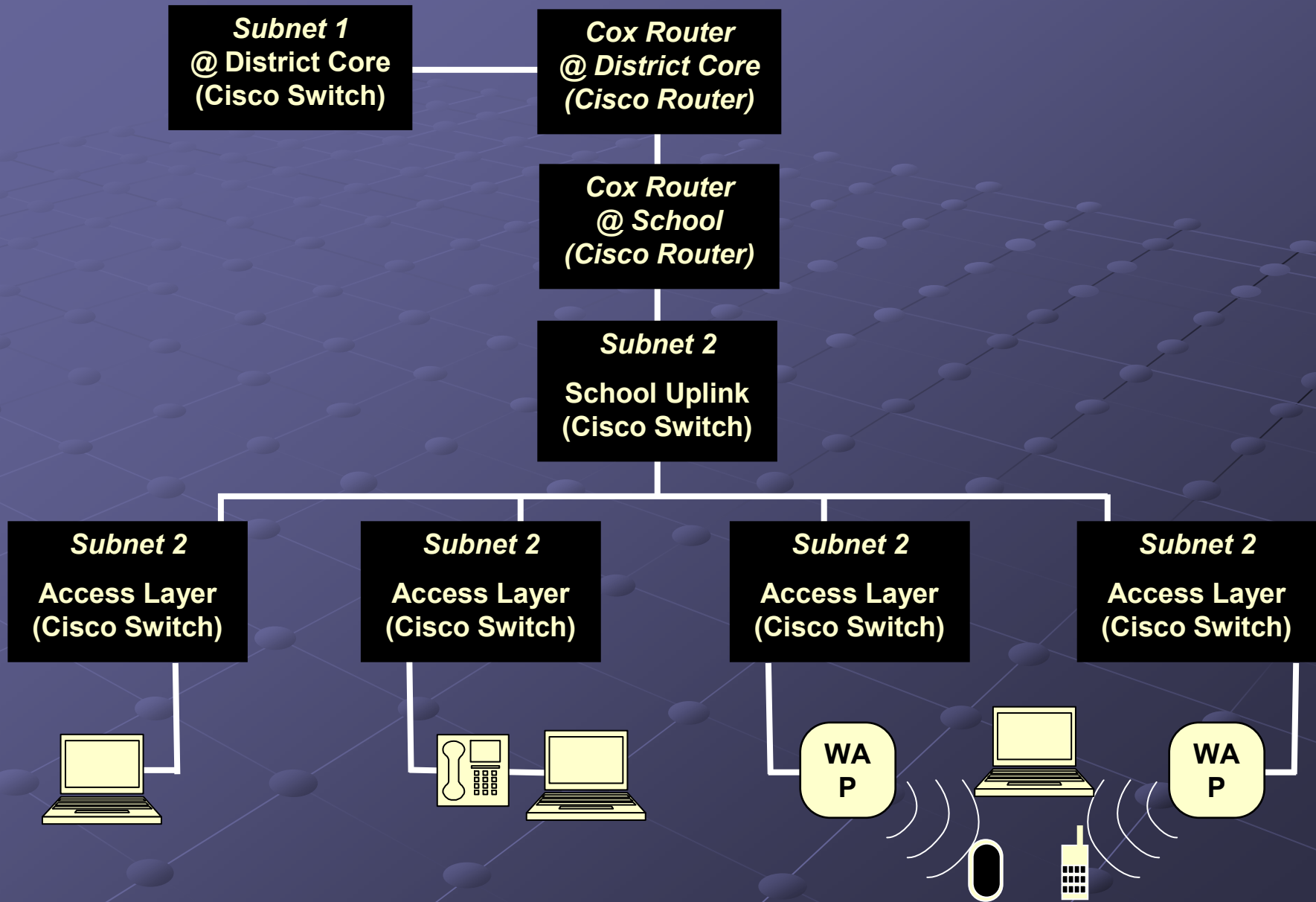
# FPS Network Central Infrastructure



# FPS Network Backbone



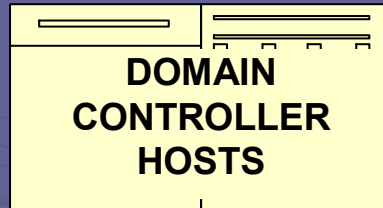
# Typical School Network



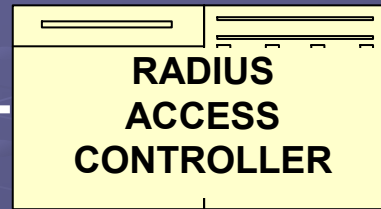
# Network Operating Systems

Windows 2003 Domain

Cisco Wireless Systems

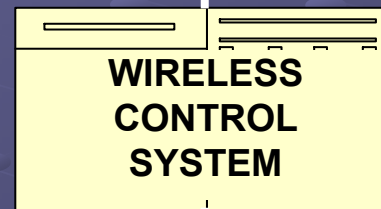


LDAP

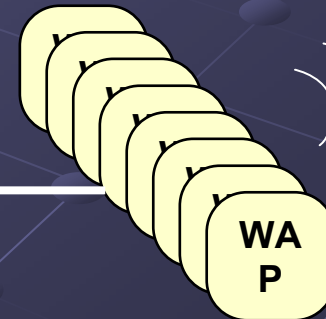
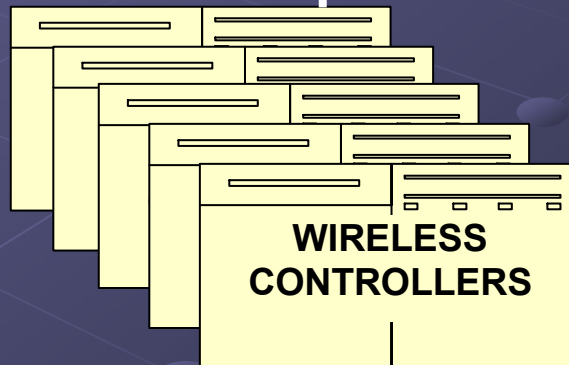


Certificate  
Authority

Group Policies  
Login Scripts  
DHCP Addressing  
DNS Naming Services

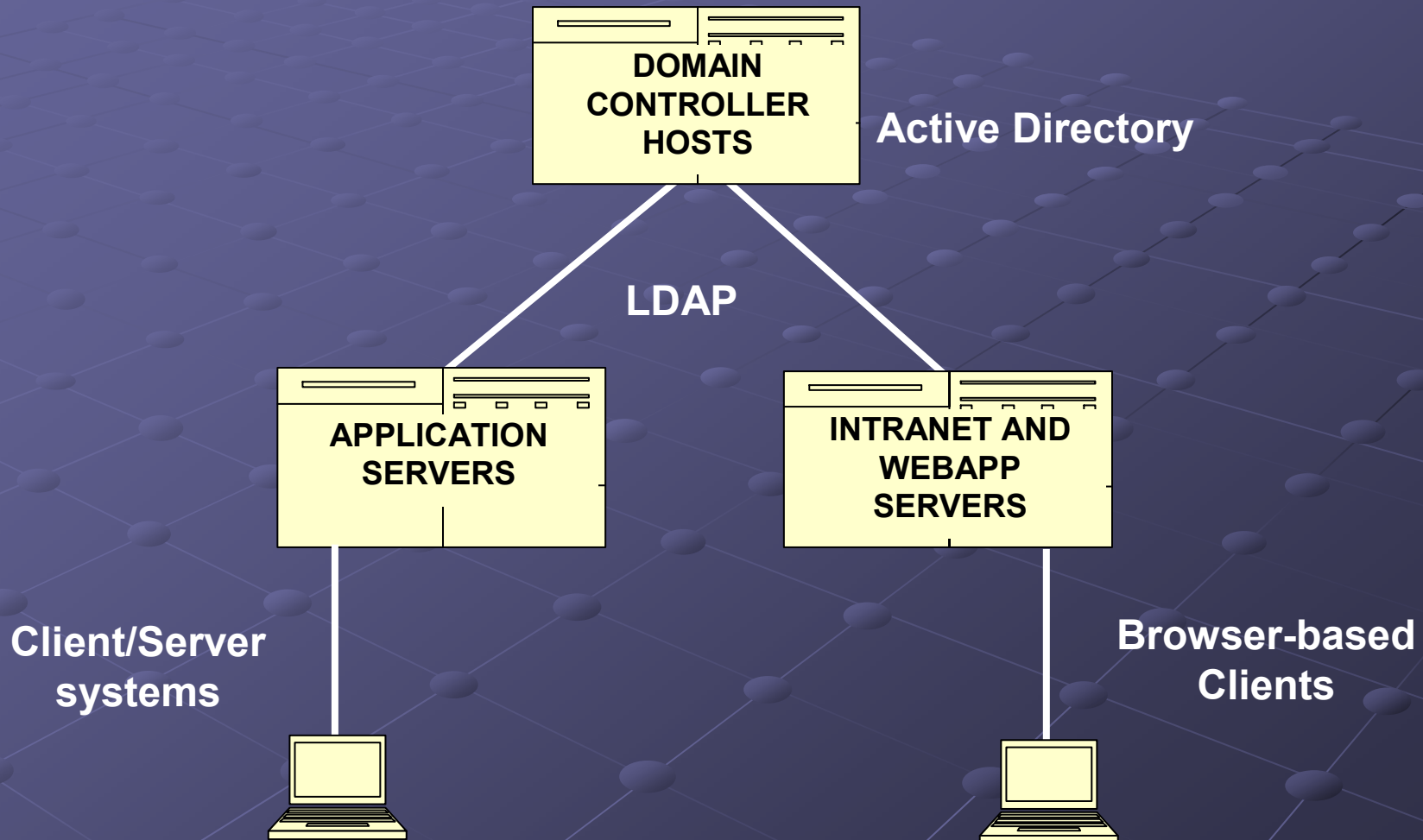


Policy  
Manager

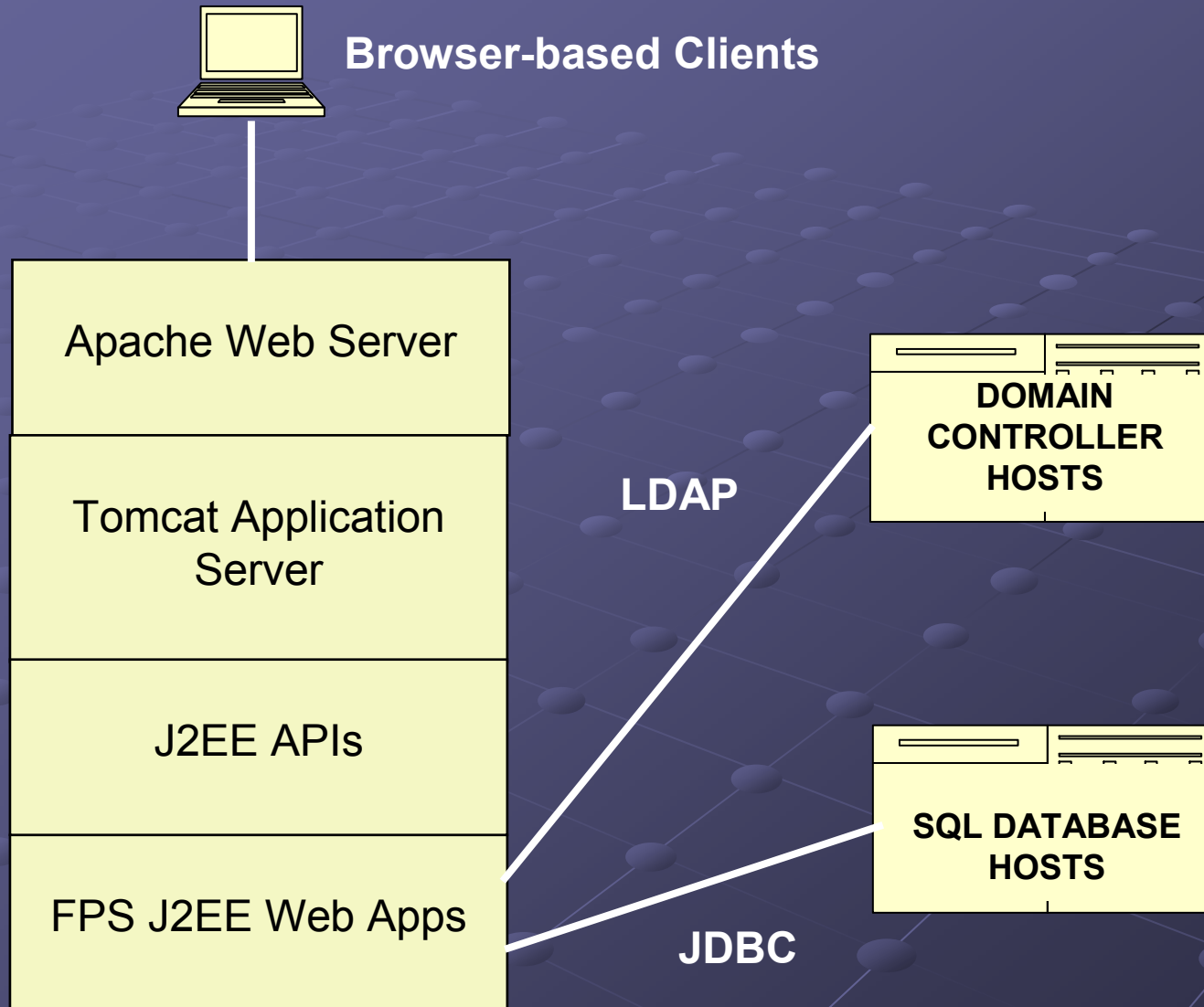


# Application Layer Access

Windows 2003 Domain



# FPS Webapps Server Architecture



# In-House Application Architecture

- ⑩ Java 2 Enterprise Edition (J2EE)
- ⑩ Emphasis on Web development model
- ⑩ Extensive use of Servlets and Java Server Pages (JSP)
- ⑩ Based on Model-View-Controller design pattern
- ⑩ Implementation of several additional design concepts (Singletons, abstract classes, multiple inheritance, etc.)

# Software Development Methodology

- ⑩ Incremental design/development
  - Deliver a little at a time and refactor
- ⑩ Object-Oriented class design
- ⑩ Follow PMI project management best practices (Requirements, Work Breakdown, Critical Path Timelines)
- ⑩ Document systems and implement configuration and production control

# Next Steps

- ⑩ Single Sign On
- ⑩ Unified Communications
- ⑩ School Interoperability Framework (SIF)
- ⑩ Business Intelligence

# Demonstrations

## ⑩ Business Process Applications

- Online Leave Request
- HR Application for Employment

## ⑩ Professional Development Registration

## ⑩ iPhone Applications:

- Learning Walks
- Student Data Warehouse