Realms (plural)

- Access Accounts
- Friends of Penn State (FPS)
- Windows Active Directory
Access

- Students, Faculty, Staff
- 230K user principals, 10-15K rollover/year (students)
- Service principals/keytabs for daemon access
  - Web page for keytab generation
FPS

- Over 1.7 million principals
- Never deleted
Windows Active Directory Forest

- One-way trust to Access realm
- No direct login, passwords are:
  - Randomized
  - Not synchronized
- No NTLM
- Disjoint Namespace
Applications (1)

- Web Single Sign-On
  - CoSign (from Univ. of Michigan)
    - NSF Middleware Initiative
    - Chosen in part for Kerberos support
    - Password based, could use SPNEGO
    - Shibboleth IdP
Applications (2)

• “password authentication”
  • Email (IMAP, POP, SMTP), also support tickets
    - WebMail (KPOP)
  • Radius (vpn, wireless)
• Enterprise File System (IBM GPFS)
  • Samba (CIFS)
  • NFS v3/v4 (sec=krb5{i,p}, not IP based)
Background/History

- Access
- FPS
Access

- Started as AFS cell (K4): ~1990
- DCE/DFS cell
  - Performance issues (catalog size), led to separate realm for FPS
  - Lowercase realm name
- MIT KDCs (v1.old): 2008
- A Fall semester weekday
  - AS_REQ: 3,000,000
  - TGS_REQ: 800,000
FPS

- 2002
- Main consumers
  - Undergrad/Graduate Admissions
  - Bursar
  - Human Resources (non-PSU job application)
  - World Campus (Distance Learning) : non-degree
- Eventual merge with Access