World 2011

Sun Identity Management & Open Directory

Jennifer Walbank/Pascal Grosvenor, LDAP Guru from the server group :) & Berry Mak

University of Technology, Sydney

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Why and how?

- Why?
  - Centralising systems
  - Desktop Architecture Project
  - Same sign on
- How?
  - Design
  - Demonstration
- Did we succeed?

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Centralising Systems

- Only centralise what it makes sense to...
  - Authentication
  - Authorisation
  - Software updating
  - Proper housing of servers
    - bandwidth
    - backup
- Providing a robust and sustainable computing environment

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Desktop Architecture Project

- Project designed for Windows environment
  - provisioning of the centralised model
  - no Mac OSX planning
- Birth of the MOE (would you believe Mac Operating Environment) - quickly renamed Managed Operating Environment for Mac OSX in September last year.

Same Sign On

- Anywhere up to five different passwords depending on what services you had access to
- new Email project prompting the opportunity to enable a consistent “UTS” username and password
- Birth of Identity Management at UTS

Identity Management

- the idea of account creation with a role assigned that enables a user's access to services automatically, across what had been many incompatible systems.
  - AD
  - OD
  - at the time NDS
  - LDAP enabled
- so why Sun?

Different types of IDM

- pre-coded connectors (eg CA and NovelI)
  - require data cleansing at the source
  - pre-determined logical layout of the underlying systems
- Sun or even OpenLDAP
  - mutable - allows for us to code for each instance as we need it - the scripting matches the data sources as well as the underlying existing layout - we were a train already on the tracks

Current roles at UTS

Staff: Accounts for Staff, or contractors in staff positions

Students: For any type of student

Alumni: *Alumni only receive an email forwarding account, not access to the labs, and cannot use webmail.

General: Accounts created for systems, or groups of people (i.e. accounts not for a particular person).

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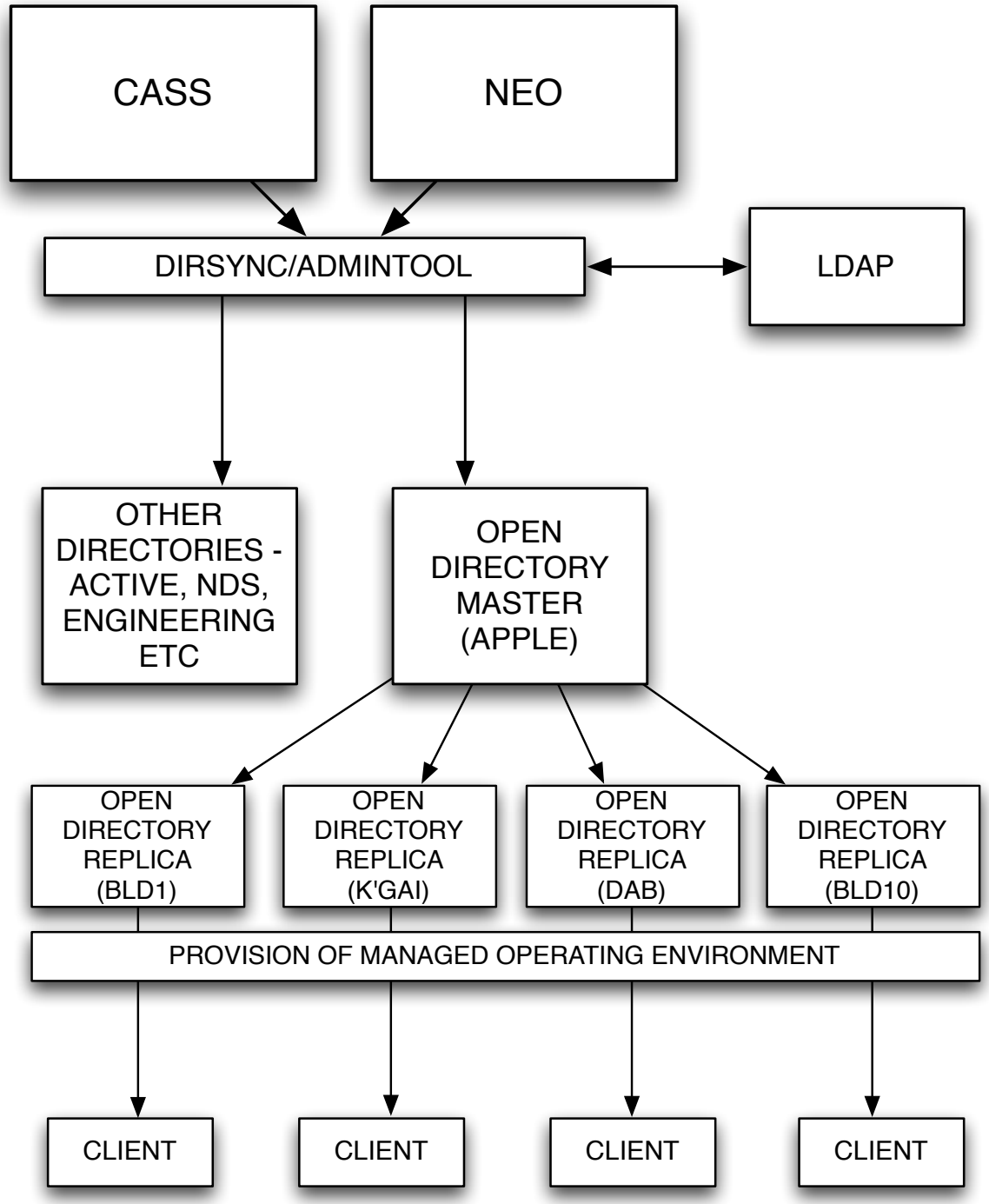
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NEO
DIRSYNC/ADMINTOOL
LDAP
OTHER DIRECTORIES - ACTIVE, NDS, ENGINEERING ETC
OPEN DIRECTORY MASTER (APPLE)
OPEN DIRECTORY REPLICA (BLD1)
OPEN DIRECTORY REPLICA (K'GAI)
OPEN DIRECTORY REPLICA (DAB)
OPEN DIRECTORY REPLICA (BLD10)
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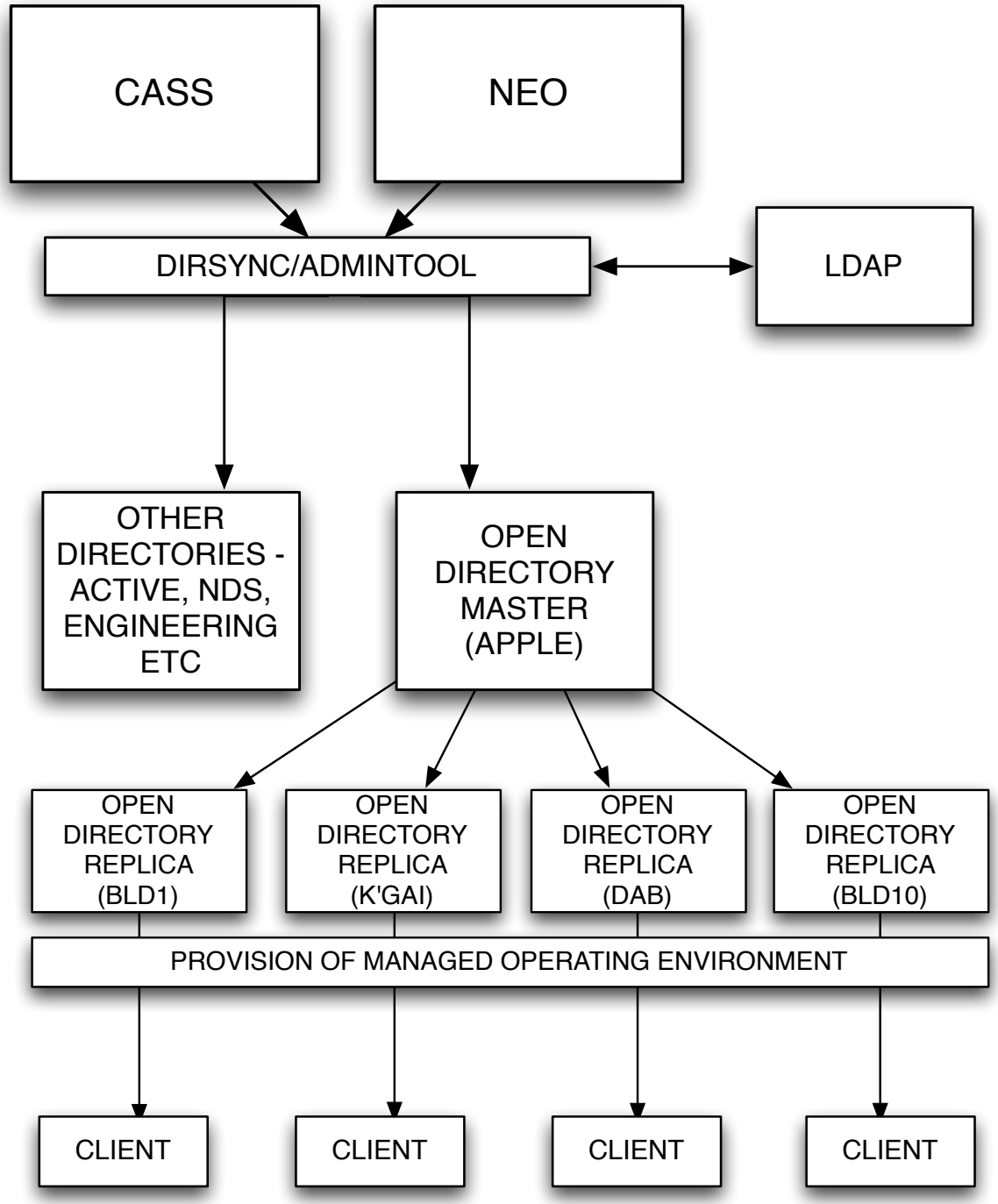
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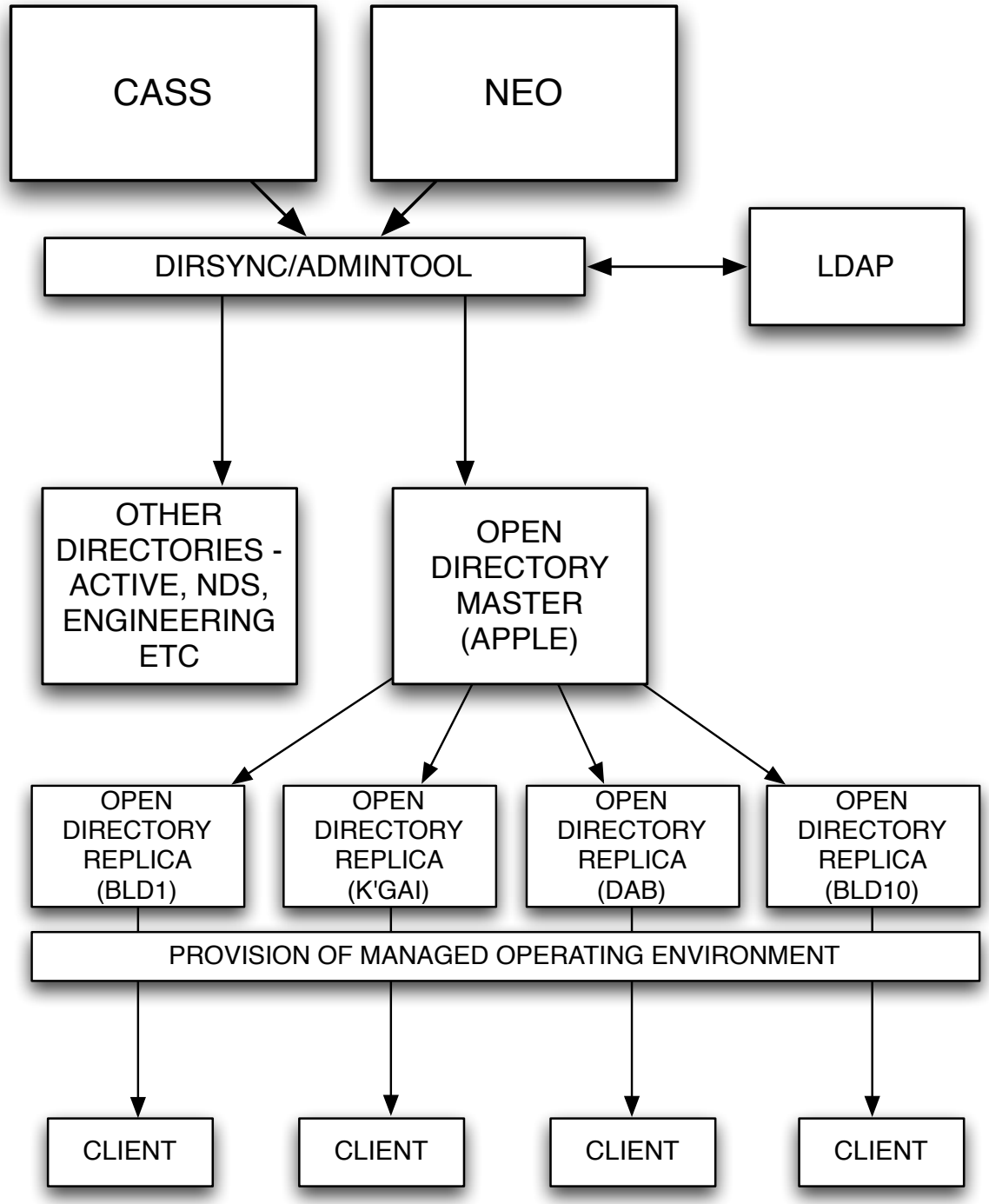
How does it work ?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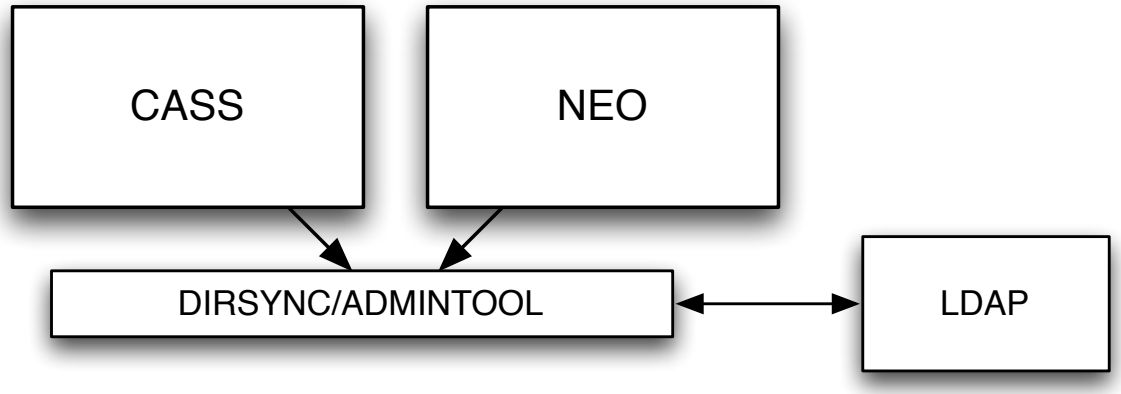
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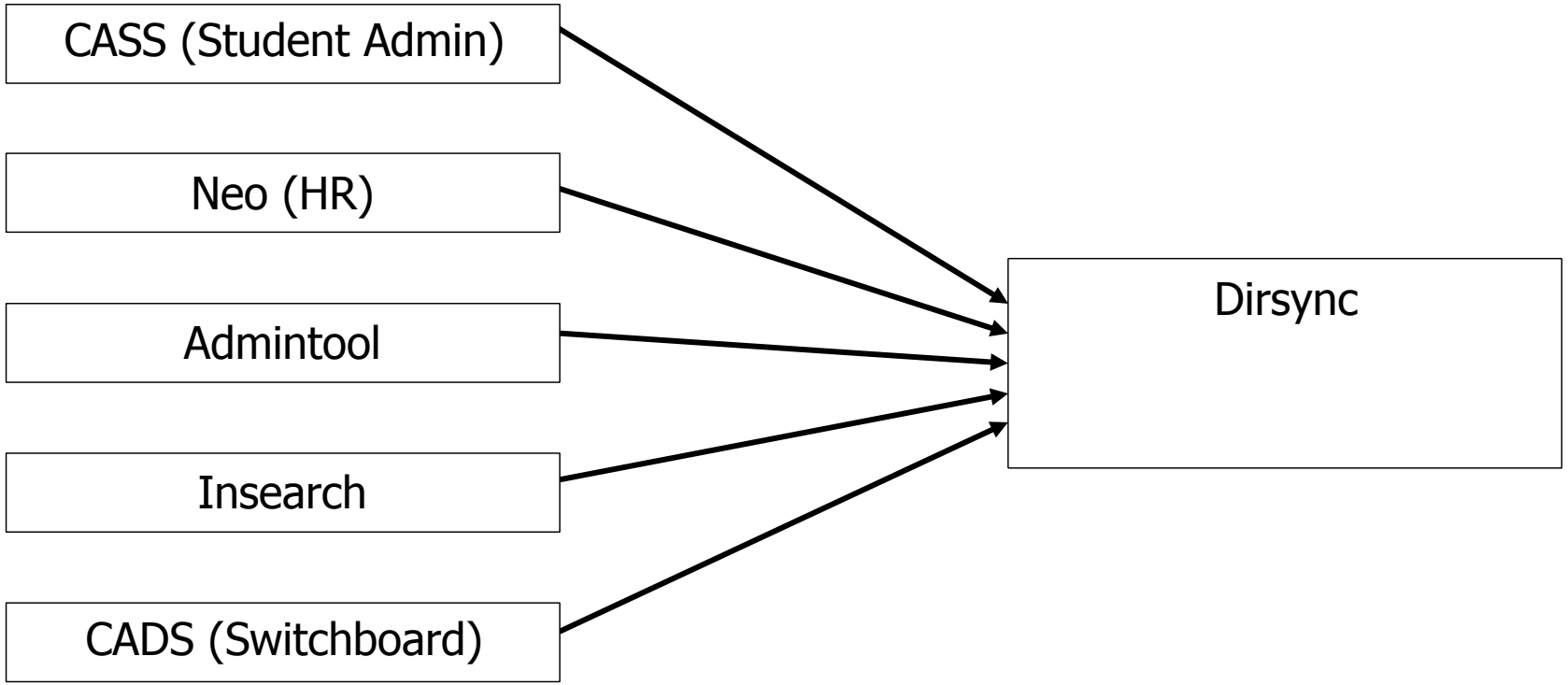
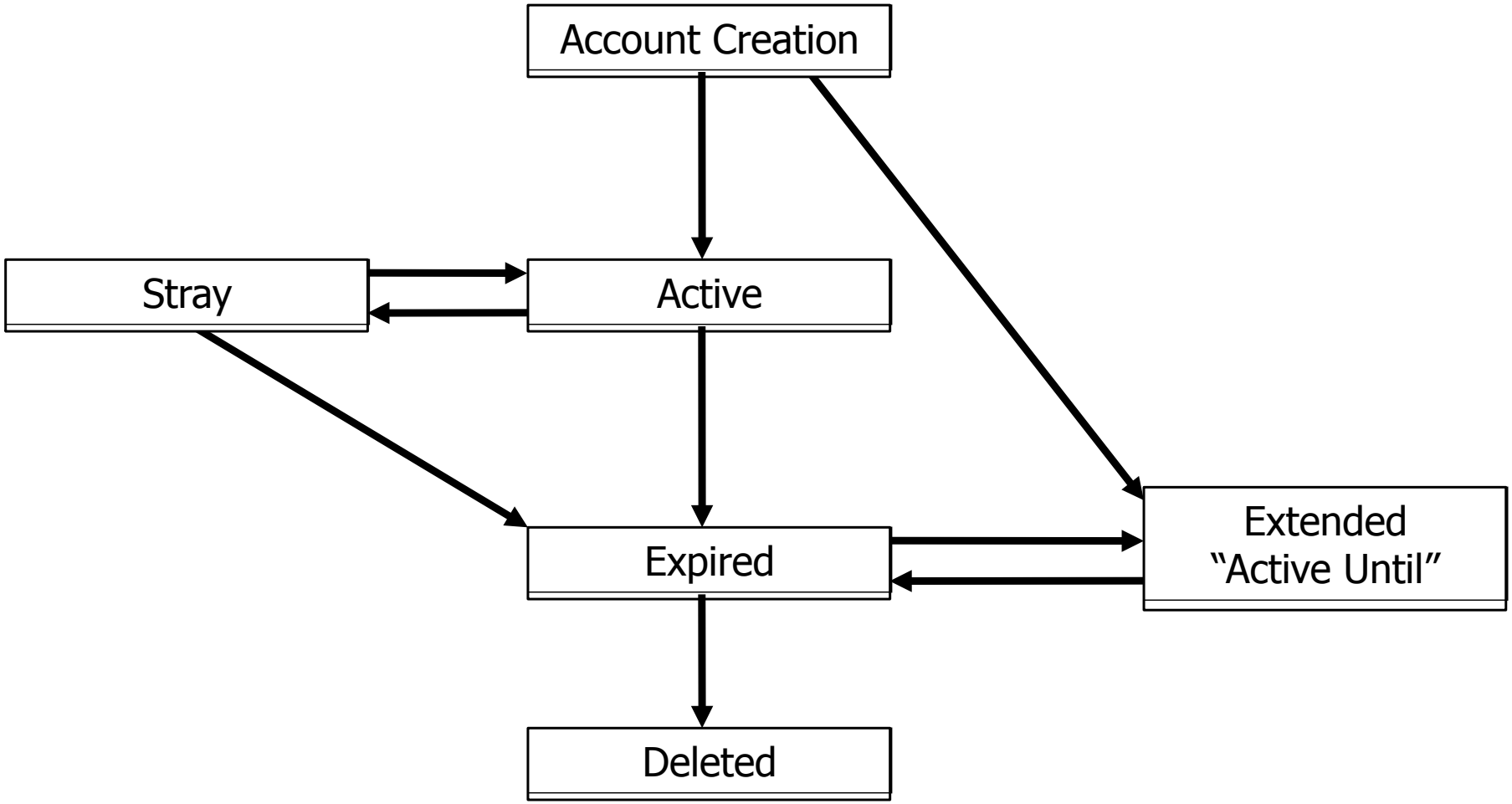
Data Sources

Dirsync automatically creates and maintains all accounts.



Account Lifecycle

Typical account states and movements



Dirsync

- Dirsync is a set of custom written Perl modules and scripts that connects Sun LDAP with all the other systems
- Updates from data sources are recorded to Sun LDAP by Dirsync
- Dirsync then writes from Sun LDAP to other directory systems (eg. Active Directory, OS X Open Directory)

Admintool

- Web-based interface to examine and modify accounts within UTS' authentication and mail systems
- Front end to Dirsync
- Restricted use - IT staff only

Admintool Menus

Account :

- Search
- Details
- Create
- Extend/ Expire
- Change Password
- Directory Listing
- Rename
- Lock/ Unlock
- Owned Accounts

Email :

- Aliases
- Vacation
- Forwarding
- Broadcast

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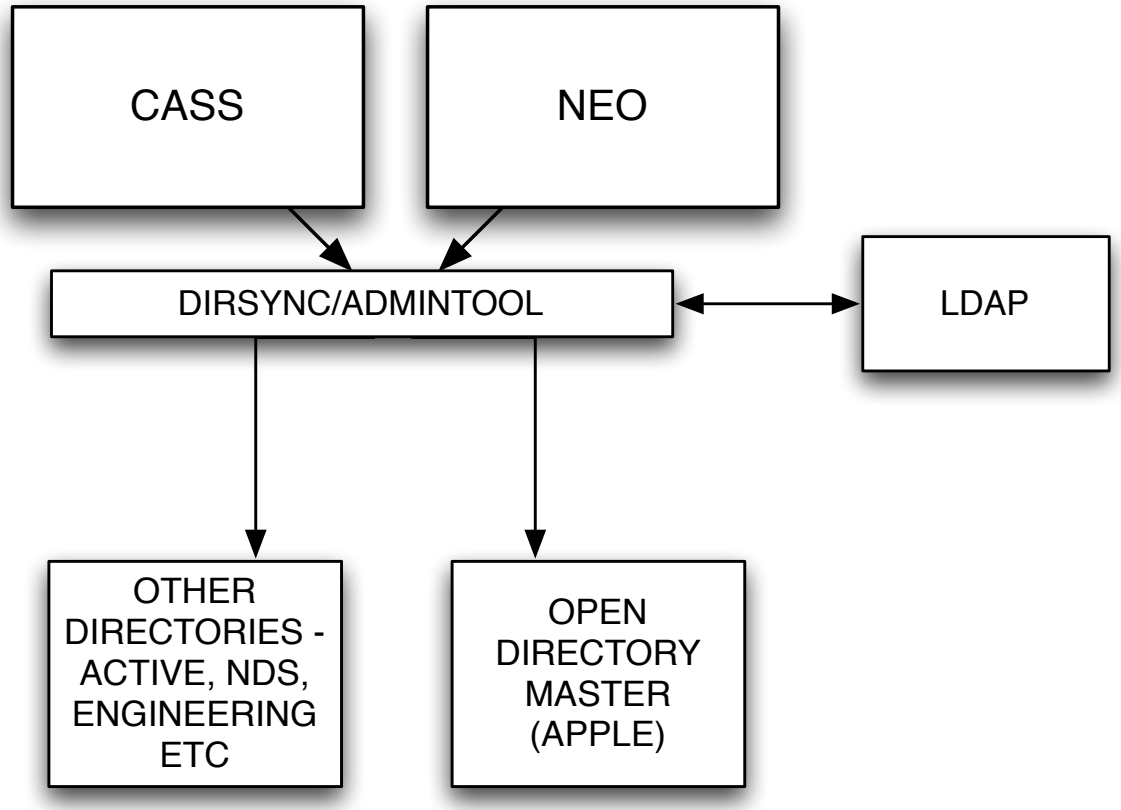
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Dirsync & Open Directory

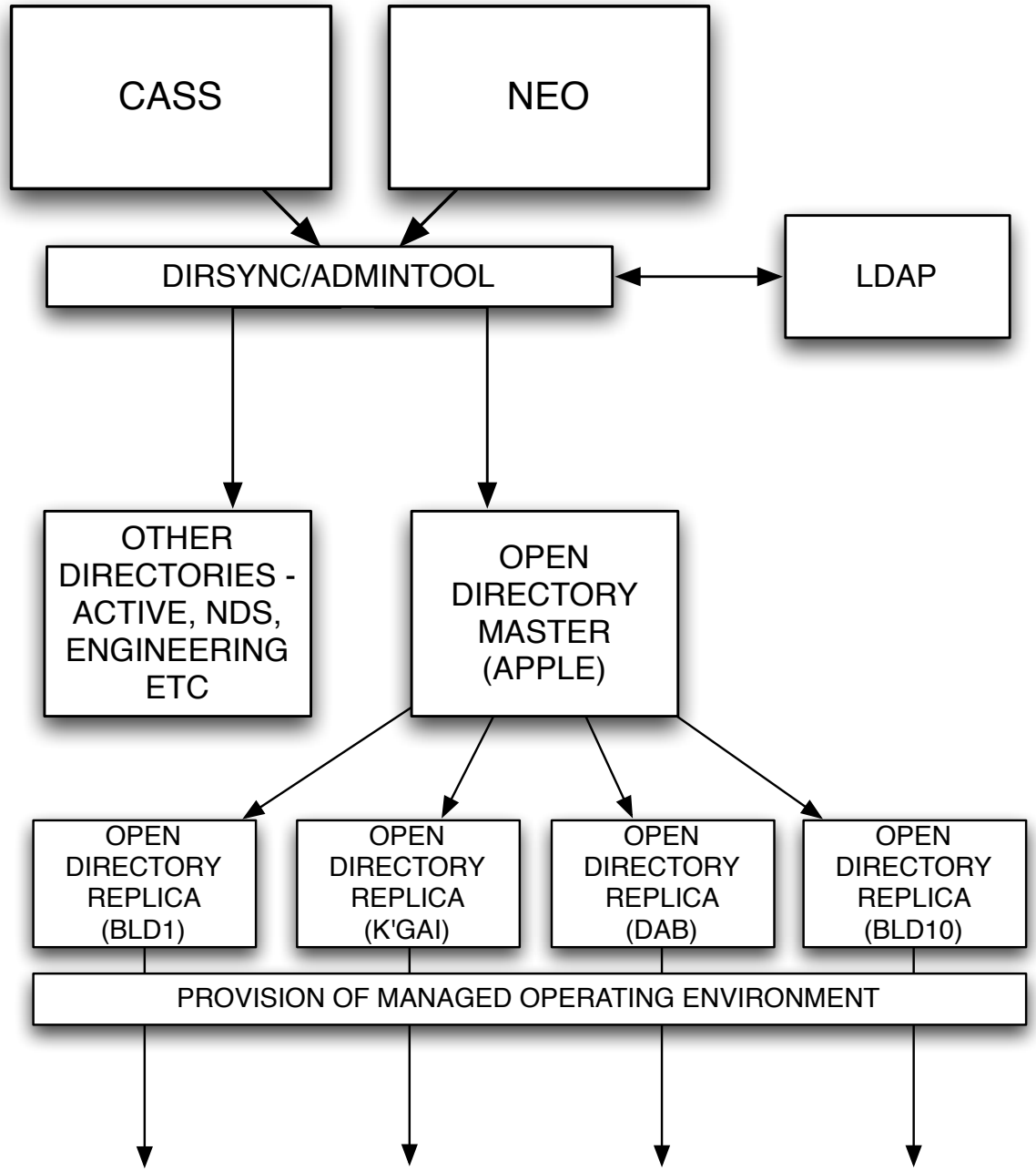
- Dirsync takes record/ object attributes from Sun LDAP and matches them to corresponding attributes in OD
- Most record attributes are added to OD using standard LDAP commands
- Main exception - user passwords

OD Password Server

- OD stores user passwords in a separate secure database to the OS X server's LDAP database
- Single purpose account and shell script developed to interact with OD password server
- Dirsync sends a remote SSH command to ODM to trigger password change in password server database

OD Master security

- Secure LDAP (using SSL) for communications between Dirsync and OD master
- Login window and SSH access to ODM restricted to only a few accounts
- Customised Firewall rules
- Physical security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OD Master and replicas

- Five OD replicas distributed across uni - share traffic load, redundancy
- OD system uses Apple's own secured method for replicating data between ODM and replicas
- Replicas also have Firewalls configured
- OD servers do not run any other services

Authorisation/ Workgroup Mgt

- IT managers of each faculty/ area have directory administrator access to OD (but not server admin access to OD master)
- Collegial work approach and knowledge sharing
- Logs record access, no problems to date :-)

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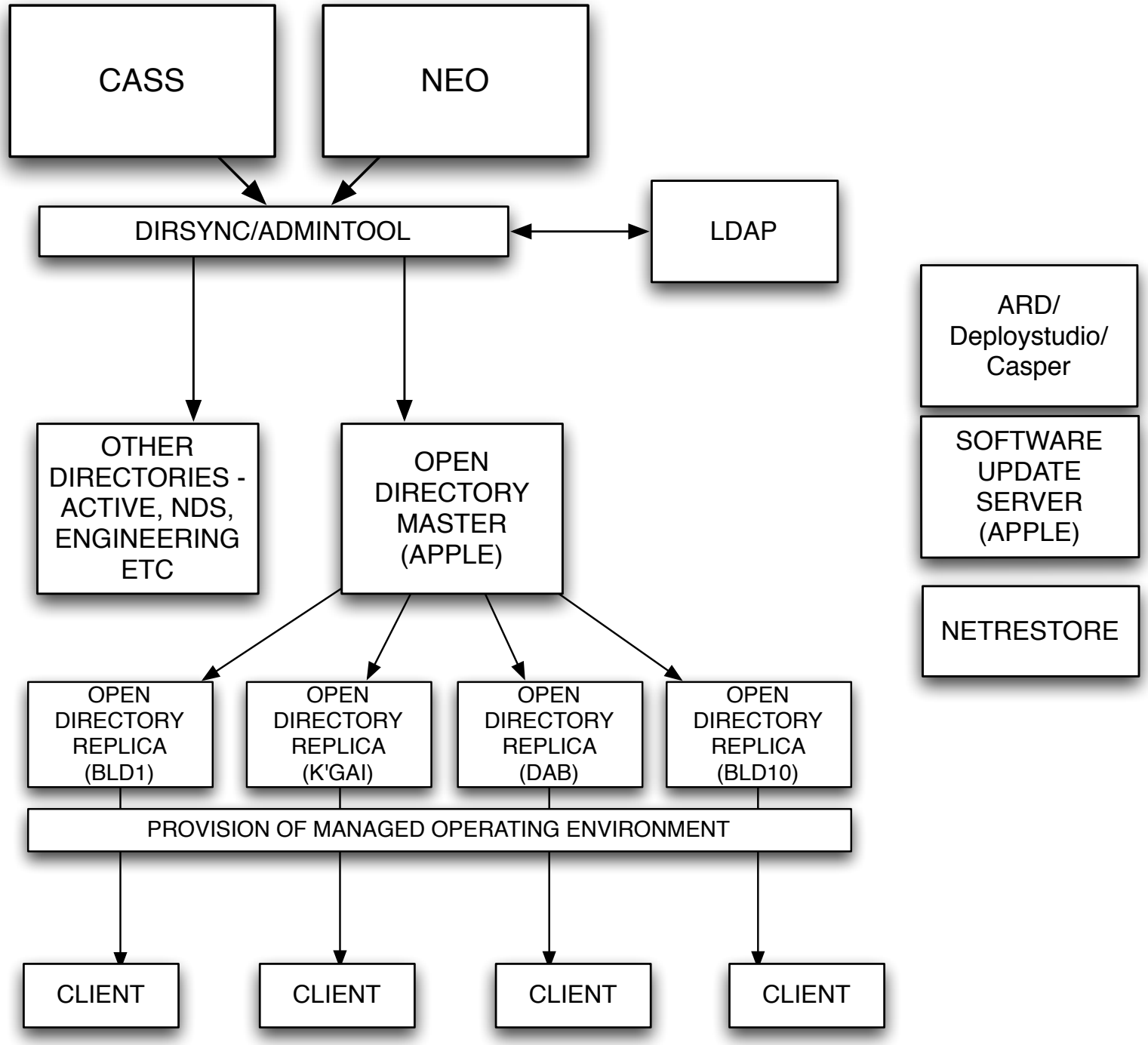
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Managed Operating Environment

- Apple Netrestore and DeployStudio Server
- Centralised Software Update Server - access managed thru Workgroup Manager
- Apple Remote Desktop
- Working on base SOE for all macs at UTS

Demonstration

Much more fun to watch than talk about :)

Is this the end?

Questions ???

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