College Cloud 2.0 Requirements and Draft Plan

Thursday, 02 November 2017

Why College Cloud 2.0?

- College Cloud is a DPR requirement
- College Cloud 2.0 is an improvisation based on some of the experiences and observations of College Cloud 1.0
  - Low-end machines (4 GB RAM, Single/Dual Core) are available
  - Internet connection to a machine is possible
  - Engineering disciplines vary from college to college
  - Typical class room size is about 60 students
  - System administrators may not always be highly skilled

Requirements of College Cloud 2.0

College Requirements

- College cloud should run on 4GB RAM, 100 GB storage with i3 processor machine
  - *Distributed architecture for server side labs usage is an option*
- Set-up should be possible with low skilled administrators
  - *Could be available as an online download with help document or in USB drive for easy shipping*
  - *Wizard based set-up*
- Environment should support 60 concurrent users
  - *Flexibility to select disciplines and labs for the set-up, changeable based on the college cloud configuration*
  - *Flexibility to select lab types (Javascript, Flash, Java, etc.) , changeable based on the college cloud configuration*
- ✓ College name and logo should be visible in the set-up

Reporting and Data requirements

- Students and Faculty should have access to their usage data
- Login credentials and usage data should be sync up with central data store

System Requirements

- Ability to patch and provide remote support
- Obtain system performance and other usage logs of college cloud

Draft Architecture Diagram
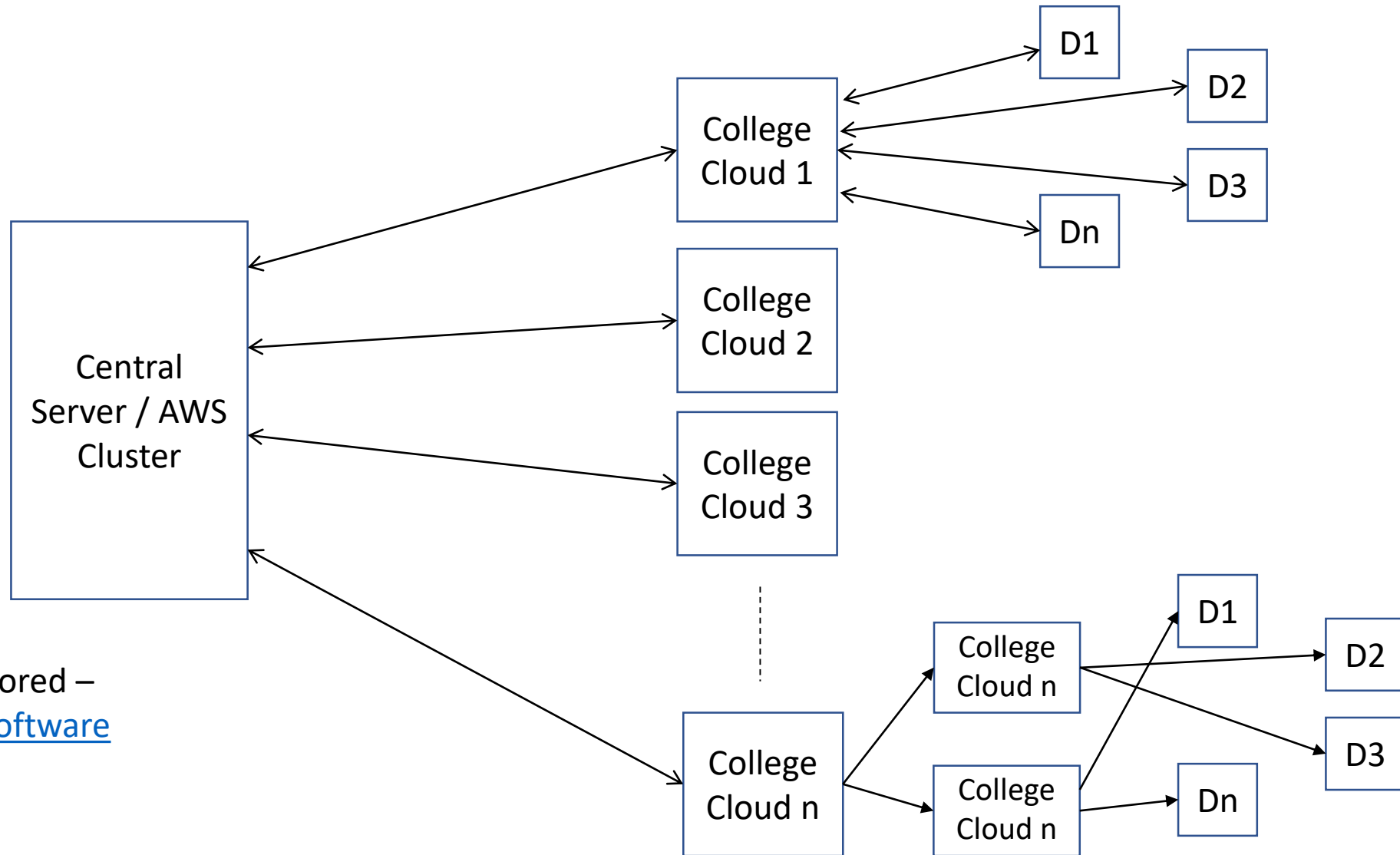
Tools to be explored –
1) Packaging Software
2) Gogs
3) Syncthing
4) Fence

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Draft timeline for Meeting the Requirements

Each sprint is 3 weeks of Development and 1 week of Testing

Sprint 1
- Interaction with COEP
- Finalize Technology stack
- Authentication & Lightweight LMS
- Deployment of ALL Javascript Labs

Sprint 3
- Monitoring of College Cloud
- Changes to JS Labs for Analytics

Sprint 5
- Deployment of Server Side Labs
- Load Balancing

Sprint 2
- Remote patching
- Packaging

Sprint 4
- Wizard set-up
- Usage Stats for College

Sprint 6
- Backlogs (Buffer)

Resource Requirements
- Hardware – 4 Machines (i3 processors, 2 Test + 2 Prod)
- People – 1 Systems Engineer and 1 Developer

Risks
- Changing Requirements
- People - Delay in technical ramp-up & possible attrition