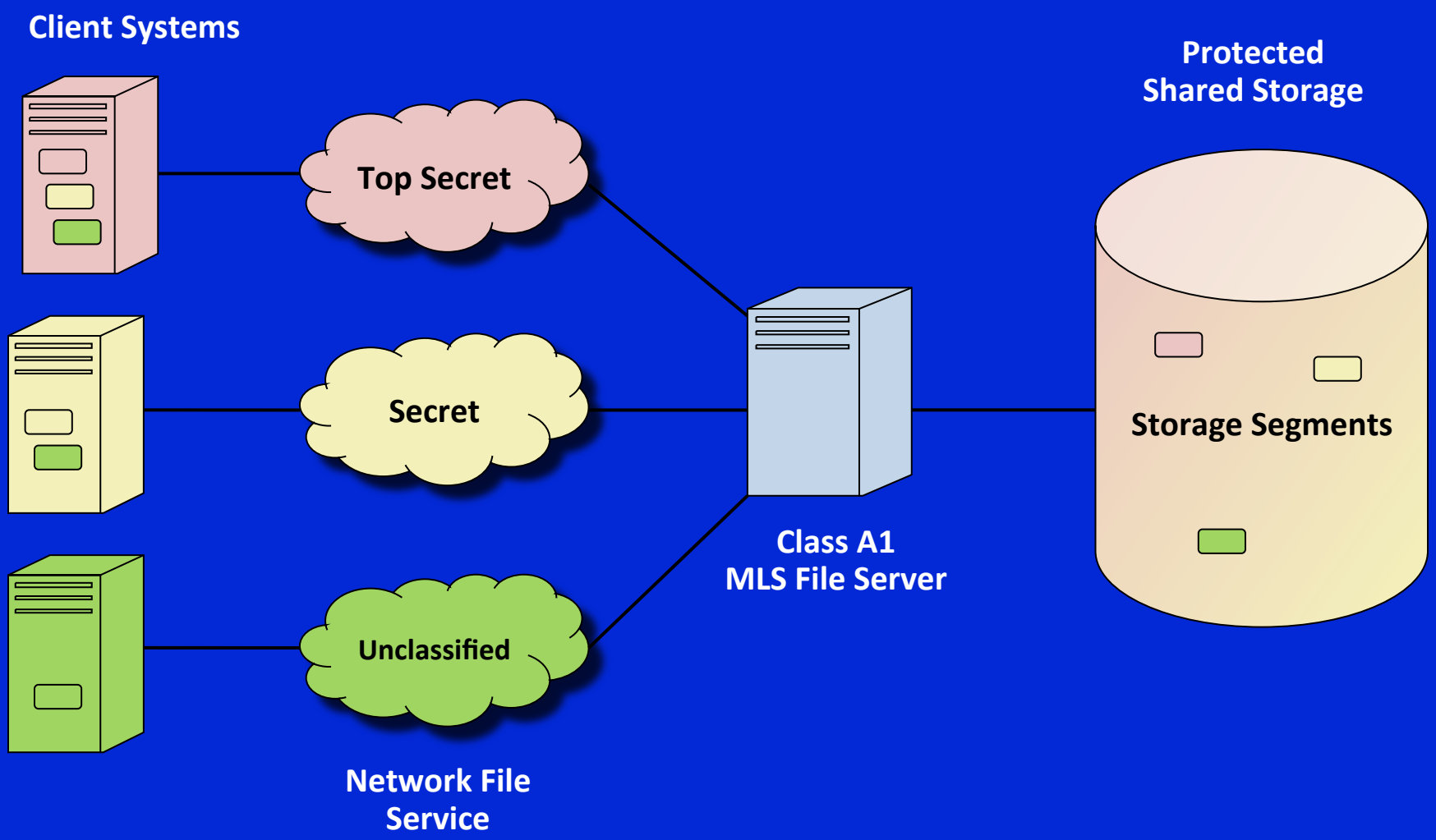
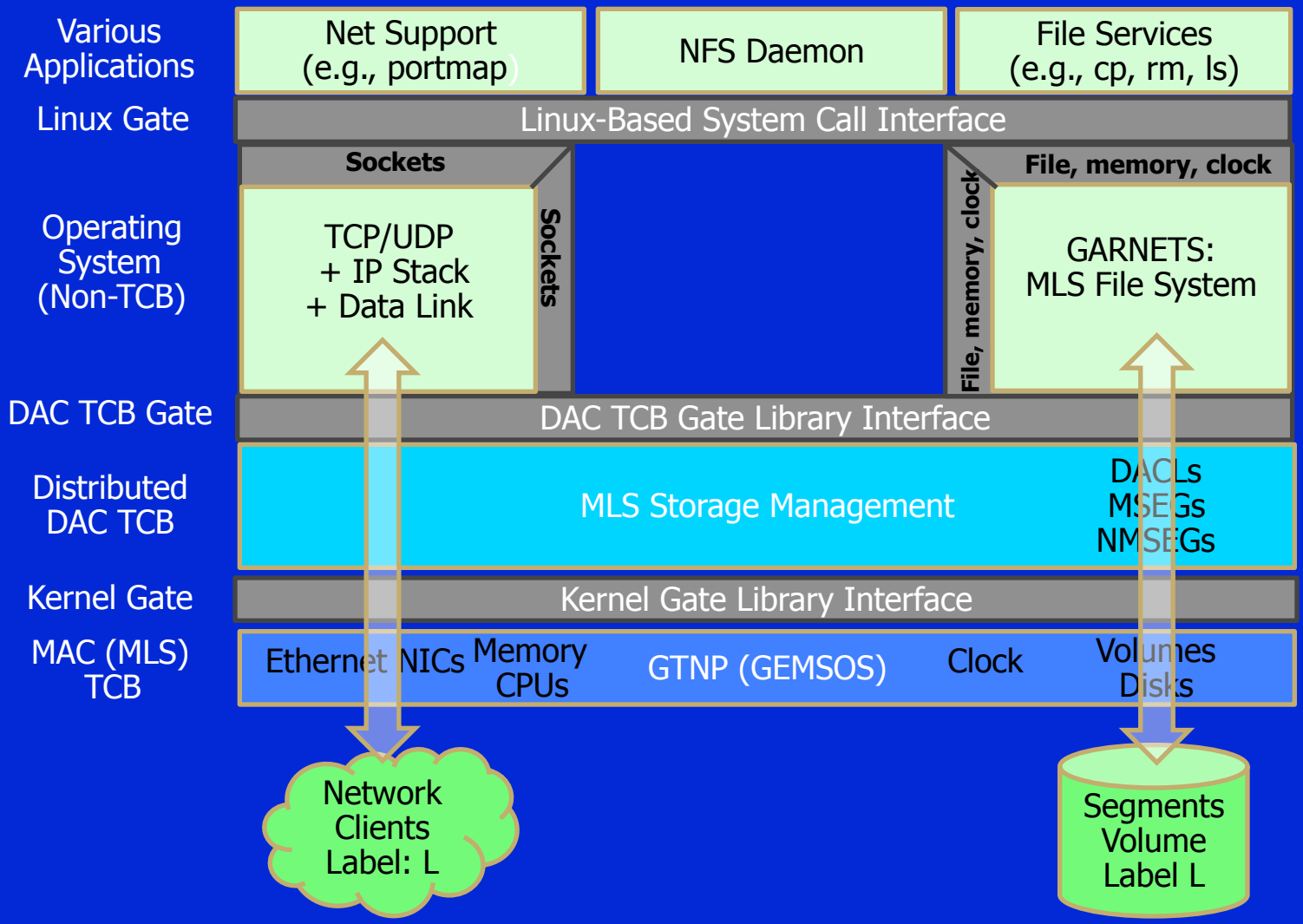
Motivation

- **Cloud storage flexible, cost-effective**
- **How implement in multi-level environment?**
  - Duplicate for each level? Loses advantages.
- **Tempting target for attackers**
  - Can increase privilege
- **Want high-assurance, MLS solution**
- **Want cross-domain sharing (CDS)**
- **Solution: MLS Cloud File Server**
  - Based on GEMSOS high-assurance, evaluated Class A1 TCB

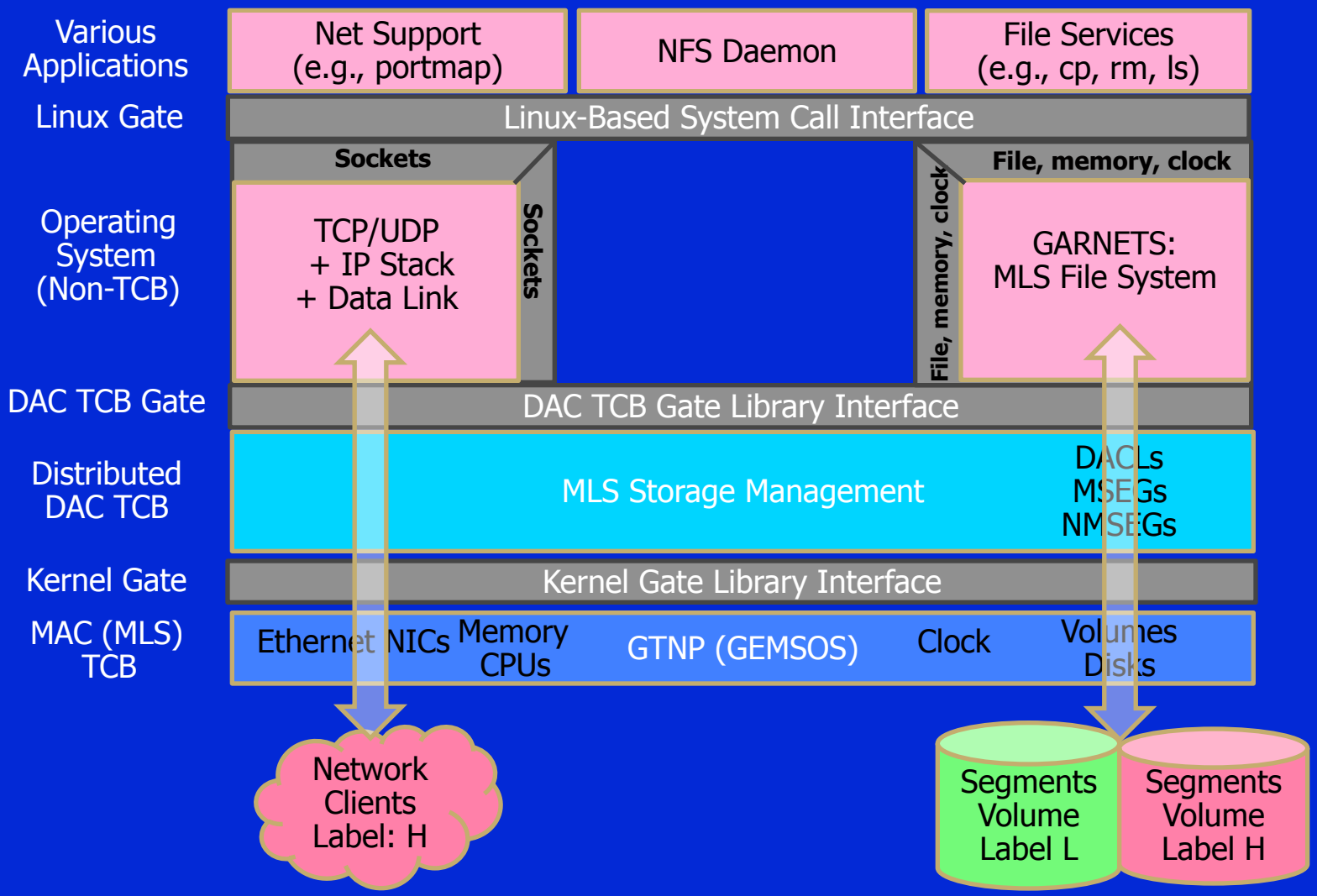
Architecture



Secure Cloud Storage Architecture S/W Instantiation for Low Domain



Secure Cloud Storage Architecture S/W Instantiation for High Domain



Prototype

- **Prototype under development**
- **NFS working**
- **Full MLS prototype early 2012**