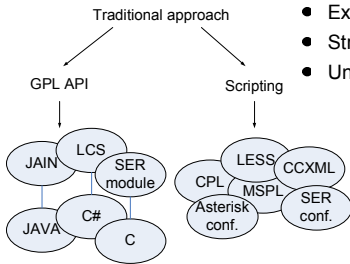


# A HIGH-LEVEL, OPEN-ENDED ARCHITECTURE FOR SIP-BASED SERVICES

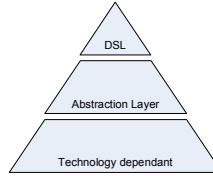
## Why a new approach is required ?



- Extensive knowledge required
- Strong requirements from telephony
- Unsafe programming language

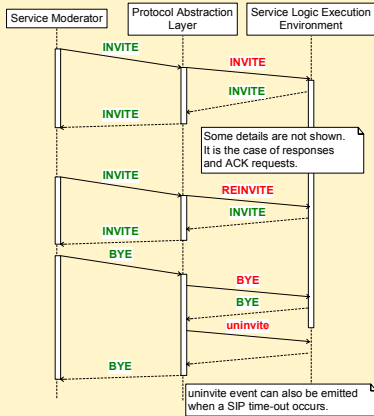
### Our approach

- Easy learning
- Few requirements
- Telephony properties ensured



## Requirements

- Service Management
- Service composition
- Abstraction
- State Management
- Open-Ended

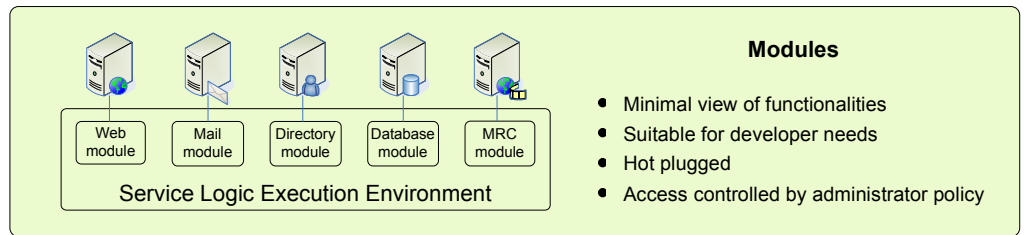


### Protocol Abstraction Layer

- Abstraction on SIP
- Abstraction on call routing

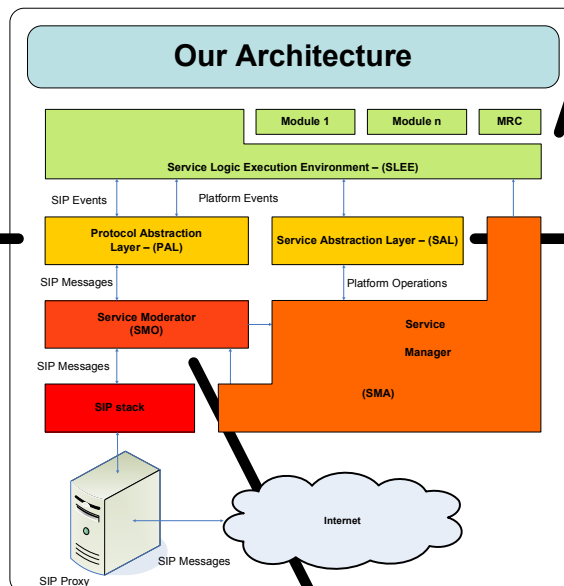
### Service Abstraction Layer

- Abstraction on service life cycle
- Cleanup actions

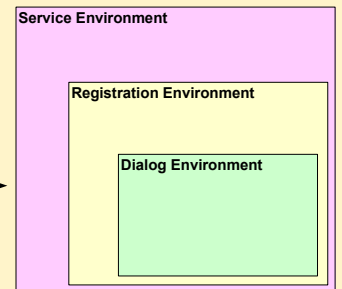


### Modules

- Minimal view of functionalities
- Suitable for developer needs
- Hot plugged
- Access controlled by administrator policy



## Our Architecture

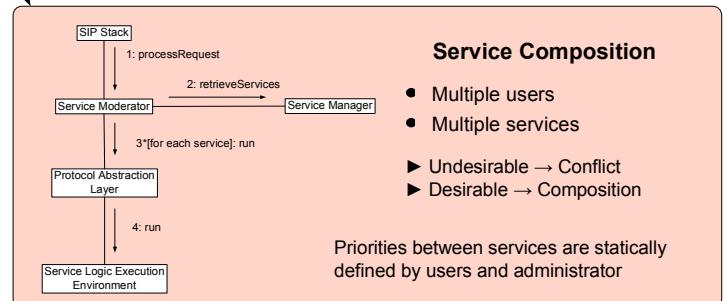


### Abstraction Layers

- Automatic state management
- Hierarchical environment
- Session-centric programming

## Status: Current work & future plans

- Development of this architecture in JAVA
  - Based on JAIN SIP
  - Development of modules:
    - Calendar
    - Address book
    - Multimedia Resource Controller
- Experimental deployment at our university: ENSEIRB
- Future work:
  - Feature Interactions
  - Interactive Voice Recognition (IVR) module



### Service Composition

- Multiple users
- Multiple services

- ▶ Undesirable → Conflict
- ▶ Desirable → Composition

Priorities between services are statically defined by users and administrator

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