

Modelling Adaptation Policies for Self-Adaptative Component Architectures

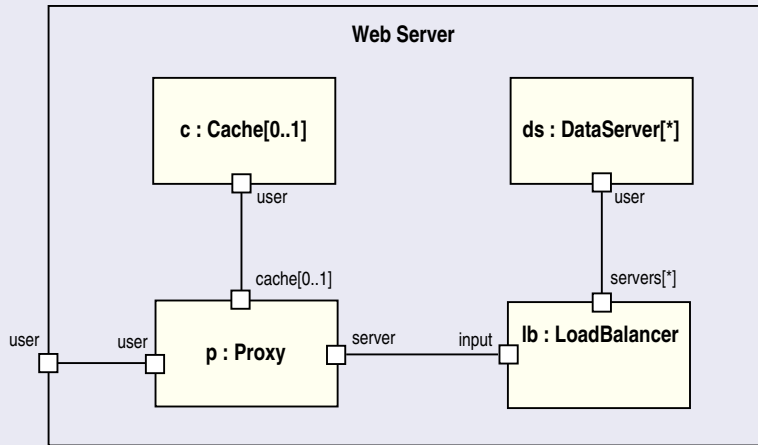
M-ADAPT'07 - Short Paper #4

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A Possible Web Server Architecture



Basic Adaptation Requirements

- 1 SimilarRequest is High \rightarrow use cache
- 2 Server load \leftrightarrow cache.size
- 3 Server load \leftrightarrow cache data validity Time
- 4 Data server load \leftrightarrow nb deployed data server
- 5 Server Load \leftrightarrow load balancing algorithms

Some Issues and Ideas ...

- Architectural Adaptation vs. Data Reconfiguration
- Homogeneous Approach for QoS and functional properties
- Validation of adaptation policies at design time

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Ruled-based adaptation

```
mode WithCache is  
  trigger is proxy.SimilarRequestNumber is 'High'  
  entry is addCache()  
  exit is removeCache()  
  
  proxy.averageLoad is 'High' =>  
    cache.size is 'Large'  
    and cache.validityTime is 'Long'  
  
  proxy.averageLoad is Low =>  
    cache.size is 'Small'  
    cache.validityTime is 'Short'  
end
```