
A Web-Services based Architecture for Dynamic-Service Deployment

Christos Chrysoulas¹, **Evangelos Haleplidis¹**, Robert Haas², Spyros
Denazis^{1,3}, Odysseas Koufopavlou¹

¹University of Patras, ECE Department, Patras, Greece,

²IBM Research, Zurich Research Lab., Rüschlikon, Switzerland

³Hitachi Sophia Antipolis Lab, France,

Seventh Annual International Working Conference on Active and Programmable Networks
November 21-23 2005

Outline

- Problem Statement.
- Solution: Dynamic Service Deployment (DSD).
- FlexiNET & DSD
- DSD Requirements.
- Proposed DSD Architecture.
- Conclusions.

Problem Statement

- Network Characteristics:
 - Complexity.
 - Heterogeneity.

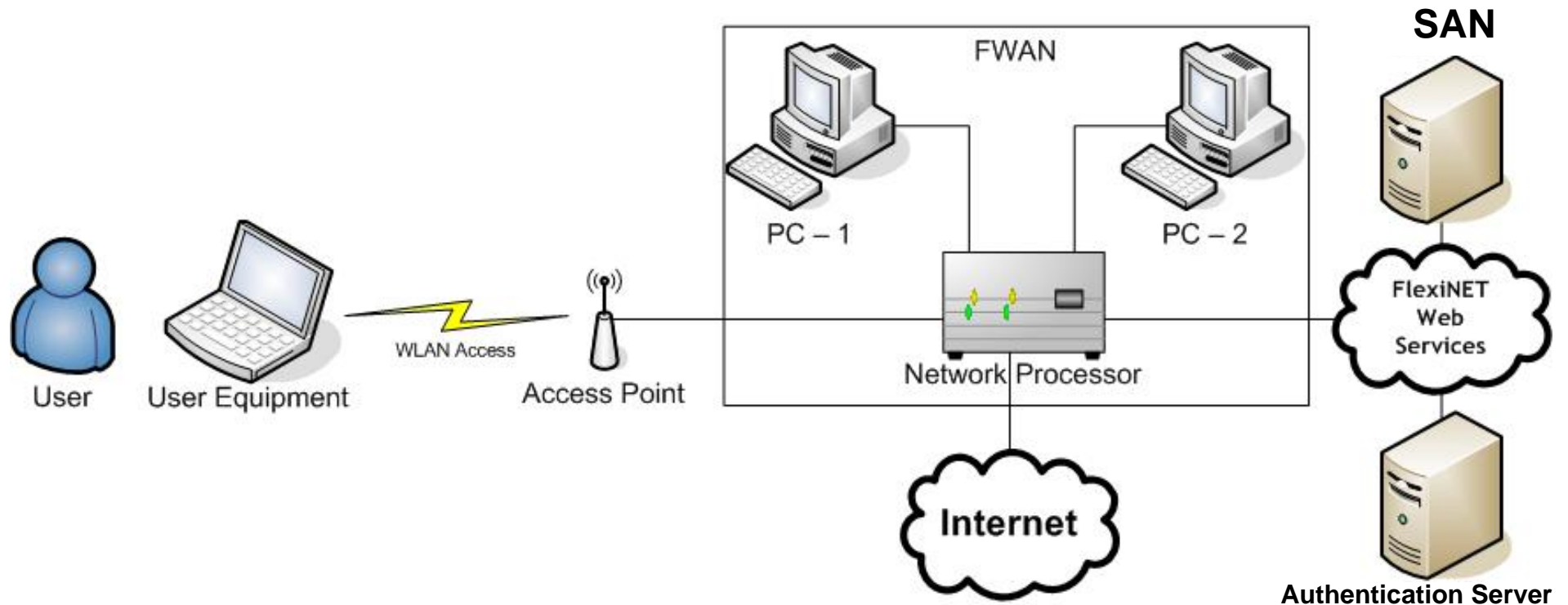
- Demand of an Architecture for Network-based Services:
 - Scalability.
 - Flexibility.
 - Adaptability.
 - Efficiency.

Solution: Dynamic Service Deployment

- Dynamic Service Deployment: A series of sequential steps in order to deploy a service.
 - Resource Monitoring.
 - Node Selection.
 - Resource Allocation.
 - Code Download.
 - Code Deployment.

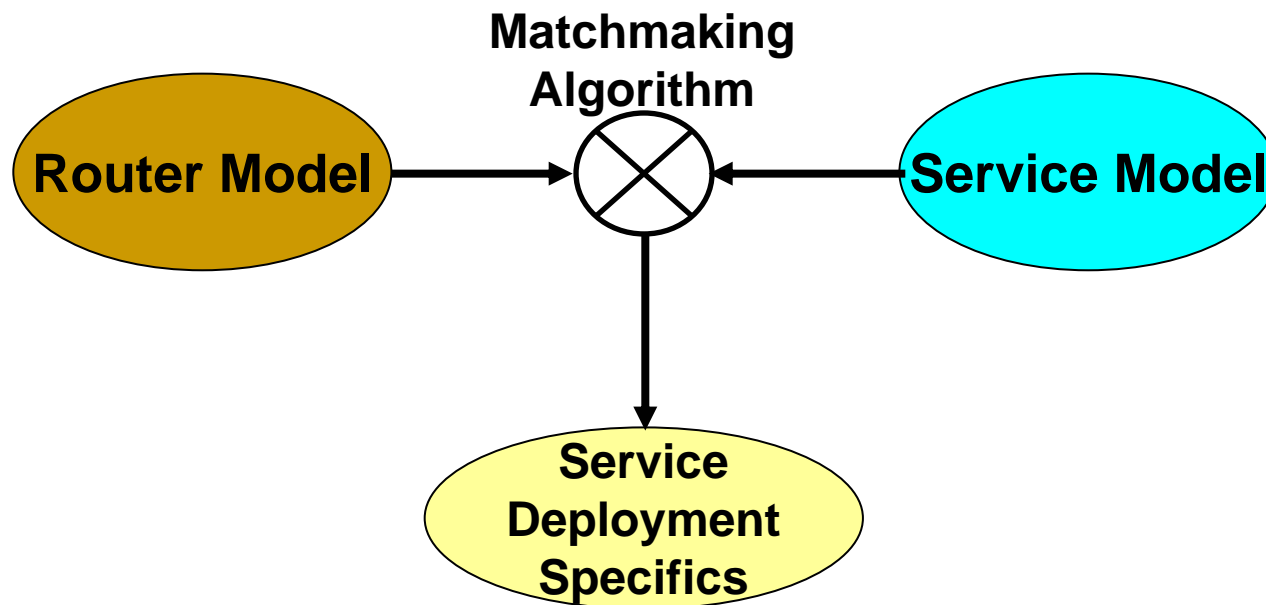
Flexinet (European IST Project) & DSD

- The FWAN is based on Hitachi's distributed router.
- The FWAN is responsible for authenticating native and roaming users through the FLAS using an AAA proxy.

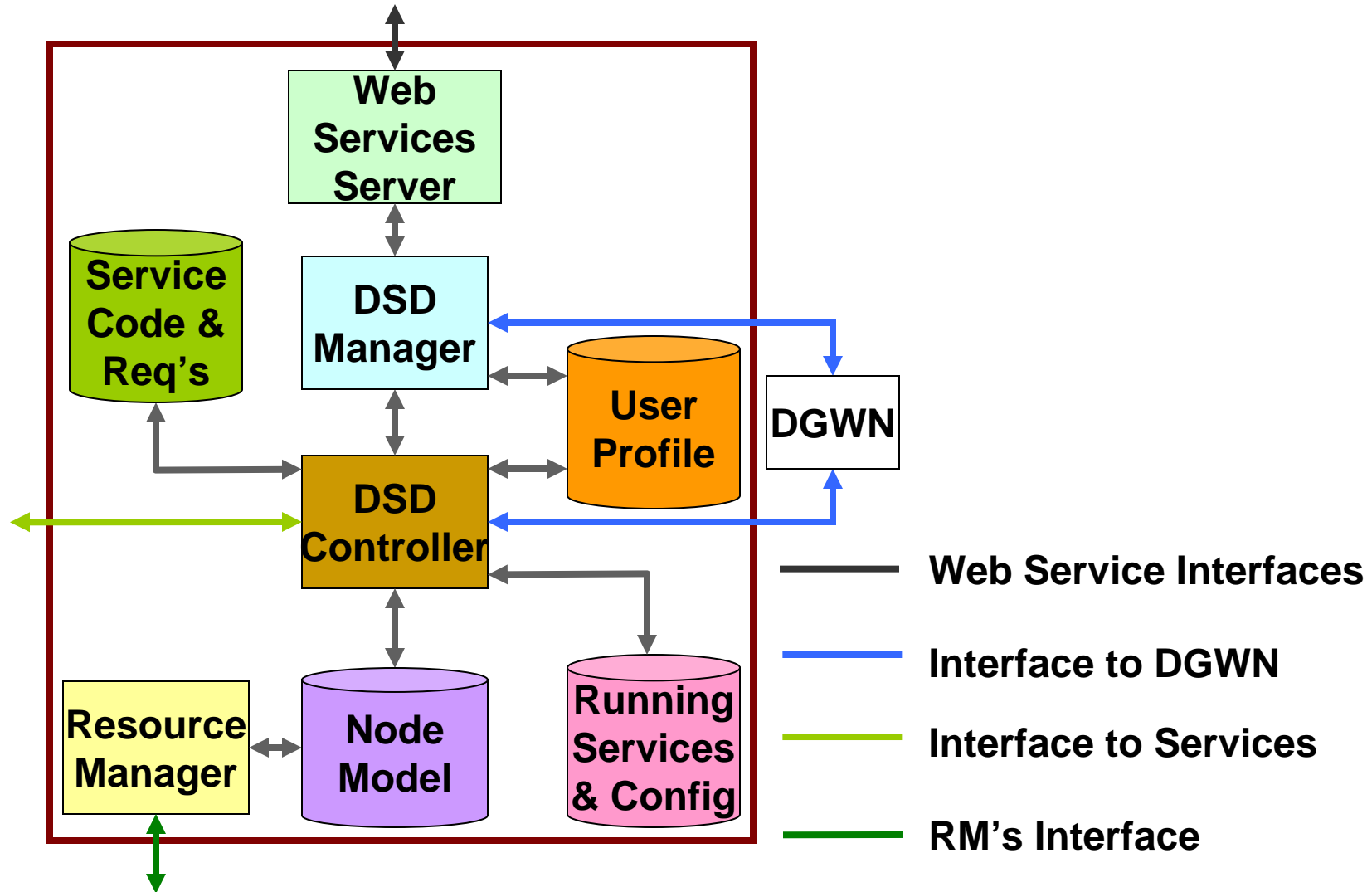


DSD Requirements

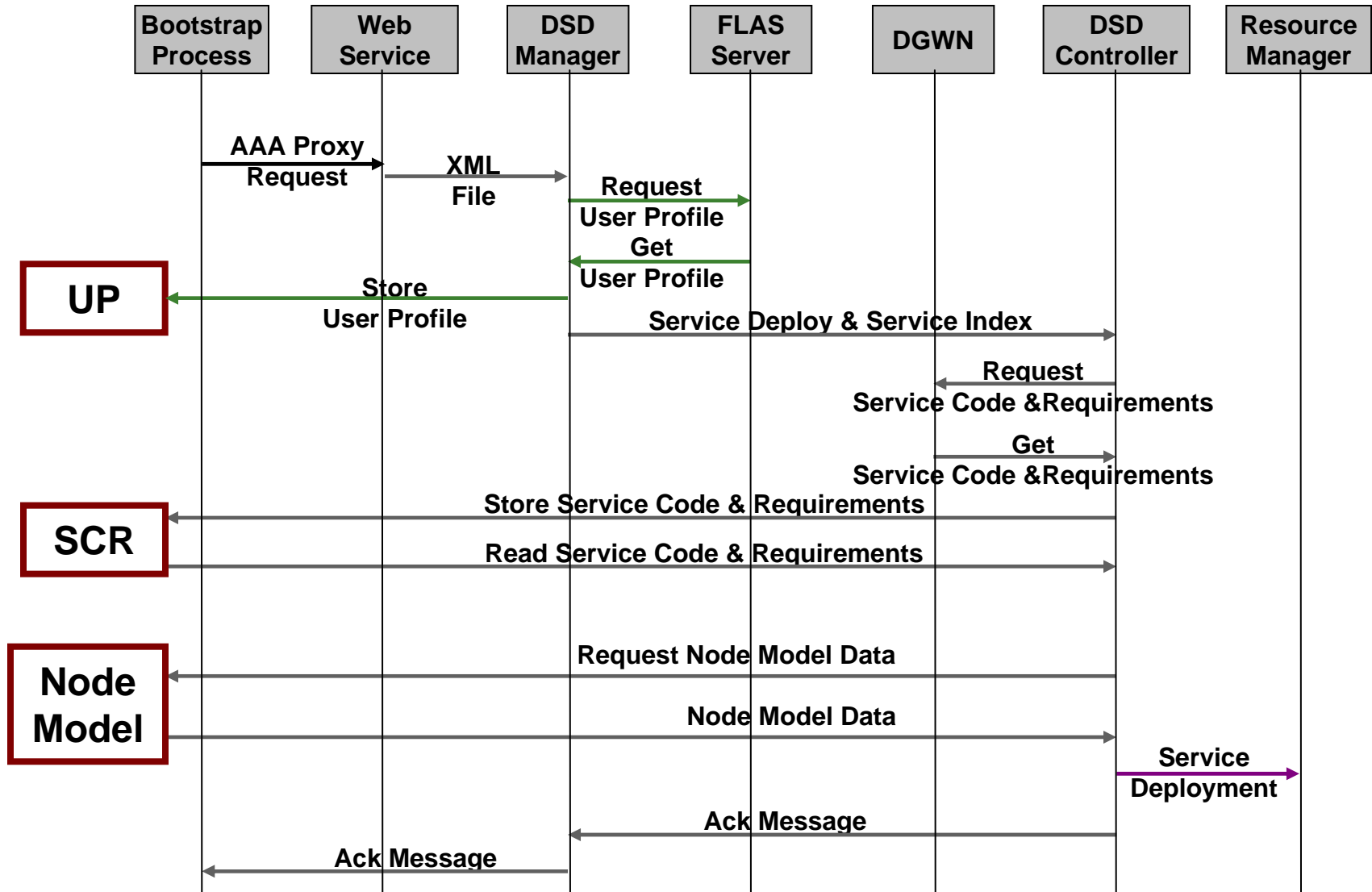
- Router Model.
- Service Model.
- Matchmaking Algorithms.



DSD Architecture



DSD Use Case



Conclusions

- The presented component-based model is addressing the issue regarding the dynamic deployment of new services in a distributed environment and the way they address themselves in that environment.

Questions?