Capability and Location Discovery for Autonomic Service Deployment

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Overview

• Programmable Service Platform
  – Overview of services & the platform
  – Need
  – Functions
  – Architecture

• Plan for this semester
Overview of Services & the Platform

Services

• What is a Network Service?

  – Traditionally:
    • Connectivity
    • Protocol Translation

  – Today:
    • Connectivity with Quality of Service
    • Monitoring, Fault Detection, Auto-Recovery
    • Virtual Private Networks
    • SSL acceleration
    • Firewalls
    • Intrusion Detection Systems
    • Mobile Services (Connect Me, Find Me, Follow Me)
    • Etc…
Overview of Services & the Platform Services

A Network Service -
An operation performed inside the “network” that directly benefits end-users.

More specifically,
The network intelligence and forwarding logic which work together to perform an operation that directly benefits end-users.

Technically,

A *Network Service* is an assembly of components that have to be identified and placed appropriately in the network. A *Network Service Component* on a network path is a piece of code which can perform some action on the network traffic in the control plane of a network node.

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Overview of Services & the Platform

The Platform

*Programmable Service Platform* manages the services in the network, its mobility and security.

This platform deploys service components on demand along the network path and to run them on an execution environment in the network nodes.
Need for Programmable Service Platform

• To manages the services in the network

• To control the service mobility

• To provide secure deployment of services
Functions of Programmable Service platform

• Discovery
  – End Node capabilities – finding Serviters in n/w
  – Service components

• Deployment
  – Placing service components in appropriate nodes

• Execution of service components
Programmable Service platform Architecture

Table of Next Programmable Nodes

Service Platform Controller Module

Security Manager

Service Mobility Controller

Service Index registry

Service Modules

User Services

System Services

Serviter EE

NODE OS
Plan for this semester

- **Building the architecture**
  - Discovery
    - End Node Discovery (Algorithm /Designing the mechanism)
    - Service Discovery mechanism
  - Deployment
    - Autonomic self deployment of service components on demand
    - Self configuring network level service infrastructure
  - Execution of service Components
    - Running the service components in the shared partitions of the serviters of appropriate nodes along the network path

- **Literature survey**

- **Write a research paper on PSP**

- **Course: IT Research Preparation**
Thank you