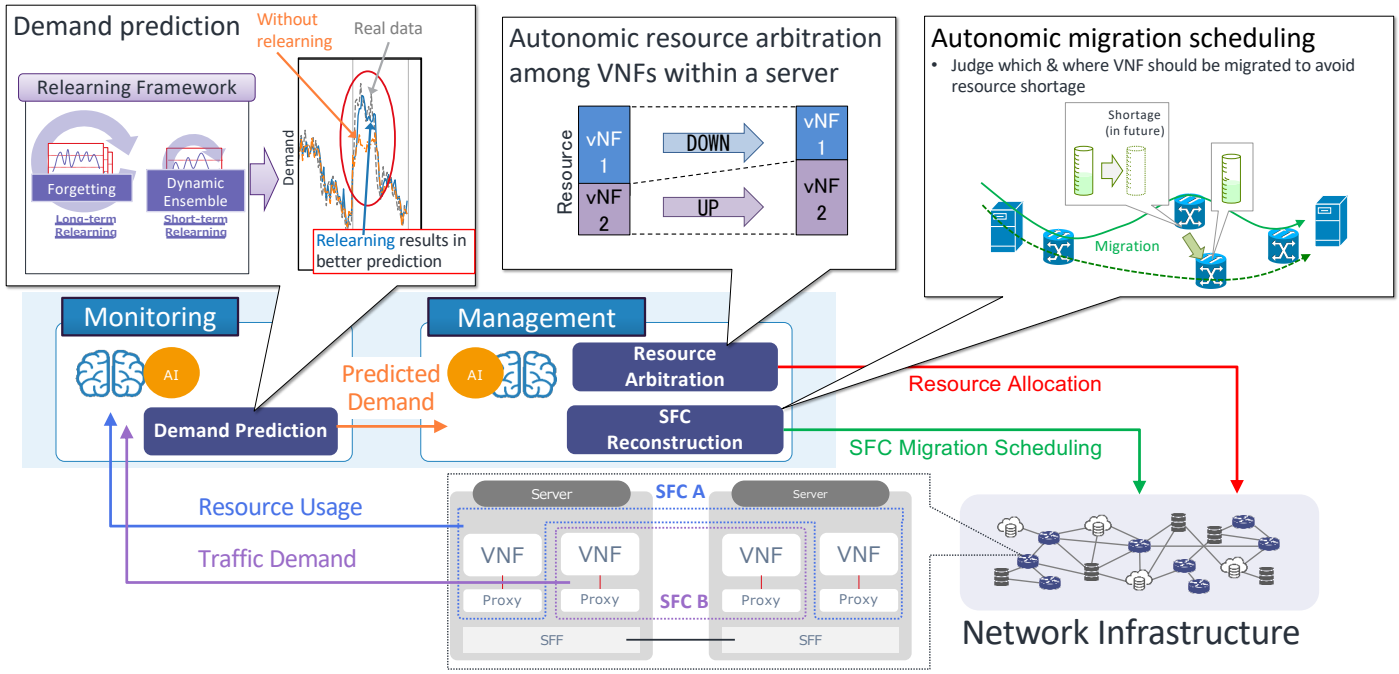
AI-based Mechanism for Autonomic Resource Management of Service Function Chaining Platform

National Institute of Information and Communications Technology (NICT), Japan

Autonomic Resource Management (Internetwork scaling)

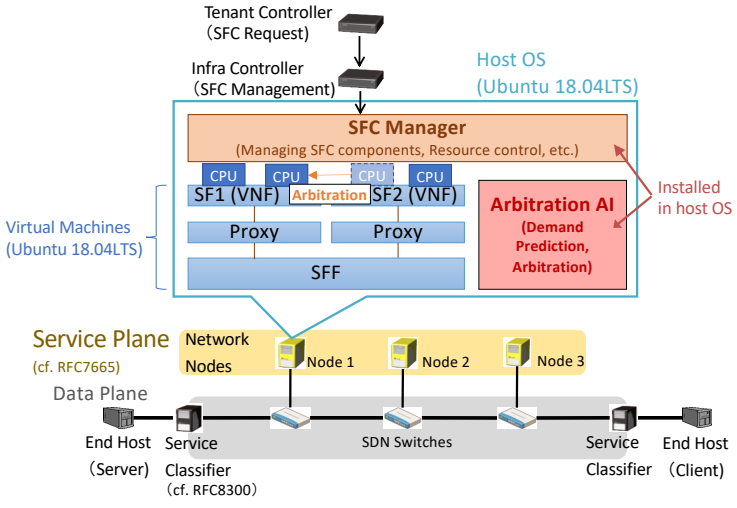
1. **Resource arbitration** among various functions deployed in the same server node.
2. **SFC reconstruction** by migrating functions from one server node to another by changing the communication path.



Demonstration of Demand Prediction and Resource Arbitration

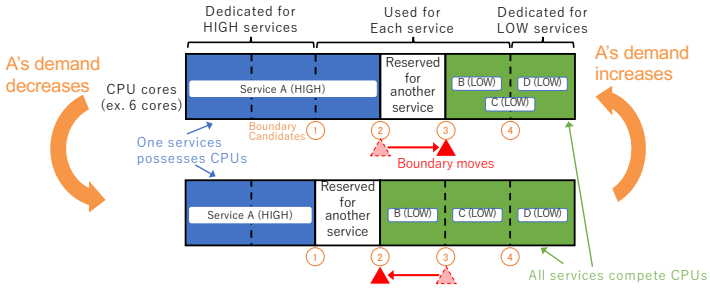
AI system and resource manager in SFC platform

- Constructed SFC platform (based on RFC standards)
- Installed autonomic resource arbitration mechanism
  - Allocating CPU cores to VNF

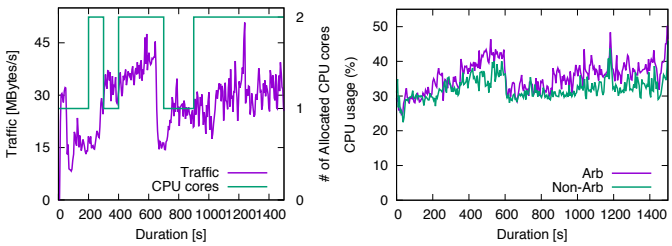


Arbitration mechanism

- Guaranteeing HIGH-prioritized service quality (ex. A) against demand increases
  - Changing # of allocated CPU cores to by moving boundary between candidates



Experiment Results



Arbitration saves CPU cores

Arbitration improves CPU utilization

Copyright: NICT. All Rights Reserved.

Contact: Takahiro Hirayama
E-mail: hirayama@nict.go.jp