Toward Construction of Resilient Software-Defined IT Infrastructure for Supporting Disaster Management Applications

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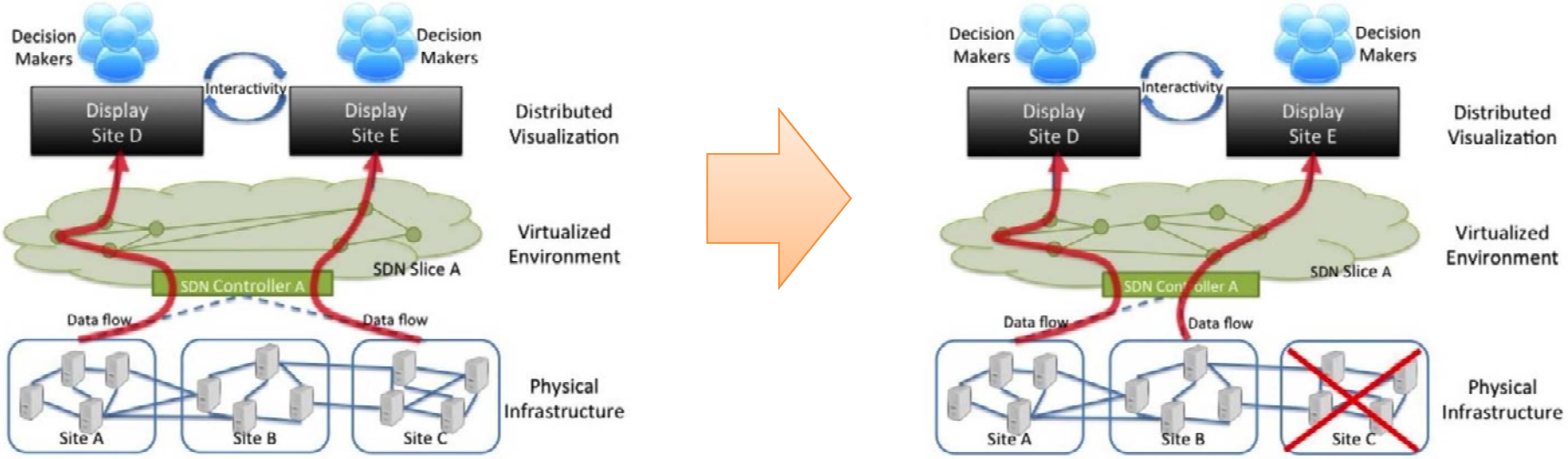
Motivation and Objectives

- Information-as-a-Service (InfaaS)
  - The concept is a critical one for disaster management, before, during, and after a disaster.
- Critical needs for disaster management system
  - System enables to synchronize, visualize, and maintain different types of data, between differen groups of decision makers.
  - Every information and data in disaster management applications should be provided continuous to the decision makers for determining the best decisions.



Software-Defined IT infrastructure

Prototype of Software-Defined IT infrastructure

Approach

1. Multi-site visualization tool
   - An applications where the same data is presented to multiple visualization environments is implemented by using SAGE2
2. Creation of SDN based infrastructure
   - Resource Manager which can dynamically control both computational and network resources is required.
3. Testing the robustness of the tool with infrastructure failures
   - PRAGMA-ENT which is designed for extensive network experiments underlying SDN technologies is adopted as testbed.