

Preserving Privacy of Software-Defined Networking Policies by Secure Multi-Party Computation

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Research Objectives

- Proposing a method for preserving privacy of policies of software defined-networking (SDN) controllers about status of routers.
- Determining the optimum number of controllers to provide scalability for the proposed method.

Research Method

- Considering an SDN as a system and routers as its components.
- Utilizing of the concept of structure function.
- Applying secure multi-party computation (SMC) technique for secure computing of the structure function without disclosing the status of routers.
- Modeling the problem of finding the minimum number of controllers as a multi-objective problem

Research Results

- The proposed number of SDN controllers results in a short time for computing the structure function.
- Applying the SMC technique to preserve privacy of organization policies causes only a little delay in SDNs.
- The proposed method is applicable in secure SDN to preserve privacy of policies of network administrators.