

In the Claims

1. A programmable switching device comprising:

at least one port; and

at least one programmable filter communicatively coupled to the at least one port,

wherein the at least one programmable filter is configured to permit/deny data packets being transmitted to or from a networked device connected to the at least one port based on a set of defined rules.
2. The programmable switching device of Claim 1 wherein a controller transmits the set of defined rules to the at least one programmable filter.
3. The programmable switching device of Claim 2 wherein the controller is a network device communicatively coupled to the programmable switching device.
4. The programmable switching device of Claim 2 wherein the controller is an SDN-enabled device secured by a firewall.
5. The programmable switching device of Claim 2 further comprising:

an application programming interface, the application programming interface links the controller to the programmable switching device.
6. The programmable switching device of Claim 1 further comprising:

a controller being embedded within the programmable switching device, the controller transmitting the set of defined rules to the at least one programmable filter.
7. The programmable switching device of Claim 2 further comprising:

a reporting module, the reporting module configured to transmit data flow characteristics to the controller.

8. The programmable switching device of Claim 7 wherein the controller analyzes the data flow characteristics and automatically updates the set of defined rules based on the analyses.
9. The programmable switching device of Claim 1 wherein the set of defined rules is configured by a network administrator.
10. The programmable switching device of Claim 1 wherein the set of defined rules is configured by at least one machine learning algorithm, Artificial Intelligence (AI) or automation technique.
11. The programmable switching device of Claim 1 further comprising:
an identification module, the identification module for providing identification protocols for the programmable switching device.
12. The programmable switching device of Claim 1 further comprising:
a data packaging module, the data packaging module configured to receive and transmit data from the programmable switching device.
13. The programmable switching device of Claim 1 wherein the at least one port is a wired connection point.
14. The programmable switching device of Claim 1 wherein the at least one port is a wireless connection point.
15. A network infrastructure comprising:
at least two programmable switching devices, the at least two programmable switching devices each having at least two ports with each port being communicatively coupled to a programmable filter; and

a controller, the controller being communicatively coupled to the at least two programmable switching devices,

wherein the controller populates the programmable filter communicatively coupled to each port of the at least two programmable switching devices with a set of defined rules.

16. The network infrastructure of Claim 15 wherein the set of defined rules permit/deny data packets from being transmitted to or from at least two networked devices, the networked devices being communicatively coupled to one of the at least two ports of the at least two programmable switching devices.

17. The network infrastructure of Claim 16 wherein the set of defined rules creates network security-based isolation between the networked devices.

18. The network infrastructure of Claim 16 wherein the set of defined rules creates network security-based segmentation between the networked devices.

19. The network infrastructure of Claim 15 wherein the set of defined rules is configured by a network administrator.

20. The network infrastructure of Claim 15 wherein the set of defined rules is configured by at least one machine learning algorithm, Artificial Intelligence (AI) or automation technique.

21. The network infrastructure of Claim 15 further comprising:

a reporting module, the reporting module configured to transmit data flow characteristics to the controller.

22. The network infrastructure of Claim 21 wherein the controller analyzes the data flow characteristics and automatically updates the set of defined rules based on the analyses.