In the Claims

1. A programmable switching device comprising:

at least one individually programmable port;

at least one programmable filter communicatively coupled to the at least one port; and a controller that transmits a set of defined rules to the at least one programmable filter, wherein the at least one port provides access to one or more network connection points,

each connection point having an identifier that comprises at least a MAC address and an IP address;

wherein the at least one programmable filter is configured to permit/deny data packets from being received or transmitted by the at least one port based on a set of defined rules;

and

wherein at least one of the rules includes an access control list and utilizes the identifier at the one or more connection points to isolate one or more devices on a network by permitting/denying data packets from being received or transmitted.

2. The programmable switching device of Claim 1 wherein the controller is enables dynamic programming of the programmable switching device in real-time.

3. The programmable switching device of Claim 1 further comprising:

an application programming interface, the application programming interface links the controller to the programmable switching device.

4. The programmable switching device of Claim 1 further comprising:

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

5. The programmable switching device of Claim 4 wherein the controller analyzes the data flow characteristics and automatically updates the set of defined rules based on the analyses.

6. The programmable switching device of Claim 1 wherein the set of defined rules is configured by a network administrator.

7. 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.

8. The programmable switching device of Claim 1 further comprising:
an identification module, the identification module for providing identification protocols for the programmable switching device.

9. 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.

10. The programmable switching device of Claim 1 wherein the at least one port is a wired connection point.

11. The programmable switching device of Claim 1 wherein the at least one port is a wireless connection point.

12. A programmable switching device comprising:

at least one individually programmable port; and

at least one programmable filter communicatively coupled to the at least one port; and

a controller that transmits a set of defined rules to the at least one programmable filter,

wherein the at least one port provides access to one or more network connection points, each connection point having an identifier that comprises at least a MAC address and an IP address;

wherein the at least one programmable filter is configured to permit/deny data packets from being received or transmitted by the at least one port, based on a set of defined rules;

; and

wherein at least one of the rules includes an access control list and utilizes the identifier at the one or more connection points to isolate one or more devices on a network, at Layer 2 of the network infrastructure, by permitting/denying data packets from being received or transmitted.

13. The programmable switching device of Claim 12 wherein the at least one rule allows the networked device to privately communicate with at least one other networked device.