CLAIMS

What is claimed is:

1. A software platform for network communications comprising computer-executable instructions configured to:

generate a global overlay network, wherein the global overlay network enables an application to route data generated by the application along a network path through an underlying access network by:

a) instructing, with the application, a software node of the global overlay network to initially route the data to a policy-defined target node of the underlying access network;

b) at the policy-defined target node, analyzing, using another software node of the global overlay network or a routing engine:

(1) needs of the application;

(2) a respective real time status of each respective candidate next hop node of one or more candidate next hop nodes; and

(3) associated paths through the underlying access network to the policy-defined target node, the associated paths comprising at least one path traversing both a mobile overlay virtual enterprise (MOVE) network and a virtual internet for enterprise (VINE) network;

c) selecting, with the another software node or the routing engine, at least one of the one or more candidate next hop nodes of the underlying access network that best meets the needs of the application;

d) causing the data to be routed to the at least one of the one or more candidate next hop nodes of the underlying access network, as selected; and

repeating steps b)-d) until the data reaches the destination.

2. The software platform of claim 1, wherein the computer-executable instructions are further configured to:

enable an owner or a user of the application to set end-to-end policies independent of the underlying access network.

3. The software platform of claim 1, wherein the computer-executable instructions are further configured to:

enable an owner or a user of the application to set policies for end-to-end desired business results independent of the underlying access network.

4. The software platform of claim 1, wherein the computer-executable instructions are further configured to:

generate an API that enables an owner or a user of the application to set at least one of (1) end-to-end policies or (2) policies for end-to-end desired business results.

5. The software platform of claim 4, wherein at least one of (1) the end-to-end policies or (2) the policies for the end-to-end desired business results can be set or changed according to at least one of real-time conditions, triggers, or events.

6. The software platform of claim 1, wherein the computer-executable instructions are further configured to:

generate an API that provides

the application with end-to-end data, analytics and visibility of the application, regardless of networks traversed in the underlying access network.

7. The software platform of claim 1, wherein the computer-executable instructions are further configured to:

generate (1) one or more APIs and (2) one or more portals, wherein (1) the one or more APIs and (2) the one or more portals enable the global overlay network to communicate with the application in real-time, thereby enabling the application to change its behavior in order to meet application ~~owner~~ policies.

8. The software platform of claim 4, wherein the API further enables the owner of the application to share policies with one or more other systems.

9. The software platform of claim 8, wherein the API further enables the owner of the application to at least one of:

(a) accept the policies from the one or more other systems; or

(b) distribute (1) the end-to-end policies or (2) the policies for end-to-end desired business results to the one or more other systems.

10. The software platform of claim 1, wherein the node is connected to the global overlay network as a traditional networked node, as a peer-to-peer mesh node, or as a combination of a traditional networked node and a peer-to-peer mesh node.

11. The software platform of claim 1, wherein the node is located in at least one of a public cloud, a private cloud, an Internet backbone environment, or an end user device.

12. The software platform of claim 1, wherein the node is an application, a virtual network function, a standalone device running on a commodity computer, a purpose built appliance, or a service embedded in network infrastructure.

13. The software platform of claim 12, wherein the service embedded in the network infrastructure comprises a gateway or a session border controller.

14. A method for routing data generated by an application to a destination under control of the application, the method comprising:
    a) instructing, with the application, a software node of a global overlay network to initially route the data to a policy-defined target node of an underlying access network;
    b) at the policy-defined target node, analyzing, using another software node of the global overlay network or a routing engine:
        (1) needs of the application;
        (2) a respective real time status of each respective candidate next hop node of one or more candidate next hop nodes; and
        (3) associated paths through the underlying access network to the policy-defined target node, the associated paths comprising at least one path traversing both a mobile overlay virtual enterprise (MOVE) network and a virtual internet for enterprise (VINE) network;
    c) selecting, with the another software node or the routing engine, at least one of the one or more candidate next hop nodes of the underlying access network that best meets the needs of the application;
    d) causing the data to be routed to the at least one of the one or more candidate next hop nodes of the underlying access network, as selected; and

    repeating steps b)-d) until the data reaches the destination.

15. The method of claim 14, wherein an owner or a user of the application can set end-to-end policies independent of the underlying access network.

16. The method of claim 14, wherein an owner or a user of the application can set policies for end-to-end desired business results independent of the underlying access network.

17. The method of claim 14 further comprises:

generating an API that enables an owner or a user of the application to set at least one of (1) end-to-end policies or (2) policies for end-to-end desired business results.

18. The method of claim 1 further comprising:

generating an API that provides the application with end-to-end data, analytics and visibility of the application, regardless of networks traversed in the underlying access network.

19. The method of claim 1 further comprising:

generate (1) one or more APIs and (2) one or more portals, wherein (1) the one or more APIs and (2) the one or more portals enable the global overlay network to communicate with the application in real-time, thereby enabling the application to change its behavior in order to meet application policies.

20. The method of claim 1, wherein the node is connected to the global overlay network as a traditional networked node, as a peer-to-peer mesh node, or as a combination of a traditional networked node and a peer-to-peer mesh node.