

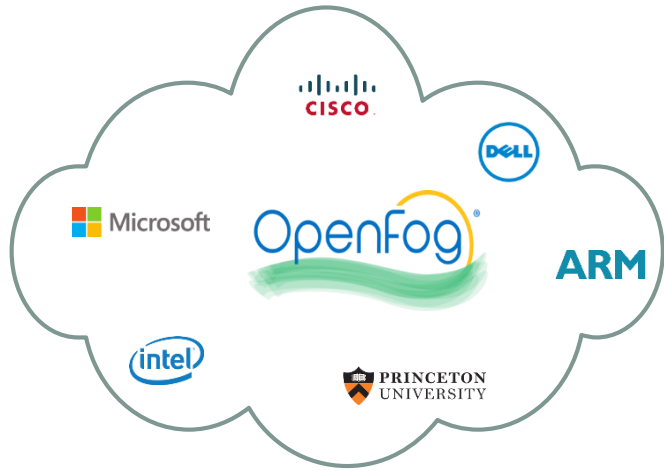


# OpenFog Consortium

The Technology of OpenFog Computing and Networking



# Why this open approach?



Proprietary or single vendor solutions slows down adoption and innovation.

An open architecture will:

- Provide a robust new platform for product development
- Increased quality and innovation through competition in the open environment
- Lead to a vibrant, growing supplier ecosystem
- Accelerate market adoption
- Lower system costs



# The OpenFog Reference Architecture Framework

1

Unified framework & roadmap to help software developers and system architects create the first generation of open fog computing systems develop compute, network, storage and control technologies for the cloud-to-things continuum.

2

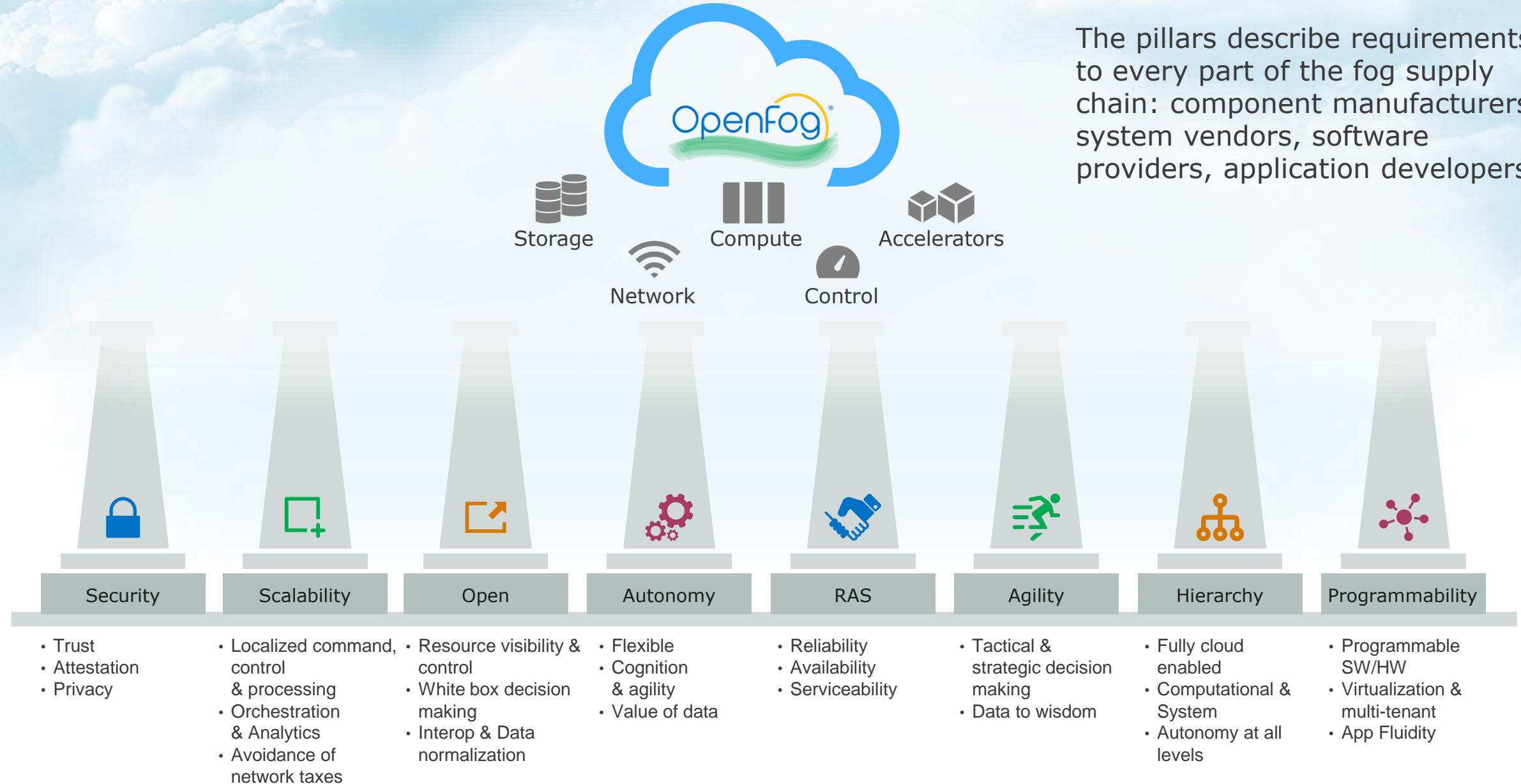
First step in creating standards to enable interoperability in IoT, 5G, Artificial Intelligence and other complex data and network intensive applications.

3

Creates a common language for fog computing and will help unify the edge/fog ecosystem under a single, interoperable, testable set of hardware and software standards.

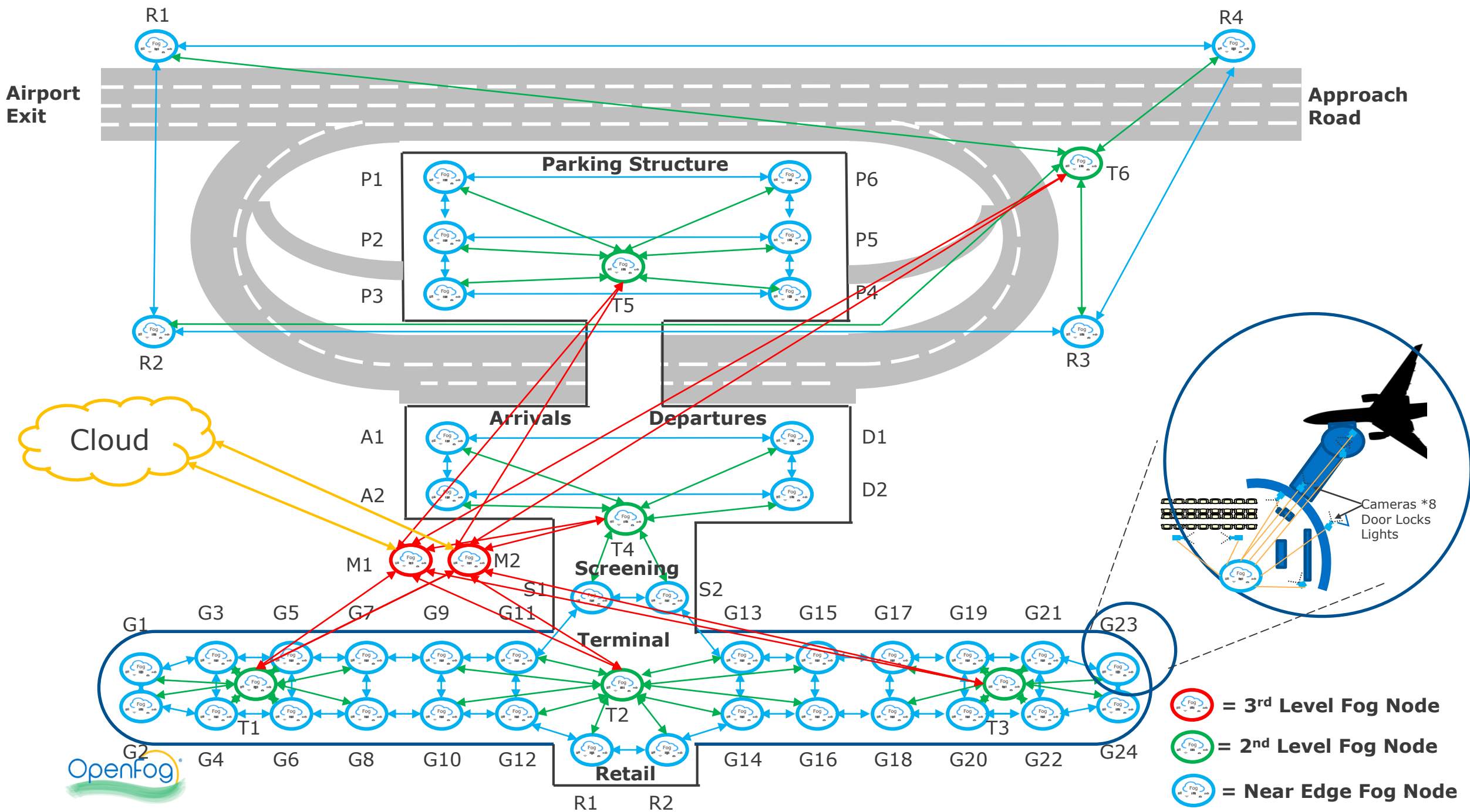
# Key pillars of the OpenFog architecture framework

The pillars describe requirements to every part of the fog supply chain: component manufacturers, system vendors, software providers, application developers.

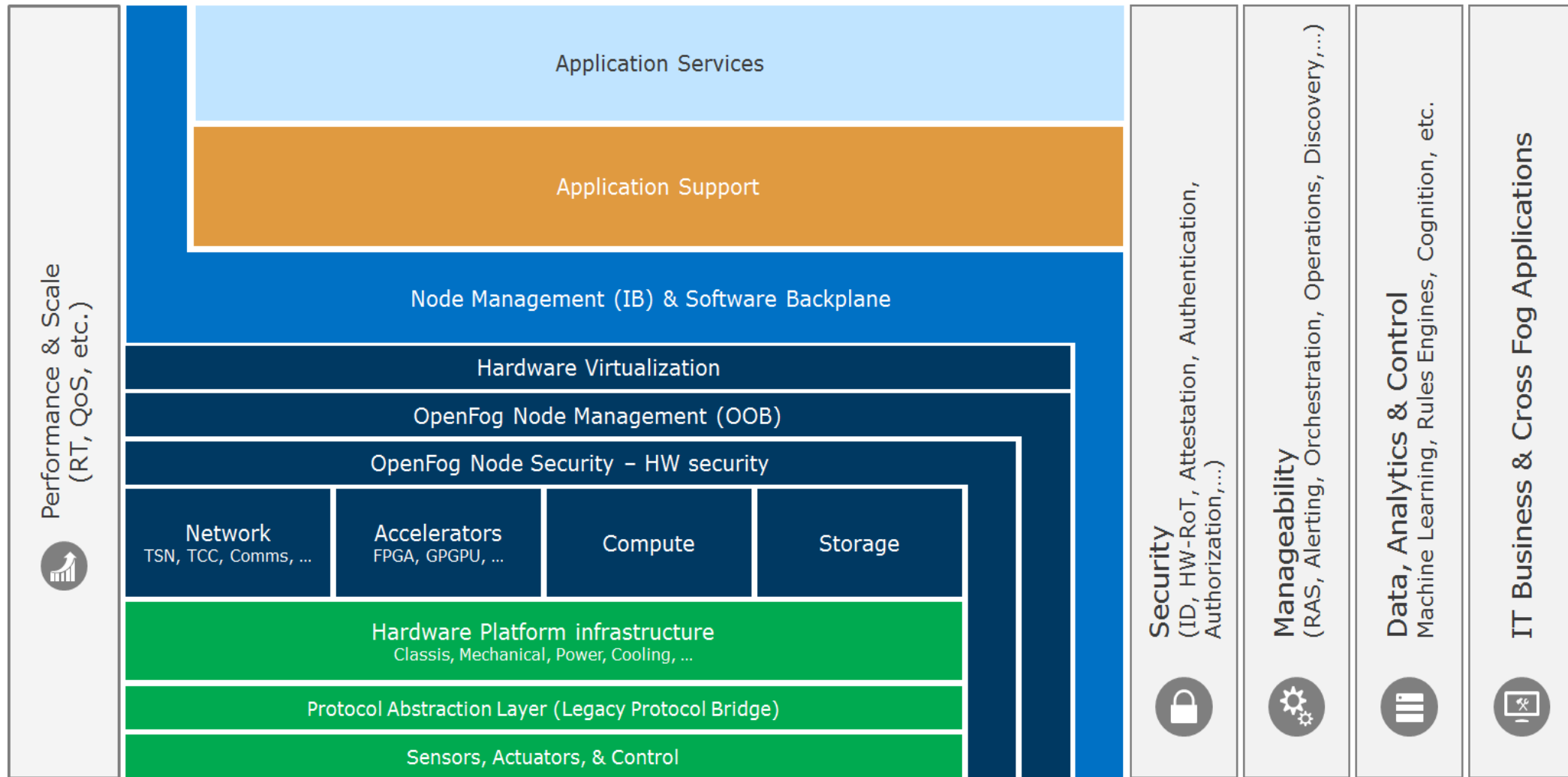


Airport Exit

Approach Road

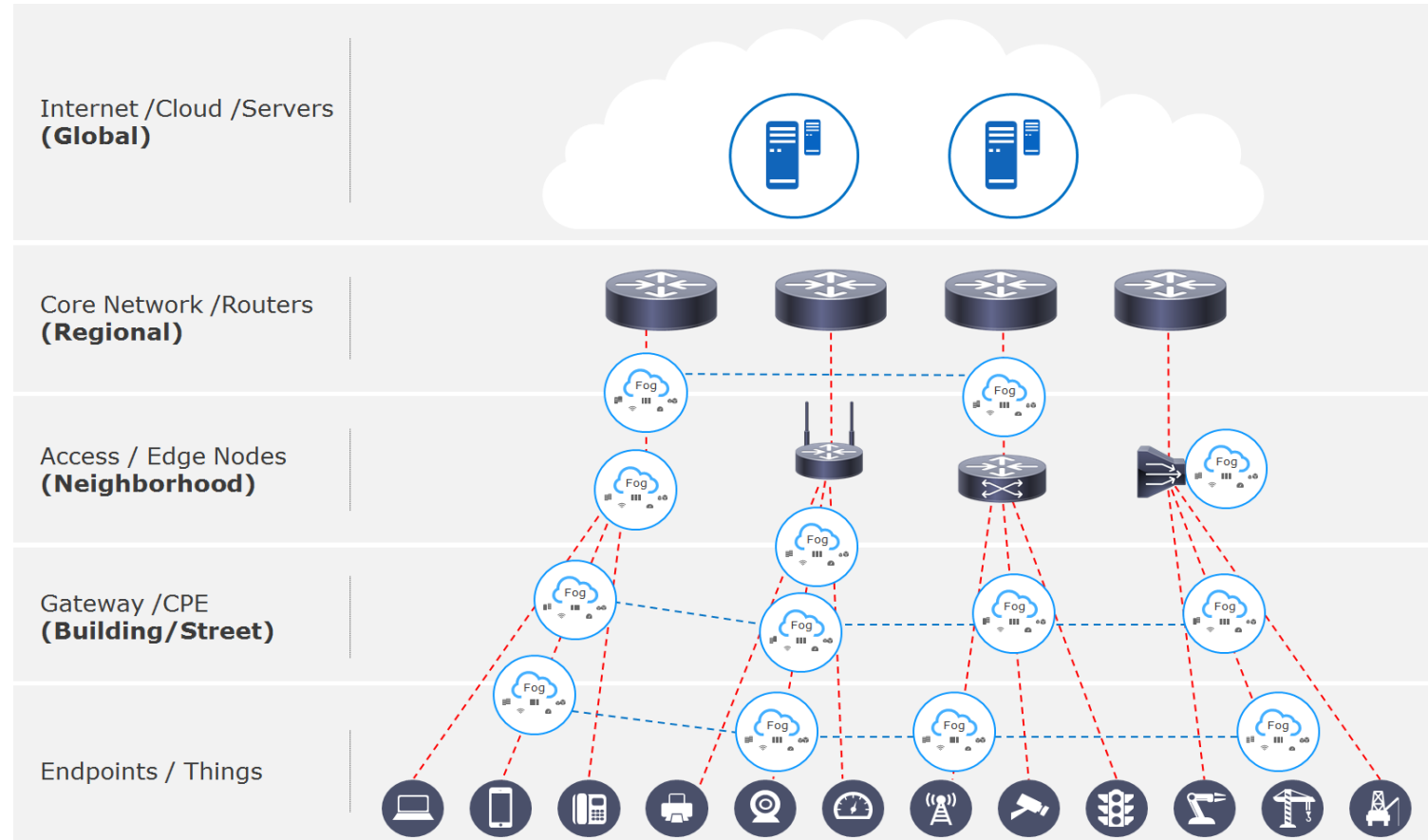


# OpenFog RA description with perspectives



# A closer look at fog nodes

- They form a mesh to provide load balancing, resilience, fault tolerance, and minimization of cloud communication.
- They communicate laterally (peer to peer, east to west) **and** communicate up and down (north to south)
- Are able to discover, trust, and utilize the services of another node in order to sustain reliability-availability-serviceability



*Fog nodes in a Smart City: Buildings, neighborhoods & regions are connected to provide an infrastructure that may be optimized for service delivery.*



# The RA Enables **SCALE**

The OpenFog RA enables fog-cloud and fog-fog interfaces that provide these advantages:



## **S**ecurity

Additional security to ensure safe, trusted transactions

## **C**ognition

Awareness of client-centric objectives to enable autonomy

## **A**gility

Rapid innovation and affordable scaling under a common infrastructure

## **L**atency

Real-time processing and cyber-physical system control

## **E**fficiency

Dynamic pooling of local unused resources from participating end-user devices





# Summary

- **What it is**: The OpenFog RA provides a high to medium-level cross-industry framework designed to help software developers and system architects create the first generation of open fog nodes and networks.
- **Why it works**: The OpenFog RA will help unify the edge/fog ecosystem under a single, interoperable, testable set of hardware and software standards.
- **Why it matters**: The OpenFog RA represents a game-changing, unified vision for providing computing, networking and storage in the continuum between the cloud and billions of things – *where there currently are no viable solutions or standards.*



# Thank you!

Download the OpenFog RA at

[www.OpenFogConsortium.org/RA](http://www.OpenFogConsortium.org/RA)

[info@OpenFogConsortium.org](mailto:info@OpenFogConsortium.org)

