



Bringing IT Together for IoT

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- 1. IoT Within the Scope of IT**
- 2. IoT Within the Context of IT**
- 3. IoT Within the Future of IT**
- 4. The Takeaway**

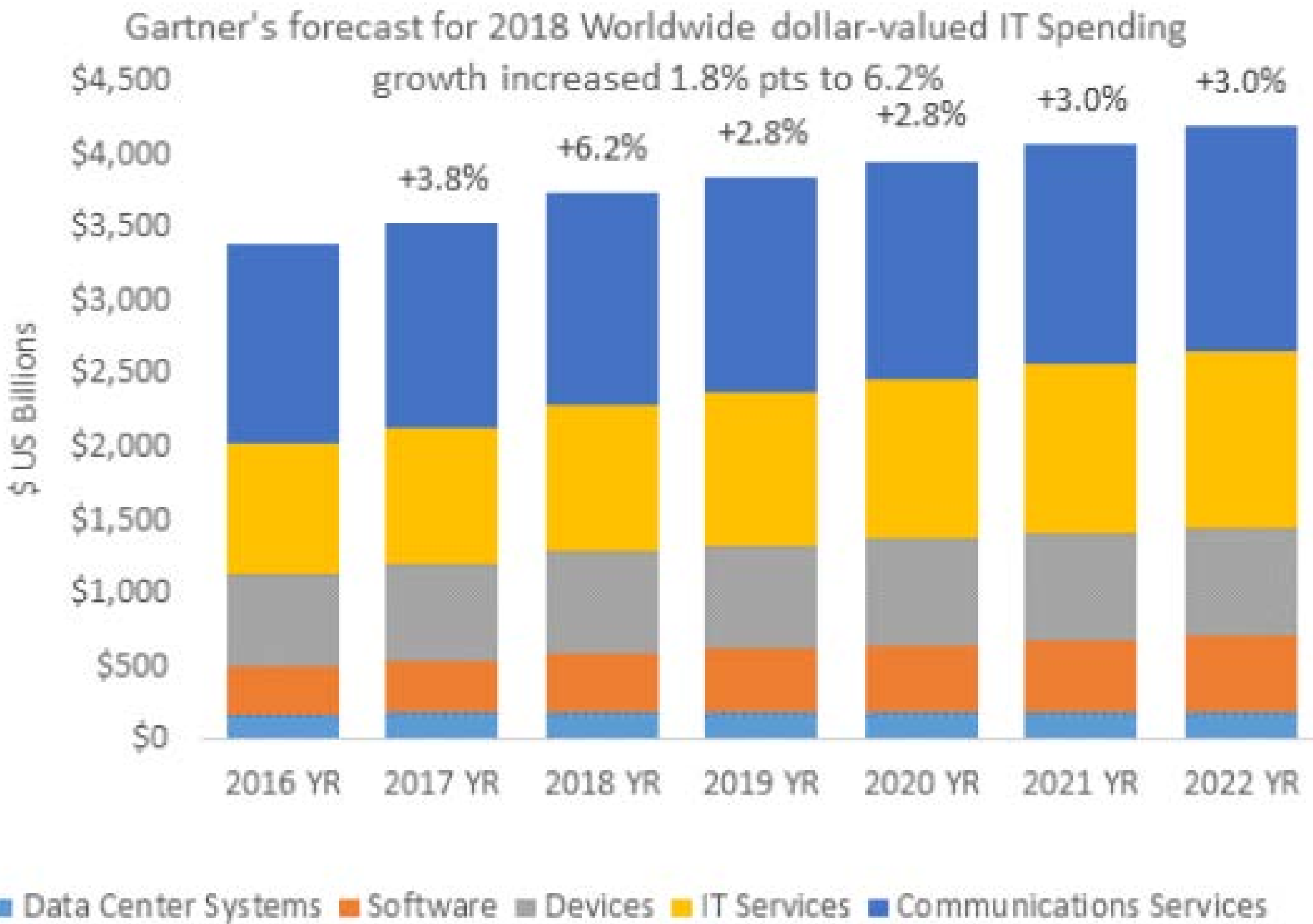
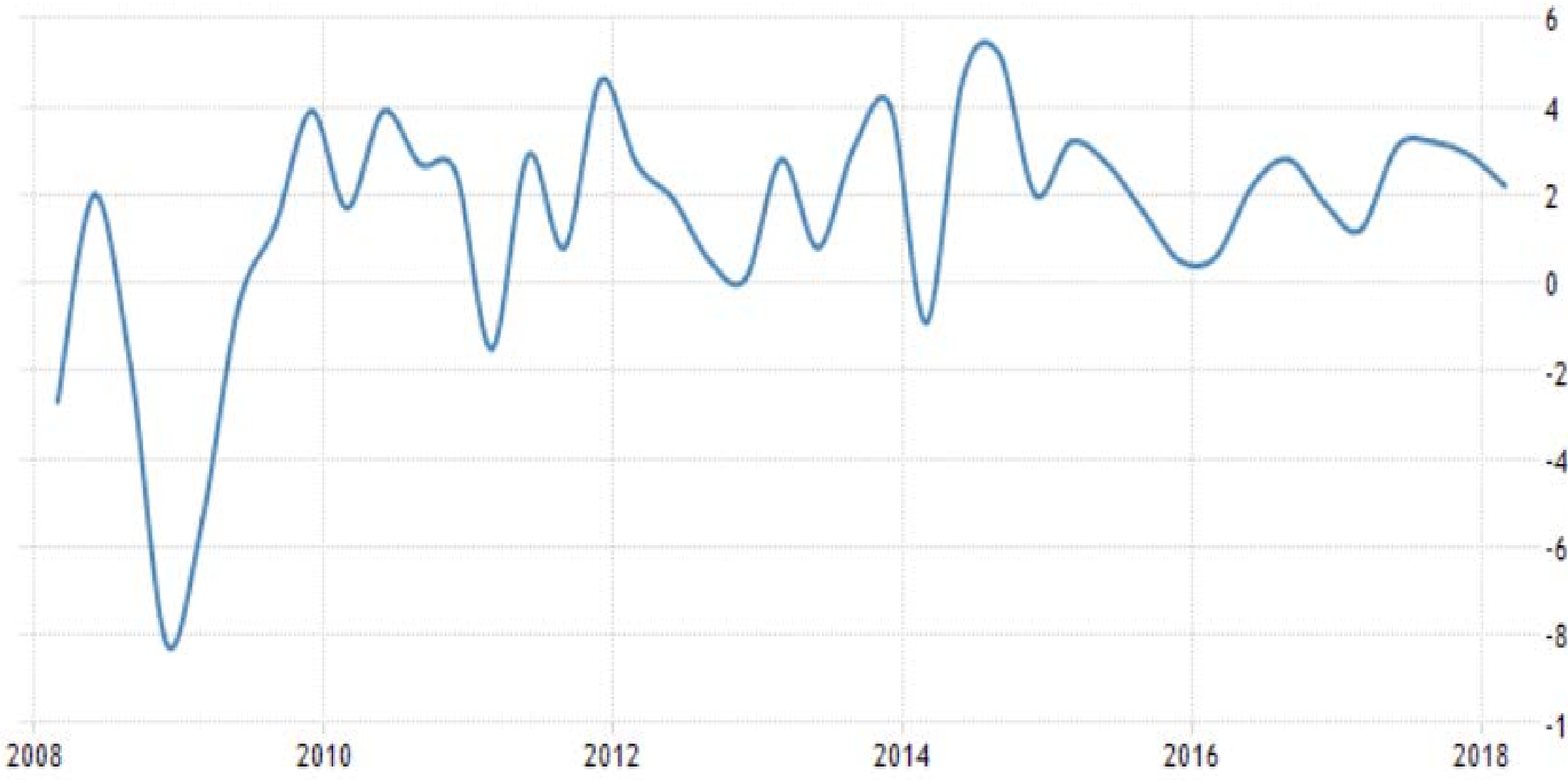
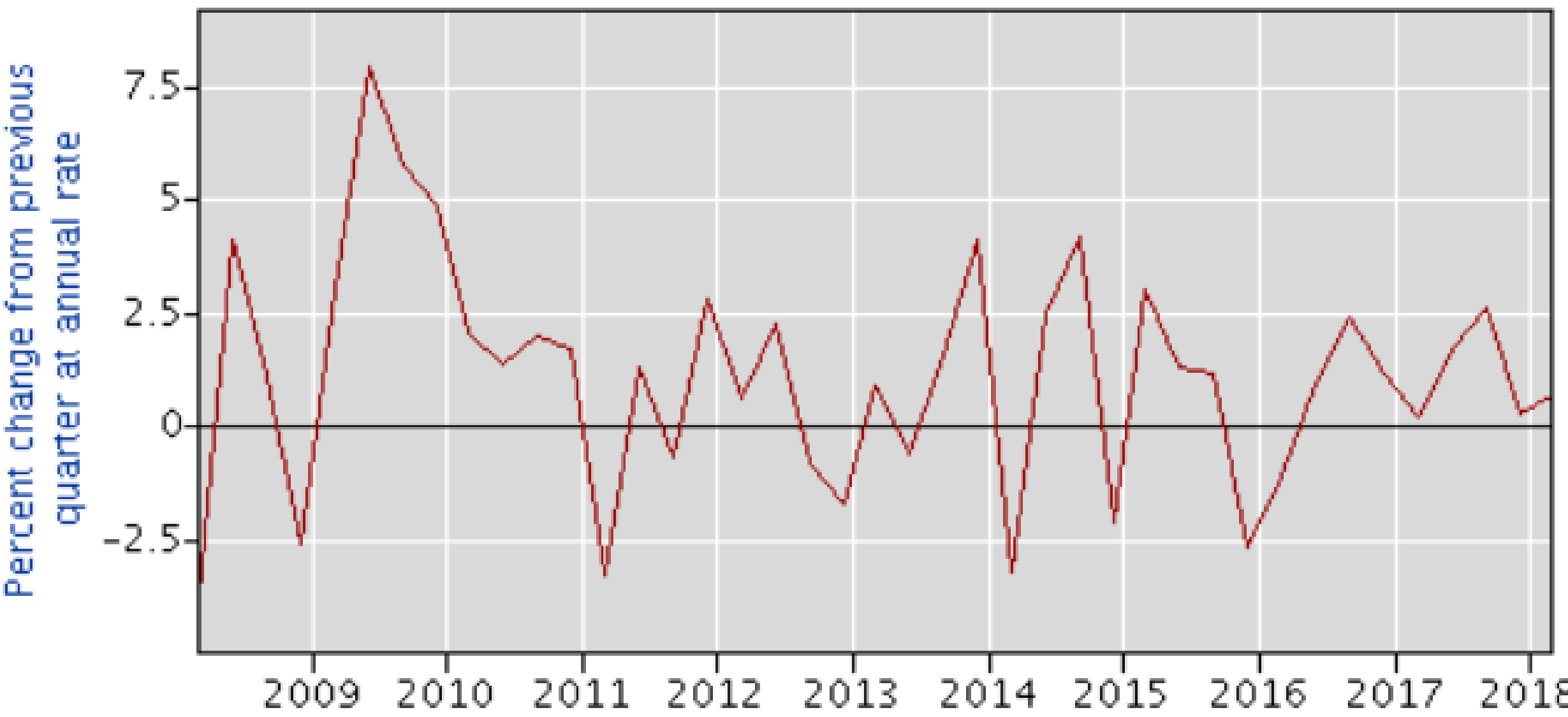


IoT Within the Scope of IT



Is Solow's Paradox still TRUE?

Productivity vs GDP vs IT Investment



Business Does Not Get IT – IT Does Not Get Business



- **For the most part IT is perceived as a necessary evil**
- **For the most part IT remains just an expense**
- **For the most part investment is tactical and returns not understood**
- **For the most part IT is focused on technology**
- **For the most part IT spends 80-90% of time running the business**
- **For the most part IT has significant legacy to deal with while lacking a broad vision**

A New Hope – IoT



A Saber

Technology:

- Instrumentation
- Actuation



A New Order

Solutions:

- Productivity
- Value

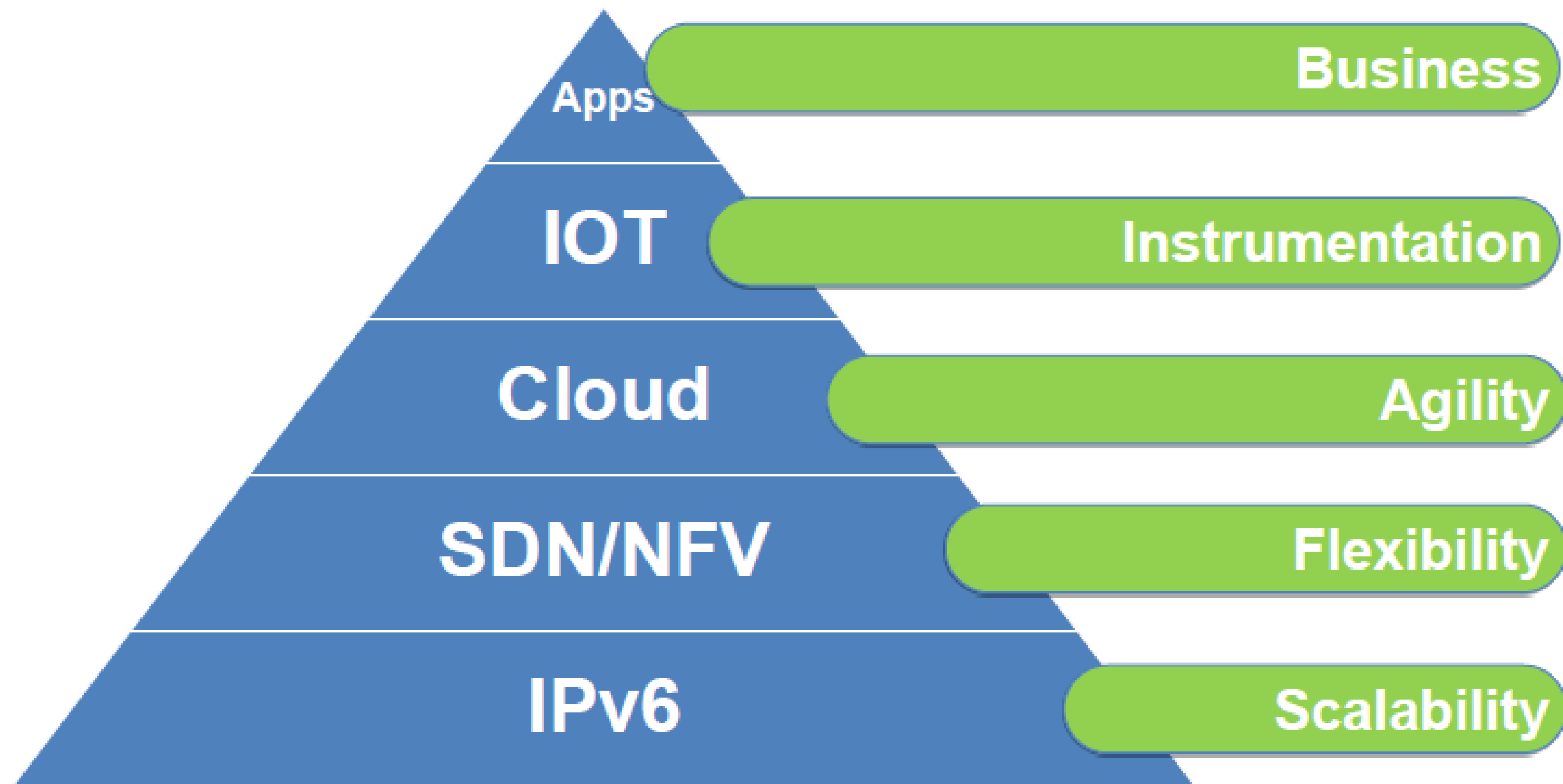


While tempted to perceive IoT through various technology incarnations, we should look at it as a **SOLUTION** or a **SERVICE**



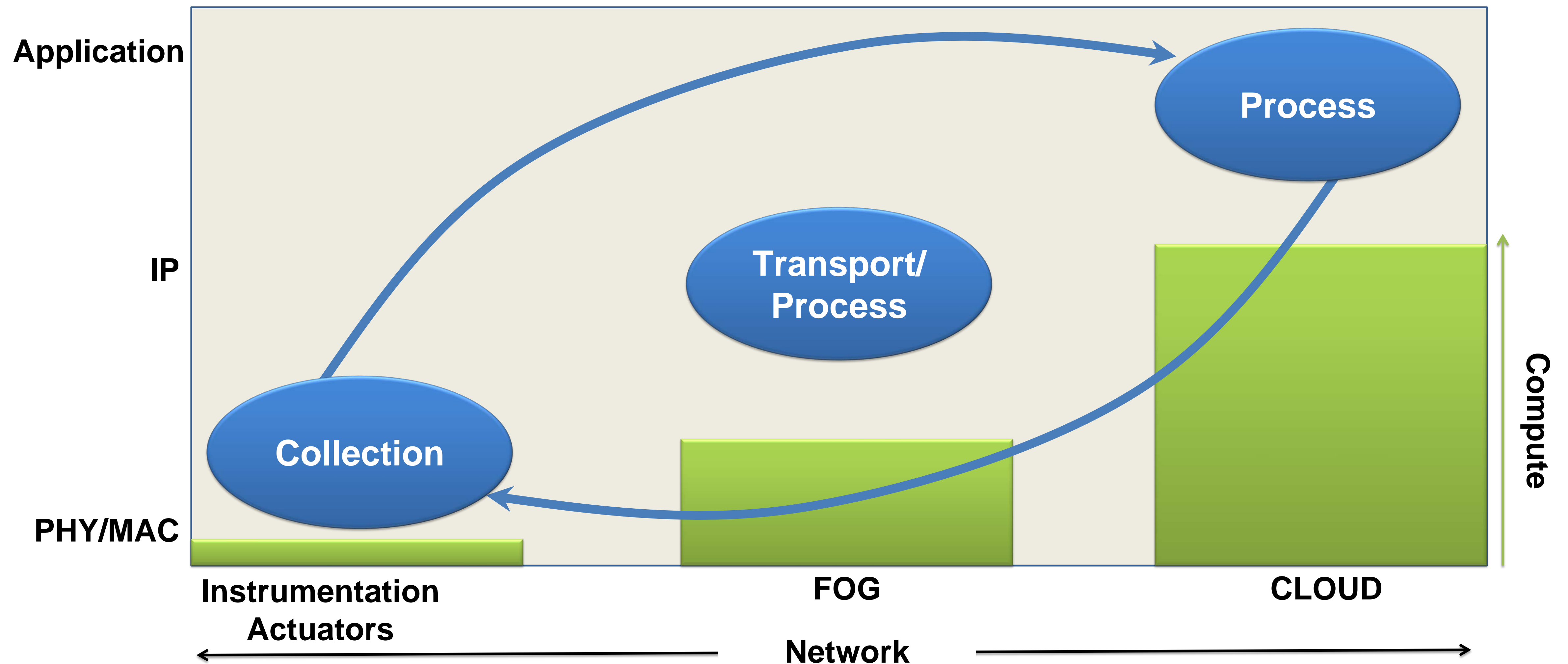
IoT Within the Context of IT

A Simplistic View

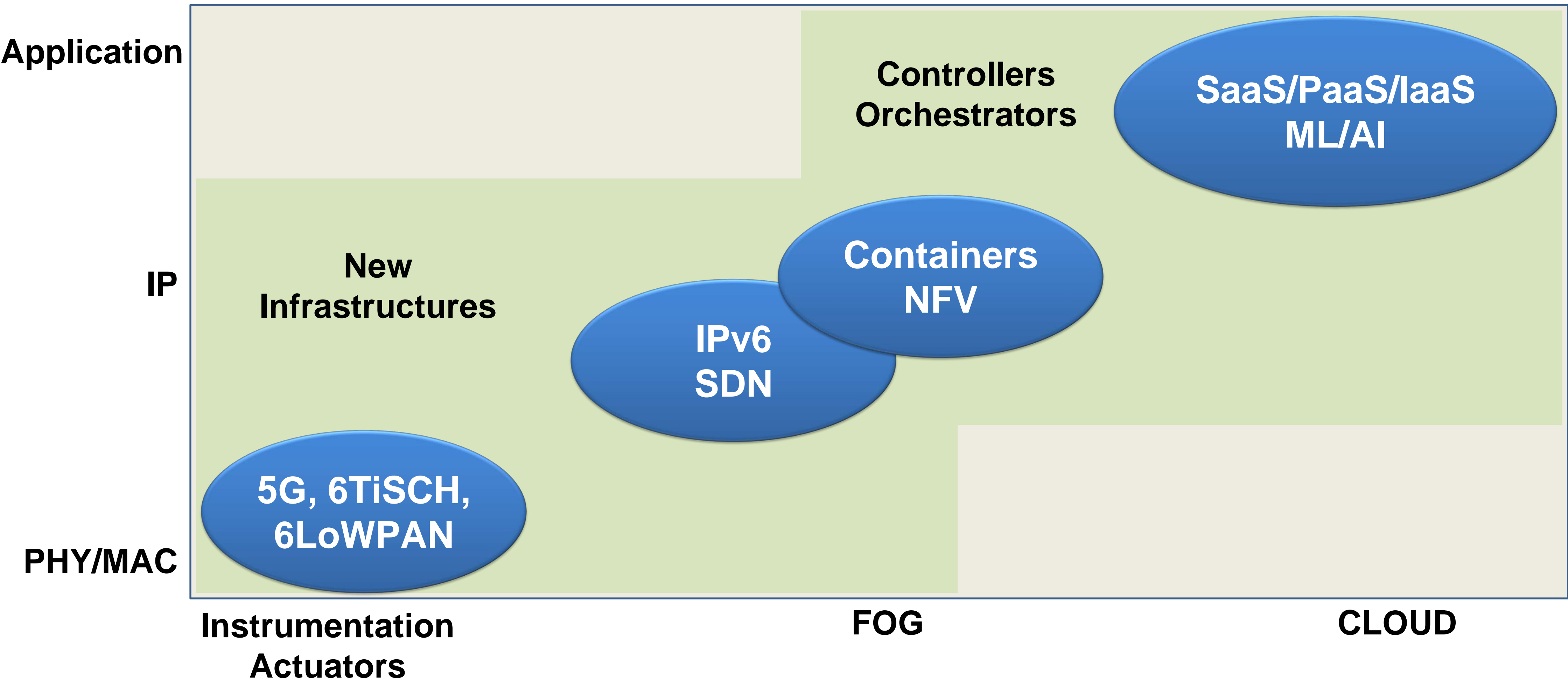


Transitions touch every aspect of IT, are complex and interdependent

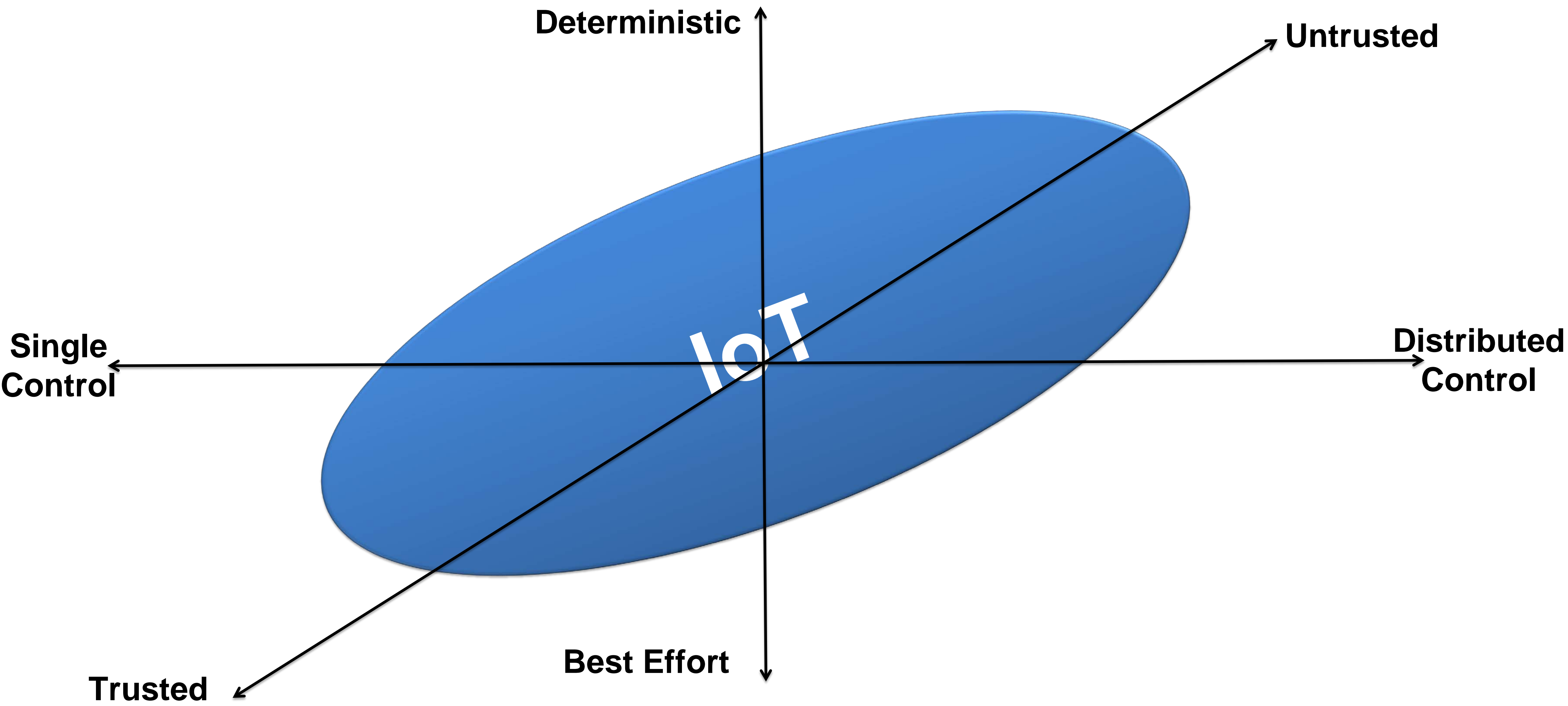
A Bigger Picture



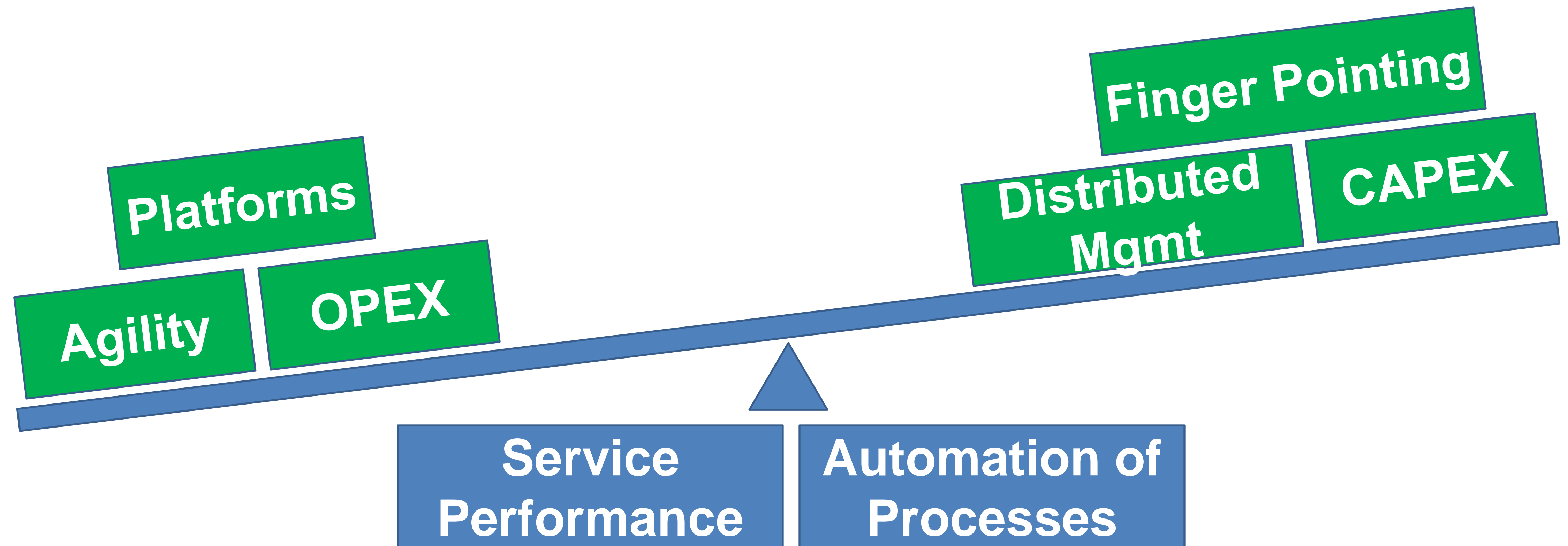
Another Alphabet Soup



And Let Us Not forget Operations



Paradigm Change for Operations



Carving a space for IoT in our IT space



1. Who has a target architecture?

- when we are behind on basic stuff such as equipment refresh**
- when we don't have time to put out fires**
- when the infrastructure is of no interest to the business**

2. Who has a true enterprise architect?

3. Who has a CIO who supports the constraints of pushing a consistent architecture?

Enter Technology or Solution Debt!

A Lesson Learned ... ish



- The initial IPv6 enablement work focused on Neutron/Horizon

- Had to overcome many IPv4 centric assumptions

- Address architecture

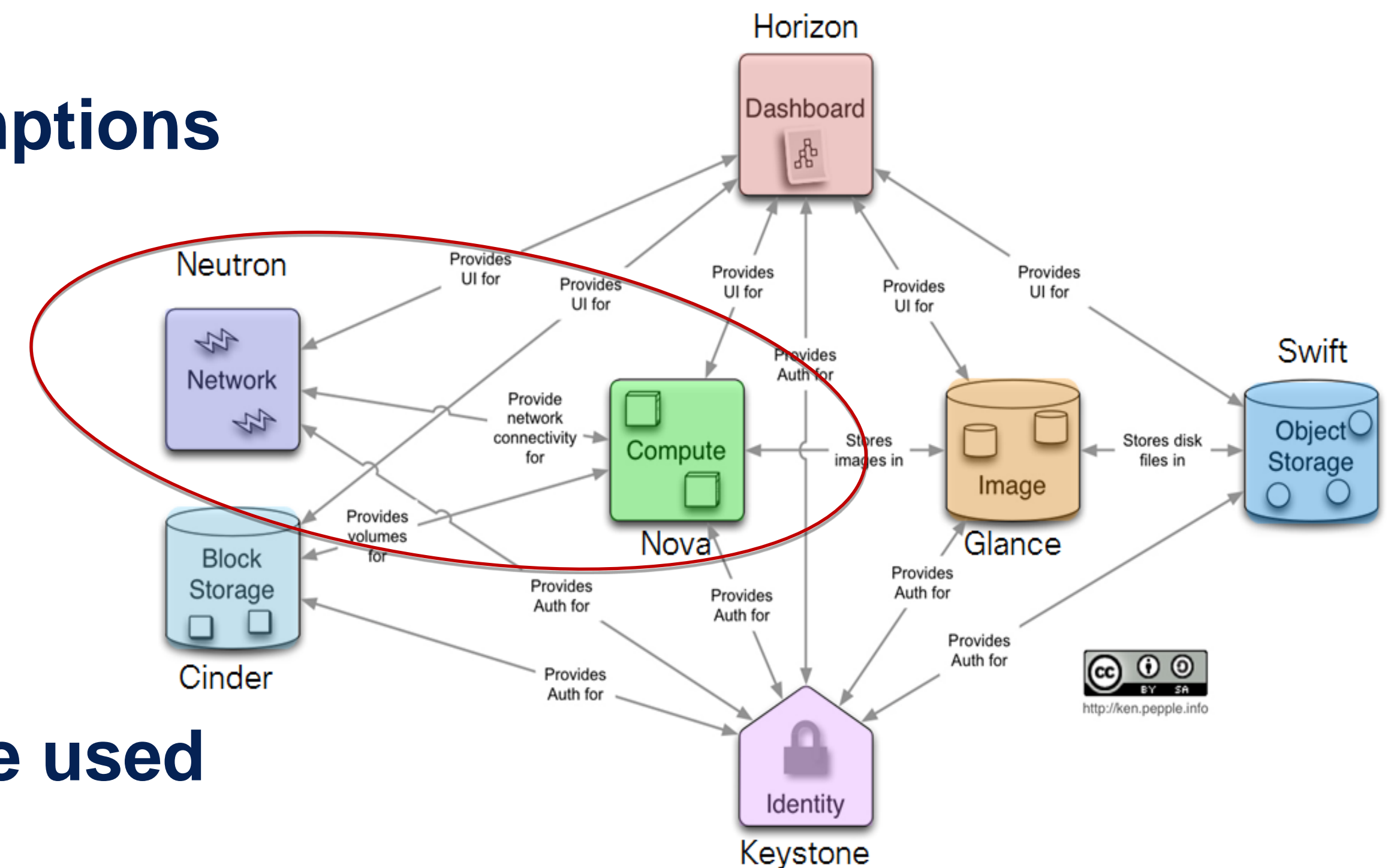
- Provisioning options

- Control plane implementation

- Security considerations

- IPv6 provides new design options yet to be used

- Must keep in mind dual-stack operation considerations



Do IT right – IP Layer View



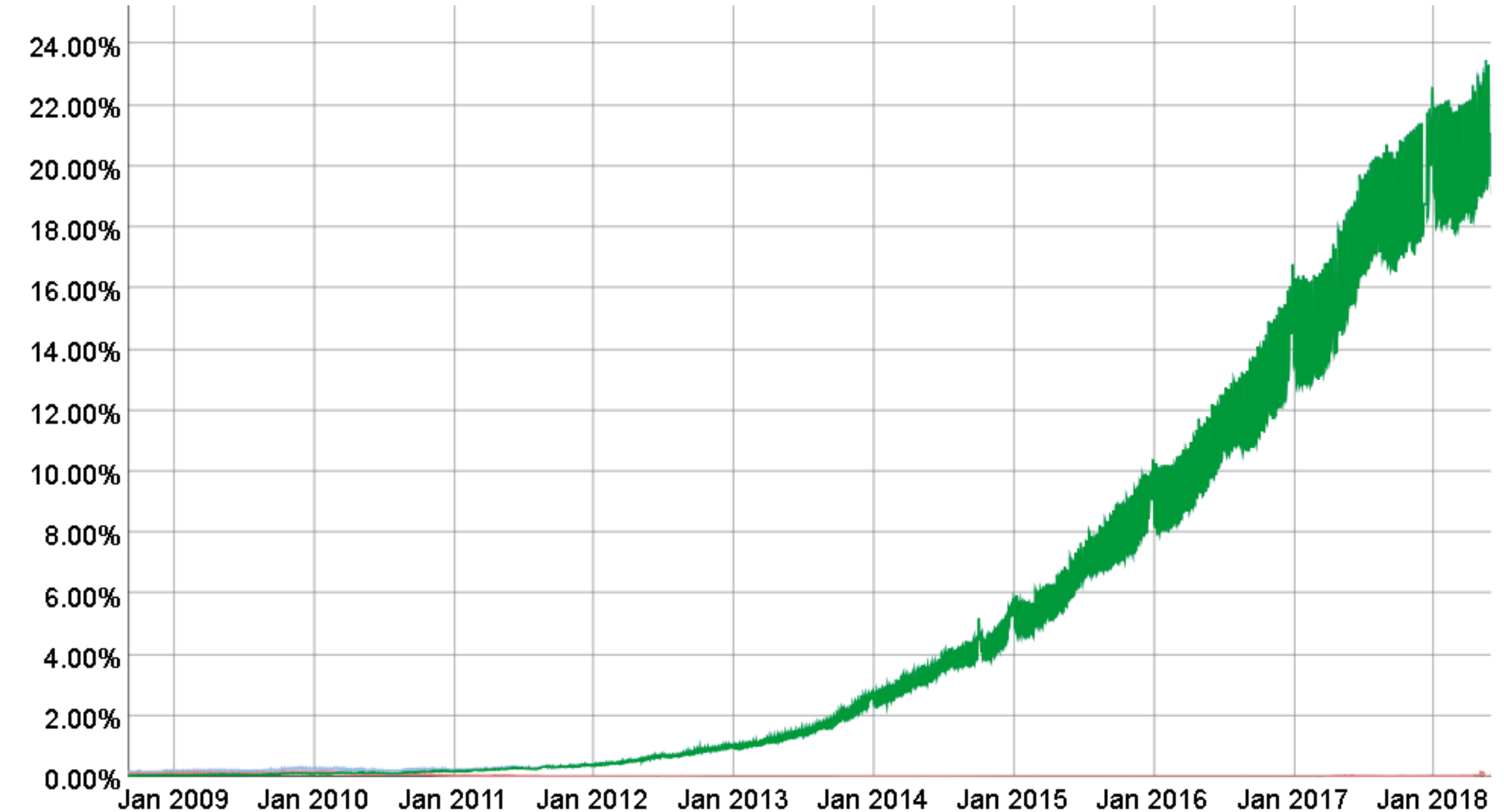
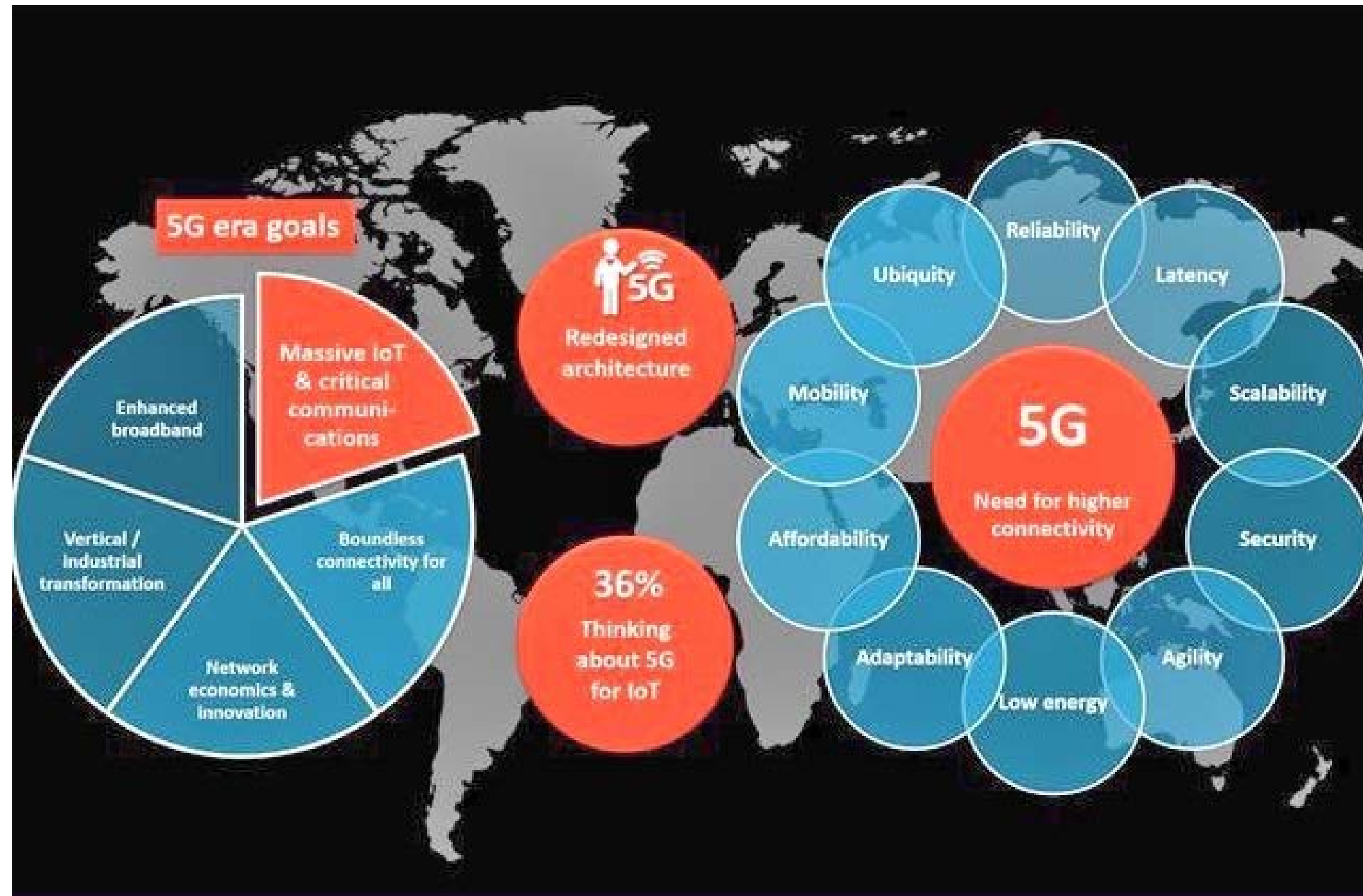
From Academia to Product to Services:

- 1. Build IPv6 based platforms**
- 2. Build IPv4 compatible, definitely IPv6 ready platforms**
- 3. Build all the tools needed for operating with IPv6 infrastructures**



IoT Within the Future of IT

Laying the Foundation – Layer 1, 2, 3



- **36% of organizations think about 5G for IoT**
- **By 2021, 5G's enablement of IoT will drive G2000 companies to spend \$1.2Billion on connectivity management (IDC)**

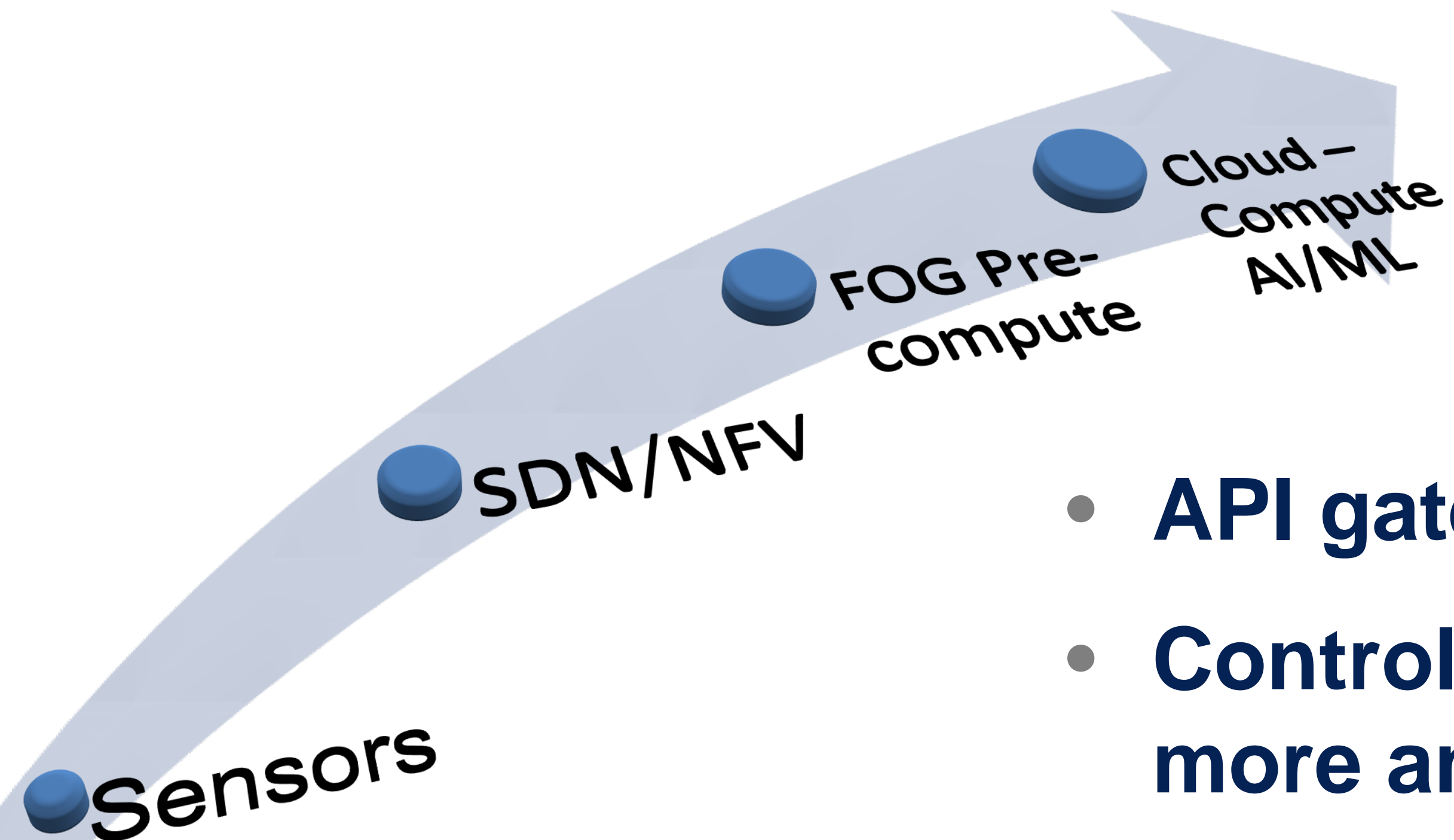
Laying the Foundation – Security and Trust



Connected, smart, accessible IoT devices should not be viewed as neither a threat nor an Eight Ball:

- **Security is even more important than before (Memento Mirai!)**
- **The level of trust for a data stream is critical to any IoT platform**
- **The accuracy of data needs to be constantly certified**

Plug Into the Comprehensive Future



- **API gateways become critical**
- **Controller coordination is more and more important**
- **End-to-end service management is key to ops**

Manage the Inevitable Past and Present



- **IoT services are good candidates for green field overlays**
- **To a greater or lesser extent services will be brown fields and that will complicate operations**
- **We had a hard time managing IT as it is**
- **Management of islands will be a drag to scale**

**Like any major technology deployment, baseline everything first!
Then baseline again.**



The Takeaway

Plug Into the Inevitable Past



- **Look at IoT as a business solution, a service not a technology**
- **Look at IoT in the overall, comprehensive context of IT (past, present and future)**
- **Do not build on legacy technologies or architectures**
- **Security and Trust are the most important service components**
- **Monitor service experience end-to-end and enable proactive IT in a distributed ownership model**
- **Drive automation**



Monitoring Done Right



ITsonar is an easy to deploy and operate SaaS based, intelligent monitoring platform in the age of Cloud and Managed Services

ITsonar brings relevant visibility and peace of mind:

- **Insightful** – Monitor User Experience, the only metric that really matters to understanding, purchasing and managing services
- **Proactive** – Automatically detect issues before users do and notify the right groups to address them
- **Effective** – Automatically identify the cause of issues and reduce time to resolution by engaging the right domain owner and providing relevant info