



Connectivity in the Cloud

“Key Considerations, Metrics and SLAs”

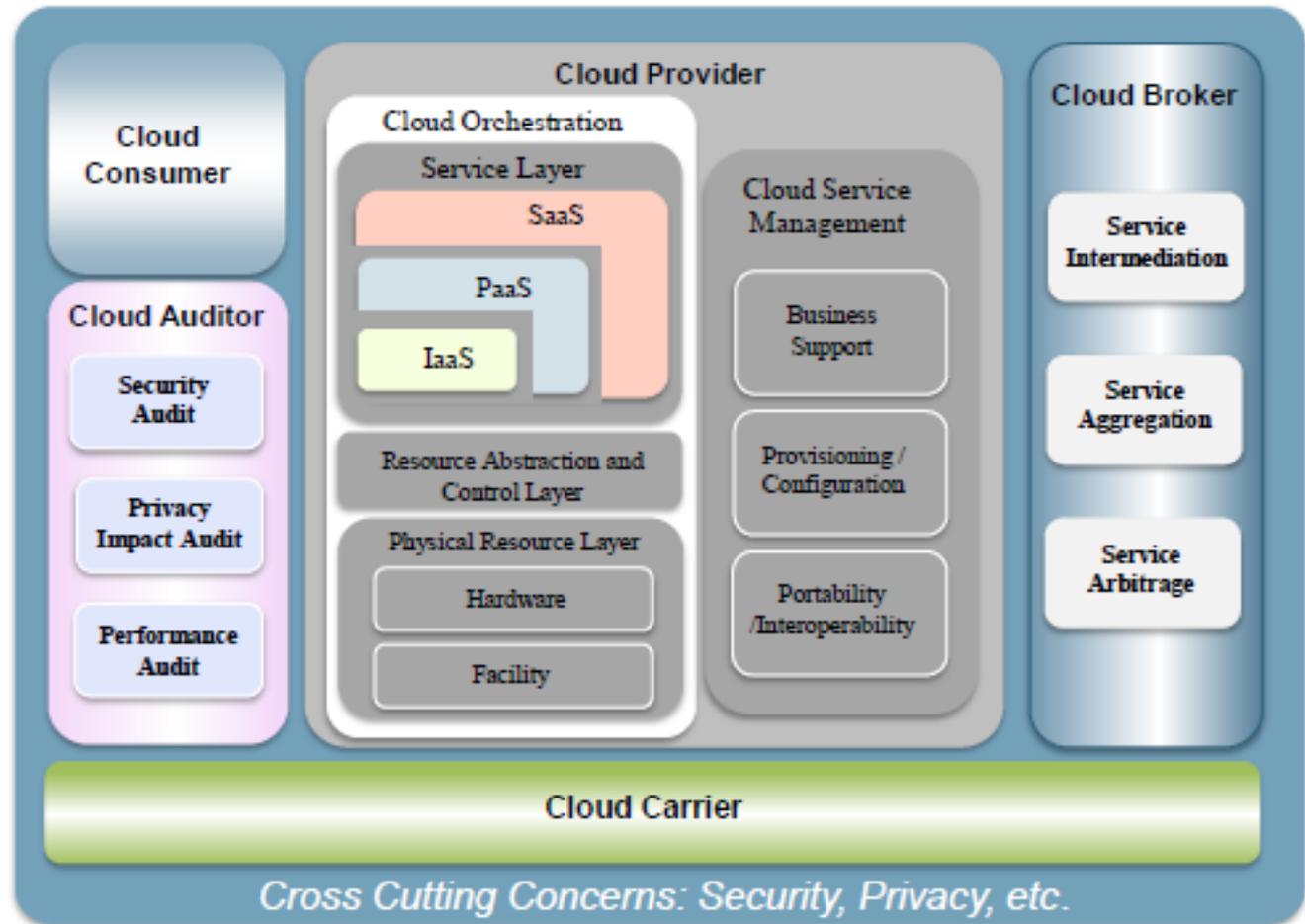
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Safe Harbour

- ▶ Views are mine
- ▶ Views expressed are not necessarily those of Cloud Perspectives or any of the other groups we participate within
- ▶ Some information maybe for entertainment purposes

NIST Combined Conceptual Reference Diagram - 2014



Carrier in Context of Essential Characteristics

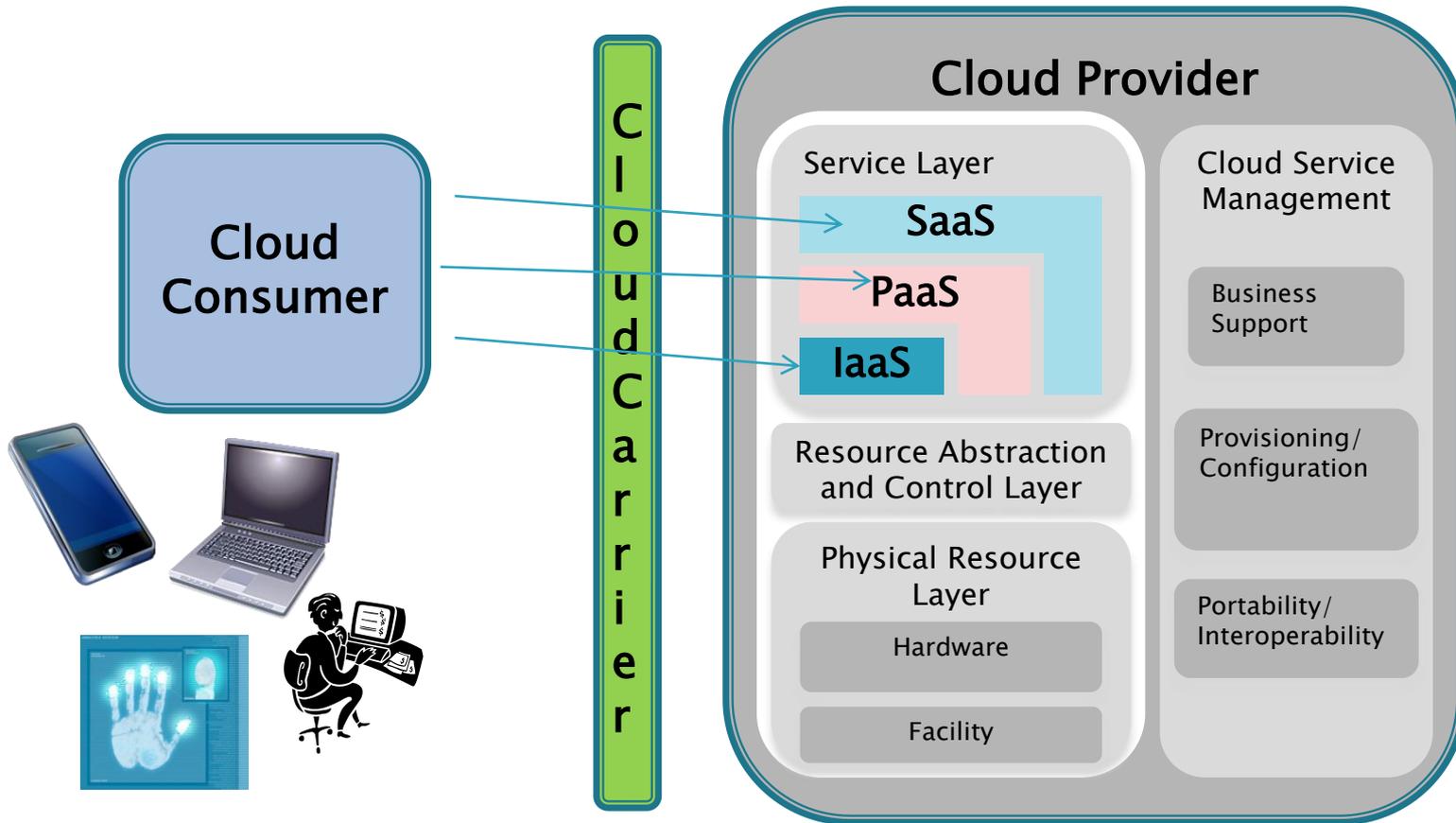
▶ **Broad Network Access**

- Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms (e.g. mobile phones, tablets, laptops and workstations).

NIST Cloud Carrier

- ▶ Based on NIST SP 500–292 “Cloud Computing Reference Architecture” – September 2011
 - An *intermediary* that provides connectivity and transport of cloud services between cloud consumers and cloud providers
 - May require the cloud carrier to provide dedicated and secure connections between cloud consumers and cloud providers

NIST Reference Architecture



Consumer Expectations and Reliance on being “Connected”



Telecom Cloud \geq Generic Cloud

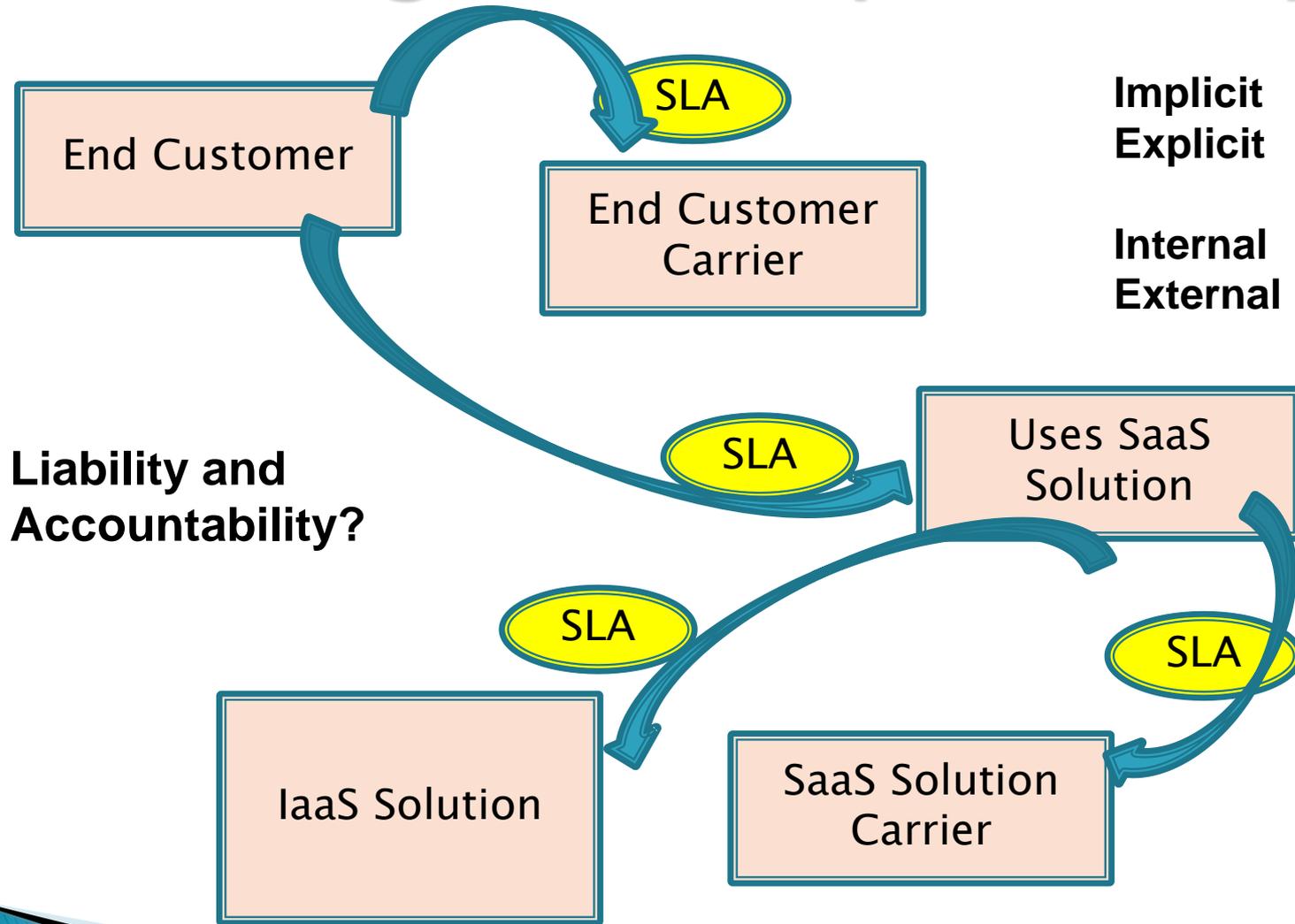


Never Good Enough

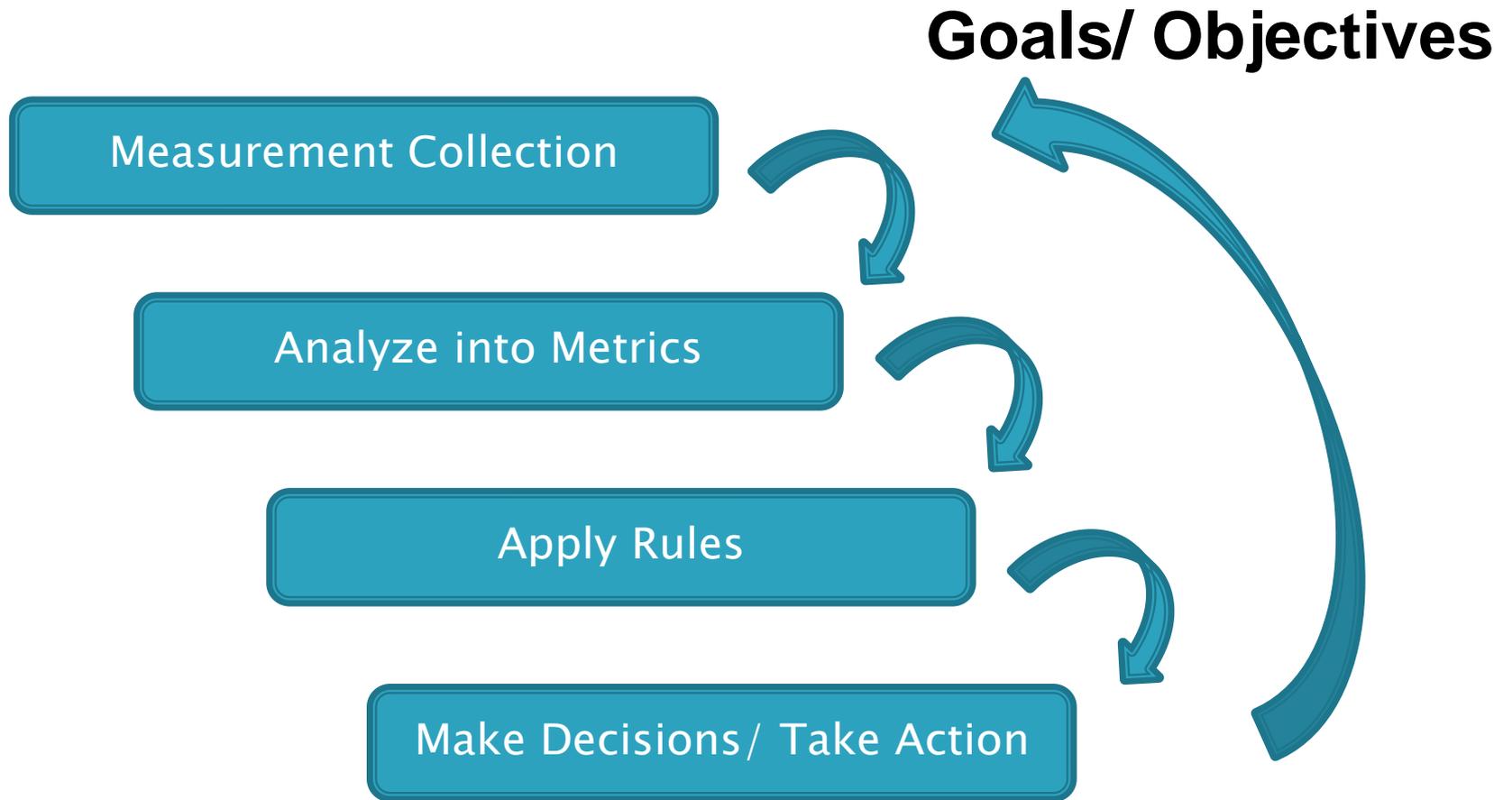


Good Enough may do

Cascading SLA Simple Example



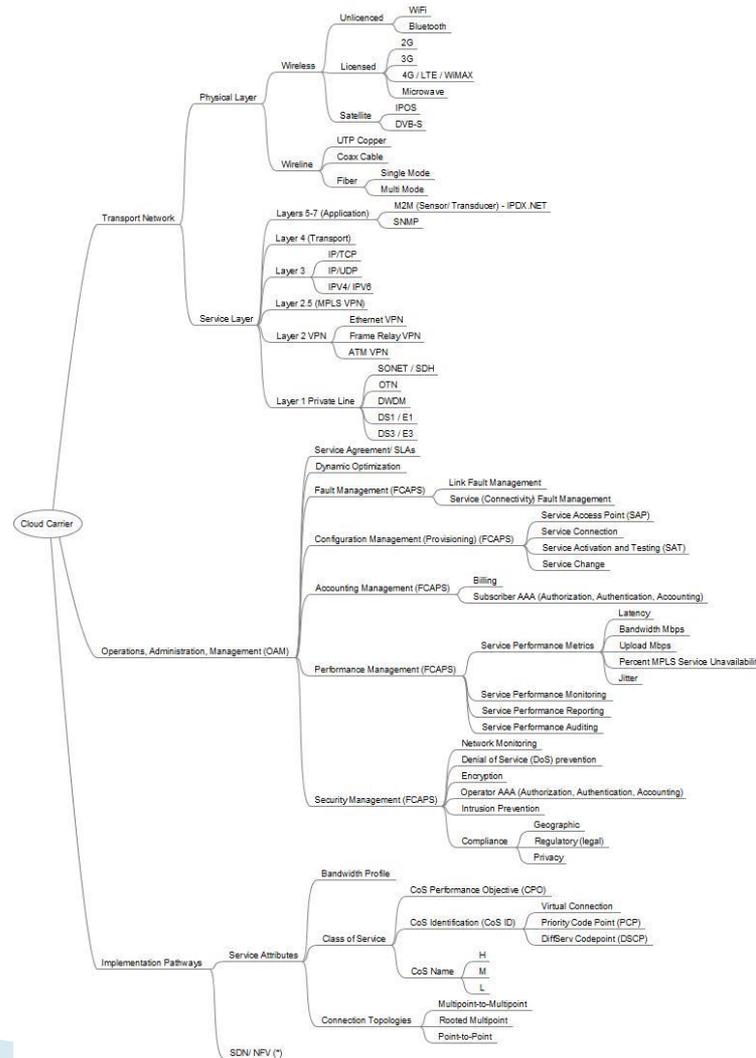
Generic Metrics Model



NIST Cloud Carrier Sub-Group

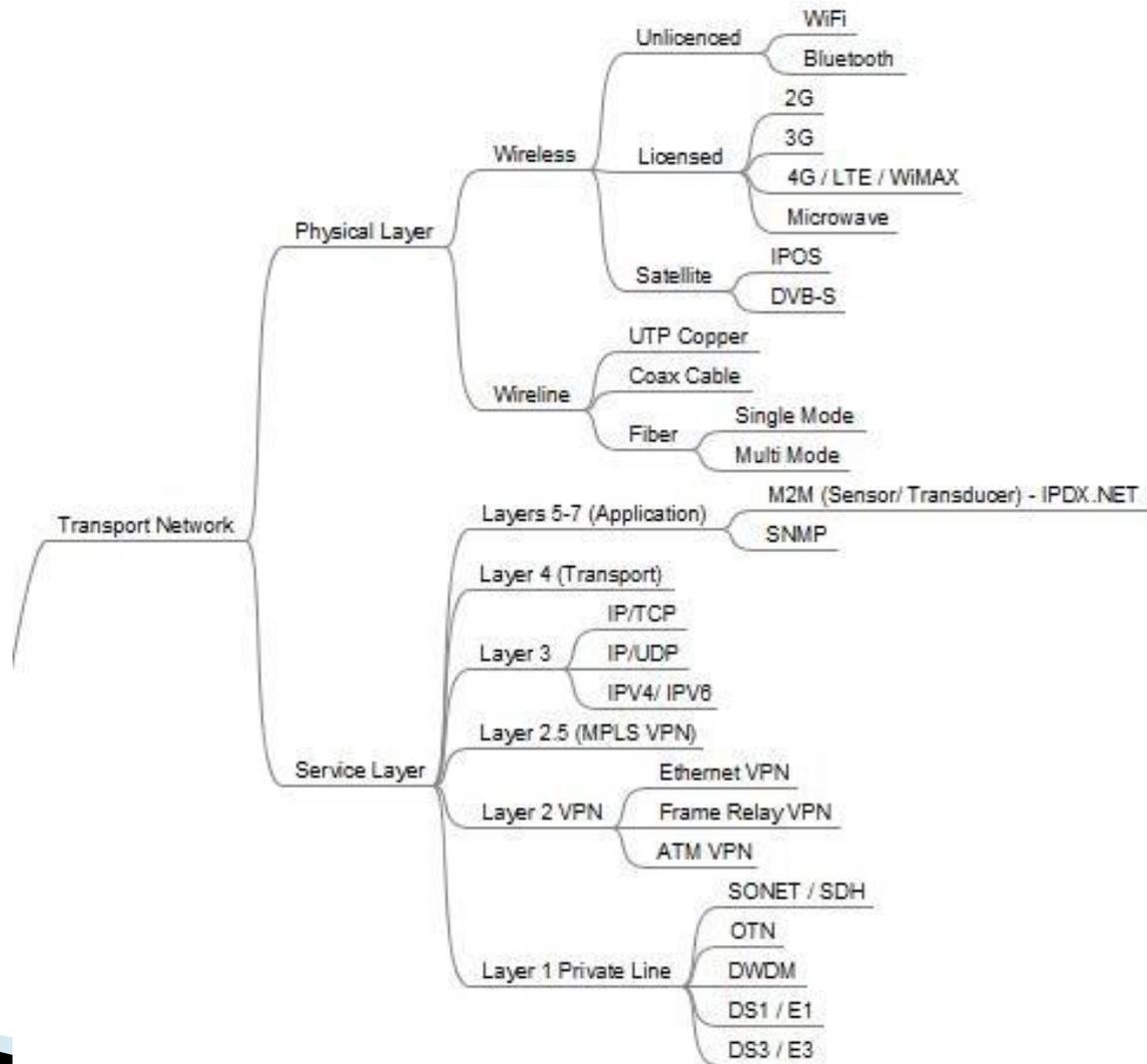
- ▶ Industry Experts in Cloud Carrier Communications
- ▶ Documents
 - Mindmap/Taxonomy
 - Definitions and Cloud Context
 - Cloud Carrier Practical Guide

Draft Cloud Carrier Mindmap

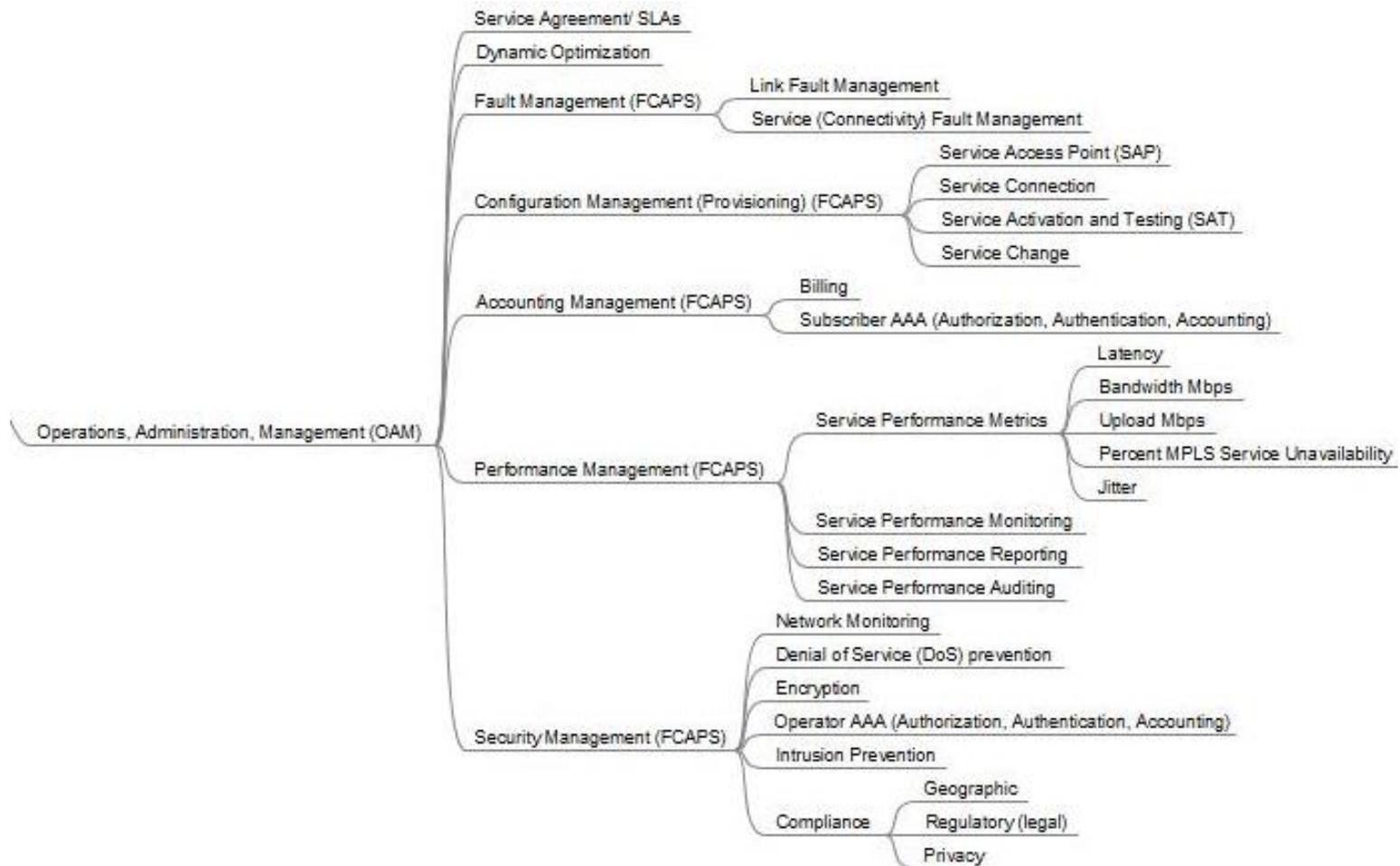


Metrics potentially pertain to any node....plus others!

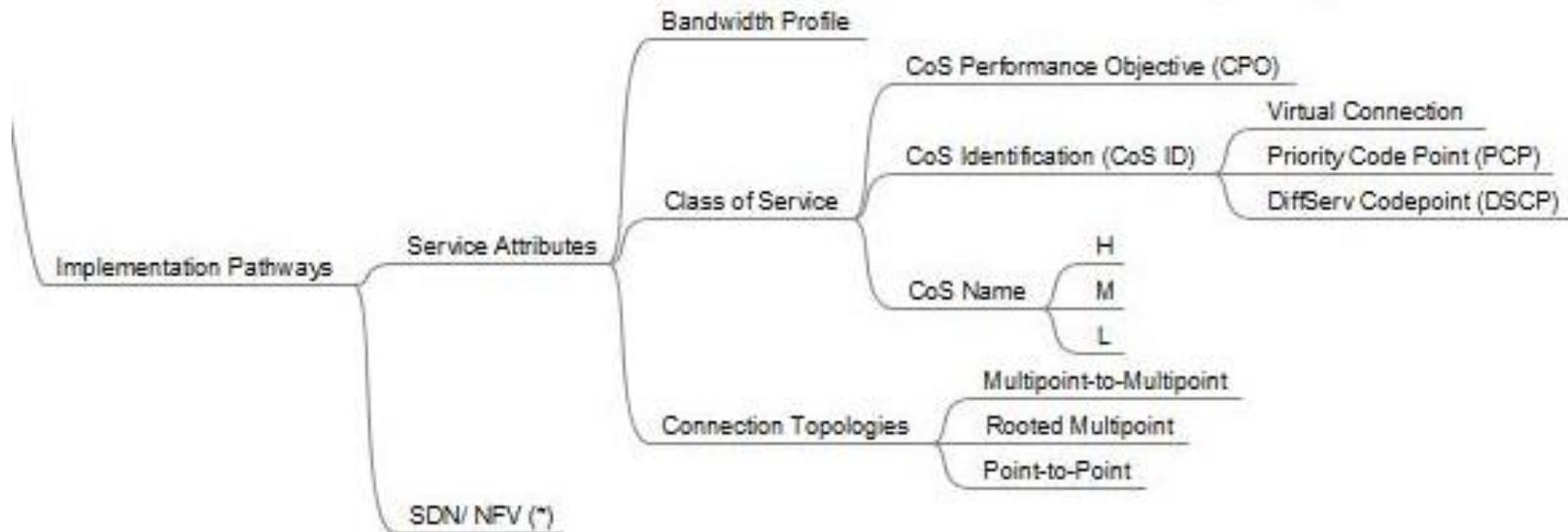
Transport Network



Operations Administration Management



Ethernet Service Attributes and SDN/ NFV



NOTE: SDN/ NFV potentially supports/ impacts all nodes

Summary

- ▶ Don't forget the Carrier
- ▶ No Carrier... No Cloud
- ▶ Metrics always require context and consistency
- ▶ Metrics must be valuable and usable
- ▶ The NIST Cloud Carrier documents will provide meaningful insights into the Cloud Carrier world
- ▶ Welcome participation and input