

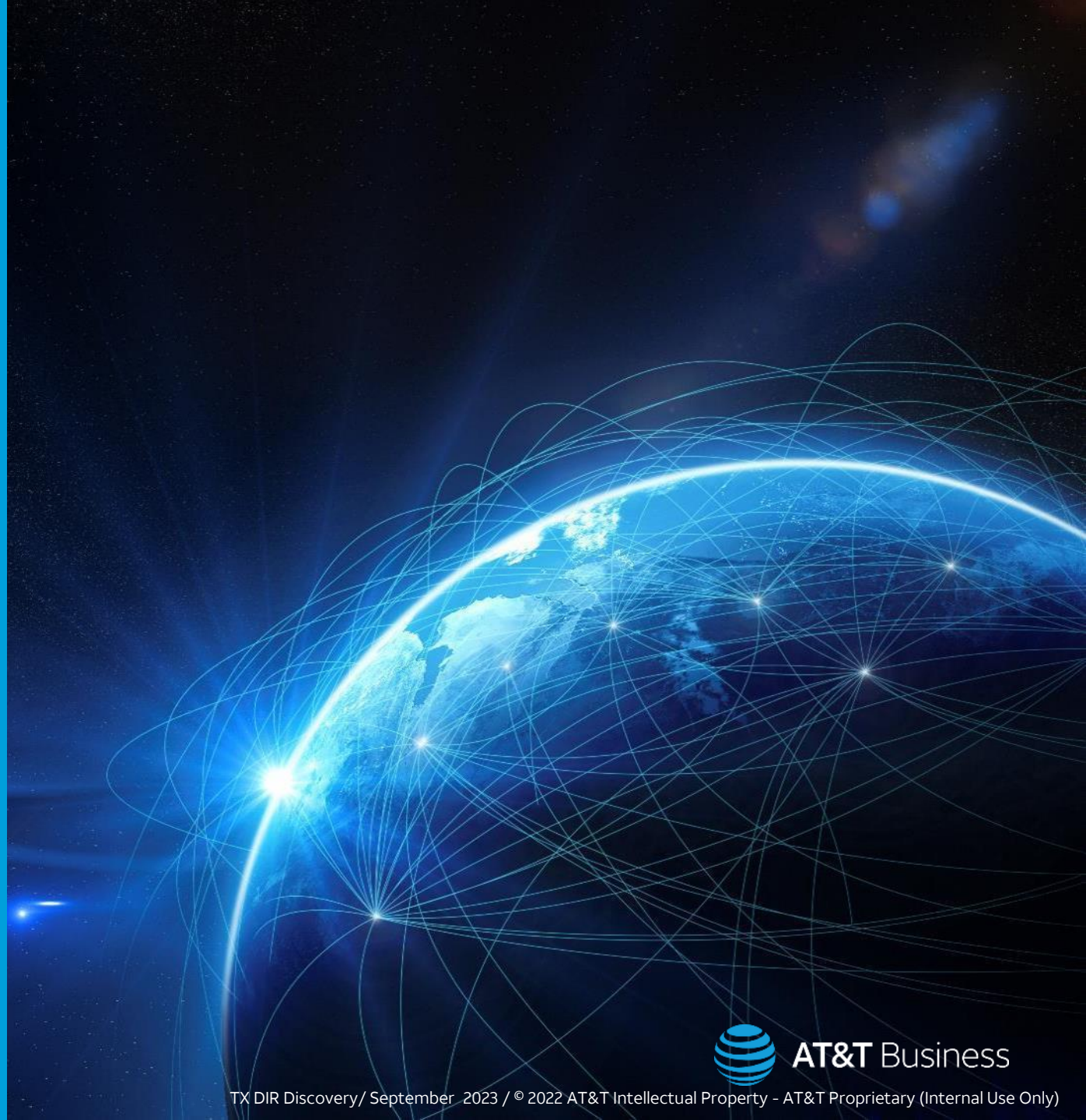
# Network Evolution and Digital Transformation Strategies

A woman in a dark suit is standing in a server room, working on a laptop. The room is dimly lit with blue light emanating from the server racks. The woman is positioned on the right side of the frame, facing left, and is looking down at her laptop. The background shows rows of server racks stretching into the distance.

Robert J Zapotocky  
AT&T Sr. Principal Architect

# Agenda

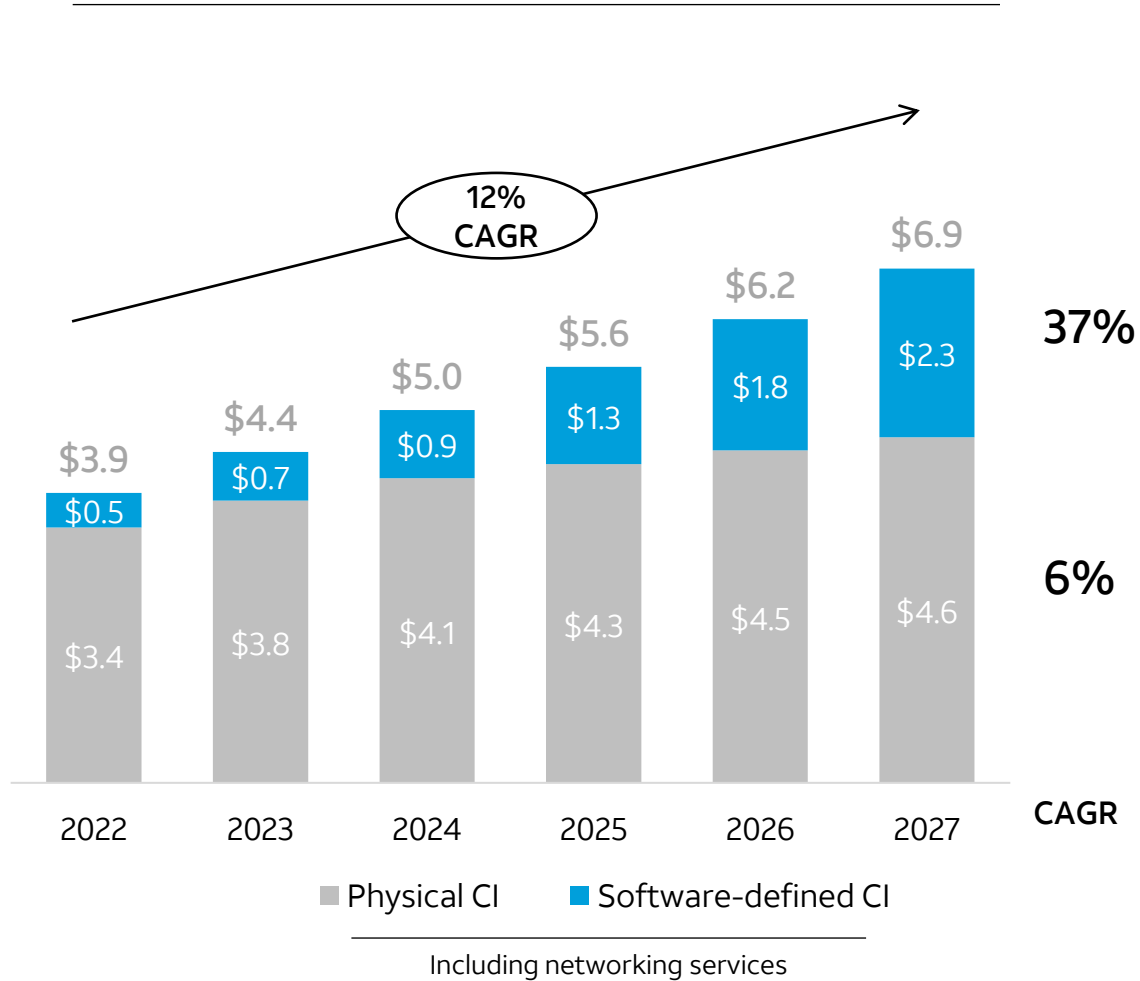
- Trends and Challenges
- Network Modernization
- Cloud as HUB
- Integrated Dynamic Defense
- Q&A



# Hybrid cloud & multi-cloud driving market needs for cloud interconnect

## U.S. cloud interconnect TAM (\$B)

(including networking services, such as Ethernet & Internet)



Physical and software-defined interconnect options are rapidly growing in popularity

**21%** enterprise spending growth on **private cloud** connections, 2020-25<sup>1</sup>

**30%** of enterprises employ **SW-defined cloud interconnect** services to public clouds by 2024

**89%** State CIOs are clear on what they are working towards. Eighty-nine percent of states reported that hybrid cloud is their ideal cloud state.



Gartner stated, in a 2022 Press release "Enterprise IT spending on public cloud computing, within addressable market segments, will overtake spending on traditional IT in 2025"



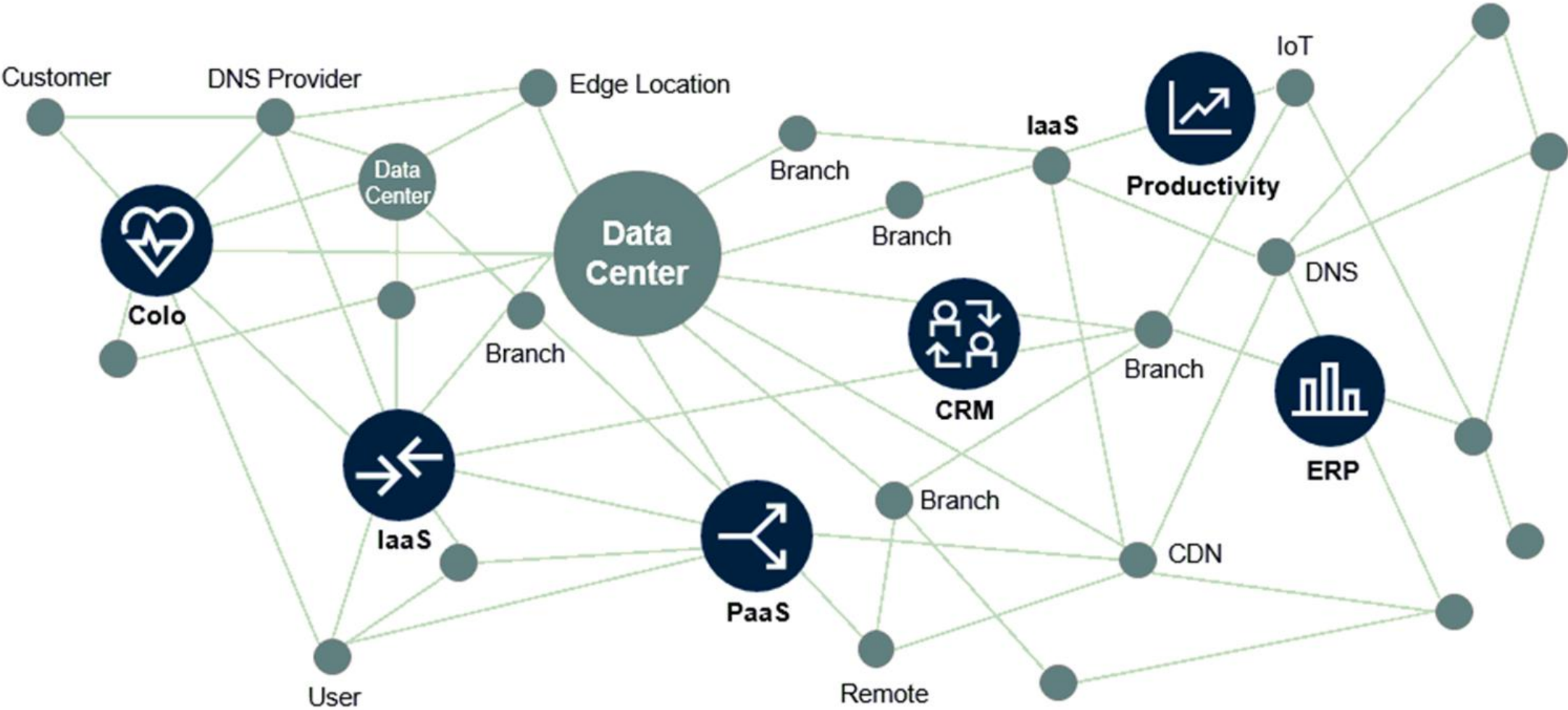
# Transformation Focus

## What are the Challenges?

- **New and challenging requirements:** Distributed apps and workforce creates the need to rethink how to securely connect users and devices. Traffic patterns change, and the threat footprint expands.
- **Network needs to be Cloud ready:** 50-80% of traffic is hair-pinned through legacy datacenter/primary internet site, leading to inefficient bandwidth use and greater networking costs
- **Infrastructure management:** Low or no end-to-end visibility, requires multiple middleware or API integrations with minimal orchestration and very low agility
- **IT Talent availability & retention:** The shortage of skilled and experienced IT personnel and the inability to retain those resources poses significant challenges to security, agility and continuity
- **Increasing cyber targeting in public sector:** Significant investment in security tools has done little to slow cyber attacks in public sector.

# Disparity between Digital Transformation and Network Modernization

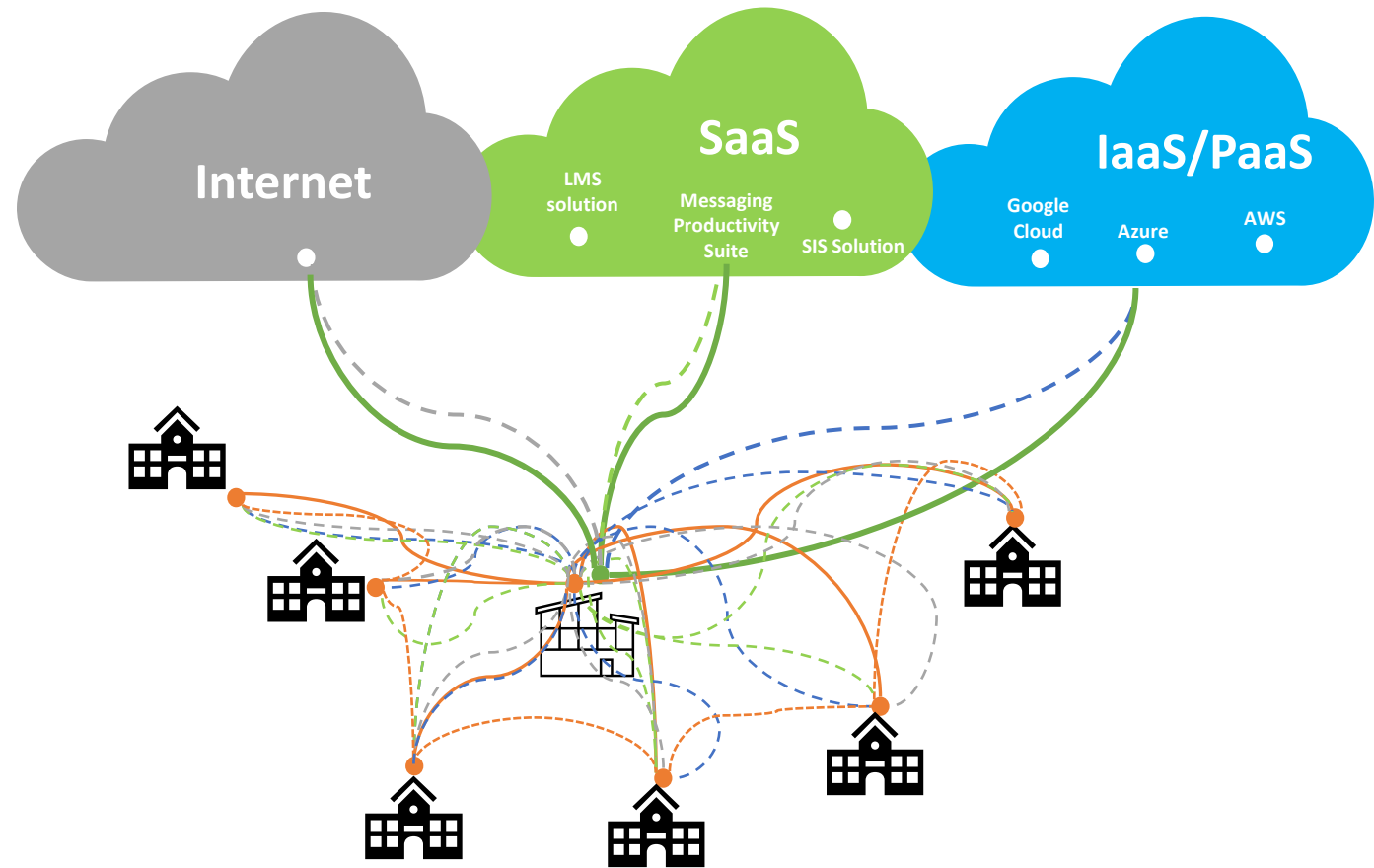
## Complexity in Infrastructures



Source: Gartner (July 2019)  
ID: 384194

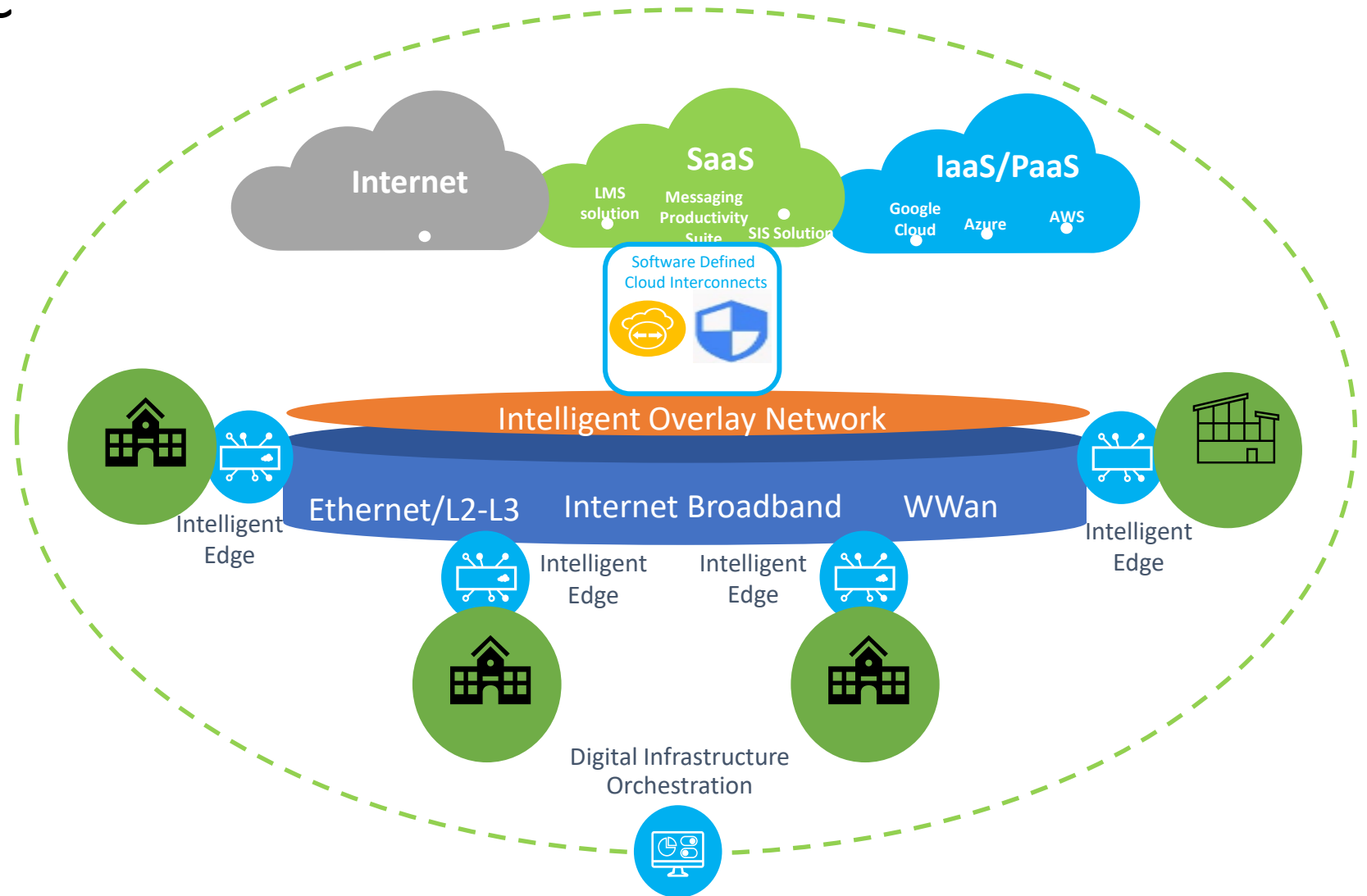
# Typical Legacy HUB centric Network Design

- L2/L3 Hub & Spoke with single central internet connection
- Complex and slow management & operations
- Inefficient use and scaling for bandwidth
- Poor application experience
- Backhaul for cloud/Internet services
- Hairpin required for cloud services, point of failure
- Inadequate security position, not E2E

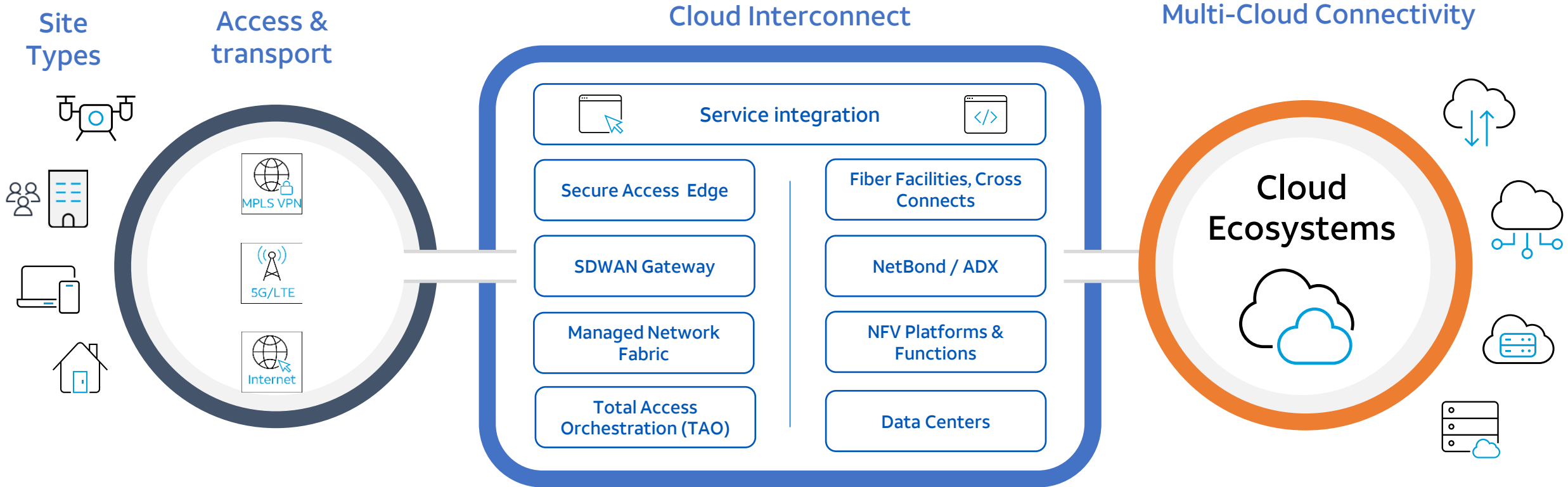


# Secure cloud centric Network Design

- Intelligent software defined overlay architecture
- Agility and scale through automation & policy-based application prioritization
- Direct cloud & internet access via secure network gateway as a service
- Full E2E visibility, scale based on site requirements
- E2E Security supported via Edge VNF and Secure Gateway



# Software-Defined Cloud Interconnects



## Managed Digital Infrastructure



- AT&T Managed Cloud Connections
- Virtual & Dedicated Nodes
- End-to-End Solution
- In-house and 3<sup>rd</sup> party platforms

## Cloud Connections On Demand



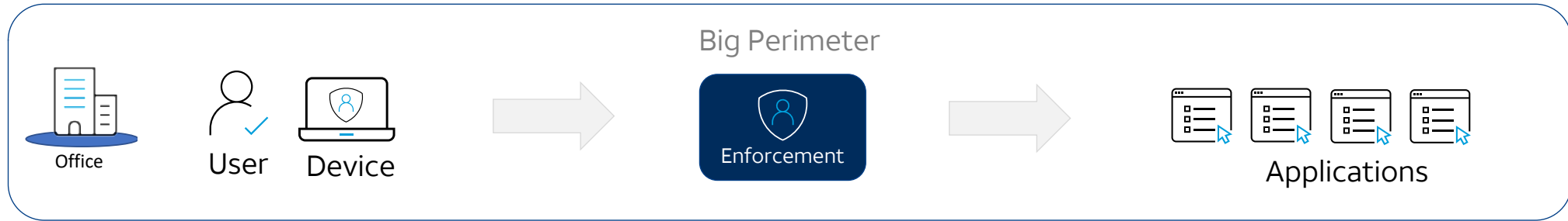
- Self-service Digital Experience
- Virtual Network Connections
- Pre-integrated with Network and Cloud Providers



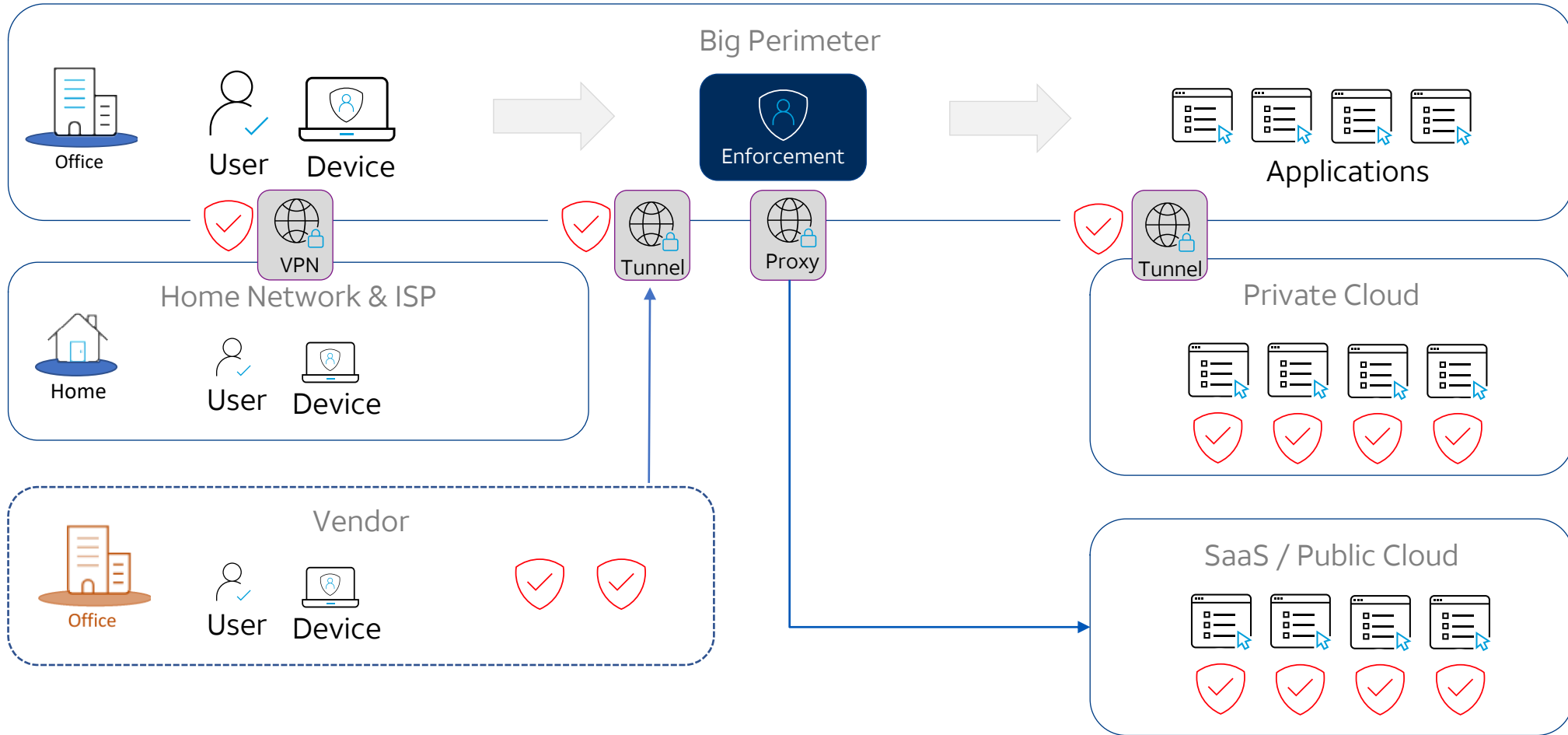
# Evolving to Cloud as HUB

- Greater agility for Stakeholders, Constituents and Users.
  - As workloads are cloud distributed, virtual network functions must be instantiated to support them.
  - Software Defined Networking supports access interworking and operational efficiency across any endpoint
- Orchestration and AI enabled automation
  - Enhance availability, performance and user experience
  - Mitigate network complexity
- Reduce & mitigate cyber threats in the network
  - Zero trust ecosystem integrated within the architecture

# Remember when Security was Simple....



# Security Has Become Complex and Hard to Manage





# Q & A



AT&T Business

AT&T Public Sector, Government, Education & Medical - GEM