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# Introducing Scalability and Flexibility to SATCOM

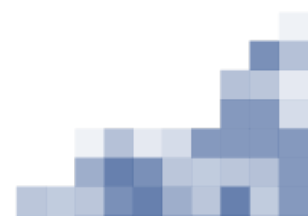
Complementing the DCIS Cube for Comms





# Elevator Pitch (1/2)

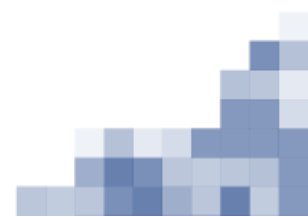
- Today's SATCOM capability:
  - Is bandwidth constrained
  - Is not dynamically allocated
  - Is not flexible adjustable between resiliency and capacity
  - Has a high propagation delay (GEO)
  - Guaranteed spectrum, but paid upfront regardless if it is used or not
- Tomorrow:
  - Higher bandwidth (normal conditions)
  - Software-Defined and dynamically allocated
  - Lower propagation delay through using MEO where possible
    - Balanced between MEO and GEO based on need and availability
  - Guaranteed availability, pay per use





# Elevator Pitch (2/2)

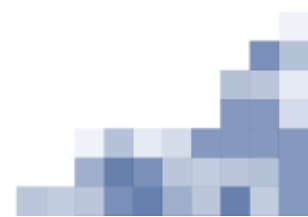
- Suppose that...
  - We establish a Software-Defined SATCOM transport network
  - We no longer focus on leasing spectrum but on bandwidth
  - Where we can dynamically activate and allocate capacity
  - Where we can flexible balance between resiliency and capacity
  - Where we can balance between MEO and GEO to reduce propagation delay
  - Where we guarantee availability
- This affects both SATCOM service provider and NATO's access





# Envisioned architecture

- Software-Defined Satellite Ground Stations
- Software-Defined Quality of Service and Class of Service aware routing
- Orchestration and automation, including
  - Automatically processed capacity request to provider
  - SDWAN for DCIS
- Considering:
  - Bandwidth requirement
  - Delay and loss requirements
  - Resiliency / protection





# Discussion!

