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**2021 Fall
Technical Forum**
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Energy Management and Sustainability on the Road to 10G

How To Not Pop the Balloons: Migrating The Analog Headend for the Digital Broadband Future Facility

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**VIRTUAL EXPERIENCE
OCTOBER 11-14**

Analog Cable TV building



Image of CATV headend-image by author – circa 03/2016

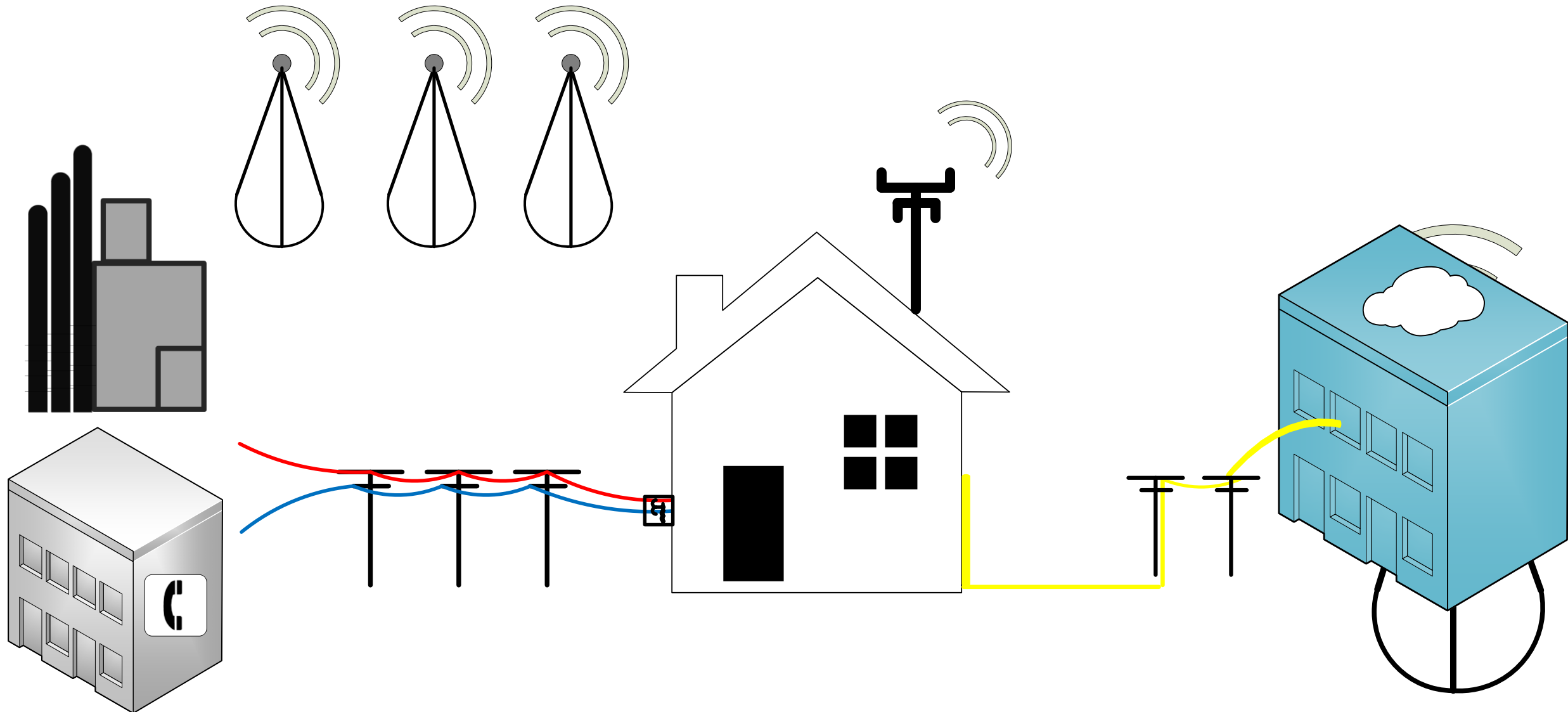


Image of CATV headend-image by author – circa 01/2021

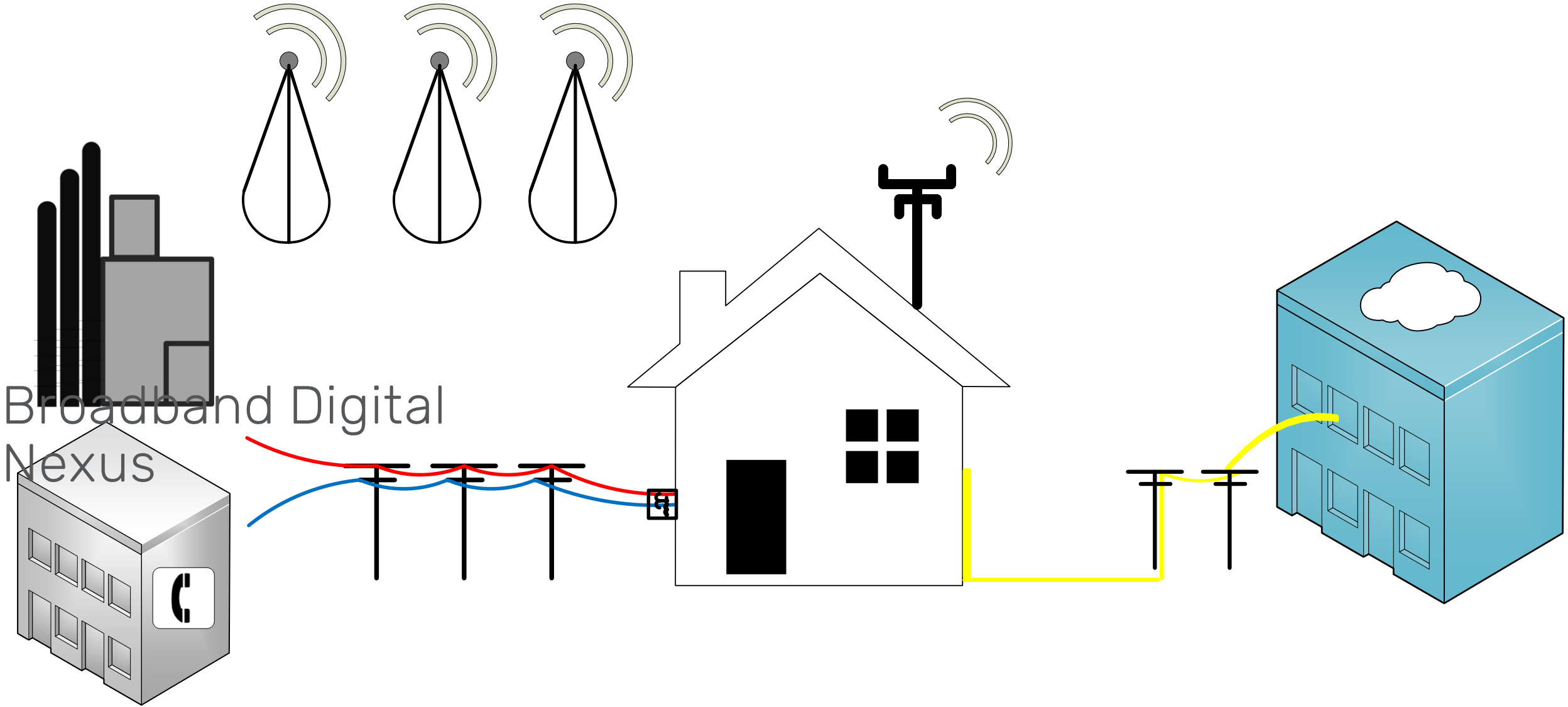


Broadband Digital Nexus

Migrating The Analog Headend for The Digital Broadband Future Facility



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Counts of Chassis within an Analog Location (12 Locations)



Rack Units Utilized within an Analog Location

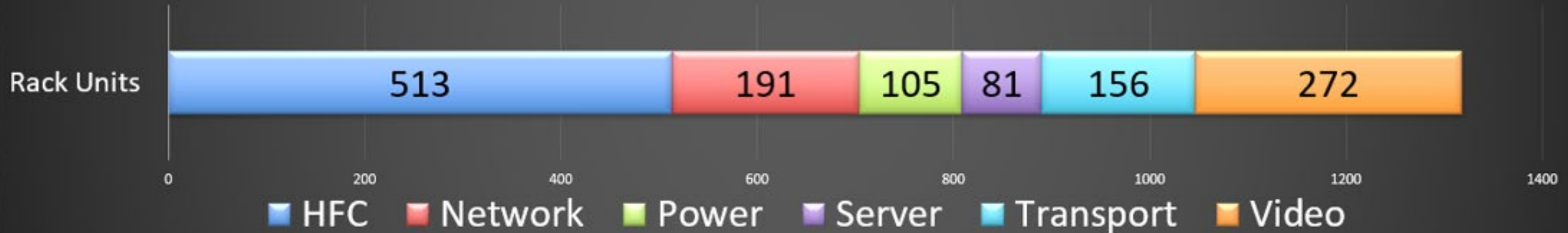
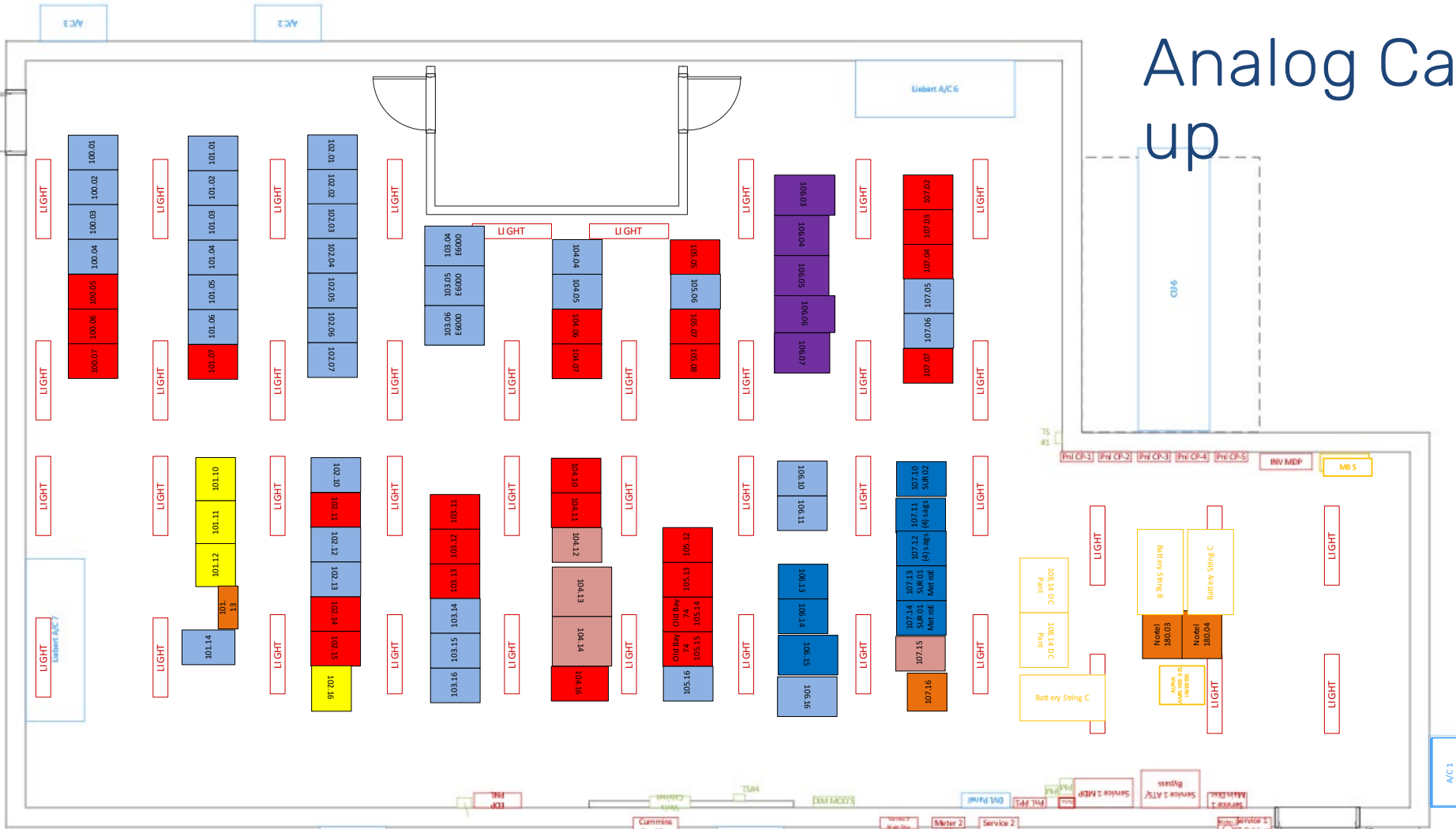


Figure 3: AC vs DC energy consumption relative to RUs consumed

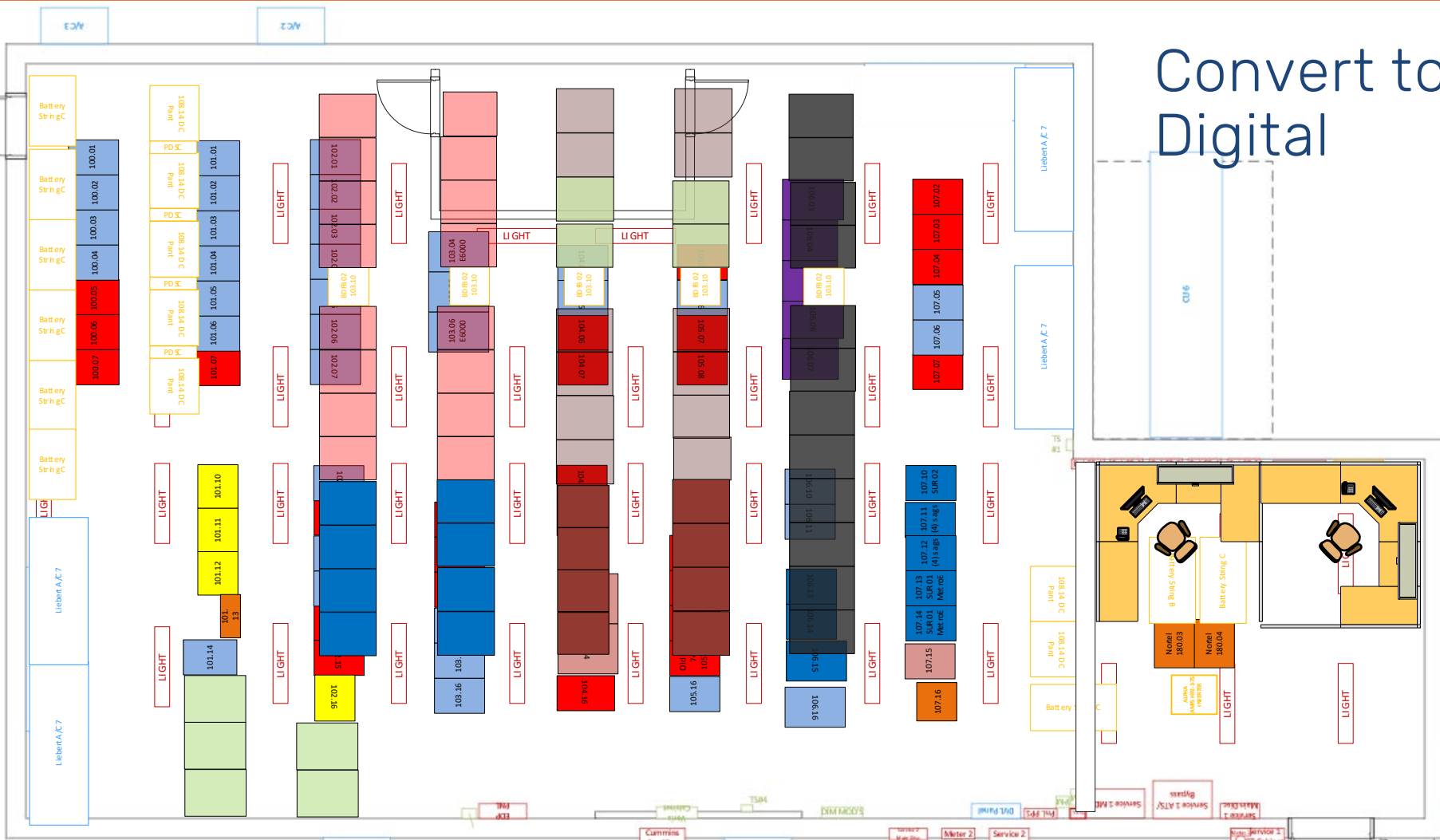
Figure 4: Rack unit allocation within 1 headend

Analog Cable TV Build up

- Building
- Lighting
- Fiber
- Power
- Transport
- Routing
- Gen1 Analog
- CMTS
- Analog Servers
- Business



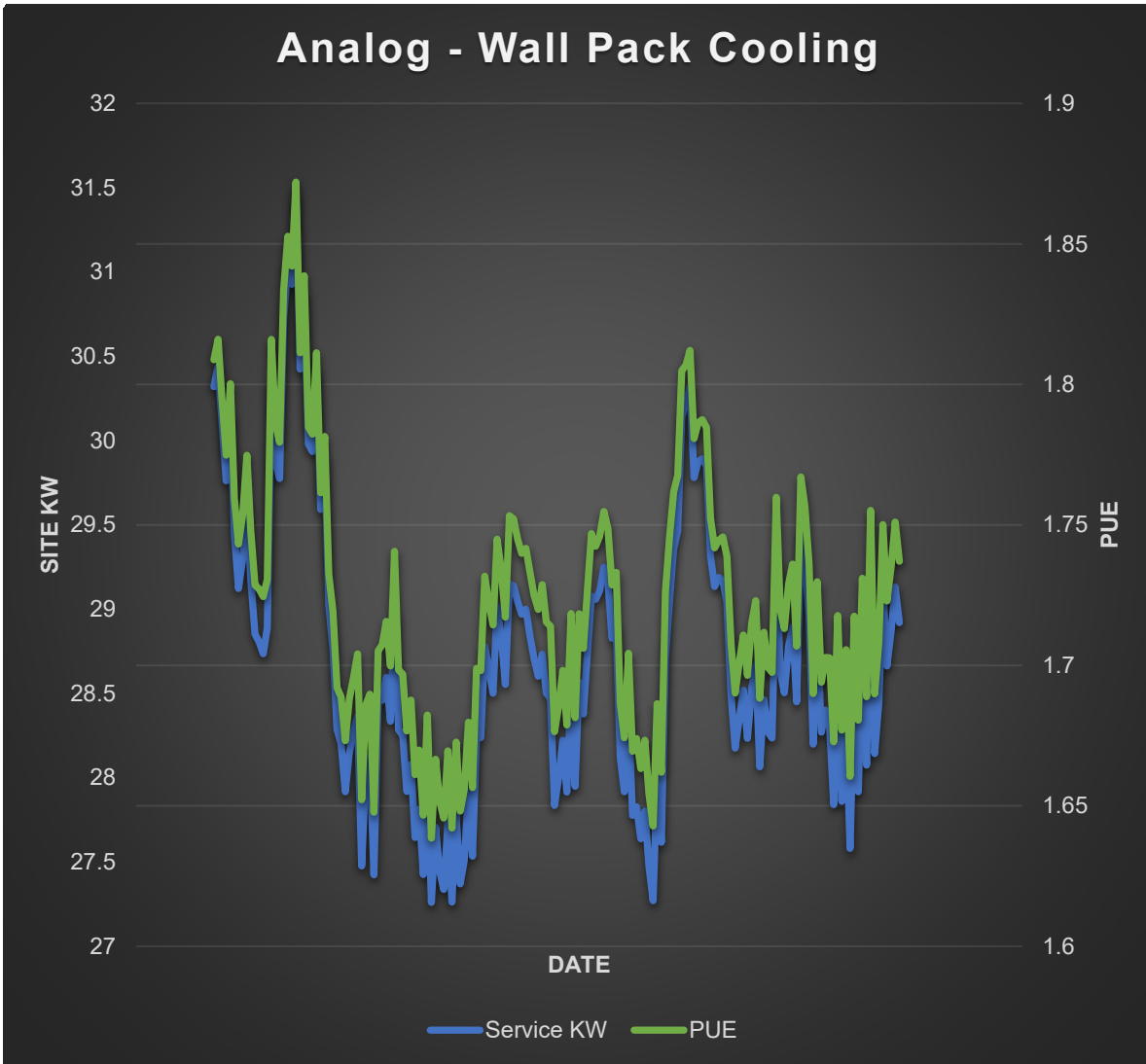
Migrating The Analog Headend for The Digital Broadband Future Facility



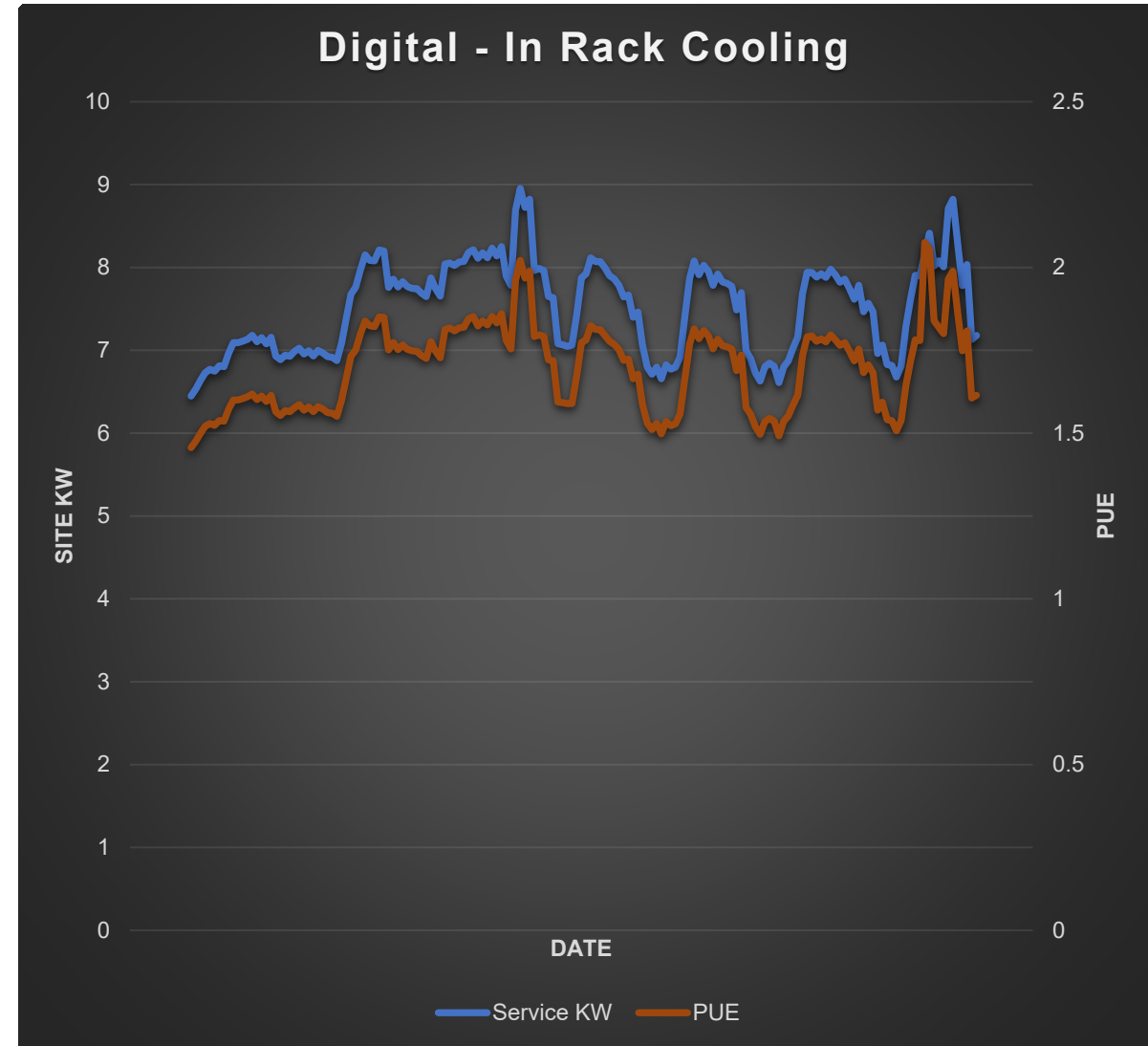
Convert to Broadband Digital

- Eliminate Legacy Racks
- Eliminate Human Space
- Add Conversion Cabinets
- Add vCMTS Equipment
- Eliminate CMTS Analog
- Grow vCMTS and Servers
- Grow DC Power/HVAC
- Remove Old DC Plant
- Grow vCMTS and Routing
- Modernize Business
- Grow Servers/Transport
- Tech Refresh Servers
- Add Server Capacity
- Tech Refresh

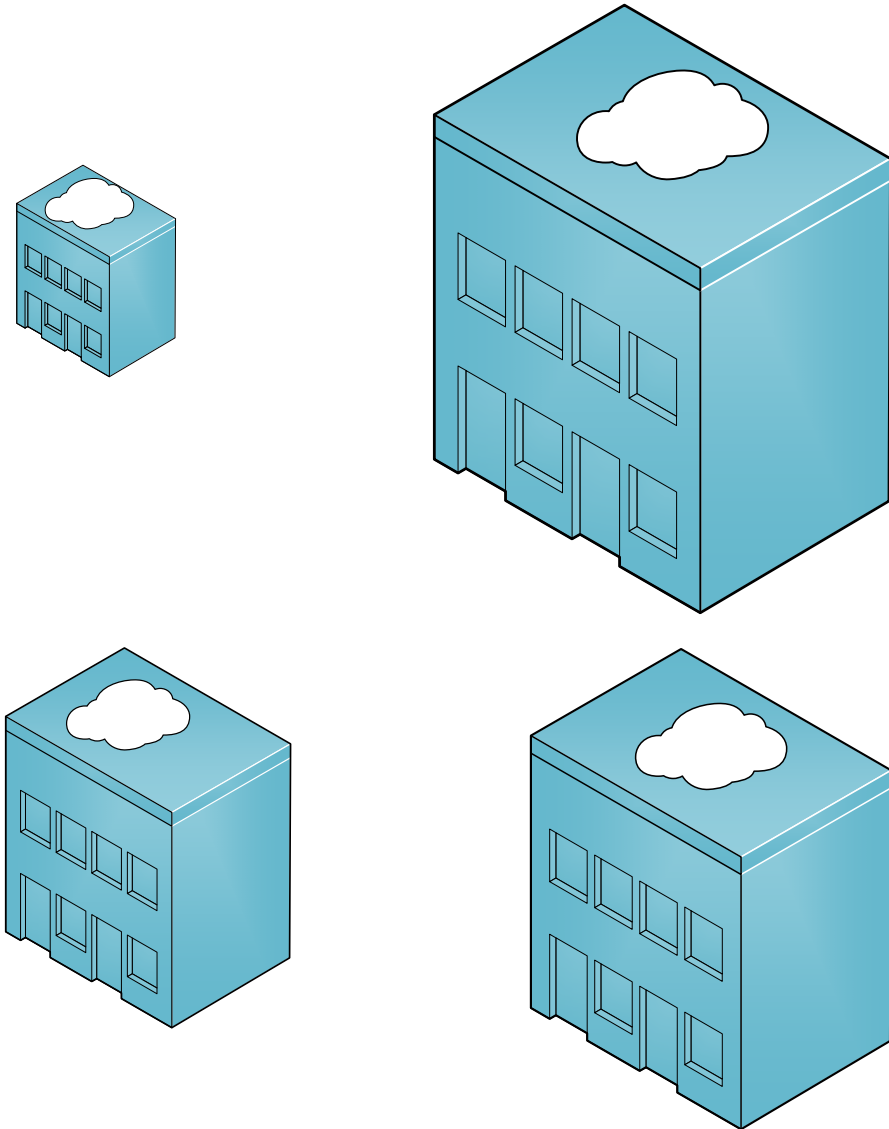
Analog - Wall Pack Cooling



Digital - In Rack Cooling



Migrating The Analog Headend for The Digital Broadband Future Facility



By following a pre-determined playbook of tech refresh, capacity augments and right sizing infrastructure, you also will achieve a building able to sustainably grow with the network that demands its support. The Age of Digital expansion will connect the future world within the bricks laid in the past.



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Thank You!

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