



**ATLANTA, GA**  
**OCTOBER 11-14**

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# UNLEASH THE POWER OF LIMITLESS CONNECTIVITY



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

# Proactive Asset Decommissioning in Critical Facilities to Accelerate Energy Management and Sustainability on the Road to 10G

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**VIRTUAL EXPERIENCE  
OCTOBER 11-14**

## Agenda

### The capacity need on the road to 10G:

- Pandemic Impact on the need for increased network capacity
- Increased capacity needs in critical facilities
- Impact of proactive decom program to help optimize the capacity in the critical facilities

### Planning a Proactive Asset Decommissioning program:

- Creation and management of a strong asset inventory,
- Streamlining processes
- Energy Management: Automating power monitoring
- Using sustainability best practices & security best practices
- Critical controls and governance

### Executing for Scale:

- Partnering across the organization
- Iterative Process Improvement
- Leveraging data and automation

### Risks & Mitigations:

- Potential impacts to reliability
- Financial value of assets not fully realized
- Moving too fast & cutting corners

### Takeaway:

- Adopting Proactive Asset Decommissioning strategy at your organization



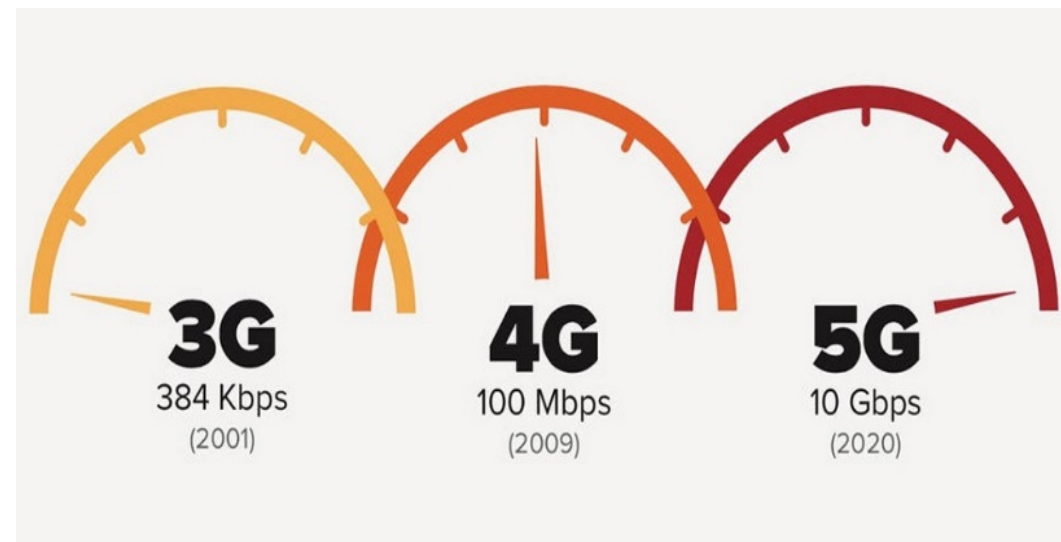
# The Capacity Need on the road to 10G

## The Road to 10G

The 10G Platform is a combination of technologies that will deliver:

- Internet speeds 10x faster than today's networks.
- Low Latency
- In-built Security
- Uncompromised Reliability

Source: <https://www.cablelabs.com/10g>



## COVID-19 Impact Network Capacity

2020 at a glance:

14x

Traffic patterns remained highly asymmetrical, as downstream traffic volumes were 14x higher than upstream traffic volumes throughout 2020.

32%

Peak Internet traffic rose 32 percent over pre-pandemic levels, and over 50 percent in some markets in March.

38%

Peak downstream traffic in 2020 increased approximately 38 percent over 2019 levels and peak upstream traffic increased approximately 56 percent over 2019 levels.

1 Trillion

For the first time ever, as Comcast customers surfed, streamed and emailed more than ever before, they generated more than a trillion Internet requests (DNS lookups) each day.

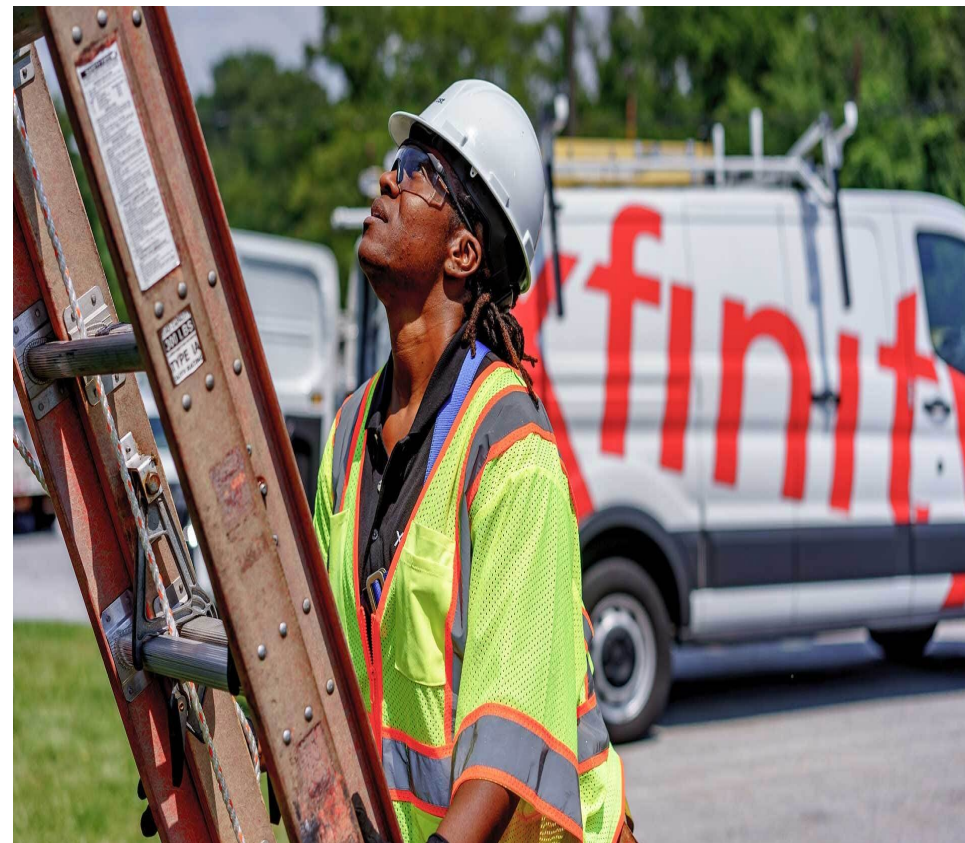
In the span of 4 months in the wake of pandemic lockdowns, Comcast's network experienced almost 2 years-worth of traffic growth.

Source: <https://corporate.comcast.com/press/releases/comcast-2020-network-performance-data>

## Increased capacity needs in critical facilities

- In-rack assets consume large amounts of energy,
- such as:
  - Compute
  - Storage
  - Network
  - Security Appliances

We've doubled our network capacity every 2.5 years to stay well ahead of demand.





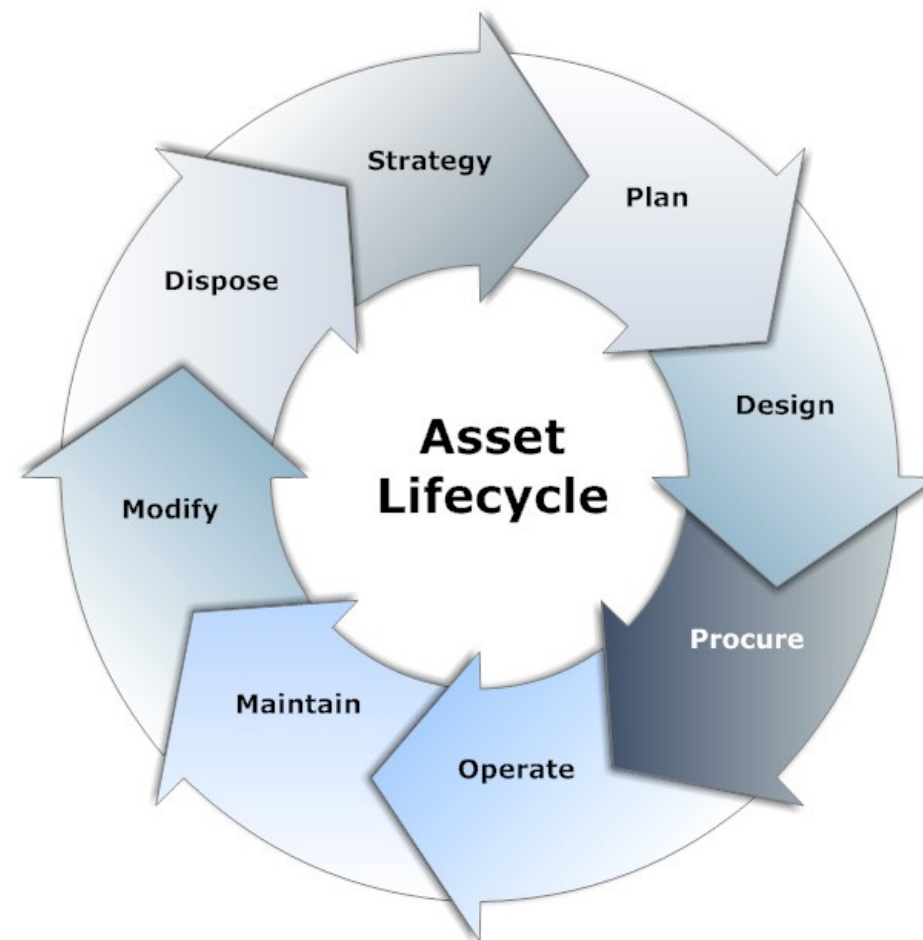
# Planning a Proactive Asset Decommissioning program



## Planning

Planning of a Proactive Asset Decommissioning program should consist of:

- Creation and management of a strong asset inventory,
- Streamlining processes & closing gaps
- Automating power monitoring & asset discovery
- Using sustainability best practices
- Using Information Security best practices
- Critical controls and governance



## Creation and management of a strong asset inventory



### Physical Audits

- Floor to book and book to floor inventory of our devices and cross referenced and updated our data center management systems, to ensure the inventory and all relevant attributes were recorded.



### Gap Analysis

- We also used this opportunity to run a gap analysis and cleanup of other sources systems like our CMDB and asset inventories for these physical devices.



### Owner Identification

- Using the CMDB helped us identify owners and flag any assets without an owners as a potential decom candidate along with flagging other discrepancies which would later help us with potentially finding decom candidates.

## Streamlining processes & closing gaps



### Tool Alignment

- Identifying and cleansing the data quality in the tools that house the source of truth
- Reducing the swivels between the tools
- Enhancing the user experience of the tools

### Identify Gaps

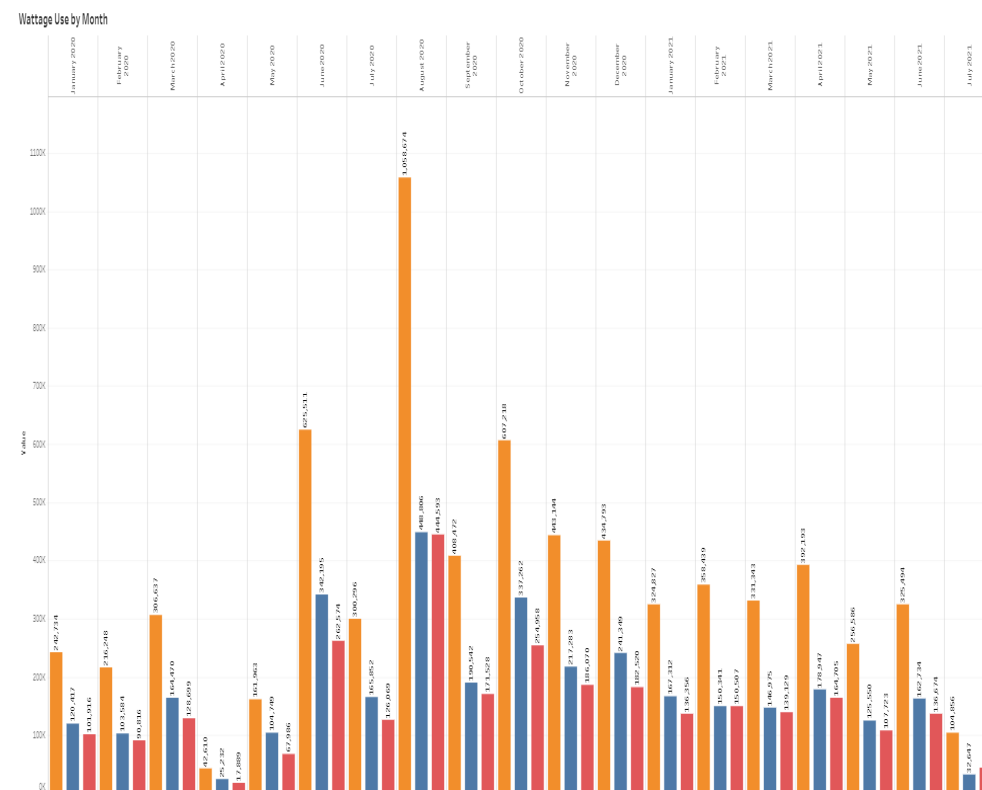
- Talking to the stakeholders and visualizing process diagrams.
- Understanding the long poles and bottlenecks
- Identifying KPIs that highlight the gaps and measure streamlined process

### Optimize

- Redrawing process diagrams for streamlined process with buy-in from stakeholders.
- Trialing the new process on a small subset
- Building continuous process improvement mindset

## Energy Management: Automating power monitoring & asset discovery

- Power reduction in our critical facilities was a key driver for Comcast.
- We were able to keep our power bill flat in 2020 by taking out more than we put in but also by proactively moving workloads to our private and public cloud through our Cloud First initiative



## Using sustainability best practices

- At Comcast we have a very robust Asset Recovery Center that work with vendors to dispose of equipment in a safe and secure manner and re-purpose where possible.
- We also run regular data center audit to identify abandoned devices which are likely consuming unnecessary power.



## Information Security & Data Privacy: Data Erasure

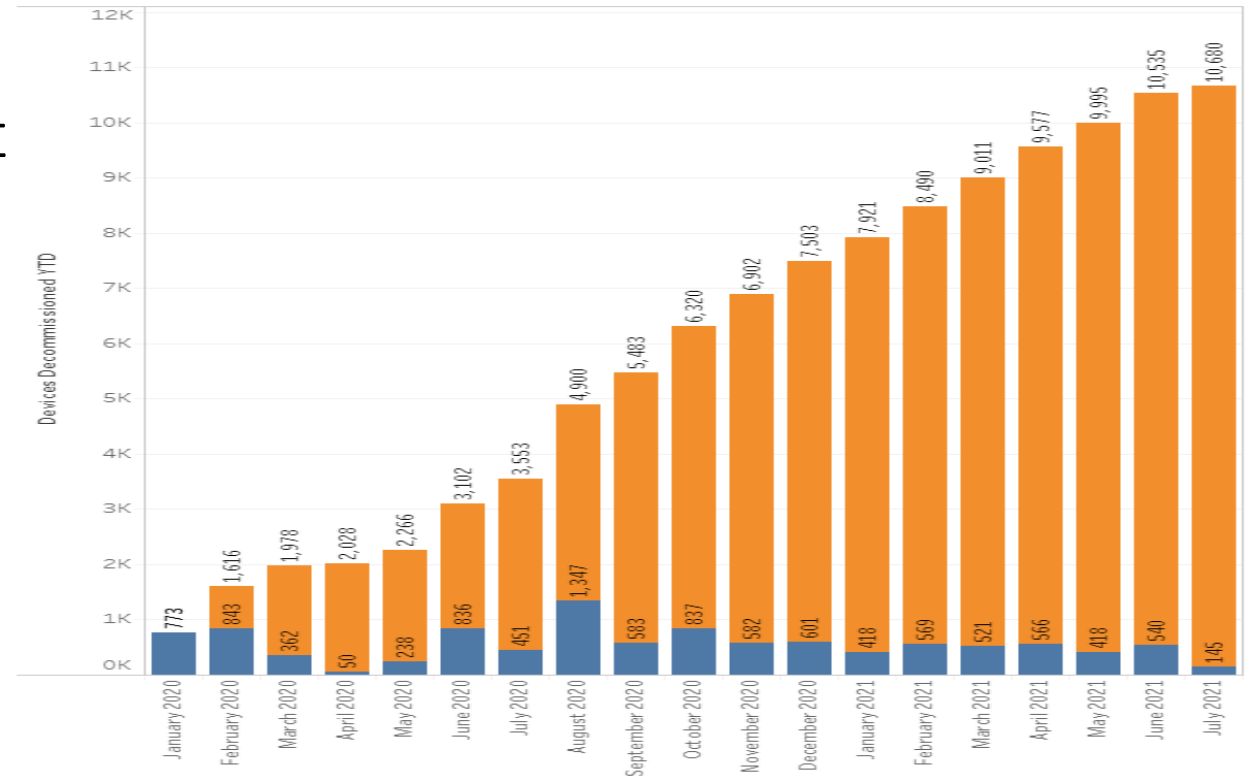
- Compliance with your organization's data protection and privacy policies should be top priority when building out the Decom process. Here at Comcast, we use Data Erasure software to wipe the drives along with physical destruction.
- The Decom Program is also partnered closely with Cyber Security in getting potential abandoned servers out of our critical facilities.



## Critical controls and governance

Govern process compliance:

- Flag project related decoms upfront
- Govern CMDB App – Asset relationship
- Govern Asset state updated through Change Management
- Proactively identify abandoned servers and decommission them through controlled process.





## Executing the Program for Scale



## Execution

Proactive Decommissioning Program should consist of these key elements:

- Partnering across the organization
- Iterative Process Improvement
- Leveraging data and automation



## Partnering across the organization

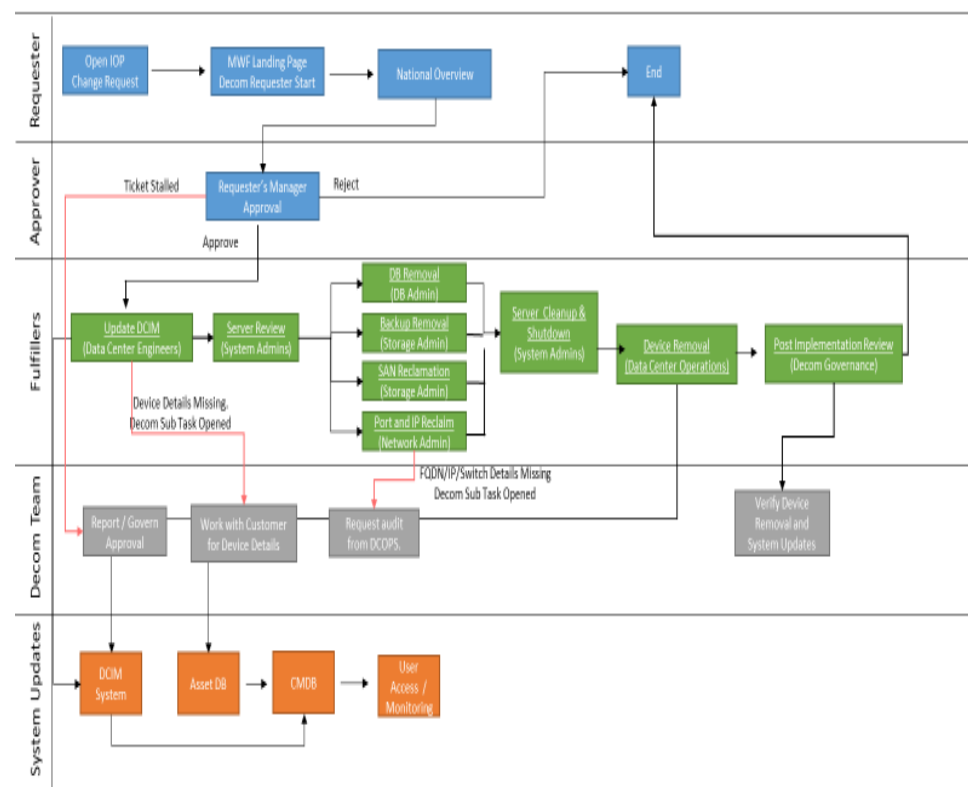
- Abandoned and underutilized systems consume valuable resource, from OS, DB licenses, Ports/Ips to Storage and rack space. Everyone has a stake.
- Partnering with Executives and gaining buy-in & sponsorship also played into the success of our program.
- Our partnership with Cyber Security played a key hand in supporting this initiative and they were definitely at the forefront of stakeholders interested in getting abandoned, unused gear out of the environment as it poses great security risks.



## Iterative Process Improvement

- It was very important that we continuously looked at our process and made those iterative changes as needed.
- In any large organization, as people move around and tools change, it's important to revisit the processes with a fresh set of eyes and make sure we're still operating in the most efficient manner.

Critical Facility Decommission Process



## Leveraging data and automation

Asset Management functions are usually very manual, but we looked for opportunities to automate wherever possible.

- We leveraged system APIs for our ticketing systems, CMDB/Asset repositories and our data center management systems to get a holistic view of what was in progress, where in the process and what facilities the decoms were taking place.
- We also used similar automation to run a final check once decoms were complete to ensure all source systems reflected the true state of the decommissioned devices.





# The Risks and the Mitigations

## Risks & Mitigations

Proactive Decommissioning Program should consider the following risks:



**Potential impacts to reliability**



**Financial value of assets not fully optimized**

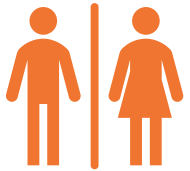


**Moving too fast & cutting corners**

## Risk: Potential impacts to reliability

Decommissioning abandoned assets should be done with the utmost care to ensure risks are mitigated.

At Comcast we followed a 7-step process to turn down abandoned assets and ultimately decommission them if no one raised their hand within 30 days of shutdown. This was done in partnership with Change Management and our Hardware Service Desks.



1. Owner Identification



2. Physical Datacenter Audit



3. Device Utilization Audit & Port Flagging



4. Change Ticket and Approval



5. Mass Comm & High Alert Monitoring



6. Unplug Network Cable



7. Wipe, un-rack and Disposal

## Risk: Financial value of assets not fully realized

Our decom program is focused on getting End-of-Service-Life and other aging devices out of our critical facilities.

You may not be getting full value out of these assets but the cost to maintain aging infrastructure and security risk associated with them outweigh the benefits of keeping these assets in our critical facilities.





## Risk: Moving too fast & cutting corners

There are risks associated with moving through the process too fast or not complying to the process as designed.

Bypassing critical steps in the process could leave your organization at risk of the following:

- Stranded Ports/Ips
- Abandoned DNS entries
- Abandoned firewall/load balancer entries
- Abandoned storage space
- Unwiped/destroyed hard drives
- Abandoned assets left in racks



## Take Away

Adopting this strategy at your organization:

- Identify assets and ownership
- Improve process and close any gaps
- Leverage automation & discovery
- Process governance



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# Thank You!

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