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Energy Management and Sustainability on the Road to 10G

Reliable Power Monitoring is Critical to Successful 10G Deployment

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VIRTUAL EXPERIENCE
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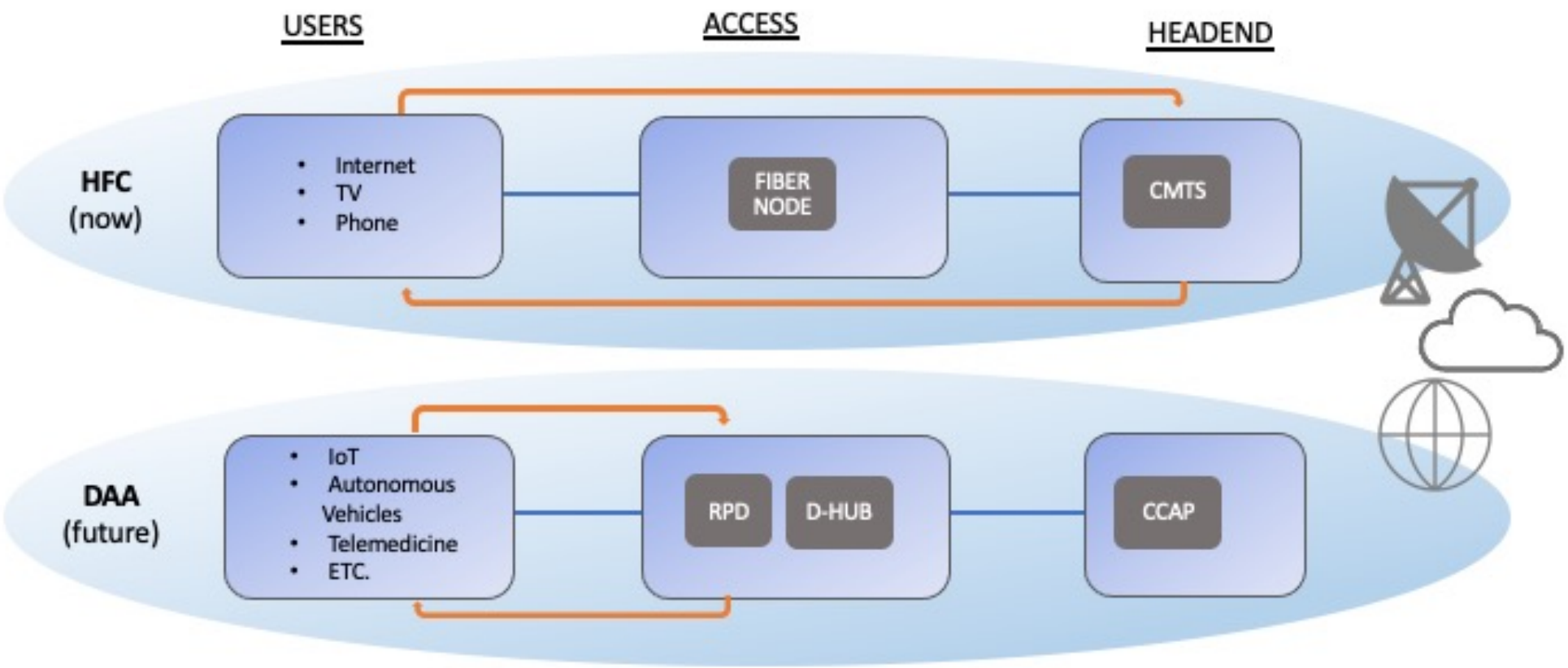
Connections Everywhere!

Speed and Latency are Key

- Residential
- Healthcare
- Entertainment
- Manufacturing
- Farming
- Transportation
- Gaming
- Etc.

Many of these applications require 100% uptime to ensure safety (example: Autonomous Vehicles)

10G Speeds Demand Distributed Architecture



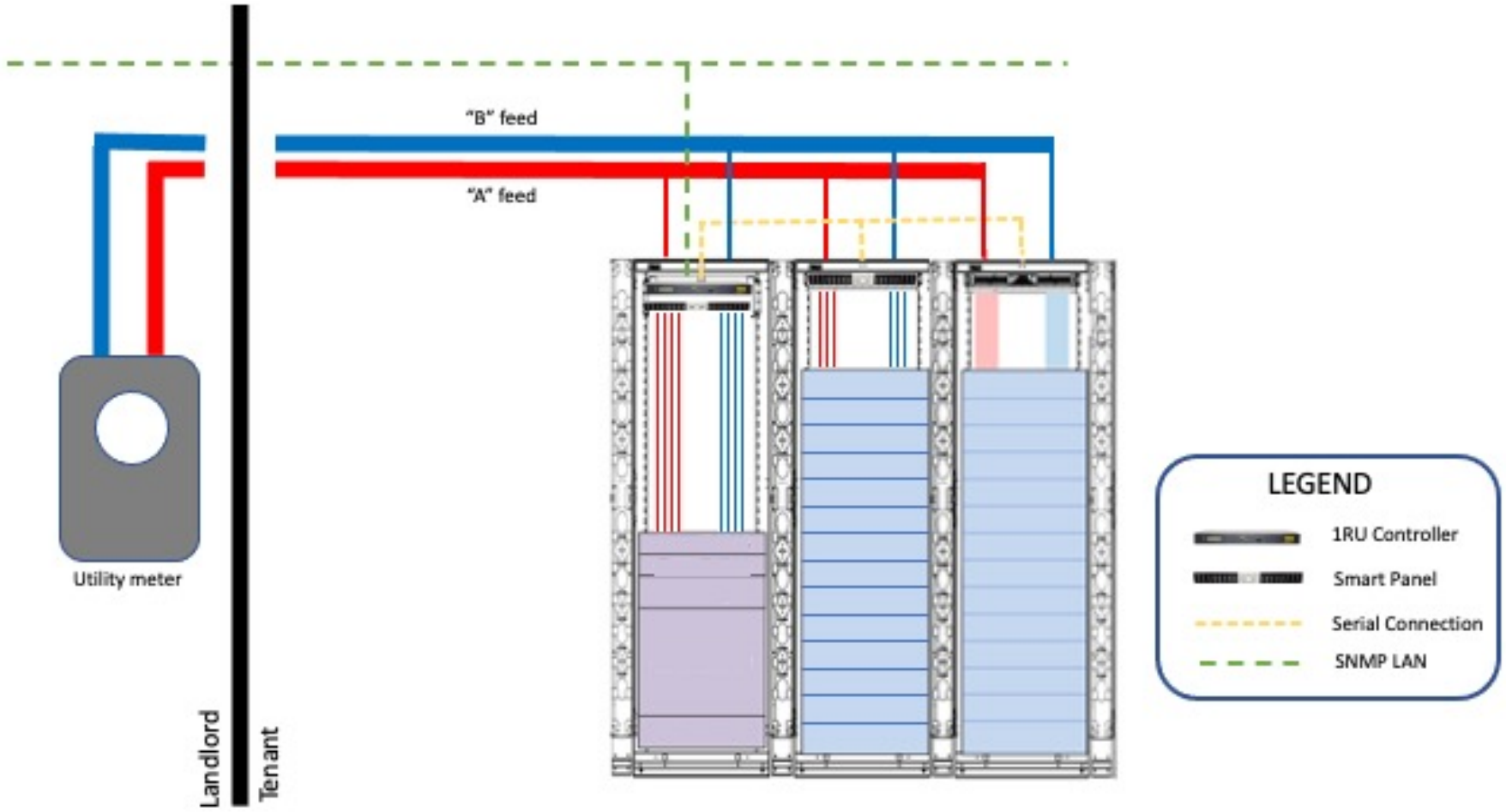
Reliable Power Required at the Growing Number of Nodes

With increasing amounts of traffic never leaving the local node, it is imperative that power for equipment is always available

Power solutions should provide:

- Analytics
- Mitigation
- Economics

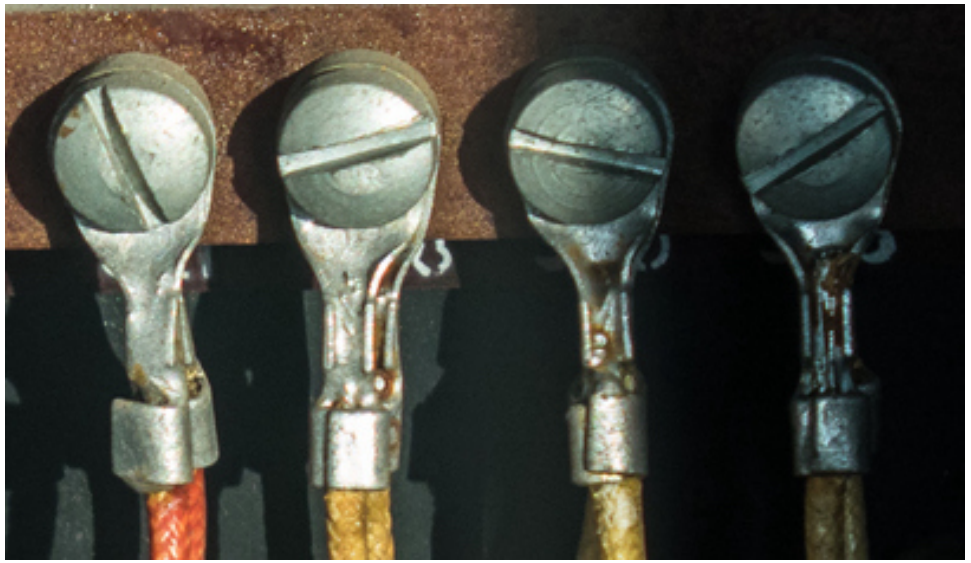
Powering a Co-location Facility



Power Monitoring

- Within a Co-Location Facility
  - Understand actual power usage when meter information from power provider is unavailable
- Provisioning Analytics
  - Time of Day / Day of Week usage allows scheduling of tasks for periods of lower costs
- Mitigation
  - Recognize and identify issues before they occur

From Alarm Closures to Predictive Analysis



Modern power equipment not only provides alarming in the event of failure but, importantly, utilizes ongoing data analysis to predict deteriorating conditions before they result in failure

Power Panels

Functions move beyond simple provision of power and alarm closures

- Integrated Power Monitoring
  - Individual Circuits
  - Total Input Bus Current
  - Panel Input Voltage
  - Temperature
  - External Probes
  - Etc.
- Hot Swappable Cards
- One integrated controller per site via ”daisy chain”

Power Monitoring

Changing network architecture drives enhanced power needs

- IoT = Sensors are everywhere!
- Network elements moving closer to users to overcome speed and latency issues
- Reliable power is required at every node to ensure 100% uptime for critical apps
- Power Monitoring will:
  - Allow understanding of actual usage
  - Analyze data to predict possible problems
  - Allow shift to more economical usage patterns
- Modern power panels separate controller function from power provisioning function
- Power monitoring will provide benefit throughout the network, whether in new nodes, co-lo facilities, or elsewhere

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Thank You!

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