



Synchronization for 5G

Service Provider Challenges

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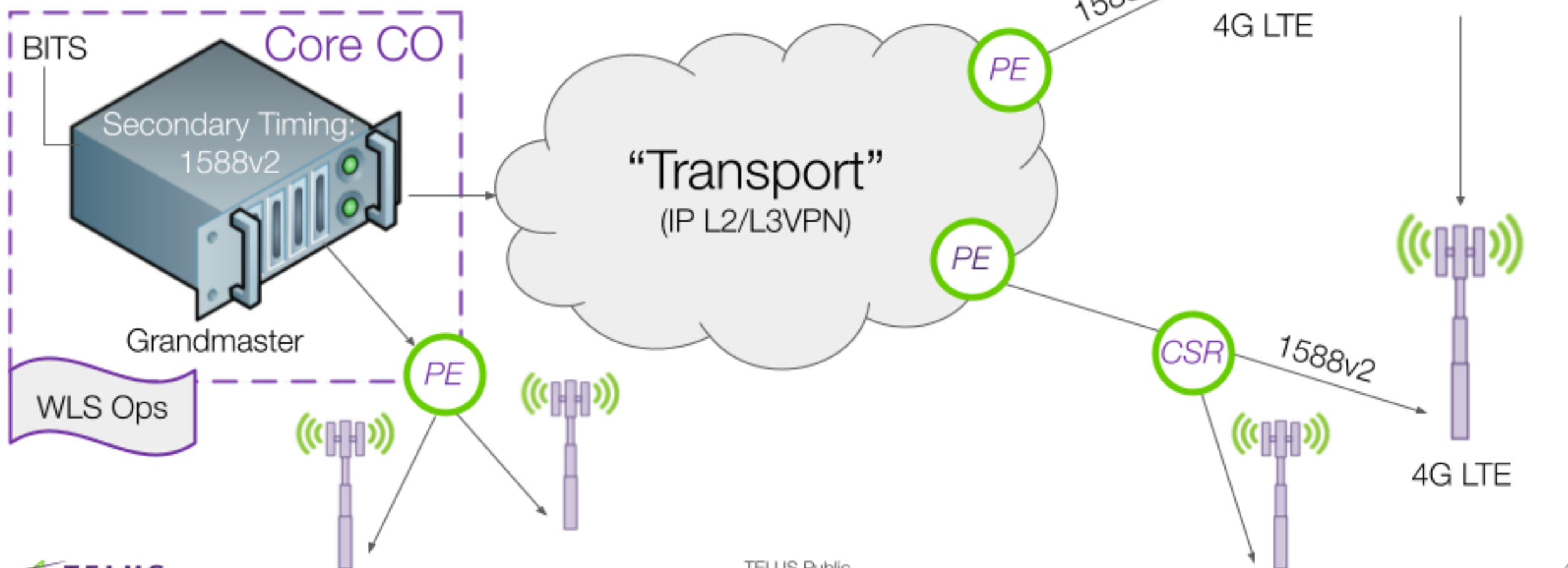
Agenda

- 1) TELUS & Matt McGale
- 2) Task at Hand
- 3) Breaking Down the Initial Challenges
- 4) Connectivity, Complexity, and Asymmetry
- 5) Conclusion

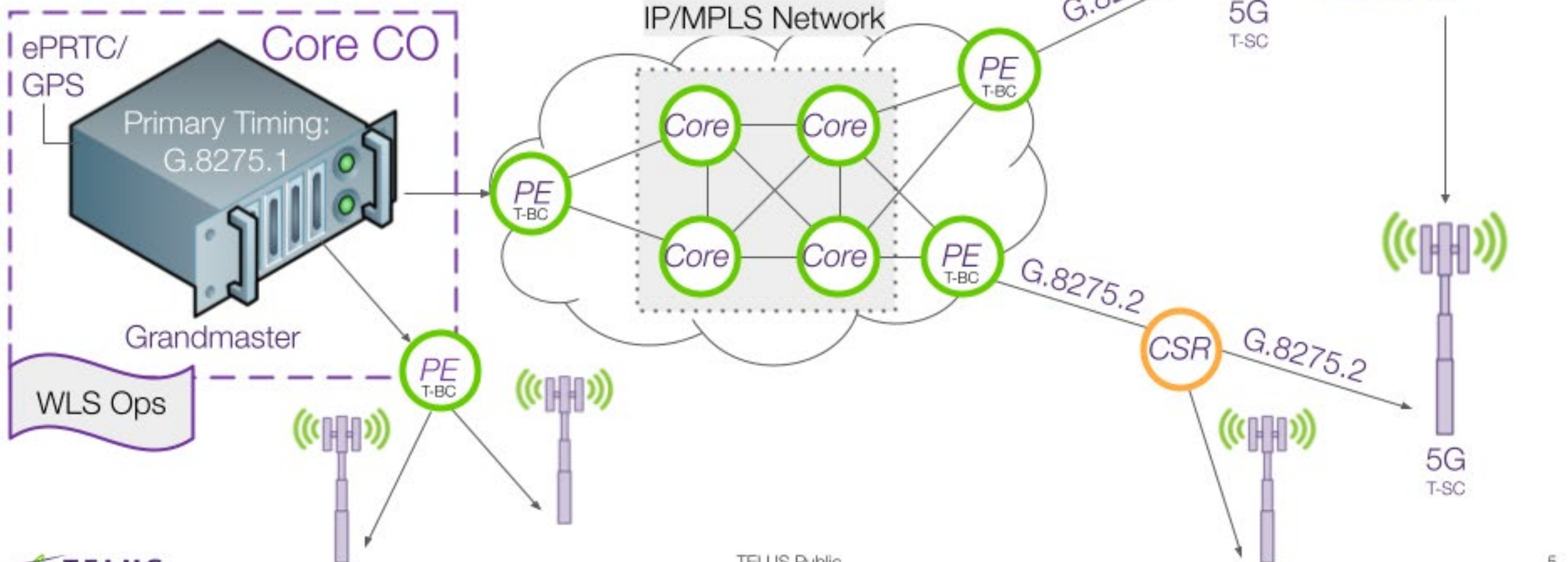
The Task at Hand



Transform Wireless Sync From

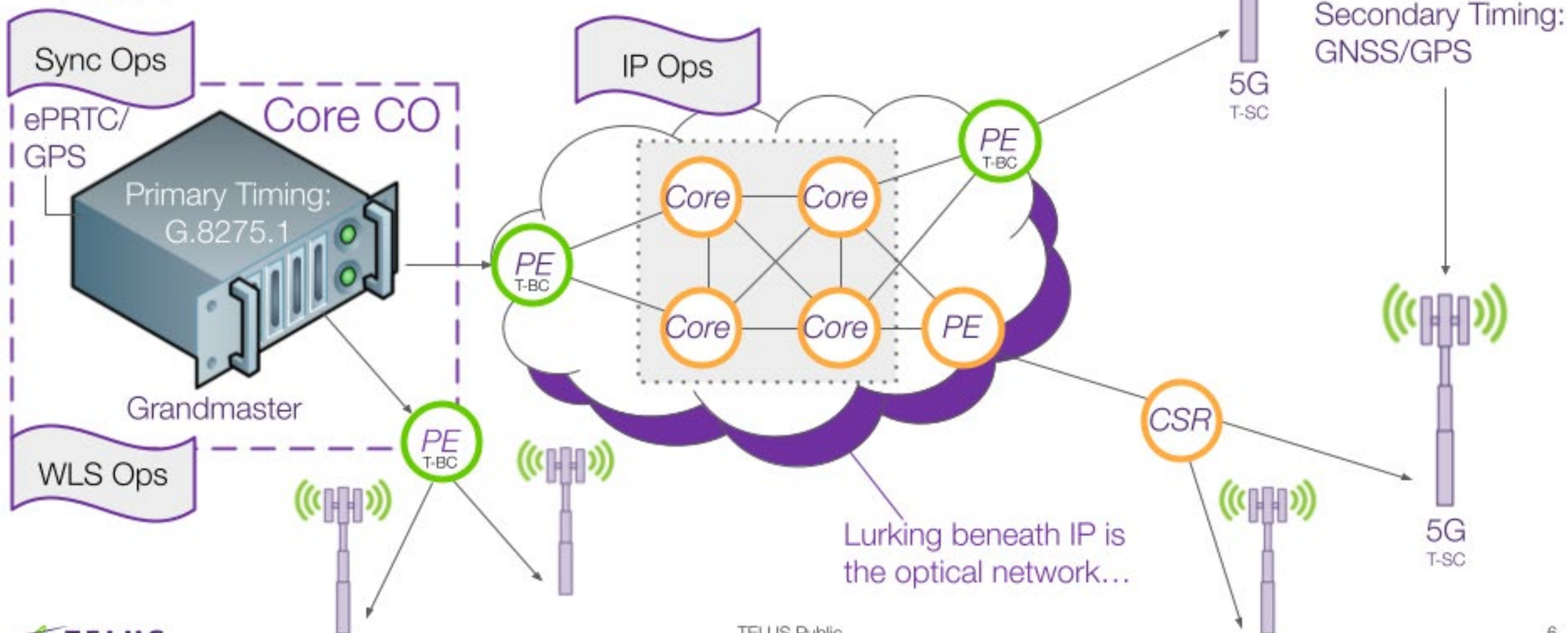


Transform Wireless Sync To



Transform Wireless Sync

But

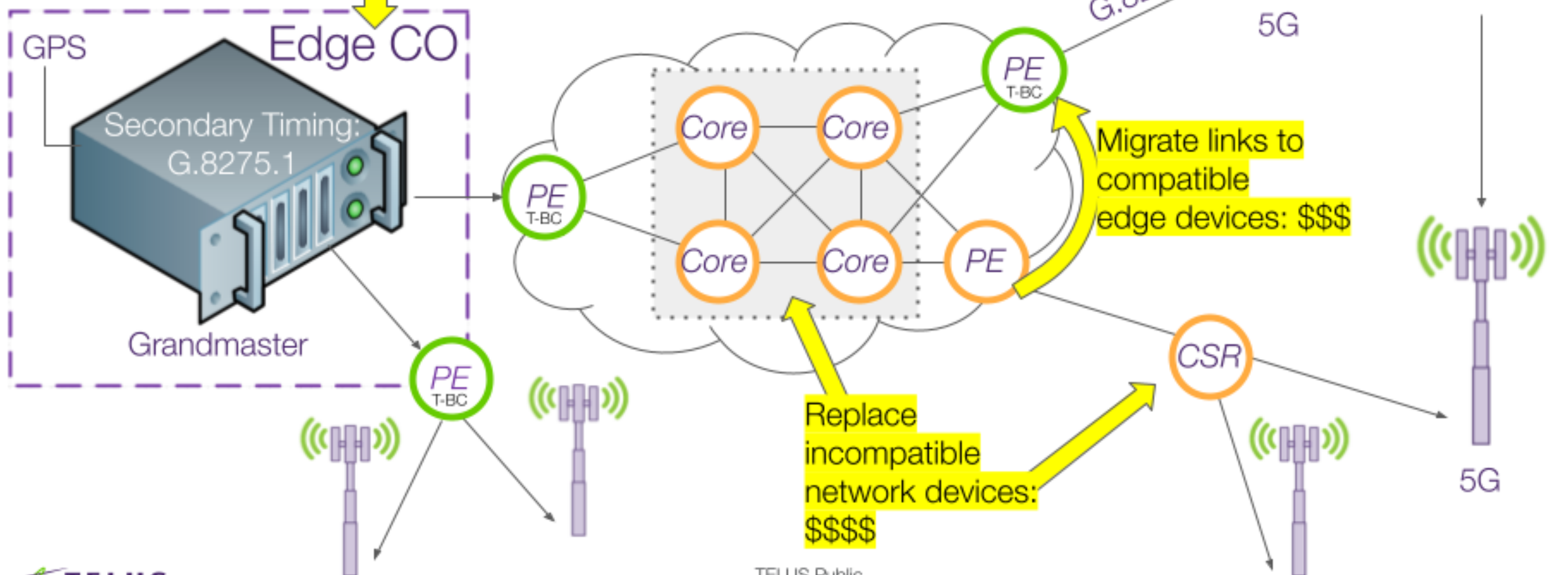


Breaking Down Initial Challenges



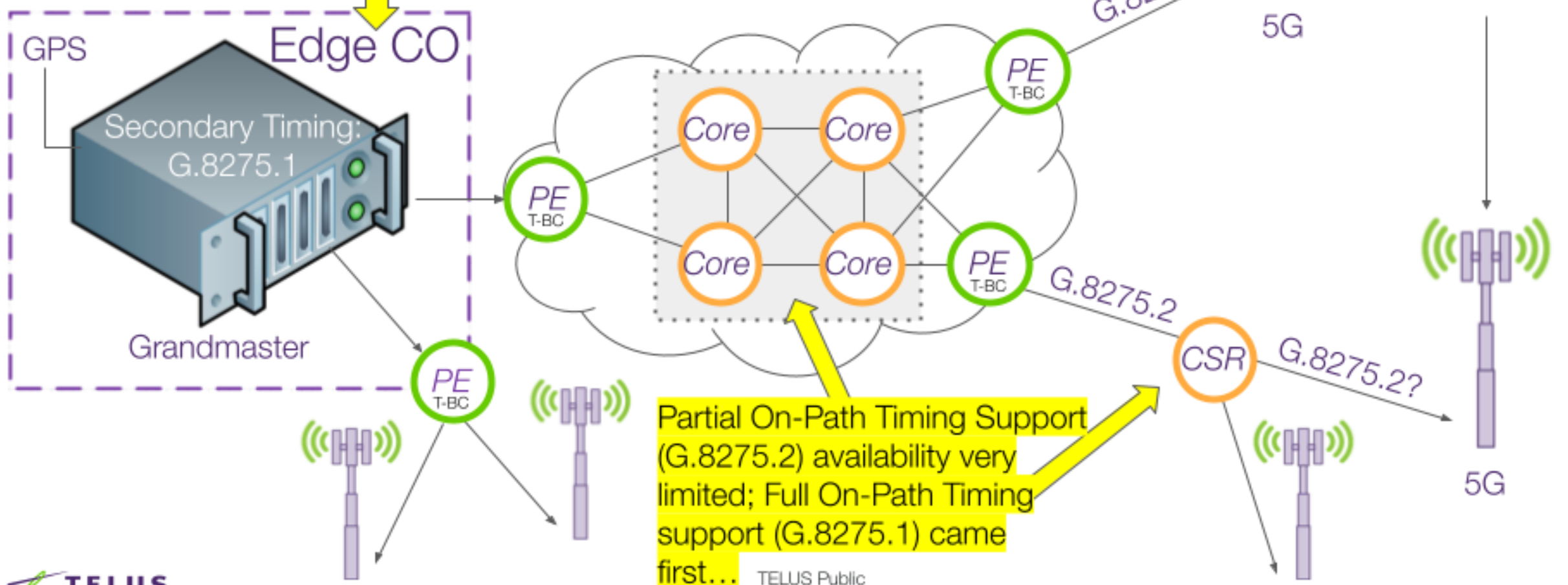
Cost & Change Complexity

Put Grandmasters in every Edge CO: \$\$ to \$\$\$\$

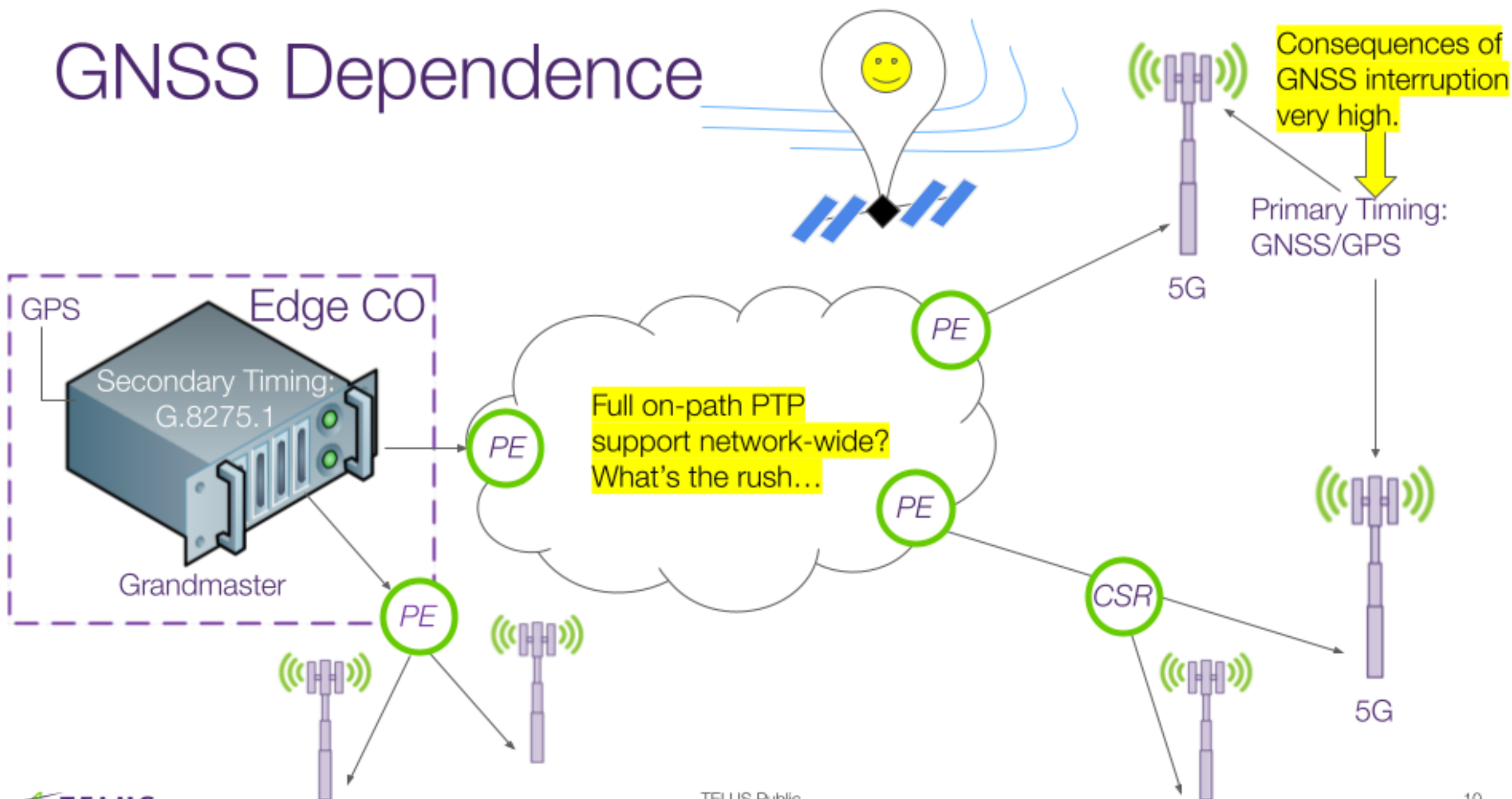


Risk & Diversity

The closer to edge the GMs get, GNSS/GPS availability overlaps with cell sites. Better hold-over? \$\$\$



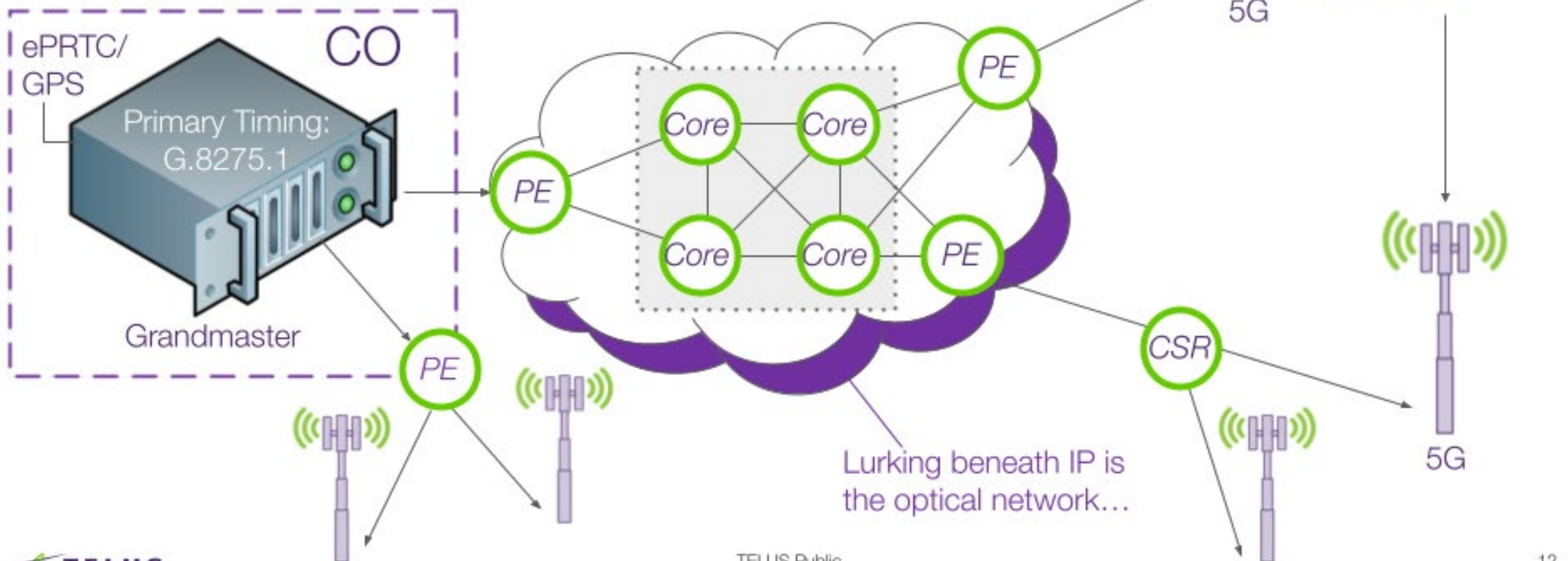
GNSS Dependence



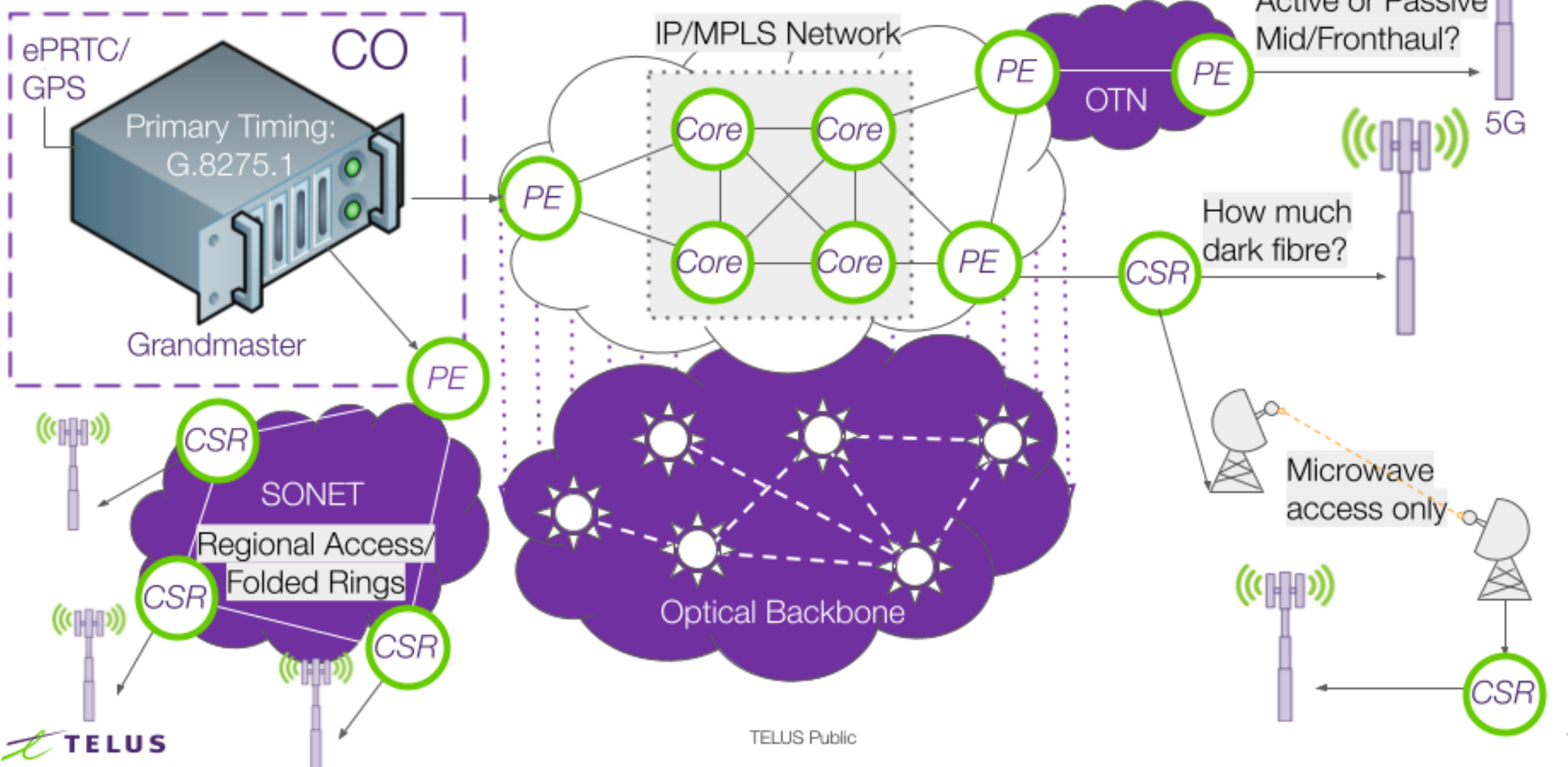


Connectivity, Complexity, & Asymmetry

Service Provider Networks Are Not This Simple



SP Networks are Complex & Asymmetrical





Conclusion



let's make the future friendly™