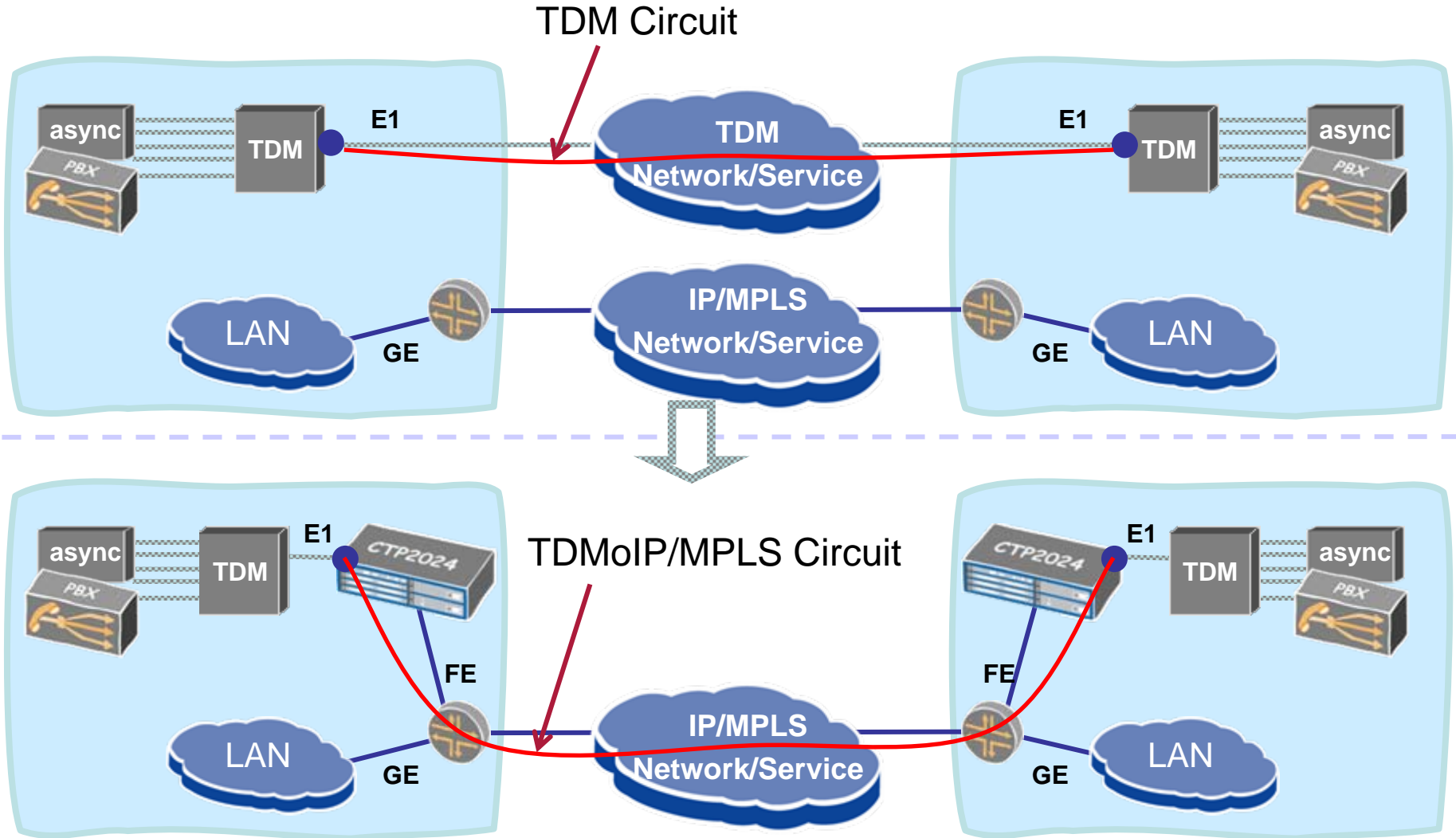


Circuit To Packet Solutions

Simon Crocker
Senior Systems Engineer
Juniper Networks

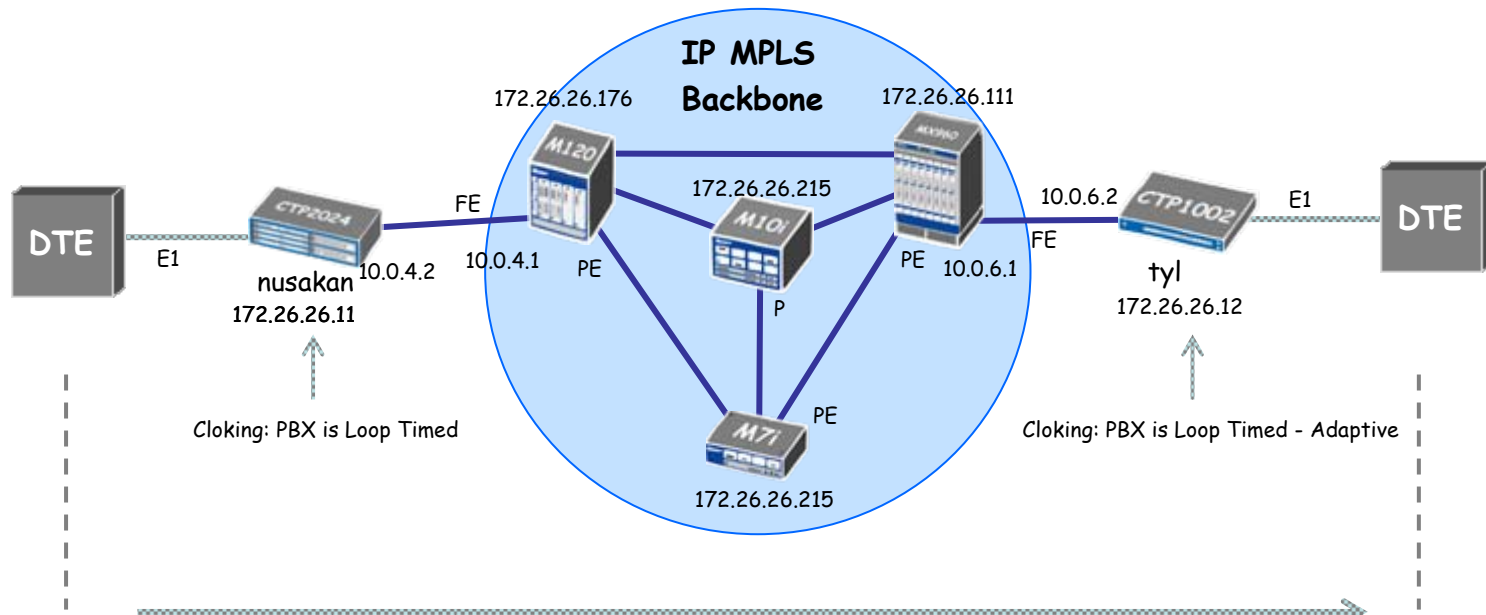
What is TDM over IP/MPLS ?



Example setup : Circuit Emulation over IP/MPLS IPv4 VPN*



* Works also on IPv6 VPN



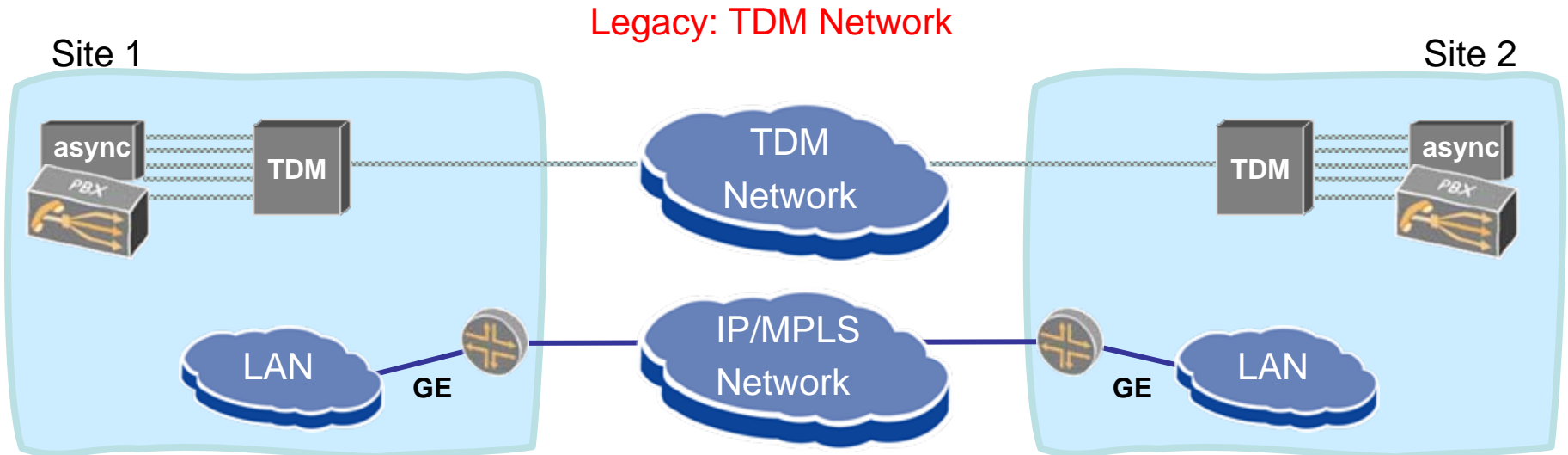
Mpeg4 Video Stream Generated at 1024 kbps over an E1 CES end-to-end circuit

Demonstrated at the MPLS World Congress, Paris, in February 2007

Helping Your Customer to Migrate (1)



- Migrate TDM from LL to IP, point to point
- Applications
 - TDM migration from LL to IP
- Value Proposition
 - Capex savings (migration to VoIP equipment)
 - Opex savings (leased lines, training, maintenance)
 - Simplicity and transparency of migration
 - Transparent to proprietary TDM networking protocols
 - Voice and Data quality maintained

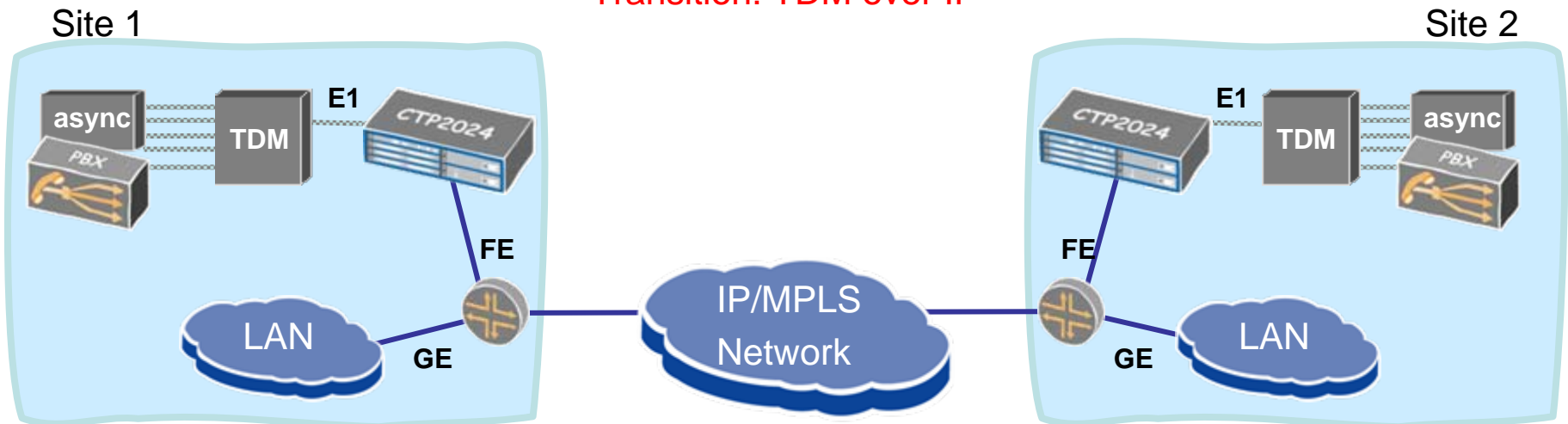


Helping Your Customer to Migrate (2)



- Migrate TDM from LL to IP, point to point Applications
 - TDM migration from LL to IP
- Value Proposition
 - Capex savings (migration to VoIP equipment)
 - Opex savings (leased lines, training, maintenance)
 - Simplicity and transparency of migration
 - Transparent to proprietary TDM networking protocols
 - Voice and Data quality maintained

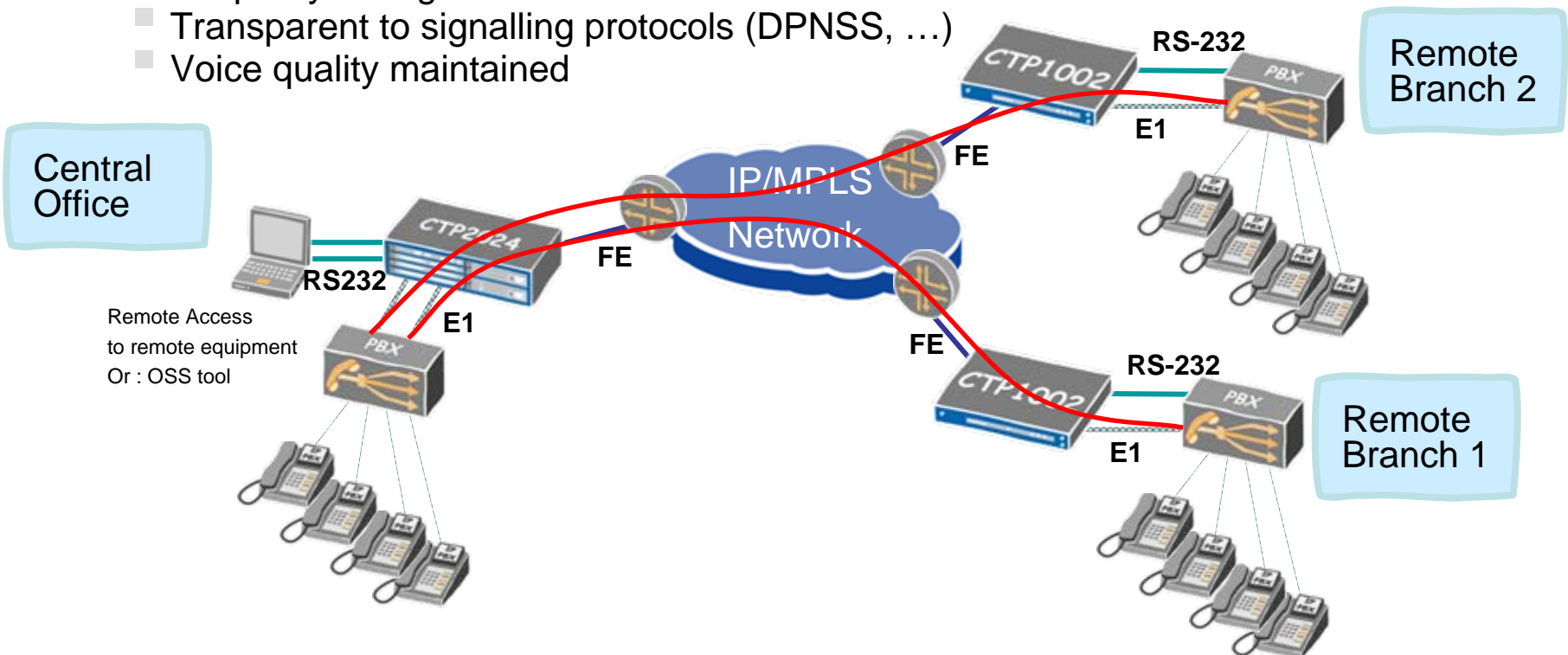
Transition: TDM over IP



PBX Interconnect Service



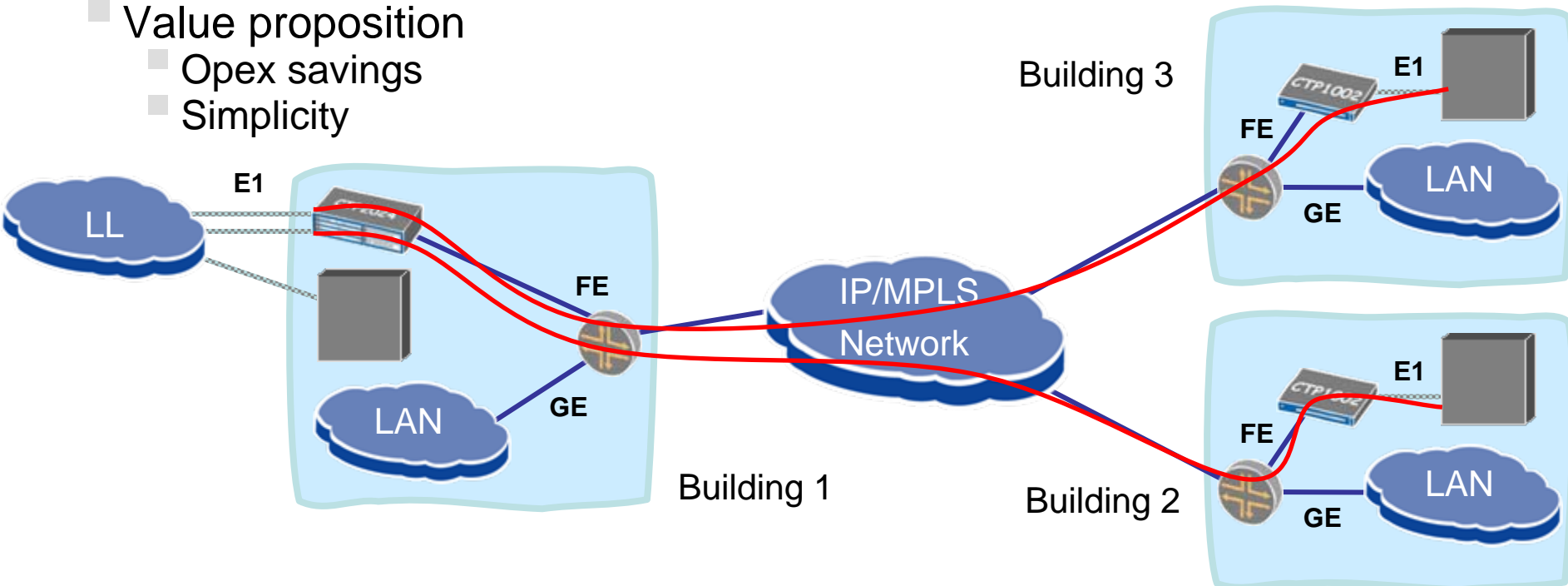
- Migrate PBX off of dedicated Leased Lines to an IP Network
- Applications
 - PBX networking for branch offices
- Value Proposition
 - Capex savings (migration to IP PBX or IP blade into PBX)
 - Opex savings (leased lines, training, maintenance)
 - Simplicity of migration
 - Transparent to signalling protocols (DPNSS, ...)
 - Voice quality maintained



Leased Line Extension Service



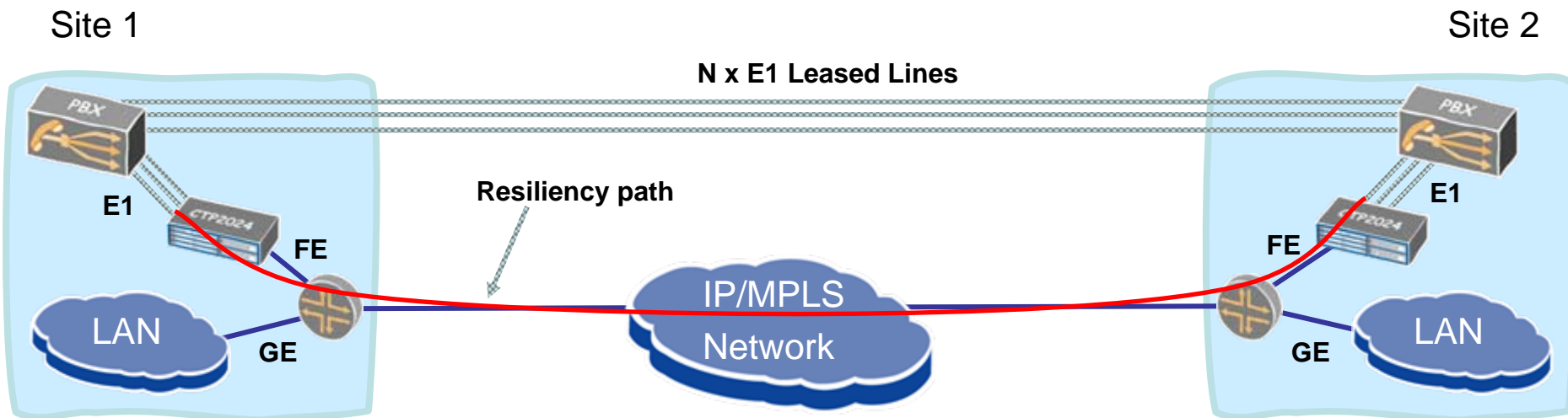
- IP network used to extend Leased Line to suitable location
- Applications
 - Extension of communications room to other rooms / buildings (campus)
 - Business continuity solution : disaster recovery, relocation or acquisition (prevents to move / re-install a LL – opex savings)
 - Flexibility of LL branch office network, using the IP network
 - Site redundancy (LL arrive in 2 sites but extended over IP network)
- Value proposition
 - Opex savings
 - Simplicity





E1 Resiliency

- Primary E1 lines go over Leased Lines
- IP network used as a backup circuit
 - automatic switching between circuits on TDM equipment (TDM “routing”)
- Applications
 - Highly resilient TDM lines (Government, health, finance, SP’s SS7 links...)
 - Migration path to VoIP
- Value proposition
 - Huge opex savings
 - E1 quality maintained (Clocking, IP QoS, optional redundancy mechanisms)



CTP Value Proposition



Reliable



Agile



Cost Efficient



Concludes



Juniper *your* Net™