

DCN GOLE: Vision and Challenges

GLIF - Hawaii January 2008

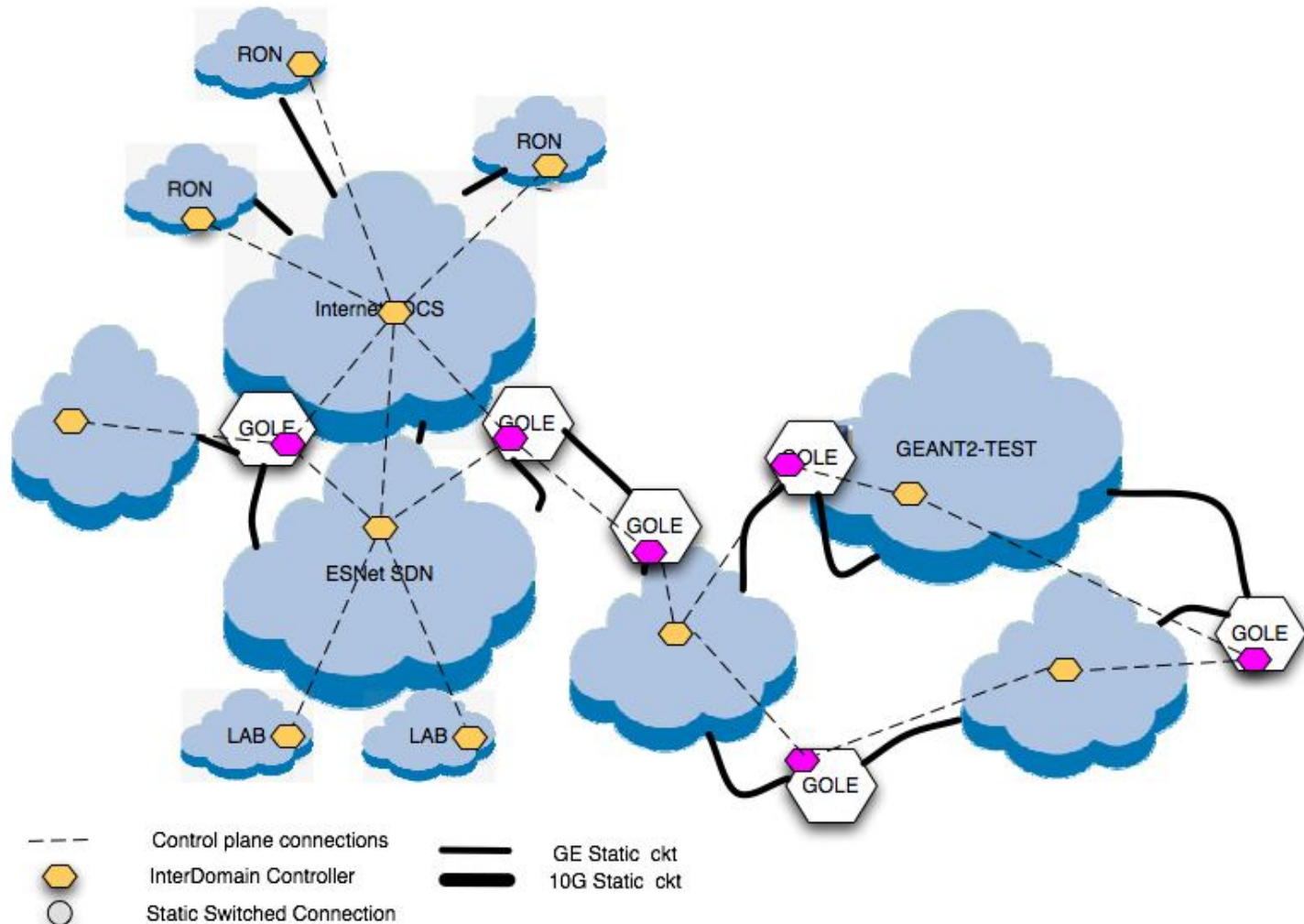
John Vollbrecht, Internet2

Inder Monga, Nortel

{ jrv@internet2.edu, imonga@nortel.com }

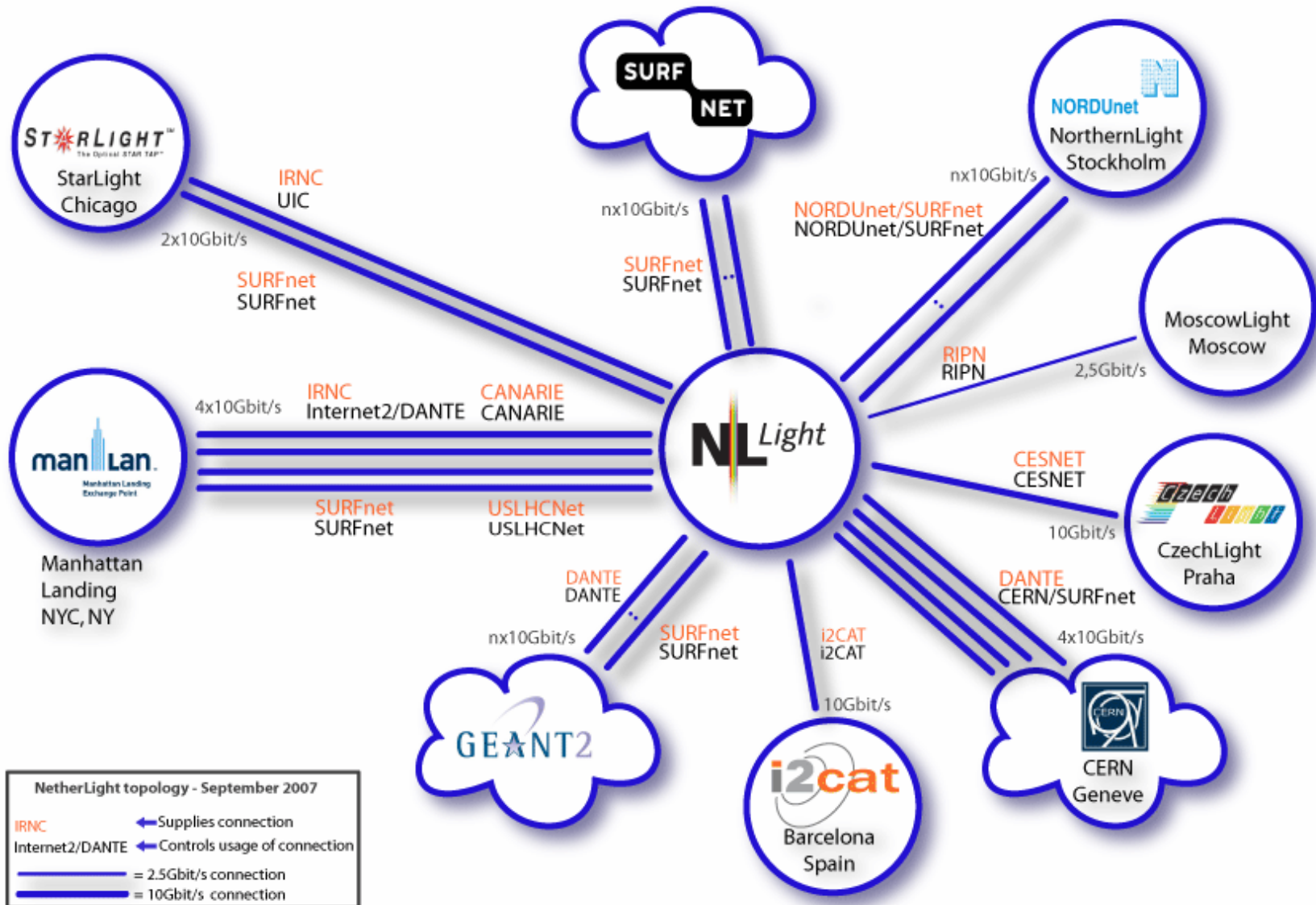
DCN GOLEs

Automated Exchange Points for Dynamic Circuits

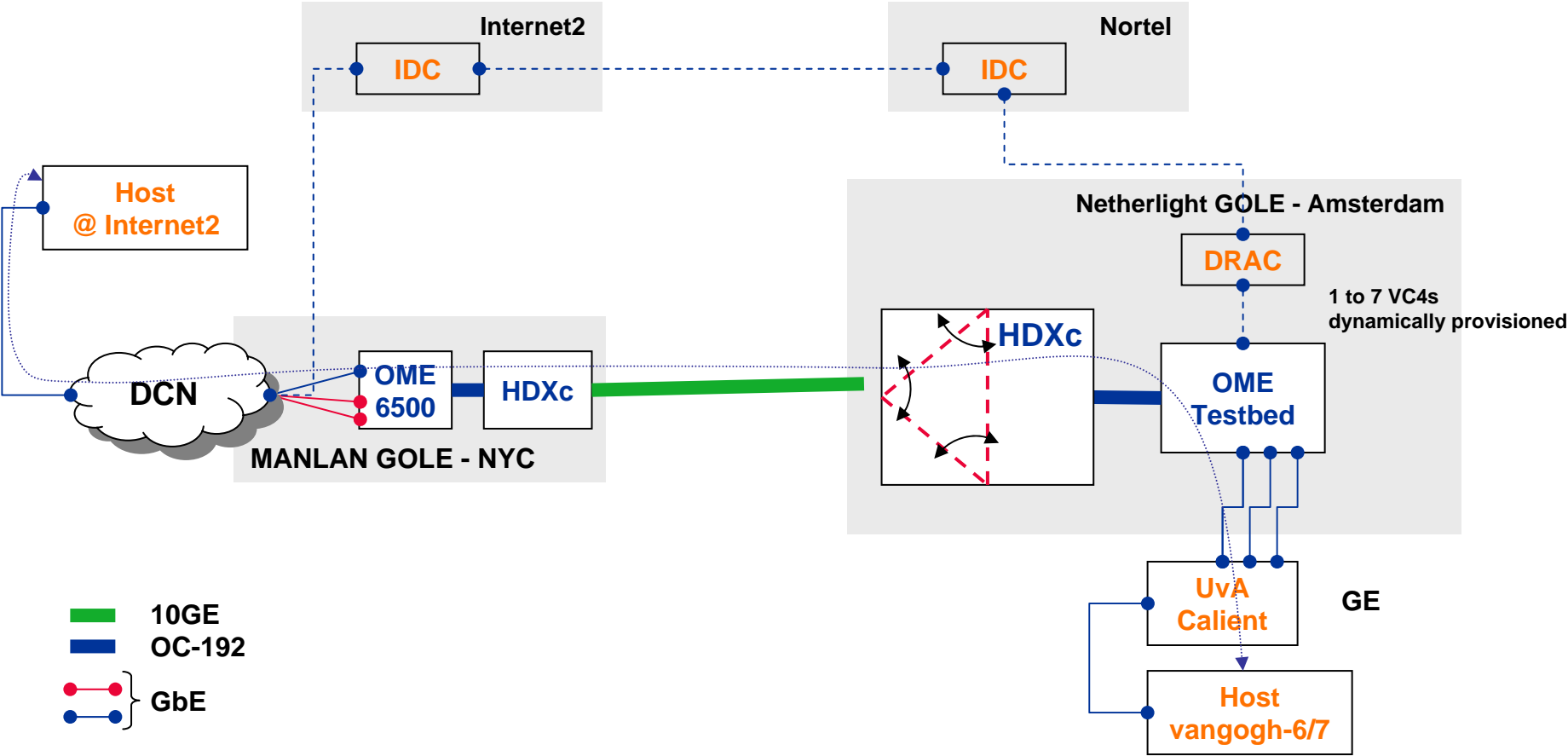


DCN GOLEs

Dynamic World-wide Mesh



DCN GOLE Demonstration



Operational Issues

- Policy
 - Can GOLEs truly be policy free?
- Global Scheduler
 - How do the intra-domain schedules affect inter-domain connections?
 - Can we exchange “availability” in addition to topology based on internal schedules?
- Holding time for circuits/Preemption
 - Is the project really using the circuit?
 - Administrator/NOC control?
- Any others?

Possible GOLE policies

- Individual DCN GOLE is policy free
 - GOLE is non blocking
 - If both links agree path between them is made
 - This is initial demo being done at here and at JT
- When GOLES connect to each other
 - Link between GOLES is limited resource
 - Now have to have policy that determines what is allowed on inter GOLE link
- GOLE role :) may be
 - “superdomain” aggregating info on other domains
 - Part of GOLE domain that consists of only GOLES, administered by some standards body
- GLIF role in defining DCN GOLE?

Acknowledgments

- Organizations: Internet2, UvA, Surfnet, SARA, Netherlight, Nortel
- People:
 - Andy Lake
 - Brian Cashman
 - Bram Peeters
 - Chris Robb
 - Cees De Laat
 - Eric Boyd
 - Harish Sankaran
 - John Graham
 - Jason Zurawski
 - Jeroen Roodhart
 - Leon Gommans
 - Phil Wang
 - Pieter de Boer
 - Roeland Nuijts
 - Tom Lehman