

FORCE 10™



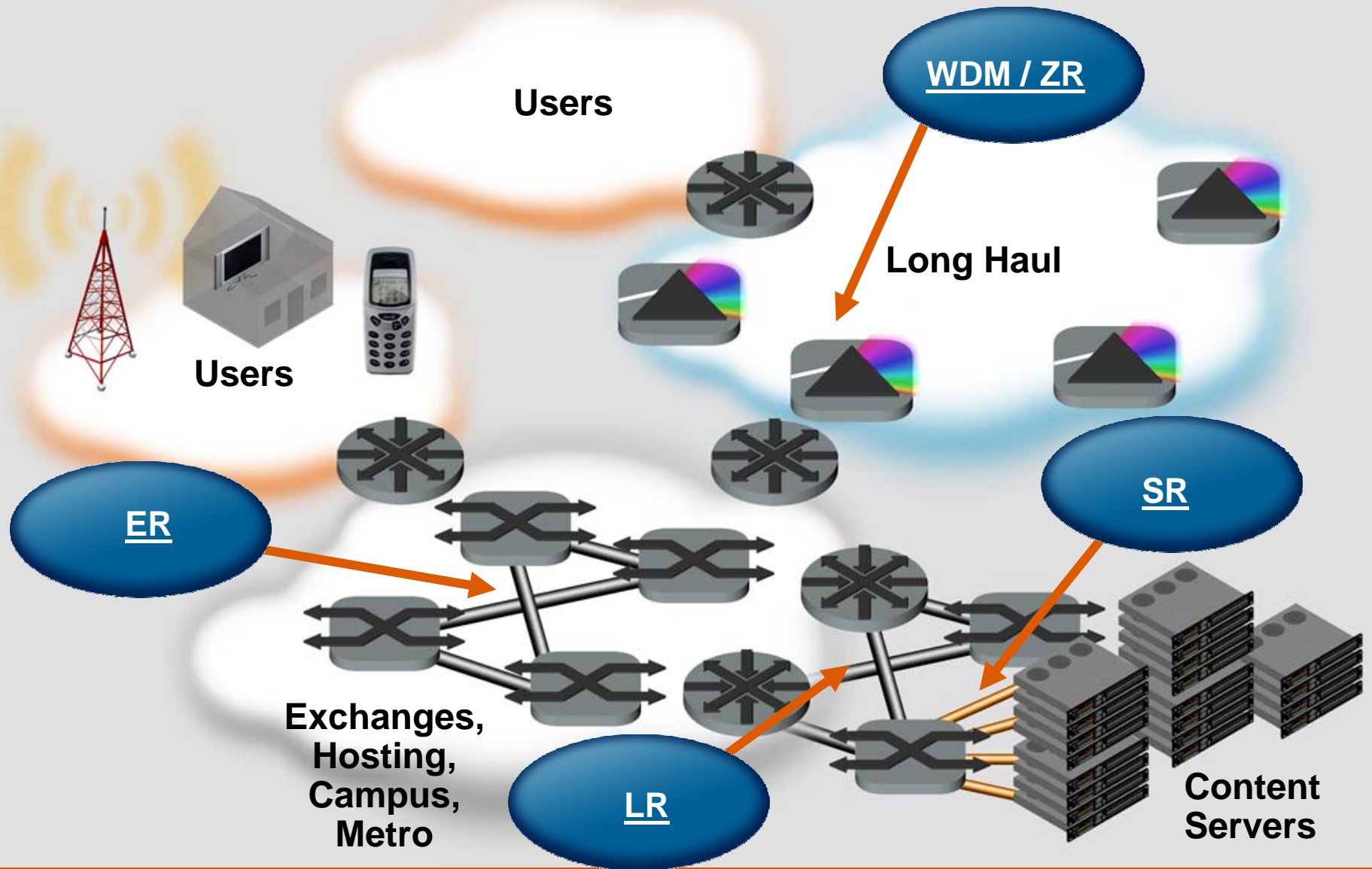
A 40KM PMD Objective

Joel Goergen

VP of Technology / Chief Scientist

- Arnold Nipper, DE-CIX
- Bill Woodcock, Packet Clearing House
- Denver Maddux, Limelight Networks
- Henk Steenman, AMS-IX
- Jim Deleskie, VSNL International
- Louis Lee, Equinix
- Mike Bennett, LBL
- Mike Hughes, London Internet Exchange (LINX)
- Peter Schoenmaker, NTT America
- Steve Gibbard, Packet Clearing House
- Takejiro Takabayashi, JPIX
- Ted Seely, Sprint
- Toshinori Ishii, Internet Multifeed

View from the Clouds



- Clause 52 supports 10GBASE-ER 1550nm to 40km. The deployment trend for ER optics is estimated to be 7% by volume in 2007 (goergen_02_1106).
- 40km optics fits well in the following space:
 - Metro
 - Campus Backbone
 - Internet Exchange
- Optics for 10GBASE 80km++ solutions are not described or supported in the standard. Compatibility between vendors is a concern amongst those adopters.

- Application space using 10G rates over 40km today will shift to 100G rates, according to end users. If a 40km distance is not defined, those users will face compatibility issues.
- 10GBASE-ER optics deployment is showing growth (discussed in goergen_02_1106).
- What's misleading in today's 10GBASE-LR application space is the number of 10GBASE-LR optics used outside the 10km range.
- IX market trends from both Asia and Europe indicate an 8:1 ratio of 10G to 100G ports in 2010 to 2012 deployments. In all customer responses, a 40km link length is desirable.

- HSSG optics deployment in 2010 is projected to follow today's 10 GE optics deployment, based on customer driven input.
- HSSG should include a 40km PMD reach objective similar to that described in Clause 52 for 10GBASE-ER. Doing so would provide the same level of link compatibility as 10GBASE-ER applications.