



GLIF 2014

Queenstown NZ

The nature of INDUSTRY – NREN
collaboration

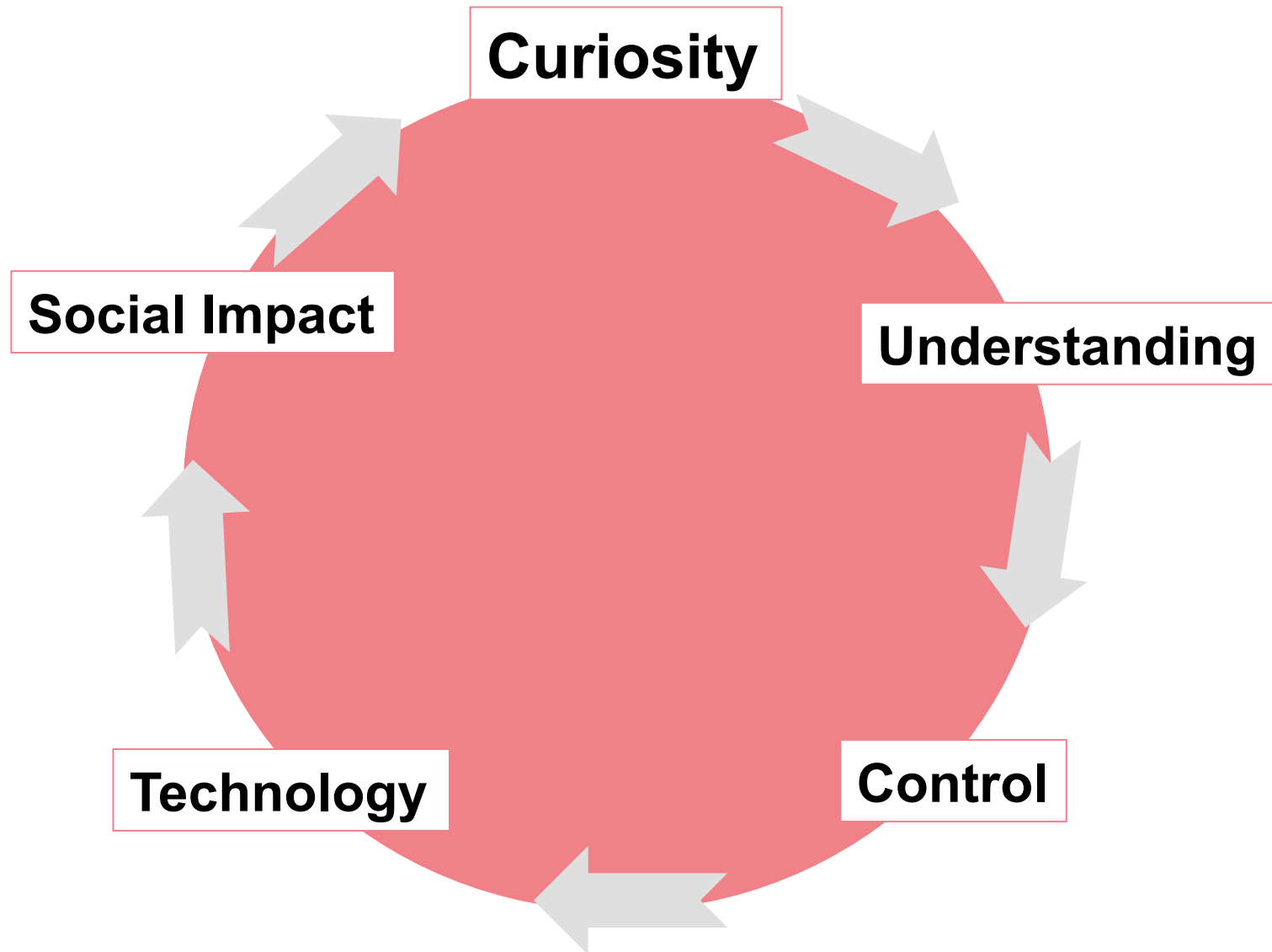
Rodney G. Wilson
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September 2014

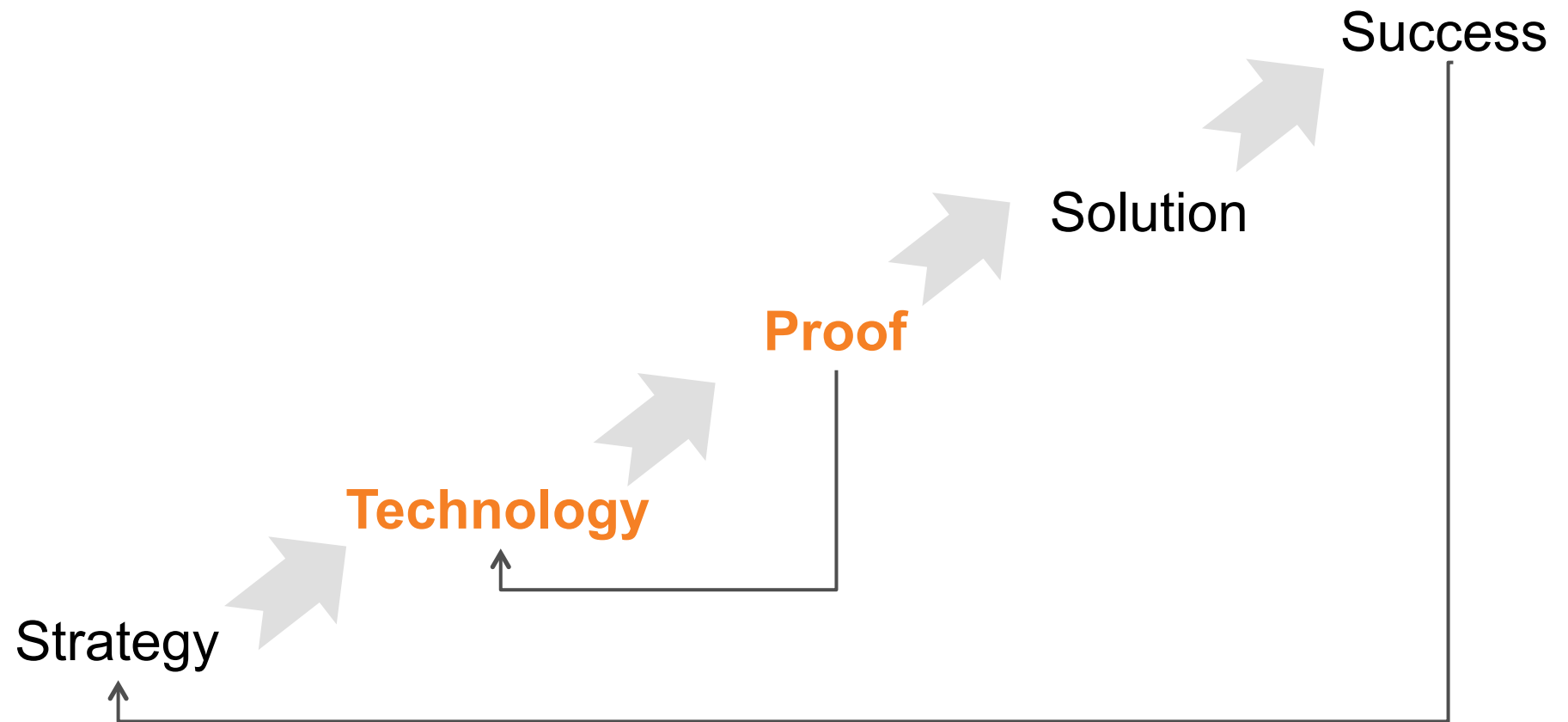
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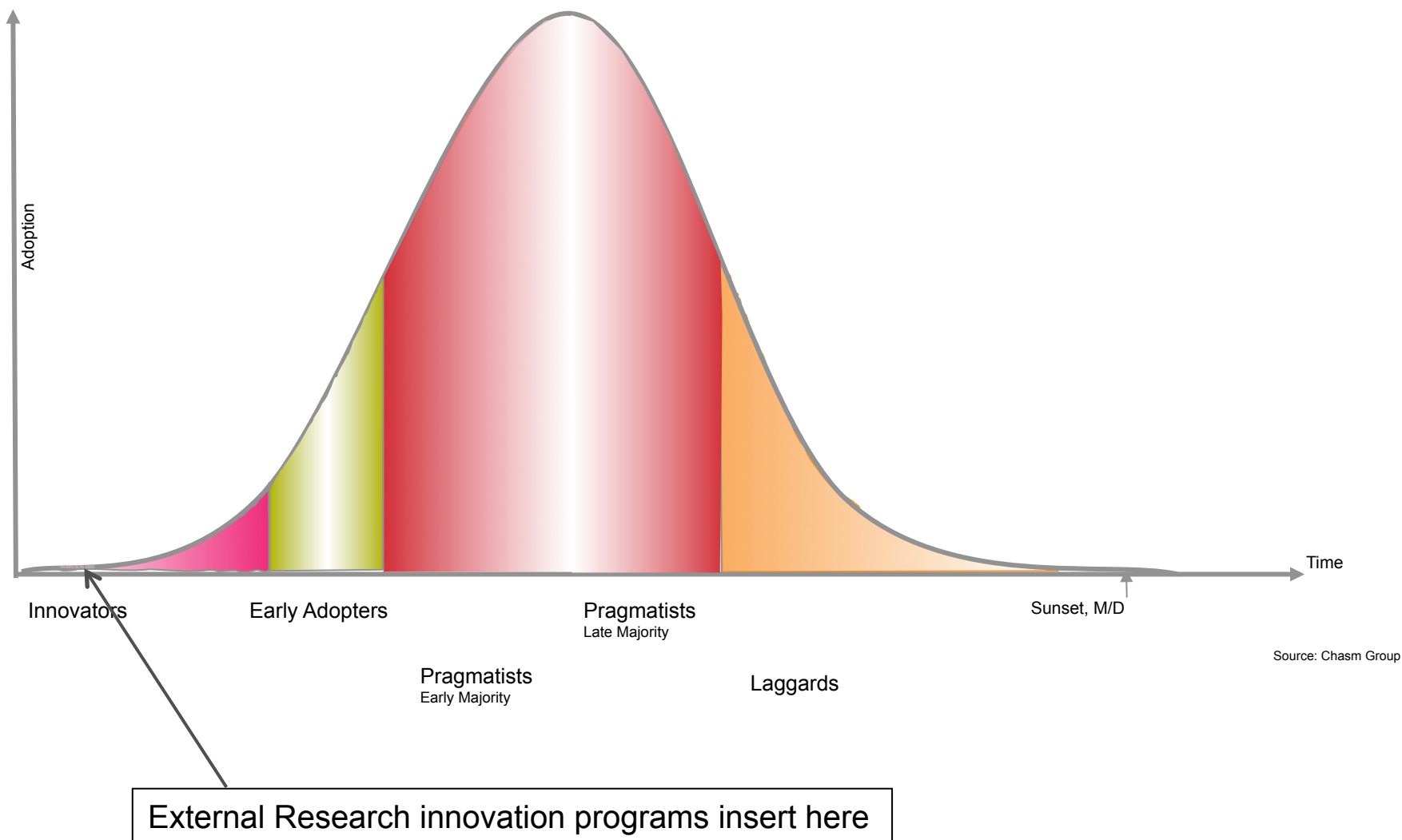
Cycle of Discoveries



Intersecting Market Forces

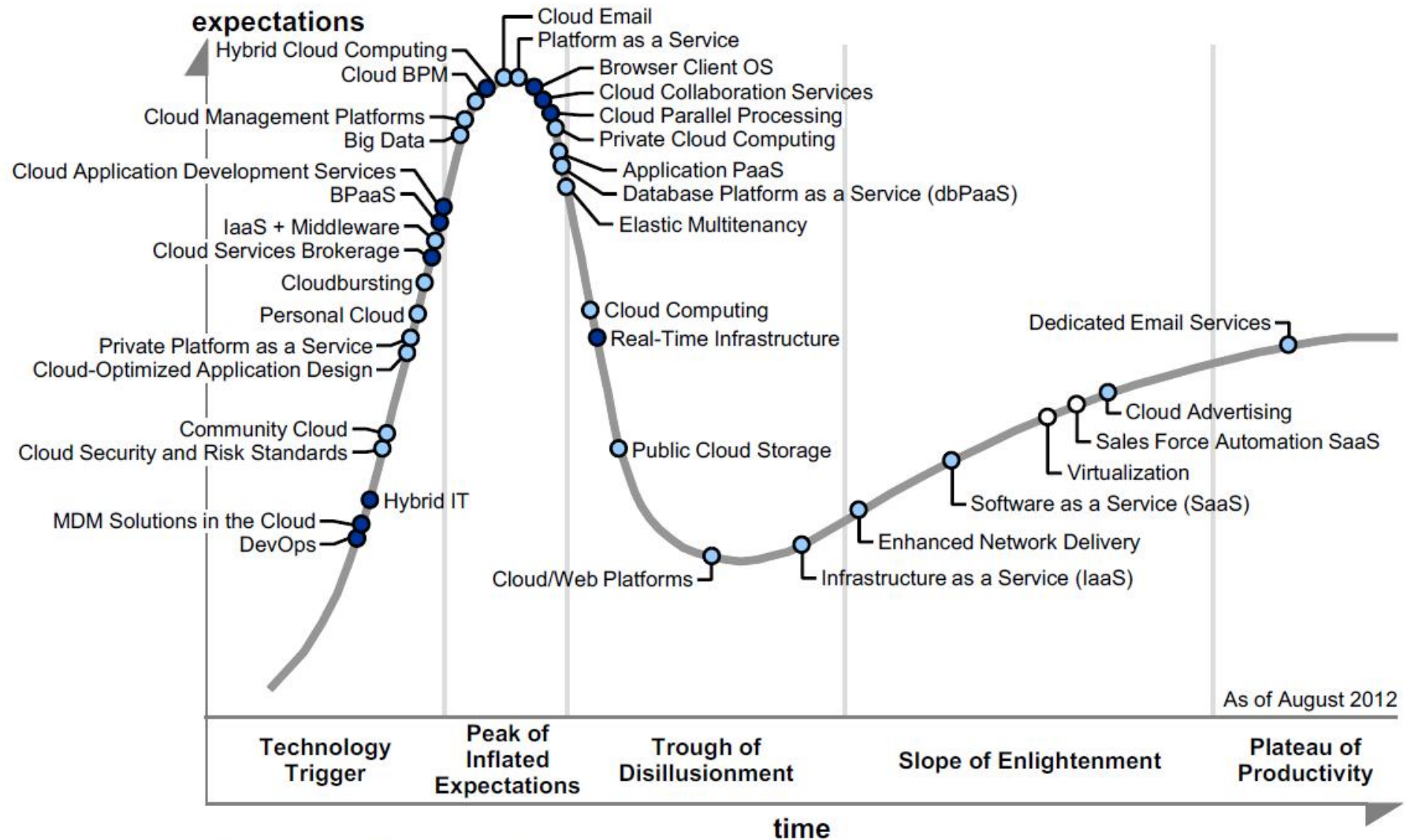


Intersecting Innovators



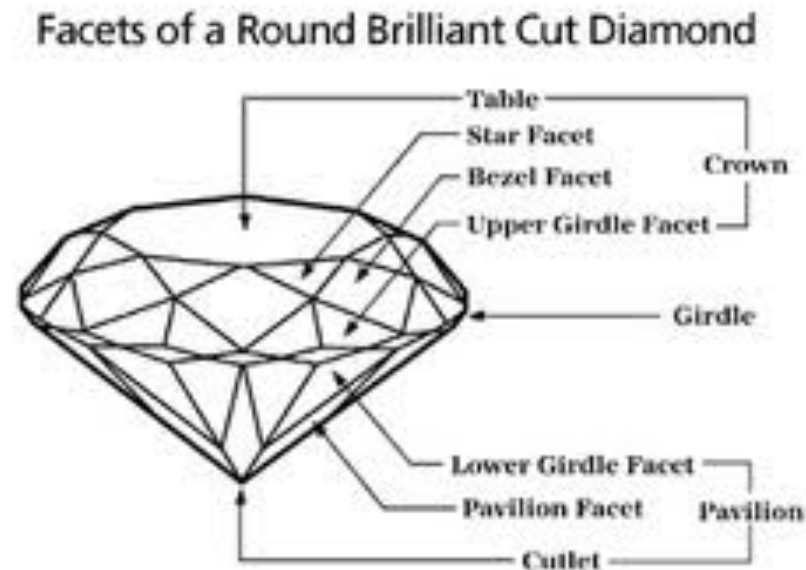
Intersecting Hype

Figure 1. Hype Cycle for Cloud Computing, 2012



3 Facets to the Ciena program

1. Facilitate selected collaborative research projects with Universities.
2. Engage next generation computer communication network researchers
3. Learn by doing, “let’s do a demo”, share results



External Research Topic Areas

DSP's
Material Science
Future Components
Increasing Optical Baud Rates
Cloudy stuff
Advanced Next Gen Architectures
....and others

Demos can be painful

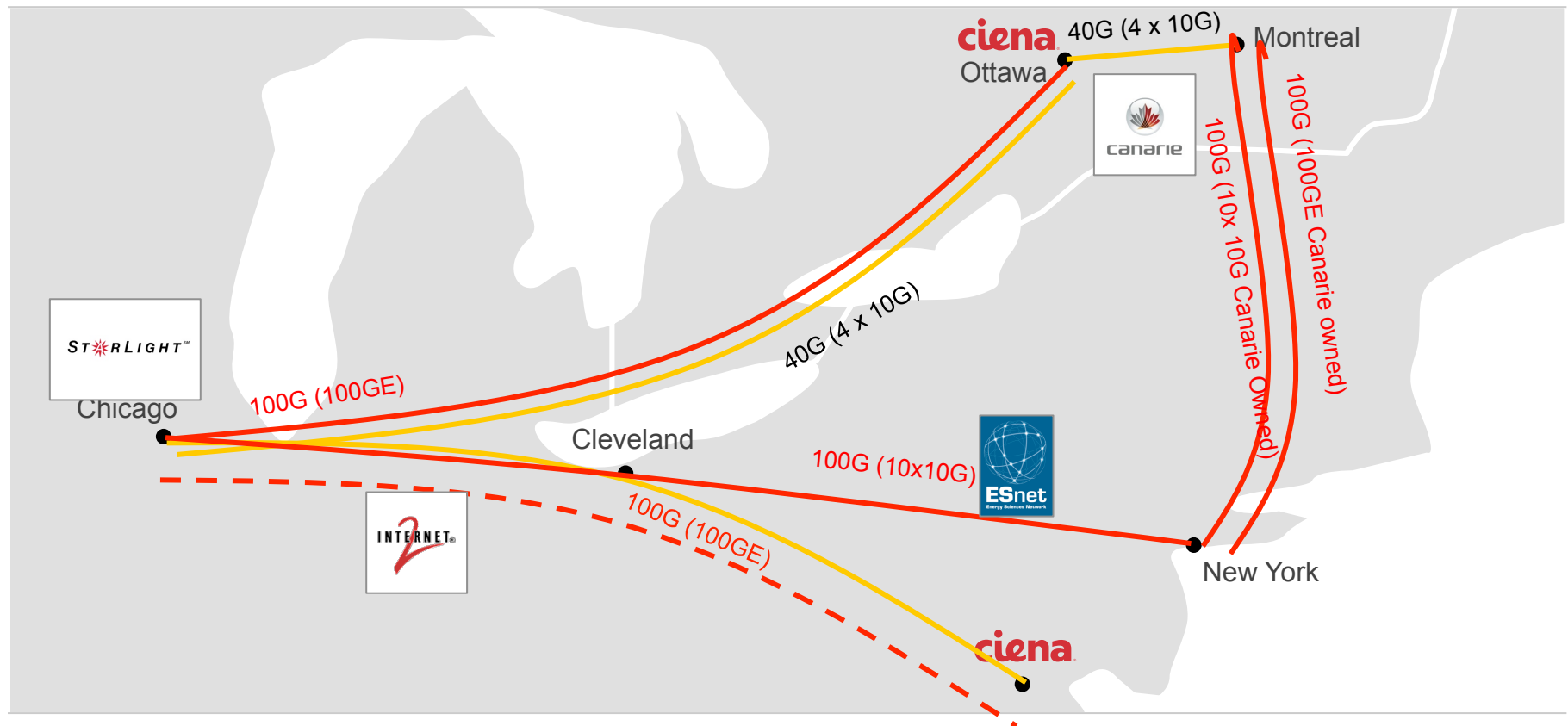
But....

Nothing focuses the mind (and resources) like a deadline.

Learning by doing, Share Results, Increase our Innovation Quotient.

Ciena has built the Open Research Network Testbed for “Research on Demand”. A vehicle for persistent “always on” experiments.

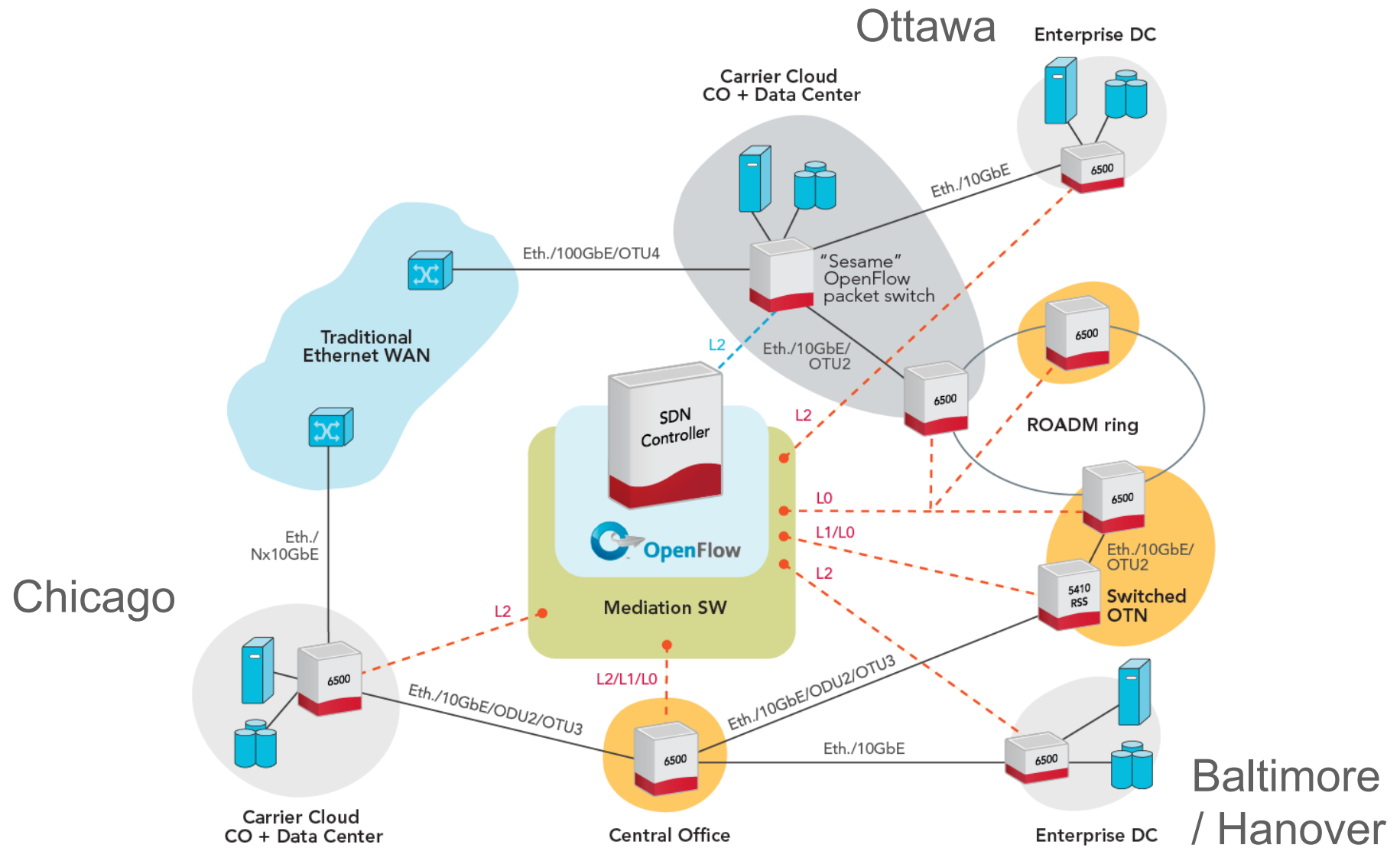
Ciena's OPⁿ research network testbed



Made possible through the active participation of:

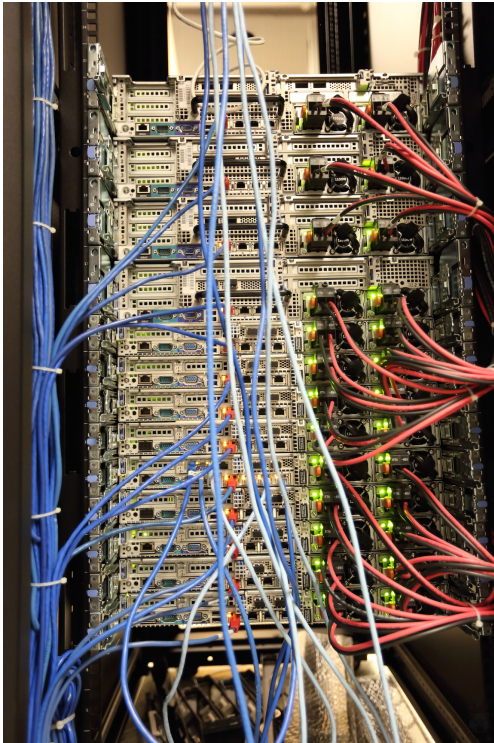


RDN for SDN test bed network



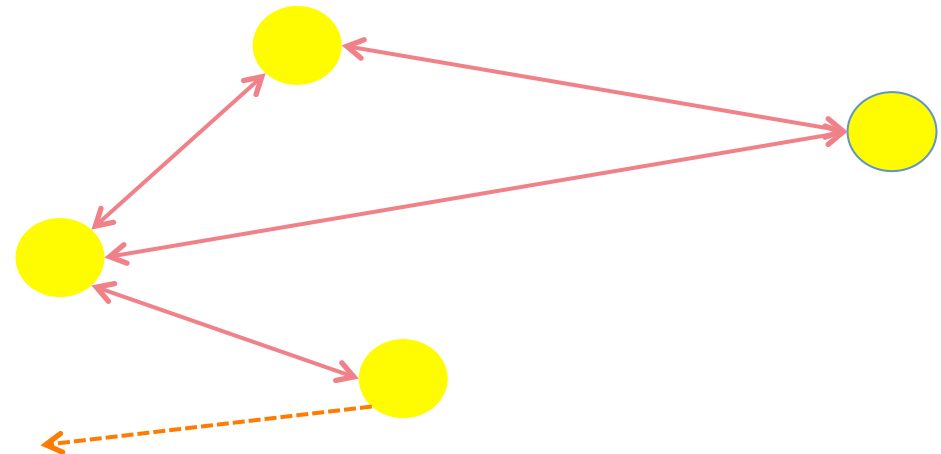
Ciena GENI project

Sustained community participation and collaboration



GENI will allow us to:

- Obtain compute resources;
- Connect compute resources via Layer 2 suited to our experiments;
- Install and explore NFV's;
- Validate our switches in variable topologies & flows;
- Collaborate with others on emerging protocols in a shared trusted environment



This symbiosis advances us.

**Vendors are able to Explore, Qualify and Transition new technologies and applications.
Network researchers benefit from Industry validation and traction, TRUST relationship.
NREN's benefit from stretch objectives and fully qualified advanced network solutions.**



A Rising Tide, Floats all Boats



Thank You

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make [transformation] **possible**

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