



Leading the Way to Tomorrow's Internet

The Corporation for Education Network Initiatives in California

# **Senate Select Committee on Emerging Technologies and Economic Competitiveness**

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President and COO**

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# Who We Are

- ✓ Not for Profit formed in 1997.
- ✓ Originally created to bring high speed networking to all higher education research institutions in CA.
- ✓ Have since started to serve all educational segments of the State.



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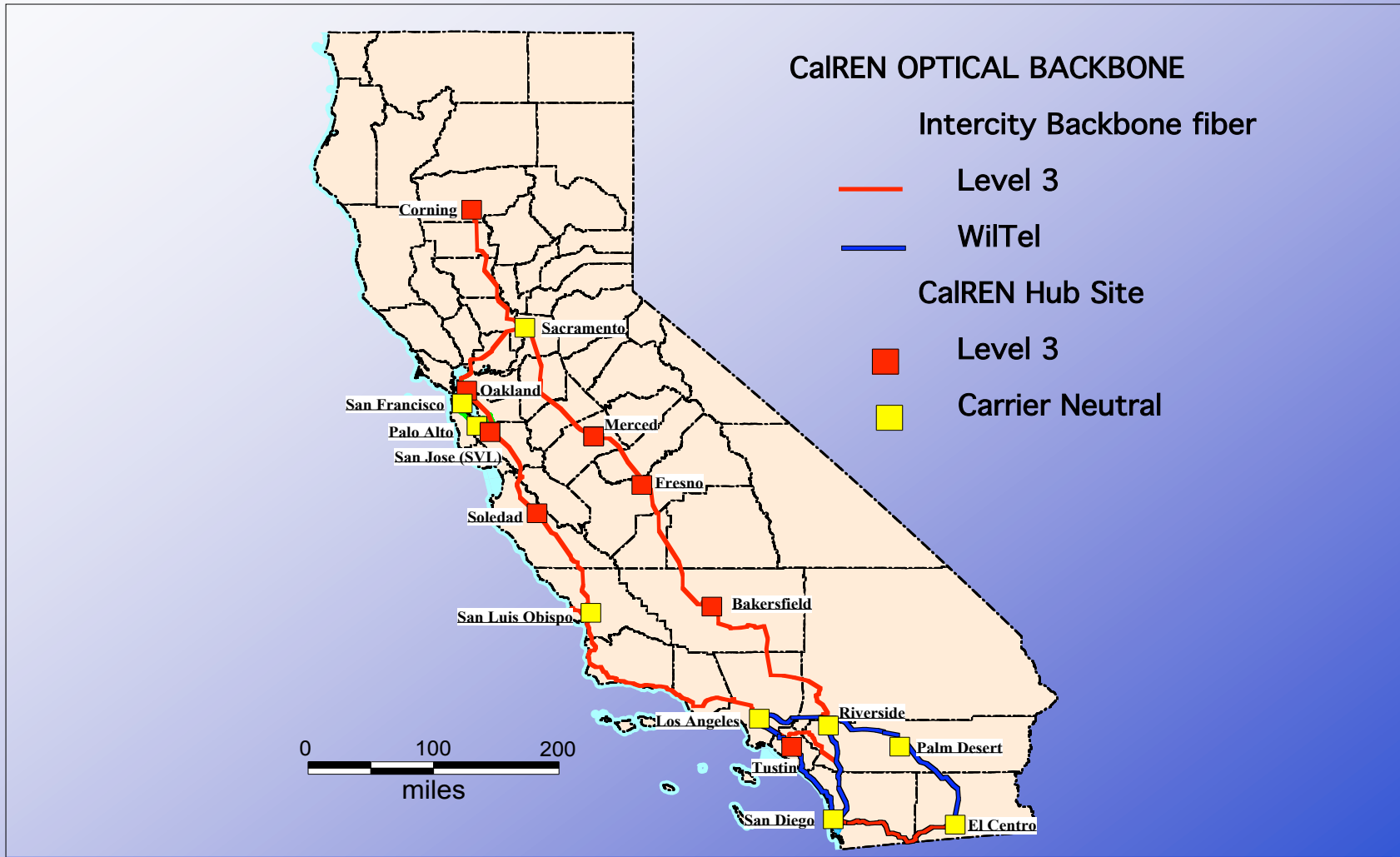
# The CalREN Network

- ✓ Fiber backbone from San Diego, to LA, SF Bay area (connect to Nasa Ames facility), Sacramento, down central valley to Riverside, to San Diego.
- ✓ Fiber used because it:
  - Enables very high speed/capacity connections.
  - Enables bandwidth increases at small, marginal costs.
  - Is cost effective in the longer term.
  - Enables multiple networks to be operated using DWDM.



# Optical Backbone as of March 2005

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9/23/2004 Plan for Coachella Valley Backbone Extension



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# CalREN continued...

- ✓ Fiber network supports needs of high end research-it is a critical component of University research.
- ✓ High speed network facilitates collaboration-faculty and researchers do not work alone. The network enables the barriers of geography to be removed.



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# Advancing Innovation

## Required Ingredients in Convergence Industries

- ✓ Milken Institute, 2004-CA's position in Tech and Science:
  - "regional innovation capacity stems from the strength of a region's basic innovation infrastructure."
  - "..for all the strengths the U.S. has in R&D, U.S companies will not hesitate to place research in other nations.."



# Collaboration is Key to R&D

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Milken's report indicates:

**“collaboration among  
...corporate labs, corporate  
supplier networks, universities  
and government labs is evolving  
into a new distributed external  
platform system for innovation”**

# Advancing Innovation in Convergence Technologies



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- ✓ Same dynamics as other innovations-ability to collaborate:
  - Between and among industries.
  - Between and among industry, government and education.



# Advancing Innovation

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## Emerging Convergence Technologies

- Convergence requires an underlying broadband network infrastructure
- Network infrastructure is today what the railroads, highways and aquaduct were to economic development in the past