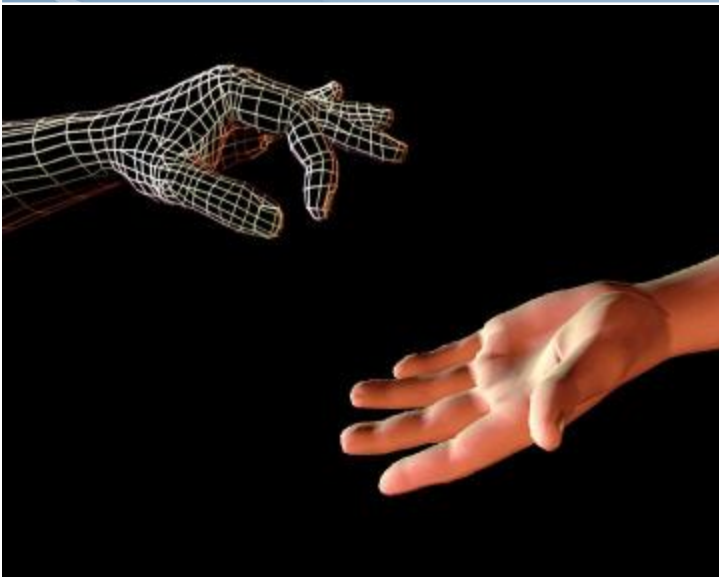


Telehealth and Internet2

Forum Rute
August 2009



**The scope of the
Internet2 Health Science
Initiative includes
medical and related
biological research,
education, and advances
in clinical practice.**



Biotech Data's BIG BANG

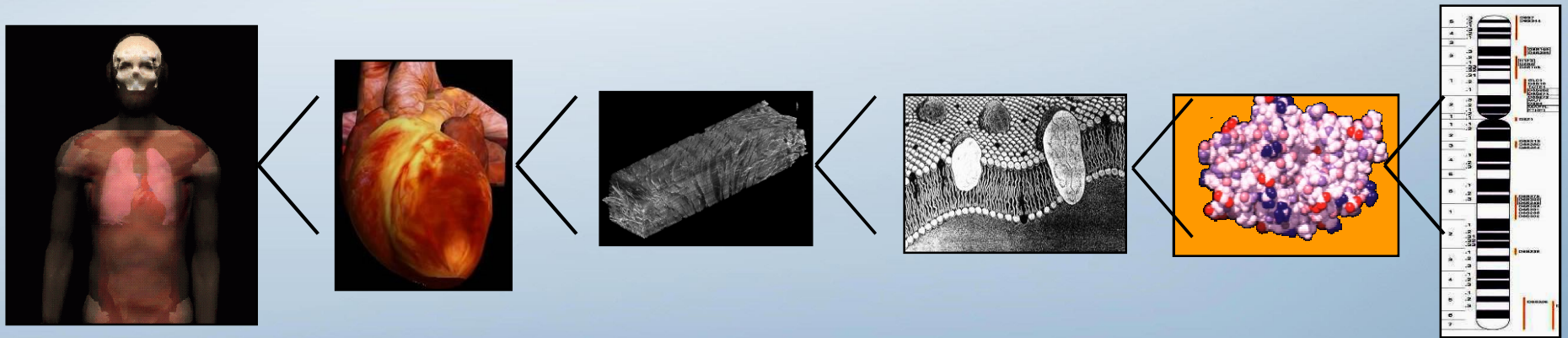
It's like Moore's Law on steroids:

The total volume of biological data worldwide, having doubled every 18 months in recent years, is now doubling every half a year to three months. And this isn't a momentary spike, but a long-term trend that may require new ways to measure, analyze and mine biological databases.

Chappell Brown

EE Times (04/25/2005)

Health Science's Grand Challenge



<Person-----Organ-----Tissue-----Cell-----Protein-----Atom>

(1m)

(10⁻³m)

(10⁻⁶m)

(10⁻⁹m)

(10⁻¹²m)

(10⁻¹⁵m)

Systems models

Continuum models (PDEs)

ODEs

Stochastic models

Pathway models

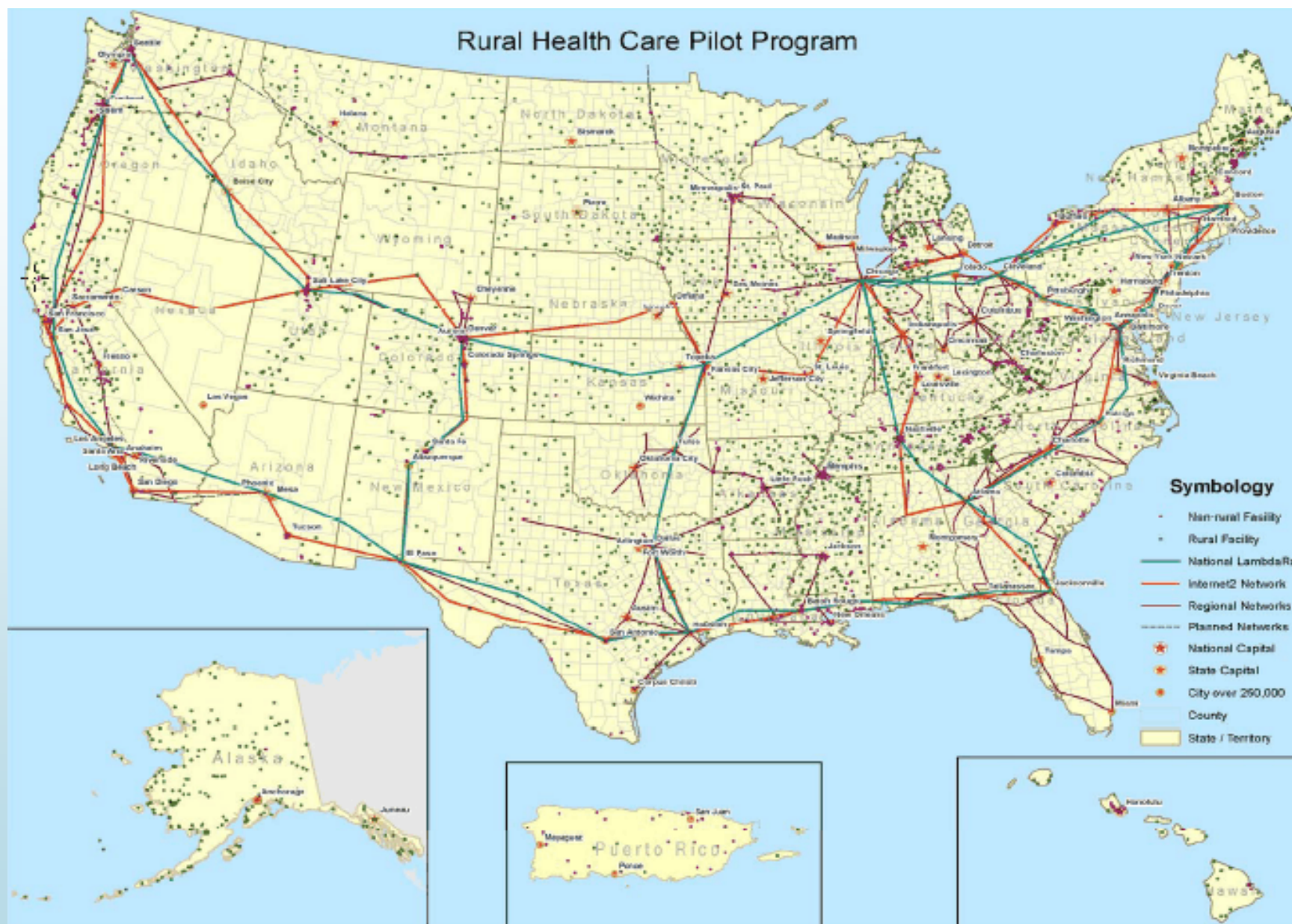
Gene networks

Courtesy: Peter Hunter, University of Auckland

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- **The United States Federal Communications Commission initiated a pilot funding program to facilitate the creation of a nationwide broadband network dedicated to health care, connecting public and private non-profit health care providers in rural and urban locations.**



U.S. Environment

Investments

- U.S. Federal Communications Commission (FCC)
 - \$417 Million
 - 3 Year program for Rural Health and connect to Internet2
- U.S. Department of Commerce
 - \$2.0 Billion
 - Broadband infrastructure improvement
 - Includes Schools, Libraries and Health
- U.S. Department of Agriculture
 - \$4.2 Billion for Rural Broadband
 - Most for loans for Schools, Libraries and Health
- Department of Health and Human Services
 - \$2.0 Billion for Health Applications
 - Electronic Health Records
 - Health Information Sharing

US / Internet2 Work Plan

- ◆ To help the health Community use the investments being made by the US Government
- ◆ To address certain issues
 - ◆ Security and Middleware
 - ◆ Federated Identity Management
 - ◆ Rights and privileges
 - ◆ Security and privacy policies
 - ◆ Sustainability
 - ◆ Resources
 - ◆ Who can I work with?
 - ◆ What can I show other?
 - ◆ Where do I learn?
 - ◆ Technology
 - ◆ Video equipment and resources
 - ◆ Land, Wireless, Satellite, etc
 - ◆ IPv4 and IPv6

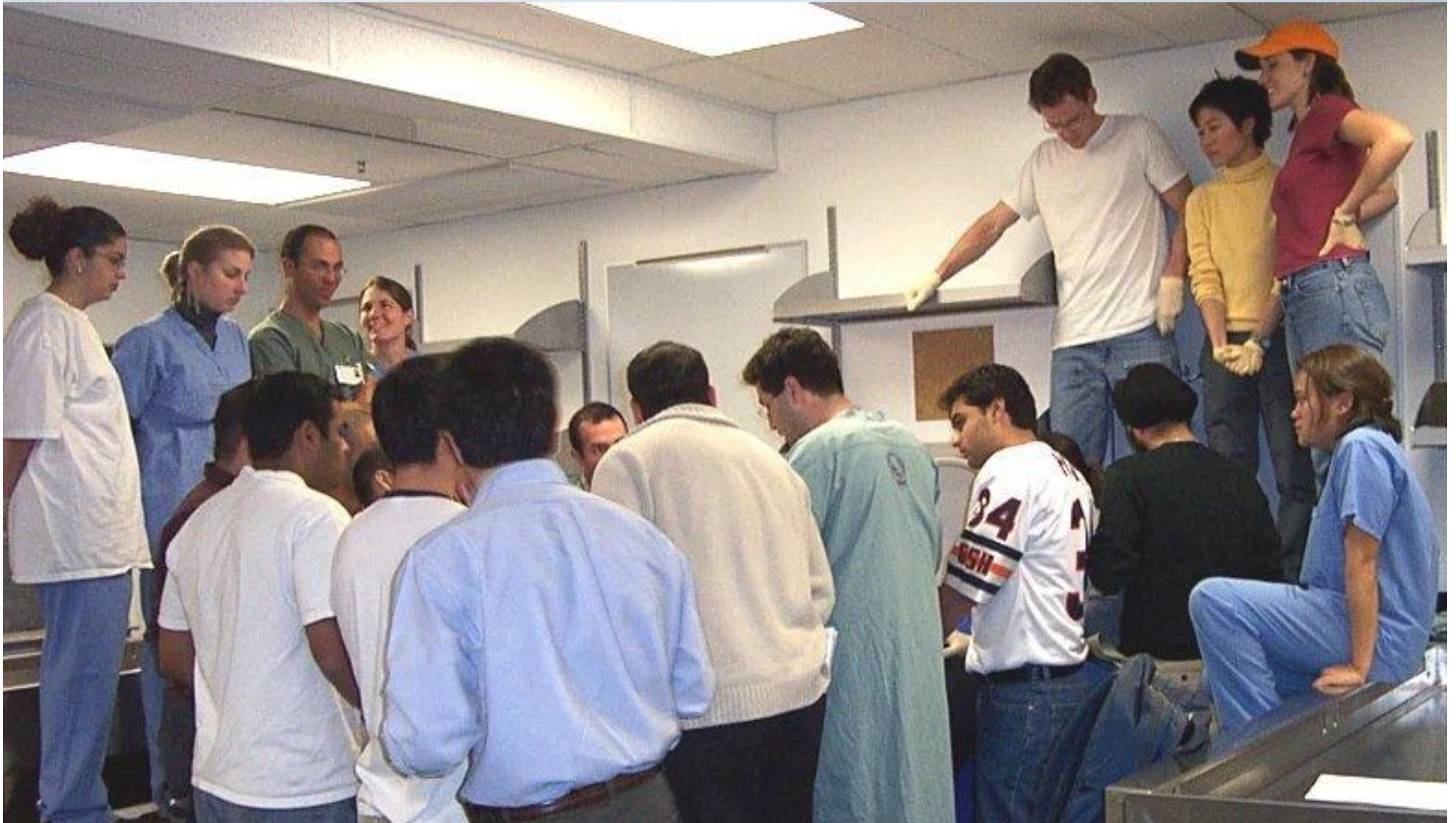
Internet2 Work Plan

- Current work plan created in 2007
 - FCC Rural Health was the only Federal Activity
- Will be Revised at a Strategic Retreat
 - Fall 2009
 - Take into account
 - Successes
 - New Activities
 - New Challenges / Opportunities

Key Success Factors

- An onsite champion
 - Preferably a Physician
 - Understands benefits and willing to change
- A reason to use technology and the expertise of others to help
 - In the US this is often:
 - Too little of expertise
 - A need to reduce costs
 - A need to improve the health of patients
 - The barriers are often:
 - I don't know how to do it myself and I need somebody to help
 - It costs too much
 - I have to change / what is the benefit

Medical Education Challenges









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A large, thick, red handwritten number '2' is superimposed over the word 'INTERNET'. The '2' starts with a large loop at the top and ends with a long, sweeping tail that extends towards the right.

INTERNET[®]

A smaller version of the red handwritten number '2' is positioned over the word 'INTERNET' in the bottom right corner of the slide.