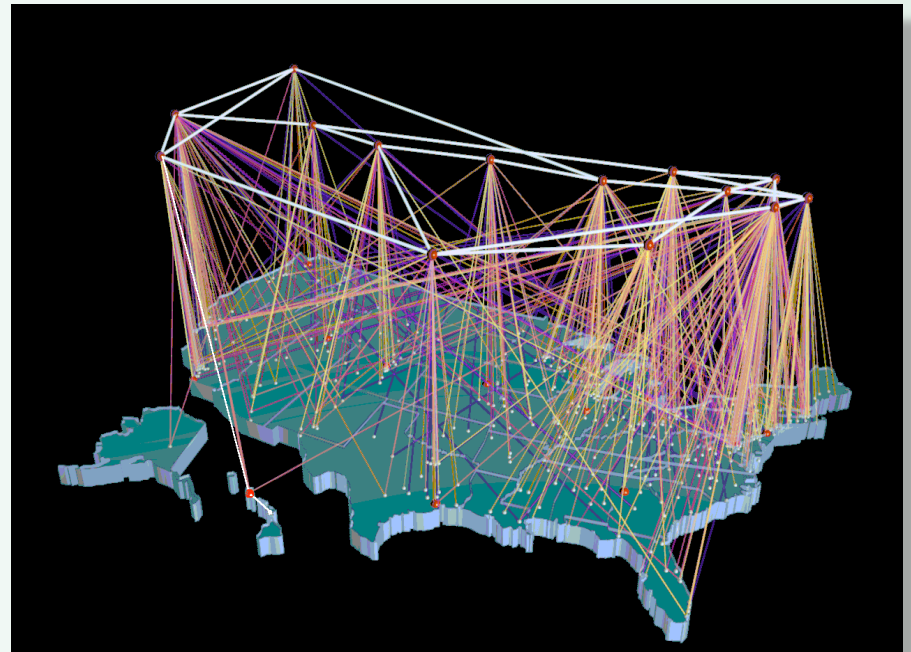
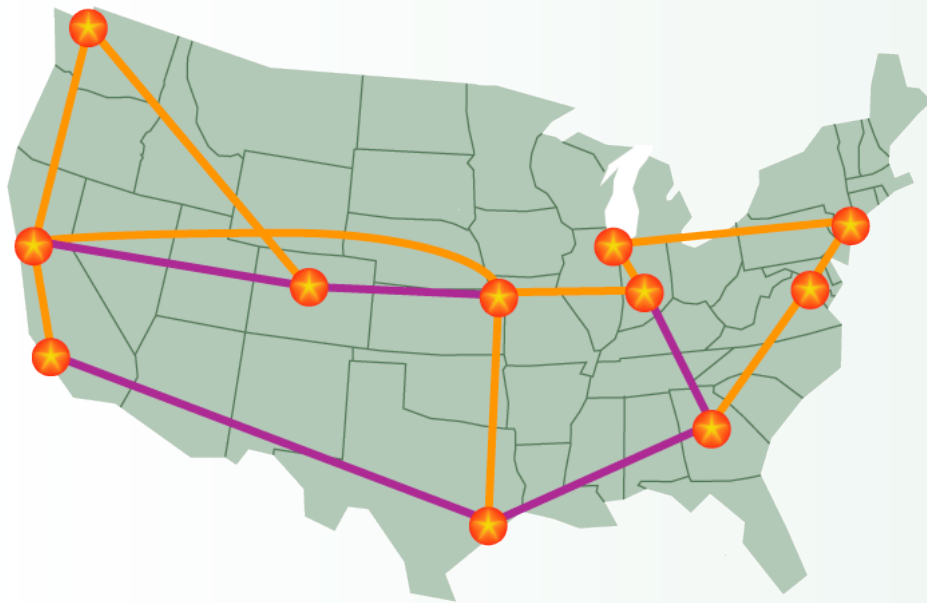


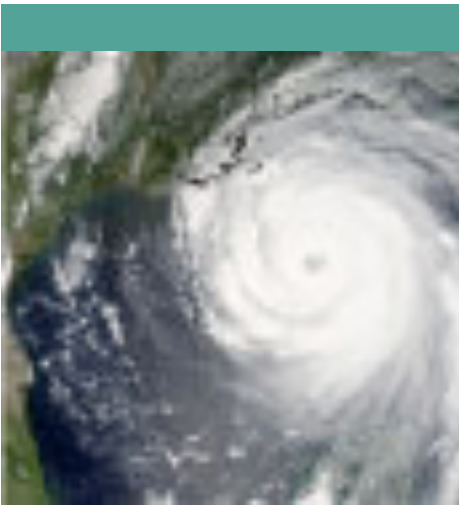


Creating an Information Communication Technology Infrastructure Model for the Nationwide Health Information Network (NHIN) and Public Health Information Network (PHIN)

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<http://hsc.unm.edu/som/telehealth>







detain two security guards in connection with missing Alabama teenager Natalie Holloway, who was on a high school graduation trip ■ 3A



By Chris Pizzello, AP

'Breakfast Club' at 20

From the 1985 movie reunite for MTV Movie Awards, including Annette Bening, Michael Hall, left, Molly Ringwald, Emilio Estevez and Paul Gleason ■ 2D

Plans haul quarterly the 1992 season motive rethinking ■ 1B



USA TODAY

...ry to resume deliberating
...aren't expecting a fast verdict in Mi-
...n molestation case. Meanwhile, pop star
...agency room for back problem. 3A
...ase gets narrower focus
...es will witness nearly 500 potential crim-
...against former Iraq leader to a dozen well-
...l ones to avoid more delays in trial. 8A
...Scrushy panel told to try again



By J. P. Moczulski, Reuters

By Duane Burstein, AP

Quick action may stop global bird flu epidemic



**H1N5
&
H1N1**

Many animals destroyed: A health officer collects ducks to be killed at a farm north of Bangkok last year.

Millions may die if H5N1 virus spreads, agency says

quickly, and the world is not yet prepared to take advantage of it, researchers say. Rich countries are stockpiling anti-viral drugs, but there is little available in the impoverished backwaters of Southeast Asia where the outbreak is taking

U.S. step up nuke detection at ports

Critics say money to buy faulty mo

By Mimi Hall USA TODAY

WASHINGTON — The federal government is stepping up efforts to stop terrorists from smuggling nuclear or radiological material into the USA, even as critics fault it for poor planning and out-dated equipment. The government is spending hundreds of millions of dollars to screen more cargo at the nation's ports, test next-generation radiation detectors and develop intricate plans to track deadly weapons if they are brought across the borders. Just last week, the departments of Homeland Security and Energy broke ground on a \$35 million nuclear and radiological mon-

Busy

Foreign entries in 2000

Los Angeles 1,100

Long Beach 2,370

New York 1,300

Chicago 722

Northwest 500

with NBA

■ League looks at the toll on players, shorter season, 1C
■ Hawks take 3-2 lead vs. Heat, 1, 6C

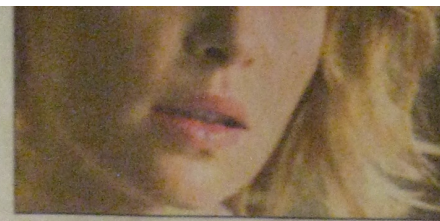
ExperienceMarriott.com

TODAY

NO. 1 IN THE USA

strokes

■ Creator finds her voice again as ABC hit nears 100th show, 1D



By Randy Holmes, ABC

Katherine Heigl: Grey's Anatomy is enjoying late-season applause.

Alert nears pandemic level

But world is 'better prepared'

By Rita Rubin and Elizabeth Weise
USA TODAY

The world moved to the brink of a global influenza pandemic Wednesday as the fast-spreading swine flu, which has gained at least a foothold in nine countries, claimed its first victim in the USA, a Mexican toddler visiting in Texas.

The World Health Organization raised its global alert level to phase 5, just one level below 6, or "global pandemic," because the virus appears to be spreading easily person-to-person and cases are appearing that have no link to Mexico. That's where the virus first began to hit broadly just a few weeks ago.

The new level signifies that

Taking action ■ States, hospitals step up, 5A ■ Companies' worker tips, 2B



Flu pandemic rating system

Since Sunday, the World Health Organization has raised its pandemic (global epidemic) alert level twice.

Pandemic alert scale

- 1 = new virus, no human cases, low risk
- 2 = new virus, no human cases, higher risk
- 3 = very limited human-to-human spread
- 4 = increased human-to-human spread
- Level 5 (now) = significant human-to-human spread in multiple locations
- 6 = pandemic; human-to-human spread is efficient and sustained

confirmed 99 cases of swine flu, Health Secretary José Córdova said. Mexico reported 1,300 possibly infected.

In the USA, 10 states had confirmed swine flu cases as of Wednesday morning, double the number from the day before, which brings the total

The Problem

- Currently there is no well designed nationwide health information network information communication infrastructure
- There is a need for a reliable, efficient, secure network for health information exchange that can also serve to support emergency or disaster response nationwide

Part of the Solution

- Create a Model for the NHIN/PHIN Information Communication Technology (ICT) Infrastructure that can support the needs for HIE and provide a platform for simulation of a variety of scenarios and use cases
- The model can also be used to evaluate and identify gaps in the infrastructure and lead to iterative improvements
- Creates ability to provide adequate redundancy and disaster recovery within the network
- The model can be used for training and performance assessment of users
- Integrate protocols to quickly transition from standard transactions to emergency response

Hypotheses

- An appropriate ICT Infrastructure Model can provide the platform for design, construction, evaluation, and operations of a nationwide health information network for standard health transactions and emergency public health response

Benefits

- Creates a “Virtual” Emergency and Joint Operating Center with two-way connections to the regional and local level in order to:
 - Improve Situational Awareness
 - Enhance Efficient Consequence Management
 - Provide decision support
- Provide a platform for distributed surveillance and detection of potential health threats

Methods

- Create a coalition of key interdisciplinary stakeholders and subject matter experts in the modeling, design, testing and evaluation
- Collaborate with the partners in the Federal Health Infrastructure (FHA)
- Utilize the modeling expertise of Los Alamos National Laboratories and University of New Mexico, and others
- Use existing regions or states involved in current NHIN or CDC PHIN initiatives, as well as the FCC RHCPP
- Incorporate the integration of the national high speed internet backbones such as Internet2

Identify Partners

- ICT Industry
- Universities
- Other Subject Matter Experts
- Willing FCC RHCPP selected participants
- Willing ONCHIT or CDC program participants
- Government Agencies
 - Federal (FHA)
 - State (DoH, DoIT, Homeland Security/Emergency Preparedness Response)

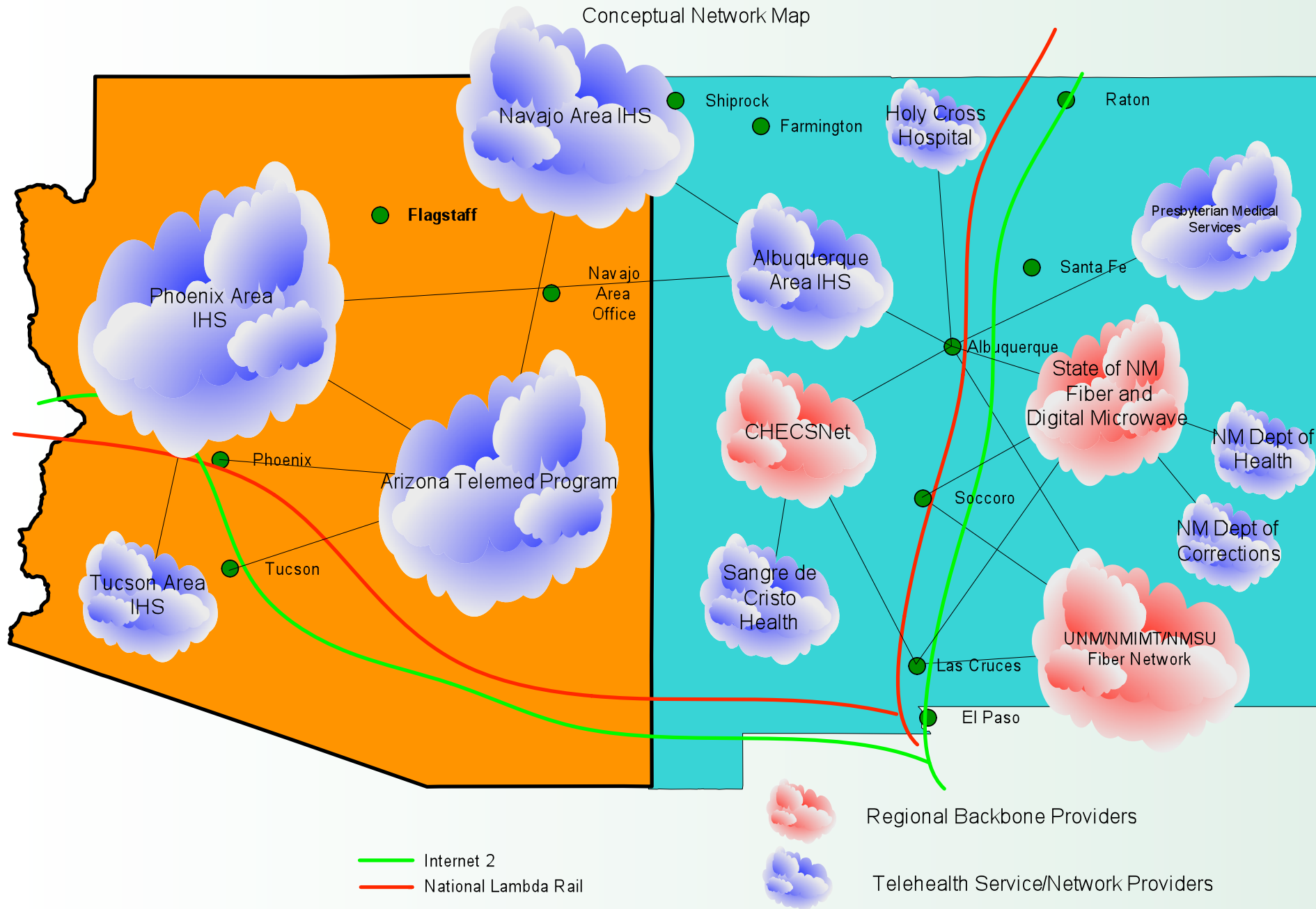


Identify Funding Support

- ONCHIT
- NIH/NLM
- NTIA
- USDA RUS
- FCC

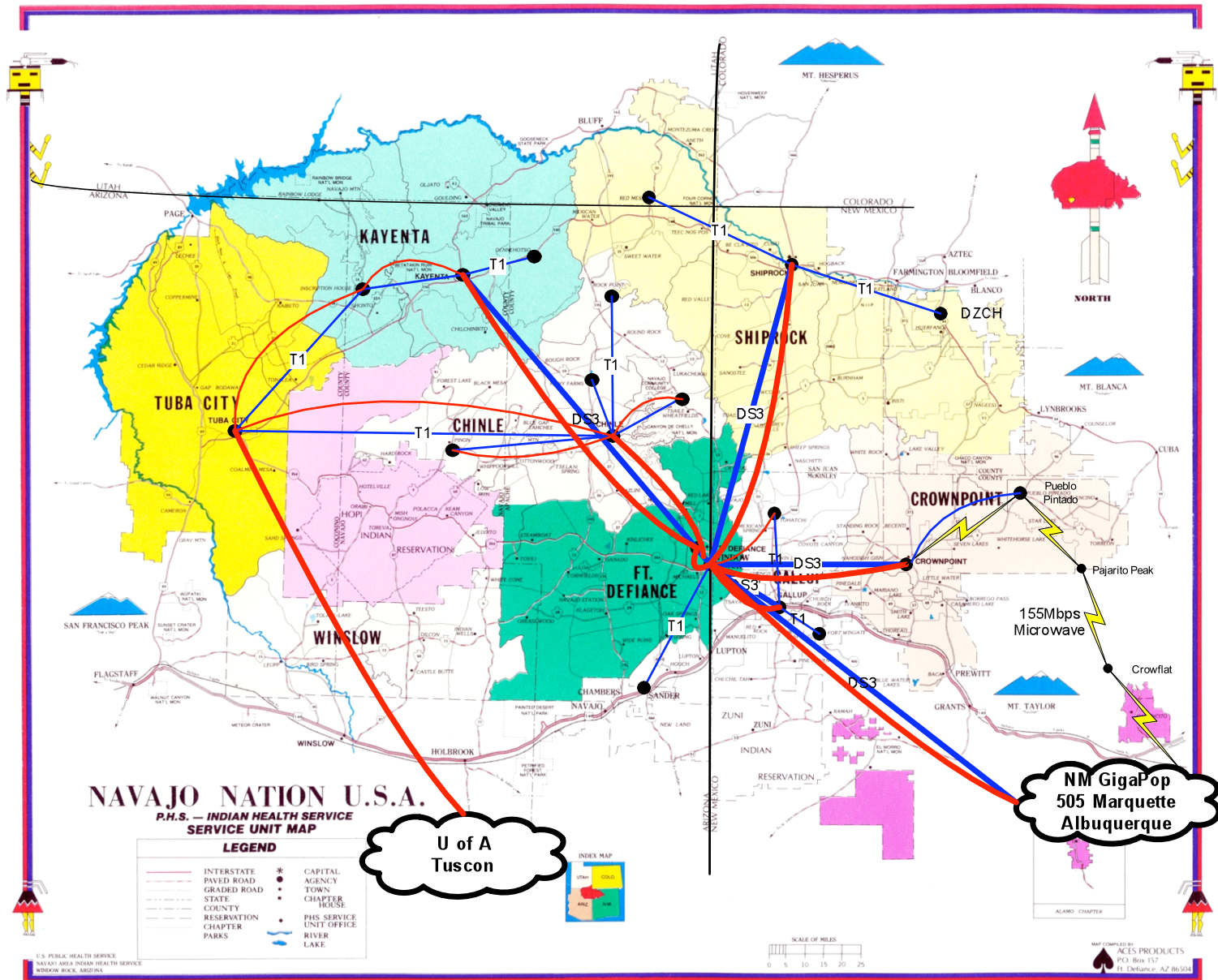
STAG is a “Network of Networks” Model

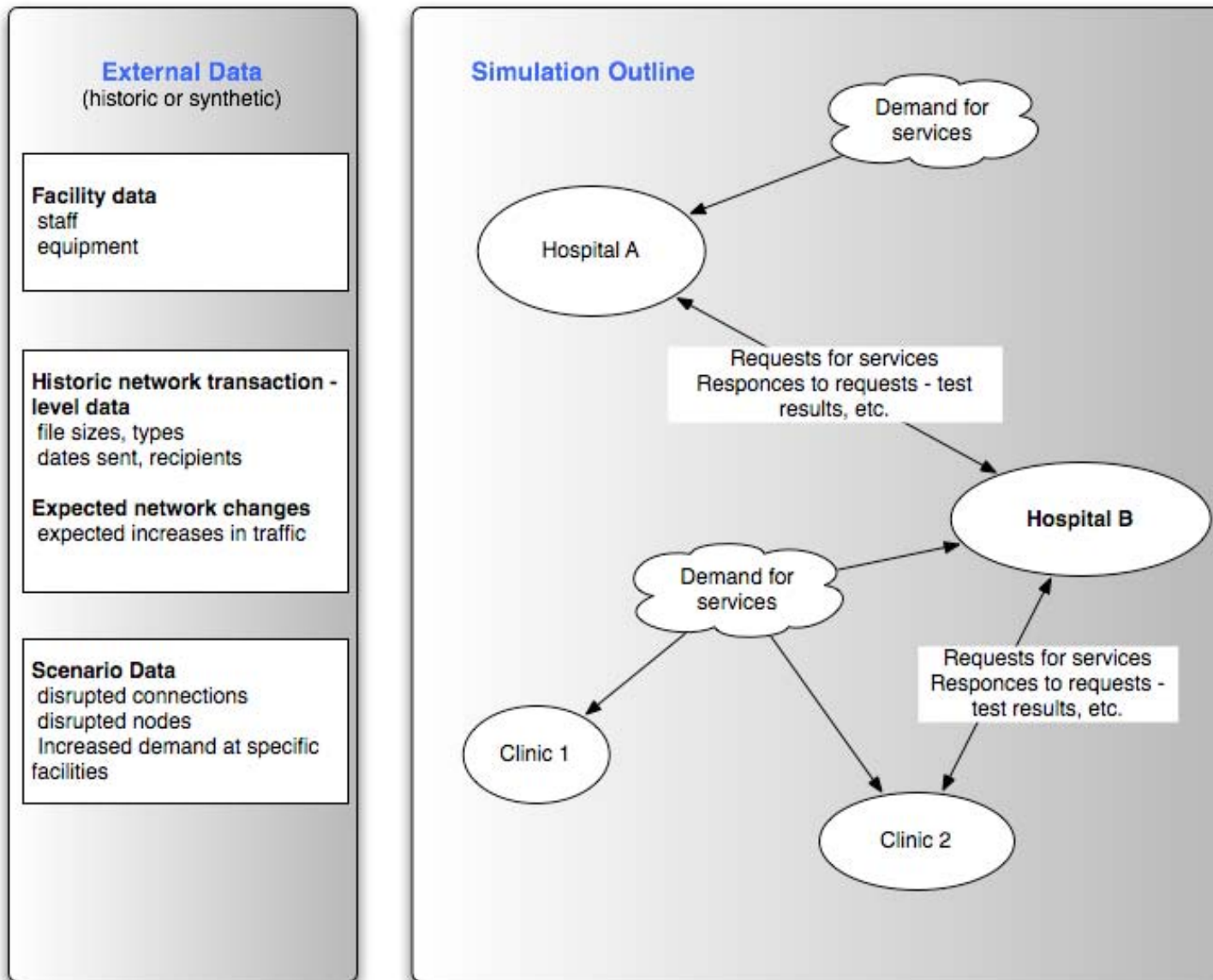
Southwest Telehealth Access Grid
Conceptual Network Map



Combined Networks

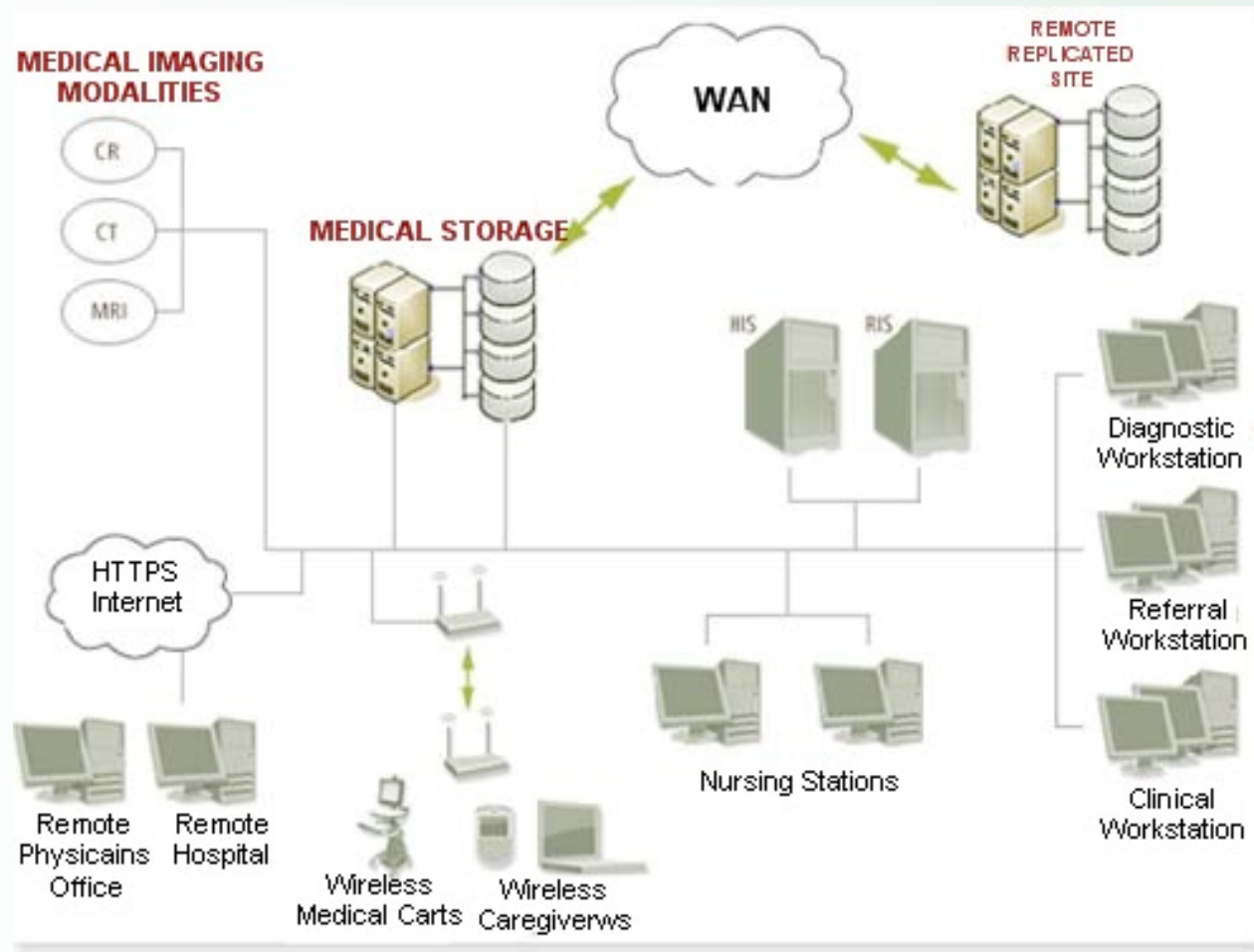
— DS3 ATP — DS3 Data — T1 ATP — T1 Data



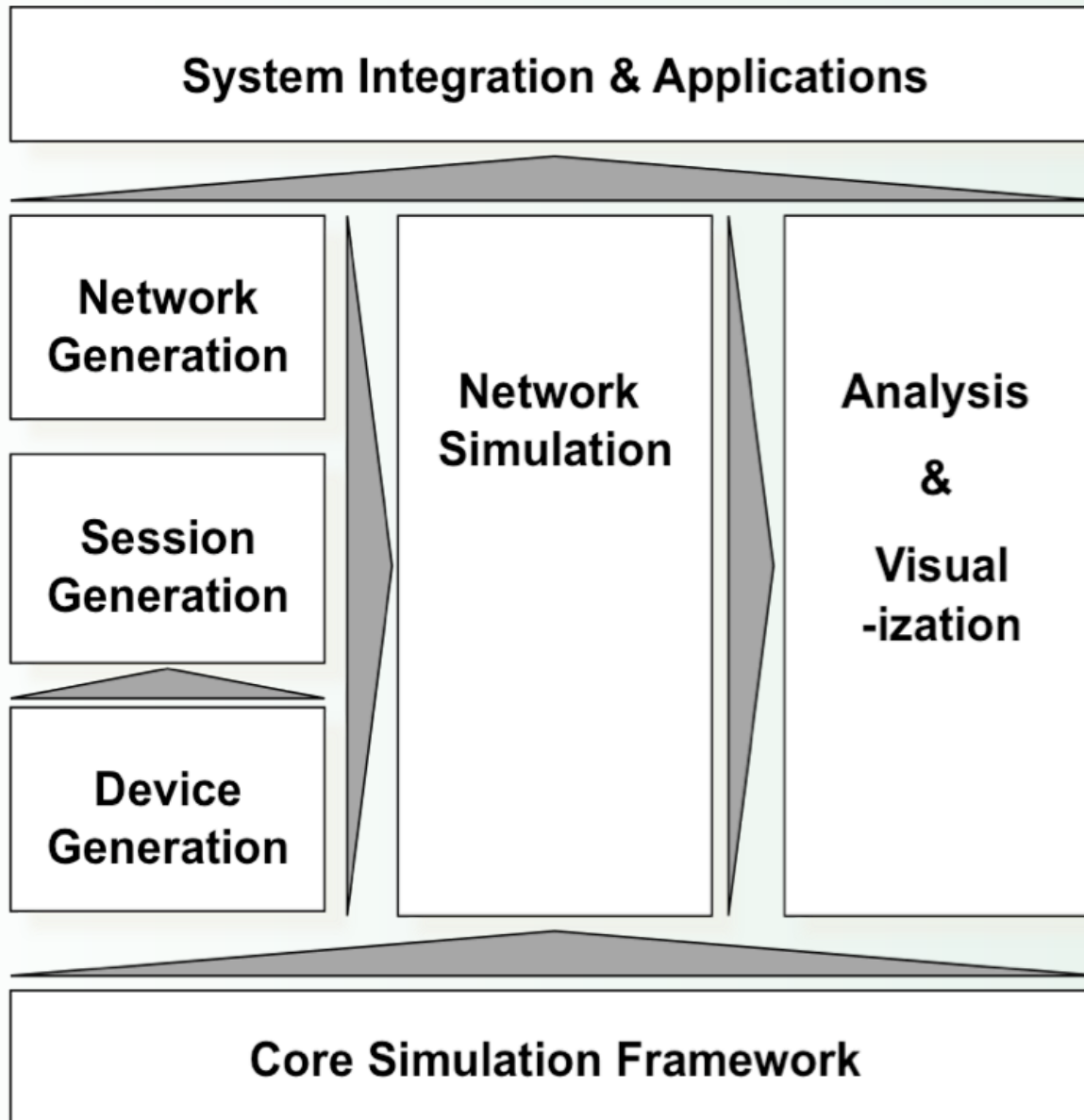


A high-level outline of a proposed model. Input data is on the left. Interactions are on the right (Provided by LANL)

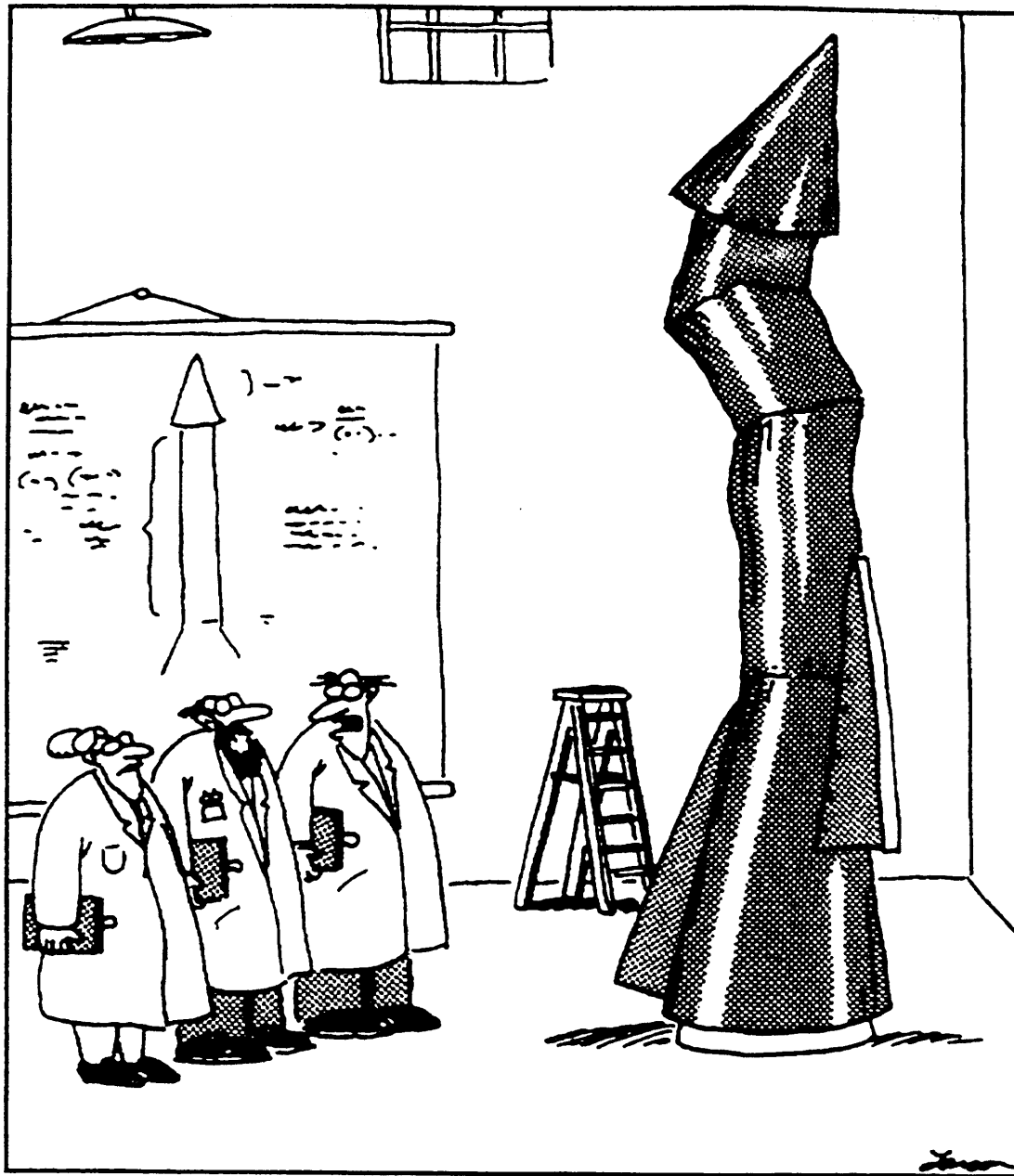
LANL's graph model abstraction can be applied both to describe the operations of an individual facility, as well as the network of facilities in a wide geographical area



The figure is an example of a health facility (image adapted from www.allsystemsup.com). The figure can be depicted as a corresponding graph. Colors of vertices represent labels (node types), which can be numerical or text (Illustrations provided by LANL).



Multi-Scale Integrated Information and Telecommunications System (MIITS) architecture (LANL)



"It's time we face reality, my friends...
We're not exactly rocket scientists."

QUESTIONS/DISCUSSION



<http://hsc.unm.edu/som/telehealth>