



*NORTHROP GRUMMAN*

**Health Information Exchange in the U.S.**

DEFINING THE FUTURE

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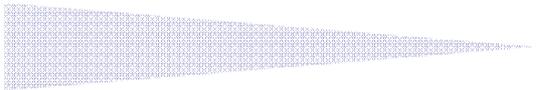
**HEALTH**

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**Northrop Grumman**



**HEALTH** DEFINING THE FUTURE



## Northrop Grumman

The National Security Powerhouse



- One of the top three defense contractors**
- One of the top two IT providers to the U.S. government**
- Largest IT systems integrator and information security provider**
- Largest provider of airborne radar and electronic warfare systems**
- Largest military shipbuilder**

\$31B    50 States    25 Countries    125,000 Employees



## Market Recognition

**Federal IT Company of the Year (Frost & Sullivan, 1/05)**

**#1 Federal IT Integrator (Federal Computer Week, 4/05)**

**#1 Federal IT Contractor, (INPUT, 4/05)**

**#1 Federal IT Security Provider (INPUT, 5/05)**

▪ **#4 Federal Network/Telecom integrator (INPUT, 6/05)**

▪ **#4 N. American IT Outsourcer (Gartner, 12/04)**

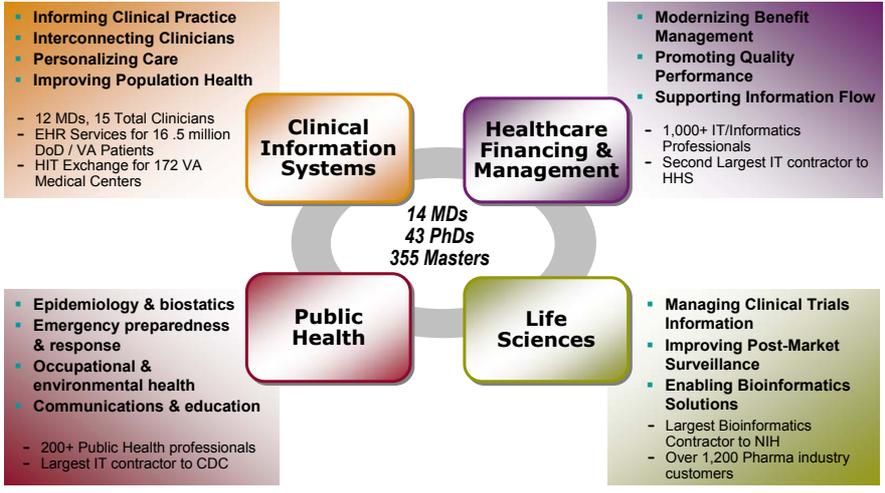
▪ **#8 IT Services Provider Worldwide (IDC, 6/05)**

▪ **#14 Information Week 500 (9/05)**

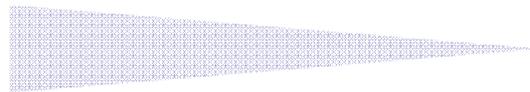




## Health Solutions



# NHIN



# HEALTH

DEFINING THE FUTURE



## Health IT Is A National Priority



- By executive order, President Bush called for *Widespread Adoption of Interoperable Electronic Health Records* for most Americans within 10 years (April 27, 2004)
- Created the *Office of the National Coordinator for Health Information Technology*:
  - First Coordinator: Dr. D. Brailer
  - Interim Coordinator: Dr. R. Kolodner



## Nationwide Health Information Network

The Decade of Health Information Technology:  
 Delivering Consumer-centric  
 and Information-rich Health Care

Framework for Strategic Actions

July 21, 2004

Tommy G. Thompson  
 Secretary of Health and Human Services

David J. Brailer, MD, PhD  
 National Coordinator for Health Information Technology



## Desired Goals of NHIN

1. **Inform Clinical Practice**
  - Incentivize EHR adoption
  - Reduce risk of EHR investment
  - Promote EHR diffusion in rural & underserved areas
2. **Interconnect Clinicians**
  - Foster regional collaborations
  - Develop a national health information network
  - Coordinate federal health information systems
3. **Personalize Care**
  - Encourage use of PHRs
  - Enhance informed consumer choice
  - Promote use of telehealth systems
4. **Improve Population Health**
  - Unify public health surveillance architectures
  - Streamline quality and health status monitoring
  - Accelerate research and dissemination of evidence



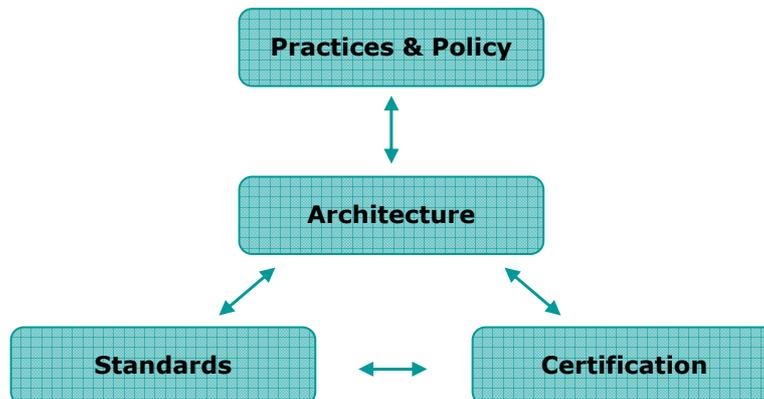
## Nationwide Health Information Network

- Widely available and easy to use health information network services to facilitate the accurate, appropriate, timely, and secure **exchange of health information**.
  - Information exchange and interoperability necessary to realize the President's vision for health care IT
  - Interconnect electronic health records
  - Transport electronic medical information to inform clinicians and follow the consumer
- Provides a **platform** for quality initiatives.
- Integrates **public health** and **bioterrorism** monitoring with **care**.

***Not a Government-Run System***



## Components of the NHIN



Source: Office of the National Coordinator presentation to the American Health Information Community, 17 Jan 2006.



## Accomplishing the NHIN Mission

As part of advancing [Nationwide Interoperable Health Information Technology](#), three contracts were awarded that established:

- **[Health Information Technology Standards Panel \(HITSP\)](#)** – developing processes for harmonizing health information standards
- **[Certification Commission for Health Information Technology \(CCHIT\)](#)** – developing criteria to certify and evaluation health IT products
- **[Health Information Security and Privacy Collaboration \(HISPC\)](#)** – addressing variations in business policies & state laws that affect privacy and security

From Department of Health and Human Services New Releases, 6 Nov 2005.



## NHIN Architecture Prototype Program

Contracts awarded to four "Consortia":  
**Accenture, CSC, IBM, and Northrop Grumman**

- **Phase 1** (Nov 2005 through Jan 2007)
  - Development of **Four Potential Architectures** for health information exchange.
  - Development of **Prototypes that Demonstrate Viability** of the proposed architectures in the clinical setting.
  - Development of **Business Models** for sustaining an NHIN.
- **Future**
  - Shared / harmonized architecture with best elements of those proposed.
  - Operational implementations.
  - Environment for sustainability.

From Office of the National Coordinator presentation to the American Health Information Community, 17 Jan 2006.



## NHIN Prototype Functionality

**Common Use Cases Provide a Foundation for Architectural Elements and Expectations for Prototypes**

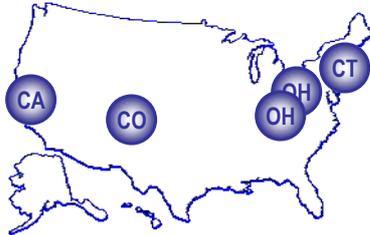
- **Biosurveillance**
- **Consumer Empowerment**
- **Electronic Health Record**



## NG NHIN Team: Health Care Partners

### Our Health Care Partners

- Santa Cruz RHIO
- Greater Cleveland Metropolitan Area
- Greater Cincinnati HealthBridge
- Quality Health Network
- Waterbury Health Access Program



### Key Features of Our Partners

- **Varying Maturity**  
Both well-established and forming health information communities.
- **Varying RHIO Technologies**  
Both clinical-messaging and consolidator RHIO approaches.
- **Varying RHIO Architectures**  
Both distributed (federated) models and centralized repositories.
- **Varying Types of Systems**  
Includes RHIOs, enterprise EHRs, and consumer-owned PHRs.



## NG NHIN Team: Technology Partners

- **First Consulting Group**
- **Axlotl**
- **RxHub**
- **Client/Server Software Solutions**
- **SphereCom Enterprises**
- **Emdeon**
- **Oracle**
- **Sun/SeeBeyond Technologies**



## Drivers for Our Design

### Design Goals

Sustains Interoperability



1. Develop / enforce **nationwide standards** to facilitate interoperability.
2. Leverage success at local level and "**lower the barrier**" for entry.



Facilitates Adoption

### Design Principals

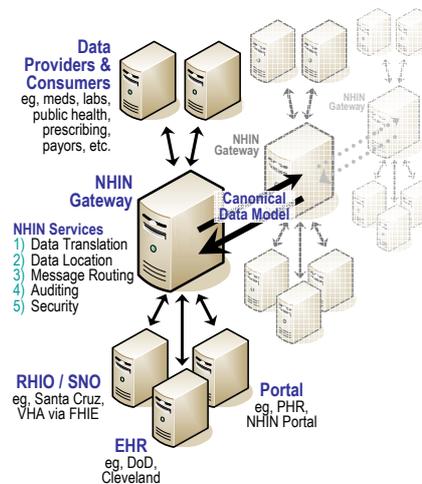
- Information **not stored centrally**, but distributed within source entities to preserve data ownership / control.
- Use **no National Patient Identifier**, but attributes from participants and statistical matching to identify patient.
- Promote interoperability by establishing a **canonical information model** while supporting participation.
- Strive to **minimize barriers to participation** by providing message translation and routing services.
- Establish open, flexible, **shared Web services** that can be leveraged by any vendor or participant.



## Our NHIN Architecture

### Architectural Solution: Gateways

- Each entity connects through a gateway servicing one or more entities.
- Gateways connect to each other using nationwide standards.
- Gateways provide essential services needed for interoperability:
  - 1) **Information Model Translation**
  - 2) **Patient / Data Location**
  - 3) **Message Routing**
  - 4) **Transaction Auditing**
  - 5) **Security / Confidentiality**





## **Next Steps**

- **Business model due December 2006**
- **Architecture and prototype due January 2007**
- **Year 2?**