Interoperability, who cares?!?

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Interoperability describes the extent to which systems and devices can exchange data, and interpret that shared data. For two systems to be interoperable, they must be able to exchange data and subsequently present that data such that it can be understood by a user.

Interoperability is the ability of systems, personnel, and equipment to provide and receive functionality, data, information, and/or services to and from other systems, personnel, and equipment, between both public and private agencies, departments, and other organizations, in a manner enabling them to operate effectively together.

Interoperability means being able to have one product function with another product, sometimes in ways the original manufacturer didn't anticipate and wouldn't necessarily approve of.

Interoperability various tool, products and real-time collaboration that will enhance our Imagineers user-experience and project information handling from the office to the field.

Interoperability is more than the ability of various technical platforms to interact, or a feature of the general IT infrastructure; it speaks to political will and stakeholder relationships.
Who Wants/Needs It??

• Health Care – HIMSS

• DHS, DOD, DOE, DOI, DOS,... ok... All of the Government Organizations – At least they are trying

• World Wide Web Consortium (W3C)

• National Football League – Implemented League wide standards based EHRs for all players

• NASCAR – Everything from interoperable emergency radios to standards based EHRs for their drivers

• Financial Industry

• Who else??
What Do These Terms Mean To You?

- Archie
- Veronica
- Jughead

The Internet wasn’t always HTTP://

It has taken 45 years, standards organizations, government oversight, and lots of dedicated passionate people.

1966 – 2 computers
1968 – 4 computers
1971 – 23 Computers
2017 - 3,731,973,423 --- 49% of the population
Current Use Case

- Embattled, overloaded system
- Lacks open standards
- Desperately needs interoperability – But with whom?
The Real Challenge

- Large Effort to enable interoperability with DOD
- Challenges
  - No real interoperability between systems
  - Lack of contextual or syntactical understanding between domains
  - Current plan focuses on integration of hospitals within DOD system with VA
  - DOD – Each branch has own medical infrastructure and systems
What about the full continuum of care
Current Approach

President Trump has tapped David Shulkin, M.D., an Obama administration appointee and current VA undersecretary, to lead the Department of Veterans Affairs. Dr. Shulkin is a board-certified internist and fellow of the American College of Physicians.

This is the third major attempt to modernize the Veterans Information Systems and Technology Architecture (ViSTA) in the last 10 years.

The DOD and the VA are still currently pursuing different approaches. VA has yet to decided formally but the best inside information is that they will begin evaluating Commercial Off The Shelf solutions as well as looking into purpose built solutions. A decision is expected within 18 months.

The DOD is currently working towards a COTS solution for its hospitals.

While a good start this does not come close to addressing the continuum described in the previous chart, much less the full scope of healthcare interoperability on a national level.
Given:
1. Technological innovation, evolution and revolutions will continue and will increase in frequency
2. No business or government agency can afford to upgrade systems every time there is a change to the state of the art
3. Message standards change, improve, evolve
4. Nobody really wants innovations to cease occurring

Interoperability solutions must offer not only integration with the next generation of systems but, with current and legacy systems.

They should be adaptable to new and emerging standards

They should be able to do this preferably without costly upgrades or software development efforts

They should provide a path to achieve additional ROI on legacy systems through integration.
The Sales Pitch

MONARCH INTEROPERABILITY

Enabling interconnectivity between systems – facilitating the sharing of critical information/data
Sales Pitch Continued

EDITORS

Message Editor
Data structure and content

Communications Path Editor
Transport/Protocol Integration

Map Editor
Context and Syntax normalization

Easy to use 3-step process
• GUI Controlled
• User Defined
• Easily Configurable
• Onsite Modifications
Interoperability Constants

The Short Answer is... There are very few:
1. Everybody who understands what interoperability can offer, wants it
2. Legacy systems will always be there
   There is value and often requirements associated with keeping legacy systems
3. New and emerging systems will always be faster, more attractive, offer more features and often will not be backward compatible
   This may be due to some corporate business case but is also often due to changes in the state of the art and the cost of backward compatibility both in dollars and often in security
4. Change

Nobody, not even an old dog like me, who has # years in interoperability, can truly guarantee what the future of interoperability will look like.

What I can guarantee is that it will be an ongoing, exciting, nerve racking, fun, challenging, guaranteed headache for people like us.
Thank You
Backups
Customers

- Department of Energy
- Department of Homeland Security
- Center for Disease Control
- National Aeronautics and Space Administration
- Federal Emergency Management Agency
- Federal Bureau of Investigation
- Dept. of Justice
- US Border Patrol
- Dept. of the Navy
- US Coast Guard
- Dept. of the Army
- Dept. of the Air Force
- Dept. of Navy/Marine Corps
- US Army Space & Missile Defense Command/Army Forces Strategic Command
- US Central Command (CENTCOM)
- US Army Central (ARCENT)
- US Army Training Doctrine Command
- Defense Intelligence Agency
- US Army – Aviation/Missile Research, Development & Engineering Center
- US Army – Software Engineering Directorate (SED)
- US Air Force Space & Missile Center
Emergency Operations Integration

Operational and Logistics Info

Information Integration
- Shared operational data to the Emergency Operations Center (EOC) enhancing overall situational awareness
- Increase integration with outlying cities, counties, and state agencies

Comm System Independence
- Provides opportunity for legacy systems to communicate with new technologies
- Places all diagnostic data in the hands of the decision maker

Total Solution
- Ground truth presented as a fused situational Picture
- All data feeds are collected for presentation
- Presents relevant information to each user based on role, location, and dynamically occurring events.
Multi-Agency Integration

- Civil/Military situational awareness integration
- Collaborative planning
- Adhoc federations
- Integrate best of breed sensors and solutions
- Study/analyze operational plans
- Training
- Exercises
- Rehearsals
- Develop Policies and Procedures

Integrate Government Agencies as Required