

Integrated Health Architecture:

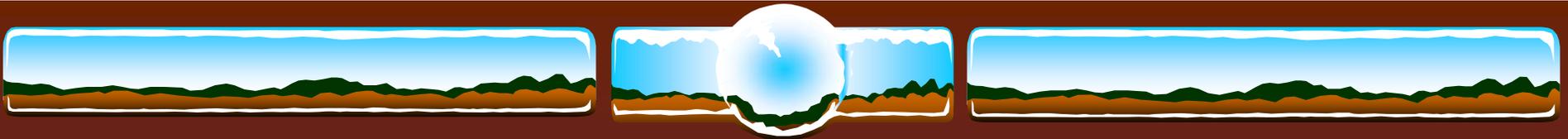
Leveraging the Infrastructure

John R. Nelson, MPA
Arizona Department of Health Services



Agenda

- The Vision of an Integrated Health Infrastructure
- Setting a Course, and Defining a Roadmap
- Design in flexibility to accommodate change
- Aligning with evolving National Initiatives



The Vision of an Integrated Health Infrastructure

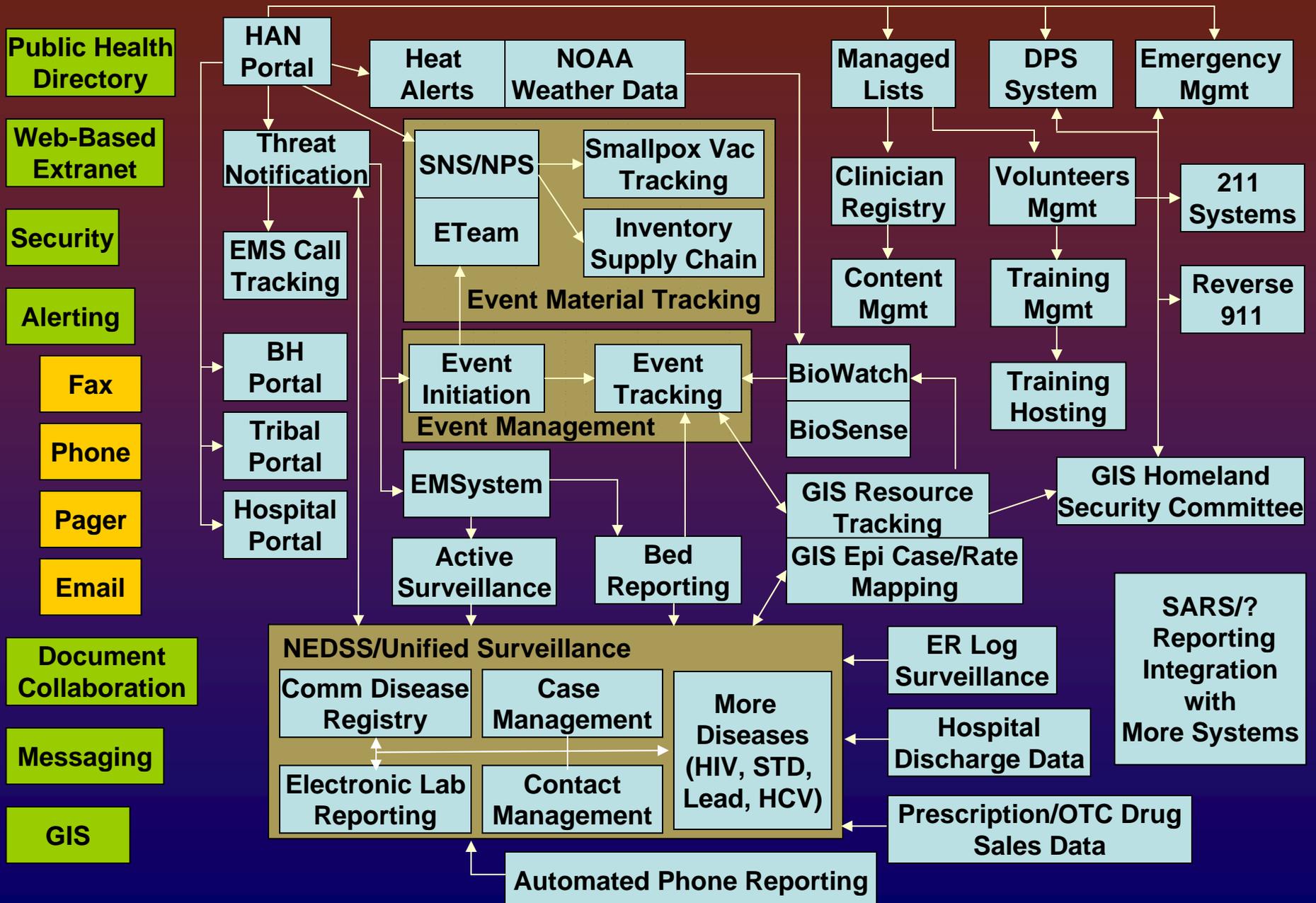
- Initiating HAN, NEDSS, PHIN, NHII initiatives
- Complexity of HAN Integration
- Foundation based around Relationships
- Support of Informatics, not just Alerts
- Need to share information



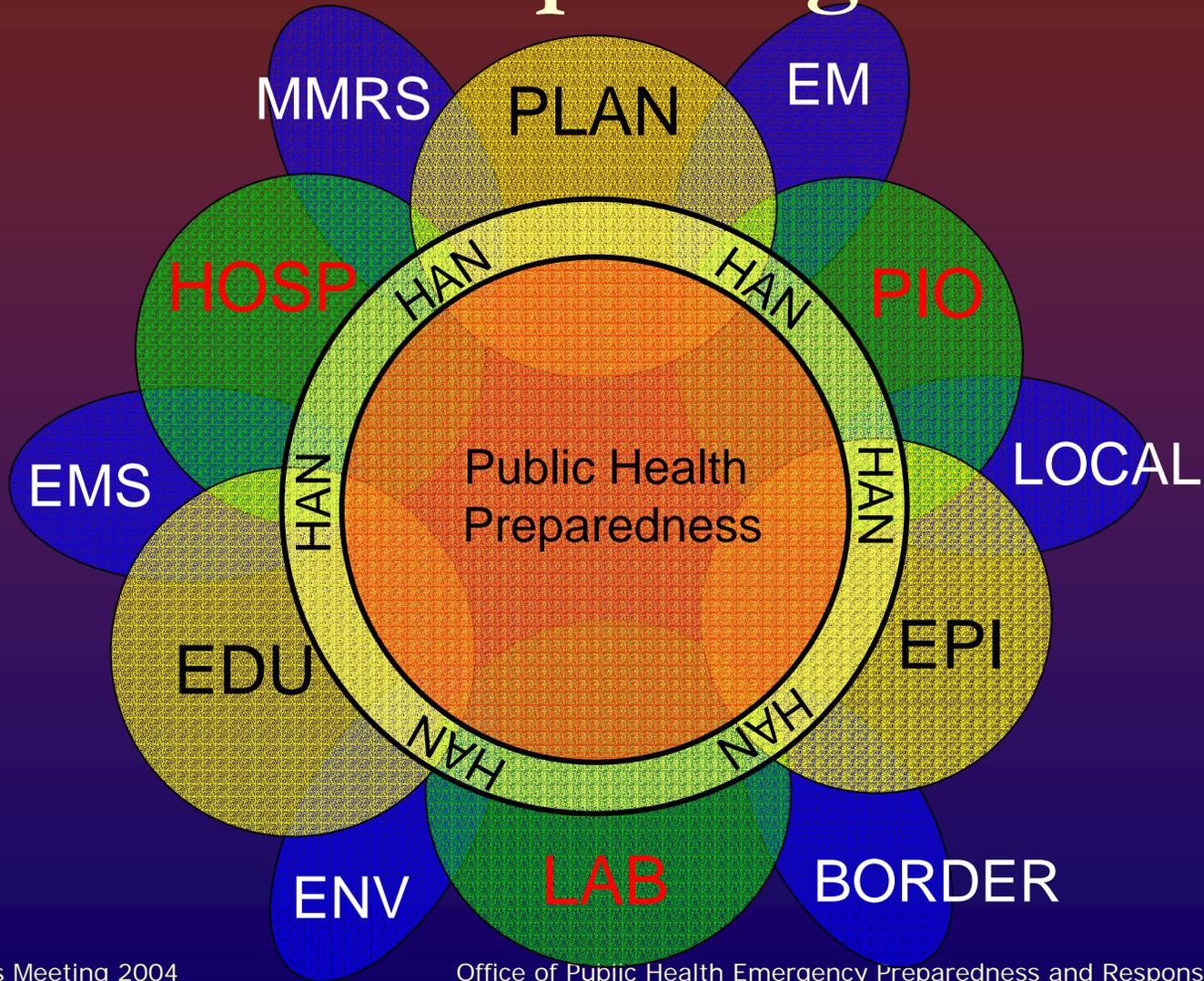
Initiating: How is Your HAN Utilized or Focused

- Focus Area A – HAN for response (Notification Systems)
- Focus Area B – NEDSS Systems
- Focus Area C & D – HAN integrated with Laboratory Management
- Focus Area F – Public Portals for Alert Distribution
- Focus Area G – Distance Learning or Learning Management Systems
- Other BT Focused – Hospital Preparedness and Mass Vaccinations
- Non-BT Focused – Environmental Health, Occupational Health, Behavioral Health, Immunizations, Vital Statistics, Medicaid

HAN Gone Wild – Managing Complexity



Partnership Integration





Informatics Integration: Implementing MEDSIS

(Medical Electronic Disease Surveillance Intelligence System)

- Public Health is part of emergency preparedness and response
- Viewing the Continuum of Public Health, using health data resources as intelligence tools
- Health Informatics should focus on the empowerment of public health



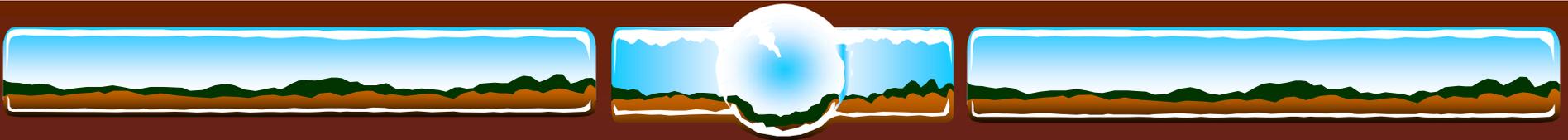
The MEDSIS Vision

- Collecting Reportable Disease Information
 - Disease Surveillance
 - Case Management
 - Contact Tracing
 - Outbreak Management
- Analysis across systems
 - Situational Awareness
 - Using Syndromic Data (EMS, OTC Drugs, etc.)
 - Using Event Triggers
 - Incorporating Stockpile Activities



Sharing Data

- **Hierarchical Sharing – Federal and State, State and Local**
 - Disease Reporting, Investigation Information
 - Alerting (National/Regional Distribution, Local Alert Initiation)
 - Response Tracking, Intelligence Gathering
 - Laboratory Information
- **Peer and Inter-Agency Sharing – Region to Region, State to State, Local to Local, Border Sharing**
 - Regional Response Efforts (including First Responders, Homeland Security)
 - Investigation Collaboration (including Hospitals, EMS, FDA, USDA)
 - Collaborative Planning (plans for resource sharing, event coordination)
 - Healthcare Partners (CMS, Insurance, Providers and Provider Organizations)
- **Partner Sharing –**
 - Sharing with Non-Conventional Partners (NOAA, USGS, NASA)
 - Sharing with Other Potential Partners (DOD, IHS, Border Health)



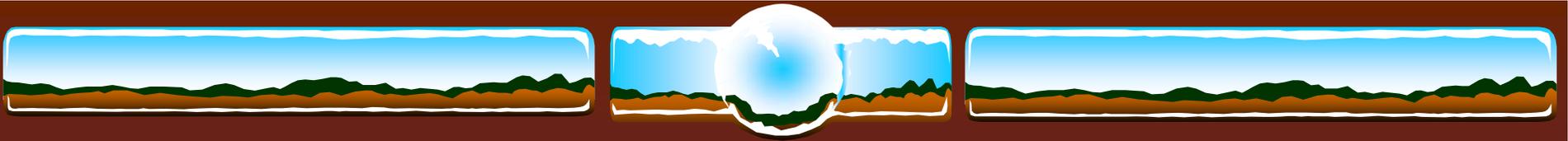
Setting a Course, and Defining a Roadmap

- Shows the level of growth in the system.
 - New Applications/Integrations
 - New User Groups
 - New Services
- Helps to provide strategic direction.



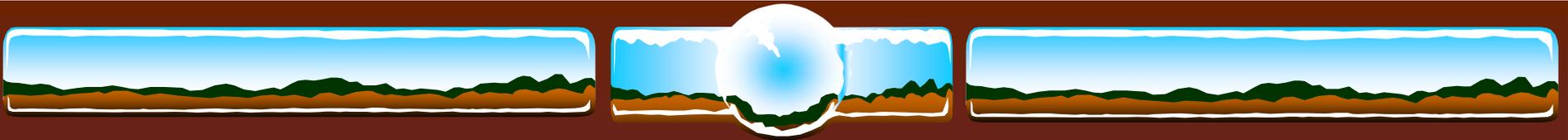
Requirements of a Roadmap

- Prioritized Business Needs
 - Helps provide focus under limited resources (funding and human)
- User Acceptance
 - Be sure the users are ready for the change
 - Entice Users without Overwhelming Users
- Training Needs
- Development Complexity
 - Can lead to increased costs and time



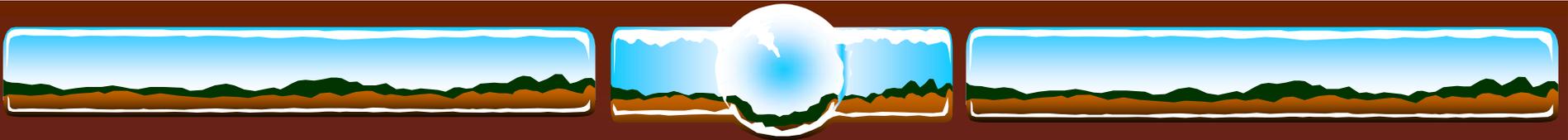
Adaptable Infrastructure

- New Standards
- New Technology
- New Public Health Needs



Adapting to New Standards

- Change is the only constant
 - Changes to vocabularies
 - Changes in data structures and formats
- Need to support older standards
 - Partner organizations will lag behind the new standards
- Need for versioning
- Need to develop a support plan



Adapting to New Technologies

- Meeting changing security standards and threats
- Meeting the Needs of Changing Data Communications
 - New Wireless Technologies
 - New Mobile Web Technologies
 - New Data Exchange Technologies



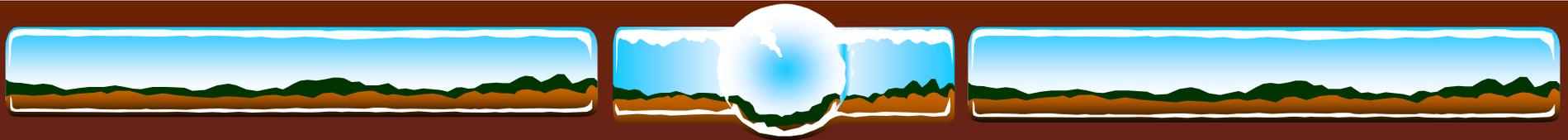
Adapting to New Public Health Needs

- New and Emerging Diseases
 - West Nile Virus
 - SARS
 - Avian Flu and associated variants
- New Threats and Response Efforts
 - Respiratory Illness Tracking for SARS
 - Pre-event vaccinations and mass prophylaxis and vaccinations
- Increased outreach and training
 - Public Health in the Public Eye



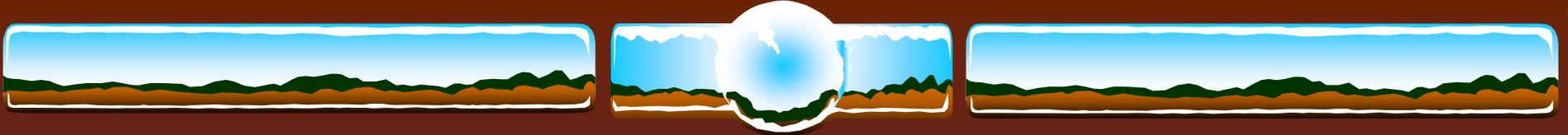
Aligning with National Standards

- NHII, HL7, SNOMED, LOINC, PHIN, NEDSS, NIMS help to point integrated development in the right direction
- Understanding that only State and Local Agencies develop the Roadmap to meet (and keep meeting) these evolving standards
- All National Standards need to accommodate support for linking older technologies



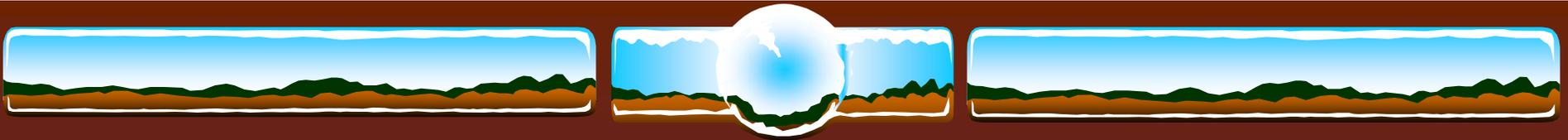
Arizona's Progress and Successes

- April 2001 – Initial integrated Vision of HAN & NEDSS
- February 2002 – Initial Infrastructure Complete
- May 2002 – Finalized Plan for Scaling the Architecture
- October 2002 – Expanded Project Management and Governance Structure
- February 2003 – Initiated Build and Development of improved, scalable Architecture and Applications
- December 2003 – Enhanced Architecture installed
- March 2003 – Completed System Security Audit
- April 2004 – Deployed the SIREN System and MEDSIS pilot supported by the architecture



Integrated Health Architecture Summary

- Integration needs to address adaptability and programmatic growth to leverage the architecture
- A Roadmap strategically addresses the evolution of the architecture
- Aligning the roadmap to National Initiatives facilitates sharing of development approaches as well as response/investigation information



We Can Never Start Over Again...

John Nelson

jnelson@hs.state.az.us or

jnelson@siren.az.gov

(602) 364-3282

(602) 725-7674