

# Leveraging ArcGIS Across The Utility Enterprise

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# Agenda

- Introduction
- About Northeast Utilities
- About Epoch Solutions Group
- eGIS Initiative & Business Drivers
- Mobile GIS
- Damage Assessment
- Questions

# About Northeast Utilities

- **New England's Largest Utility System**
  - Fortune 500 company
  - Connecticut, Massachusetts and New Hampshire
  - 3.6 Million Electric & Natural Gas Customers
  - 4,270 circuit miles electric transmission
  - 72,000 pole miles electric distribution
  - 3,500 miles gas pipeline
- **Long History Of GIS Technologies**
  - GE Smallworld and Esri
- **Recently merged with NSTAR**

# About Epoch Solutions Group

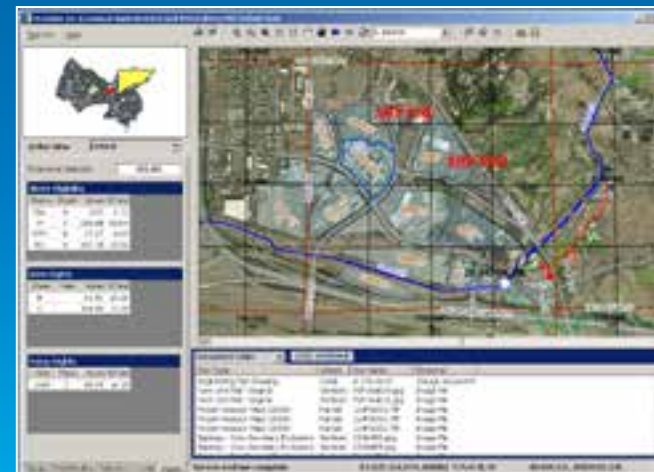
- **Founded in 2006**
- **Provider of Geospatial Technology Products & Implementation Services**
  - Domain knowledge primarily Utility Industry
  - Initial business focus on cross platform integration
- **Specialize in:**
  - Esri ArcGIS (ArcGIS Server, Web API's, ArcGIS Online, ArcObjects etc.)
  - Mobile Field Solutions & Workflow (EpochField Production Solution)
  - Smallworld – Esri Integration (EpochSync Product Solution)

# eGIS Initiative

- Pre NSTAR merger NU had a long history with GIS and had in place a GE Smallworld solution that supports engineering design, engineering analysis, thematic reporting, map generation, and network connectivity model except for one operating company (PSNH) and the Transmission Dept.
- PSNH and Transmission have indicated preferences for exploring other GIS vendor platform options (namely ESRI)
- PSNH had already started a GIS project with NHPUC approved funding of \$2M capital per year over the next 5 years
- NU executive team approved formation of an Enterprise GIS Strategy Team in the summer of 2011
- Team developed this Enterprise GIS Strategy which established a “directional roadmap” and IT Architecture within the context of a 5 year roadmap that included:
  - Looking for an enterprise solution to be used by all operating companies and transmission
  - Recommendations regarding technology platform, integration and support organizations
  - Develop strategy implementation approach
  - Develop order of magnitude cost to execute strategy

# Pre eGIS Systems at Northeast Utilities

- **GE Smallworld**
  - Applications CT, NH, Western MA
    - Electric Distribution
    - Gas Distribution
  
- **ESRI ArcGIS**
  - Applications
    - NSTAR Electric (ArcSTORM)



# Pre eGIS Challenges

- **GE Smallworld GIS Technology**
  - Proprietary Database & Language
  - App Development / Support Costs
  - Resource Availability & Cost
  - Obsolescence Concerns
  - Limited Use of Emerging Technologies
  - No easy way to bring GIS to have “masses”
- **Operating Companies Desire For Esri Technology**

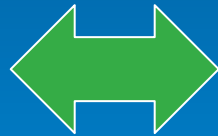
# Current Architecture



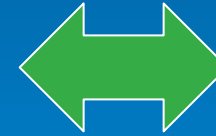
ArcGIS Online Services



NSTAR Esri Geodatabase



eGIS Esri Geodatabase



Electric/Gas/Land GIS  
CT,NH,W MA

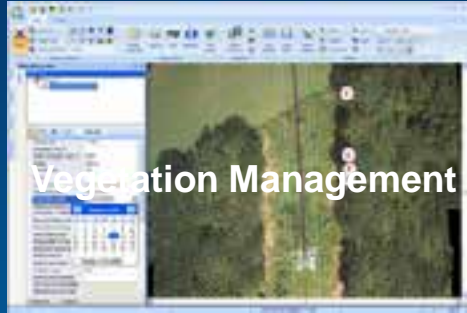




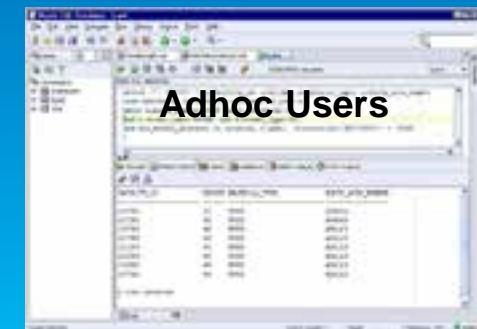
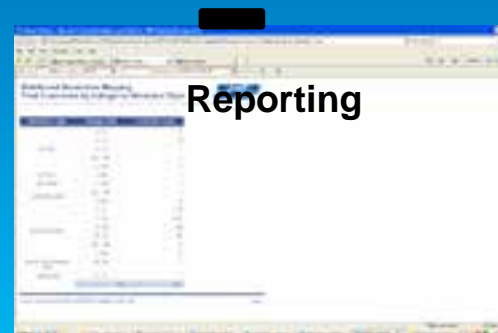
# Advantages

- **Enabling, Best-of-Breed Architecture**
- **Creates a standard, scalable GIS Database that can support all NU companies**
- **Ability to Leverage Emerging Technologies**
- **Open Data Access which resulted increased workforce performance through easier access to T&D asset information which results in better decision making**
- **COTS\* & rapid application development process**
- **Mainstream Development Tools & Language**
- **Increased Resource Availability**
- **Reduced Costs**
- **Simplified Systems Integration**
- **Standard, secure methods for sharing GIS data**
- **Sustain performance & expand to GIS Mobile**
- **Improves NU's capability to communicate with internal and external stakeholders through GIS-based visualization and pattern-based techniques**

# Northeast Utilities Applications



**eGIS**

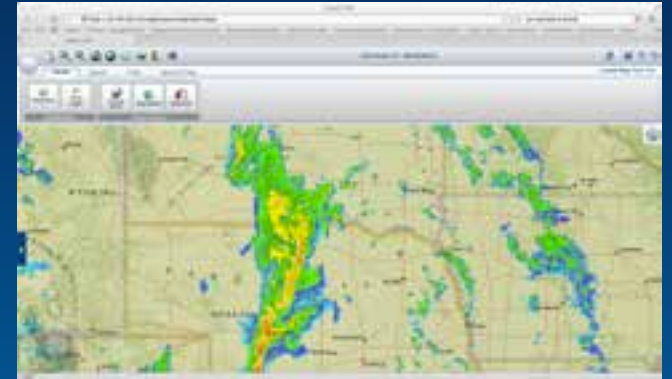


# Mobile GIS – EpochField

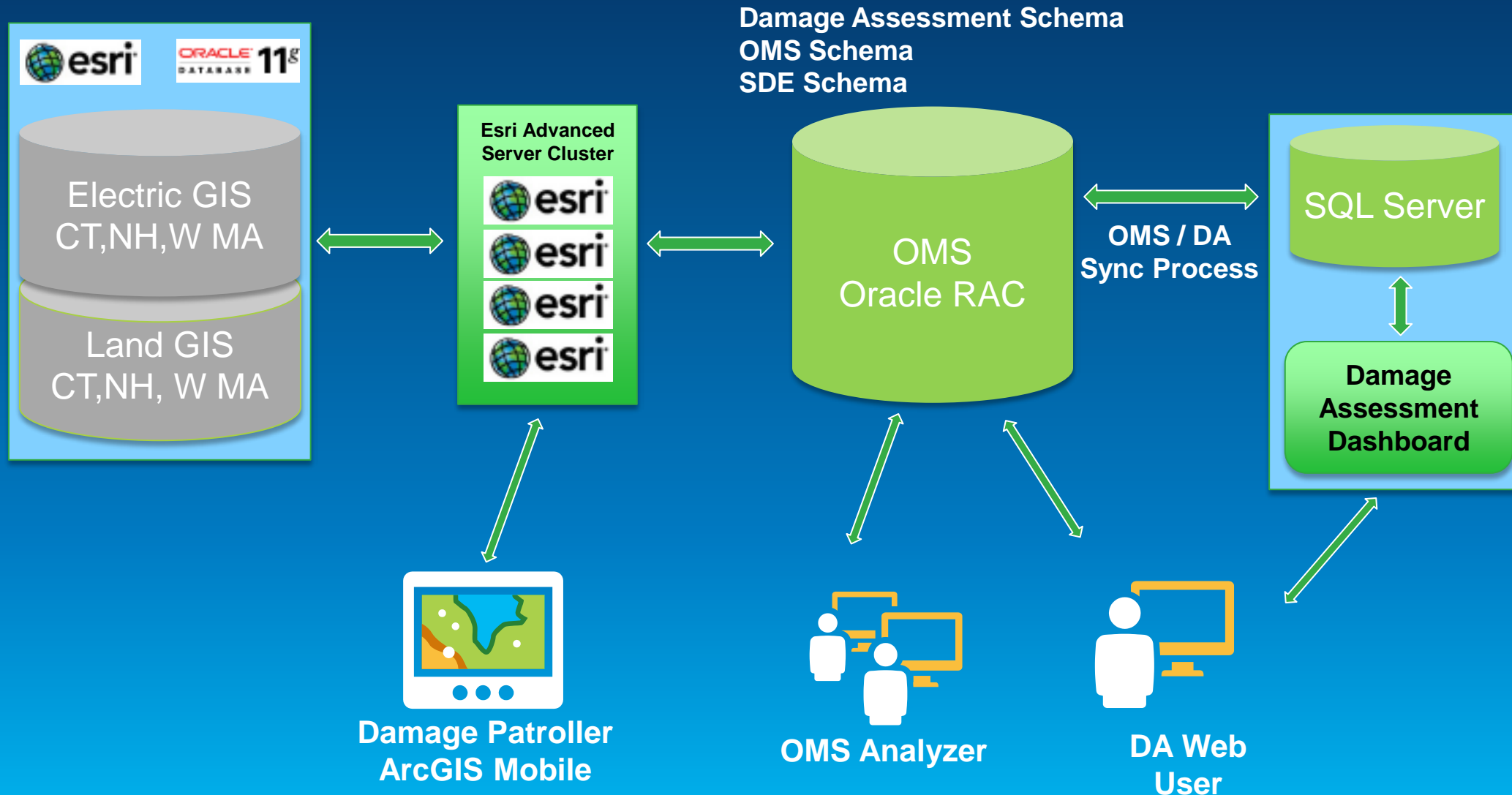
- **Built On Esri Runtime**
- **Disconnected & Connected Data Access**
- **Integration with Esri ArcGIS Server for data extract**
- **Integration with ArcGIS Online & Cloud Based Services**
- **Fast Performance – Tile Based Rendering**
- **Multi Touch & Gesture Support For Latest Devices**
- **Multimedia & GPS Support**
- **Field Data Collection & Synchronization Of Results**
- **Field Workflow Support – Damage Assessment, Vegetation Management, Inspection**
- **Expandable Framework – Customizable Components & API**
- **Technology Roadmap**

# eGIS Viewer

- **Corporate GIS Viewer**
- **Esri Web API based application**
- **ArcGIS Server Tile Based Services For Asset Data**
- **Minimal Training Required For Entire Enterprise**
- **Allowed Non-Traditional Users Access To GIS Data**
- **Springboard For New Application Needs Across Company**
- **Integrated with ArcGIS Online/Cloud Services**



# Damage Assessment



# Questions