



MEGIN

maryland emergency geographic information network

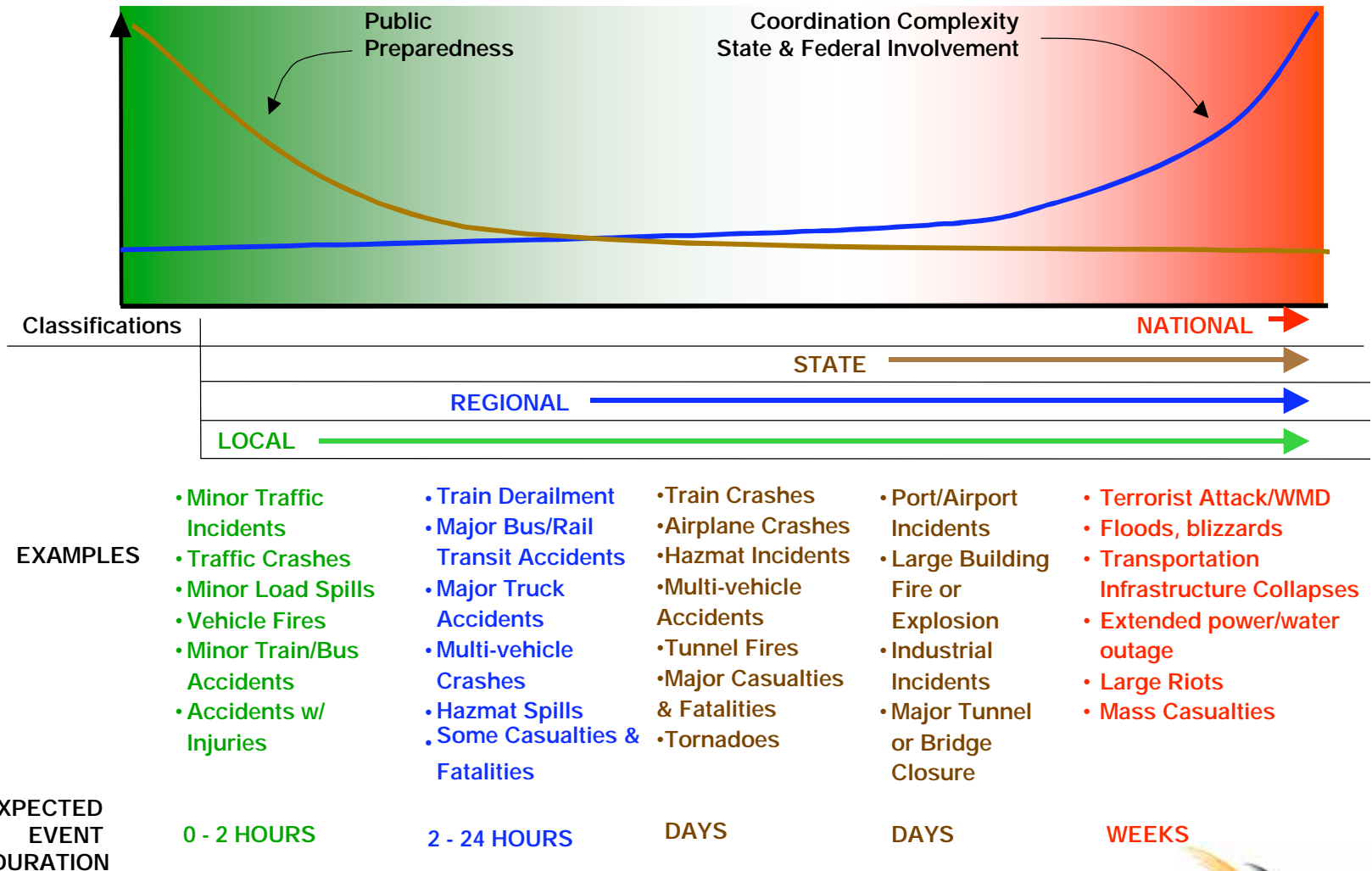
Matt Felton
MEGIN Program Manager
&
Associate Director, Center for GIS
Towson University





The Challenge

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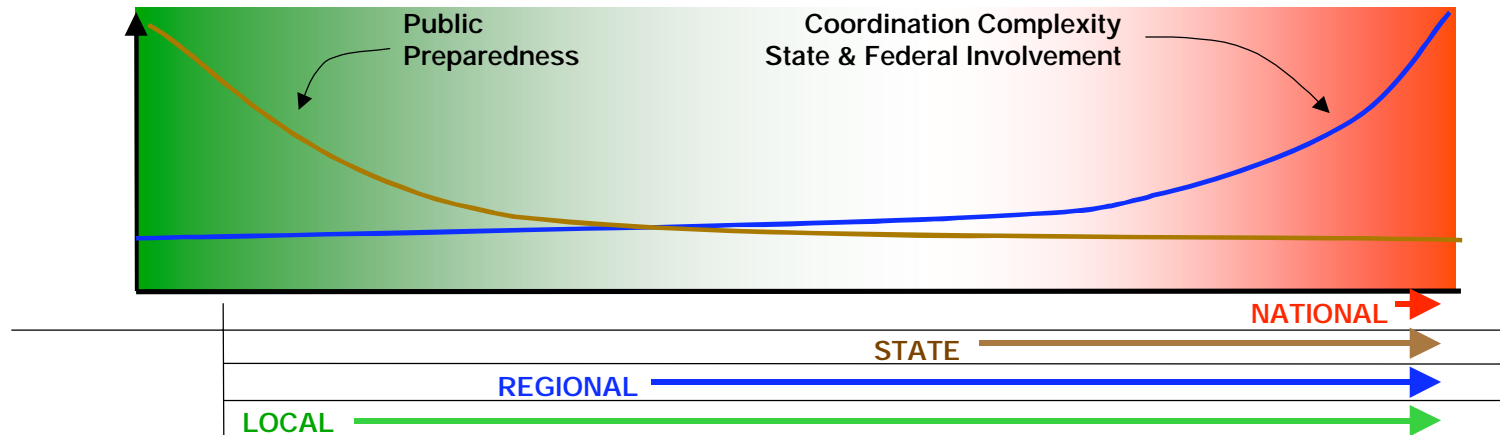
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Incident Scale and Complexity

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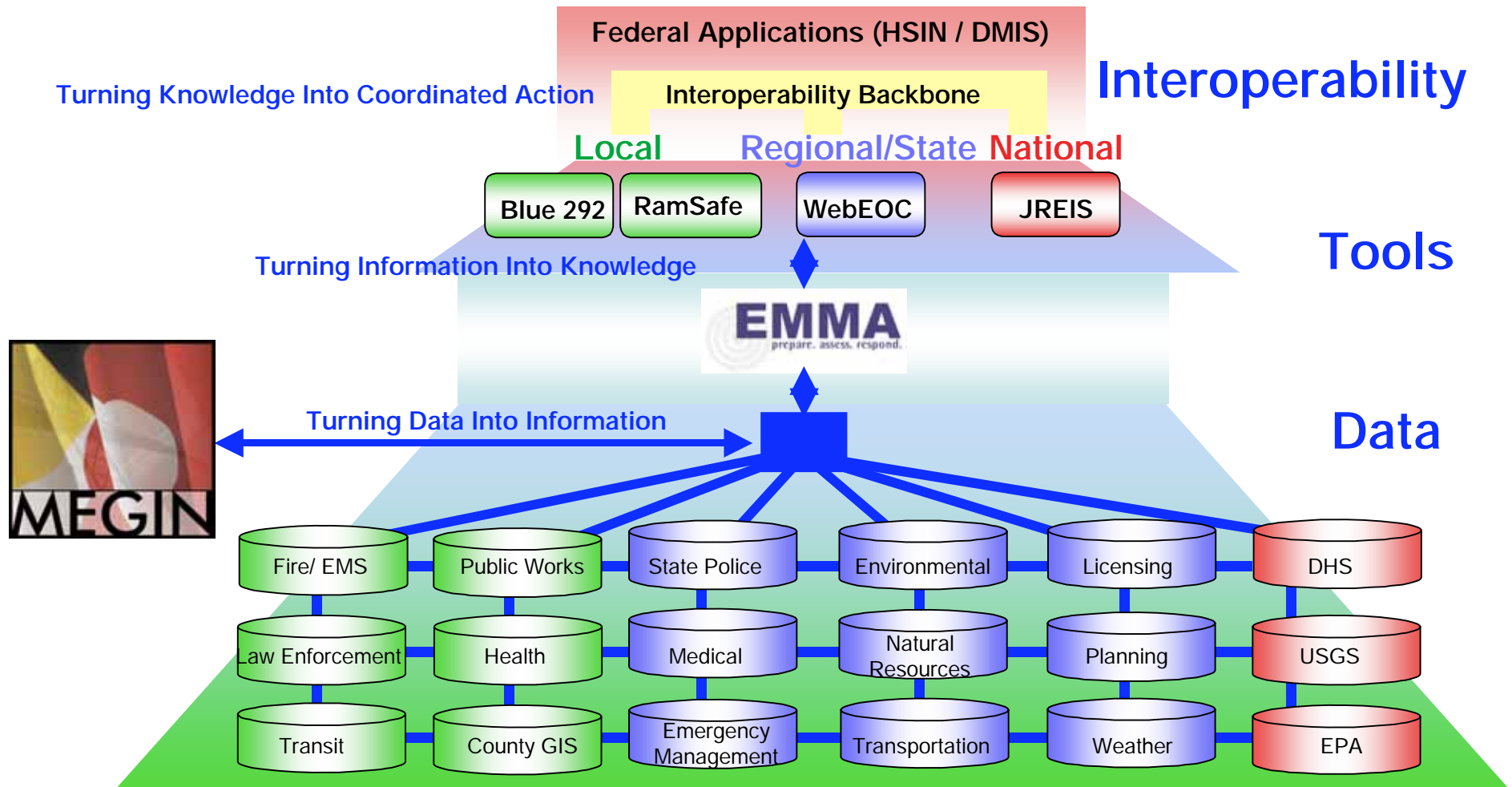
- As emergencies “spin up” there is a need for more information and multi-agency coordination
- To effectively respond to incidents, first responders and decision-makers need ...
 - **Data** – Information about the incident
 - **Tools** – A way to manage and interpret that data
 - **Interoperability** – A way to share knowledge





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Maryland Model For Data Sharing

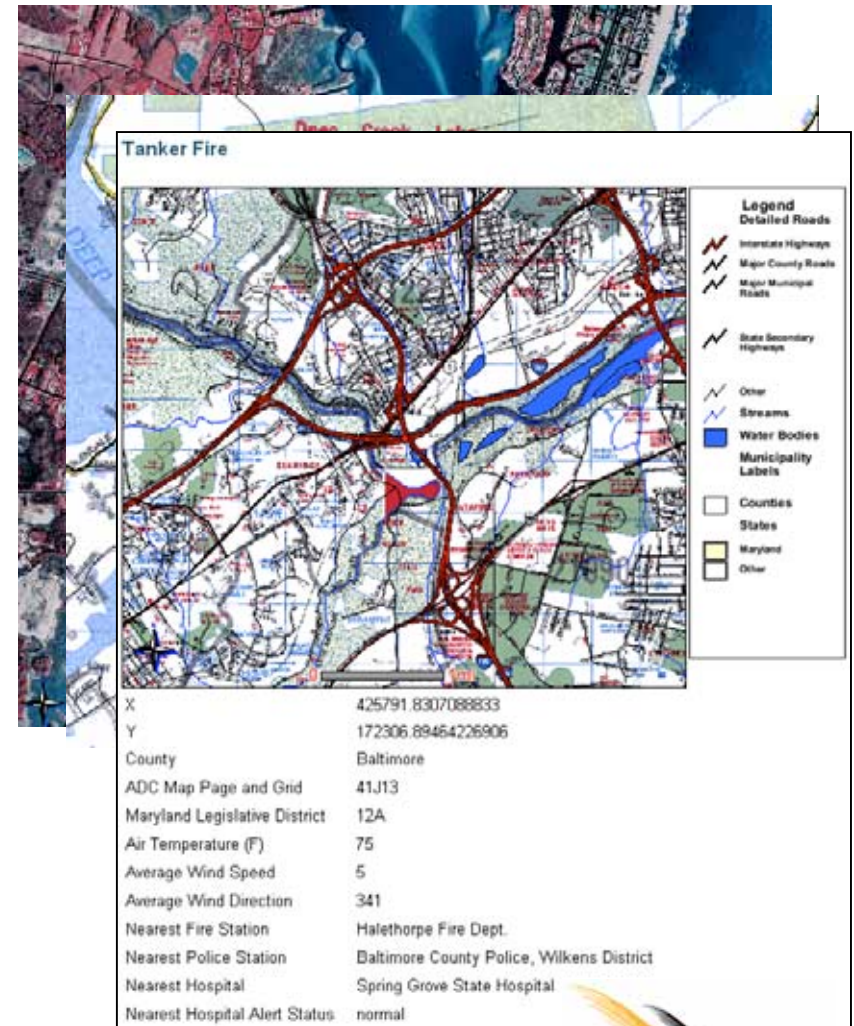




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Value of Geospatial Data During Incident Management

- Adds a spatial component to the decision making process
- “Common Operating Picture”
 - A picture is worth a thousand words...
- Turns data into information
 - Map visualization
 - Location analysis
 - Report generation

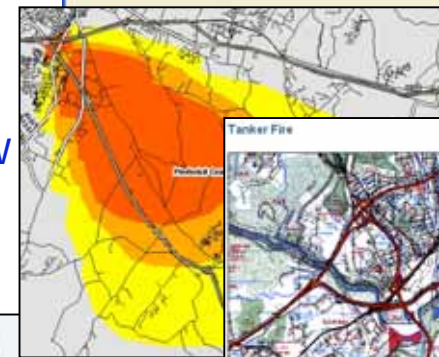
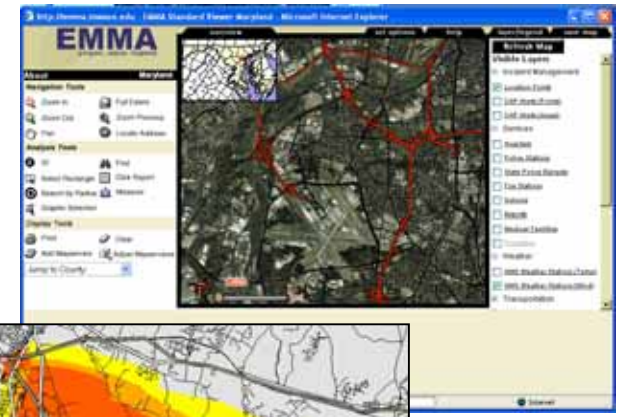




EMMA[©] Functionality

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- Identify an incident location
 - Field to EOC communication
- Generate a location report
 - EOC to field communication
- Visualize an incident location
 - Integrate multiple data sets into one view
- Analyze an incident location
 - Analyze an impacted area
- Coordinate resources
 - Real time, resource tracking



426791 830708633	
172306 8546420886	
County	Baltimore
AOC Map Page and Grid	45/13
Maryland Legislative District	12A
Air Temperature (F)	75
Average Wind Speed	0
Average Wind Direction	341
Nearest Fire Station	Healthcare Fire Dept
Nearest Police Station	Baltimore County Police, Wilkens District
Nearest Hospital	Spring Grove State Hospital
Nearest Hospital Alert Status	normal



The Need for More Data

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- Successful implementation of Incident Management Suite of Tools (September 2004)
 - EMMA Version 1.0 installed at MEMA
 - Accessed by local county EOCs
 - Available to State EOC representatives and MEMA staff
 - WebEOC installed with EMMA linkages for
 - Locating incidents by address or map click
 - Viewing all incidents statewide
 - Saving location reports and briefing maps for collaboration
 - Incorporation of over 40 map layers from publicly available sources
- MEGIN Proposal submitted to U.S. Department of Homeland Security, Information Technology Evaluation Program (Summer 2004)
 - Leverage existing efforts underway in Maryland
 - Interoperable architecture
 - Non-intrusive
 - Finding, sharing, and integrating maps into the decision making process
 - Before, during, and after incidents





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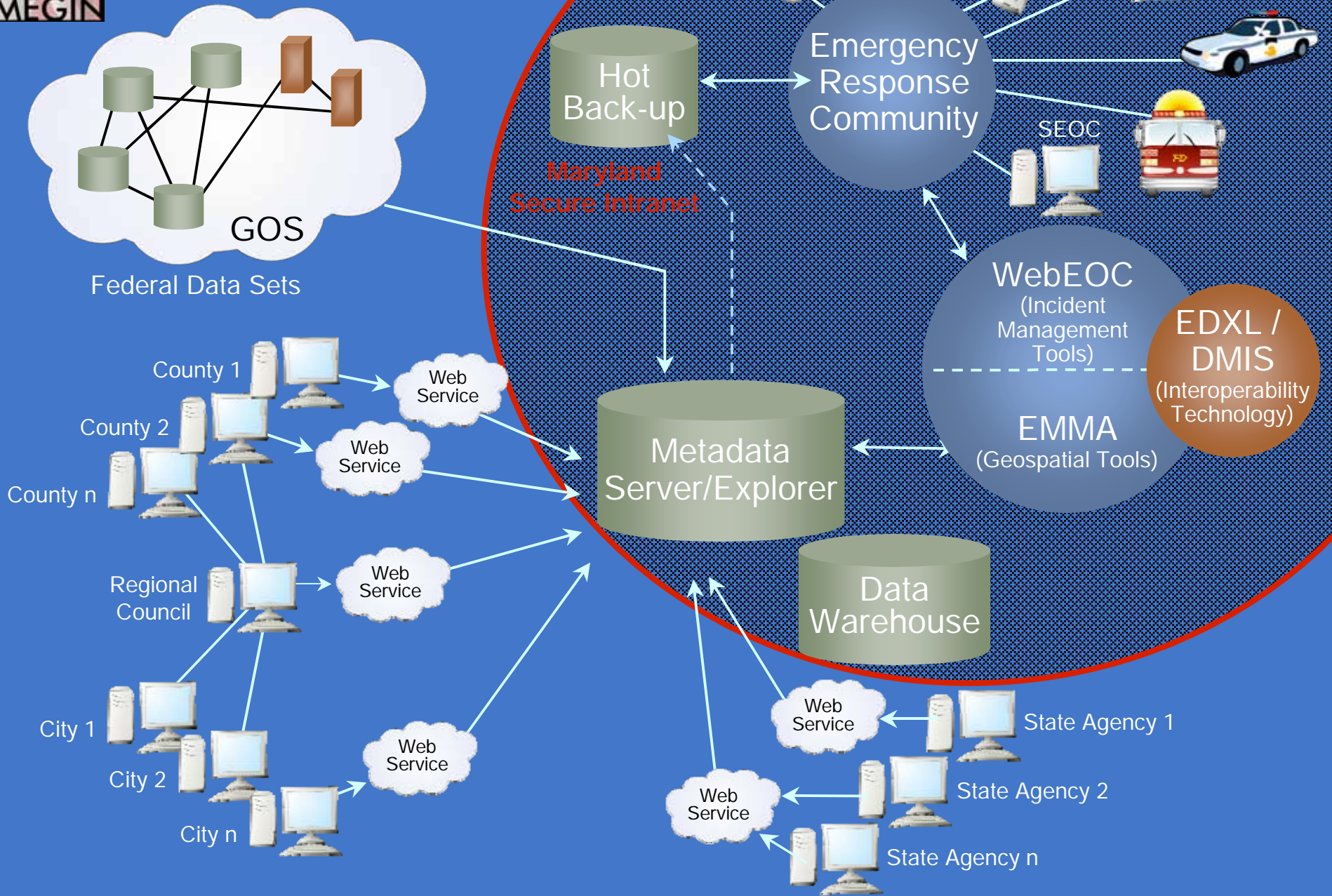
Addressing Barriers to Information Sharing and Integration

- **Information dispersal:** Best data is kept where it is used in daily business process
 - MEGIN documents the location, use-constraints, and accuracy of data
- **Pride of ownership:** Data owners fear that costly data may be leaked, misused, or modified
 - MEGIN provides a secure, non-intrusive structure for gradual, controlled sharing
- **Access to secure databases:** May be blocked, unknown, inaccessible, or destroyed
 - MEGIN provides tools to facilitate visualization and sharing of data to illustrate critical information
- **Timely and accurate integration of disparate data:** Multiple languages and cultures exist across the EM community
 - MEGIN provides a framework for documenting policies *before* an incident occurs, sharing a common operating picture *during* an incident, and creating a data backup *after* an emergency





Maryland Emergency Geographic Information Network





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Approach for Resolution

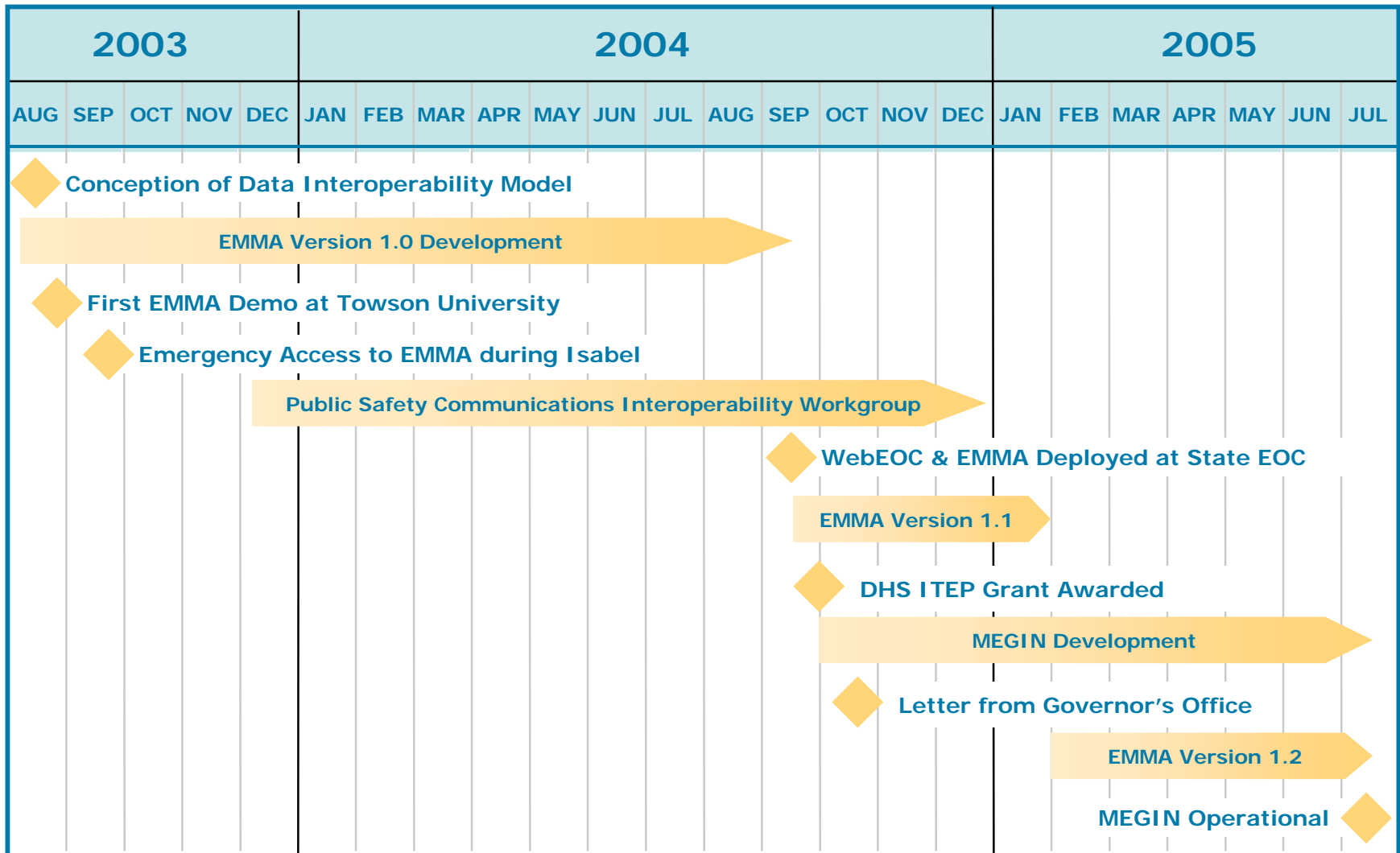
- Delivering the right **data**, at the right **time**, to the right **person**
- A new kind of GIS clearinghouse
 - Access to relevant information during emergencies
 - Automatic, controlled access to data
 - Allows backup to a secure off-site location
- Secure, intranet environment
 - Multiple tiers of security
 - Controlled access
- Optimized for first responders
 - Easy to use
 - Familiar language / terminology
 - Support collaborative decision-making and conversation across communities





Project Timeline

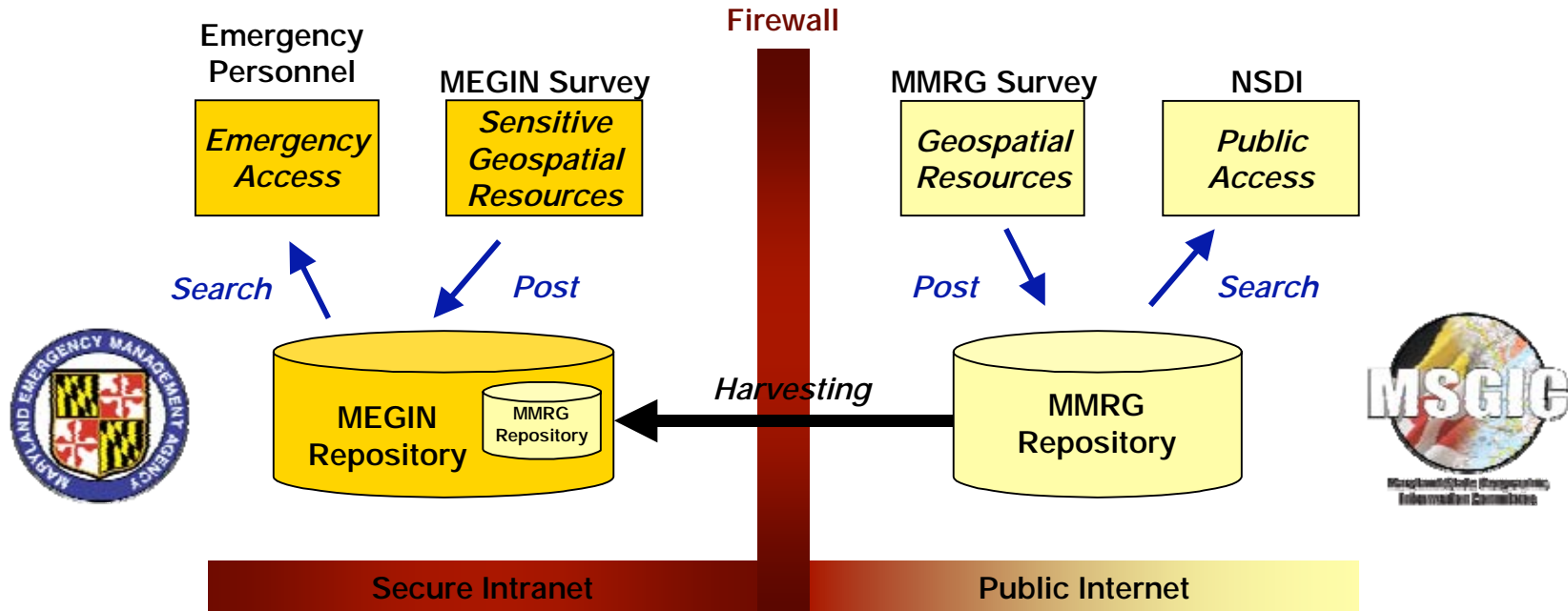
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Leveraging Existing Technologies



sharing data
SAVING LIVES

Lessons learned from MEGIN effort will be incorporated into MMRG





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Software Components

- Metadata repository with publisher and explorer
 - Modification of Maryland Mapping Resource Guide (MMRG) application
 - GIS Portal Toolkit (ESRI)
- Map Services
 - Identification and documentation of existing web services
 - Creation of selected new web services
- Map Viewer and Data Integrator
 - Emergency Management Mapping Application (EMMA)
- Rights Management





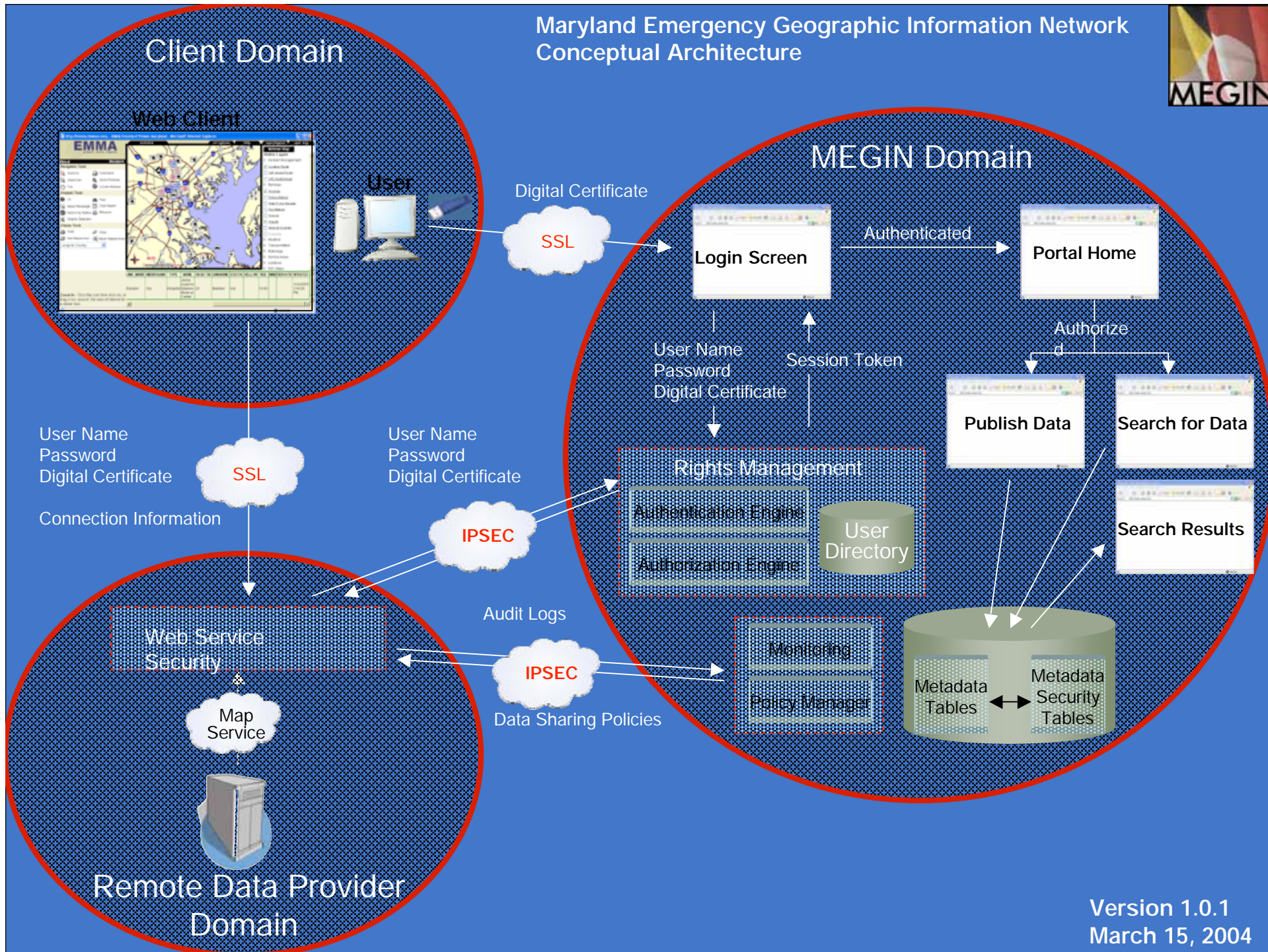
Technologies

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- Data directory
 - Maryland Mapping Resource Guide catalog
 - Previously ESRI ArcIMS Metadata Explorer 4.0.2 / ArcSDE 8.3
 - Upgraded to ESRI Portal Toolkit / ArcSDE 9.0
 - MEGIN catalog
 - Built using same technology as upgraded MMRG
- User directory
 - Oblix CoreID
 - Authentication
 - Authorization
 - Oblix CoreSV
 - Map service security
 - Reporting / auditing



Maryland Emergency Geographic Information Network Conceptual Architecture





Finding Data for MEGIN

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- Communication
 - MSGIC outreach
 - Governor's Letter - Survey Agencies (Oct – Nov 04)
 - Partnerships to raise awareness (MML / MACO)
 - TUGIS (MEGIN Data Sharing Booth)
- Information needed about
 - Map services
 - Data
 - People, websites, other
- Tools
 - MMRG Survey - for less sensitive information
 - MEGIN Survey – for more sensitive information
- Pilot connections
 - Existing web services (secure and non-secure)
 - Assistance with implementation of technology





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Sharing Data is Key to Success



<http://www.MarylandGIS.net>



Stop by the MEGIN Data Sharing Center

Center for Geographic Information Sciences





Benefits of MEGIN

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Improving the decision making process before, during, and after emergencies

- Access
 - Providing emergency personnel with the information they need, when they need it most
- Coordination
 - Bridging multiple disciplines across jurisdictional boundaries at all levels of government
- Security
 - Protecting sensitive information for those who need to know



Questions & Feedback

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Please participate!
<http://www.MarylandGIS.net>

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