Emergency Response Support System

For more information:

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Provides a robust and extensible framework for developing user-defined operational pictures
• Allows visual integration of multiple distributed information sources in a common display
• Built upon a service-oriented architecture that provides network centric environments
• Capable of supporting a variety of usage contexts including operational, training, and analysis-based missions
• Offers a portable web-based application that can be used anywhere from within a command center, to out in the field
Dashboard Component Capabilities

Levels of Integration

- Visual
- Middleware (converging data streams)
- Application to Application Data Sharing
- Hybrid (any combination of the above)

Decision Support Tools

- Manual – visual integration of data
- Assisted – visualization development using visual programming
- Automated – monitoring agents
A Toolbox of Dashboard Components
Emergency Response Support System Overview

- Developed for USDA’s Animal and Plant Health Inspection Service (APHIS)
- Provides a web-based tool for large and small-scale incident management
- Developed around a service-oriented architecture and allows integration of bio-surveillance information, various tools for incident management, real-time information to support continuity of operations, and many other external references to support incident management.
- Used as an operational tool during a response, as an analysis tool after an event is complete, and as a training tool to prepare for possible future incidents.
- Developed using the Texas A&M University’s Information Dashboard Framework

Incident Management
Calculators, Resource Tracking, Report Generation

Continuity of Operations
FastEggs, FastMilk, SecureMilk

External Integration
EMRS, LCEM, CAHEMS
ERSS Design Concepts

Incident Management
- Display Control Graphics
- Calculators for Statistics and Estimates
- Resource Management
- Team Assignment Tracking
- Live Weather Conditions
- Situation Report
- Movement Details
- Response Profile

Bio-surveillance
- Bio-surveillance Common Operating Picture
- Bio-surveillance Field Entry System

IDF Core Capabilities
- Geo-spatial Queries
- Customizable Calculators
- Data Feeds/Bridges
- Exportable, User Customizable Reports
- Authorization Framework
- Data Compartmentalization
- Enhanced Animation
- Custom Filtering
- Integration with ProDV

Continuity of Operations
- FASTEggs
- FASTMilk
- SecureMilk

Emergency Management Response System
- Routine Reporting of FAD Investigations
- Surveillance and Control Programs
- State-specific Disease Outbreaks
- National Animal Health Emergency Responses

Data Service Integration
- USAHerds
- CoreOne

Reference Material
- CAHEMS
- National Renders Association
- Livestock Market Locations
- Transportation Routes for Specific Industries
- Accredited Veterinarians
- National Veterinary Stockpile Data
- AVIC Directory
- State Veterinarian Directory
- ICS Forms Library

Lab Capacity Estimation Model
- Detailed Lab Information
- Currently Activated Labs
- NAHLN Lab Capacity Report
World-wide Data Integration

- SecureMilk
  - Multiple States
- NAHLN LCEM
  - Colorado
- FastEggs
  - Iowa
- FastMilk
  - Iowa
- CAHEMS
  - California
- BFES
  - Texas & New Mexico
- FMD ROK
  - South Korea

Map showing states and regions with data integration systems.
World-wide Data Integration

- SecureMilk
  - Multiple States
  - Producers, Plants, and Product Transportation Details

- NAHLN LCEM
  - Iowa
  - Activated Labs and Testing Details

- FastEggs
  - Iowa
  - Producers and Audits

- FastMilk
  - Iowa
  - Producers and Facilities

- CAHEMS
  - Colorado
  - Position Specific Documentation, Task Lists, ICS Forms

- BFES
  - Texas & New Mexico
  - Syndromic Field Reports and Analysis

- FMD ROK
  - South Korea
  - Positive/Negative Reports with Details
In Case of Emergency (ICE) Secure Data Compartmentalization

- Allows “data on demand” in the event of an emergency
- Data can be protected by the owner until it must be shared
- Strict data sharing procedures can be enforced at the profile, component, and individual data element levels

FastEggs Dashboard

ERSS Dashboard
FastEggs Decision Support System

- Developed to support decision making regarding poultry movement during an incident
- Delivers real-time access to testing/audit history of farms
- Provides geospatial visualization of poultry premises, dealers, hatcheries, auction markets, exhibition halls, and fair grounds
FastMilk and SecureMilk Supply

- Developed to support decision making regarding dairy movement during an incident
- Provides geospatial visualization of dairy producers and facilities
Secure Milk Supply

- Developed to support decision making regarding dairy movement during an incident
- Provides geospatial visualization of dairy premises and transport details
Calculators and Estimators for Quick Approximation

Automated Estimation of:
- Infected Zone
- Buffer Zone
- Surveillance Zone
- Sample Collection
- Depopulation
- Disposal
**Custom Data Filtering and Animation**

Global Filtering Based on Species Type

Filter on Species

Filter on Date Range

Filter on Location

Multi-source Animation

December 2, 2010

December 22, 2010

January 21, 2011
CAHEMS Integration

Animal Disease Field Response Toolkit
California Department of Food and Agriculture
Animal Health and Food Safety Services Division
California Animal Health Emergency Management System (CAHEMS)

Command Staff
Deputy Incident Commander
Foot and Mouth Disease (FMD) Position Manual

Contact Info
Position: Deputy Incident Commander
Name: Keith Biggers
Address: State Capitol, Suite 1173
Sacramento, CA 95814
Phone: (916) 445-2841
Email: official@ca.gov

Available Resources
HPV Position Manual
FMD Position Manual
An Example of Dashboard Integration

Syndromic Field Reports and Analysis

BFES

Incident Details

ERSS

Emergent Issues for Prediction

Activated Labs and Testing Details

Incident and Sample Collection Details

LCEM
Dashboards: Real-time Information to Decision-makers

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Revised sampling strategy based on outcomes?

- **Process**
  - Routine Enhanced Surveillance (BFES)
  - Automated Accessioning (BFES)
  - Initial Testing/Capacity Analysis (LCEM)
  - Outbreak Prediction/Detection (LCEM)
  - Premise Analysis (BFES)
  - Lab Activation (LCEM)
  - Resource Prioritization (LCEM)
  - Confirmation Testing/Lab Capacity (LCEM)
  - Incident Management (ERSS)
  - Business Continuity Animal/Product Transport (FastEggs/SecureMilk)

- **Positive Sample Identified**
- **Disease Free Premise**

- **Revised Sampling strategy based on outcomes?**

- **Post-Incident Analysis (ERSS)**
- **Simulation-based Training/Exercises (EM*ES)**
- **Decontamination Depopulation Disposal (LCEM/ERSS)**
- **Cleanup Management (ERSS)**
- **Outbreak Prediction/Detection (LCEM)**
- **Confirmation Testing/Lab Capacity (LCEM)**
- **Resource Prioritization (LCEM)**
- **Lab Activation (LCEM)**
- **Premise Analysis (BFES)**
- **Routine Enhanced Surveillance (BFES)**
- **Initial Testing/Capacity Analysis (LCEM)**
- **Outbreak Prediction/Detection (LCEM)**
- **Positive Sample Identified**
- **Disease Free Premise**

- **Process**
Questions?