An Overview of the Solution and Opportunity

iMicas
Agenda

- Description of the iMICAS Solution
- What Problem is this Addressing
- The Solution
- Demonstration
- The Opportunity
- Issues and Mitigation
- Next Steps
- Additional Information
iMICAS Description

The iMICAS solution is a rich handheld mobile device and cloud based infrastructure for first responders^ built on open standards and based on the Incident Command System (ICS / NIMS) to support management of daily and major incidents, both planned and unplanned.

^ fire, law enforcement, rescue, transportation, health, support …
iMICAS Acronym (eye-my-cuss)

- i for the iPhone like environment
- M Mobile
- I Incident
- C Command &
- A Accountability
- S System
What Problems is this Addressing?

- Improved Safety and Accountability
- Information Dissemination (on and off scene)
- Reduce Radio Traffic
- Decrease Accounting Process Times
- Automates requirements for documenting incident management practices
- Better Utilization of Resources
- Improved Adoption of Standards (ICS/NIMS)
- Integrate Disparate Participants/Parties
- Enhance Training Capabilities
- Saves lives, property and money ...
How Does it Accomplish This?

- **Incident**
  - Fires, rescue, hazmat, medical, search, law, events, environment, other
  - Assessments & surveys, weather, communications, accountability, plans, information, checklists, templates, forms, related history

- **Mapping**
  - Terrain, street, facilities, fires, flooding, resources, directions, damage, communications, search areas, transportation, services and catalogs

- **Resources**
  - Check-in, excess, status, release, information, location, add hoc resources

- **Organizations**
  - Charts, positions, views

- **Assignments**
  - Leaders, roles/responsibilities, standards

- **Monitoring (Incident Commander)**
  - Resource assignments, staffing levels, processes, alarms

- **External Integration**
  - Member agency and peer agencies, other departments, EOCs

- **Training Incidents and Emulation**
  - Predefined scenarios, dynamic elements, singly or group participation
Design Goals

- Minimize user input
  - Integrate information from sources, no duplication, only what’s useful
- Make it simple
  - Minimized functionality – high value features
- Make it complete
  - Designed around incident management paradigms/experiences
- Make it normal
  - Utilize common ‘off the job’ user interaction paradigms / tools
  - Every day use versus only on disasters
- Make it rugged
  - Solid state, no moving parts, use cases – not commercially hardened
- Make it available
  - Common infrastructure, off the shelf (retail), standard communications
- Make it bulletproof
  - Cloud based – no maintenance/support
- Unify Capabilities
  - A complete aggregation of all related information in one platform
- Make it Timely
  - Alarming, alerting and notifications, current IAP
The Solution

- **Tablet and Smart Phone Clients OS**
  - Android, iOS (Apple), RIM OS 6, Windows 7 Mobile

- **Cloud Based**
  - No client data or application code resident
  - Data, application code (dynamic html, JS), services, files
  - Google JavaScript objects (mapping, driving, org charts)
  - Weather Station Data – MISO West XML Feeds (localized)
  - Weather Forecasts – ATOM feeds using CAP
  - Enterprise GIS information and map layers

- **Built on Open Standards**
  - JavaScript, PHP, SQL, CSS3, HTML5, WebKit, Google Maps & Charts, KML, JSON, jQuery, RSS, XML, CURL, Apache Tomcat

- **Utilizes Opensource**
  - mySQL, jQuery, jqTouch, WebKit, Apache Tomcat, iScroll

- **Outside Services**
  - CAD, Weather, Hospital, Geospatial Services, Agency Data …
System Architecture

- **iMICAS Solution Overview and Opportunity**

- **iMICAS**
  - Smart Phones and Tablets
  - **iMICAS**
  - **Patient Care**
  - **Other** (hazmat, extrication…)

- **iMICAS Server**
  - 3G, 4G, Wi-Fi, Satellite
  - **EOC** (incident support)

- **CAD** (dispatch, resources)
  - **MISO West/NOAA** (weather)

- **Agency Systems**
  - **GIS Server** (map layers)

- Google (maps, driving directions, org chart)

- City Operations Center
  - **iMICAS RDBMS**
  - **iMICAS Files**
Agency Systems Details

- Incident records management systems
- Location incident history
- Fire inspections and violations
- Building department permits
- Fire preplans
- Floor and building plans
- Geospatial datasets and map layers
  - hydrants, gates, waterways, fires, vegetation …
- Transportation information
- Stream and river monitors
- Hospital status
- Medical information and patient status
Demonstration
Future Capabilities

- Enterprise GIS information
- Hazardous Materials
- Building Inspections / Permits / Violations
- Fire Hydrants
- Transportation Plans
- Auto-generation of ICS Forms
- Resource Tracking
- Integration with EOC systems
- Integration into financial systems
- Objectives, strategies and tactics
- Voice transcription
- True fire-line from GPS input
- Full simulator with live operator
- Executive dashboard iPAD application
- Exclusive tablet features/layout
- Integrate with IBM Smarter Cities Op Center solution
- Roam between agency/units
- Satellite data communications (infrastructure less communications)
- Recent incident history (same as current or all by type)
Recent Industry Observation

COMPUTERWORLD

iPads, Android tablets and smartphones join the military

Contractors build military apps for use with cheaper, consumer-grade devices

By Matt Hamblen
March 16, 2011 05:59 AM ET
Feature Summary by Incident Type

- **Pre-incident**
  - Incidents list and status
  - Simulation and training
  - Executive dashboard (officers)
  - Floor and Pre plans, building information
  - Fire Department Connections (FDC), Panels, Utilities

- **Type 4, 5**
  - Incident location and driving instructions
  - Incident information (type, resources)
  - Radio communications information
  - PAR checks and resource accountability
  - Incident preplans and building information (floor plans, hazmat, violations)
  - Integration into smarter city operations centers
  - Damage assessment
  - Incident history
  - Add ad hoc resources

- **Type 3**
  - Weather station data, alerts and forecasts
  - Incident assignments and check in
  - Incident organizations
  - Assessment and checklist
  - Check-in / Excess Resources
  - Map creation, fires and facilities
  - Roam between systems – i.e. be able to change from one unit to another

- **Type 1, 2**
  - Resource tracking, assignments and time accounting
  - Automatic ICS forms generation
  - Integration into financial systems and EOCs
  - Complex organizations
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