Microsoft Services Disaster Response
MSDR

Lewis Curtis
Director
Service Disaster Response & Humanitarian Services
Modern Cities Are a Blend of Physical and Cybersystems

City services, businesses, and citizens rely on power and the Internet for communications and commerce.
Communities are overwhelmed
Managing a Crisis

Modern disaster management challenges for customers:

- Distributed Collaboration
- Rapid Response
- Getting information out
- Geographic Distribution
- Security and Identity
- Getting Reliable Data
- Legal and Public Relations
- Finance and Logistics
Microsoft Disaster Response Overview

Mission Outputs
Solution development & marketing efforts

Global Monitoring
Monitoring of potential disasters & official notification of occurrence

Local Transition
Transition efforts to local teams and ongoing support

Initial Qualification
Qualification review that allows for the possibility of mobilization

Mobilization
Timely & successful Services led response efforts

Decision to Mobilize
Review and final decision to involve Services in Disaster Response efforts
Rapidly provide direct technical solutions and help to communities who have suffered from a recent disaster.

Leverage Microsoft’s current and upcoming technologies and solutions to provide disaster relief capabilities.

Support the field promoting, developing & delivering best-in-class Resiliency solutions.
Communicate your Governance

No requirement to be a past or future customer
No requirement to have any history with Microsoft

Break-Fix or Complex Mission Requirements:
- Safety is number #1
- Mission must comply with laws and regulations.
- Cannot tie missions (or appear to be) with any sales opportunities in ANY capacity
- Must be a result of the immediate disaster
- The Mission must help reduce human suffering and/or stabilize the area.
- Must be tightly scoped (think Band-Aid instead of enterprise solution)
Types of Missions

Data Analysis and Mgmt. Mission:
The slowest Complex Mission Type. Designing and Deploying a data analysis and mgmt. solution (example: w/ WHO, CDC, WFP, NetHope: SQL Server, Azure, OMS)

Collaboration Mission:
(Designing and Deploying a multi-agency collaboration solution (typically: customized O365 solution)

Communications Mission:
The fastest Complex Mission Type. Designing and Deploying a mass communication solution (typically: communication/registration/fund raising disaster response website using Azure)

Break/Fix Mission:
Fastest Mission Type, Repairing existing Microsoft technical systems damaged by the disaster

What technical complexities slow Missions down: (add time/energy)
• On Premises Software design, test and deployment
• Rich Offline Client design, test and deployment
• Non Microsoft technologies
• Mass User Imports/Security Permissions and Identity Integration
• CRM (even CRM Online)
• Data Analysis and Integration
• Security /Cyber Intrusions / Special Mitigations
Using the ICS Model for Technology Disaster Management
(This might look familiar to some of you.)

Executive Leadership Team

Information Technology Incident Command Lead

Internal Business Unit Liaison Team

Employee Welfare and Safety Team

Operation Section Team
Focused on IT recovery teams: forensics, cyber-IR, break-fix, application development, building IT infrastructure, and migrating to the cloud.

Planning Section Team
Evaluate and prioritize requests, review strategic dependencies, compile reports and action plans, make team assignments, plan demobilization, and prepare impact assessment.

Logistics Section Team
Obtain and manage hardware and software, Internet access, food, office space, transportation, passports, and employee and contractor resources.

Finance and Administration Team
Manages contracts, internal costs and payments, compliance, financial reporting, and financial impact.

“Why do we use it every month around the world on all disaster relief operations?

It has consistently worked in all man-made and natural disaster relief IT operations, large and small and it’s been proven over the decades with a consistent language as we drive muscle memory and execution excellence to it.”

Lewis Curtis,
Director
Microsoft Services Disaster Response
Microsoft Aware Extended to Other Agencies and Missions
Conceptual architecture for the Microsoft Aware Solution

Incident Arrest Beyond

PSNS solutions

- Threat (situational awareness)
- Contact management
- Incident management and deployment
- Investigation and intelligence
- Management
- Modern applications

Integration and intelligence CORE

- Consumable services interfaces
- Integration hub
- Data hub
- Identity hub
- Pattern-based adapters and processes

Data sources

- Sensors
- Physical security systems
- Video
- Audio
- GIS
- Social media and web
- Public and private systems and data
The first 911 Shooting call comes in at 21:16. Aware displays the location on the map, nearby cameras, CAD notes and suggested related incidents. Aware also displays that this is a military base.
Determine the probability of a specific crime taking place in a specific area based on complaint records

**Predictive model**
Digital policing and crime prevention

**Components**
- Multi-dimensional model - with pre-defined dashboards
- Predictive model - with complaint records, arrests, and productivity *(guns/drugs seized, frisks, stolen vehicles recovered)*
- Criminal scorecards - with ‘what if’ scenarios
Microsoft Aware Extended to Other Agencies and Missions
What we’ve learned from supporting disasters

Every disaster can be an international event
Social media and global news coverage broadcast every event
“Revenge hacking” trending up

Organizations will be negatively impacted
Plan for 50% of impacted staff operating at 50% of mental capacity
If staff lives in the community impacted they will face unforeseen challenges
Traditional systems and supply chains will be impacted

Modernize, Automate, and Practice Response
People under stress will fall back on their muscle memory (trained or not)
Ensure incident management is modernized for variety of event types
Do no harm – don’t create a secondary disaster
How are First Responder organizations being digitally transformed

First Responder organizations around the globe are trying to adopt digital technologies in an effort to enhance situational awareness and increase response time.
First Responders – A New paradigm shift

<table>
<thead>
<tr>
<th>Fire Fighters</th>
<th>Ambulance &amp; Paramedics</th>
<th>Police</th>
<th>Emergency Units</th>
</tr>
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<tbody>
<tr>
<td><strong>Traditional Activities</strong></td>
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<td>- Respond to calls for fire alarms and emergency medical services</td>
<td>- Respond to emergency medical assistance calls such as CPR etc.</td>
<td>- Respond to victim calls and register complaints</td>
<td>- Equipped and trained resources to provide quick response to emergency situations (fire, violence, terrorism, etc.)</td>
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<td>- Participate in fire prevention and inspection activities</td>
<td>- Assess a patient’s condition and determine a course of treatment</td>
<td>- Crime scene analysis and evidence gathering</td>
<td>- Efficient allocation and scheduling of rescue units</td>
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<td>- In-house trainings on fire suppression, prevention, inspection, rescue and emergency operations as well as specialized equipment</td>
<td>- Ensure patients are still and safe in the ambulance when in transit</td>
<td>- Area search &amp; interrogation of suspects / witnesses</td>
<td>- Preparation and preparedness activities to train resources</td>
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<td>- Create documentation (patient care report, observations and treatment)</td>
<td>- Charging and case preparation, hearing and trail management</td>
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Growing Digital Footprint

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Incident Command and Control Center
Trends in Emergency Management

- Mobile apps enabling bi-directional and user-intuitive IP-based communication during emergencies
- Omni-channel mechanisms to report emergencies and receive alerts
- Social media using BOT for:
  - Communicating with citizens, broadcasting alerts, issuing advisories, and seeking feedback for service improvement
  - Grounds-up activism during disasters as emergency services find solutions
  - Real-time Social Listening and Sentiment Analytics
- Automated Situational Awareness including easy-to-use modelling software, intelligent transportation, and real-time notification system
- Software-defined radio / Adaptive radio / Cognitive radio / Intelligent radio for public safety communication
- Firefighting robots for managing hazardous fires and emergencies
- Unmanned Aerial systems and/or drones for environmental research, search and rescue operations, damage assessment, and recovery efforts. Use of Computer Vision to automatically detect objects currently done manually.

Engage the citizens you protect

Empower your mission team

Optimize decisions for impact

Transform emergency services

Digital Transformation
Interoperability, situational awareness, robust communication, and incident command centers are the major drivers of digital adoption among the first responders organizations.
Unified Situational Awareness and Response

Future Scenario:

- **Operational Response Coordination Center.** Emergency Operations Center receiving continuous updates via Situational Awareness mission control center with camera and sensor management across the region.

- **Disaster Response Mobile App.** Recent wildfires, mudslides and other disaster alerts affecting the province. Social media as a platform leveraged to send information out, as well as receive audio-visual documentation and updates for better situational awareness.

- **Communication Portal.** “Rumor Control” page to combat dissemination of false information on social media websites.

Enabling Services

- Integrated Command and Collaboration System
- Predictive Analytics
- Modern Applications
- Social Media
- Bot automation
- HoloLens advanced visualization

Microsoft Capabilities & Accelerators to implement the business initiatives
Conceptual architecture for the Microsoft Aware Solution

Incident  ➔  Arrest  ➔  Beyond

PSNS solutions

Threat (situational awareness)  ➔  Contact management  ➔  Incident management and deployment  ➔  Investigation and intelligence  ➔  Management  ➔  Modern applications

Integration and intelligence CORE

Consumable services interfaces

Integration hub  ➔  Data hub  ➔  Identity hub

Pattern-based adapters and processes

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