Integrated multi-Domain / US / NATO
Air / Ground / Sea C4I System
Now using AWS Gov Web Services

Introduction to AGIS / LifeRing

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After 9/11, we all learned that many lives were lost as a result of a breakdown in communications between the various different agencies that responded to this tragedy.

Hundreds of first responder agencies working within a few blocks of each other…all using different radios, channels, frequencies, encryptions and procedures…unable to communicate with each other.

We realized that:

Smartphones had the capability to provide a common communication tool necessary to effectively enable all these responders to share voice and data communication with one another.

Software could provide an interface and tool set for setting up groups and efficiently sharing information

IP communications would enable digital Push to Talk (PTT) preserving radio functionality.

For such a system to be viable for a large Market, it had to operate on a combination of First Responder radios, Cellular, Military, Iridium Satellite, MANET and other communications.

That we could design the system to be work with Low Speed and High Speed Communications and to utilize a Server to forward data between Smartphone and PC devices.

In 2004, we developed LIfeRing software to provide a Common Operational Picture to each user. Our first contracts ended up being with a Police force and a major DOD contractor who wanted to investigate its use for C4I.

What is LifeRing?

LifeRing -

Scalable C4I Common Operational Picture (COP) system. Used by the U.S. Joint Chiefs of Staff J6 C4AD, DIA, Australia, other Militaries and DHS. LifeRing operates in either a military or First Responder mode. LifeRing runs as a downloaded App or as a Web Client.

LifeRing's Server is either a customer provided Laptop Server or a rack server or operates on Amazon Web Govcloud that is CJIS, FISMA and FedRamp Compliant. **LifeRing's PC** Windows User Interface (UI) modeled after Microsoft's suite of programs with its familiar look and feel. **LifeRing's Smartphone Android and iOS** UI is modeled after Google Maps.

LifeRing's Multi-Domain Data Link (MDDL) enables Translation and Forwarding of data received from one C4I System to other C4I systems providing all an Integrated COP.

- AES 256 bit Encryption on PCs, Android, and iPhones.
- Uses Military Radios / Cell / SATCOM in any combination.
- Exchanges Location data, Emergency notifications, Messaging, Chat, PTT, Full Motion Video, Geo-fences, Whiteboarding, Commands, Medical and Logistics information.
- Seamlessly Interfaces with Aircraft, Ships, JBC-P, AFATDS, CWCS, NATO, Laser Designators, radars, tracking tags, AIS, etc.

aws Govcloud

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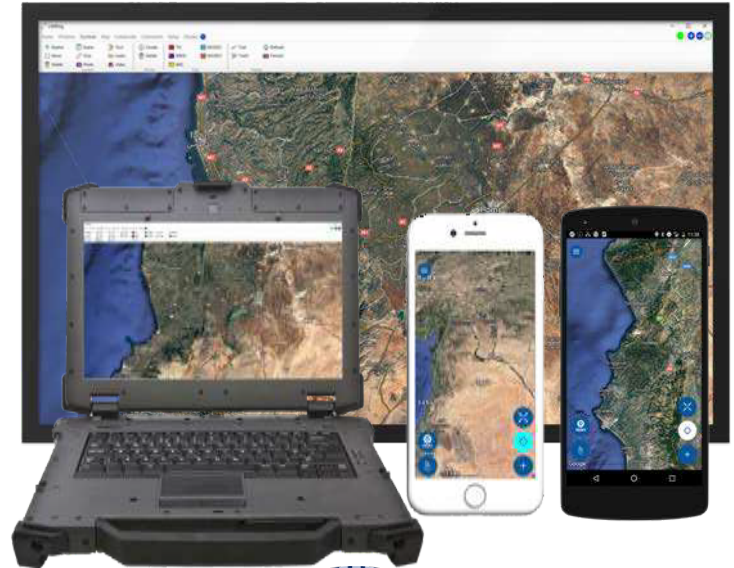
LifeRing Provides Downloaded App and Web Client System that Provides Interoperability with Many Datalinks and Sensors

IMPLEMENTED AND AVAILABLE INTERFACES

SENSORS
- ELINT
- FAA AND OTHER RADARS SEISMIC
- AIS, AISI
- SHOT DETECTOR

US MILITARY DATALINKS
- Link -16
- JVMF
- CoT
- OTH GOLD
- SARIR

NATO MILITARY DATALINKS
- NVG
- ADEM
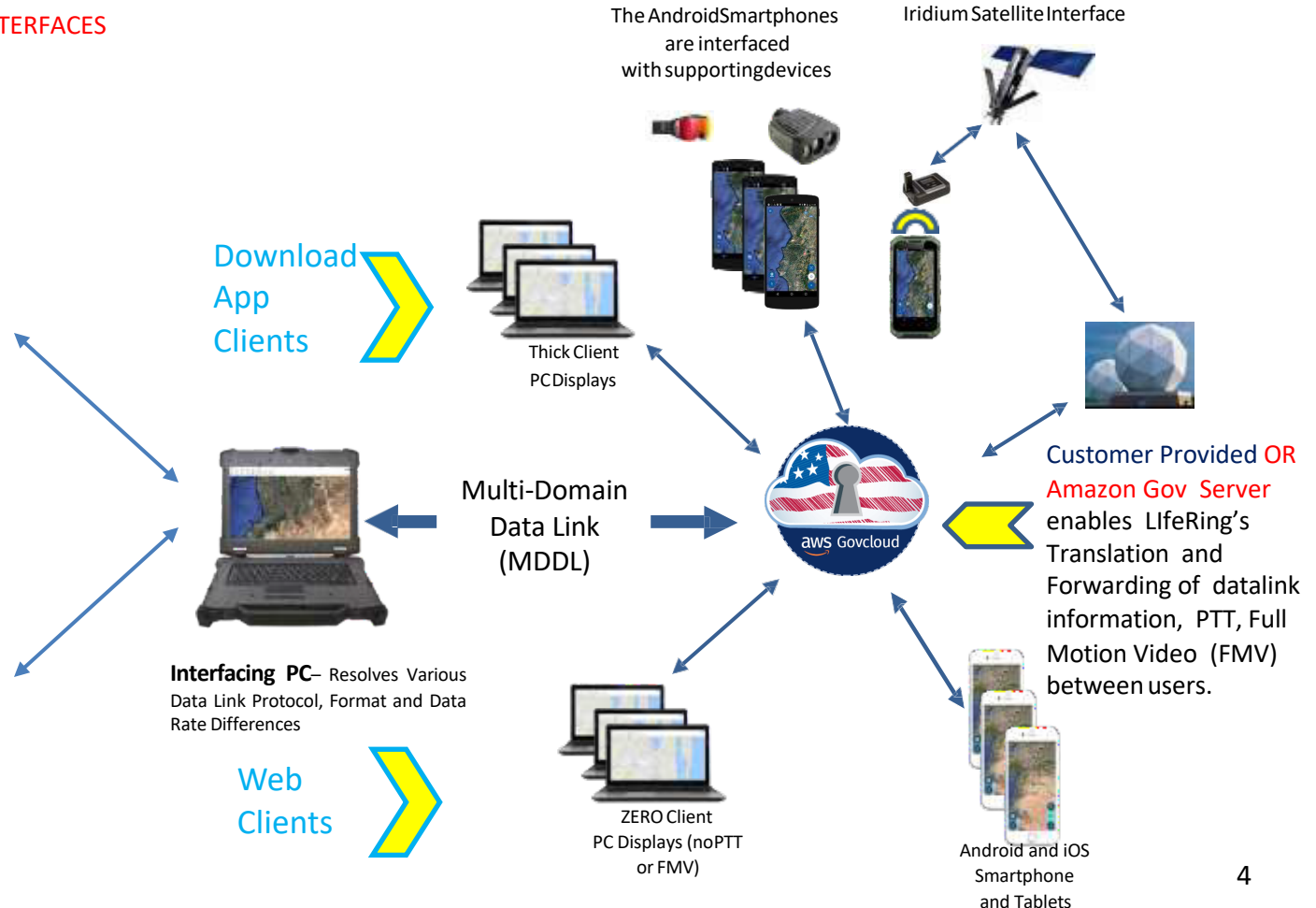- NFFI
- APP-11D

DHS DATALINKS
- COMMON ALERTING PROTOCOL
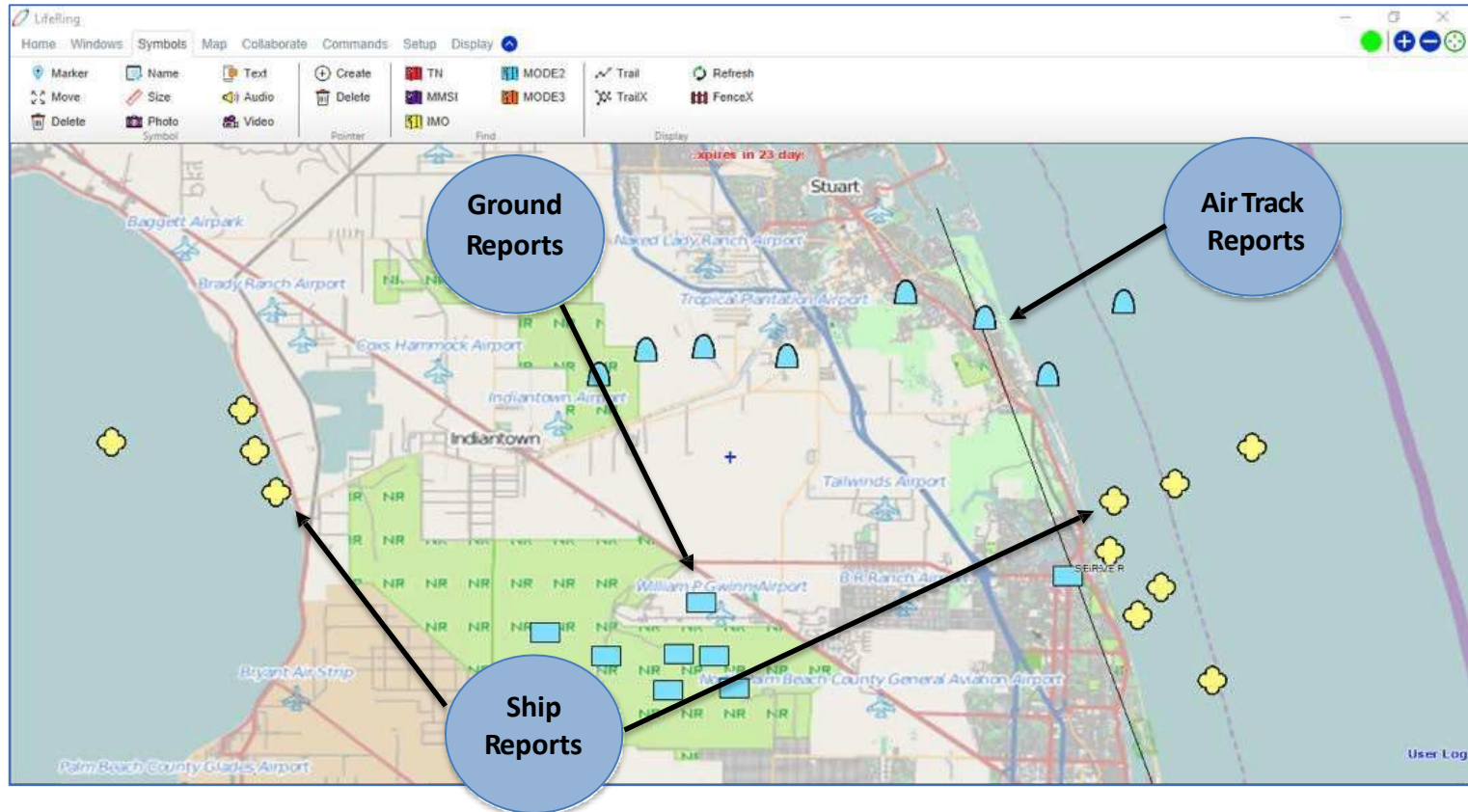
LOGISTICS AND MEDICAL INTERFACES
- SAP – LOGISTICS
- ELEKS - MEDICAL STATUS

GPS TRACKING TAGS
- SPOT, CORNERTURN, NAL

The Android Smartphones are interfaced with supporting devices

Iridium Satellite Interface

Download App Clients

Thick Client PC Displays

Multi-Domain Data Link (MDDL)

aws Govcloud

Customer Provided OR Amazon Gov Server enables LIfeRing's Translation and Forwarding of datalink information, PTT, Full Motion Video (FMV) between users.

Interfacing PC – Resolves Various Data Link Protocol, Format and Data Rate Differences

Web Clients

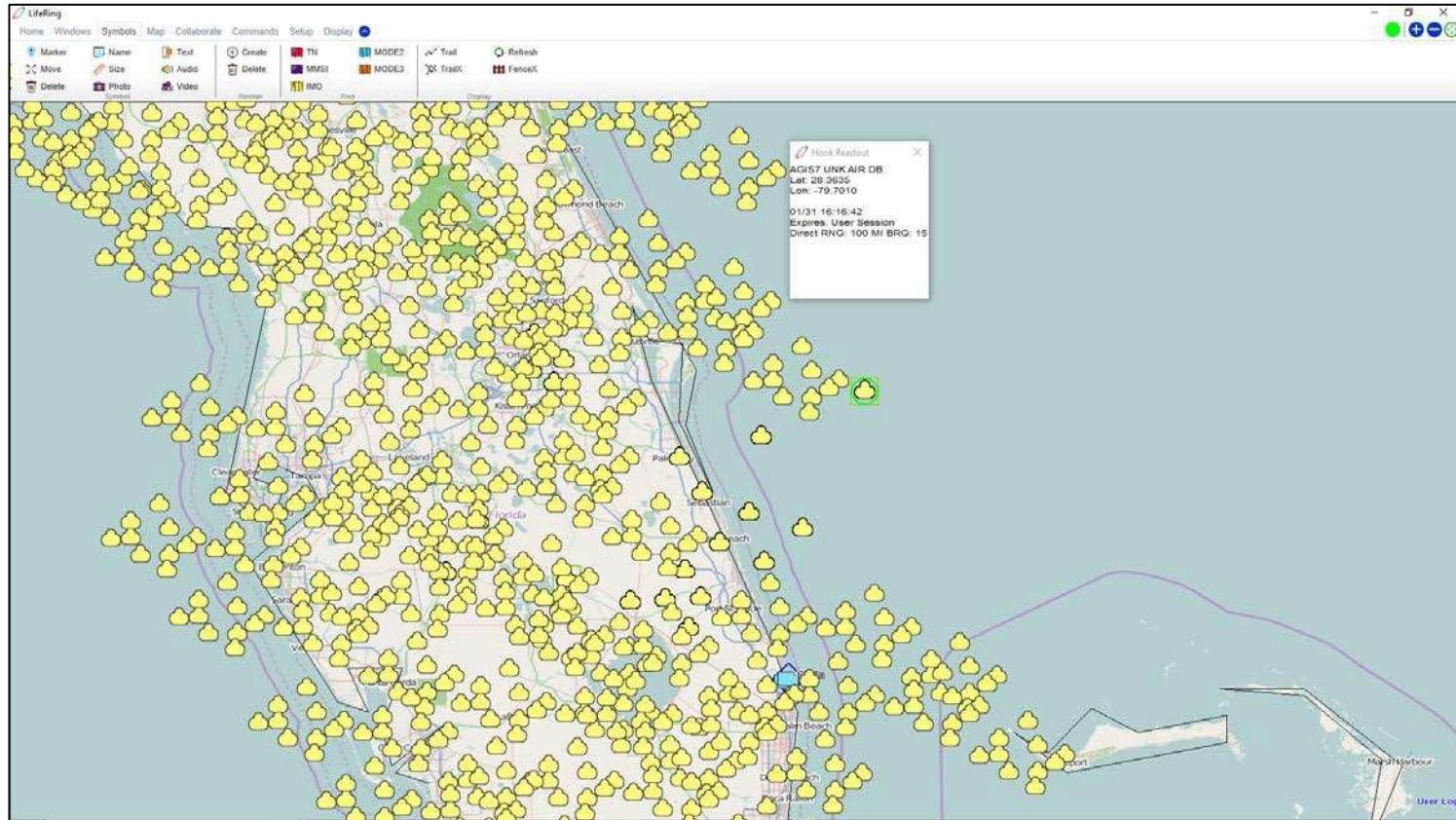ZERO Client PC Displays (no PTT or FMV)

Android and iOS Smartphone and Tablets

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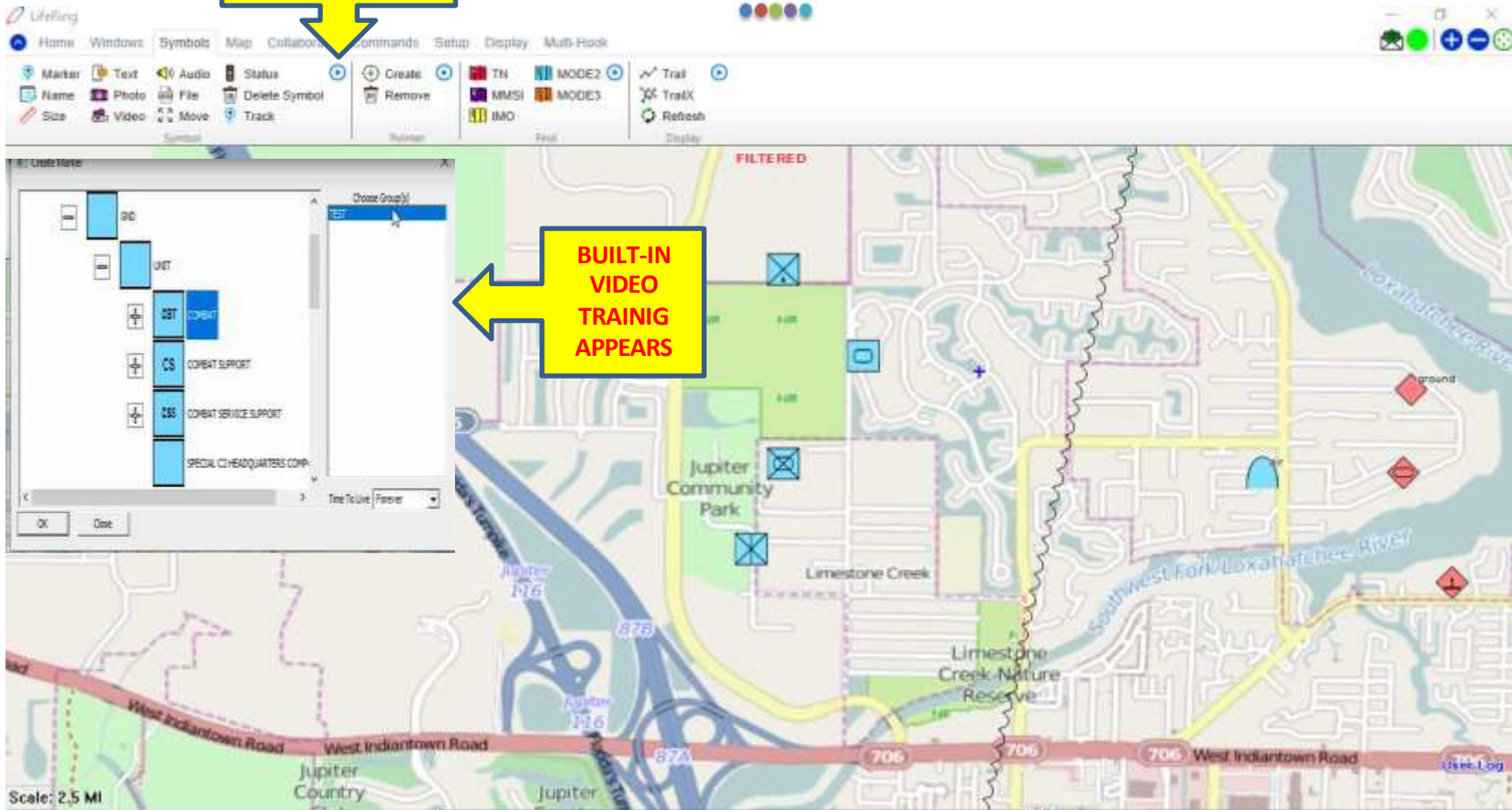# LifeRing Integrated Multi-Domain Air / Ground / Sea COP

LifeRing Processes Massive Amounts of Data Radar Example

Unique Feature
Integrated Video Training

CLICK FOR BUILT-IN VIDEO TRAINING

BUILT-IN VIDEO TRAINIG APPEARS

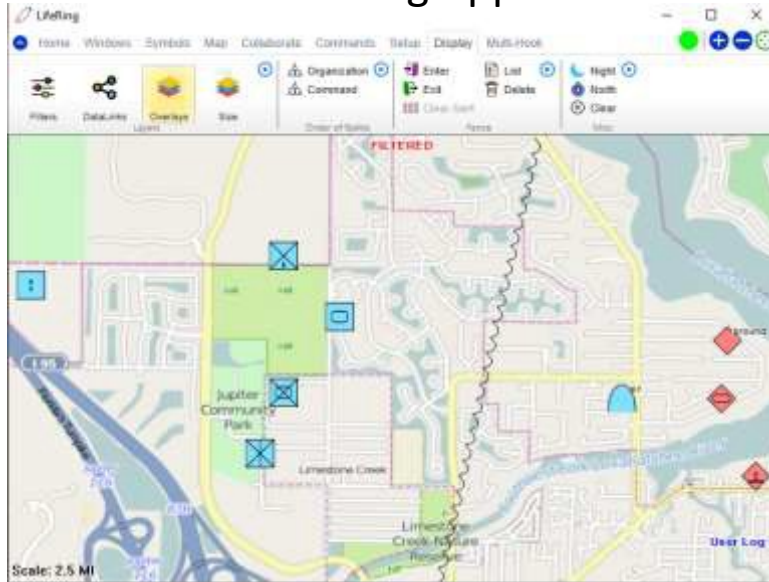# Unique Feature
LifeRing Thick App and LifeRing Thin Client Web Client are Interoperable
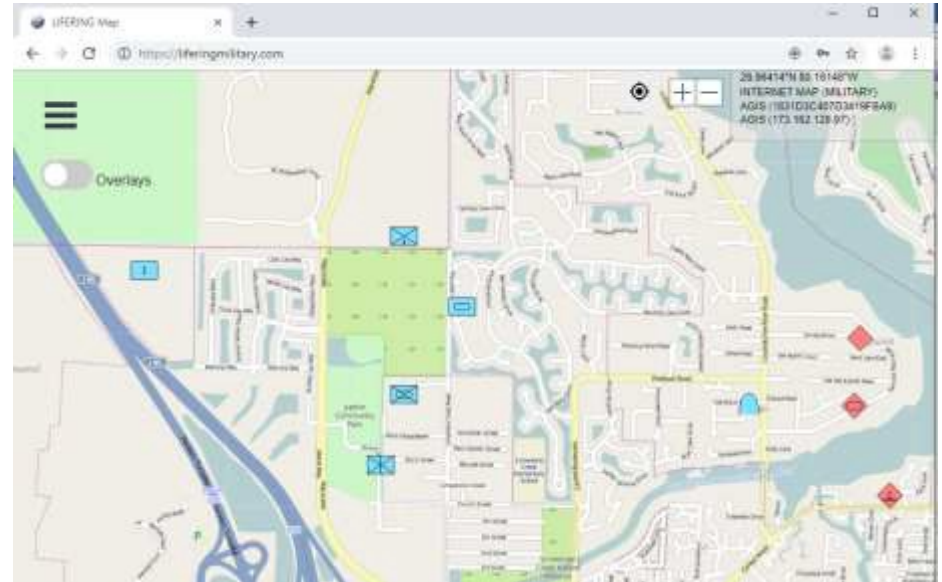
Integration Largely Completed

●●●●●

LifeRing App

LifeRing Web Client

Unique Feature
Commander's Display Tactical + Video from Multiple Sources

●●●●●

Symbols on the display indicate to the Commander who is taking Videos. The Commander can select to view up to 8 simultaneous Video Feeds

How LifeRing Provides Up and Down the Chain of Command Communications

Communications Up, Down and Across the Chain of Command

BATTALION	COMPANY	PLATOON	SQUAD/FIRETEAM
• LIfeRing enabled PC with Large Display • PRC Radio	• LifeRing enabled PC • Harris and Motorola Radiosn including the AN/PRC117	• LifeRing enabled Tablet • AN/PRC 152A Radio • AN/PRC 154 Radio	• LifeRing enabled Smartphone • AN/PRC 154A Radio • Other radios

Server to Server Comms

Server to Server Comms

Integrated LifeRing COP Up and Down the Chain of Command

Photo of Corps Level LifeRing System

BRIGADE

BATTALION

COMPANY

PLATOON

SQUAD

FIRETEAM

LifeRing Communications and Sensors Integration

LiferRing is a Many-to-Many C4I System Allowing Each User to Communicate Using Various Features While Interfacing with:

Sensors

- Radars
- AIS
- UAVs
- Laser Target Designators
- Satellites, IBS
- Airborne Collection Platforms
- Covert Tracking Tags
- Goggles
- PTT Headsets
- External Cameras
- Radiation Sensors

Radios

- Military Radios
- 1st Responder Radios
- Iridium Satellite
- Thuraya Satellite
- MANETS
- Cellular
- Band 14 Cellular
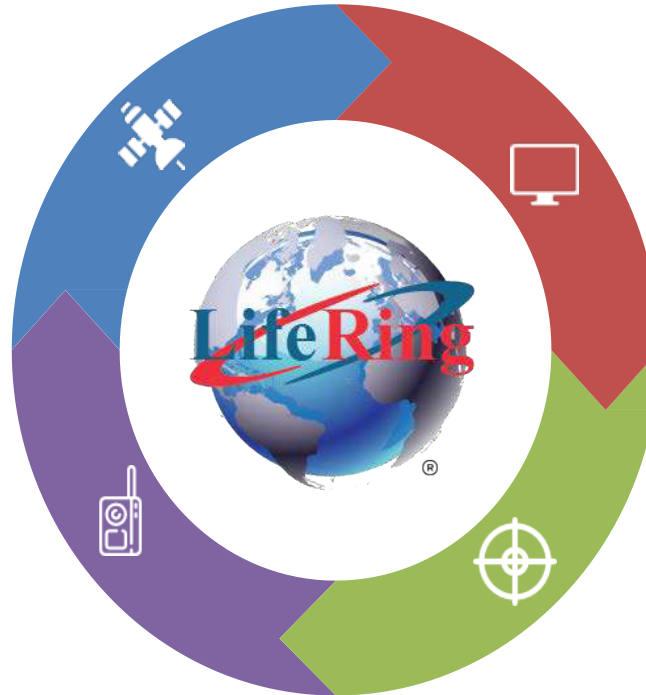
C4I System

- Interoperates with other C4I Systems
- Translates and forwards Data between C4I Systems
- Ground (JVFM, CoT)
- Aircraft (Link 16, SARIR)
- Ship (OTH Gold, Link 16)
- NATO (NFFI, STANAG 4677, NVG, JCHAT, ADEM)

Weapons Systems

- Fighter Aircraft
- AFATDS (JVMF)
- Infantry (JVMF, CoT)

LifeRing Resolves Data Link Differences US Air Ground Sea and NATO C4I Systems Providing ALL Interoperability and an Integrated COP

- **Automatic Translation**
- **& Forwarding of Data**
- **Protocol Conversion**
- **Data Rate Conversion**
  And Between
  Implementing systems –
  PTT, Chat and
  Full Motion Video

IBS Correlate/ Fuse Various Intelligence Sources

Video/ CoT

Link 16 / SARIR

Link 16/ OTH GOLD

FAA CD-2

JVMF

JVMF/CoT /LifeRing

NFFI   NVG

ADEM

Various Standards

MEDICAL (STANAG MIDSITREP) and LOGISTICS DATA

Military Radios P25 Radios Cellular Satellite Interfaces

LifeRing Server

AFATDS
JADOCS
GCCS
JBC-P
DCGS

NETT
Warrior
ATAK
LifeRing

Radars
ELINT
Covert Tags
Nuclear
Sensors

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In Use LifeRing C4I Command Center

Photograph of Delivered LifeRing System

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LifeRing Communication and Encryption Types

Public Cellular

- AT&T
- Verizon
- Sprint
- T-Mobile
- European
- Malaysian
- Thailand

Private Cellular

- Radisys
- LEMKO Band 14
- RIVA
- AltoBridge
- Rivada
- Qualsomm
- LGS (WiMAX)
- OCEUS
- Lockheed (MONAX)
- TLC
- ELTA

Military and First Responder Radios

- Motorola
- Harris
- Thales/GDC4
- xG Technologies

Mesh Networks

- Rajant
- Persistent Systems
- Thales / GDC4
- TrellisWare
- AGIS Low Cost MANET

Satellite

- Iridium
- Netted Iridium
- Inmarsat
- WIN-T
- ViaSat
- Thuraya
- BGAN

Encryptions

- AES – 256 BIT
- Dept. of Commerce Approved Private Algorithm
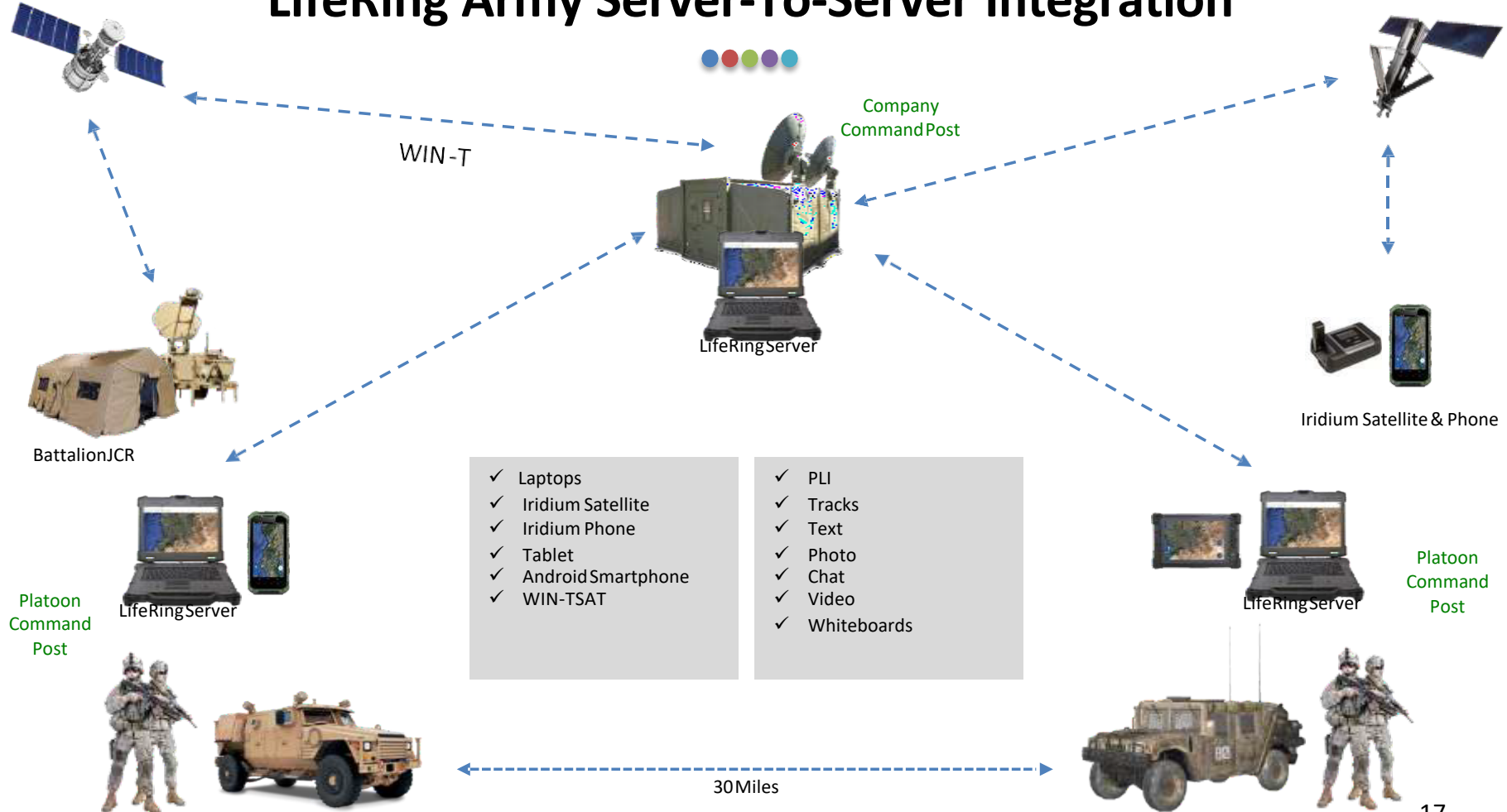- **CSfC**
- **Type 1**

LifeRing has successfully used all the above communication types in various combinations

A Few LifeRing Live Exercises

LifeRing Army Server-To-Server Integration

Company Command Post

WIN-T

LifeRing Server

Iridium Satellite & Phone

Battalion JCR

Platoon Command Post

LifeRing Server

- ✓ Laptops
- ✓ Iridium Satellite
- ✓ Iridium Phone
- ✓ Tablet
- ✓ Android Smartphone
- ✓ WIN-TSAT

- ✓ PLI
- ✓ Tracks
- ✓ Text
- ✓ Photo
- ✓ Chat
- ✓ Video
- ✓ Whiteboards

Platoon Command Post

LifeRing Server

30 Miles

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NavyExercise
LifeRing Navy SPAWAR Cellular / Satellite Demonstration

JWICS, SIPR, Internet

SATCOM 10MBPS

LPD 4G
200 LifeRing Connections

LSD 4G
50 LifeRing Connections

100 MBPS Cellular

H-1 / 4G
50 LifeRing Connections

4G 75-346 MBP
400 LifeRing Connections

SAIL

18
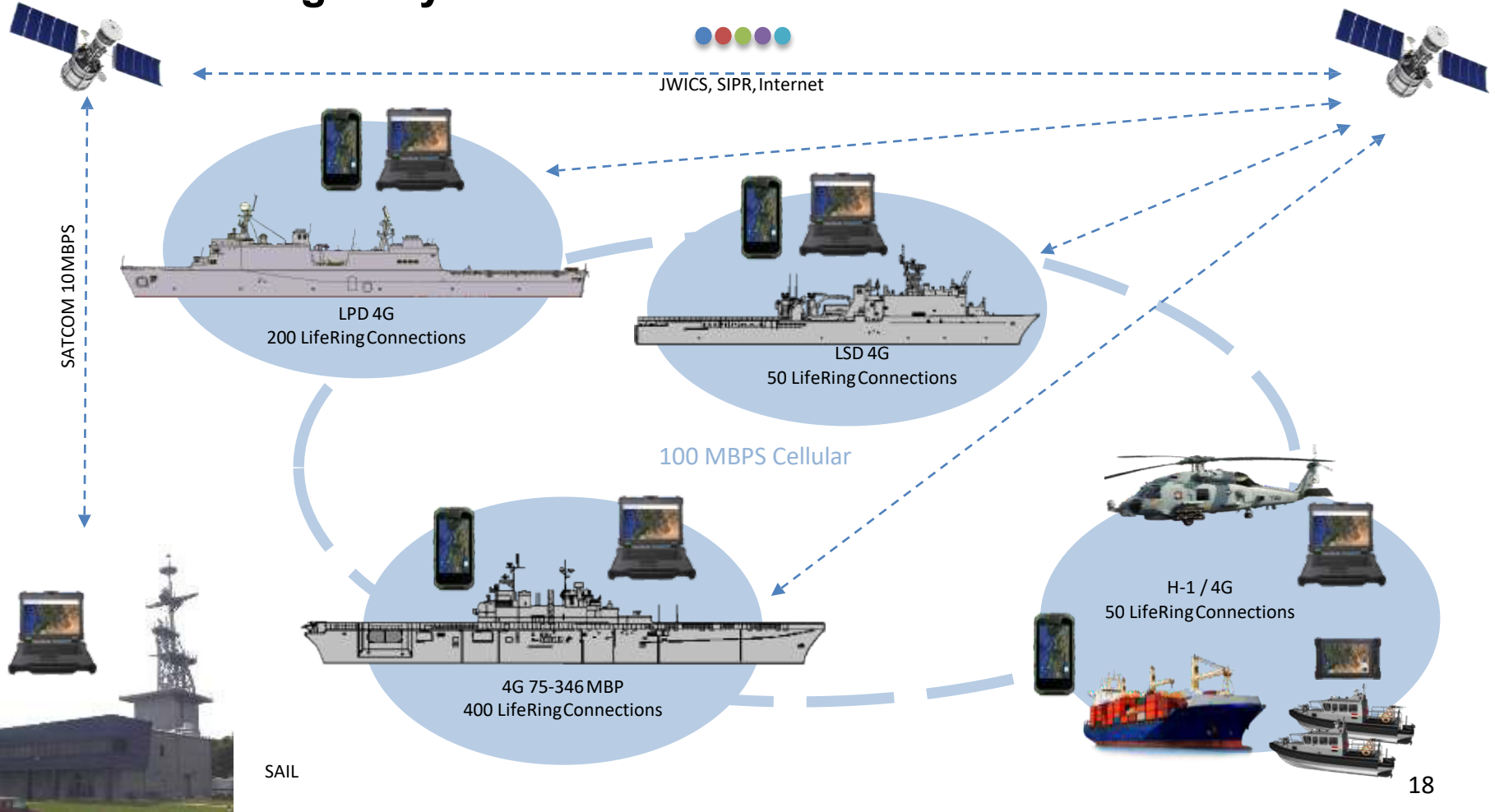
US JCS Aircraft/UAV Video Distribution Exercises

All smartphones exchanging data and selectively sending video from Aircraft and UAVs to LifeRing network

PC12 with EO/IR Video Sensor

UAV

Ground Station

Video + Metadata

LifeRing Server on Cellular Network

LifeRing-Enabled Smartphones

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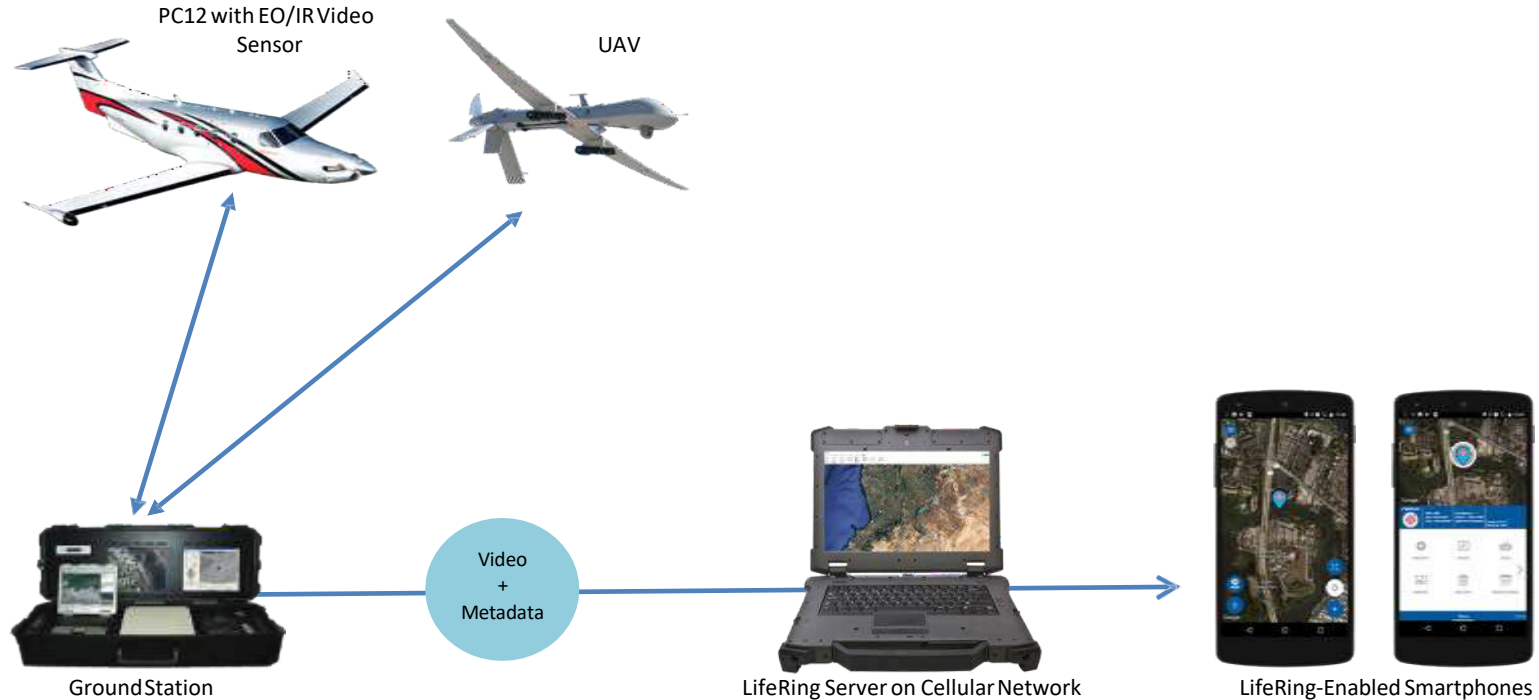
Unclassified SAR Radar Satellite Data Exercise

LifeRing Processing Data From AIS Ship Reports and Commercial Radar Satellite Data for USN

AIS Report Data

Commercial Satellite Imagery

History Trail

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Designed to Meet the Cycle of Military Operations

LifeRing stores data and photos obtained from patrols to create an **Intelligence Plan for the Battlefield (IPB).**

LifeRing assists the Commander's staff in creating a battlefield plan that reflects **the Commander's Intent.**

LifeRing **SUPPORT** stores military operations movement and exchanged data and photos in a SQL database for later analysis. Remotely reset passwords.

LifeRing provides all the COP and the ability to compare the actual battle with **the Commander's Intent** and to coordinate, collaborate and command.

LifeRing enables **review** of military operations as was seen on the displays during the battle.

INTEL · PLAN · EXECUTE · PLAYBACK · SUPPORT

Some of LifeRing's Features

- Runs on PC's, Tablets, Android and iPhone Devices
- Real time Common Operational Picture (COP)
- Integrated Push-To-Talk
- Integrated Full Motion Video
- Operates as an App or Web (Thin) Client
- Emergency Notifications
- Built-in Help Videos
- Request Immediate Position Report
- Response Required Commands to Clear Screen
- Works with or without Internet
- Ability to operate with or without a Server
- Server to Server Communications
- Server Failover
- Data Recorded and Time Stamped for Analysis
- Digital Geo-Fence Crossing Alert
- Geo-Positioned Photos

- Medical and Logistics Data
- Integrated Worldwide Street Maps
- Maps Automatically Downloaded or Pre-Stored
- Share Photographs with Text
- Tap Map to enter Geo-Positioned Marker
- Pre-Stored Tactical Mission Data
- Join Various Groups
- Send/Receive Messages and Chat
- Whiteboards
- Communications denied environment. Entered Data automatically synchronized when communications are established
- Window User Interface for PC, Google Maps type User Interface for Android and iPhone
- Mission Replay Data
- Interface to NGA Snowball
- Nautical charts for USA waters

Brief Examples of LifeRing Used Successfully

Company/Organization	Description of Usage	Locations Used	Purpose
ADI Tech. DOE (Dept. Of Energy)	First Responders	Washington, DC	Disaster Response
OCEUS	USS Fort Worth	ASIA	Operations
Defense Intelligence Agency (DIA)	Training	Quantico, VA	Training
US Navy NAVAIR	Ground, Air, Ship, Sub Data Display	SAIL Facility, Pax River	Test Facility Use
US Navy - Sub to OCEUS	Install LifeRing on 3 USN Ships	Norfolk, VA	Pirate Interdiction
JCS J6 C4AD	Multiple Bold Quest and Net Work Integrations, Evaluations, and other deployments	Suffolk, VA	Jolted Tactics
JCS (Joint Chief of Staff)	CWIDs (Coalition Warrior Interface Demonstrations)	Various Locations	Demonstration of State of Art
Special Forces	TNT Exercises	Various US Locations	Demonstration of State of Art
Honolulu Police Dept. and Others	President Obama's (APEC) Asian Pacific Economic Council meeting with Asian Heads of State	Hawaiian Islands	US Joint Agencies protection of President and other Heads of State
ARMY and Motorola	ARMY National Integration Evaluation (NIE) 12.1	FBTX and WSMR	Demonstration
US Navy NCIS	President Obama's Inauguration	Washington, DC	Protection of the President
Tactronics for Special Forces Operation	Surveillance and tracking combined with Harris Radios	Middle East	RESTRICTED
AAR Brown	Gustav and Ike Hurricane Response	Huntsville, AL	Disaster Response

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DEPARTMENT OF DEFENSE
JOINT TACTICAL NETWORKING CENTER
33060 NIXIE WAY, BLDG 50, ROOM 339
SAN DIEGO, CALIFORNIA 92147-5110

DEC 03 2012

Mr. Cap Beyer
AGIS, Inc. (Life Ring)
92 Lighthouse Drive
Jupiter, FL 33469
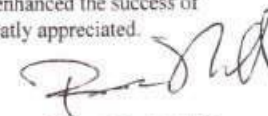
Subject: Letter of Appreciation

Dear Mr. Beyer:

The Joint Tactical Networking Center (JTNC) would like to take this opportunity to acknowledge the contributions and participation of Life Ring in the Wideband Networking Waveform (WNW) Performance and Interoperability Quick Look (WIQ) Field Test.

The professionalism and knowledge of the testing process and field management was a major contributor to the success of the WIQ 3 field test event. During the WIQ events, Life Ring mastered the art of coordination between the radio operators and the test director, maintained control and directed radio operators to their designated test roles, directed mobile units and ensured test operations went smoothly. The awareness of radio status and assigned radio roles contributed to completion of test cases with minimal delays.

We appreciate the tireless hours of service dedicated to ensuring that the test event was completed. The dedication, hard work and commitment significantly enhanced the success of the WIQ Field Test. Life Ring's participation in the test event was greatly appreciated.

Mark Compton
JTNC Director

CAPT Kevin Peterson
JTN Program Manager

Richard North, PhD
JRIL Director

Honolulu Police Dept. President Obama's Visit

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

PETER B. CARLISLE
MAYOR

LOUIS M. KEALOHA
CHIEF

DAVE M. KAJIHIRO
MARIE A. MCCAULEY
DEPUTY CHIEFS

OUR REFERENCE   CK-JK

February 3, 2012

Mr. Malcom Beyer, Jr.
Chairman/CEO
AGIS
177 North US Highway One, Box 300
Tequesta, Florida 33469

Dear Mr. Beyer:

On behalf of the men and women of the Honolulu Police Department (HPD), I would like to express our sincere appreciation to you and your personnel for the outstanding partnership that we shared in preparing for and during the 2011 APEC meetings.

Your assistance greatly helped us in our efforts to ensure the security and safety of the public, the world leaders, and the other attendees during the APEC meetings that were held from November 7 to 13, 2011. The success of our law enforcement and security operations was the result of everyone working together, and the HPD was very fortunate to have had your support.

Mahalo nui loa and best wishes.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

Serving and Protecting With Aloha

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Contact Us

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✉ *beyerm@agisinc.com*   📞 561-744-3213   🔗 *www.agisinc.com*

To see LifeRing in action, check out our demo videos at *www.agisinc.com/videos*

Ma d e i n th e U SA b y U S C i ti z en s