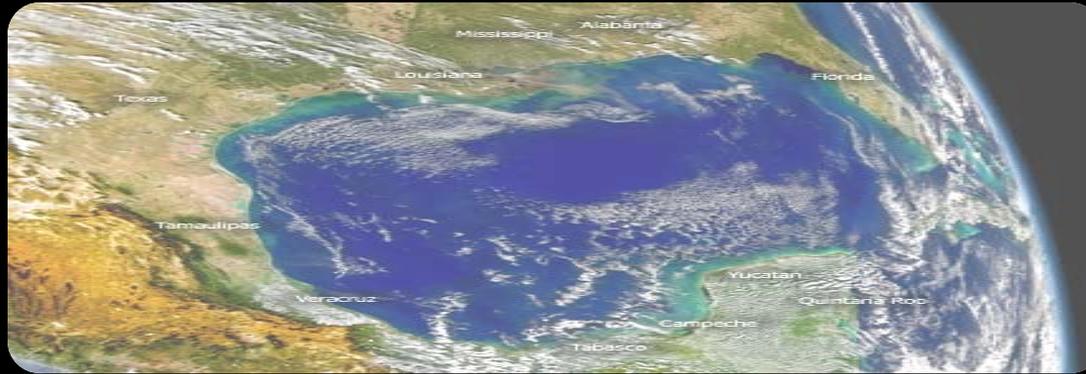


Mexico's National Command and Control Center Challenges and Successes



SAI Team (USA, Mexico)

June 22, 2011

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Agenda

- Introduction
- Background
- Project Particulars
- Challenges
- Conclusions



Introduction

- Acknowledgement of paper's contributors
 - Venu Sarakki (CEO - SAI)
 - Greg Mosley (Presenter SAI)
 - Fred Schellenburg (Narcotics Affairs Section USG)
 - Alex Bonino (Narcotics Affairs Section USG)
 - Franciso Nimburo (Director SSP GOM)
 - Andres Parales Pimental (Bunker Manager SSP GOM)

National Command & Control Center



BUNKER

Entrance

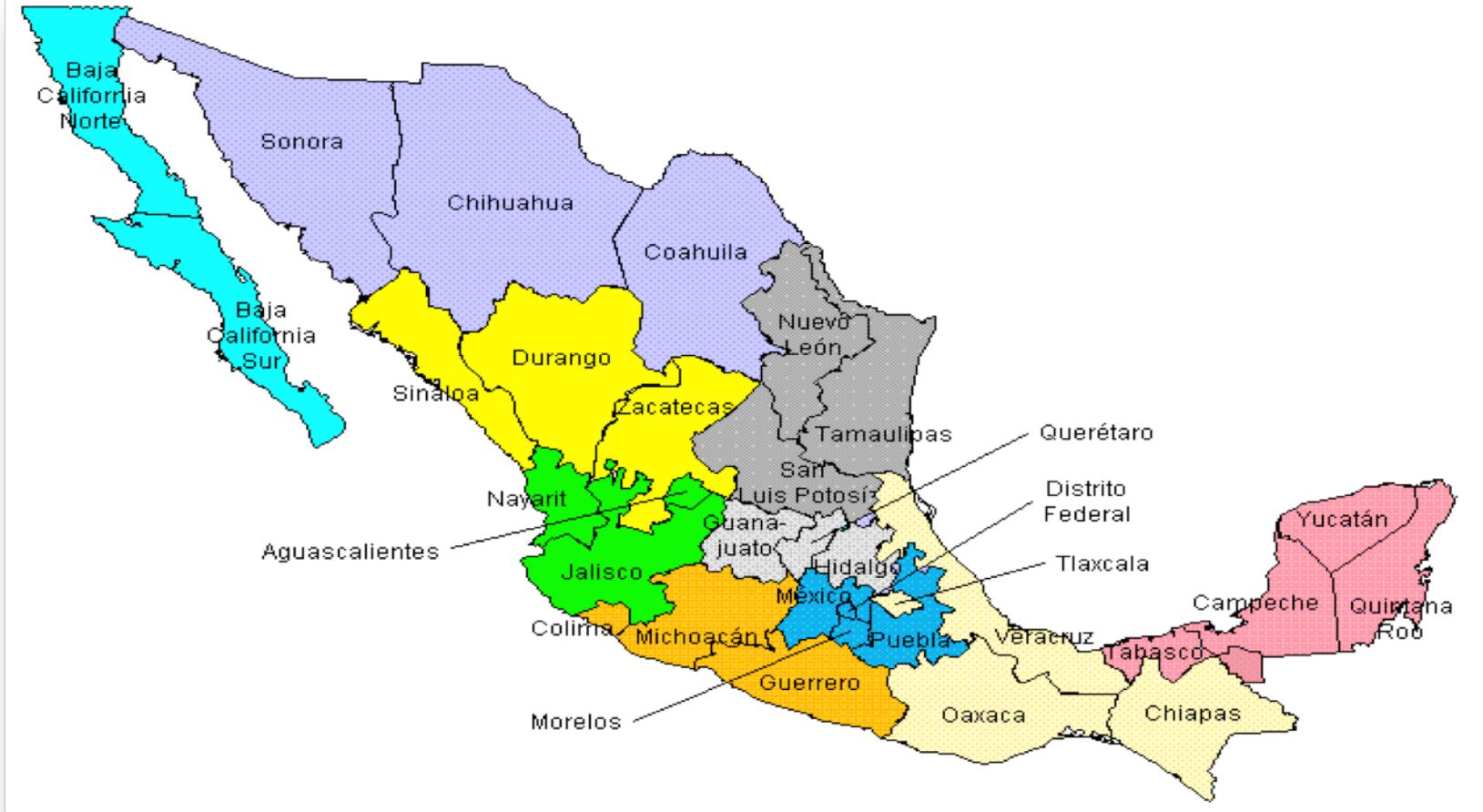
Project Particulars



SSP Bunker - Operations

- Operates 24X7
- National nerve center for law enforcement and civilian emergencies
- Co-location with stakeholder representatives
- Plataforma Mexico is the operational core
- Uses over 60 software applications
- Has a database of nearly 300 million records
- Reaches out to 7 Central American countries
- Communicates with state and federal governments

Mexico Regions and State Locations



Stakeholders

- Direct
 - Federal Police (SSP)
 - Army & Navy (Sedena, Semar)
 - Civil Protection (Protection Civil)
 - Strategic Facilities (PEMEX, CFE, Conagua, Banxico)
- Indirect
 - Local Police
 - Local Emergency Responders
 - Immigration (INM), CIA (Cisen), Judicial (PGR)
 - Public

Challenges



Four Challenges

1. Creating Common Operational Picture (COP)
2. Secure real-time communications
3. Improved response between local responders and federal police
4. Scalable information sharing

Common Operating Picture (COP)

CHALLENGE 1

- Bunker has 4 independent quadrants
- Two unconnected management systems
- No common reporting format
- No common tagging of incoming data
- Historical data unmanageable
- Poor coordination of emergency resources

Define: Common Operating Picture

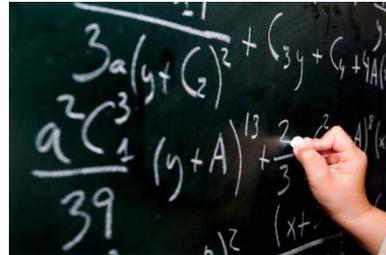
Goals:

- Situational awareness of actual conditions
- Dynamic accurate update of field conditions
- Real-time analysis of conditions
- Integration of local response plans with central (Bunker)
- Empowerment of decision makers

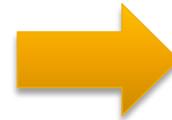
Where does COP fit?



Integrate and
analyze data
(1st row)

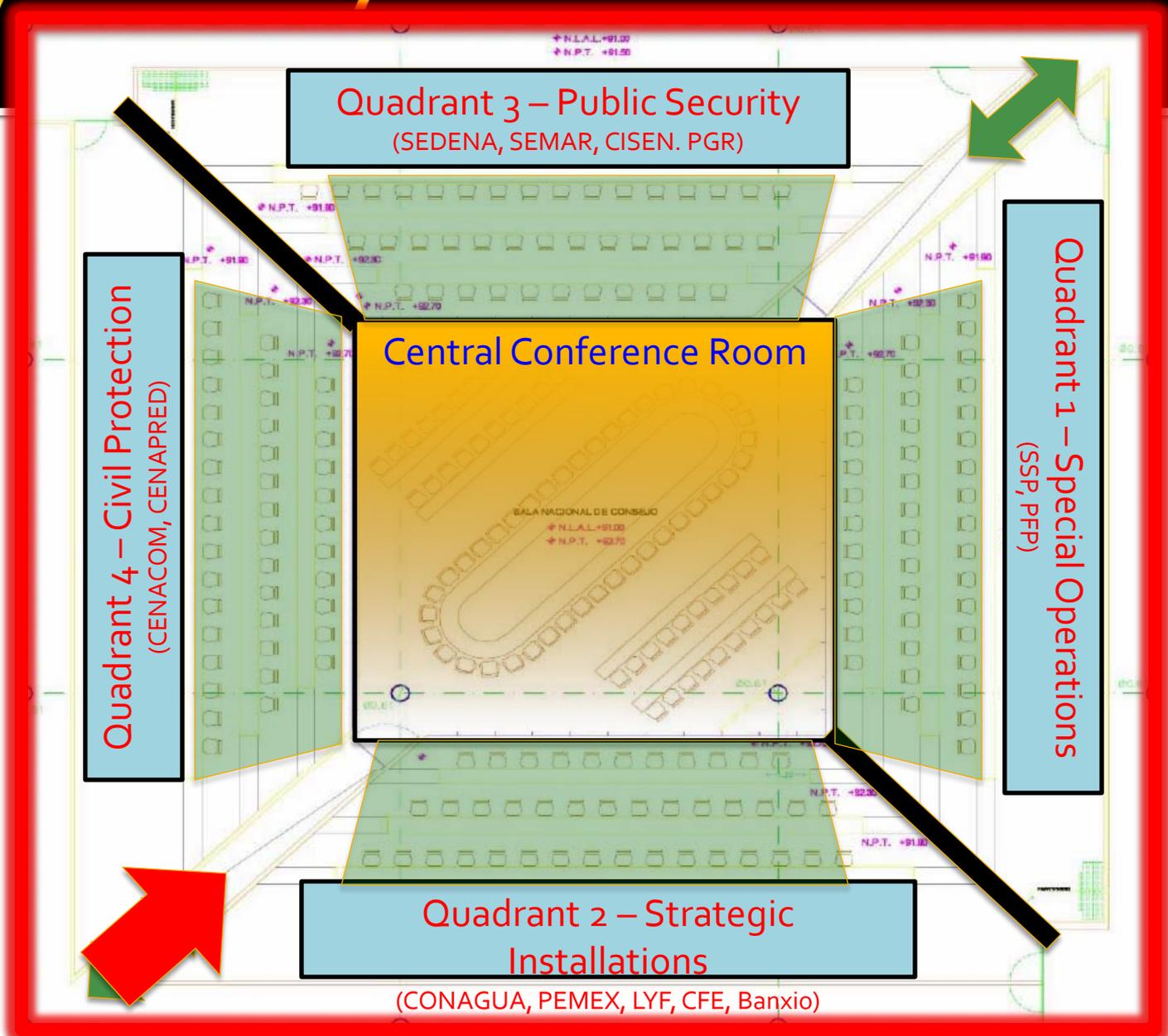


Actionable
intelligence and
decision making
(2nd row domain
experts)



Disseminate
situational
awareness
(3rd row Policy
level)

Physical Layout



Bunker – 2 of 4 Quadrants



Center Conference Room



Video Wall



Common Operating Picture SOLUTION

- Unite the four quadrants and others
 - Common Crisis Information Management System (CIMS)
 - Interface the CIMS with the Law Enforcement System (Plataforma)
 - Link the video walls with a common incident area
 - Unify the incident data with an universal identifier
 - Use common incident reference scheme

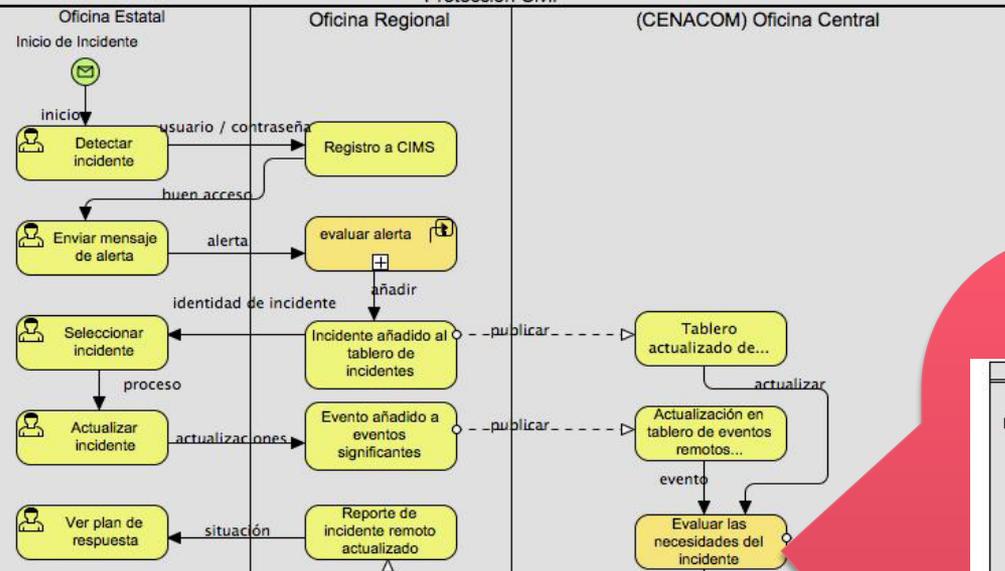
Link Law Enforcement with Crisis Information Management

Plataforma and CIMS

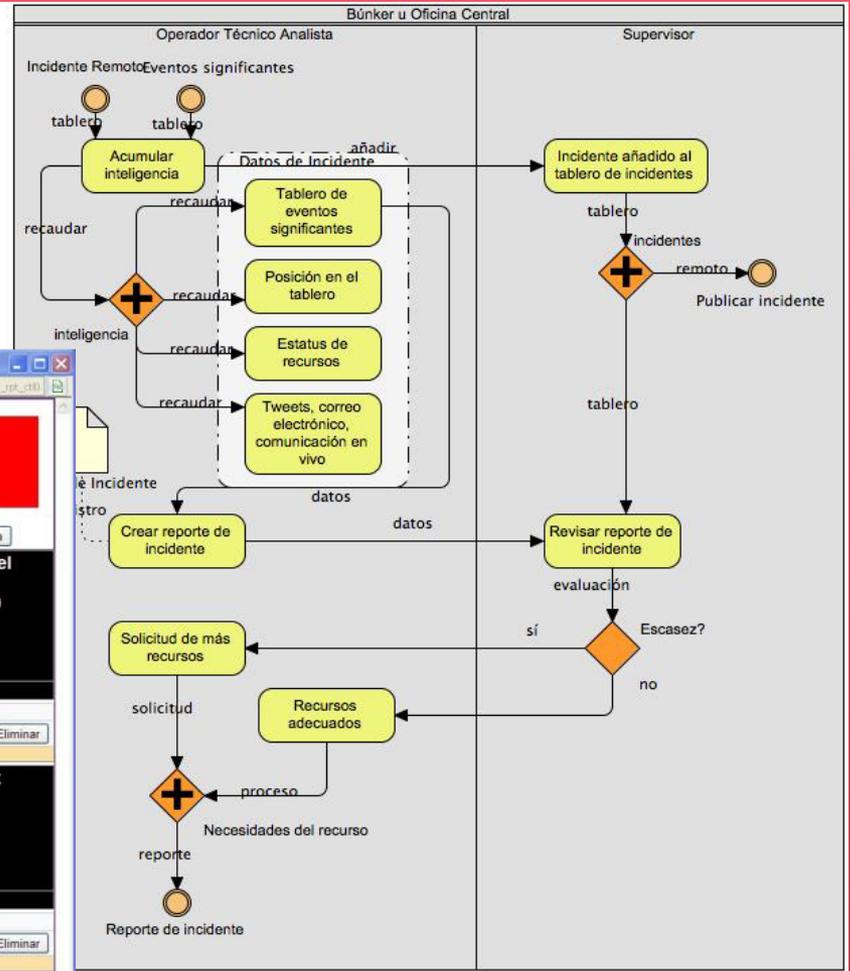
The image displays several overlapping screenshots of web-based systems. On the left, the 'Plataforma México' interface shows a form for reporting a police incident, with fields for 'Area: Secretaría de Seguridad Pública Federal', 'Informe Policial HOMOLOGADO', and various details like 'Fecha del Informe' and 'Hora del informe'. In the center, a cartoon character in a blue suit and yellow pants holds a large black chain. On the right, the 'WebEOC 7.2' interface is shown, featuring a menu with options like 'Eventos significativos', 'Misión/Tarea', and 'Refugios'. Below the menu, there's a news article titled 'Eventos significativos' with a sub-headline 'Gazprom recorta a partir de hoy los suministros de gas a Bielorrusia' and another article about a BP oil spill: 'El derrame de petróleo de BP ahora es línea de la playa mexicana del afecto en x, xx, y xxx'. The interface also includes a search bar, a 'Subir' button, and a footer with 'Page 1 of 1' and 'Disable Refresh'.

Crisis Management

- Civil Protection / National Alerts
- Strategic Installations / GCIE
 - Automates business flow (CIMS)
 - Avoid double entries
 - Enhances situational awareness
 - Real-time updates
 - Organized intelligence
 - Verified data
 - Clearly defined reporting hierarchy
 - Users, groups, roles, positions



Evaluar las Necesidades del Incidente



WebEOC 7.2

México SSP - SSP Tech Operator

Boards

Eventos significativos

Comunicados de prensa

Misión/Tarea

Refugios

Menús

Formularios de ICS/FEM

Menú de EOC

Menú de presentación

Registros de actividades

Tools

Chat

Checklists

Mensajes - Messages

Plugins

File Library

MapTac

Links

Centro Nacional de Prev

Secretaría De Gobernac

Secretaría de Seguridad

Revisar reporte de recuperación

Eventos significativos

• [Gazprom recorta a partir de hoy los suministros de gas a Bielorrusia](#)

Page 4 of 20

Derrame de petróleo de BP

El derrame de petróleo de BP ahora es línea de la playa mexicana del afecto en x, xx, y xxx

Jefe de la sección de operaciones - Sarakki a 15:51:14 el 16/06/2010

Fecha/Hora: 06/16/2010 15:51:44

Puesto: Jefe de la sección de operaciones

Nombre: Sarakki

Registro: 5

Dirección/Ubicación: N.º DE CAD

Adjunto:

Esta información no debe divulgarse públicamente y es sólo para usuarios de WebEOC autorizados

Materiales peligrosos

The BP Oil Spill is now affection Mexican shoreline at x, xx , and xxx

Jefe de la sección de operaciones - Administrador de WebEOC a 12:54:59 el 6/15/2010

Fecha/Hora: 06/15/2010 12:53:05

Puesto: Jefe de la sección de operaciones

Nombre: Administrador de WebEOC

Registro: 3

Dirección/Ubicación: N.º DE CAD

Adjunto:

Esta información no debe divulgarse públicamente y es sólo para usuarios de WebEOC autorizados

Page 1 of 1

Disable Refresh

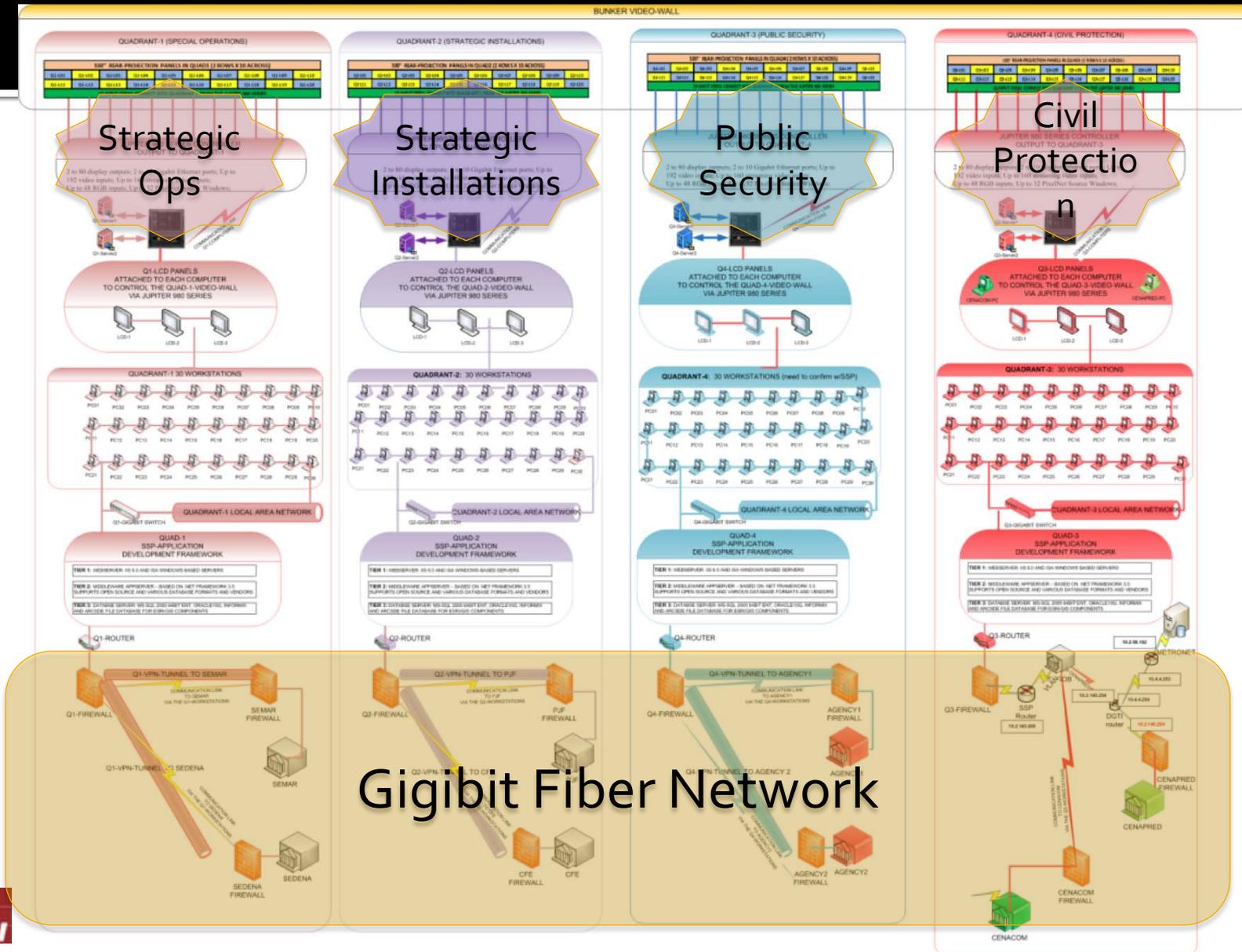
Secure Real-time Communications

CHALLENGE 2

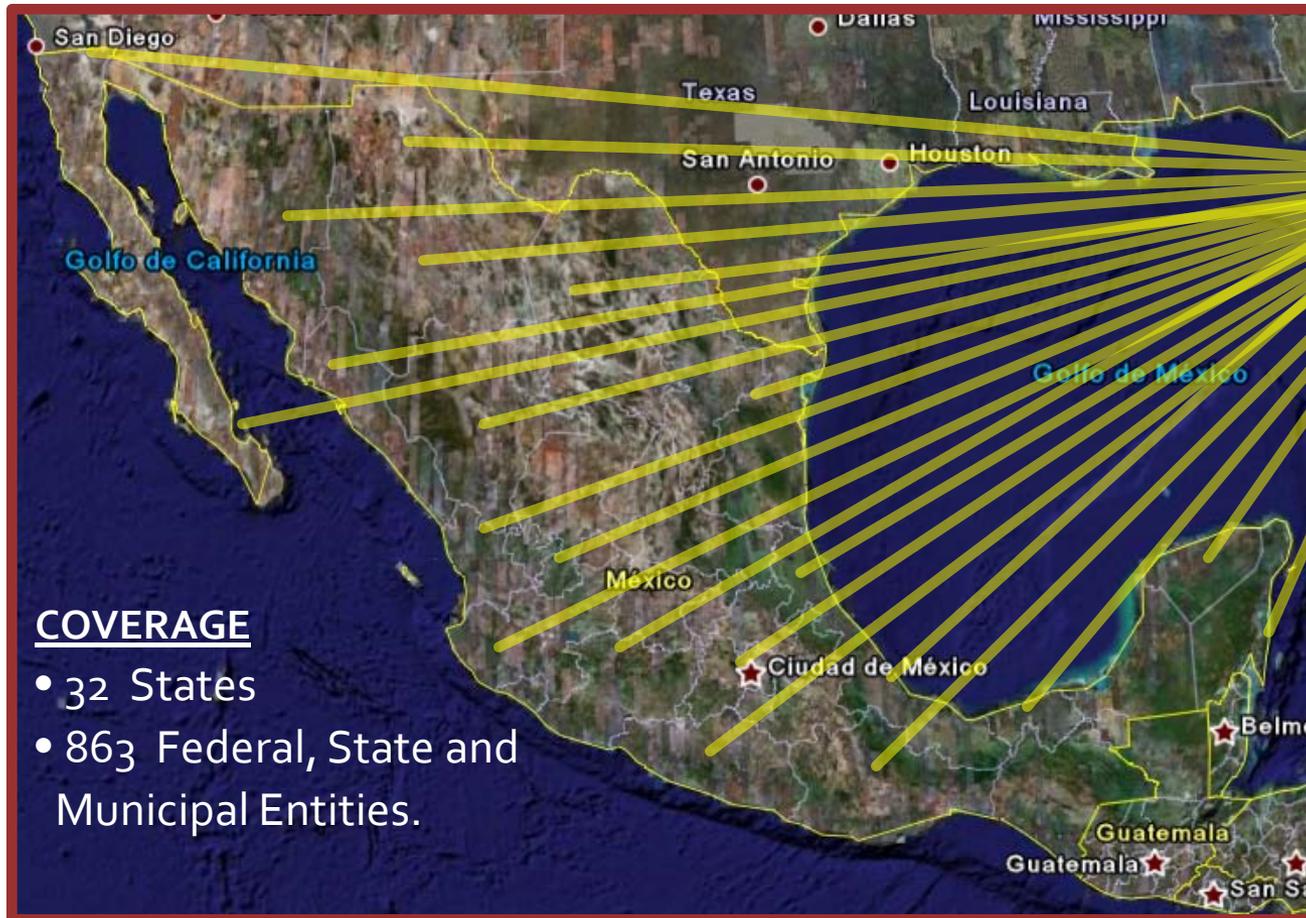
- Sensitive data flows between agencies
 - Law enforcement & military data
- Plataforma network covers the nation
 - National crisis can occur anywhere
- Addition connections to US and neighbors
 - Information sharing to catch bad guys
- Inter-agency communications reliability
 - Telecommunications companies sometimes dicey
- Broadband needed at key facilities
 - Video, audio, video conference, cartography, news, security

Plataforma Mexico Central

BUNKER VIDEO-WALL



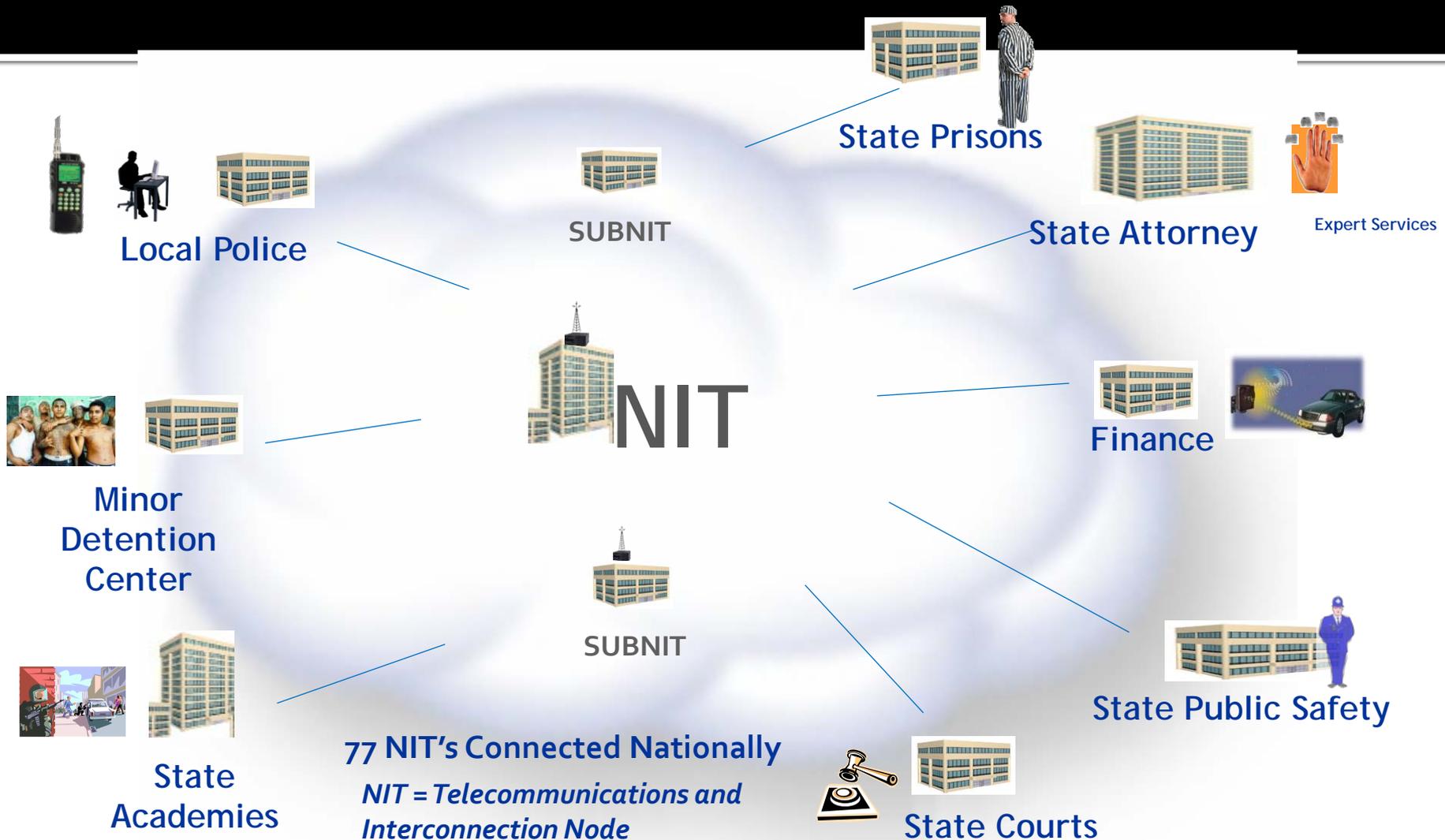
Plataforma Statewide Network



COVERAGE

- 32 States
- 863 Federal, State and Municipal Entities.

Wide Area Network



Security on the Network

Privileges by roles
Authentication
Virtual Private Network per user

Integrated Security to
Plataforma México

The Carrier does not
have access to security
administration

Encrypted
communication
reaching databases

Police Station

NIT State Network

MPLS Supplier

CNIT Servers



Security operated by PLATAFORMA MÉXICO

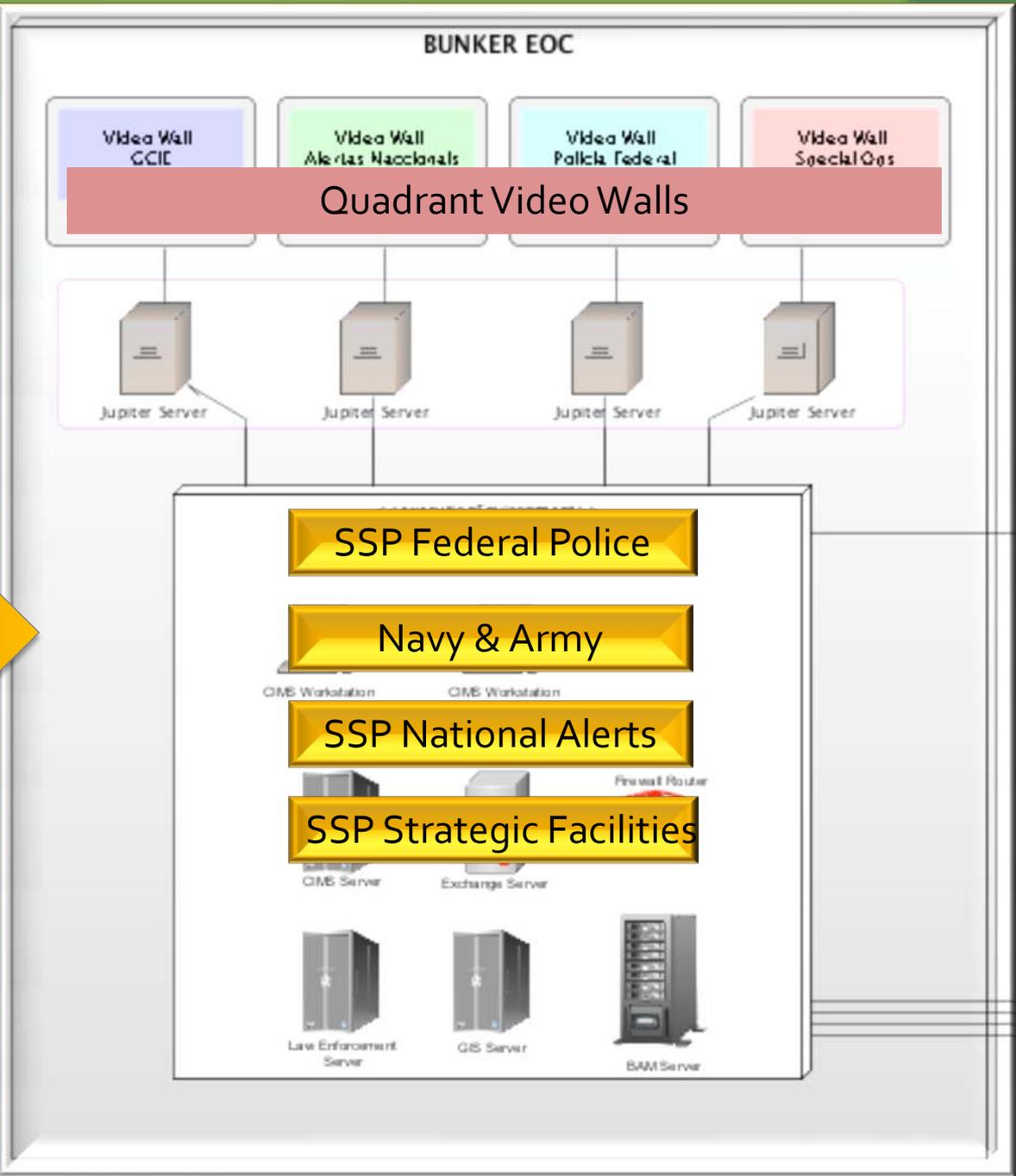
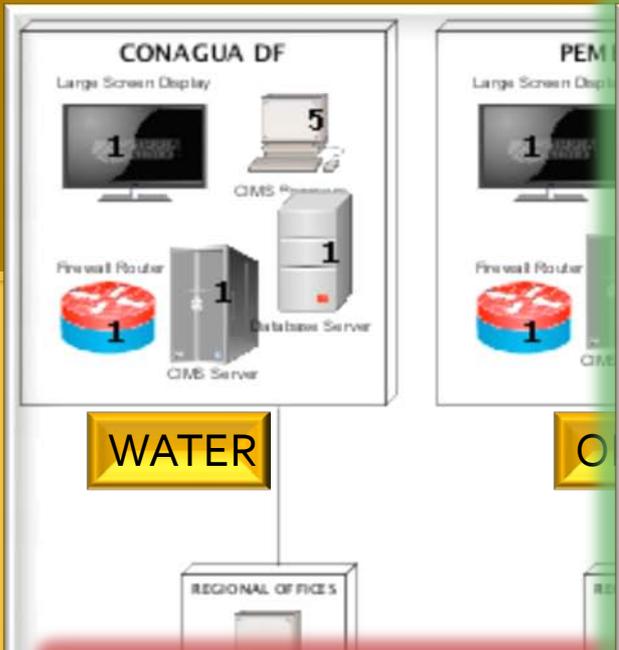
Secure Real-time Communications SOLUTION

- Agencies with Mexico City are hubs
 - Connected by private gigabit fiber network
 - Private is more secure and reliable
- Use of public network between NITs
 - Critical links are private fiber
 - Other links use encryption and VPN

Improve Response with Locals

CHALLENGE 3

- Policy problems
 - Key agencies were hesitant to share local data
 - Didn't want to relocate personnel to Bunker
 - Civil Protection and GCIE procedures sometimes conflicted with SSP
- Technical problem
 - Local manual processes greatly slowed response time and data accuracy



Improve Response with Locals

SOLUTION

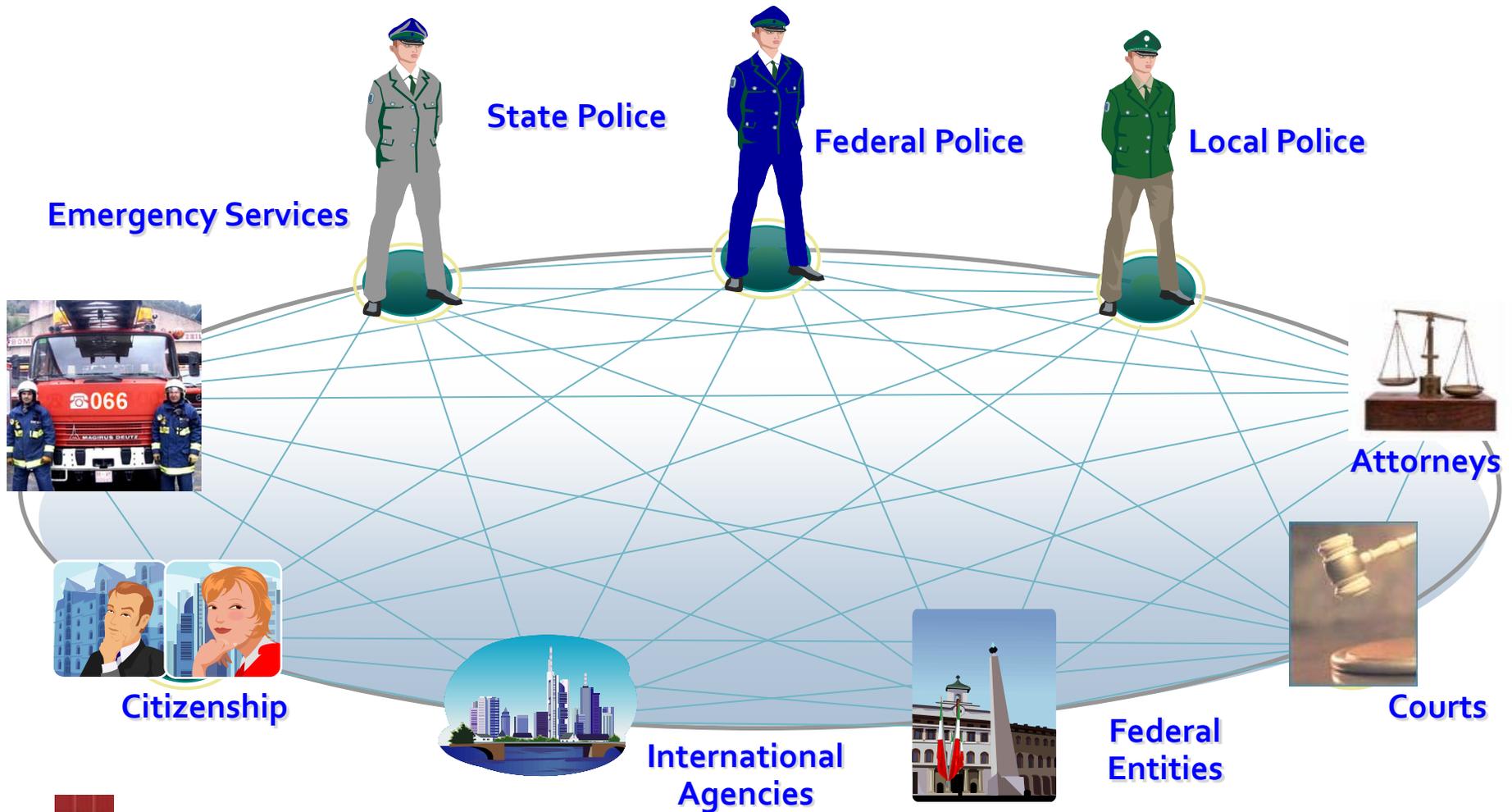
- Distribute the system
 - Provide key agencies with common CIMS solution
 - Provide the hardware and software
 - Allow agencies to tailor the CIMS for their needs
 - Allow agencies to control information filters
 - Provide standard methods of information exchange

Scalable Information Sharing

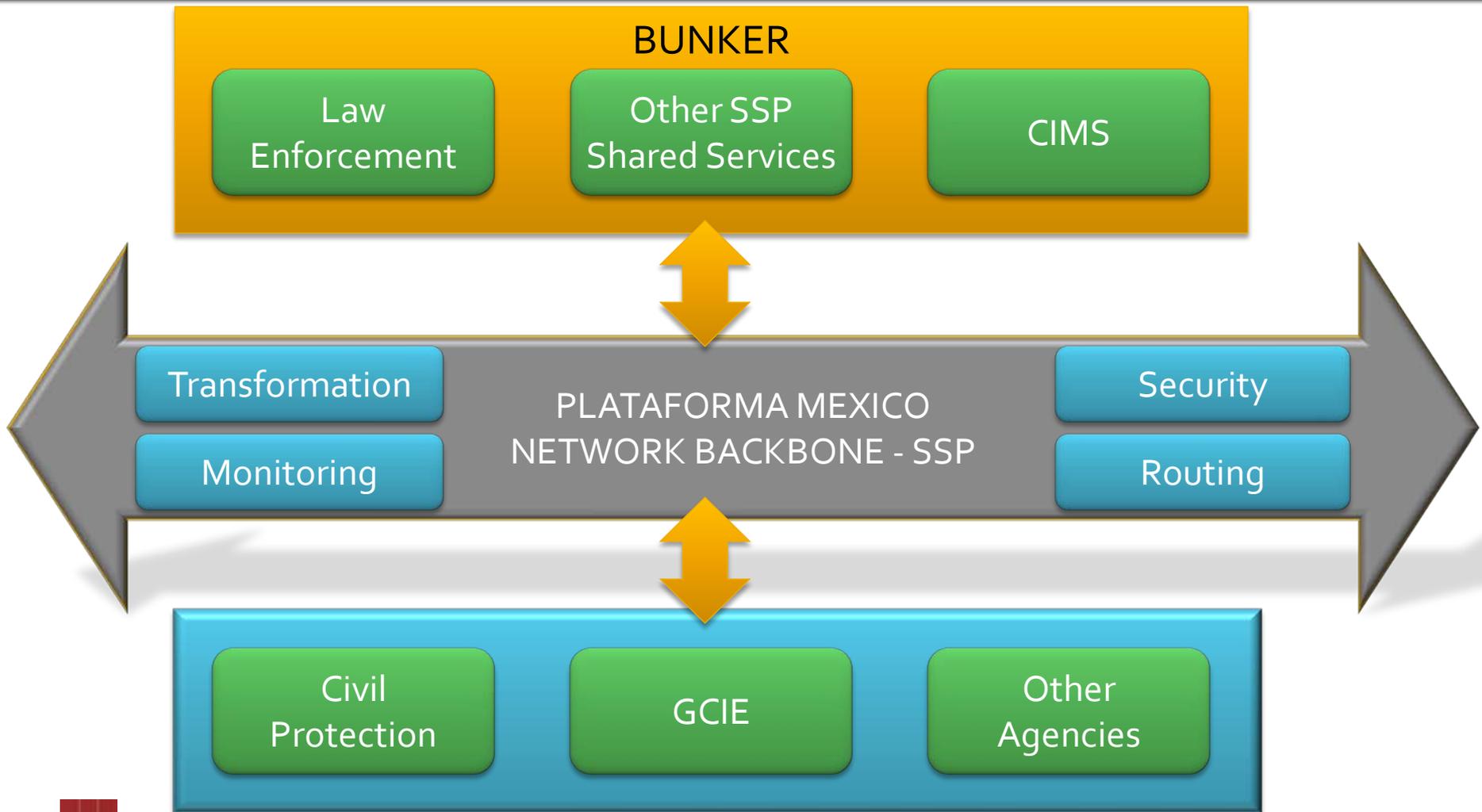
CHALLENGE 4

- Connections difficult to scale and maintain
 - Many customized inter-agency interfaces
 - Most use point-to-point communications
 - No common message format

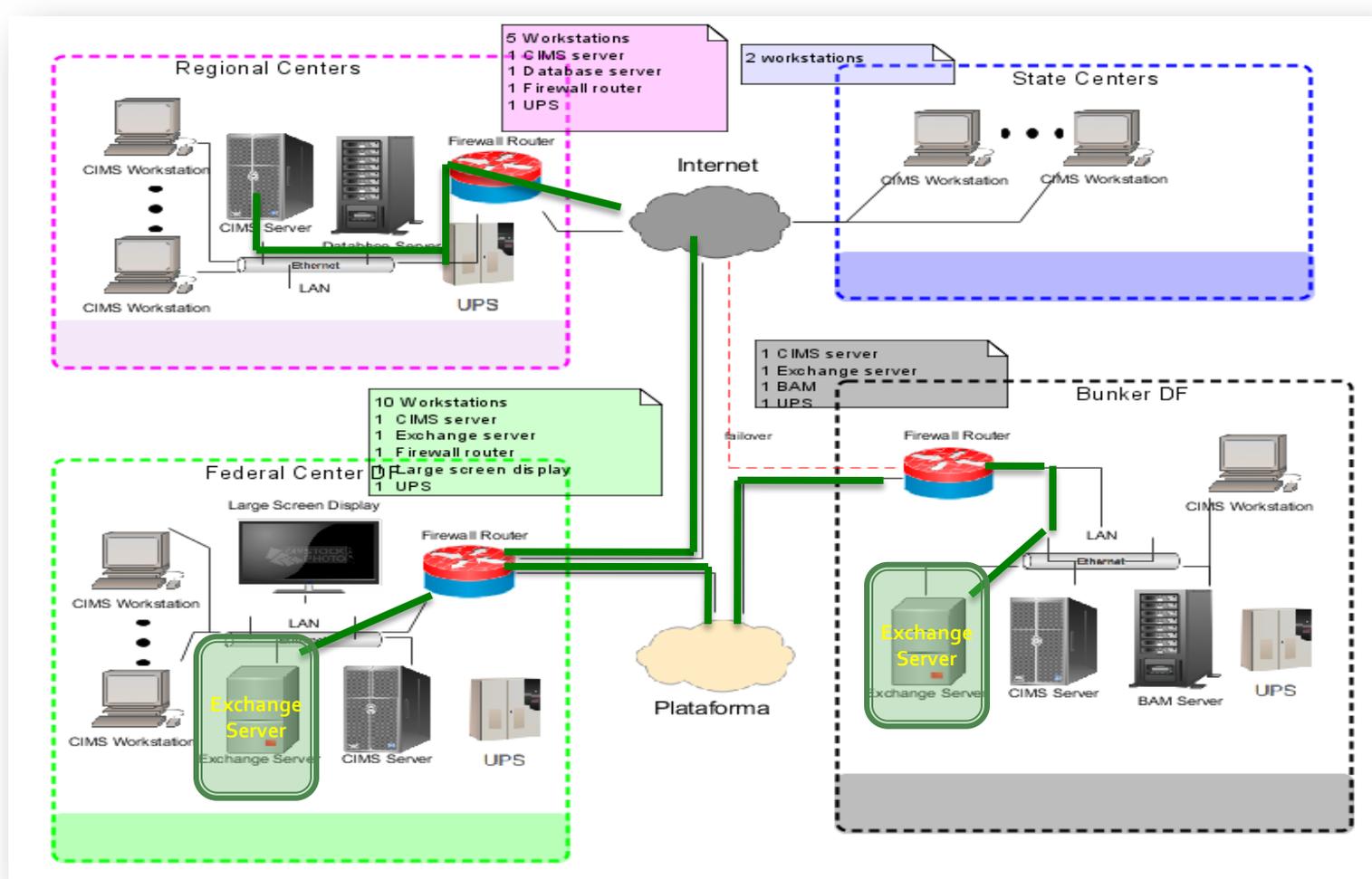
Collaboration = Many Interfaces



Enterprise Service Bus Solution



Information Exchange Server



Scalable Information Sharing SOLUTION

- Standardize the system-to-system interfaces
 - Enterprise Service Bus
 - Web services
- Eliminate point-to-point
 - Message broker
 - Information Exchange Server
- Standardize the message format
 - National Information Exchange Model (NIEM)
 - Emergency Data Exchange Language (EDXL)

Conclusions

- The Bunker design was initially focused at Law Enforcement
- Design expanded to overcome some major institutional challenges
- That design integrated CIMS internally and nationwide – both system & network
- The result is a effective and world-class emergency operations center

Questions



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