SYSTEM OF SYTEMS SECURITY (SOSSEC)

OVERVIEW

VISION

A fully capable System of Systems for Homeland Security/Homeland Defense that enables decisive Action to prevent, mitigate, respond and recover from all catastrophic incidents regardless of origin.

SOSSEC

SOSSEC is a broadly based industry consortium dedicated to improving by an order of magnitude the nation's ability to detect, intervene, respond and recover to any and all threats on the Homeland. It is founded upon three principles:

A wide spectrum of capabilities. Basic research to major program management.

Innovative business practices that removes the barriers of normal practices.

Unique ability to respond to government requirements.

CRITICALITY OF THE PROBLEM

The Nation experiences catastrophic national incidents regularly.

A persistent terrorist threat exists from covert, patent and sophisticated adversaries.
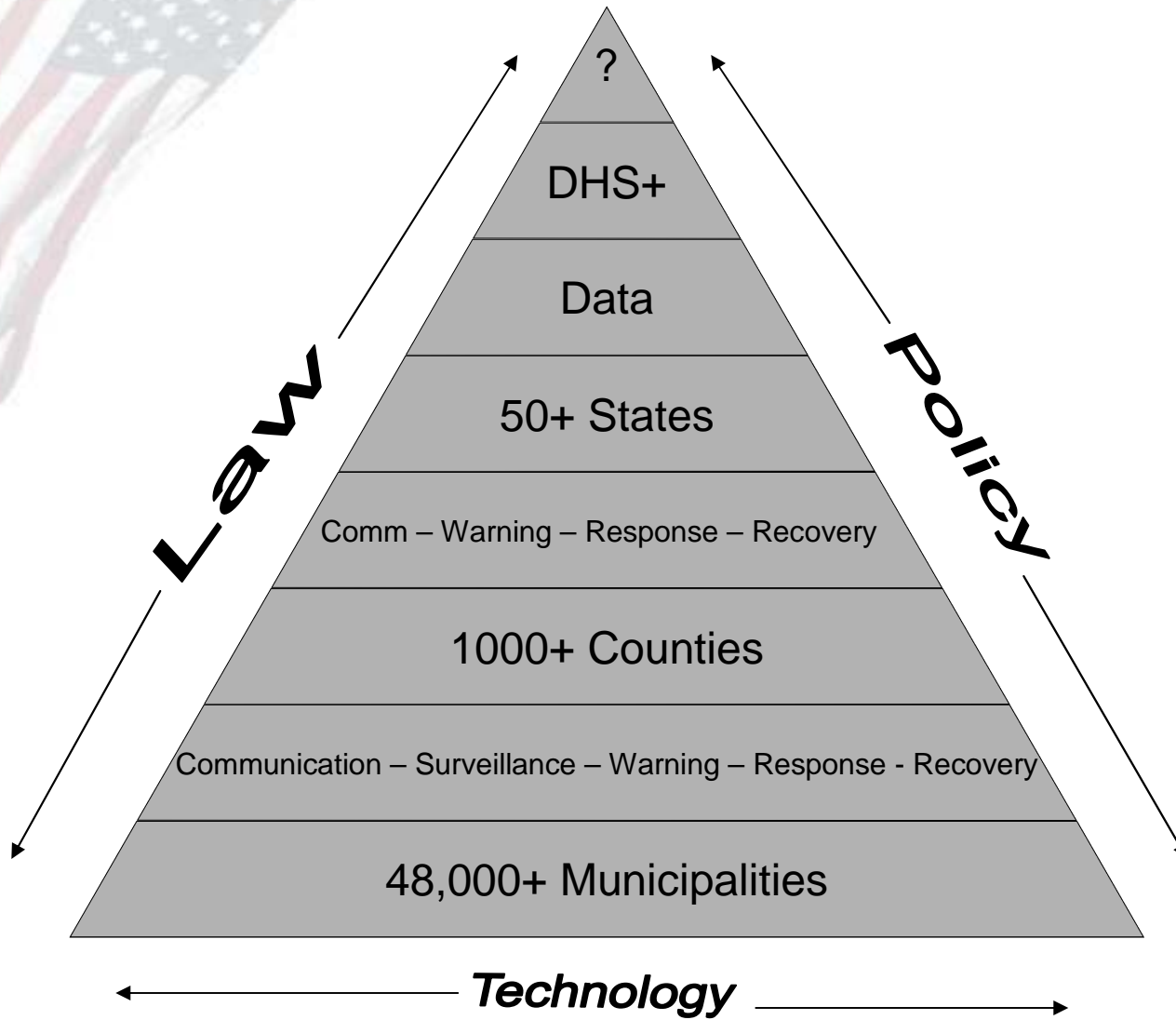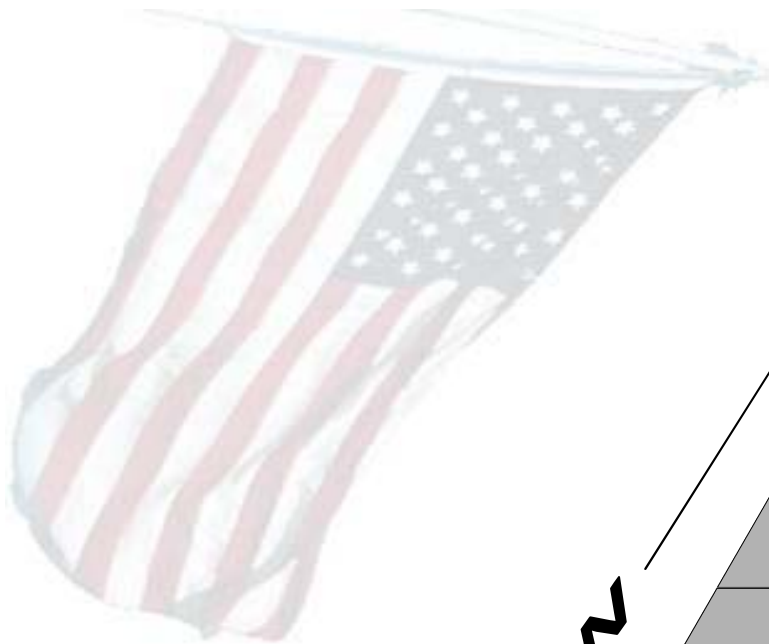
Effective action will require a unity of effort on the part of local, state, federal civil and military organizations.

- A culture of autonomy continues – everyone still wants to "be in charge".

- The National Response Framework and the National Incident Management System have helped but are insufficient.

- Unless an integrated system can be fashioned, we will continue to fail in our prevention and response efforts.

Law

Policy

Technology

?

DHS+

Data

50+ States

Comm – Warning – Response – Recovery

1000+ Counties

Communication – Surveillance – Warning – Response - Recovery

48,000+ Municipalities

ULTRA LARGE SYSTEM SYSTEM OF SYSTEMS

Technology

Human Factors

Political/Geographic

Idiosyncratic

Law

POLITICAL/GEOGRAPHIC/ IDIOSYNCRATIC

Bottom-up system approach within the framework.

Seamless communications.

Familiarity of all stakeholders with each other.

LAW/POLICY

More clearly defined/streamlined role of the National Guard.

Address some of the restrictions on DOD and others (pre-deployment).
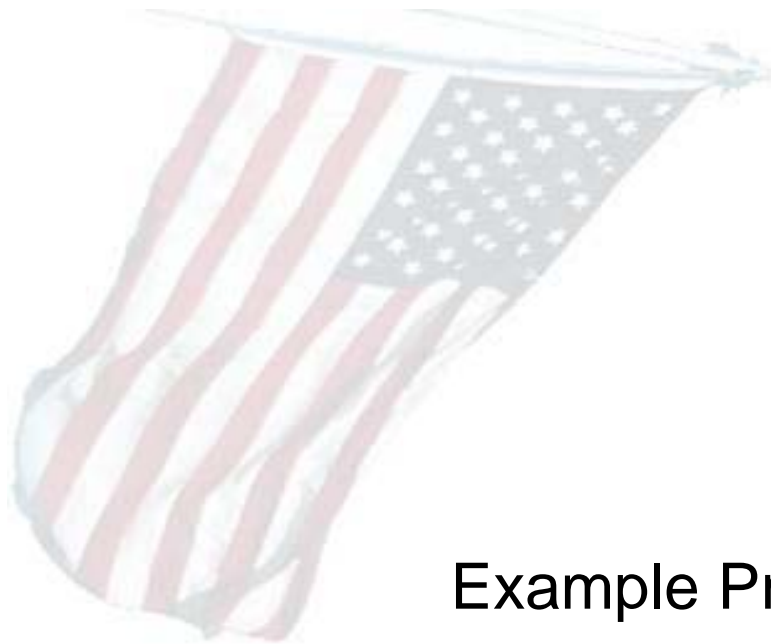
Reexamine DHS "system" approach

TECHOLOGY

View Homeland Defense/Homeland Security as a system of systems.

Integration framework

Allow diverse system to interoperate

Protect local autonomy

Hasten "hand off"

Independent product evaluation

Continuation of exercise (virtual EOCs)

DOD

Example Project National Shield Initiative

DOD's Role in Supporting Civilian Authorities

Statutory use of military forces to support civil authorities. Examples:

US Title 10 (federal): Defines role of DOD in Homeland Defense

US Title 32 (state): Defines role of National Guard

Stafford Act – Emergency Management Law: Defines how government (federal, state) will respond

When directed by President or SECDEF, DOD supports civil authorities

Performed by USNORTHCOM, normally through established Joint Task Forces (JTFs)

US Army is the executive agent

National Guard operates under the command of the individual states unless federalized

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Typical Civilian Agency Request for DOD Support

Local government declares to the state

State government declares to the FEMA/DHS

DHS forwards to the President

If a Presidential is declared; use of federal resources are authorized

DOD is not a lead response agency for natural disasters

If DOD is required, DHS coordinates initial action

When DOD arrives, they:

> Integrate into civil organizations
>
> Learn local political ramifications
>
> Deal with technical issues (frequencies, terminologies, etc)

DOD Mission Execution in HLD

Commander, NORAD-USNORTHCOM responsible for command and control of DOD Homeland Defense efforts:

Defense of air, land, sea approaches

Domestic disaster relief operations

Counter-drug operations

Consequence management of a terrorist/ WMD event

A review of DOD's performance in responding to recent catastrophic events identified several shortcomings in mission performance

As cited in the Joint Center for Operational Analysis, United States Joint Forces Command Report on Hurricane Katrina, dated 21 August 2006
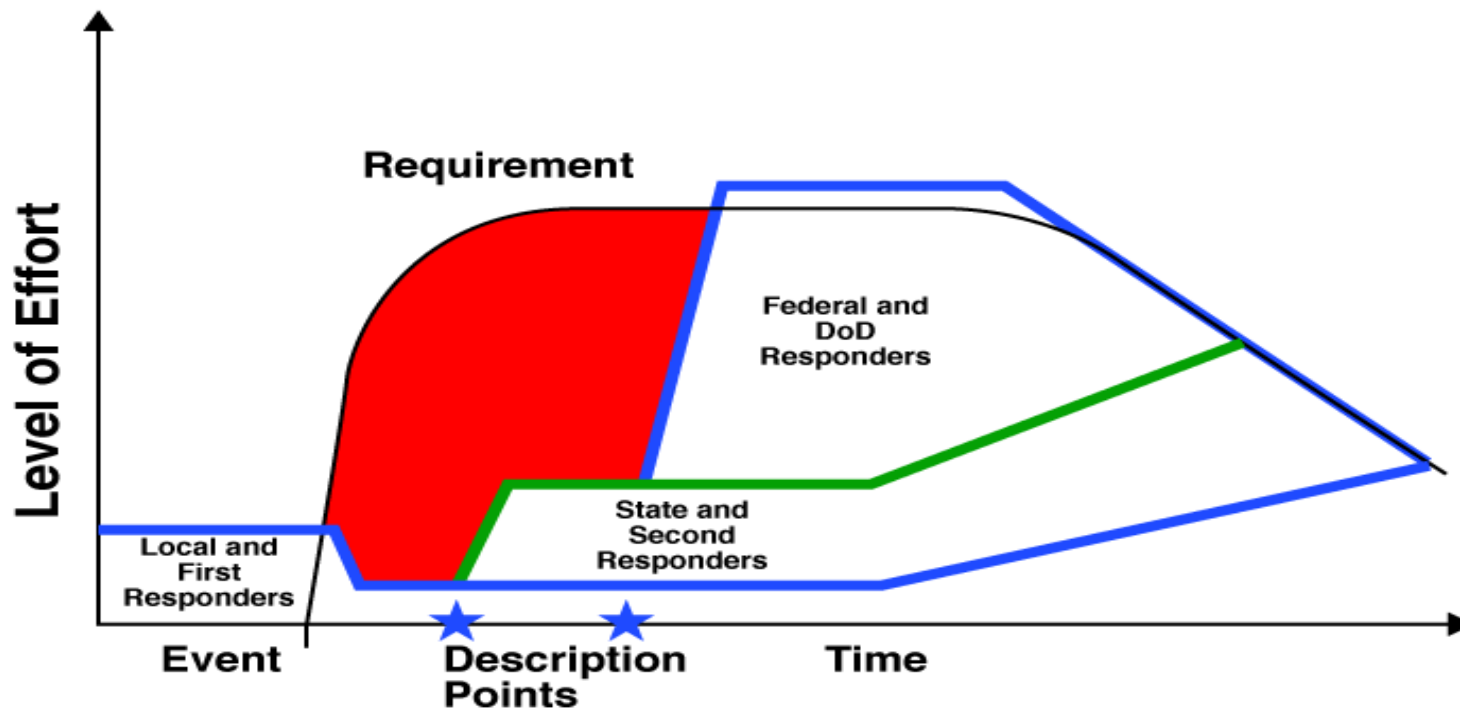
Systemic Problems "Gap of Pain"

Response to a Catastrophe

As cited in the Joint Center for Operational Analysis, United States Joint Forces Command Report on Hurricane Katrina, Aug-Sep 05
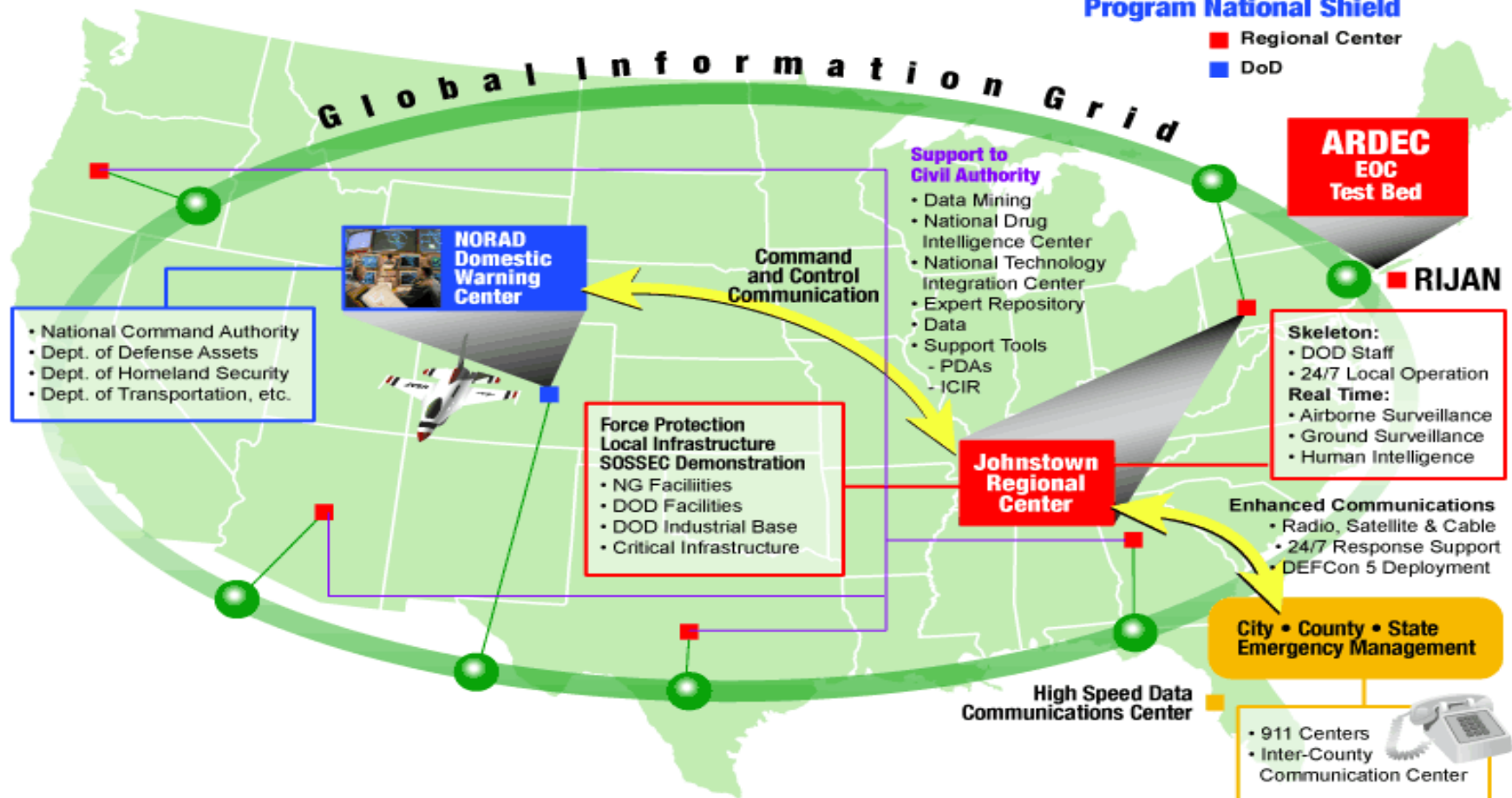
PNS Program Integration

Conceptual
National Model Implementing
ARDEC's PNS

PROPOSED PROGRAMS

- Project National Shield (PNS) National Enterprise Architecture Framework Development (NEAFD) Initiative
- Hospital Emergency Planning Integration (HEPI) Phase II
- Hospital Emergency Planning Integration (HEPI) Phase III
- Joint Continental United States (CONUS) Communications Support Environment (JCCSE) Integration with State Operations (Pennsylvania National Guard - PANG)
- Regional Integrated Command Center (RICC) Operations Program Phase III
- Northern Middle Tennessee Integrated Command Operations Program (NMT-ICOP) Phase I
- Northern Ohio Integrated Command Operations Program (NO-ICOP) Phase I
- Northern Ohio Integrated Command Operations Program (NO-ICOP) Phase II
- Western New York Regional Integrated Command Center (WNY-RICC) Operations Program Phase I
- Northern Texas Regional Integrated Command Center (NTX-RICC) Operations Program Phase I
- Delaware River Port Authority Strategic Deterrence Initiative (DRPA-SDI) Phase I
- Region 2 Integrated Command Operations Program (ICOP) Phase I
- Wyoming Valley Integrated Command Operations Program (WV-ICOP) Phase I
- Northern Indiana Regional Integrated Command Center (NI-RICC) Operations Program Phase I
- A Context-Aware Alert Management System for Data Integration and Analysis
- Interoperability Framework for Secure Information Sharing
- Project National Shield Integration Center
- Continuation of the SOSSEC (Force Protection) Demonstration for the Pennsylvania Army National Guard
- Integrated Emergency Operation Center (IEOC) Evolutionary Paper
- Regional Emergency Operations Center Implementation: Establishing Institutional Relationships & Technology Integration for Coordinated Emergency Monitoring & Response
- Assuring a Decisive Response to a Catastrophic Incident: Creating a Regional System of Systems in Support of the PNS REOC Concept.
- First Three Hours Response.

SOSSEC MISSION

Seven Mission Areas:

Research Area
Technology Transition
System Engineering
System Acquisition
Consultation
Awareness
Training

RESEARCH AREA

SOSSEC works with its members and affiliates in government, industry and academia to test new and emerging tactics, techniques, procedures and technology to Homeland Defense, Homeland Security and Force Protection problems. It provides members/affiliates access to test facilities, basic research, workshops and the SOSSEC core research program.

Core Research

Goal of the core program: Human factors and investigation into tactics, techniques and procedures to adapt the technology to the needs of responders in the field, to reduce workload, faster response, provide more focused response, simplify processes and reduce maintenance costs.

    Bridge the "gap"
        Career field
        Human Factors
        Interoperability
    Product Evaluation
    Domain Specific Architecture Product Line of EOCs

TECHNOLOGY TRANSITION

One of SOSSEC's primary goals is to hasten the application of new tactics, techniques procedures and technology to Homeland Defense, Homeland Security and Force Protection. SOSSEC, working with its members and affiliates, identifies and aids in maturation of selected research technologies and licensing these technologies to its members and affiliates.

> DOD Technology repackaging and licensing
> SOSSEC developed products
> > Training
> > Software
> > Other

SYSTEM ENGINEERING

SOSSEC members conduct a number of programs for the federal government and local municipalities dedicated to improving the nation's ability to respond to threats. Applying advanced system engineering principles, SOSSEC unites these programs into a "System of Systems" framework based upon industry standards-based enterprise architecture and sound principles of interoperability.

- Development of program requirements based on system-of-system paradigm
- Program execution within system-of-system paradigm
- Development of system engineering principles for system-of-systems integration of programs

SYSTEM ACQUISITION

SOSSEC works with the acquisition community to improve the acquisition processes for Homeland Defense, Homeland Security and Force Protection. These studies and recommendations are structured to address impediments in the acquisition policies and procedures that restrict rapid deployment of advanced solutions to Homeland Defense, Homeland Security and Force Protection problems.

- Develop new and novel acquisition strategies and approaches, and test approaches in "test" acquisitions
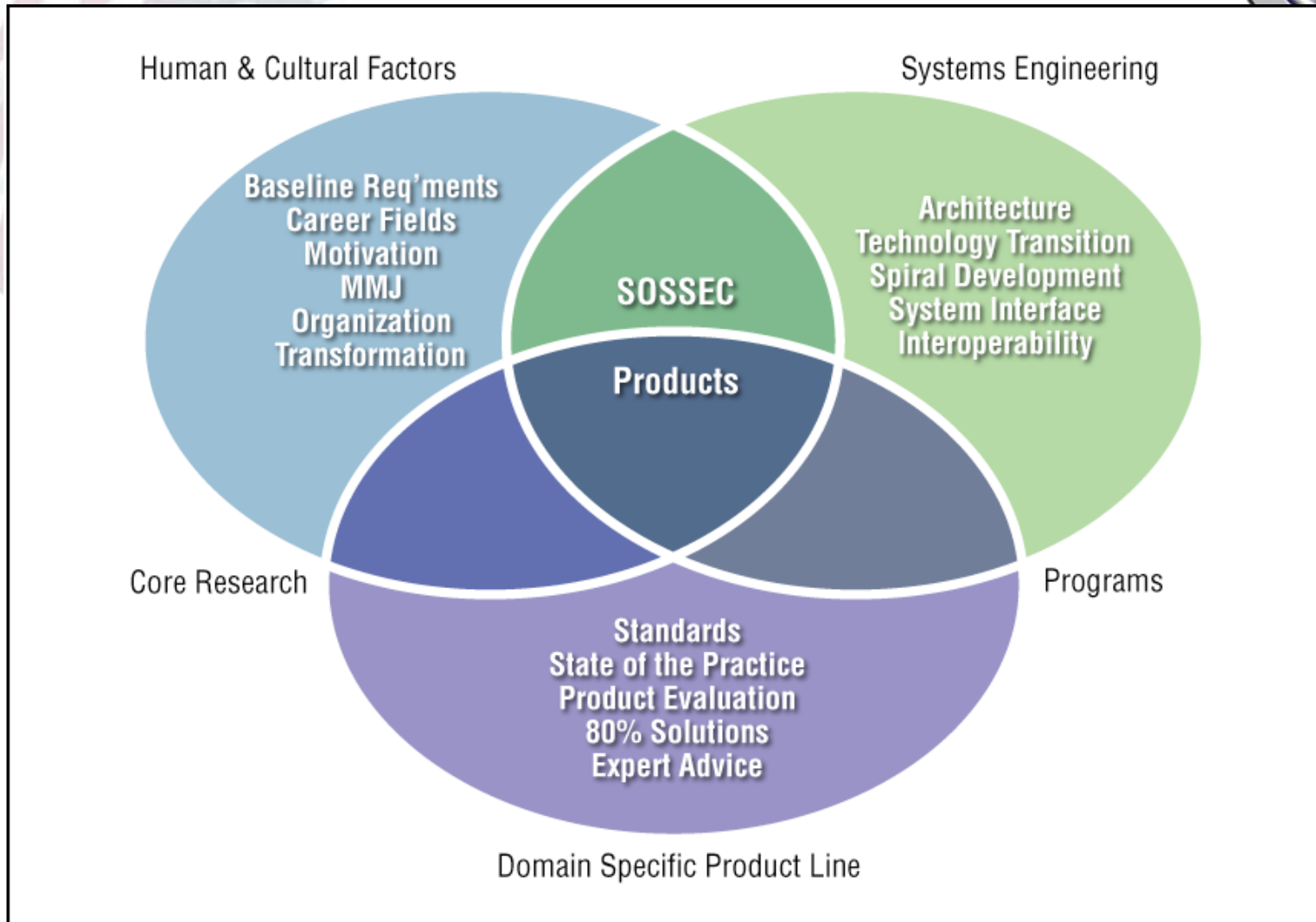- Streamline acquisition methods
- Off-the-SOSSEC-shelf sole source
- Identification of impediments to acquisition interoperable systems

# THE SOSSEC PARADIGM

SOSSEC Paradigm

SOSSEC CONSORTIUM

Informally formed in September 2004 via MOA.

Formed in September 2007 as an unincorporated Consortium via a membership agreement (corporate charter).

Currently forming a C Corporation (filing in process).

10 members signed the original membership agreement.

Business base of $1B+.

Wide range of experience and capability.

22 proposals deemed acceptable by the Army.

7+ active programs.
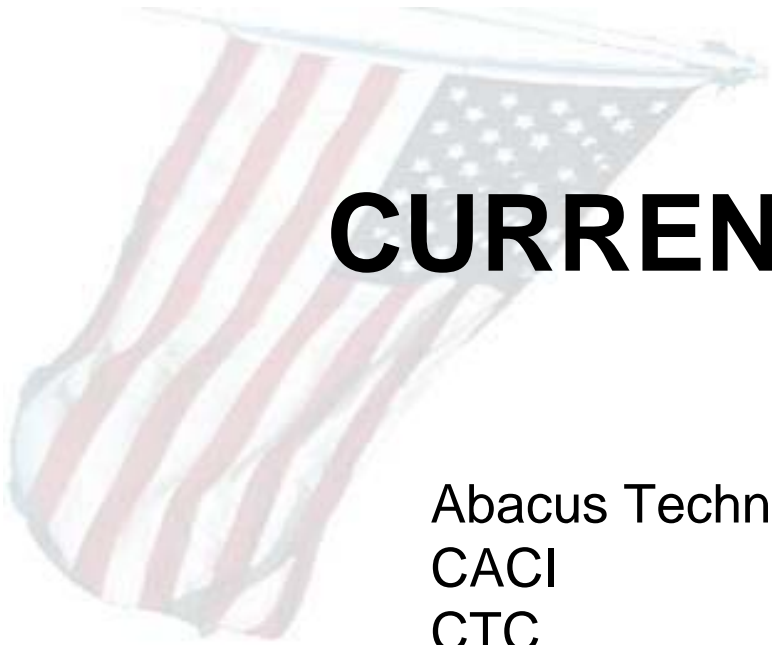
CURRENT MEMBERSHIP

Abacus Technology

CACI

CTC

DDN Incorporated

Drexel University

EPSS Central

FirTH

L. Robert Kimball

MATRIC

MountainTop Technologies

Rutgers University

SOSSEC VALUE PROPOSITION

What is in it for the members?

Access:

To Congressional delegations as a critical mass.

To DOD technologies by being government sponsored.

To each other's technologies for mutual benefit.

Legitimacy:

As sponsored by the US Army, instant recognition and a force for excellence in the field of Homeland Defense/Homeland Security.

Opportunity:

"The whole is greater than the sum of its parts"*

Providing a marketing arm across company disciplines.

Configuring teams to address programs greater than any one member.

*non-Euclidian scholar

GOALS

At The National Level:

Cost effective solutions applicable to diverse regions and locales.

DOD technology transfer opportunities and benefits.

Loose federation and standardization across regions with local implementation.

Model for collaboration across organizations.

At The State and Local Level:

Program recognition outside local implementation area.

Benefits from lessons learned and money spent in other regions.

Seamless collaboration across geographically dispersed regions.

Alignment with NIMS and National Response Plan.

To The Membership:

DOD sponsorship.

Access to DOD and other member technologies.

"Team" expertise and exposure.