

SPIRIT

Strategic Planner Integrating Regional Infrastructure Technology

Since the terrorist attacks of September 11, 2001, our nation has had a new charter: a focus and priority on protecting our country's citizens and key assets. Five years later, government, military, and civilian responders are still learning how best to combine their strengths to support this charter. Many innovative technologies have been developed to meet the needs of responders. However, a key element remains absent: A systematic, technical analysis "*tool*" for identifying critical regional assets and their dependencies; and baselines by which to evaluate the impact of various threats on specific regions.

Strategic Planner Integrating Regional Infrastructure Technology (SPIRIT) fills this void, providing a means of identifying and predicting how the failure of utilities, infrastructure, or other services impacts a region. Furthermore, SPIRIT predicts future events based on regional response efforts, providing emergency managers with an unprecedented understanding of system interdependency and regional impacts. Invaluable during a catastrophic event, SPIRIT also enables emergency managers to develop strategic response plans and to generate realistic scenarios for training purposes. This predictive model enables regional managers to make split-second, data-driven decisions: prioritizing assets, recognizing interdependent facilities and services, and identifying down-the line impacts and risks.

SPIRIT provides:

✦ **Criticality:**

The "criticality" of specific facilities changes depending on the scale of a catastrophe and the region involved. A facility assessed as critical at a local level may be less consequential at the national level. Understanding criticality on a "mission-dependent" scale ensures that defensible, accurate priorities are created and funded, both regionally and nationally.

✦ **Inter-Dependency:**

Once identified as critical, a facility must be assessed for its impact on the region. The utilities and support system infrastructures operate and interact through systematic, mutual support and resilience. Interruption of that chain of support will generate predictable, cascading impacts. Today, emergency managers cannot quickly predict these impacts, but must react as each crisis emerges. SPIRIT fills this void by allowing decision makers to identify and counteract impending threats, effectively preventing the cascading flow of disaster.

✦ **Training:**

Once regional criticality and dependencies are identified, the data can be used to train, exercise and educate workers in realistic scenarios that derive results based on real operating conditions. SPIRIT's interactive software offers a "video game" approach to exercises, enabling a user to assign available resources to failed key assets in an attempt to maintain regional resilience.

SPIRIT consolidates disparate data, implements NIMS compliant policies, overlays existing infrastructure data onto a geospatial display, and provides a user-friendly interface to model and analyze potential impacts of natural disaster or terrorist attack for emergency planning and real time response.

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