

In an increasingly interconnected world, neither the public nor the private sector can claim sole stewardship of the critical infrastructure. These interdependencies require new kinds of coordination in a variety of areas, particularly in response to incidents that threaten the stability of the critical infrastructure. Recent events such as the World Trade Center attacks and Hurricane Katrina have generated new discussions among stakeholders about the coordination necessary to ensure continuity of operation of the critical infrastructure. The federal advisory boards formed to review these events have cited the need for both stronger national as well as regional preparedness, while also noting a broad recommendation such as this must be tailored to meet the needs of specific regions. This is particularly the case for the telecommunications infrastructure which, while privately owned, is regulated by government. As a result, the federal government is focused on increasing response capability through increased coordination across sectors. Success in efforts at the national level together with encouragement from the telecommunications community have raised questions among states and localities as well as providers about the creation of regional coordination of telecommunications incident response as a complement to existing state and local level incident response capabilities.

In 2006 the New York State Department of Public Service (DPS), as a key actor in the national and regional telecommunications community, began to engage in discussions with other key actors about regional coordination of telecommunications incident response. Encouraged by interest from stakeholders, DPS partnered with the Center for Technology in Government (CTG) to organize a preliminary discussion among members of the regional telecommunications community. CTG brought together representatives of telecommunications providers, state emergency management agencies, federal communications agencies, state regulatory authorities, state departments of homeland security, state cybersecurity and the financial sector on March 28, 2007 for a one-day workshop. The workshop participants engaged in discussions about the value proposition of coordinated response capability, explored varying perspectives on the current state of affairs, brainstormed strategies for increasing regional response capability, and concluded the session by producing a set of conclusions about the current state of affairs and a set of recommendations for next steps in exploring regional coordination efforts.

The overriding value of a coordinated effort was identified as the continuity of government and the dominant strategy for achieving this continuity was recognized as securing access to real-time data to support informed decision making across each of the four stakeholder groups; government, the providers, the private sector and citizens. Workshop participants agreed that the telecommunications community needs to invest in public trust and demonstrate their ability to keep functioning in a time of crisis. From the telecommunications provider viewpoint, securing the telecommunications infrastructure and providing rapid and cost effective incident response was considered a matter of stewardship – “stewardship of the network, the organization, and the confidence of the citizens and regulators that providers will be able to restore service in the most efficient and effective manner possible. The challenges to these efforts come from both physical barriers to obtaining credentialing to gain access to restore services and the limited capability to share time sensitive information.” Participants agreed greater coordination is key to overcoming these challenges.

Overall, participants agreed that regional coordination of telecommunications incident response should continue to be explored as a strategy for ensuring continuity. One participant noted, “It’s intuitive that it’s a good idea to do this. Sharing information will help us respond better.” However, participants recognized the importance of a detailed and thorough exploration of the idea. Clarity of purpose and value were considered paramount. In the words of one participant, “Continue to clarify what you’re trying to accomplish because if there’s a good, compelling reason, there should be lots of support.” Regardless of the specifics of the exploration, participants called for full representation of stakeholders in the process, clarification of roles and responsibilities both in terms of leading and participating in the exploration itself and in the strategies for regional coordination considered as part of the exploration. Participants agreed the greatest challenge to any multi-organizational collaboration is in the creation of a governance structure. The exploration would therefore need to generate insights on strategies and best practices in this area.

Five recommendations emerged from the discussions to guide the exploration. The participants urged that, first and foremost, management principles for the coordination study should be jointly developed by a multi-sector group and these principles, once established, should be used to guide the implementation of the additional recommendations. The second and third recommendations address the issue of knowledge gaps. Each participant had knowledge of their own organization, but recognized the lack of sufficient knowledge and opportunity to collectively identify processes and practices and to look for optimization and coordination opportunities across organizations. The fourth recommends an investment in analysis of the current flow of information to determine performance criteria and areas for improvement. Finally, participants recommended that DPS and others continue to seek support and funding for this exploration through state, regional, federal and private sources.

Recommendation # 1 Jointly establish guiding principles

Bring together the key actors from across the sectors to collaboratively establish guiding principles to steer continued work in this area. For example, the principle of “collect once – use many times,” if widely adopted, might result in more information sharing across organizations.

Recommendation # 2 Conduct current practice research

Current and best practice research regarding regional coordination of infrastructure incident response must be completed. The research should specifically focus on regional coordination of telecommunications incident response, as well as models for the governance and information sharing agreements of existing regional response efforts.

Recommendation # 3 Increase knowledge about current information resources, practices and capabilities

Regional coordination should not duplicate response capabilities in either the public or private sectors; this was very strongly communicated by stakeholders both before and during the workshop. However, it became evident throughout these discussions that the current knowledge of all parties did not provide a full picture of what currently exists. Without this knowledge it is impossible to assess if there are in fact duplicative efforts. Participants recommended that each of the primary stakeholders perform an assessment of their own organizations' informational needs and resources, as well as their capability to share information across organizational boundaries, to determine what information they will be willing to share with the larger community.

Recommendation # 4 Invest in process improvements

A number of the participants stated before and during the workshop that any future efforts should provide value to all stakeholders in order for them to participate. One way to identify value was to look at the current flow of information to determine if there was in fact a better way for information to be shared. The concept of collect once – use multiple times became a common theme in these discussions. The information flow models need to be developed through collaborative group model building sessions to allow for shared understanding. Analysis of these models will inform decision making about process improvements, if needed. This effort will also provide the opportunity to increase the capability of telecommunications incident response by providing collaborators with additional knowledge that may not have been available before. Through this process it may be found that these improvements may or may not include regional coordination.

Recommendation # 5 Secure funding for continued exploration

A comprehensive study of the potential value of a regional coordination effort will require new resources. The cost of this effort will exist primarily in coordinating the serious and consistent involvement of the many stakeholders necessary to ensure representative and well-informed recommendations are produced. Funding sources, such as state and federal emergency and homeland security agencies, should be contacted for possible interest in funding this effort both as an investment in capability in the northeast region and as a model process for other regions throughout the States.

A number of conclusions emerged from the discussion regarding the current state of affairs and are put forward below as additional guidance in implementing the five recommendations.

Knowledge gaps exist - A key finding from the workshop is that, regardless of future investments in regional coordination, the gap in current knowledge about the roles and responsibilities of individual organizations in sub-national incidents needs to be addressed. In addition, the knowledge of who has what information at any point in time that could be brought to bear on incident response is unclear.

Roles and responsibilities are unclear – Participants were unclear about who is responsible at what point in time in the event of an incident. This lack of clarity about responsibility, or “who is in charge” at the regional level, echoes findings in the President's National Security Telecommunications Advisory Committee (NSTAC) Report to the President on the National Coordinating Center (May 10, 2006), which was used as background for this project.

Currently held information resources can be leveraged - Regional incident response requires leveraging currently held information resources in innovative and potentially more efficient ways, as well as the establishment of new business processes, communication flows, and a system of governance that satisfies the needs of all stakeholders.

Trust and collaboration are pivotal - Trust, collaboration, and timely cross-boundary information sharing play a

pivotal role in this coordinated response. Trust is built when government partners and telecommunications providers are able to work collaboratively to restore service in a cost effective and efficient manner. This type of collaboration creates conditions that allow for continuity of government, which in turn builds citizen's trust in government.

Quality and timely data - Receiving detailed information quickly becomes especially important in regional, multi-state, or multi-jurisdictional responses. Real-time data and cross-organizational information sharing are even more significant in the smaller, localized events where only one critical infrastructure is involved. A telecommunications incident response can be severely hindered if the response team lacks quality and timely data. Having knowledgeable workers as near to the "ground" as possible and having access to a "clearinghouse" for information were identified as being two important aspects of increasing response capability.

Contextual knowledge matters - Contextual knowledge of the region is imperative for decisions concerning resource distribution, response time estimates, and deployment of special equipment in response to an incident. Sharing information alone will not help refine the response; knowing what information was important within the context of where the incident occurred and what items are needed for restoration of service was viewed as being equally valuable as the sharing itself.

National Communications System (NCS) may provide a model - The NCS roles and responsibilities as documented through the NRP is one example of information sharing and disaster management model in the event of a national incident (further details about the NCS and other regional collaboration models are located in Appendix 3 Current Practice Review). The question remains, however, to what extent might a similar model be relevant when an incident was localized to either a specific geographic area or jurisdiction beneath the federal radar?
