The Loss Matrix Theory (Part Two)

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In Part One of The Loss Matrix for Federal, State, and Local Governments we touched upon many critical areas that could be affected during a manmade (e.g., terrorist attack, oil spill, etc.) or natural (e.g., earthquake, hurricane, tornado, etc.) catastrophic event. Subsequently, this subject was looked in greater detail via the Strategy Markup Language (StratML) Private & Public Sector Uses report co-written with Ranjeeth Kumar Thunga. In Part Two of the Loss Matrix we look at a framework (structure) to better portray the overall severity of an event and, or events. This piece should be viewed as more of an addendum or footnote because it leverages off the aforementioned two works regarding this subject.

Using Mozart and Beethoven Models

The objective is to look at things from a different perspective than current risk models and examine examples that are both highly complex and sophisticated. Symphonies of Mozart and Beethoven come to mind. *Please Note: Mozart's early symphonies used an Italian (3 Movements) model, while his later ones leveraged German (4 Movements) variants. Beethoven's works took a similar path, but he then expanded to 5 Movements in his last symphonic work to create a greater sense of weight and grandeur.*

Say the Napa quake (6.0) of 2014 was like Mozart's 14th in A major with 3 Movements, The Loma Prieta quake (7.0) of 1989 was like Mozart's 41st in C major with 4 movements. Last, but not least, The Great 1906 quake (8.0) was like Beethoven's 9th in D minor with 5 Movements. Each more powerful via number designation, number of players, and overall magnitude. Our current risk models, while quite valuable do not take a true holistic view regarding the disruption of the following.

Communication Systems (cellphone, internet, radio, etc.)
Gasoline Stations (fuel availability)
Garbage Removal & Disposal Services
Sewer Systems
Transportation Systems (roads, railways, and airports)
Utilities (water, gas, and electric)

Hence, each type of event has a different structure, much like a symphony. For example, communication systems could equate to the reed section, Utilities to strings, so on and so forth.

Old and New System Compatibility

In the co-written, StratML Portal - StratML Exchange - StratML Mater Repository Mr. Thunga and I look into integration with current systems that include National Incident Management System (NIMS) and Incident Control System (ICS) to expose how new technologies may be leveraged. There seems to be two logical paths regarding Enterprise deployment. First, the solution could be integrated alongside such efforts as NIMS/ICS. Second, it could be a standalone and used as the backbone for Emergency Management models that may be expanded and improved upon on an ongoing basis.

Forward

Accordingly, once a path is chosen then the pieces must be assembled to reach the desired performance goals and objectives. Because complexity is a parallel shared by both symphonic works and IT ecosystems, taking a holistic approach that promotes synchronization of the components seems to be logical path to follow.

References

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Incident Command System (ICS)
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