

# **Risky Business: Modeling Potential Costs and Risk using Triplets.**

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## **Abstract**

As threats to system security have escalated and network complexity increased, selection of an appropriate set of counter-measures or information assurance supports is rapidly becoming a new "**art form.**" In the presence of any known set of threats and fixed counter-measure/information assurance supports, some assessment of cost and level of exposure can provide an insight into an organization's level of risk. Unfortunately, knowledge of the set of threats is (at best) imperfect and the possible responses to potential threats continues to expand. Taking information about possible responses together with the specifics of an organization's assets, provides many potential solutions which have associated costs and associated levels of remaining risk. This paper discusses initial efforts to model the elements of risk, response, and asset specification to provide cost estimates. Where feasible the model incorporates pre-specified default values for costs, asset configurations, risk likelihoods, and levels of threat effectiveness which can be replaced by empirically derived organizational values. The set of vocabularies for knowledge representation of the different data sources needed is based on the Extensible Markup Language (XML). XSL-T (Extensible Style-sheet Language – Transforms) is used to provide platform independent representations of web page production systems of interpretations of the different forms of data used to do the modeling.