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Automated Threat Information Generation

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Changing the World's Energy Future

Idaho National Laboratory

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Automated Threat Information Generation

College of Engineering and Applied Science Computer Science

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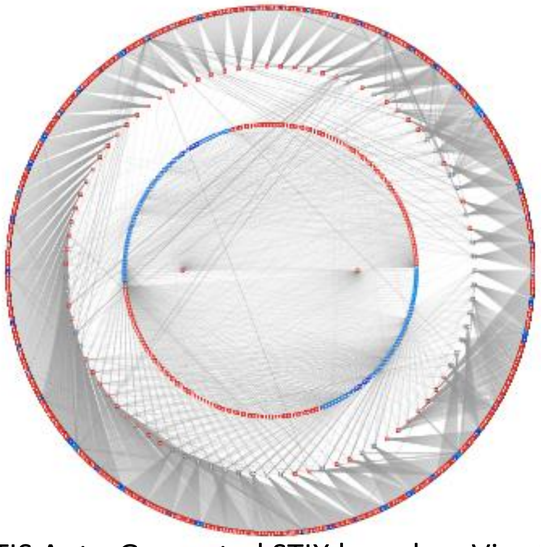
CEDAR

Introduction

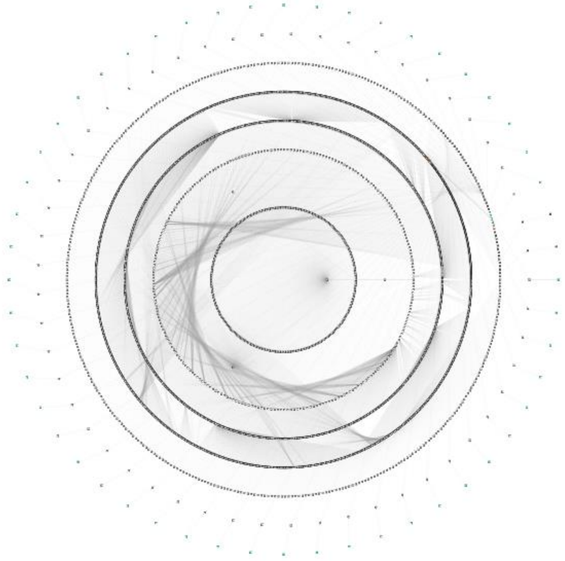
- Harvesting threat information manually is time consuming
- With hundreds of thousands of new malware samples being up uploaded to malware repositories every day, there is no way to manually stay up to date with emerging trends
- Automated threat information generation combats this problem by quickly analyzing, translating, and expressing threat intelligence in a computer readable, standardized language

Why Should You Care?

- Good data allows us to facilitate future research
- Automated data collection allows many different avenues for analysis which can help us better understand emerging trends, malware behavior, and our own security posture
- Automation allows us to gather data quickly so that we always have the most current dataset
- The quicker the response time and implementation of preventative measures, the more systems that are protected



ATIS Auto-Generated STIX based on VirusTotal Darkside Malware Report



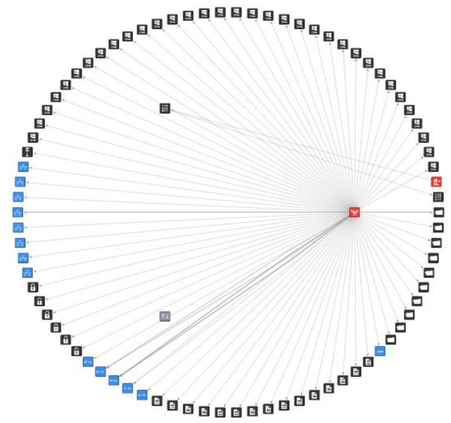
Autodiscover IX Toolset Auto-Generated STIX based on Odroid Board Scan

Contributions

- Use cases and development for the Autodiscover Infrastructure eXpression (IX) toolset
- Data analysis for the Cape2STIX toolset supporting Automated Malware Analysis (AMA) LDRD
- Creation and development of the Automated Threat Intelligence to STIX (ATIS) Software gathering from VirusTotal and Malware Bazaar supporting Deep Learning Malware.

Impacts

- Increased vendor security posture
- Detected trends in malware sample data
- ATIS framework allows for top level analysis and a quick understanding of new or specific samples



Cape2STIX Auto-Generated STIX based on PE Malware Sample

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