Vertex

Synapse Bootcamp

Module 18

Reports, Articles, and the Spotlight Tool

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Objectives

- Describe "reports" as they relate to Synapse
- Know the model elements used to represent reports
- Understand options to ingest reports into Synapse
- Know the key features and use cases for the Spotlight Tool

Reports in Synapse

Reports and Threat Intelligence

- We **consume** numerous reports for threat intel
  - Threat reports (blogs, whitepapers…)
  - Vulnerability reports
  - News reports / articles (breaches, compromises, current events…)
  - Internal reports (incident, audit…)
- How can we:
  - Get various types of reports into Synapse
  - Make the report content more useful / accessible for our analysis?

Reports vs. Feeds

- With reports, the content is typically **prose**
  - Largely **unstructured**
  - Link data of interest to the **report** or **article**

```
media:news -(refs)> *
```

- With a feed, content is typically **data**
  - **Structured** data, often from API
  - Typically IOCs, sometimes with labels for context
  - Link data of interest to the **data source**

```
meta:source -(seen)> *
```

How Does Synapse Model the Data?

Real World Data to Represent	Examples	Synapse Model Element
The source of the reporting	An online blog (HTML) or whitepaper (PDF) A news article A list of indicators (CSV, TXT) An internal report or document	`media:news`
	An online post (social media, forum, etc.)	`inet:service:message` (new) `inet:web:post` (old)
	A conference presentation	`ou:preso`
A **source** contains or talks about ("references") something	A blog lists IOCs A whitepaper contains MITRE ATT&CK elements A news article describes a person, attack, conference, event…	`-(refs)>`
The thing the source talks about	A set of IOCs A specific attack or campaign A targeted company or individual A conference	Any relevant form "referenced" by the source

What Can I Model?

Kind of Data	Examples	Example Forms

Indicators	Hashes, domains, IP addresses, URLs...
	File names, file paths
	Registry keys, mutexes, commands executed...
		`hash:md5`, `inet:fqdn`, `inet:url`
		`file:base`, `file:path`
		`it:dev:regkey`, `it:dev:mutex`, `it:cmd`

Related reports	Additional links (references, citations)	`inet:url`
TTPs	MITRE ATT&CK elements CVE numbers / vulnerabilities	`it:mitre:attack:*` `it:sec:cve`, `risk:vuln`

Threats	Threat group names
	Malware family names
	Campaign / operation names
		`ou:name=waterbug`
		`it:prod:softname=seduploader`
		`ou:campaign:name=clandestine_wolf`

Targets, attacks	Companies, people, web sites Attacks / campaigns / compromises	`ou:name`, `ps:name`, `inet:url` `risk:attack`, `ou:campaign`, `risk:compromise`
Data of note	People, organizations, conferences, generic events	`ps:person`, `ou:org`, `ou:conference`, `meta:event`

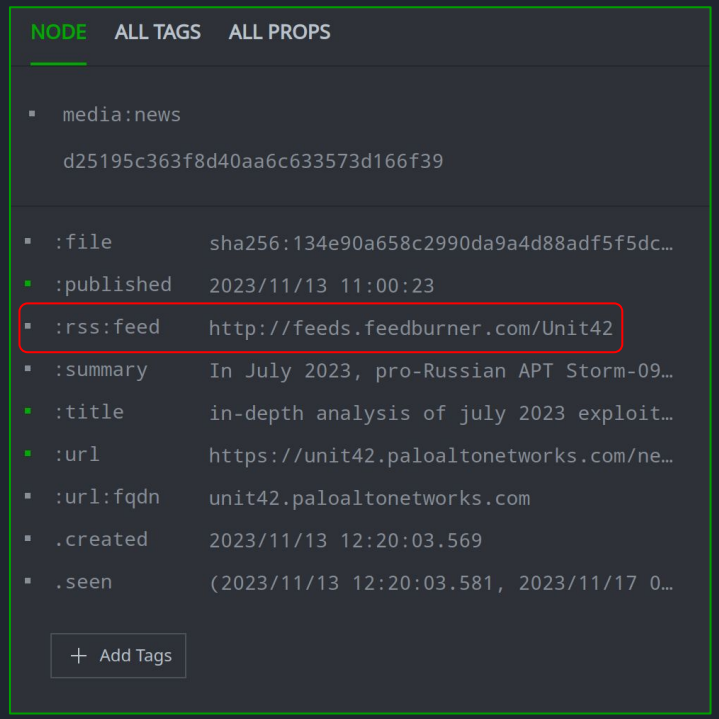
The amount of data / information you want to extract and link to reporting is up to you!

Automating Report Ingest

- So far we have mostly pasted in / created indicators
  - Have not created / modeled reports
- To **automate** ingest, we may want to:
  - **Model** the report (create a `media:news` node)
  - **Extract** and **link** key information
  - **Tag** nodes for context
  - **Index** the report content
- Synapse **Power-Ups** and **Tools** can help

Synapse-RSS

- Download and process feeds (RSS/Atom)
- Specify feed URLs
  - Tag URLs for simplicity (e.g., `#vtx.auto.rss`)
- Synapse-RSS will:
  - Create a `media:news` node
  - Save content as a `file:bytes` node
  - Use synapse-fileparser to extract IOCs
  - Link IOCs to **both** the `media:news` and `file:bytes`
- Options to:
  - Save as PDF (vs HTML), disable parsing



Other Power-Ups

- Some vendors include APIs that provide reports
  - Synapse-AlienVault
    - AlienVault pulses
  - Synapse-MISP
    - MISP events
  - Various commercial vendors
- "What" Synapse can model depends on the data provided by the vendor

Power-Ups Demo

Spotlight Tool

Automation

- Automation is better than hand-modeling reports!
- Drawbacks:
  - Can only extract / link:
    - Objects that can be extracted by the FileParser
    - Objects returned by an API (usually atomic indicators only)
  - Can only apply tags returned by an API
- This limits:
  - The types of data (nodes) automation can represent
  - What tags (if any) are available to provide context to data

How do we automate report ingest
while capturing additional data and rich context?

Spotlight Tool

- Automate ingesting and processing reports
- Ingest any PDF or URL
  - Identify (or create) associated `media:news` node
  - Save content as PDF
  - Extract and link common indicators for review
- Analyst can:
  - Review data
  - Add to Synapse
  - Tag indicators
  - Leverage Research Tool features directly from Spotlight
    - Query, run Node Action…

Spotlight Demo

Summary

- Leveraging **reports** is a key CTI process
- Synapse ingests reporting using:
  - **Power-Ups**
    - synapse-rss, synapse-alienvault, synapse-misp…
  - **Spotlight Tool**
    - Ingest, extract, review, and tag relevant data
- Automation is best for **throughput**
  - Load more data faster
- Analyst processing is best for **detail**
  - A human captures more / richer information than a process
- **Spotlight** combines both methods