If It’s Worth Sharing, It’s Worth Sharing Right
Technical, Policy and Legal Considerations of Cyber Threat Intelligence Sharing

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NCCIC

- Strives for a safer, strong Internet for all Americans by responding to major incidents, analyzing threats, and exchanging critical cybersecurity information with trusted partners around the world
- We are *not* regulators or law enforcement or intelligence or defense
- We are specially trained in handling private, sensitive and proprietary data, protecting it and sharing it appropriately to improve cybersecurity and infrastructure protection
Some Assumptions…

- You already know you *need* to share cyber threat intelligence (CTI)
- You already know you *want* to share CTI
- You want to benefit from the lessons learned by others
DHS Automated Indicator Sharing (AIS) Initiative

Automated, near real-time indicator sharing ecosystem built on STIX/TAXII

Designed to foster widespread sharing of CTI – specifically indicators

Launched in 2014

Updated as a result of the Cybersecurity Information Sharing Act of 2015 (CISA)
DHS Automated Indicator Sharing (AIS) Initiative
CISA Highlights

- Authorizes sharing of cyber threat indicators and defensive measures (gives legal clarity)
- Extends liability protection to entities that share this information
- Designates DHS as the “portal” for sharing
- Requires DHS to implement a rigorous set of protections – specifically around protecting personally-identifiable information (PII)
Protecting Privacy and Civil Liberties

- DHS has taken careful measures to ensure appropriate privacy and civil liberties protections are fully implemented in AIS and are regularly tested. The Department has published a Privacy Impact Assessment of AIS.
- To ensure that personally identifiable information (PII) is protected, AIS has processes which:
  - Perform automated analyses and technical mitigations;
  - Incorporate elements of human review on select fields of certain indicators to ensure that automated processes are functioning appropriately;
  - Ensure any information collected is used only for network defense or limited law enforcement purposes
So What Did We Learn?

- Everything depends on trust
- The technical stuff is important but must serve the legal/policy-based goals
- Designing and documenting scalable and repeatable processes is essential
- Metrics, metrics, metrics
The Legal Front...

- Engage counsel early in the process
- Don't pre-judge what are “legal issues” – explain the whole process
- Be clear on what you are sharing, who you are sharing with and the purpose of the sharing
- Be on the lookout for intellectual property concerns
- Craft agreements that set out general principles and guidelines where possible (avoid excessive specificity)
The Policy Front…

Some key questions:

- Who “owns” the data you want to share?
- Who decides what to share and who to share it with?
- What do you want recipients of the data to be able to do with it – what restrictions apply?
- What about anonymization?
- Are there restrictions on what data you can/will accept from others?
The Technical Front…

- Need to implement according to legal and policy decisions
- Build on top of open standards
- Public Key Infrastructure (PKI) will be harder than you think
- Your sharing infrastructure will be a target – build security in from the beginning and at every layer of the stack (you will spend more on security than you expected to)
- Engineer to collect/generate metrics from the beginning
- But be careful about logging and how it might run afoul of policy
- Think ahead about how the system will be audited
Connecting to AIS

AIS is available for free to all private sector entities; federal departments and agencies; state, local, tribal, and territorial governments; information sharing and analysis centers (ISACs) and information sharing and analysis organizations (ISAOs); and foreign partners and companies.

Steps:

- Agree to a short Terms of Use.
- Set up a TAXII client: organizations that do not already have a TAXII capability can use the specification documentation to build their own, use the open-source DHS TAXII client available on GitHub or purchase a commercial capability.
Connecting to AIS (cont.)

Steps (cont.):

- Technical connectivity activities: purchase a PKI certificate from a commercial provider, provide your IP address to DHS, and sign an Interconnection Security Agreement.
- Connect directly to the DHS-managed system. You can also share indicators with DHS through a participating ISAC or ISAO.
For more information, visit www.us-cert.gov/ais