COST: $$**$$ **IMPACT: MEDIUM   **COMPLEXITY: MEDIUM**

> **2.P:** Does the WWS maintain updated documentation describing network topology (i.e., connections between all network components) across WWS OT and IT networks?
>
> **Recommendation:** Maintain complete and accurate documentation of all WWS OT and IT network topologies to facilitate incident response and recovery.

Why is this control important?

A well-defined network topology helps System Administrators to locate faults, troubleshoot issues, and allocate network resources. Network diagrams/topologies are an important reference point to diagnose network issues and identify potential security vulnerabilities, as they represent both physical and logical layouts. A complete and up-to-date logical network diagram is essential to cyber disaster recovery.

Implementation Tips

To create an accurate network topology, your WWS should conduct a network survey to validate any known and previously unknown connection pathways. When conducting this survey, include traditional ethernet-based network connections and less traditional pathways such as serial, wireless, dial-up, and line-of-sight communications. Where remote assets (e.g., tanks, lift stations) are present, evaluate how these assets communicate with the WWS network.

Additional Guidance

✓ To be efficient, a WWS can perform a network survey at the same time as the review of asset configuration detailed in Factsheet 2.O and the asset inventory process detailed in Factsheet 1.A. A free and easy-to-use website that can help to build network diagrams is Lucidchart. Microsoft provides a brief breakdown of what to include in a network diagram. CISA's CSET tool is a free version of basic Visio and OT-related graphics for building network topologies.

✓ Consider including the network diagram in the WWS Cybersecurity Incident Response (IR) Plan, or Emergency Response Plan, as this information can be valuable for incident response.

After you complete the network survey, document the results and keep the results up to date. Survey documentation should include details about the specific assets on the network, any connections, and the method used for the connection (e.g., hard-wired, wireless). Your utility should especially focus on systems connecting directly to the public Internet and any communication pathways between the OT (e.g., SCADA) and IT (i.e., business enterprise) systems. Your WWS can perform a network survey at the same time as the review of asset configuration detailed in Factsheet 2.O and the asset inventory process detailed in Factsheet 1.A. A free and easy-to-use website that can help to build network diagrams is Lucidchart. Microsoft provides a brief breakdown of what to include in a

network diagram. CISA's CSET tool has a free version of basic Visio and OT-related graphics for building network topologies.

For effective incident response and recovery, it is essential to maintain complete and accurate documentation of all WWS OT and IT network topologies. This detailed documentation aids in identifying and addressing vulnerabilities. Additionally, it is advisable to incorporate language into agreements with third-party service providers, such as vendors, integrators, and Managed Service Providers (MSPs), that obligates them to support these documentation efforts. Such clauses should ensure that third parties contribute necessary information and assistance for maintaining up-to-date and comprehensive network topology documentation.

Consider including the network diagram in your Cybersecurity Incident Response (IR) Plan as this information can be valuable for incident response.

Resources

Lucidchart: Lucidchart is a web-based diagramming application that allows users to visually collaborate on drawing, revising, and sharing charts and diagrams and improve processes, systems, and organizational structures.
https://www.lucidchart.com/pages/examples/diagram-maker

Microsoft - Create a Basic Network Diagram: If the WWS uses Microsoft Visio software, this page describes how the basic network diagram template includes standard shapes for servers, computers, and other parts of a WWS network.
https://support.microsoft.com/en-us/office/create-a-basic-network-diagram-f2020ce6-c20f-4342-84f7-bf4e7488843a

DHS CISA CSET Tool: This stand-alone desktop application guides a WWS through a systematic process of evaluating its OT and IT assets including network diagramming.
https://www.cisa.gov/stopransomware/cyber-security-evaluation-tool-csetr