**Task 1**

**C768 – Technical Communication**

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## **Organization Description**

## A1. Products or Services Produced

Newmedic is a non-profit organization based in Brooklyn, New York City. It designs and produces modern and affordable internet connected medical devices, such as insulin pumps and pacemakers. For their market, Newmedic targets underprivileged patients in the United States who often lack the health insurance coverage or financial means to afford necessary lifesaving medical devices. Their competitive advantage …

Security Onion is a free and open platform for threat hunting, network security monitoring, and log management solution.

## A2. Organization Size and Number of Locations

Newmedic began as a company in 2012. It currently retains 300 employees in a single location in Brooklyn, New York. The facility features an office space for administration and operation purposes, attached to an industrial building where rapid prototyping …

## A3. Organization’s Industry

Newmedic occupies both the non-profit and health industries. Their mission is to improve the health outlook for underprivileged patients and the United States as a whole. They experience very little if any competition for their target market, as almost all medical device companies in the United States are for-profit and price their products much higher based on their own target market: more privileged patients with adequate health insurance coverage and the economic status to meet their own healthcare needs.

The organization began as a small startup funded by an initial grant from the United States Government. It was shortly acquired by their parent company …

Note: If you use bullet lists be sure to format and punctuate them properly.

# B. Related Source Research

The chosen topic is Microsoft Azure Sphere, which is a highly secured platform for the Internet of Things and embedded devices. Azure Sphere provides a securely designed microcontroller, an automatically patched and updated operating system for embedded applications to run on, and a managed security service …

## B1. Summary and B2. Importance

**Dealing with High Security Devices**

The Seven Properties of High Secured Devices (2nd Edition) is a white paper written by a research team at Microsoft who would later become the Microsoft Azure Sphere team. It presented their early research defining which seven properties the team deemed highly secured devices to have, and how those properties improve the security posture of a given device. The paper also describes the implementation details of early Azure Sphere prototypes (code-named *Sopris*) in context of each of the seven properties. The goal of the research is “to enable device manufacturers, regardless of industry, to incorporate the highest levels of cybersecurity in every network-connected device they build” (Hunt et al., n.d.).

This source is important and relevant to the topic because it details how and why Azure Sphere devices are considered highly secured. The paper also agnostically …

**Understanding Microsoft Azure**

This source is from the official Microsoft documentation website (Microsoft, n.d.). It covers an overview of what the Azure Sphere product offering is and how it works. It also provides a scenario as an example of the benefits that Azure Sphere brings to a business solution. This business scenario is centered around a smart internet connected dishwasher. The source also introduces the seven properties Microsoft deems as important for highly secured devices. Azure Sphere is then described in detail with these properties as a focus.

This source is important and relevant because it is a direct explanation from the product creator with the technical facts needed to cover the foundations of what Azure Sphere is. It also aligns with Newmedic as a target market …

**Pen-testing and Azure Sphere**

This source is a report posted on Cisco’s Talos focused blog (Bozzato et al., 2020). The Talos team participated in a sponsored research challenge organized by the Microsoft Azure Sphere team in May 2020. This research challenge lasted three months and had the purpose of recruiting pen-testing talent to evaluate Azure Sphere for potential bugs and security vulnerabilities. This report is a write-up of the Talos team’s experience during the research challenge …

# C. White Paper

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Title of your white paper here

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C768 Technical Communication

## Introduction

Newmedic operates on thin margins in order to keep its medical devices affordable and accessible to its underprivileged target market. What Newmedic has accomplished towards its mission already is an impressive achievement. Newmedic is currently shouldering significant risk and resource burden in the areas of device operating system patching, breach containment, and device authentication. Until recently, the costs and needed expertise associated with better securing their IoT devices have been out of reach for Newmedic. This is no longer the case since the arrival of Microsoft’s Azure Sphere product in 2018, which specifically …

Azure Sphere, from Microsoft, is a groundbreaking new modern platform for better securing the Internet of Things (IoT). At its core, it implements defense in depth at a new standard not typically seen for microcontroller architecture and associated connected remote services. Azure Sphere’s product offering secures all layers of IoT: the microprocessor, the operating system (OS), and the cloud service used by the microprocessor. In the product’s documentation, Microsoft (n.d.-b) states that “a primary goal of the Azure Sphere platform is to provide high-value security at a low cost, so that price-sensitive, microcontroller-powered devices can safely and reliably connect to the internet …

Note: The center portion of this white paper example has been removed for brevities sake. In this part of the white paper, you’ll want to focus on the benefits of your topic while adding clarity to how it relates to your organization. Here are the subtopics that were included in this example white paper:

Dynamic Compartments

Trusted Computing Base

Renewable security

## Conclusion

Newmedic’s current security posture for the devices it manufactures is satisfactory but has room for improvement. Recent innovations in the field of IoT (such as Azure Sphere) offer many security and operations related benefits for Newmedic if they were to be adopted. By transferring much of the difficult security management currently needed to a partner like Microsoft by building upon the Azure Sphere ecosystem, Newmedic would free up more time …

# Explanation of Diction

The audience for the white paper was a supervisor at a medical device company. This person has an extensive a technical background, as they spent most of their career as an embedded device engineer before joining Newmedic as a supervisor. Using language and technical jargon at their level of knowledge about embedded devices was therefore appropriate. A deep dive into each of the microprocessor’s architectural layers would not have been …

# References

Hunt, G., Letey, G., & Nightingale, E. B. (n.d.). *The Seven Properties of Highly Secured Devices (2nd Edition)1,2*. 15.

Medical Device Cybersecurity Working Group. (2020, March). *Principles and Practices for Medical Device Cybersecurity*. International Medical Device Regulators Forum. <https://www.imdrf.org/sites/default/files/docs/imdrf/final/technical/imdrf-tech-200318-pp-mdc-n60.pdf>

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