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BCN3023 NETWORK MANAGEMENT

SEM I 2023/2024

PROJECT REPORT

SOLARWINDS NMS PROJECT

LECTURER NAME : HOH WEI SIANG

DATE OF SUBMISSION : 3 JANUARY 2024

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ABSTRACT

The capabilities of SolarWinds, a leading supplier of IT management and monitoring products. The introduction lists the current difficulties that businesses confront in keeping their networks operating at the highest level of performance and security. The goal of this study is to monitor and troubleshoot network issues, increase network performance and ensure the availability of important applications and services.

The methodology employed involves a thorough examination of SolarWinds' key features, focusing on network testing, network topology mapping, performance alerts and notifications, interaction with other monitoring tools and systems, and easy-to-use interface for viewing and analysing network performance data.

The study examines SolarWinds' sophisticated features, simple interface, and capacity to provide enterprises with improved security and real-time visibility via this viewpoint. The report basically presents SolarWinds as a vital resource for enterprises looking to strengthen their IT infrastructure, ensuring efficiency, scalability, and resilience in a constantly changing technological environment.

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ACKNOWLEDGEMENT

We begin by expressing our collective thankfulness to Our God for his direction, whose strength made it possible for us to finish this research. We would especially want to thank Ts. Dr. Hoh Wei Siang for his crucial advice during our journey. We were inspired and determined by our common faith, which was an important factor.

It is our belief that humanity will benefit meaningfully from this cooperative effort. We express our gratitude to UMPSA's Faculty of Computing for providing an environment that is conducive to learning and enabling us to investigate and make contributions to the academic field.

In conclusion, our heartfelt thanks extend to everyone involved, recognizing that our achievements are attributed to the blessings of Our God.

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CHAPTER 1: INTRODUCTION

In our interconnected world, the internet has reshaped collaboration, communication, and information access. Safeguarding the integrity of millions of globally connected devices necessitates a dependable network, where constant monitoring and the Simple Network Management Protocol (SNMP) play pivotal roles. Network monitoring ensures optimal performance, availability, and security by proactively identifying and resolving issues. This involves tracking parameters like bandwidth usage, network latency, device health, and security risks.

SNMP, a cornerstone in network monitoring, facilitates the control and monitoring of diverse devices, offering a standardized framework for data collection. It empowers administrators to remotely manage devices, set up alerts for critical events, and automate tasks, optimizing efficiency. In today's complex network environments with diverse technologies and evolving threats, network monitoring and SNMP have become indispensable for ensuring seamless operations.

Choosing SolarWinds for network monitoring adds a robust layer of comprehensive solutions. With features like real-time analysis, customizable alerts, and automation capabilities, SolarWinds enhances network speed, productivity, and user experiences. It becomes an invaluable asset in navigating the complexities of modern network landscapes, contributing to heightened performance and steadfast security.

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CHAPTER 2: FCAPS ELEMENTS IN SOLAR WINDS

FCAPS is a network management framework created by the International Organization for Standardization (ISO). The working goals of network management are divided into five levels by FCAPS. Fault management (F), configuration level (C), accounting level (A), performance level (P), and protection level (S) are the five stages.

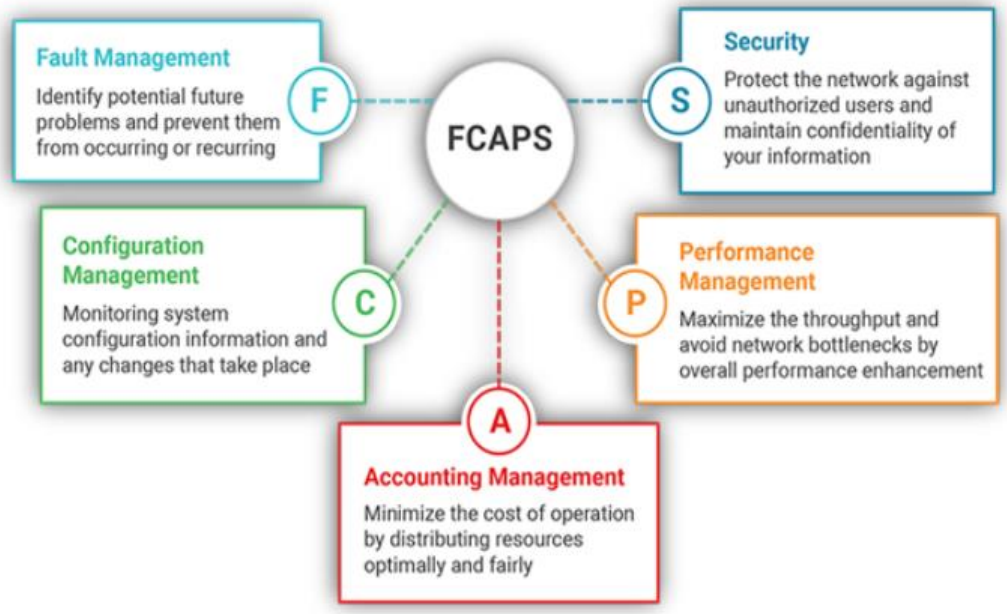

Figure 2.1

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Fault Management

Fault management is one element from FCAPS, posed with fault in the network. Fault management will detect the problem and it will resolve those problems that occur for the network to run smoothly. By using SolarWinds NPM you can quickly view the current node, also the potential problem that might occur in the future and take steps to prevent it from occurring, thus network can continue operating without problems.

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Figure 2.2

Configuration Management

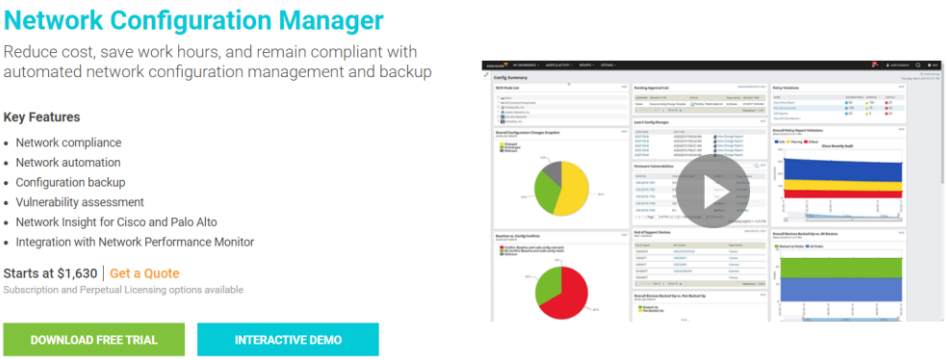

Figure 2.3

Through job automation, SolarWinds Network Configuration Manager (NCM) may enhance network performance and dependability while also saving time. The visibility of the network devices would therefore be increased with SolarWinds Network Configuration Manager (NCM).

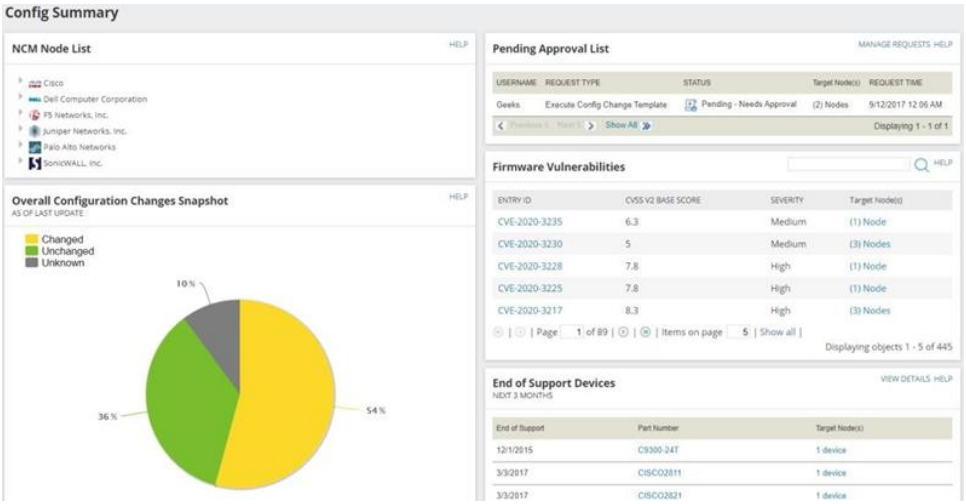

Figure 2.4

Configuration baselines and automated alarms along with other features in NCM's network audit tools facilitate the identification of noncompliant devices, 12 unsuccessful backups, unauthorized or inconsistent configuration changes, and more. With the help of NCM audits, you can learn in real time and in the past whether user behavior has resulted in unauthorized modifications or exposed configuration holes. Set baselines to define your permitted configurations, then let the solution's real-time change detection alert you whenever there's a modification to any of your device setups.

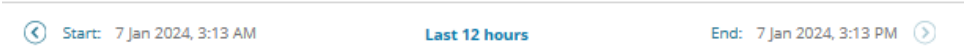

Figure 2.5

Network Configuration Manager (NCM) enhances performance across configuration management by automating processes across numerous routers, switches, and firewalls from one or maybe multiple vendors. By differentiating or comparing it with Compare Configs, the Network Configuration Manager (NCM) can swiftly recover from configuration changes, create backups, and restore the most recent, optimal configuration.

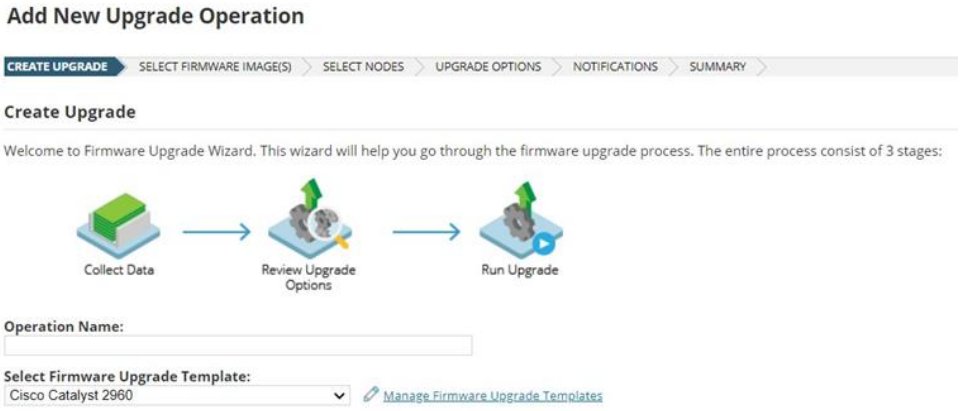

Figure 2.6

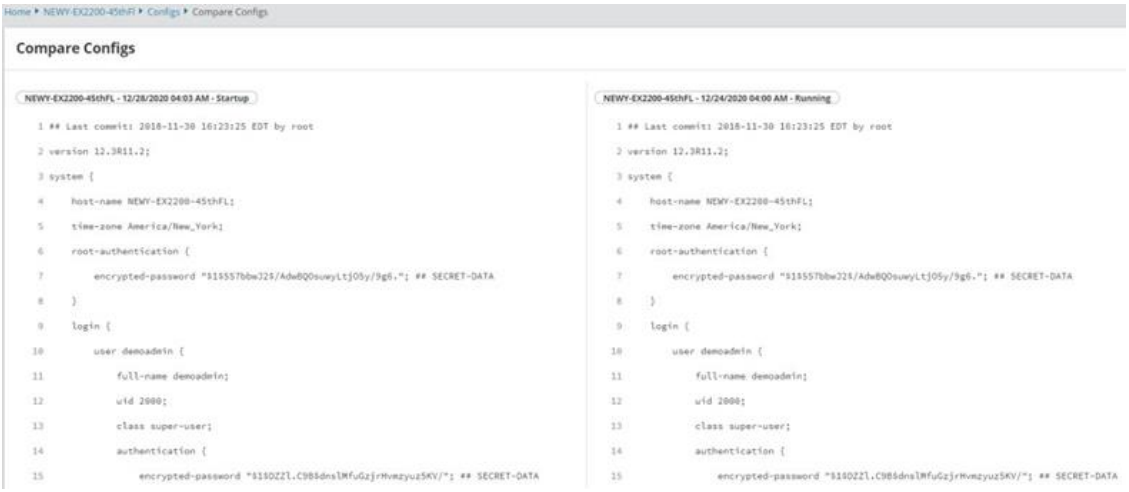

Figure 2.7

Additionally, Network Configuration Manager (NCM) keeps an eye on the essential configurations and responds well to the difference view, allowing you to rapidly spot configuration changes. It is easy to integrate with Network Performance Monitor (NPM) by utilizing the Network Configuration Manager (NCM), which was developed on the Orion Platform. Additionally, it offers proactive monitoring to lessen network outages and speed up recovery from them. Additionally, it would increase transparency into the configs' interactions.

In Network Configuration Manager (NCM), detailed views for configuration management of the network devices from the network are also provided. It contains all of the information and summaries of overall configurations, including the overall configuration changes snapshot, the baseline versus config conflicts, the overall devices backed up versus not backed up that will be presented in a form of graphical view such as in a pie chart diagram.

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Accounting Management

The image above shows the current network topology monitoring graph for the past 7 days. I was able to run a network test and monitor it for several hours. The result will be a documented graphic as shown in the image above.

Drag and drop performance metrics, events, and log data from multiple device types into a single graph to get detailed information about what was happening in your environment at the time of the issue, including real-time queries about the issue at the time of the issue. It can be analyzed.

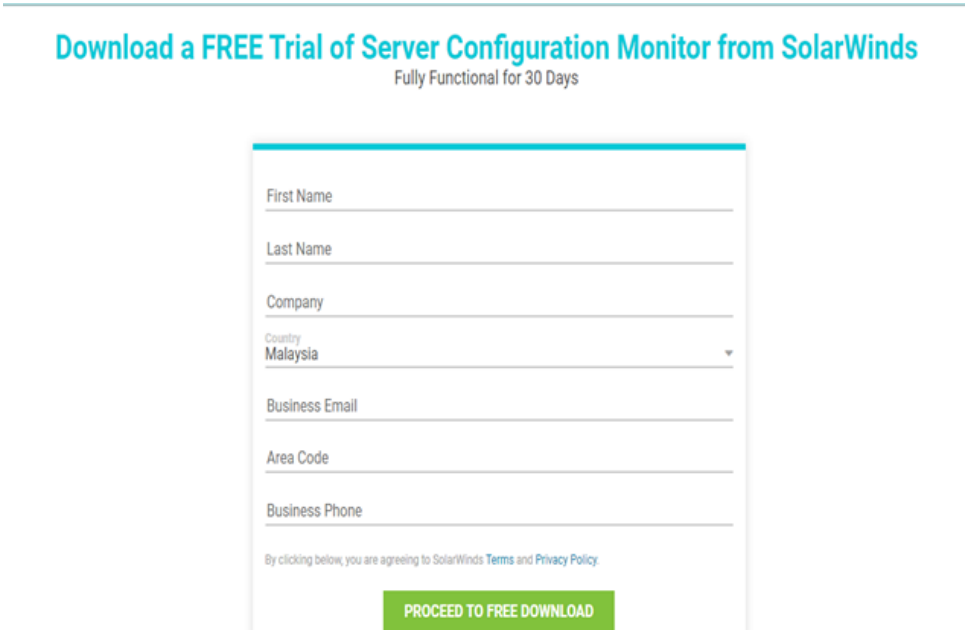

Figure 2.8

Figure above shows the required details of the user that need to fill in before downloading the free trial.

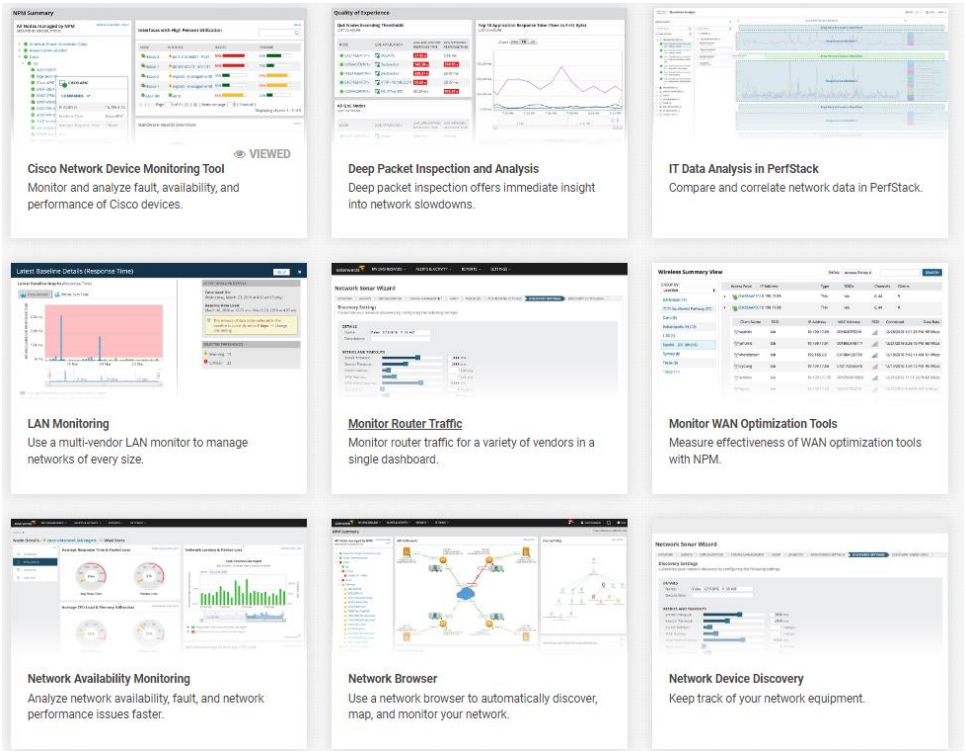

Figure 2.9

SolarWinds also provides IT licensed products such as Network Browser, IT Data Analysis in PerfStack and LAN Monitoring.

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Performance Management

SolarWinds is a company that develops software focused on IT infrastructure management. Their products give organizations visibility into and control over their networks, systems, and applications. One of SolarWinds' key product areas is performance monitoring and management.

Performance management tools from SolarWinds help IT administrators track the responsiveness, utilization levels, and availability of critical infrastructure and applications. For example, SolarWinds Server & Application Monitor can continuously watch server health metrics like CPU usage, memory consumption, and disk activity. It can alert administrators when thresholds are exceeded which might indicate performance problems. The Orion Platform centralizes monitoring data like application response times and bandwidth utilization for unified performance visibility.

Using the rich data performance management tools collected, SolarWinds also facilitates capacity planning and optimization. Tracking usage and response trends allows administrators to add resources proactively to meet growing demand. They can also pinpoint over or underutilized systems to balance workloads better. Automated network mapping and application dependency mapping provide context that improves troubleshooting when issues inevitably emerge. With robust monitoring and management capabilities focused on performance, SolarWinds provides comprehensive solutions to manage both today’s demands and prepare for tomorrow’s needs.

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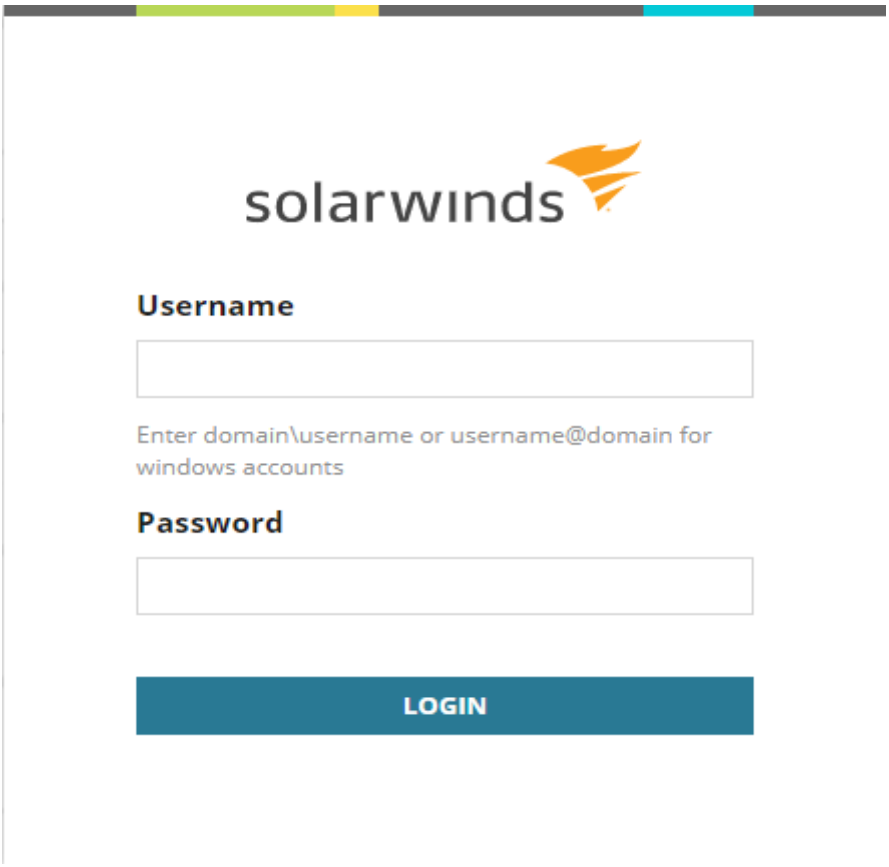
Security Management



SolarWinds is a company that provides IT infrastructure monitoring and management software. Requiring login credentials to access SolarWinds products serves several important security purposes.

First, username and password authentication allow SolarWinds to verify the identity of the user trying to access the system. By requiring individual accounts linked to real user

identities, SolarWinds can enforce permission restrictions, provide audit trails, and hold users accountable for their actions within the software. This promotes internal security and control.

Second, credential-based access prevents unauthorized external parties from gaining entry and either accessing sensitive data or tampering with the environment. Usernames and passwords act as a barrier, requiring those trying to get in to have proper insider access privileges. This protects client data from privacy breaches or security incidents.

Finally, role-based authorization enabled by individual user accounts allows SolarWinds administrators to grant access rights accordingly. More trusted senior administrators may unlock additional software capabilities not available to junior analysts. Enforcing the principle of least privilege through defined user roles minimizes unnecessary exposure across the system.

In summary, mandatory logins via personnel usernames and passwords allow SolarWinds to authenticate, authorize, and account for all personnel accessing the software. This upholds vital system security standards and data protection regulations demanded of critical monitoring infrastructure. Requiring credentials enables identity tracking and access controls that would otherwise be impossible.

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CHAPTER 3: NETWORK DESIGN AND CONFIGURATION

Topology Design

Star topology is an appropriate topological type. Star topology is ideally suited for installing and managing Solarwinds monitoring agents because it provides a centralized location for effective management and systematic network design monitoring. With star topology, the deployment of monitoring agents is made easier because every device is linked to a single hub or switch. In a star topology, the central hub allows centralized management and acts as a hub for linking Solarwinds monitoring agents. Star topology offers a simple and manageable configuration, but it does not have the hierarchical structure of tree topology. Because every device is directly connected to the central hub, monitoring is made easier.

Scalability remains a strength of the star topology, as additional devices can be easily integrated by connecting them to a central hub. This scalability allows you to expand your network without requiring major rebuilding. Although a star topology may not provide the same level of hierarchy as a tree topology, its simplicity, ease of management, and scalability make it a good option for deploying Solarwinds network monitoring. Centralized management

and scalability benefits are important considerations when choosing a star topology for an efficient monitoring solution.

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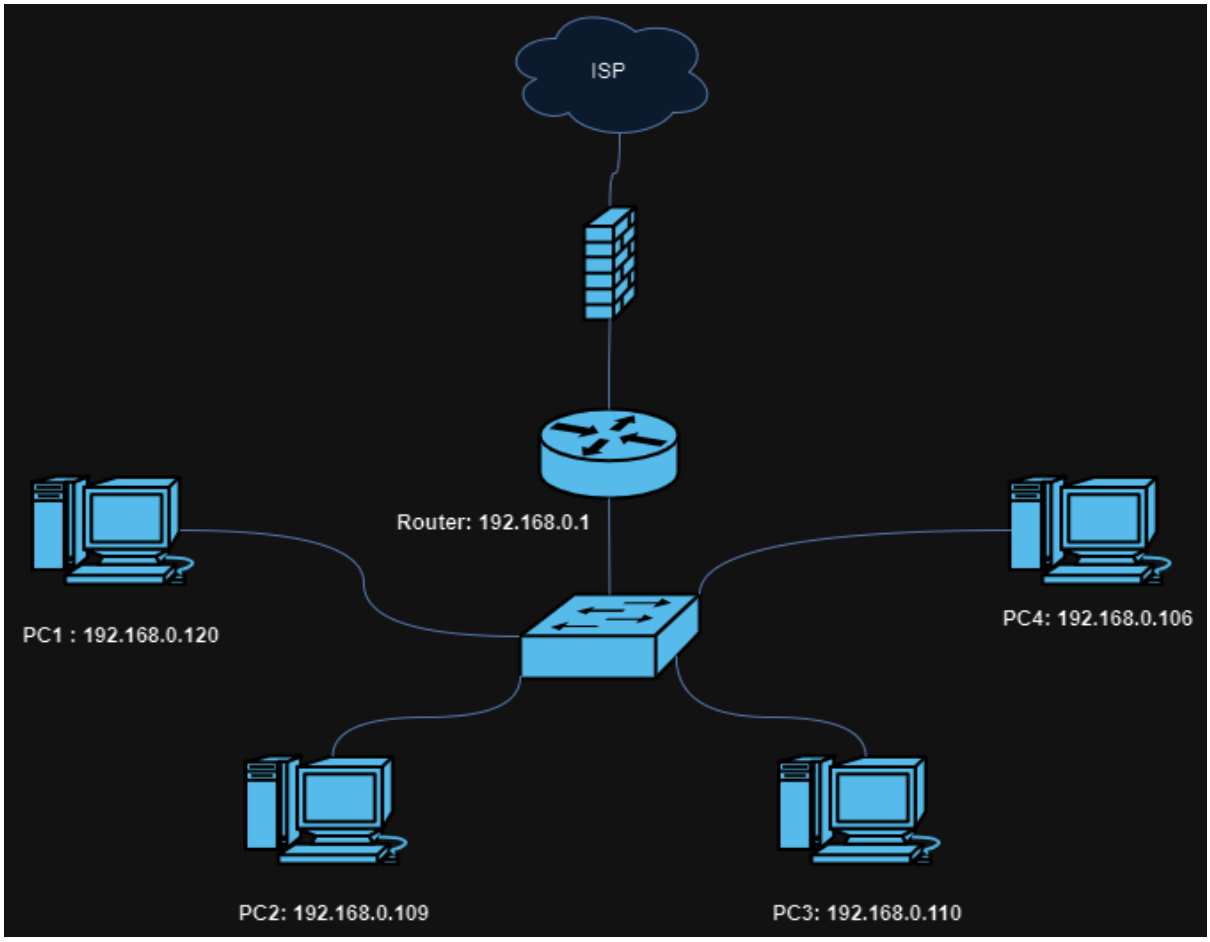


Advantage of using Star topology:

- Centralized management
- The central hub or switch facilitates centralized management of the network. It's easy to monitor and manage network devices from a central location.
- Simply and ease of installation

- Star topology is simple to install and configure. Connecting or disconnecting devices is straightforward, making it easy to set up and manage
- Fault of isolation
- If a device or cable fails, only that specific connection is affected. The rest of the network remains operational, making fault isolation and troubleshooting more straightforward.
- Capability
- Star topology is easily scalable. Additional devices can be added by connecting them to the central hub without affecting the existing network structure.

Disadvantage of using Star topology:

- Dependency on Central Hub
- The entire network relies heavily on the central hub or switch. If it fails, the entire network may become non-operational.
- Cost of Central Hub
- The central hub or switch is a critical and often expensive component. If it needs to be upgraded or replaced, it can result in significant costs.
- Not Ideal for Large Networks

- Star topology may not be the most efficient choice for large networks with a significant number of devices due to potential performance bottlenecks and cabling complexities

- Limited Distance:

- There are distance limitations between the central hub and connected devices, especially when using Ethernet cables. This can be a constraint in large physical spaces.

CHAPTER 4: RESULTS AND DISCUSSION

Result Overview

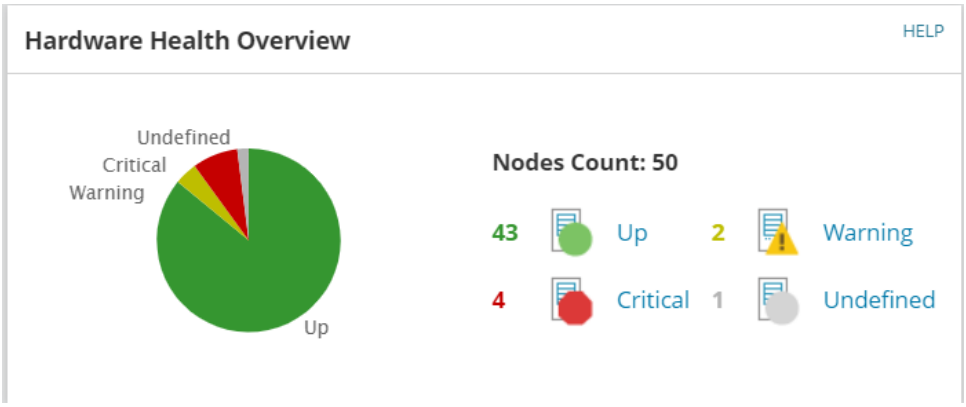


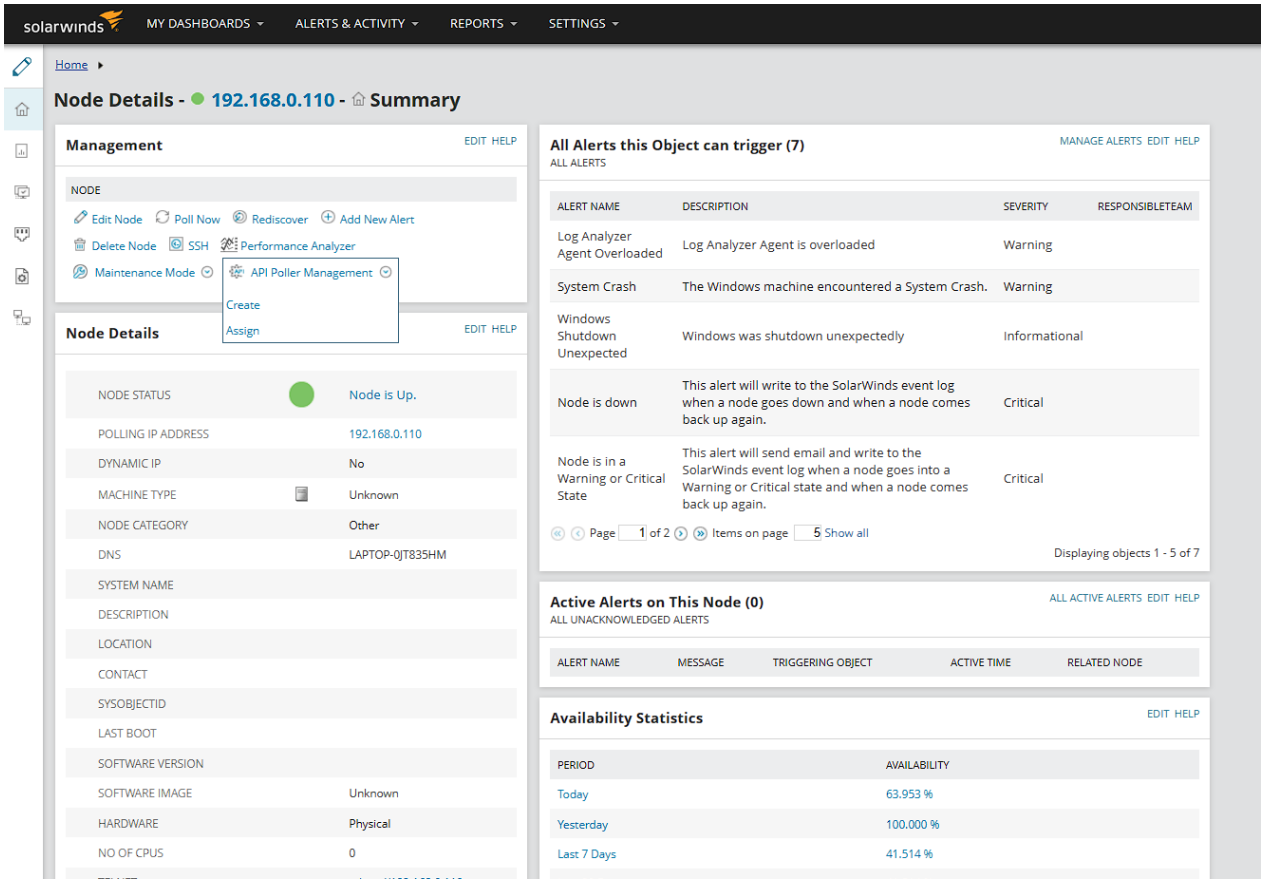
Figure 4.1 Hardware Health Overview

This widget delivers real-time information on hardware faults on your network. User can see a summary of the health of your monitored hardware, as shown in Figure.

Users can hover their mouse over each pie segment to see a tooltip with more Information.

Figure 4.2 Wan Errors/Discard

The image above shows the current monitoring graph of the network topology for the past 7 days. I was able to run a network test and monitor it for several hours. The result is a documented graphic, as shown in the image above. Drag and drop performance metrics, events, and log data from multiple device types into a single graph for detailed information about what was happening in your environment when an issue occurred, including real-time queries about the issue as it occurred. It can be analyzed.



We can monitor each of the end devices and see their performance and connectivity. Within the network management system, SolarWinds, we have the capability to comprehensively monitor each individual end device, gaining valuable insights into not only its performance metrics but also meticulously assessing its connectivity status, thereby ensuring a robust and optimized network infrastructure.

CHAPTER 5: CONCLUSION

One of the network management tools is Solar Winds, which provides a variety of products with various features. These technologies make it easier for network managers to oversee networks with a variety of virtual, hardware, and software components. For novices, Solar Winds is helpful since it provides guidance. To protect and monitor the networks of vital businesses, the solution complied with the FCAPS model, which calls for the use of Security Event Manager (SEM), Network Performance Manager (NPM), and Network Configuration Manager (NCM).

The single architecture's scalability Solar Winds can manage complicated and geographically dispersed network settings. It is intended for a big enterprise-class infrastructure with additional polling engines, with the client being able to expand more than 40000 components on this platform. All data from numerous instances may be consolidated and seen in a single view. Solar Winds' server and Pollers via subnets are available 24 hours a day, seven days a week. This utility is simple to install on virtual or physical hosts such as Microsoft Azure.

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LESSON LEARN (Personal Comment)

The sophisticated supply chain attack on SolarWinds software that went undiscovered for months serves as a sobering wake-up call to both the public and private sectors highlighting crucial gaps in current cybersecurity postures of even the most advanced organizations. By covertly inserting malicious code into widely used network management software, hackers were able successfully breach numerous public and private organizations, gaining broad access to sensitive systems and data.

First and foremost, the breach underscores the importance of securing the software development supply chain itself against tampering and malware insertion. Software companies must adopt secure coding practices, code auditing, extensive testing protocols prior to release, and ongoing scrutiny to minimize vulnerabilities in code that could be exploited. The scale of distribution of contaminated software magnified the scope of access gained.

Second, complex networks with several integrations create opportunities for lateral movement once a system is compromised. Core security principles of least privilege access and implementing zero trust architectures could have minimized the impact. Companies tend to focus on perimeter security while neglecting internal segmentation, offering a broad attack surface once an initial system is breached.

Finally, continuous monitoring and information sharing could have led to earlier detection despite the advanced tactics used. The time the perpetrators had unfettered access was one of the most troubling aspects of this breach. Through security automation, artificial

intelligence, behavior analytics, and effective communication protocols between public and private entities, similar threats could be identified quicker in the future before catastrophic damage is done.

The SolarWinds debacle makes crystal clear that even organizations at the forefront of cybersecurity can be infiltrated through their supply chains. As societal and geopolitical reliance on information technology spreads, we must view cybersecurity as requiring ongoing collaboration between public entities, private enterprises, software vendors and nations to match and exceed the sophistication of would-be attackers. This breach highlights gaps that forward-thinking organizations will urgently move to address.

REFERENCES

1. Cowan, Lynn (2009-05-22). "Bright Start for SolarWinds Stock". The Wall Street Journal. ISSN 0099-9660. Retrieved May 10, 2022. SolarWinds. (n.d.). 36 Network Performance Monitor. Retrieved April 30, 2023, from https://www.solarwinds.com/network-performance-monitor

2. Alex. (2020, January 18). *Purchase SolarWinds Network Performance Monitor (NPM)*. FirstLight. Net Shop. https://shop.firstlight.net/product/solarwinds-network-performance-monitor-npm/

3. SolarWinds. (n.d.). Security Event Manager. Retrieved May 10, 2023, from https://sem.demo.solarwinds.com

4. Lind, T. (2023, October 11). *SolarWinds blows into Post Falls*. Spokane Journal of Business RSS. https://www.spokanejournal.com/local-news/solarwinds-blows-into-post-falls/

5. Dennis. (n.d.). *SolarWinds | IT management software | featured brand*. What is SolarWinds. https://punchout.shi.com/brands/solarwinds

6. Eichensehr, K. E. (2022, December 7). *Not illegal: The SolarWinds incident and international law*. OUP Academic.https://academic.oup.com/ejil/article-abstract/33/4/1263/6881098

7. Saheed Oladimeji, S. M. K. (2023, November 3). *Solarwinds Hack explained: Everything you need to know*. WhatIs. https://www.techtarget.com/whatis/feature/SolarWinds-hack-explained-Everything-you-need-to-know

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APPENDIX A: Task Distribution

Group Member	Assigned Tasks
AHMAD NAZHAN HAZIQ BIN AHMAD FUAD (CA21060)	● Fault Management ● Security Management ● Finalize the document
MUHAMMAD IRFAN BIN ROSLI (CA21089)	● Accounting Management ● Introduction ● Abstract
SWEE VENN A/L SHOM SWEE YANG (CA21084)	● Performance Management ● Conclusion
MUHHAMAD NURHIDAYAT BIN MOHD TAUFIK (CA21073)	● Configuration Management ● Result and Discussion
All Members	● References

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APPENDIX B: User Manual

Task 1:

Obtain the Installation File. If you are new to SolarWinds, you can download a trial version of any product from the product page at https://www.solarwinds.com.

1. Log into the Customer Portal.

2.Select a SolarWinds Platform product under Latest Downloads for Your Products and click Choose.

3. Click Download to obtain either the online or offline installation file:

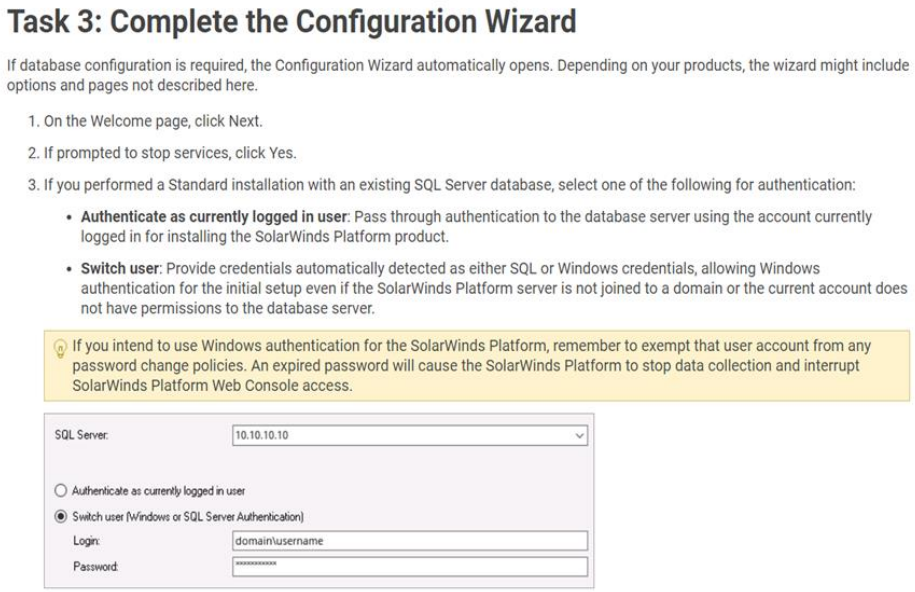
- Online: Use this option if your SolarWinds Platform server has internet access. This guarantees you have the most up-to-date installation file with the latest optimizations and fixes. Also use the online installation to install a scalability engine, even in environments without internet access. Installing a scalability engine doesn't require internet access. See Install an additional polling engine, web server, or HA server for details.
- Offline: Use this option for installations without internet access. The offline installation file is a prepackaged file that contains everything you need.
-

4. Save the installation file on your SolarWinds Platform server.

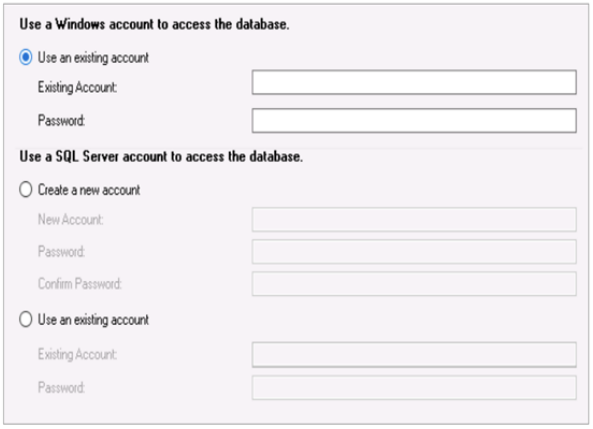
Task 2:

1. Run Installer a. Locate and double-click on the installation file you downloaded to launch the installer. b. On the main SolarWinds Platform server, walk through the prompts to install the components and features you want. You will have the option to customize components like polling engines, web servers, etc. c. When prompted, enter

the license key sent to you via email to activate the product. If installing a trial version, select the "use trial license" option. d. Click install and wait for the installation process to complete all selected components. Refer to on-screen guidance for status and next steps.



4. On the Database Settings page, select your existing SolarWinds Platform database, or create a new database for a new installation, and click Next.
5. On the Database Account page, create an account or specify an existing account that the polling engine and SolarWinds Platform Web Console will use to access the database. The account can be a Windows or SQL Server account.



6. On the Website Settings page:
   a. Select All Unassigned unless your environment requires a specific IP address for the SolarWinds Platform website. If SSL is selected, port 443 is used. Otherwise, port 80 is used.
   b. Specify the Port.

   ⓘ If you specify any port other than 80, include that port in the URL used to access the SolarWinds Platform Web Console.

   c. To configure SSL, click Enable HTTPS and select your SSL certificate.

   If a certificate is not available, select the option to Generate Self-Signed Certificate. The Configuration Wizard automatically generates a self-signed certificate issued to the hostname or FQDN and adds it to the trusted certificate store.

   ⓘ If you select Skip website binding, the Configuration wizard does not make changes within the website configuration in your IIS. This option prevents IP address, port, and SSL certificate options.

7. If you are prompted to create a directory or website, click Yes.
8. Review the list of services to install, and click Next.
9. Click Yes if you are prompted to disable the SNMP Trap Service and enable the SolarWinds Trap Service.
10. On the Completing Configuration Wizard page, click Next.

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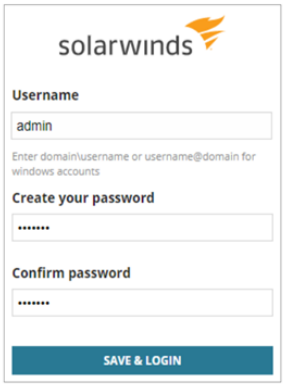
11. When the configuration is complete, click Finish to launch the SolarWinds Platform Web Console.

ⓘ If the SolarWinds Platform Web Console doesn't open automatically (for example, if it times out before opening), do one of the following to open it manually:

- Click Start > All Programs > SolarWinds > SolarWinds Platform Web Console.
- Open a web browser on your SolarWinds Platform server and enter `http://ipAddress` or `http://hostname`, where `ipAddress` is the IP address of your server and `hostname` is the host name of your server. Enter `https://` if you selected SSL.

12. Log in with user name `admin`. Enter a password for the admin account, confirm the password, and then click Save & Login.



Task 4: Activate licenses

Activate the licenses for your new products.

Get the license key for your product from the Customer Portal. You might need multiple licenses: one for each product, HA backup server, additional polling engine, and additional web server.

1. In the Customer Portal, select License Management.
2. Select the product.
3. Copy the license key.

Add and activate the license key using the web-based License Manager in the SolarWinds Platform Web Console.

1. Open the SolarWinds Platform Web Console in a web browser.
2. Click Settings > All Settings > License Manager.
3. Click Add/Upgrade License.
4. Enter the Activation Key and Registration Information, and click Activate.

To activate an offline license, see Activate licenses offline.

Log in to the SolarWinds Platform Web Console

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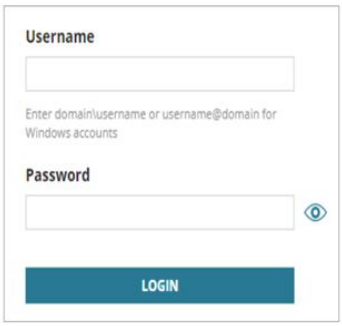
1. Launch the SolarWinds Platform Web Console using either of the following methods:
   - Start SolarWinds Platform Web Console in your SolarWinds Orion program folder.
   - Launch a browser and enter the address of your SolarWinds Platform server using one of the following options:
     - `http://ip_address`, example: http://10.10.10.10
     - `https://ip_address`, example: https://10.10.10.10
     - `http://hostname`, example: http://myOrion
     - `https://hostname`, example: https://myOrion

   ⓘ If you are not using the default port (80 for http, 443 for https), specify the port after the IP address or hostname using a colon, for example http://10.10.10.10:8787, or https://myOrion:8787.

2. Enter the user name and password, and click Login.



See Configure automatic login for details about login options.

Create a password for the default administrator

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When you have just deployed the SolarWinds Platform and completed the Configuration wizard, define the password for your administrator.

If the SolarWinds Platform Web Console does not launch automatically, start SolarWinds Platform Web Console in your SolarWinds Orion program folder or enter your SolarWinds Platform server address into the address bar in a browser.

1. Check that there is Admin in the Username field.
2. Create and confirm a password for the default admin account.
3. Click Save&Login.