

What is a Network Operations Center?

NOC is a centralized location where a company and their technical staff can provide supervision for 24 hours in a day to help monitor and manage a company's services, databases, external services, firewalls, and networks. So basically, a NOC is the basis of a company's nervous system. In the matter of security, a NOC is the first line of defence against any attacks or disruptions a company or enterprise might experience with their telecommunication networks.

There are several benefits to having a NOC at a company, but it is essential to know what they are capable of and what it takes to use them properly. Some businesses might not need a NOC, but larger companies and enterprises find that they make communications run a lot smoother internally and externally. The following are a few things that are beneficial with using a NOC

1. Back up data stored on network devices.

A lot of networks are used to hold and store data, but what happens if that data is corrupted, or something happens to the network device that stores the data? With a NOC, companies can sleep safely at night because one of its functions backups the data that is on the network to make sure that it is accessible and safe if something disastrous happens.

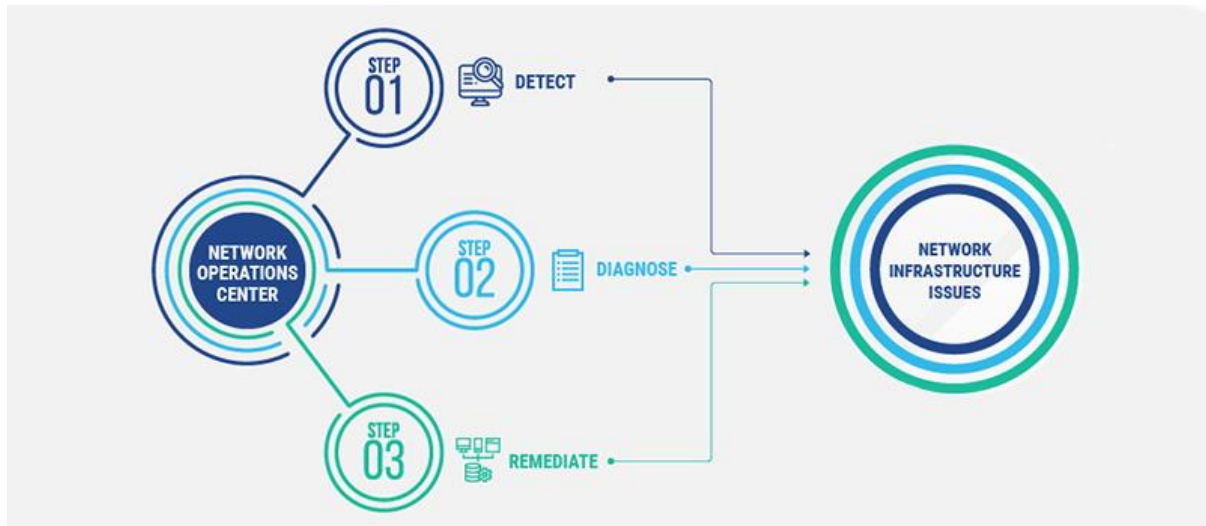
2. Patch management.

The software is continually being updated and changed by service providers, and it can be challenging to keep a network up to date without assistance. Patch management features on NOCs will allow a company to keep all their devices and software updated with the latest patches, without having to go through them individually.

3. Install, update and troubleshoot software on any device connected to the network.

A NOC makes updating, troubleshooting, and installing software on systems connected to the network a breeze. Companies are continually upgrading their hardware, but without a NOC, they have to manually troubleshoot, install, and update

all their company's information onto each piece of hardware. However, with a NOC, they can set up appropriate settings to find potential issues within a network, update existing software, or install new software on old machines, or install all software on new equipment.



4. Provide antivirus support.

Companies often have software in place to help prevent viruses from getting into their network. However, these programs are not always 100%. A NOC helps to provide support to these programs to make sure that viruses do not run rampant throughout a company's network.

5. Develop reports for network performance, optimization, and health.

A company needs to have a way of keeping up with the health of their network, and a NOC is designed to make it easy to do just that. It can develop different types of reports to show a company how their network is performing, the health of the network, and the optimization of how their network is working.

6. Monitor and manage firewall and network security software.

Security is critically important in the world of business, and a NOC comes with excellent software to help increase its network security software and manage and monitor their firewalls. External Networks has proven that it can handle all these things for companies, and businesses can rest easy that the security of their network

will be monitored and protected by some of the most excellent analysts in the business.

7. Spot and Analyse attacks on the network from outside sources.

There are countless of external threats that a company can meet, and it is essential to be able to analyse and spot these security threats on their network before anything happens. An enterprise network operations center is designed to help with just that. It can detect and analyse any threat that is trying to attack a company's network to allow them time to defend against it before it can cause permanent damage to the company's network.

Overall, a network operations center NOC is designed to help companies with large networks keep track of their networks, without having to deal with every aspect manually individually. It has different features that companies can utilize to help keep their network secure from outside attacks, updated with the latest software and programs, and gather analysis about the overall health of their network system. A NOC will allow a company to have peace of mind that everything is running correctly and is appropriately being monitored to keep it that way.

8. Network Monitoring

A network operations center, also known as the central office or control room, is an organization that provides support to computer networks. It consists of people who are responsible for network monitoring and maintaining all aspects of the operation of a company's IT infrastructure. The main purpose of this type of facility is to ensure that computers in the workplace can be accessed by users at any time without interruption.

9. Network Devices

A network operations center, also known as the central control room, is where all your networking equipment and devices are monitored. It's basically like having an IT department in one place that can monitor everything going on with your entire infrastructure. This allows you to have more visibility into what's happening across your entire environment, so you know when something goes wrong or needs attention.

10. Complex Networks

A network operations center monitors complex networks for maintaining, upgrading and optimizing the network. It provides the network with a central location for handling all customer service issues.

11. Network Outages

A network operations center is the heart of any IT infrastructure. It's where all your servers, switches and routers are monitored 24/7 to ensure that they operate at peak performance levels. The NOC also provides security services such as intrusion detection systems, firewalls, antivirus software, spam filters and more.

What happens within the NOC?

Often, organizations build their NOC on premises within their data centre's. Some – especially those with smaller IT teams, a relatively simple network environment or repetitive IT configurations/tasks – may outsource NOC functionality to a third party. Third-party NOCs are external companies, often a managed service provider, that provide specialized services, typically as a cloud service, related to IT infrastructure and network monitoring, supervision and management.

Whether an internal function or outsourced to an external service, NOC staff carry out some or all the following activities:

- network monitoring and updates
- communications management
- firewall management
- performance and quality reporting
- software installations, patching and troubleshooting
- quality control and assurance
- policy enforcement
- infrastructure and procedural changes
- threat analysis
- intrusion prevention systems
- incident response
- data storage and backup
- email management

NOC personnel are also responsible for taking action to resolve issues, anomalies or threats before they can affect business operations or lead to other problems related to service delivery or regulatory compliance.

Network operations centers explained

The NOC's most important role is to provide full visibility into the enterprise infrastructure and all its components and equipment, including the following:

- firewalls
- network devices
- servers
- wireless systems
- internet of things devices
- virtual machines (VMs)
- databases
- software and services (internal and external)

In addition, NOC personnel monitor and oversee network activity reports and dashboards. They may also attend to customer help desk systems -- ticketing-based, voice-based, etc. The NOC may integrate with customers' network tools to address gaps in customer service and support. Consequently, the NOC plays an important part in improving the company's customer focus and, ultimately, in improving customer experiences.

From a security perspective, the NOC functions as the first line of defence that enables the organization to monitor network security and recognize and address any attacks or disruptions to the network.

The NOC plays a critical role in maintaining uninterrupted network availability and thus the organization's operational and business continuity.

What is the purpose of a NOC?

A Network Operations Center (NOC) is an organization responsible for maintaining the stability and continuity of networks. The NOC monitors the network for problems that need special attention, such as those originating from outside sources or servers, network and device management. The NOC also performs incident response, including managing power outages and communication lines. The NOC secures the network by analysing threats and deploying tools.

Your network is designed to be robust and reliable. All your servers are up-to-date, and you're using the latest security software. You've also hired experienced network engineers who can design networks to withstand cyber-attacks. The network is monitored constantly by trained staff, and many layers of redundancy are built into the system when something does go wrong; however, you'll be prepared.

What are the key roles in the NOC?

A NOC technician monitors the network, maintains the system, resolves problems, and provides support to users. NOC technicians need specific skills in monitoring, maintaining and resolving performance issues. Their job requires them to be knowledgeable about networks, security and troubleshooting. They may also have advanced certifications. Third-party service providers provide NOC services as an option for companies who want more than what they can do internally.

How is a NOC designed?

A NOC should have a separate room for monitoring purposes. This room should have a big screen for viewing real-time information. There should be several monitors within this room for different types of problems. Each technician should have a personal computer for troubleshooting.

Each workstation includes multiple monitors. This makes it quicker and easier for techs to analyse information and respond to problems. Each station is also linked to a PA system of some sort. This makes it possible for techs to communicate with each other and share information in a time-efficient manner. Techs can also place alerts on the video wall screen. In large enterprises, there may be a separate room that is devoted to a team that deals with serious network issues.

A NOC takes a hierarchical approach to incident response. Technicians are categorized as Level 1, 2 or Level 3 based on their skills and experience in resolving specific problems. Each technician creates a ticket that categorizes an issue based on alert type (e.g., security, compliance) and severity, along with any other relevant information. If a technician assigned to a specific issue fails to resolve it quickly, it moves up to a higher-level technician who may be more experienced or skilled in handling the issue.

Network Operations Center (NOC) work tirelessly to ensure that systems run smoothly. Their power comes from their skills and knowledge of how to use the equipment available to them.

What are the important roles in the NOC?

The most critical role for any organization's Network Operations Center is to monitor its networks 24/7. This means that every minute of every day, someone must be watching over your systems from an operations perspective. The NOC should always be aware of what is happening with all aspects of the network infrastructure: servers,

routers, switches, firewalls, etc. If something goes wrong, it needs to be fixed immediately so that users can continue working as expected.

The second key function of the NOC is to maintain the health of the network by ensuring that everything works properly. For example, if there is a problem with one server, then the NOC may need to reboot it to fix the issue. Or perhaps the router has been damaged and needs to be replaced. In either case, the NOC technician would know how to perform these tasks without causing further problems.

Finally, the NOC provides support when things go awry. When a user reports a problem, the NOC analyses the situation and determines whether it requires immediate attention or can wait until later. It might take some time before the NOC knows exactly what happened, but once they do, they provide assistance. They may even help troubleshoot the issue themselves.

What is the purpose of the Network Operations Center NOC?

A Network Operations Center is designed to help companies manage and monitor their network system without having to do everything manually. Companies set their NOC up to monitor all types of things going on in their network, and it is imperative that it can provide the right information when needed to make sure everything runs smoothly.

External Networks has the right professionals working with them to make sure that a NOC is running and monitored properly, at all times. This helps to give peace of mind to the companies that are using them, and they know that everything is being controlled for them. Below are just a few of the different aspects of networks that a NOC is meant to help monitor for companies.



A company does not have to be open for something to go wrong with their network. As a matter of fact, most attacks and disruptions happen when a company is closed. This is where a NOC comes in. It's the purpose of the NOC to monitor networks 24 hours a day, seven days a week. NOC technicians use tricks of the technology trade to analyse problems and help get networks running again properly and maintained when they are already running properly.

A NOC Engineer can also help to monitor any power failures that occur on a company's network, and they can communicate alarms to the company to make sure that severe damage to the network does not happen. Plus, it can help with any performance issues that might be causing glitches or failures in the network.

For example, if a piece of hardware fails, a NOC will assign an alert to a Level 1 technician, which is the first line of defence to fix issues. After inspecting the hardware, this technician might recognize that the problem goes beyond a simple hardware failure and will escalate the problem to a higher-level technician, as needed. This is just one of the many ways that NOCs hierarchically handles issues to ensure that the best person for the job receives the alert. Overall, a NOC's most basic function is to be able to help maintain a company's network uptime and ensure that it is running smoothly and without interruption.



SCALING TO THE NEXT LEVEL
OF BUSINESS WITH A NOC

What do NOC engineers/technicians monitor in a typical NOC?

A Network Operations Center is designed to assist businesses with keeping their network running at maximum capacity, and they help to ensure that all the data on the network is safe, secure, and backed up if something happens to the network's hardware. Although a NOC does a lot of the work alone, it is essential to recognize the NOC technicians and NOC engineers and know what they are held accountable for. After all, without these technical professionals, the NOC would not be half as effective as it is. The four tasks that NOC technicians and NOC engineers are responsible for are detecting threats, resolving any issues that relate to the network as soon as possible, network up-time, and 24/7 monitoring.

External Networks understands the importance of having highly trained engineers and technicians available to make sure that NOC is running properly. After all, a NOC is still a technology device, which means that many things can go wrong that require it also to be monitored and worked on. Here are a few things that NOC's engineers need to monitor with a typical NOC:



1. Client interaction

NOC technicians need to be able to interact with the client that is using the NOC to keep them updated on issues and updates about the NOC. Usually, it is the technicians that have the most client interaction with the company, because they are the ones that call and keep the company updated on any issues or that the company contacts when they are experiencing issues on their end.

2. Monitor automated and end user incident and outage reporting

A NOC has to be monitored to make sure that the company using the NOC gets timely user incident reports and outage reports to make sure that their network is secure, and it is not being mishandled on the company's end or behalf of the NOC.

3. Ensures proper DNS, Firewall, server configuration, IP switching, and VPN for customer networks

A NOC Services is designed to do a lot of different tasks for a company's network, but it is essential that it is monitored to make sure that everything is running smoothly. It is a NOC technician and engineer's job to make sure that the NOC is properly ensuring different aspects of the company's network to ensure it is working correctly and doing what the company needs it to do. For instance, a lot of companies do not have in-house technicians that fully understand a NOC or their actual network. Therefore, it falls to the technicians and engineers at the NOC to

make sure the server configurations and firewalls, among other things, are correct to prevent any breaches into the company's network.



4. Responding to alarms/alerts according to Standard Operating Procedures

Every NOC has Standard Operating Procedures that technicians and engineers have to follow while monitoring it. It is their job to make sure that if any alerts or alarms go off during their shift that they respond to them according to the Standard Operating Procedures put in place for those situations.

5. Managed control protocols and LAN/WAN infrastructure

A company's LAN/WAN infrastructure is essential, and the technicians at a NOC are designed to help monitor the protocols of this infrastructure to ensure that everything is running correctly and that no one is misusing them on the company's side that might cause a breach of security to the company's network.

6. Managing the trouble-ticketing system

A company can send troubleshooting tickets to the NOC, and it is the technician's job to manage these tickets to make sure they are monitored about in a timely fashion. This is how they make sure that the NOC is running properly on the company's end, as well on theirs.

7. Proactively monitoring to ensure 24/7 operation

A NOC is there to provide a company with security and backup 24 hours a day, 7 days a week on their network. With a NOC, companies have people ensuring that their network is working properly at all times of the day and week for the maximum performance.

8. Implement, maintain, and repair routing

There are many situations where a company needs to add new routes for its data, and it is an essential aspect of a NOC and its technicians to make sure that the current routes are correctly maintained. They also help to repair any routes that are having issues in implementing new routes if the company needs for them.



9. Troubleshooting related to any network outages

On occasion, a network will experience an outage, and it is the job of the NOC technicians to troubleshoot issues that are related to the outages to help and solve them and hopefully prevent them if possible, in the future. Some outages can be avoided, but for the ones that cannot, NOC technicians are experienced in helping get a network that has experienced an outage back to working condition.

10. Create reports on uptime, bandwidth usage, server utilization, and other key metrics

NOC technicians and engineers are expected to provide updated reports to the companies that use the NOC to show different types of information, like server

utilization, bandwidth usage, and uptime. This information is used by the company to adjust things on their end accordingly to make the network run better for their needs.

11. IP surveillance and any other terminal with an IP address

Everyone online is assigned to an IP address, and therefore, it is crucial to have surveillance on the IP addresses that are accessing a network to prevent any malicious attacks on the network. Technicians and engineers help to inspect the IP addresses and the other terminals that access the network the NOC is watching over.

Overall, it is imperative that a Network Operations Center has competent engineers and technicians to make sure that it runs properly and that the company using the NOC gets all of the information needed to maintain and feel secure about their network. NOC technicians and engineers monitor networks for business year-round, and they make sure that everything is handled in a timely fashion to keep a company's network working at optimal levels.

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