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Deploying Nagios for Service Monitoring and Reporting

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Abstract: *NAGIOS is Server Monitoring tool as an important criteria coming to a data center operation and service .Detects all type of network errors or server issues and allowed to monitor the server performance issues by using Nagios. This can be manually and physically monitoring the location of the server and mapping the network interface and network bridge server will be monitor. Count every 10 minutes once the application will be running properly or else store application related bugs in data center. Large organizations always require fast and efficient network monitoring system which reports to the network administrator as soon as a network problem arises. This paper presents an effective and automatic network monitoring system that continuously monitor all the network switches and inform the administrator by E-MAIL or SMS when any of the network switch goes down. An efficient and automatic network monitoring is always required for large organizations like universities, companies and other business sectors where the manual network monitoring is very difficult. Since large organizations have a big network topology, the manual network monitoring causes waste of time to point out problem location.*

I.INTRODUCTION

Nagios is a server monitoring tool. It detects all type of networks or server issues, It allowed to monitor the server performance issues by using Nagios. The network has to be secured by alerting the potential issues before they become major problem. Methods like SMS, E-mail and Pager can be used to alert the Server administrator regarding the failure in the network. Nagios monitoring is found to be of no use unless the right things are tracked. The usual areas that are examined include bandwidth usage, Server performance and Application performance. Server monitoring is an important part of any data center monitoring architecture, but too often it becomes an essential process in successfully building out a holistic monitoring platform. Basic server monitoring include Application service like Apache, Http, FTP, Hadoop, etc.

II. LITERATURE SURVEY

2.1 NETWORK AND SERVER RESOURCE MANAGEMENT STRATEGIES FOR DATA CENTRE INFRASTRUCTURES

The advent of virtualization and the increasing demand for outsourced, elastic compute charged on a pay-as-you-use basis has stimulated the development of large-scale Cloud Data Centers (DCs) housing tens of thousands of computer clusters. Of the significant capital outlay required for building and operating such infrastructures, server and network equipment account for 45% and 15% of the total cost, respectively, making resource utilization efficiency paramount in order to increase the operators' Return-On-Investment (ROI).

Network and server resource management we present an extensive survey on the management of server and network resources over virtualized Cloud DC infrastructures, highlighting key concepts and results, and critically discussing their limitations and implications for future research opportunities. We highlight the need for and benefits of adaptive resource provisioning that alleviates reliance on static utilization prediction models and exploits direct measurement of resource utilization on servers and network nodes. Coupling such distributed measurement with logically-centralized Software Defined Networking (SDN) principles, we subsequently discuss the challenges and opportunities for converged resource management over converged ICT environments, through unifying control loops to globally orchestrate adaptive and load-sensitive resource provisioning

2.2 NETWORK TRAFFIC PROCESSING WITH PFQ

Network traffic processing with Packet Family Queue (PFQ), a high-performance framework for packet processing designed to flexibly handle network applications parallelism and making traffic processing safe and easy. PFQ is an open-source module for the Linux kernel that combines software-accelerated packet I/O to in-kernel early stage packet processing and fine-grained distribution to network applications and physical devices. PFQ does not require any modification to network device drivers and exposes programming interfaces to multi-threaded applications natively designed to run on top of it, as well as to legacy monitoring tools using the pcap library.

2.3 AN EFFICIENT NETWORK MONITORING AND MANAGEMENT SYSTEM

Large organizations always require fast and efficient network monitoring system which reports to the network administrator as soon as a network problem arises. This paper presents an effective and automatic network monitoring system that continuously monitor all the network switches and inform the administrator by email or sms when any of the network switch goes down. This system also point out problem location in the network topology and its effect on the rest of the network. Such network monitoring system uses smart interaction of Request Tracker (RT) and Nagios software in linux environment.

III.EXISTING SYSTEM

At first the servers are checked manually by ping, telnet the admin each and every time.The time is consumed a lot to check the fault present over there. The plugins package provides numerous plug-ins, including the check-host-alive, check ping, check tcp, and check http commands. Using the plug-ins is straightforward, as demonstrated in the appendixes. Most plugins will provide some information on use if executed with help supplied as an argument to the command. By default, the plug-ins are installed in /usr/lib/nagios/plugins . Some distributions may install them in a different directory .The plugins folder contains a subfolder with user contributed scripts that have proven useful. Most of this plug-ins are Perl scripts, many of which require additional Perl modules available from the Comprehensive Perl Archive Network (CPAN).

IV. PROPOSED SYSTEM

Now, by using the Nagios application the servers are checked automatically and then report to the admin. With a particular error or fault so that the time is consumed less. Nagios is recognized as the top solution to monitor servers in a variety of different ways. Server monitoring is made easy in Nagios because of the flexibility to monitor your servers with and without agents. With over 3500 different addons available to monitor your servers, the community at the Nagios Exchange have left no stone unturned .Nagios is fully capable of monitoring Windows servers, Linux servers, Unix servers, Solaris, AIX, HP-UX, and Mac OS/X and more.

4.3 MODULES

Login Page:

The login page allows a user to gain access to an application by entering their username and password or by authenticating.

Home Page:

A home page is a webpage that serves as the starting point of website. It is the default webpage that loads when you visit a web address that only contains a domain name. For example, visiting https://techterms.com will display the Tech Terms home page.

Map Page:

Article explains how you can customize the network status map in Nagios Core. The aim of the article is to educate you on how you can open the map to specific layouts by customizing the URL in your web browser. The modern status map was introduced in Nagios Core 4.1.0. If you are interested in using the legacy network status map please refer to the following KB article.

Host Page:

Web hosting is a service that allows organizations and individuals to post a website or web page onto the Internet. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed in the Internet. Websites are hosted, or stored, on special computers called servers.

Host Group Page:

Host Group: A Host Group is a logical container where you can choose to group a series of Hosts together. For example, you may have a Host Group called 'Linux Servers' which contains 15 Hosts; each Host being an Ubuntu or Red Hat server.

V. CONCLUSION

Nagios is one of the most popular open-source network monitoring tools. Some limitations can be improved with third-party add-ons or plugins some limitations still need to fulfill Nagios can be used as a framework for building more powerful and easy-to-use server monitoring tool. Operators are facing a critical situation nowadays aiming at reducing operational costs of their infrastructure. For that, there are looking for low cost and efficient tools to manage their more and more complex infrastructure. Almost all existing open source are only providing monitoring features and no configuration function.

VI. FUTURE WORK

Nagios is a light weight program and provides a perfect monitoring tool that can be helpful to monitor all the active protocols and network devices connected to the network topology. It is also capable of providing real time

comprehensive graphs and trend analysis. Server Monitoring is the process of monitoring all the system resources associated with the server in order to understand their resource usage patterns and optimize them accordingly to provide a better end-user experience. It ensures that your server is capable of hosting your applications by providing sufficient data relating to the performance of your system and helps you understand the system operations. While most server monitoring tools provide real time server monitoring and generate notifications in case of performance issues, a perceptive tool like Applications Manager will also provide comprehensive insight into the root cause of the issues and helps you troubleshoot them quickly.

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