Sistema Integrado de Gestión de conmutadores LAN empleando el protocolo SNMP [

2022

text (article)

Analítica

The vertiginous technological development and increasing evolutionary rhythm of current networks make management vital. However, the existence of heterogeneous management derived from the heterogeneity of telecommunications networks causes inefficiencies and increased cost of network operation, among others. Some of the problems caused by heterogeneous management are: the need to know and have personnel to operate each of the proprietary management systems corresponding to technologies and equipment from different manufacturers, work with different management protocols and deal with the diversity and incompatibility of data management that lead to inconsistency and even possible duplication of management information. This article presents the design and implementation of an Integrated Management System for local area network (LAN) switches using the SNMP protocol. Features of the SNMP protocol, Remote Monitoring MIB (RMON), and LAN switch management are briefly reviewed. For the design of the system, requirements were taken into account that considered the current needs of integrated management in the operating companies of telecommunications services. The programming was done using the Python language and was divided into several modules: user access and administration; LAN switch inventory and management; statistics, events and alarms; and diagnostic functions. Its validation was carried out by implementing the system in a small test scenario in the network of a public operator of telecommunications services, obtaining satisfactory results
The vertiginous technological development and increasing evolutionary rhythm of current networks make management vital. However, the existence of heterogeneous management derived from the heterogeneity of telecommunications networks causes inefficiencies and increased cost of network operation, among others. Some of the problems caused by heterogeneous management are: the need to know and have personnel to operate each of the proprietary management systems corresponding to technologies and equipment from different manufacturers, work with different management protocols and deal with the diversity and incompatibility of data management that lead to inconsistency and even possible duplication of management information. This article presents the design and implementation of an Integrated Management System for local area network (LAN) switches using the SNMP protocol. Features of the SNMP protocol, Remote Monitoring MIB (RMON), and LAN switch management are briefly reviewed. For the design of the system, requirements were taken into account that considered the current needs of integrated management in the operating companies of telecommunications services. The programming was done using the Python language and was divided into several modules: user access and administration; LAN switch inventory and management; statistics, events and alarms; and diagnostic functions. Its validation was carried out by implementing the system in a small test scenario in the network of a public operator of telecommunications services, obtaining satisfactory results

Título: Sistema Integrado de Gestión de conmutadores LAN empleando el protocolo SNMP electronic resource].]

Editorial: 2022

Tipo Audiovisual: Integrated management of networks SNMP Protocol LAN switches Management systems Integrated LAN switch management Gestión integrada de redes Protocolo SNMP Conmutadores LAN Sistemas de gestión Gestión Integrada de conmutadores LAN

Documento fuente: Revista Científica de Ingeniería Electrónica, Automática y Comunicaciones, ISSN 1815-5928, Vol. 43, Nº. 3, 2022

Nota general: application/pdf

Restricciones de acceso: Open access content. Open access content star

Lengua: Spanish

Enlace a fuente de información: Revista Científica de Ingeniería Electrónica, Automática y Comunicaciones, ISSN 1815-5928, Vol. 43, Nº. 3, 2022