SNMP over Ethernet

Status of This Memo

This memo describes an experimental method by which the Simple Network Management Protocol (SNMP) as specified in [1] can be used over Ethernet MAC layer framing [2] instead of the Internet UDP/IP protocol stack. This specification is useful for LAN based network elements that support no higher layer protocols beyond the MAC sub-layer. Distribution of this memo is unlimited.

Overview and Rational

SNMP has been successful in managing Internet capable network elements which support the protocol stack at least through UDP the connectionless Internet transport layer protocol. As originally designed, SNMP is capable of running over any reasonable transport mechanism (not necessarily a transport protocol) that supports bi-directional flow and addressability.

Many non-Internet capable network elements are present in local networks; for example, repeaters and wiring concentrators. They include both addressability, and programmable intelligence. These devices are widely used and increasingly important yet, for the most part, invisible except through proprietary mechanisms.

Specification

Almost all Internet capable network elements use the same mechanism for encapsulation of the Internet protocol stack regardless of conformity with the physical characteristics of Ethernet or 802.3, this mechanism is specified in [3] and [4]. This specification continues that style with the assignment (by XEROX) of 33100 (hexadecimal 814C) to the Ethernet Type field for SNMP. The data portion of the Ethernet frame would then be a standard SNMP message as specified in [1].
References


Authors’ Addresses

Marty Schoffstall
NYSERNET Inc.
Rensselaer Technology Park
165 Jordan Road
Troy, NY 12180
Phone: (518) 276-2654
EMail: schoff@stonewall.nyser.net

Chuck Davin
MIT Laboratory for Computer Science, NE43-507
545 Technology Square
Cambridge, MA 02139
Phone: (617) 253-6020
EMail: jrd@ptt.lcs.mit.edu
Mark Fedor
Nysernet, Inc.
Rensselaer Technology Park
125 Jordan Road
Troy, NY 12180
(518) 283-8860

Phone: (518) 283-8860
EMail: fedor@patton.NYSER.NET

Jeff Case
University of Tennessee Computing Center
Associate Director
200 Stokely Management Center
Knoxville, TN 37996-0520

Phone: (615) 974-6721
EMail: case@UTKUX1.UTK.EDU