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

    [1] Case, J., Fedor, M., Schoffstall, M., and J. Davin, "A Simple
         Network Management Protocol", RFC-1067, University of
         Tennessee at Knoxville, NYSERNet, Inc., Rensselaer Polytechnic
         Institute, and Proteon, Inc., August 1988.

    [2] DEC, "The Ethernet - A Local Area Network", Version 2.0,
         Digital Equipment Corporation, Intel Corporation, Xerox
         Corporation.

    [3] Hornig, C., "A Standard for the Transmission of IP Datagrams
         over Ethernet Networks", RFC-894, Symbolics, April 1984.

    [4] Postel, J., and J. Reynolds, "A Standard for the Transmission
         of IP Datagrams over IEEE 802 Networks", RFC-1042, USC
         Information Sciences Institute, February 1988.

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