XNMP
-
XML Network Management Protocol and Interface

v0.2
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NMS interface and integration: Current

- Each line ~ $$$ + ongoing maintenance.
- Questionable sustainability
NMS interface and integration: Single vendor

- Interface owned by vendor
  - Improved, but captive to single vendor
  - Dependent on vendor ability and service provider affordability to accommodate new services and new NE
  - NE vendor still have to build to multiple NMS vendors.
NMS interface and integration: Goal

- Interface owned by industry
  - Generic framework leveraged by all technologies across the industry
  - Technology specific leveraged by all vendors of specific technology
  - New vendors of similar technology added without network management modifications
XNMP: Framework

- **Data Definition Language**
  - XML SMI Schema
    - XML MIB Schema naming (XML Namespace?)
    - XML MIB instance naming (XLink?)
  - And/or casting SNMP SMIv2 to XML SMI Schema

- **Management Information Base (MIB)**
  - XML MIB Schema
  - And/or casting SNMP MIB to XML MIB Schema

- **Protocol**
  - SOAP/HTTP
  - XML Protocol Schema
    - Operation name, parameters, error codes

- **Security and administration**
  - Secure HTTP
  - Completeness
    - Configuration, Performance, Fault, Security
XNMP: Resource - SNMP

- **Framework**
  - RFC2570 "Introduction to Version 3 of the Internet-standard Network Management Framework"
  - RFC2571 "An Architecture for Describing SNMP Management Frameworks"

- **DDL**
  - RFC2578 "Structure of Management Information Version 2 (SMIv2)"
  - RFC2579 "Textual Conventions for SMIv2"
  - RFC2580 "Conformance Statements for SMIv2"

- **MIB**
  - RFC2400
  - 100 modules, 10,000 objects

- **Protocol**
  - RFC1157 "Simple Network Management Protocol"
  - RFC2572 "Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)"

- **Security and administration**
  - RFC2573 "SNMPv3 Applications"
  - RFC2574 "User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)"
  - RFC2575 "View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)"
XNMP: Resource - XML

- http://www.w3.org
  - REC-xml-20001006 "Extensible Markup Language (XML) 1.0 (Second Edition)"
    - WD-xml11-20020425 "XML 1.1"
  - REC-xml-names-19990114 "Namespaces in XML"
    - WD-xml-names11-20020403 "Namespace in XML 1.1"
  - REC-xlink-20010627 "XML Linking Language (XLink) Version 1.0"
  - REC-xmlschema-0-20010502 "XML Schema Part 0: Primer"
  - REC-xmlschema-1-20010502 "XML Schema Part 1: Structures"
  - REC-xmlschema-2-20010502 "XML Schema Part 2: Datatypes"
  - WD-soap12-part0-20011217 "SOAP Version 1.2 Part 0: Primer"
  - WD-soap12-part2-20011217 "SOAP Version 1.2 Part 2: Adjuncts"
  - RFC2396 "Resource Identifiers (URI): Generic Syntax"
XNMP: Requirement

- Socrates or Sophism?
  - Hardware follows Moore's Law.
    - Sufficient processor speed, memory space, and network bandwidth are available at reasonable cost.
  - Software does not follow Moore's Law and is linear.
    - It results high cost and long delay of implementation and maintenance.

- Primary priority
  - Easy to understand
  - Easy to implement
  - Completeness of RFC
    - Activation and assurance (configuration, performance, fault, security)
  - Reuse, not reinvent

- Secondary priority
  - Processing performance
  - Memory consumption
  - Bandwidth usage
XNMP: IETF process

- **BOF**
  - Summer 2002 (14-19 July 2002)

- **Working group**
  - Fall 2002 (17-22 November 2002)
    - Initial IDs
  - Interim meeting
  - Spring 2003
    - Revision IDs
    - Initial implementation
  - Summer 2003
    - Revision IDs
    - Implementation bake-off
  - Fall 2003
    - Last call for RFCs
    - Deployment