Internetworking Technology Handbook
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Cisco Industry Working Teams
Internetworking Technology Overview
TCP/IP OVERLAYS FOR ENTERPRISE MULTIMEDIA NETWORKS AND STREAMLINE VIDEO

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Abstract

Internetwork networking specifications are challenging the basics of the emerging National Information Infrastructure (NII) and Global Information Infrastructure (GII) as vendors and users seek to create a seamless set of services, mirror functions and interoperate across multiple, heterogeneous, multivendor, gigabit-speed internetworks. The results are long, attention-grabbing standards development processes, and a lot of confusion and misinformation. The specifications of internetwork networking services are being developed in a manner that is not in direct touch with market or operator applications for internetwork networking services.

The Cross-Industry Working Team (CIWT) member companies have developed a set of Network Interface (NI) classes for effective internetwork networking applications. Using these classes, the CIWT has developed a set of internetwork networking services and protocol. The NI Class Profiles for Generalized Communications Services provide a set of internetwork networking services with application requirements. These class designations can be used to specify internetwork networking services for multiple, heterogeneous, multivendor, gigabit-speed internetworks. This document provides an overview of the NI Classes and Profiles and talks about protocol capabilities to speed their purchasing criteria.

1.0 NI Classes and Why We Need Them

For the past several years, the debate of the traditional and Global Information Infrastructure (GII) has stimulated many public and private discussions about the future of telecommunications and information networking technologies. In both the media and standards organizations, the discussions have focused on the technical issues of emerging new communications which provide multimedia services to the home, the office, and the road. The discussions have also focused on the technical issues of how to upgrade the existing infrastructure to support the new services, ways to integrate the benefits of ATM applications in networks, and how to integrate ATM into the existing infrastructure.

However, actually providing internetwork networking communications services that will satisfy the requirements of the GII and NII has been a difficult task. Many of the internetwork networking specifications are being challenged as vendors and users seek to create a seamless set of services, mirror functions and interoperate across multiple, heterogeneous, multivendor, gigabit-speed internetworks. The results are long, attention-grabbing standards development processes, and a lot of confusion and misinformation. The specifications of internetwork networking services are being developed in a manner that is not in direct touch with market or operator applications for internetwork networking services.

Many of the internetworking applications will require the infrastructure in order to talk with and thus there is a great deal of pressure to develop the NII and GII. The Cross-Industry Working Team (CIWT) has been working on a set of internetwork networking services and protocol that will provide a framework for moving forward on capabilities as they ripen. The CIWT has developed a set of Network Interface (NI) classes and profiles for generalized communications services. These classes and profiles provide a set of internetwork networking services to support a given NI Class designation.

The NI Classes and Profiles provide a convenient example of an internetwork networking services that can be used to specify the multimedia PC, multimedia, TV, MPC, multimedia desktop/workstation, multimedia LAN, multimedia WAN, and multimedia backbone. The NI classes and profiles provide a set of internetwork networking services that can be used to specify the internetwork networking services for multiple, heterogeneous, multivendor, gigabit-speed internetworks. The NI classes and profiles also provide a set of internetwork networking services that can be used to specify the internetwork networking services for multiple, heterogeneous, multivendor, gigabit-speed internetworks.

1.1 Benefits of Industry Cooperation and Leadership

Internetwork networking applications are challenging traditional networking and information applications. First, we have seen the emergence of the World Wide Web (WWW) and hypertext/hypermedia information. The WWW has created a new paradigm for information access, which is being commercially pursued by thousands. High-speed wide area, e.g., ATM, and local area networks are being deployed to support the WWW and other new internetwork networking applications. Internetwork networking applications are being developed to take advantage of the new infrastructure.

The NI Classes Class Profiles will provide a convenient way to underpinning these internetworking. The Example applications are: Video on Demand, Video Conferencing, Video Broadcast, Video Distribution, Video Monitoring and Surveillance, Video Telephony, Video Messaging, Video Mail, Video Information Services, Video Information Retrieval, Video Information Distribution, Video Information Management, Video Information Processing, Video Information Storage, Video Information Presentation, Video Information Manipulation, Video Information Conversion, Video Information Transmission, Video Information Reception, Video Information Transport, Video Information Transmission, Video Information Reception, Video Information Transport, Video Information Transmission, Video Information Reception, Video Information Transport