HP ADVANCENET: AN OVERVIEW

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INTRODUCTION

Most HP networking users are focused on those products and services that meet their particular needs. The purpose of this paper is to give a wider overview of HP AdvanceNet, the company's networking strategy, that describes how Hewlett-Packard is attempting to meet the tremendous diversity of business needs that our customers have.

It's important to remember that HP AdvanceNet is a strategy, not an architecture. The goal of HP AdvanceNet is to give users a competitive advantage through comprehensive and flexible multivendor networking.

Why the emphasis on multivendor networking? Because our experience and customers tell us that the ability to connect the computers and systems of different vendors is critical to competitiveness. There are many reasons why multivendor environments have become so widespread -- the inability of any single vendor to meet the diverse needs of different businesses and industries, growth through merger and acquisition, and different decision makers -- and the clear trend is for the growth, in prevalence and complexity, of such environments.

The HP AdvanceNet strategy has three key components:

--strong support of the two dominant architectures in networking: OSI (Open Systems Interconnection) and SNA (Systems Network Architecture), IBM's proprietary networking architecture.
--focused networking solutions for distributed information processing in business offices, engineering, and manufacturing environments;
--quality products, consulting, and customer support.

HEWLETT-PACKARD'S NETWORKING EXPERIENCE

Hewlett-Packard didn't develop its strategy in a vacuum. HP AdvanceNet is based on extensive experience with both our own corporate network and the networking needs of hundreds of organizations.

HP's first networking products were introduced in 1973. Today there are more than 300 HP AdvanceNet products, with more than 60,000 networked nodes installed worldwide. There are 81 HP networking customers in the top 100 companies of the Fortune 500.

Customers benefit from HP's experience with its own worldwide, multivendor network. Hewlett-Packard currently employs 82,000 people in 70 nations. The 438 HP sites use 2,5000 host computers and 70,000 workstations, among which are included PCs, terminals, and engineering workstations.

Some 130 billion characters are transferred every month along this network. We use both public and private X.25, with 17 backbone switches, 400 standalone switches and 2 management centers, one at corporate headquarters in Palo Alto, California and the other in Geneva, Switzerland.

That's an extraordinarily complex network, and Hewlett-Packard depends on it for the daily conduct of business.

STANDARDS: THE FOUNDATION OF HP ADVANCENET

Standards are central to HP AdvanceNet because they are the best way to protect users' current investments while allowing for future growth and change.

HP was the first major computer vendor to replace its proprietary networking services and protocols with their OSI equivalents. Where OSI standards have not reached full maturity, HP AdvanceNet supports de facto standards such as TCP/IP and ARPA.

Hewlett-Packard employees currently work on more than 40 task groups and committees involved in the establishment of OSI standards. In addition, the company was a co-founder of COS (Corporation for Open systems) a non-profit, multinational consortium of users and vendors that is developing conformance tests for OSI products. Hewlett-Packard recently became one of the first United States companies invited to join SPAG, the Standards Promotion and Application Group, the European counterpart of COS.

FIVE FOCUSED SOLUTIONS

HP AdvanceNet's five focused solutions are designed to meet networking needs in the primary business areas of both service and manufacturing companies. They are based on the internal automation environment and the need to communicate with external sites.

Each solution is comprised of modules, which address different networking needs commonly found in that environment.

The Business Office solution delivers both local and long distance transaction processing, PC integration that enables users to share resources such as printers and plotters, and voice/data/text integration in both local and wide area networks.

HP StarLAN and HP StarLAN 10 are the heart of the Business Office solution. They are based on the IEEE 802.3 industry standard for local area networking, and they enable users to connect PCs and minicomputers over standard telephone wiring (unshielded twisted-pair). HP StarLAN runs at 1 Mbps, while HP StarLAN 10 operates at 10 Mbps.

HP AdvanceNet for Regional Sales and Service provides four communications alternatives for connecting branch offices to each other and to the regional office. The alternatives are:
--dial-up phone lines: the smallest up front investment and the most economical solution for offices requiring low-volume batch communications.

--public X.25: best suited for batch and interactive applications with low to medium data volume.
--leased lines: good for batch and interactive traffic with higher data volume.
--private X.25: provides maximum security and flexibility for regional communications.

The HP Engineering solution addresses a key issue in this environment: the need to develop higher quality products using a shorter design cycle and fewer engineers.

The proliferation of workstations in engineering necessitates strong connectivity to other PCs, minis, and mainframes. In addition, the popularity of UNIX as an operating system is an important trend.

The HP solution delivers multivendor connectivity using the IEEE 802.3 LAN as the backbone network and the high-performance link for clustered workstations. ARPA and Berkeley services, Network File System (NFS), and the use of UNIX and MS-DOS de facto standards are also major elements of this solution.

An effective network for manufacturing has to integrate all functions fully, including planning and control, financial systems, production processes, manufacturing engineering, and product design.

HP's CIM (Computer Integrated Manufacturing) solution uses de facto and OSI standards, particularly MAP (Manufacturing Automation Protocol). A key to the HP CIM solution is the use of subnetworks that enables users to integrate their processes in a planned, non-disruptive manner.

The HP Private Packet Network (PPN) is the centerpiece of the Company-wide solution, and it's augmented by a range of point-to-point and dial-up alternatives.

Based on the X.25 international standard, the HP PPN delivers strong multivendor connectivity, flexibility to tailor and change a network high reliability and security, and extensive network management and control.

It's common for organizations to combine private and public X.25 connections for the most cost-effective solution.

NETWORK MANAGEMENT

The goal of HP's network management strategy is to enable users to create and manage private networks through all phases of the network life cycle.

HP's hardware and software offerings are based on the six functional areas of network management as defined by ISO: Common Management Information Services/Protocol (CMIS/P) as well as the Specific Management Information Services (SMIS), which are fault, performance, accounting, configuration, and security management.

Hewlett-Packard recently announced HP Openview, a comprehensive network management solution for both local and wide area networking that is based on the OSI architecture.

INDUSTRY-LEADING SUPPORT

Customer service and support are important differentiators for HP AdvanceNet. The annual Datapro customer survey has ranked HP support #1 in the industry for the last five years running. We're continuing to add to our support offerings, facilities and staff as the needs of customers evolve and change.

Our three wide area networking centers are good examples of this. Located in Atlanta, Bristol (England), and Singapore, these centers provide complete range of network management and control services, including total 24-hour-a-day management of private X.25 networks.

CONCLUSION

Scalability and flexibility are important benefits for the decision maker who chooses HP AdvanceNet. This strategy, based on strong support for industry and de facto standards, provides multivendor networking that grows as an organization grows while protecting current investments in equipment and training. In addition, HP AdvanceNet delivers industry-leading service and support.