

Apple and SAA



Networking and Communications Product Marketing
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A key element of Apple's networking strategy has been Macintosh® integration with IBM® systems. The goal is to provide developers and customers with an Apple-standard set of protocols, interfaces, and tools that enable the development of consistent, integrated Macintosh applications for the IBM environments.

The Apple approach is to implement the IBM Systems Application Architecture™ technologies that complement the Macintosh, thereby enabling user transparent access to IBM data and services. Apple's product development will continue to focus on the core networking protocols, interfaces, and services enabling commercial developers and customers to create applications for end users. This helps developers to produce fully functional software in the shortest possible time by allowing them to concentrate on the application and user interface rather than networking. Both the customer and developer benefit from interoperability among applications based on consistent, integrated networking functions in the Macintosh.

Apple will continue to enhance the Apple-IBM product line through improvements in functionality, performance, and usability. The commitment is to provide customers with a common Macintosh view of IBM data, services, and applications through support of *Macintosh-complementary SAA™* technologies.

Apple now offers a range of networking products that implement key SAA **Common Communications Support** (CCS) functions. The Apple **TokenTalk® NB**, **Serial NB**, and **Coax/Twinax** cards provide Macintosh connections to IBM SNA networks. **MacDFT™** software provides 3270 terminal emulation with file transfer via IBM's IND\$FILE software as well as copy and paste between the 3270 screens and Macintosh applications. MacDFT also supports the Netview alert reporting functions of SNA/MS. The **Apple 3270 API**, which serves as the 3270/SNA programming interface for MacDFT, CL/1™, MacWorkStation™, and third party applications, is available for the development of customized 3270 applications. **MacAPPC™** implements the LU6.2/NT2.1 protocols, offering the basis for Macintosh integration with emerging cooperative processing applications. These products form the basis for a wide range of applications such as Macintosh interfaces to OfficeVision, DB2™ and SQL/DS database access, and new cooperative applications.

With the key connection and communication standards available, SAA application services such as SNA/DS and DIA are planned as well as enhancements to the existing products. Apple will also investigate implementations of SNA/MS, DDM, and SNA/FS as those technologies and IBM implementations evolve.

The **Common Programming Interface** (CPI) element of SAA contains two technologies that complement the Macintosh: SQL for the Database interface and CPI-C for Communications. The

Dialog, Query, and Presentation interfaces specify functions that will not be directly supported by Apple as they are targeted at the OS/2® platform and similar functionality is integral to the Macintosh system architecture.

As the customer requirement for LU6.2 products expands, CPI-C (the SAA interface to LU6.2) will be implemented as an enhancement to existing Apple APPC products.

CL/1 is Apple's host data base access software and programming interface that provides the functionality of the SAA CPI interface, SQL, and more. CL/1 provides consistent access to multiple data base environments and multiple operating systems from within Macintosh applications. Software developers will use the Apple System 7.0 **Database Access Manager (DAM)** to link their applications with **CL/1 host servers for MVS or VM**, enabling access to IBM DB2™ and SQL/DS databases. This toolbox approach promotes network and database independence for Macintosh applications, enabling users to access data in IBM, Digital VAX™ and UNIX® databases from a single application. The DAM also offers developers an interface for implementation specific SQL dialects to complement CL/1.

Macintosh applications such as databases, graphics, and spreadsheets that integrate host data through CL/1 are enhanced by a range of query tools that allow users to perform ad hoc queries in intuitive, graphical ways and incorporate the results into local applications and documents. These third party products take the form of Desk Accessories, HyperCard stacks, and applications.

The **Common User Access (CUA)** element of SAA covers a wide range of guidelines, technologies, and products aimed at improving user interface consistency across IBM platforms. Apple does not plan to support the diverse elements of CUA since the Macintosh provides the most consistent and mature user interface across IBM systems as well as in multivendor environments.

For example, many organizations today employ Digital VAX systems and a variety of UNIX platforms in addition to IBM and Apple products. With Macintosh, the same "common user interface" that is integral to the Macintosh architecture for local and LAN-based applications is also supported on the VAX. For UNIX environments, Apple's A/UX® 2.0 implementation of AT&T System V UNIX runs existing Macintosh applications and standard UNIX applications with full communications support based on industry standards such as TCP/IP and NFS™.

Unlike many vendors, whose personal computer, mainframe, and workstation user interfaces vary, Macintosh can truly provide a single user interface, a mature application base, and rich data interchange capability across all of these systems.

The fundamental goal of **Common Applications (CA)** is to enable applications that span the several IBM platforms with a base level of user interface, functionality, and portability. In addition to the advantages in a multivendor environment discussed above, Macintosh participates in SAA environments through support of key IBM SAA communications protocols and programming interfaces. Combined with the rich and diverse networking and toolbox facilities in the Macintosh environment, these SAA functions provide Macintosh users with a "common view" of the IBM host environments.

Summary

Apple is committed to serving its customers by providing IBM SAA-compliant products that are integrated into the Macintosh environment. Apple **has delivered** the most critical networking and communications products for Macintosh interoperability in SAA environments and **will continue to enhance** its IBM networking and communications product line through support of accepted SAA standards that complement the Macintosh in an IBM environment.

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