# Apple's Strategy Re: System Application Architecture (SAA)

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TOPIC -------------------------------------------------------------

What Systems Application Architecture (SAA) standard does Apple write to?  Can
you help?

DISCUSSION --------------------------------------------------------

Systems Application Architecture (SAA) established a set of common standards
and procedures for working with IBM systems and data.  These include
definitions for Common User Access, Common Communications Support, and Common
Programming Interface.  The following article from Networking and
Communications summarizes how Apple complies with IBM's SAA:

Apple and SAA
Networking and Communications Product Marketing
March, 1990

A key element of Apple's networking strategy is Macintosh integration with IBM
systems.  The goal is to provide basic connectivity for the Macintosh, and then
provide developers and customers with a set of protocols, interfaces, and tools
that enable the development of consistent, integrated Macintosh applications
for the IBM environments.

Apple will 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 that enable commercial
developers and customers to create applications for end users.  This helps to
produce highly functional software in the shortest possible time by allowing
developers to concentrate on the application and user interface, rather than
networking.

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.

Common Communications Support
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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, 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 serves as the 3270/SNA programming interface for MacDFT, Data Access Language (DAL, formerly known as "DAL"), MacWorkStation, and third-party applications. It is also 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 can be the basis for a wide range of applications, such as Macintosh interfaces to OfficeVision, DB2, and SQL/DS.

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

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

DAL is Apple's host database access software and programming interface that provides the functionality of the CPI SQL interface.  DAL provides consistent access to multiple database environments and multiple operating systems from Macintosh applications.  Software developers will use the Apple System 7.0 Database Access Manager (DAM) to link their applications with DAL host servers for MVS or VM, providing access to DB2 and SQL/DS databases.  This approach promotes network and database independence for Macintosh applications, and enables users to access data in IBM, Digital VAX, and UNIX environments from a single application.

The DAM also offers developers an interface for implementation-specific SQL dialects to complement DAL. Macintosh applications that access host data through DAL are enhanced by a range of query tools that allow users to perform ad hoc queries in intuitive, graphical ways.  These third-party products take the form of Desk Accessories, HyperCard stacks, and applications.

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

Three other CPI technologies (Dialog, Query, and Presentation) specify functions that will not be directly supported by Apple because they are targeted at OS/2 and similar functionality is already integral to the Macintosh.

Common User Access
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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 best and the most consistent user interface to
IBM systems as well as to multivendor environments.

Many organizations employ Digital VAX systems and UNIX platforms in addition to
IBM.  With the Macintosh, a "common user interface" that is integral to the
Macintosh architecture for local and LAN-based applications is also supported
on the VAX.  In UNIX environments, Apple's A/UX 2.0 implementation of System V
UNIX runs 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 provide a single-user interface, a mature
application base, and rich data interchange capability across all of these
systems.  This advantage will be applied to SAA resources.

Common Applications
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The goal of Common Applications (CA) is to deliver functionality that spans
several IBM platforms with a consistent user interface and portability.  In
addition to the advantages in a multivendor environment, Macintosh participates
in Common Applications through support of SAA communications protocols and
programming interfaces.  Combined with the rich networking and toolbox
facilities in the Macintosh environment, these SAA functions provide Macintosh
users with a "common view" of the IBM host environments.

Summary
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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 our
IBM networking and communications product line through support of accepted SAA
standards that complement the Macintosh in an IBM environment.
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