The APPC Resource Book

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Contents

A Few Words about This Resource Book

This book reflects a rapidly growing interest in communication systems that use Advanced Program-to-Program Communication (APPC), Advanced Peer-to-Peer Networking (APPN), and the Common Programming Interface for Communications (CPI-C).

This book provides information on:

APPC, APPN and CPI-C educational opportunities
"APPC Education Offered by Skill Dynamics - an IBM Company" and "APPC Education Offered by Other Companies" provide information on courses offered by IBM and other companies on APPC, APPN, CPI-C, and related topics. These courses range from traditional classroom instruction and seminars to self-study materials, audio cassettes, videotapes, and computer-aided instruction.

Publications
"IBM Manuals and Publications on APPC," "APPC Books from Other Sources," and "Specialized Periodicals on APPC" contain information on publications that address APPC, APPN, CPI-C, and other SNA-related topics. These publications include:

- Related IBM manuals and books
- Books from other sources
- Specialized periodicals.

Platforms and gateways
"APPC Platforms and Gateways" includes a comprehensive directory of APPC, APPN and CPI-C platforms and gateways.

Development tools
"APPC Development Tools" provides detailed information on software tools used to develop APPC and CPI-C applications. These development tools help you develop high-level applications without knowing the details of APPC. Such tools can greatly simplify application development, reduce development time, and enhance productivity.

APPC, APPN and CPI-C Support on Compuserve
Appendix A, "The APPC Info Exchange Forum on CompuServe" describes the APPC Info Exchange Forum on CompuServe.

Vendor information
Appendix C, "Contacts for Vendors" contains the addresses and phone numbers of all vendors whose products are listed in this book.

Submitting Information for This Book

This book is updated periodically to include new and changed information on APPC education and products.

We value your contributions to this book. To submit information about APPC, APPN and CPI-C applications, classes, books, or other products, you can contact us by mail, phone, fax, or e-mail:

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What Is APPC Market Enablement?

APPC Market Enablement is part of IBM Networking Systems Architecture. Our mission: to provide you with the information and support you need to use APPC, APPN, and CPI-C successfully.

We provide a wide variety of different services to help you get the most from using APPC. These services include:

Forums

APPC Market Enablement provides information on APPC through several forums:

- APPC Info Exchange Forum on CompuServe. To access this forum, just logon to Compuserve, and type **GO APPC**. For more information on this forum, see page 165.
- APPC CFORUM: You can access this customer forum through the OS/2 Bulletin Board (OS2BBS) or the Advantis Software Mall.

Classes

We develop and conduct APPC classes for software vendors. For current information about APPC classes, look in the "Conferences/Classes" library of the APPC Info Exchange Forum on Compuserve.

Conferences

The APPC Application Developer's Conference is held annually. This conference offers practical tutorials and in-depth technical sessions for both beginning and experienced APPC programmers. For current information about this and other APPC conferences, look in the "Conferences/Classes" library of the APPC Info Exchange Forum on Compuserve.

Publications

Watch the trade press for new articles on APPC, APPN, and CPI-C. APPC Market Enablement members regularly contribute to articles that appear in leading journals, such as Network World, Data Communications, PC Week, Communications Week, and Network Computing. We also publish technical articles on a regular basis. Many of these articles, and other technical papers, are available in the "Technical Papers" library in the APPC Info Exchange Forum on CompuServe.

We also publish this *APPC Resource Book*.

Sample Programs, Utilities, and Games

Several APPC utilities (with source code) are available in the "Sample Programs" library on the APPC Info Exchange Forum. These programs include:

APING: Exchanges data with a partner and times the transfer

ATELL: Sends a message to a user on another system

AREXEC: Executes a command on a remote system

AFILE: Transfers files

CYCLES: Light Cycles game (lots of fun!)

Other utilities and games (without source code) are available in the "Tools and Utilities" library on the forum. These programs include:

NNLINK: Keeps links active for OS/2 machines

REVERSI: Reversi -- another great game!

In 1993, APPC Market Enablement plans to introduce several new APPC utilities on a variety of IBM platforms. The group also intends to make these utilities available to other APPC platform vendors. These utilities include file transfer, a name server, and 3270 over APPC.

How Can We Help You?

We value your ideas and feedback. So, please contact us and let us know how we can help you. Append your comments or questions to the appropriate message section of the APPC Info Exchange Forum on CompuServe. If none of these message sections appear to be the correct place to post your message, use Section 1: General Forum Info.

You can also contact us by mail, phone, fax, or e-mail:

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APPC Education Offered by Skill Dynamics - an IBM Company

This chapter describes:

- The types of courses offered by Skill Dynamics, including instructions for enrolling in these courses
- Specific courses on APPC and related topics.

Skill Dynamics offers courses on the following topics:

- SNA
- APPC
- APPN
- CPI-C
- Networking
- AIX
- AS/400
- IMS
- MVS
- OS/2
- VM

To review a comprehensive list of all Skill Dynamics education offerings, refer to the *Skill Dynamics Catalog of Education*, G320-1244. To order this catalog, call Skill Dynamics Direct-Education toll-free at 800-IBM-TEACH (426-8322) between 9:00 a.m. and 5:00 p.m., all time zones in the continental U. S.

Types of Courses Offered by IBM

Skill Dynamics offers courses in four different formats:

- Classroom courses
- Private classes
- Personalized Learning Series
- Learning Centers.

Classroom Courses

Skill Dynamics offers many classes to the public at IBM Education Centers throughout the United States. Skill Dynamics classroom courses encourage in-depth discussions between students and instructors. Many offer extensive labs with state-of-the-art equipment.

Note: If you are enrolling in a no-charge class, do not follow the procedures below. Instead, call your local IBM branch office.

To enroll in a classroom course offered to the public:

1. Gather the following information:
   - Course code
   - Course title
   - Class date (1st and 2nd choices)
   - IBM Customer Number
   - Purchase order number, if applicable.

2. Call Skill Dynamics Direct-Education toll-free at 800-IBM-TEACH (426-8322) between 9:00 a.m. and 5:00 p.m., all time zones in the continental U. S. The customer service representative will confirm your enrollment and provide additional information, if necessary.
3. You will receive a written confirmation of your enrollment, including the name and code of the course you are attending and the dates and location of the class. If your enrollment status changes, you will be notified by telephone.
4. After you successfully complete the course, you will receive a completion certificate. Skill Dynamics does not administer final examinations or give grades.
5. After you attend the course, Skill Dynamics will bill you at the rate in effect on the date you enroll, plus any applicable taxes. Payment is due to your local IBM branch office on presentation of the invoice.

Private Classes

In addition to providing public classes at IBM Education Centers, Skill Dynamics can schedule private classes at individual business locations. These private classes cover the same material as public courses. However, Skill Dynamics can tailor these courses to your needs by selecting the most appropriate modules from several courses and by using examples related to your business. These reasonably-priced courses enable you to train your staff effectively and efficiently.

To request a private class:

1. Check the course description to see if it can be privately taught.
2. Gather the following information:
   - Course code
   - Course title
   - Requested date (1st and 2nd choices)
   - IBM Customer Number.
3. Call Skill Dynamics Direct-Education toll-free at 800-IBM-TEACH (426-8322) between 9:00 am and 5:00 p.m., all time zones in the continental U. S. Tell the customer service representative which class you want to request and whether you want the class tailored to your needs. The customer service representative will forward your request to an Skill Dynamics education specialist.
4. Within five business days, an education specialist will contact you to confirm your request, discuss your requirements, and schedule the class.
5. After you successfully complete the course, you will receive a completion certificate. Skill Dynamics does not administer final examinations or give grades.
6. After you attend the course, Skill Dynamics will bill you at the rate in effect on the date you enroll, plus any applicable taxes. Payment is due to your local IBM branch office on presentation of the invoice.

Personalized Learning Series

Personalized Learning Series courses are based on classroom courses. The Personalized Learning Series is designed for individuals who need the information presented in a Skill Dynamics classroom course, but who can't attend.

Many Personalized Learning Series courses also include hands-on exercises.

To order a Personalized Learning Series course, contact your IBM marketing representative or an IBM Business Partner.

Learning Centers

To meet the needs of students who do not have a self-study environment available, IBM offers Learning Centers in over 150 IBM branch offices throughout the United States. Learning Centers offer a complete curriculum of self-study courses, including Discover/Education and other self-study courses.

In each Learning Center, students study in individual work areas at their own pace. IBM Learning Centers have all the materials needed to take courses, including IBM InfoWindow systems, IBM computer systems, and video players. Each Learning Center has an administrator who maintains a current reference library. Though administrators are not experts in all subjects taught, they can help guide students through a course.

To enroll in a Learning Center course:

1. Gather the following information:
   - Course code
   - Course title
   - Dates
   - IBM marketing representative
   - IBM Customer Number.
2. Call your local IBM branch office or nearest Learning Center. The Learning Center administrator will confirm a time and date for you to take the course.
3. After you attend the course, IBM will bill you at the rate in effect on the date you enroll, plus any applicable taxes. Payment is due to your local IBM branch office on presentation of the invoice.

SNA Education

Fundamentals of SNA

- Course number: G3717
- Duration: 3 days
- Type: Classroom
- Audience: Technical managers and technical personnel involved with SNA networks
- Abstract: Presents a broad and comprehensive view of the components and operation of an SNA network. Using a practical approach, SNA is described in terms of the node types and logical units that comprise the network and the protocols they use to communicate. This course also presents information on the functions and flexibility provided by SNA's architectures/extensions for peer-to-peer communications: APPC, LEN, and APPN.

SNA LU 6.2 Data Flow

- Course number: G3664
- Duration: 2 days
- Type: Classroom (lectures, class exercises)
- Audience: Personnel responsible for LU 6.2 transaction program design, communications network planning, or LU 6.2 problem isolation
- Abstract: Topics include:
  - SNA LU 6.2 requirements
  - LU 6.2 concepts
  - Network environments
  - Session management
  - Session parameters
  - LU 6.2 data formats
  - Conversation fundamentals
  - Transaction program design scenarios
  - LU 6.2 product considerations

SNA LU Data Flow and Performance

- Course number: G3670
- Duration: 3.5 days
- Type: Classroom (lectures, class exercises)
- Audience: Personnel responsible for implementing SNA communications or tuning the network
- Abstract: Presents logical data flow protocols used on an LU-to-LU session and describes the performance implications of each. Also describes the way in which the user defines the implementation of these protocols in the various subsystem products.

  This course covers all types of LU-to-LU sessions, including peer-to-peer sessions between T2.1 nodes. Also examines session parameters for LU types 1, 2, and 6.2.

SNA LU 6.2 Data Flow and Transaction Programming

- Course number: 32054
- Duration: 5 to 7 hours
- Type: Computer Based Training
- Audience: The primary audience consists of systems analysts, systems designers, programmers, and systems programmers. The secondary audience consists of managers, operators, or other technical staff members who need an overall understanding of LU 6.2 facilities.
- Abstract: Provides the information needed to:
  - Identify how an LU 6.2 transaction program requests LU 6.2 services and how a protocol boundary verb may be issued.
  - Determine whether or not particular conversations can be started in a given situation.
  - Given graphic representations of session environments, determine whether particular sessions can be established.
  - Given examples of allocations of session mode sets, indicate whether particular conversations can be started.
  - Identify the SNA layers implemented LU 6.2.
  - Given diagrams of networks, indicate whether sessions can be established between two logical units.
  - Specify the correct protocol boundary verbs used to initiate and terminate a mapped conversation and to transmit and receive data records in a mapped conversation.
  - Identify protocol boundary verbs that may be issued by the transaction programs and the protocol boundary states of a conversation.
  - Identify the correct boundary verbs used to perform specified functions and identify the data and control flows of mapped conversations.
  - Identify the correct protocol boundary verbs used to perform specified functions.

SNA Network Tuning

- Course number: G3671
- Duration: 4.5 days
- Type: Lab/lecture
- Audience: Personnel responsible for tuning an SNA network
- Abstract: Presents a methodology to identify the presence of a performance problem, to isolate the location of the problem, and to correct the problem. Covers the mechanics of tuning the network.

LU 6.2 and Advanced Peer-to-Peer Networking (APPN) DeskTop Seminar

- Course number: PS125
- Duration: 4 hours
- Type: DeskTop Seminar (diskettes)
- Audience: Network planners, managers and systems programmers who need a general understanding of LU 6.2 and APPN
- Abstract: Topics include:
  - How LU 6.2 and APPN fit into terminal-to-host communications and peer-oriented communications
  - Various SNA LU types and how LU 6.2 fits into the SNA architecture

- How Node Type 2.1 supports peer-to-peer connectivity
- How APPN supports peer-to-peer networking
- How LU 6.2 and APPN fit into Systems Application Architecture (SAA).

APPC Education

Designing Client/Server Applications Using APPC

- Course number: G3792
- Duration: 3 days
- Type: Classroom
- Audience: Application designers and developers who need in-depth skill in designing and writing APPC applications
- Abstract: Provides the information needed to:
  - Identify decision criteria for distributing your applications
  - Define APPC conversation types, states, and verbs
  - Explain the differences between the APPC interface and the Common Programming Interface for Communications (CPI-C)
  - Understand how APPN improves APPC configuration
  - Create efficient designs for client/server applications.

  Includes the following topics:

  - Why Use APPC?
  - SNA Terminology
  - Overview of APPC Verbs
  - What Is CPI-C?
  - What Is APPN?
  - Concepts of Distributed Applications
  - Fundamental Techniques
  - Performance Techniques
  - Understanding The Network
  - Error Handling
  - Error Reporting
  - APPC Application Testing
  - Performance and Optimization
  - Designing Servers.

APPN Education

APPN Concepts, Architecture and Migration

- Course number: G3791
- Duration: 1 day
- Type: Classroom
- Audience: Technical managers and networking systems professionals interested in learning about the capabilities of APPN
- Abstract: Provides information needed to:
  - List the basic functions of APPN
  - Understand the terminology used when discussing APPN
  - Describe the functions of APPN nodes: end node (EN), network node (NN) and type 2.1 node (LEN)
  - List the benefits of APPN
  - Describe APPN's dynamic registration of resources and directory services
  - Describe the route selection process
  - Identify the role of AS/400, PS/2, 3174, NCP and VTAM in APPN
  - Describe how to combine subarea and APPN networks.

CICS Education

CICS Implementation of Intercommunication Facilities

- Course number: U3913
- Duration: 2.5 days
- Type: Classroom/labs
- Audience: Implementers of the CICS facility of ISC and MRO with CICS/ESA, CICS/MVS, CICS/OS/VM 1.7, and CICS/DOS/VS 1.7.
- Abstract: Provides information on implementing CICS intercommunication facilities, including CICS to CICS Intersystem Communication (ISC) using ACF/VTAM and APPC, and CICS Multiregion Operation (MRO) using Interregion Communication (IRC).

CPI-C Education

CPI-Communications Programming Workshop

- Course number: H3974
- Duration: 2 days
- Type: Lab/lecture
- Audience: Application programmers and designers who are planning a cooperative or APPC application.
- Abstract: This course teaches you to create a client-server or cooperative application using the SAA Common Programming Interface (CPI-C). CPIC-C applications can protect your organization's investment in application programming because, CPI-C applications can be designed to run in on any supported platform.

  During this class, you will:

  - Use CPI-C verbs to create basic one-way and two-way conversations
  - Modify your application to add more advanced code for synchronization, error handling, and security
  - Evaluate the use of advanced techniques for improving processor overlap, decreasing CPI usage, and decreasing storage usage for your application.
  - Use CPI-C services to create a usable error handling system.

Networking Education

An Introduction to Integrated Networking

- Course number: G3795
- Duration: 3 days
- Type: Classroom
- Audience: Network planners, network support personnel, or anyone who needs to understand multi-vendor environments
- Abstract: This course teaches you how to fit all the pieces of networking together. Network environments, protocols, technologies, products and issues associated with integrating the components of a multi-platform, multi-vendor network will be discussed. The class demonstrates how independent networks can interconnect or co-exist to give end-uses the capability to communicate.

AIX Education

AIX SNA Services and Host Connectivity

- Course number: Q1018
- Duration: 5 days
- Type: Lab/lecture
- Audience: RISC System/6000 system administrators, network implementers, and managers
- Abstract: Describes how to install, configure, customize, and use the host communications products provided with the RISC System/6000 product family. Also covers AIX SNA Services, including the Network Management NetView interface. Provides extensive hands-on lab exercises to reinforce the lectures.

AS/400 Education

AS/400 Communication Introduction

- Course number: G3770
- Duration: 1 day
- Type: Classroom
- Audience: AS/400 administrators, data processing managers, programmers, and system programmers who need a basic understanding of the AS/400 communication capabilities
- Abstract: Covers the communication capabilities of the AS/400 to assist you in meeting your business requirements. Discusses both hardware and software communication capabilities.

AS/400 Peer Communications

- Course number: G3771
- Duration: 3 days
- Type: Classroom
- Audience: AS/400 administrators, data processing managers, programmers, and system programmers responsible for designing, installing, implementing, or operating an AS/400 that communicates in an SNA peer environment.
- Abstract: Topics include:
  - Transferring data files and records between AS/400 systems
  - Display Station Pass Through (DSPT)
  - APPC concepts
  - Uses of Advanced Peer-to-Peer Networking (APPN)
  - APPC and APPN introduction and definitions
  - NetView File Transfer Program/400
  - Network Management.

AS/400 to S/390 Communications

- Course number: G3772
- Duration: 3 days
- Type: Classroom
- Audience: AS/400 administrators, data processing managers, programmers, and system programmers responsible for designing, installing, implementing, or operating an AS/400 system that communicates to a S/390 in an SNA environment.
- Abstract: Topics include:
  - 3270 Device Emulation overview and implementation
  - Host Command Facility concepts and implementation
  - Remote Job Entry introduction and definitions
  - Overview of Low Entry Networking
  - APPC and CPI-C considerations
  - APPN and S/390 interrelationship considerations
  - Distributed System Node Executive concepts
  - NetView File Transfer Program for the OS/400 concepts and definitions
  - Network management considerations

AS/400 Communications Programming Workshop Using CPI-C

- Course number: G3811
- Duration: 3 days
- Type: Classroom
- Audience: Application programmers who write programs that communicate with AS/400s or other systems
- Abstract: Topics include:
  - How to write AS/400 RPG or COBOL APPC programs that use a fundamental set of CPI-C calls
  - The relationship between communications programs and AS/400 subsystems.
  - How to create side information to define an AS/400 communication partner.

IMS Education

IMS/ESA V4 - Part II: APPC/IMS Implementation

- Course number: U3756
- Duration: 3 days
- Type: Classroom
- Abstract: Topics include:
  - APPC/IMS LU6.2
  - APPC/IMS support
  - APPC/IMS security
  - DL/I call changes
  - Programming considerations
  - IMS commands for APPC/IMS
  - APPC/IMS user exit
  - APPC/IMS recovery/restart
  - APPC/IMS installation issues
  - APPC exercises.

MVS Education

APPC/MVS Fundamentals

- Course number: H3922
- Duration: 1.5 days
- Type: Classroom
- Audience:
  - Application designers and programmers responsible for planning for cooperative applications
  - System programmers responsible for installing and supporting MVS resources.
- Abstract: Presents the new facilities of APPC in an MVS/ESA environment. APPC/MVS completes the MVS partnership with other SAA operating systems. APPC/MVS enables remote program access to MVS resources and allows MVS programs to initiate connections to remote applications. This course introduces both the programming support and the system support provided by APPC/MVS.

APPC/MVS Programming Workshop

- Course Number: H3975
- Duration: 1.5 days
- Type: Lab/lecture
- Audience: Application programmers and designers who are planning a cooperative or advanced program-to-program (APPC) application in a MVS/ESA environment.
- Abstract: The course teaches you to create a client-server or cooperative application using the unique MSV/ESA APPC/MVS interface. You will learn to evaluate the features offered in the MVS/ESA APPC interface, and you will explore techniques for using the APPC interface to create a multi-trans application.

  Lab exercises are built around skeletal applications coded in the REXX procedure language, PL/1, or Assembler.

  This class is a follow-on to the CPI-Communication Programming Workshop (H3974). The CPI-Communication Programming Workshop is described on page 14.

OS/2 Education

OS/2 Communications: Networking

- Course number: G4500
- Duration: 3 days
- Type: Classroom
- Audience: Individuals who are responsible for configuring OS/2 Communications Manager/2 profiles to communicate with S/390 VTAM hosts or AS/400 systems.
- Abstract: Topics include:
  - Communications Manager/2 Installation
  - 3278/9 Display emulations (graphics, cut/paste, file transfer)
  - 3287 Printer emulation (queues, drivers)
  - Advanced Program-to-Program Communication (APPC) and Advanced Peer-to-Peer Networking (APPN) concepts
  - 5250 Display emulation
  - Problem determination and network management.

OS/2 Communications: Networking Workshop

- Course number: G4501
- Duration: 4 days
- Type: Lab/lecture
- Audience: Individuals who are responsible for configuring OS/2 Communications Manager profiles to communicate with S/390 VTAM hosts or AS/400 systems.
- Abstract: Topics include:
  - Communications Manager Installation
  - 3278/9 Display emulations (graphics, cut/paste, file transfer)
  - 3287 Printer emulation (queues, drivers)
  - Advanced Program-to-Program Communication (APPC) and Advanced Peer-to-Peer Networking (APPN) concepts
  - 5250 Display emulation
  - Problem determination and network management.

VM Education

VM/ESA Communications and Connectivity

- Course number: S3740
- Duration: 5 days
- Type: Lab/lecture
- Audience: Primarily, individuals such as VM/ESA system programmers who want to expand their VM/ESA system programming knowledge to include communications and connectivity skills. Secondarily, individuals such as VTAM, MVS and VSE programmers who want to understand how communications and connectivity are implemented in a VM/ESA environment.
- Abstract: Provides the information needed to:
  - Implement GCS to support the VM communications and connectivity components, facilities and program products
  - Implement VTAM in single and multiple-domain environments
  - Implement the following components and products in a multiple-system SNA environment: VSCS, RSCS, TSAF, AVS, and VM/Pass-Through Facility
  - Implement RSCS, TSAF and VM/Pass-Through Facility in a non-SNA network environment
  - Implement Server and Requester virtual machines by defining resource managers and their users.

VM/ESA Workstation Client-Server Workshop

- Course number: S3715
- Duration: 3.5 days
- Type: Lab/lecture
- Audience: Workstation administrators, VM/ESA system programmers, and anyone that has responsibility for setting up VM service machines, and PC and PS/2 workstations that need to be connected in a client-server relationship.
- Abstract: Provides information on installing and using client-server tools to make the location of your organization's data and programs transparent to your users. You will find out how to use and install the following products to share and manage resources across your organization:
  - VM Programmable Workstation Communication Services (VM PWSCS)
  - Inter-System Facility for Communication (ISFC)
  - Workstation Data Save Facility/VM (WDSF/VM) and Data Facility Distributed Storage Manager (DFDSM).

APPC Education Offered by Other Companies

This section describes selected courses offered by the following companies:

- Amdahl Corporation
- American Data Group, Inc.
- American Institute Consulting Group
- Automated Training Systems
- Cap Programator Monitor
- Center for Advanced Professional Development
- Galaxy Consultants
- Gen2 Ventures
- Kaptronix, Inc.
- National Education Training Group
- Proginet Corporation
- Sander Group, Inc.
- Saratoga Group
- SRA
- Systems Technology Forum
- Telelead Corporation
- 21st Century Training Corporation

If you know of other companies that provide courses on APPC, APPN, and CPI-C, please let us know.

Amdahl Corporation

Amdahl Corporation offers both instructor-led and computer based training courses in the areas of operating systems, communications and data systems, open systems, application development and management.

For more information about Amdahl classes, contact:

Amdahl Corporation
1250 East Arques Avenue, Mailstop 302
P. O. Box 3470
Sunnyvale, CA 94088-3470
Phone: 800-233-9521, extension 400
In Canada, phone: 800-387-1566

Introduction to Data Communications

- Duration: 2 days
- Type: Classroom
- Audience: Individuals who need a basic understanding of the hardware and software concepts in the data communications environment
- Abstract: This course provides students with an in-depth understanding of current network hardware and software, network communications protocols and architectures, and various peer-based, advanced data communications facilities. The class provides information needed to identify basic functions such as LU 6.2, PU 2.1, LAN, ISDN, LEN, and token-ring connections.

LU 6.2 Concepts and Products

- Duration: 2 days
- Type: Public or private (onsite) seminar
- Audience: Anyone interested in implementing APPC
- Abstract: Topics include:
  - Communications Terminology and Concepts
  - APPC Conversation Architecture
  - APPC Implementation
  - CPI-C Coding
  - Design Tips
  - APPC Message Structures
  - Function Management Headers
  - General Data Stream
  - Basic Flows
  - APPN Concepts
  - SAA Concepts
  - Security Overview

SNA Desktop Seminar

- Type: DeskTop Seminar (diskettes)
- Abstract: Topics include:
  - Introduction to SNA
  - The Structure of an SNA Network
  - SNA Functional Layering
  - Architecture of Network Nodes
  - SNA Data Structures
  - How IBM Products Implement SNA.

SNA Fundamentals

- Duration: 3 days
- Type: Public or private (onsite) seminar
- Audience: Anyone interested in learning the fundamentals of SNA.
- Abstract: Topics include:
  - SNA Nodes and Links
  - SNA Network Accessible Units
  - SNA Sessions
  - SNA Message Structures
  - SNA Data Link Control
  - SNA Path Control
  - SNA Session Data Flow
  - SNA APPC and APPN.

Systems Application Architecture

- Type: DeskTop Seminar (diskettes)
- Abstract: Topics include:
  - What is SAA?
  - Common User Access (CUA)
  - Common Programming Interface (CPI)
  - Common Communications Support (CCS)
  - SAA in IBM Products.

American Data Group, Inc. Seminars

American Data Group (ADG) offers public seminars on VTAM network operations and other SNA topics at locations across the US. To ensure optimum interaction between instructors and participants, ADG limits enrollment in public seminars to 20 participants. All seminars can be tailored to your specific needs. ADG also provides system and application consulting services.

For more information about classes offered by American Data Group, contact:

American Data Group
P.O. Box 920697
Norcross, Georgia USA 30092
Phone: 800-521-0935 or 404-921-1123
Contact: Judith Anderson

LANS and WANS for IBM Network Practitioners

- Duration: 4.5 days
- Type: Public seminar
- Audience: Telecommunication analysts, system engineers, and network support personnel and managers.
- Abstract: Topics include:
  - Overview of LANS and WANS
  - LAN protocols
  - Establishment LAN designs
  - Using bridges, routers, and gateways
  - Token ring protocol elements
  - LAN networking of 3174s, PS/2s, 3745s, 6611s, 8240s, 3172s, and AS/400s
  - Planning, installing, and defining token ring networks
  - Client/server and APPN concepts
  - High bandwidth connectivity options.

SNA Concepts and Products

- Duration: 3.5 days
- Type: Public seminar
- Audience: Systems programmers, system engineers, network support and operations personnel, senior programmers, managers of SNA network support personnel, and others who require a firm SNA technical foundation
- Abstract: Topics include:
  - Introducing SNA
  - SNA Network Elements
  - Physical vs. Logical Units
  - Network Element Hierarchy
  - SNA Connectivity
  - SNA Element Structure
  - SNA Protocols
  - SNA Formats
  - Data Link Protocols
  - Distributed Processing with SNA

- Controlling SNA Networks
- Troubleshooting SNA Problems.

IBM Token-Ring for Practitioners

- Duration: 4.5 days
- Type: Public seminar
- Audience: Telecommunications analysts, system engineers, and network support personnel and managers
- Abstract: Topics include:
  - Overview of LANs
  - Token-Rings and IBM SNA Networks
  - Components of a Token-Ring
  - Using Bridges and Gateways
  - How Data Flows Across a Token-Ring
  - How Token-Rings Carry SNA Data
  - How LU 6.2 Operates on Token-Ring Networks
  - Planning, Installing, and Defining Token-Ring Networks
  - Correcting Token-Ring Problems.

VTAM for Practitioners

- Duration: 4.5 days
- Type: Public seminar
- Audience: Entry level to intermediate systems programmers, systems engineers, technical support specialists, lead network operators, and managers of VTAM implementation groups or VTAM support groups.
- Abstract: Topics include:
  - Introduction to IBM Network Products
  - SNA Review
  - Introduction to VTAM
  - Defining VTAM Application Programs
  - Defining Major and Minor Nodes
  - Using Dynamic Reconfiguration
  - Defining LANs to VTAM
  - SNA Subarea Routing
  - Client-Server and Peer-to-Peer (APPN and APPC) Networking
  - Basic VTAM and NCP Tuning
  - Basic VTAM problem determination
  - Elements of VTAM Network Operation and Introduction to Netview
  - Overview of the latest APPN and APPC announcements.

American Institute Consulting Group Courses

American Institute offers a series of hands-on training courses on data communications, LANs, and PCs. They also have a 4-level certification curriculum:

Level 1: Survey level
Level 2: Intermediate
Level 3: Advanced
Level 4: Expert

For more information about classes offered by the American Institute Consulting Group, contact:

American Institute Consulting Group
437 Madison Avenue, 23rd floor
New York, New York USA 10022
Phone: 800-345-8016 or 212-826-1260
Fax: 212-826-6411
Contact: Sue Kemp

Hands-On APPC

- Duration: 3 days
- Type: Onsite seminar
- Audience: Network planners and technicians, application programmers, systems programmers, communications managers, and LAN specialists
- Abstract: Topics include:
  - SAA and environments
  - SAA distributed applications
  - APPC
  - LU 6.2 components
  - APPC protocol boundary
  - GDS
  - Session activation
  - LEN
  - PU 2.1 components/activation
  - PU 2.1 link activation and services.

Automated Training Systems (ATS) Classes

ATS offers various self-paced, audio-cassette courses on AS/400 topics and issues.

For more information about classes offered by ATS, contact:

Automated Training Systems
21250 Califa Street, Suite 107
Woodland Hills, California USA 91367
Phone: 818-999-5753 or 800-426-8737

AS/400 APPC Topics

- Duration: Approximately 30 hours (self-paced)
- Type: Self-study (audio-cassettes, workbooks, and diskettes)
- Audience: Technical personnel responsible for communications software implementation, network design, and maintenance
- Abstract: Provides comprehensive, practical training in a variety of APPC topics. This course addresses configuring two or more AS/400s in a network using APPC, and introducing APPN. Includes a step-by-step guide to setting up switch and nonswitched configurations. Other topics include:
  - APPC Communications Configuration
  - Display Station Pass-Through (DSPT)
  - File Transfer Support (FTS)
  - Distributed Data Management (DDM)
  - System Network Architecture Distribution Services (SNADS)
  - APPN Communications Configuration.

AS/400 Connectivity Options

- Duration: Approximately 30 hours (self-paced)
- Type: Self-study (audio-cassettes, workbooks, and diskettes)
- Audience: Technical personnel responsible for network design, hardware configuration, software implementation, and maintenance
- Abstract: Provides comprehensive, practical training in connecting AS/400s and other systems using communications. Covers a five-step approach to protocol, hardware and software selection; a step-by-step guide to creating and using configurations; and a detailed look at protocols. Includes information on:
  - Planning for Remote Communications
  - Communications Configuration
  - Communication Features
  - Communication Functions Supported (APPC and APPN included)
  - Workstations and Controllers
  - Local Cabling Media
  - Troubleshooting.

Cap Programator Monitor

Cap Programator Monitor conducts courses on distributed processing and APPC, and seminars on communications with personal computers. Most seminars are conducted in Stockholm, but courses can be scheduled for other sites in Europe and the U.S.

For more information on seminars offered by Cap Programator Monitor, contact:

Cap Programator Monitor
Rådmansgatan 49
S-113 82 Stockholm Sweden
Phone: 46 8 300710
Contact: Tibor Karaszi

APPC Programming Workshop

- Duration: 4 days
- Type: Seminar and case study
- Audience: Systems analysts and programmers who need to understand how to design and code programs using APPC. Participants must be familiar with application programming in C and COBOL.
- Abstract: Topics include:
  - APPC Base Protocols
  - LU 6.2 Functions
  - Verbs in APPC
  - CPI-C
  - APPC Support and Programming for CICS
  - APPC Support and Programming for OS/2, using CPI-C
  - APPC Support and Programming for APPC/MVS, using CPI-C
  - Designing and Coding a Distributed Application.

Client/Server and Distributed Processing

- Duration: 2 days
- Type: Seminar
- Audience: Anyone responsible for planning, evaluating, or developing applications in a distributed environment
- Abstract: Topics include:
  - Overview of SAA
  - Client/Server and Cooperative Processing
  - SNA Subarea Networking
  - Advanced Peer-to-Peer Networking
  - Local Area Networks
  - Overview of APPC and CPI-C
  - Relational Databases
  - Distributed Databases
  - Presentation: CUA principles, Presentation Manager, Windows.

Center for Advanced Professional Development

The Center for Advanced Professional Development offers onsite technical seminars on SNA topics. Seminars include both instructor-led discussions and hands-on activities. Class sizes range from 5 to 75 students; a maximum of 30 students is recommended. These seminars can be customized to meet your specific requirements.

For more information on onsite seminars offered by Center, contact:

Center for Advanced Professional Development
1820 E. Garry St., Suite 110
Santa Ana, California USA 92705
Phone: 714-261-0240
Fax: 714-261-6277
Contact: Barbara Stern

Advanced SNA Topics: Peer-to-Peer Networking and SAA

- Duration: 3-5 days
- Type: Onsite seminar
- Audience: Data processing managers, systems analysts, network planners, telecommunications managers, consultants, system designers, and programmers
- Abstract: Topics include:
  - Peer-to-Peer and SAA Architectural Strategies and Issues
  - Network Architecture
  - Network Operating System and Local Area Networks
  - SNA Background
  - Extended SNA Features for Peer-to-Peer Communications
  - Productivity Implementation Extensions in Node Connectivity
  - Applications Extensions
  - SAA Basics
  - Compound Electronic Documents
  - Cooperative Processing
  - SAA Connectivity
  - Implementations of LU 6.2
  - Common User Access (CUA)
  - Common Programming Interface (CPI)
  - Common Programming Interface for Communications (CPI-C)
  - SAA Services
  - Application Design for SAA.

Concepts of SNA: Networking and Gateways

- Duration: 3-5 days
- Type: Onsite seminar
- Audience: Data processing managers, systems analysts, network planners, telecommunications managers, consultants, system designers, and programmers
- Abstract: Topics include:
  - Basis Concepts of SNA
  - VTAM and TCAM Concepts

- Layering of SNA
- SNA Operating Sequences
- SNA Network Interconnection
- Gateway Functions from Major Vendors
- Systems Management
- SNA Applications
- Protocol Converters and Terminal Emulators
- X.25 Packet Switching and Services for SNA
- SNA Updates.

SNA Concepts, Design, and Implementation

- Duration: 2 days
- Type: Onsite seminar
- Audience: Anyone interested in learning the fundamentals of the latest SNA technology
- Abstract: Topics include:
  - SNA Concepts
  - Protocol Design
  - LU-LU Session Type 6.2 (APPC)
  - Physical Unit Type 2.1 (LEN)
  - Multiple Systems Networking Facility
  - SNA Products
  - Architectural Issues and IBM Future Directions.

Galaxy Consultants Classes

Galaxy Consultants specializes in classes and consulting services in IBM SNA LU 6.2, APPC, and SAA/CPI-C. They offer a series of basic and advanced seminars for the public in major cities throughout the USA. Hotel accommodations and group discounts are available.

For more information about classes offered by Galaxy Consultants, contact:

Galaxy Consultants, Inc.
17235 Buena Vista Avenue
Los Gatos, California USA 95030
Phone: 408-354-2997
Fax: 408-354-2365

Client-Server Distributed Application Design Using APPC

- Duration: 2 days
- Type: Seminar
- Audience: Distributed application designers, programmers, analysts, APPC implementers, technical and support staff
- Abstract: Provides in-depth knowledge of APPC (LU 6.2) and SAA/CPI-C architectures and implementations, and the issues related to designing and implementing APPC distributed applications.

Introduction to SAA Distributed Network Architectures

- Duration: 1 day
- Type: Seminar
- Audience: Managers
- Abstract: Presents an overview of SAA/LU 6.2 distributed networking standards and IBM strategies for the 90's. Covers the emerging IBM communications architectures, technologies, products and strategies. Evaluates and compares SAA Common Communications with the international standards OSI and X.25.

SNA/LU 6.2 Distributed Network Concepts and Implementations

- Duration: 2 days
- Type: Seminar
- Audience: Networking and technical staff, communications specialists, network designers, analysts, and system programmers
- Abstract: Provides in-depth information on LU 6.2, Node Type 2.1 and APPC networking architectures and implementations on PC DOS, OS/2, AS/400 and IBM hosts. Covers LU 6.2 and Node Type 2.1 network message flows, network start-up and configuration, and the issues related to supporting and managing LU 6.2 distributed networks.

Gen2 Ventures Seminars

Gen2 Ventures offers public and private seminars as well as video training and self-study courses on SNA networking topics. All seminars are designed and conducted by the cofounders of Gen2 Ventures, Don Czubek and Steve Randesi. The seminars can be customized to meet your specific requirements. Gen2 Ventures also provides consulting services on APPC, APPN, CPI-C, and related technologies.

For more information on onsite seminars offered by Gen2 Ventures, contact:

Gen2 Ventures
12930 Saratoga Avenue, Suite D-5
Saratoga, California USA 95070
Phone: 408-446-2277
Fax: 408-446-4755

Cooperative Processing with SAA

- Duration: 2 days
- Type: Public or private (onsite) seminar
- Audience: Anyone who wants an in-depth understanding of SAA technologies
- Abstract: Includes the following topics:
  - Introduction to SAA
  - SAA Strategic Issues
  - Key Elements of SAA
  - Common User Access (CUA)
  - Common Programming Interface (CPI)
  - Common Communications Support (CCS)
  - SAA Products
  - SAA Directions.

Note: For those who want a basic understanding of SAA, Gen2 also offers a one-day onsite seminar on these topics.

IBM Networking for the 1990s

- Duration: 2 days
- Type: Onsite seminar
- Audience: Networking professionals who need an overview of IBM's major networking an cooperative processing architectures.
- Abstract: Includes the following topics:
  - IBM's Major Strategies
  - Review of the Current State of SNA
  - Changing Shape of SNA Networking
  - Review of the Current State of SAA
  - SAA vs. UNIX and Open Systems
  - Introduction to the SystemView Architecture
  - Impact of the SystemView Architecture on Network Management
  - How the Three Major Architectures Work Together.

Internetworking with the New SNA

- Duration: 1 day
- Type: Onsite seminar
- Audience: Networking professionals who need to know the latest developments in SNA and IBM's SNA-based products
- Abstract: Includes the following topics:
  - Review of the Current SNA Trends
  - Changing Shape of SNA Networking
  - The New Advanced Peer-to-Peer Networking (APPN)
  - Management of Peer-to-Peer SNA Networks
  - New SNA LAN Support
  - Multiprotocol Backbones for SNA Networks
  - SNA Coexistence with Other Industry Standard Protocols
  - Future of SNA Networking.

Interoperability and Internetworking with SNA

- Duration: 2 days
- Type: Public or private (onsite) seminar
- Audience: Networking professionals with a working knowledge of SNA who need to integrate products that support TCP/IP, OSI, DECnet and PC-LAN products
- Abstract: Includes the following topics:
  - Interoperability and Internetworking in SNA Networks
  - Basic Approaches to Interoperability
  - Overview of TCP/IP
  - Overview of OSI
  - Overview of DECnet
  - Overview of LAN Networking Technologies
  - The Role of Bridges
  - The Role of Routers
  - The Role of Gateways
  - Network Management Issues
  - The Future of Multiprotocol SNA Networking.

LU 6.2 and APPN Video Seminar

- Type: Videotape with student workbooks
- Audience: Networking professionals who need an update on SNA's latest technologies
- Abstract: Includes the following topics:
  - Introduction to APPC
  - LU 6.2 Base and Towers
  - APPC Conversations vs. SNA Sessions
  - Peer-to-Peer Networking in SNA
  - Overview of Low-Entry Networking (LEN)
  - APPN Node Types
  - Structure of APPN Peer-to-Peer Networks
  - How SNA Subarea Networks Fit into APPN.

SAA vs. AIX: Conflict or Coexistence?

- Duration: 2 days
- Type: Onsite seminar
- Audience: Anyone who works with either IBM's cooperative processing and networking products or AIX platforms.
- Abstract: Includes the following topics:
  - IBM's SAA Strategy
  - SAA Overview
  - SAA Platforms
  - IBM's AIX Strategy
  - AIX Family Definition
  - AIX Platforms
  - Tying SAA and AIX Together.

Selling and Supporting SNA Products

- Duration: 1 day
- Type: Onsite seminar
- Audience: Anyone involved in marketing or supporting SNA-compatible products
- Abstract: Includes the following topics:
  - Overview of the Mainframe Environment
  - Overview of SNA
  - IBM Software Packages and Products that Interface with Them
  - IBM Hardware Products
  - Compatibility and Configuration Issues.

SNA Architecture and Products Video Seminar

- Type: Videotapes with student workbooks
- Audience: Includes:
  - Sales and marketing representatives and support people
  - Executives
  - MIS/DP people
  - Network designers.
- Abstract: Includes the following topics:
  - The SNA Environment and Overview of SNA Layering (46 minutes)
  - SNA Network Components and Data Structures (41 minutes)
  - IBM's SNA Hardware and Software Products (37 minutes)
  - SNA Network Configuration and Start-Up (34 minutes)
  - SNA Functional Layers and Protocols I (34 minutes)
  - SNA Functional Layers and Protocols II (52 minutes)
  - SNA APPC and Peer-to-Peer Communications (30 minutes)
  - SNA Network Management and Application Architectures (51 minutes).

SNA Self-Study Courses

- Duration: 3-4 hours per course
- Type: PC-based interactive software
- Abstract: Gen2 provides self-study courses on the following topics:
  - SNA
  - LU 6.2 and Peer-to-Peer Communications
  - SAA, TCP/IP and OSI.

Understanding SNA

- Duration: 2 days
- Type: Public or private (onsite) seminar
- Audience: Anyone who wants a basic understanding of SNA
- Abstract: Includes the following topics:
  - SNA Architectural Layering Overview
  - SNA Architectural Components
  - SNA Data Formats
  - SNA Implementations in IBM Communications Products
  - SNA Network Operations
  - SNA Commands and Protocols
  - SNA Logical Unit (LU) Types
  - SNA Peer-to-Peer Networking
  - SNA Network Management.

Kaptronix Seminars

Kaptronix, Inc. offers various seminars taught by experts on SNA networks and PC LANs. Hands-on knowledge is a part of every teaching hour. In addition, actual examples and extensive reviews help reinforce concepts and prepare for appropriate implementation and management.

Kaptronix also offers onsite training for groups of eight or more. Onsite seminars can be customized to your specific requirements.

For more information on classes offered by Kaptronix, contact:

Kaptronix, Inc.
332 Lincoln Drive
Haworth, New Jersey USA 07641
Phone: 201-385-0992
Contact: Atul Kapoor

APPC/LU 6.2: Applications and Implementations

- Duration: 2 days
- Type: Seminar
- Audience: Technology and systems planners, systems designers and analysts, applications programmers, software support personnel, product developers, and APPC product marketing personnel
- Abstract: Provides a thorough discussion of APPC/LU 6.2 architecture and products. Also presents SAA's Common Programming Interface for Communications (CPI-C), a programming interface for both APPC and OSI transaction programs. The seminar answers the following questions:
  - What are the major characteristics of the APPC/LU 6.2 environment?
  - What are the roles of independent LUs?
  - What are the implications of PU 2.1?
  - What connectivity options are available?
  - Should you use CPI-C or the APPC API?
  - How can you use APPC/LU 6.2 in a PC/LAN environment?
  - How do you build applications, especially distributed applications, in these environments? What are the pitfalls?

Networking and Interoperability with IBM Systems

- Type: Seminar
- Abstract: Set of seven seminars touring the US. Seminars include:
  - Data Communications Concepts
  - SNA Fundamentals
  - Token Ring and SNA: Gateways, Bridges, and Network Management
  - SNA Gateways and Interoperability
  - APPC/LU 6.2: Applications and Implementations (see description above).

National Education Training Group

The National Education Training Group offers a wide range of multimedia courses.

For more information about courses offered by the National Education Training Group, contact:

National Education Training Group
1751 West Diehl Road
Naperville, Illinois USA 60563
Phone: 800-323-0377 or 708-369-3000

APPC (LU 6.2)

- Duration: 7.5 hours
- Type: Linear video
- Audience: IS managers; systems analysts and designers; data base administrators and designers; and programmers
- Abstract: Topics include:
  - SNA Review
  - LU 6.2
  - APPC: Programming and Verbs
  - APPC: SNA Layers with LU 6.2
  - APPC: Platforms and Market Analysis

SNA's Structure

- Duration: 5-7.5 hours
- Type: Linear video and student workbook
- Audience: Users of IBM's SNA products, or those who need to interface to IBM products.
- Abstract: Examines the following topics:
  - How SNA sessions are established using SSCP, PU, and LU including session recovery
  - How to apply LU 6.2 (APPC) and PU 6.1 technology
  - How SNA layers construct and dissect messages.

SNA: A Layered Architecture

- Duration: 12-16 hours
- Type: Interactive or linear video
- Audience: Technical managers, system programmers, network designers, and administrators
- Abstract: Examines the following topics:
  - SNA concepts and terminology
  - SNA layers and the way they communicate
  - Key services and functions performed by SNA layers
  - Logical unit types, APPC concepts, and LU 6.2 facilities
  - General requirements for interconnecting networks.

Proginet Corporation Seminars

Proginet Corporation offers courses on LU 6.2 and related topics at locations in Europe, Africa, Australia, and North America. Proginet's training focuses on third-party implementations of LU 6.2. Proginet also provides consulting, systems integration, software, and publications on LU 6.2.

For more information on seminars offered by Proginet, contact:

Proginet Corporation
50 Charles Lindbergh Boulevard
Uniondale, New York USA 11553
Phone: 516-228-6616
Fax: 516-228-6605
Contact: Joe Mohen

Logical Unit 6.2

- Duration: 2 days
- Type: Seminar with case studies and exercises
- Audience: Managers, strategists, programmers, systems programmers, support staff, data communications specialists
- Abstract: Provides a detailed investigation of LU 6.2 and APPC, and their implementations in an IBM environment. Topics include:
  - Review of SNA Fundamentals
  - Introduction to APPC
  - Overview of Verbs
  - Option Sets
  - Composition of the Logical Unit
  - Transmission Control Layer
  - Data Flow Control
  - Presentation Services
  - Security
  - Protocol Boundary for Transaction Programmers
  - Debugging
  - Market Review of APPC Platforms
  - Practical Considerations and Performance Considerations
  - Common Programming Interface for Communications.

Sander Group, Inc.

Sander Group, Inc. offers training on IBM software, SNA, LANs, TCP/IP, data communications, Digital's Networking Architecture, and Digital-IBM interoperability.

For more information on classes offered by the Sander Group Inc., contact:

Sander Group, Inc.
346 Prestonfield Lane
Severna Park, MD 21146
Phone: 410-647-6655
Fax: 410-647-0998
Contact: Ron Sander

APPC and Friends

- Duration: 2 or 3 days
- Type: Onsite. Class notes are provided.
- Audience: Anyone planning to use, program or interface to IBM's APPC, LU 6.2, or CPI-C.
- Abstract: Topics include:
  - Quick review of SNA
  - What is APPC and Logical Unit 6.2?
  - APPC/APPN Network Applications
  - APPC Verbs
  - Systems Application Architecture and SystemView
  - CPI-C in IBM, OSI, OSF/1 and TCP/IP
  - IBM and other LU 6.2 Implementations.

APPN

- Duration: 2 days
- Type: Onsite. Class notes are provided.
- Audience: Anyone planning to implement, use, or market IBM's Advanced Peer-to-Peer Networking.
- Abstract: Topics include:
  - Physical Unit 2.1 and Logical Unit 6.2 Technologies
  - APPN Networking Procedures
  - Managing APPN Networks
  - Designing and APPN Backbone
  - IBM APPN Implementations.

The Saratoga Group

The Saratoga Group offers a series of one or two day onsite technical seminars, as well as "personal trainer" (self-study) courses on SNA networking technologies, including APPC (LU 6.2), and APPN.

Onsite seminars can be customized to address the specific technical issues that are important to your organization.

The "personal trainer" products are available in several formats: PC software, audio cassettes, and/or videotapes. In addition, hard-copy reference materials accompany each course. These materials include:

- A Reference Guide, which provides a concise presentation of key topics related to the subject
- A Reference Card, which lists important acronyms, products, and/or topics that users can scan quickly.

For more information on courses offered by The Saratoga Group, contact:

The Saratoga Group
12930 Saratoga Avenue, Suite A-1
Saratoga, California USA 95070
Phone: 408-446-9115
Fax: 408-446-4755
Contact: Stuart Skjerven

APPN Architecture and Products

- Duration: 2 days
- Type: Onsite seminar
- Abstract: Provides a comprehensive analysis of APPN, and how APPN is implemented in IBM products, such as OS/2 Extended Services, the AS/400, and VTAM/NCP.

LU 6.2 and APPN

- Type: DeskTop Seminar (diskettes)
- Abstract: Topics include:
  - Evolution of SNA and Logical Unit 6.2
  - LU 6.2 (APPC)
  - Advanced Peer-to-Peer Networking (APPN)
  - LU 6.2 and APPN in IBM Products
  - LU 6.2 and APPN in Systems Application Architecture.

Systems Application Architecture (SAA) Overview

- Duration: 1 day
- Type: Onsite
- Abstract: An introduction to SAA. SAA components, products, and directions are discussed.

SNA Architecture and Products

- Duration: 2 days
- Type: Onsite seminar
- Abstract: Technical introduction to IBM's Systems Network Architecture (SNA), including key concepts, protocols, and functions at each architectural layer.

SNA Desktop Seminar

- Type: DeskTop Seminar (diskettes)
- Abstract: Topics include:
  - Introduction to SNA
  - The Structure of an SNA Network
  - SNA Functional Layering
  - Architecture of Network Nodes
  - SNA Data Structures
  - How IBM Products Implement SNA.

SNA Overview

- Duration: 1 day
- Type: Onsite seminar
- Abstract: Provides an introduction to Systems Network Architecture (SNA), including basic concepts, layers, connectivity, logical units. Also discusses how Advanced Peer-to-Peer Networking (APPN) is revolutionizing SNA networking.

Systems Application Architecture

- Type: DeskTop Seminar (diskettes)
- Abstract: Topics include:
  - What is SAA?
  - Common User Access (CUA)
  - Common Programming Interface (CPI)
  - Common Communications Support (CCS)
  - SAA in IBM Products.

Using Advanced Program-to-Program Communications

- Duration: 2 days
- Type: Onsite seminar
- Audience: Application programmers
- Abstract: Topics include:
  - LU 6.2 architecture
  - Refining and completing transaction processing verbs
  - Control operator verbs
  - SAA Common Programming Interface
  - An APPC case study (a test program running a local conversation).

APPC for the OS/2 environment is used to show the details necessary for mastering APPC technology. A case study of an actual LU 6.2 transaction program shows the step-by-step process of using APPC.

SRA Self-Study Courses

The self-study courses from SRA are designed to complement IBM's curriculum of classroom courses. You can take these courses at IBM Learning Centers or your own business location.

SRA courses follow a mini-course format; many hours of instruction are divided into manageable 20- to 40-minute segments. Exercises, usually provided on PC diskettes, give students an opportunity to practice the skills presented, while mastery tests help students evaluate their performance.

SRA courses are available in many media, from self-study manuals to the most sophisticated interactive video. Most SRA courses also include a Personal Reference Guide, the student's guide to the course. Personal Reference Guides serve as workbooks during the course and as valuable reference tools afterwards.

To order SRA classes, contact:

SRA
Phone: 800-SRA-1277
Fax: 312-984-7935

For information on invoices and billing, contact:

SRA Direct
Phone: 312-984-7317

For other inquiries, contact:

SRA Customer Support
Phone: 312-984-7110

APPC and CPI-C

- Course number: 34605
- Duration: 3 hours
- Type: Self-study (4 videotapes)
- Audience: Application and systems programmers, operators, teleprocessing and network personnel, technical staff
- Abstract: Compares the strengths and weaknesses of different designs for APPC servers. Become fluent in idiomatic APPC, learn to structure APPC conversations for specific applications.

IBM Enterprise Connectivity Controllers

- Course number: 32528
- Duration: 5-7 hours
- Type: Self-study (text, videotape)
- Audience: Network management, technical, and operations personnel; communications systems programmers
- Abstract: Technical overview of enterprise connectivity and peer-to-peer communications. Includes APPC, APPN, TCP/IP, the IBM 3172 and 3174 controllers, and the 6611 Network Processor.

Systems Network Architecture

- Course number: 34705
- Duration: 1 hour
- Type: Self-study (1 videotape)
- Audience: Operations, systems, communications, applications, end users.
- Abstract: Teaches the structure and components of an SNA network with emphasis on logical rather than physical components.

SNA Features and Architecture

- Course number: 34604
- Duration: 2.5 hours
- Type: Self-study (4 videotapes)
- Audience: Application and systems programmers, operators, teleprocessing and network personnel, technical staff
- Abstract: Explains the step-by-step implementation of features, including token-ring, PU 2.1, independent logical units, and APPN.

SNA Fundamental Series

- Course number: 32044
- Type: Self-study (diskettes, texts, videotape)
- Abstract: Covers the overall hardware and software environment into which SNA fits. The courses included in the series include:
  - The SNA Environment (course number 32045)
  - SNA Sessions between Logical Units (course number 32046)
  - Configuring and Controlling SNA Networks (course number 32047).

SNA LU 6.2 Data Flow and Transaction Programming

- Course number: 32054
- Duration: 5-7 hours
- Type: Self-study (computer-based training)
- Audience: Systems analysts and technical staff
- Abstract: Covers the capabilities of LU 6.2 and Node Type 2.1 architectures, and shows how implementations of these architectures provide APPC facilities. (APPC is the program interface associated with LU 6.2.)

SNA Sessions between Logical Units

- Course number: 32046
- Duration: 5-7 hours
- Type: Self-study (text, diskettes)
- Audience: Systems analysts and technical staff

- Abstract: Provides a basis for understanding SNA technologies. Serves as a foundation for more advanced courses on SNA.

Systems Technology Forum Seminars

Systems Technology Forum seminars are conducted by professionals in the telecommunications field. In-class presentations are enhanced by computer-generated graphics. Course materials include a course notebook.

For more information on seminars offered by Systems Technology Forum, contact:

Systems Technology Forum
6430 Rockledge Drive, Suite 600
Bethesda, Maryland USA 20817
Phone: 800-336-7409 or 301-564-6931
Fax: 301-564-6707

Advanced SNA: APPC

- Duration: 2 days
- Type: Onsite
- Audience: Product managers, data network professionals, systems managers, telecommunications analysts, senior programmers, computer analysts, and project leaders.
- Abstract: Offers an in-depth understanding of LU 6.2 and SNA. Provides detailed information, both practical and theoretical, about the new form of connectivity, the new program interface, and other new architectures Examines five different implementations of LU 6.2: System/38, AS/400, Scanmaster, APPC for the IBM PC under DOS and OS/2.

  SNA Transaction Programmer's Reference Manual for LU 6.2 is used as a reference manual for this course.

Systems Network Architecture (SNA)

- Duration: 3 days
- Type: Seminar
- Audience: Managers of telecommunications, systems engineers, communications managers, communications software specialists, and network planners
- Abstract: Focuses on SNA as a data communication architecture: its concepts, components, and protocol. Addresses SNA as it may apply to your communication strategies. Reviews the advantages and disadvantages of all SNA network topologies. Covers various aspects of components, functions, and protocol as they relate to commercial products.

  IBM Systems Network Architecture Technical Overview is used as a reference manual for this course.

Telelead Corporation

Telelead Corporation specializes in providing courses and consulting services dealing with telecommunications. The telecommunications classes are designed especially for the professional engineer, programmer/analyst, planner, and technical manager.

For more information about classes offered by Telelead, Inc., contact:

Jim Cavin
Telelead Corporation
2 Kanawa Lane
Raleigh, North Carolina, 27614
Phone: (919) 847-2018
Fax: (919) 846-6621

SNA: An Executive Perspective

- Duration: 1.0 Day
- Type: Classroom Briefing
- Audience: Management personnel interested in the functions and concepts supported by SNA. No prior knowledge of SNA is assumed.
- Abstract: When introduced in 1974, SNA supported a hierarchical approach to networking. This class explains the functions needed to reorient SNA to the peer networking environment. These functions include rerouting, network topology maintenance, directory services, and session services.

SNA/APPN Structures and Components

SNA/APPN Structures and Components provides the course participant with a solid brick and mortar foundation on the basic concepts and structures, component function, and control flow of SNA. Emphasis is placed on the protocols and network flows of Subarea SNA, with an introduction to APPN and LU6.2.

- Duration: 2.0 Days
- Type: Classroom
- Abstract: Topics include:
  - SNA Node Types
  - SNA Network Addressable Units - SSCP, PU, and LU
  - SNA layers and session control
  - Path Control Routing - Subarea, ER, VR, and COS
  - Logical Unit Types
  - Error recovery and network management
  - SNA Network Interconnect
  - Introduction to APPN and LU 6.2

Peer SNA - APPC/APPN

Peer SNA - APPC/APPN presents the concepts, terminology, functions, and flows of Advanced Peer-to-Peer Networking (APPN) to support LU 6.2 (Advanced Program-to-Program Communications, APPC) sessions. Emphasis is placed on the control and data flows to support APPN and LU 6.2 sessions in Node Type 2.1 and subarea composite node environments.

- Duration: 2.0 Days
- Type: Classroom
- Audience: Development Professionals
- Abstract: Topics include:
  - LU 6.2 - Structure, components, sessions, and applications
  - Node Types - T2.1, APPN Network Node and APPN End Node
  - APPN Function - Configuration, Directory, Topology & Routing, Session Activation, Intermediate Routing, and Data Transport

21st Century Training Corporation Courses

21st Century Training Corporation offers technical training on APPC and SNA topics, as well as seminars on language and programming skills, specialized software, and design and management concepts. All training can be customized to meet specific educational and technical needs.

For more information on 21st Century Training Corporation courses, contact:

21st Century Training Corporation
P.O. Box 390
Marlboro, New Jersey USA 07746
Phone: 908-946-7600
Fax: 908-946-3332
Contact: Eileen Quinn

Advanced Program-to-Program Communication

- Duration: 4-5 days
- Type: Customized seminar with labs
- Abstract: Topics include:
  - Overview of Distributed Processing
  - Introduction to APPC Concepts
  - APPC Verb Set
  - Attach Manager
  - Coding Conventions
  - Managing Links and Sessions
  - APPC in Other Environments.

AS/400 Advanced Program-to-Program Communications

- Duration: 3 days
- Type: Customized seminar
- Abstract: Topics include:
  - Introduction to Distributed Processing
  - Overview of SNA Concepts
  - APPC Verb Set
  - OS/400 APPC
  - Configuring OS/400 APPC
  - APPC in Other Environments.

IBM Manuals and Publications on APPC

This section lists over 150 different IBM publications on APPC, APPN, CPI-C, and related topics. This section provides brief descriptions of the following types of publications:

- General publications on distributed computing
- APPC, APPN, and CPI-C publications
- Publications for each of the platforms on which APPC is available
- Technical SNA publications
- Inter-Operation Test Services (IOTS) information.

Ordering IBM Publications

You can order IBM publications either from your local IBM branch office, or from IBM Software Manufacturing and Delivery.

You can order publications from IBM Software Manufacturing and Delivery either by phone or by fax. You can pay for your purchase with a VISA, MasterCard or Diners Club credit card, or you can use your IBM customer number. An IBM customer number is not required if you use a credit card.

- To order by phone, call 800-879-2755 (toll-free in the USA), select option 1, and place your order with the operator.
- To order by fax, call 800-284-4721 (toll-free in the USA). You can obtain an order form from your local IBM branch office, or you can make up your own. Make sure the order form contains the following information:
  - The name, phone number, and fax number of the person placing the order.
  - The publication's order number. IBM publication order numbers contain eight alphanumeric characters, and a dash. For example, AB12-3456.
  - Method of payment. If you are using a credit card, provide the credit card type, account number, and card expiration date. Otherwise, provide your IBM customer number.
  - The "Ship To" address, and the name of person who will receive the order.

Read These Books First

These books provide an excellent introduction to APPC, CPI-C, and APPN.

APPC and CPI-C Product Implementations, GG24-3520. Shows how different products have implemented LU 6.2 and compares the different product implementations against the LU 6.2 architecture. Contains chapters comparing APPC to NetBIOS, TCP/IP, and OSI.

APPN Architecture and Product Implementation, GG24-3669. Contains a tutorial on APPN, and an overview of the various product implementations.

CD-ROM: The Best of APPC, APPN and CPI-C

The Best of APPC, APPN and CPI-C, SK2T-2013. Many of the books listed in this section are available on this CD-ROM.

Distributed Computing

Note: See also the distributed computing publications from other sources on 74.

This section lists current IBM publications on general topics in distributed computing.

Transaction Processing: Concepts and Products, GC33-0754. Provides an overview of transaction processing and describes IBM's transaction processing products.

Client/Server Computing Application Design Guidelines: A Distributed Relational Data Perspective, GG24-3727. Assists managers, analysts and project leaders in the evaluation, design, and development of distributed applications based on the client/server computing models and the use of the capabilities of database management systems that implement the Distributed Relational Database Architecture (DRDA).

Client/Serve Computing Application Design Guidelines: A Transaction Processing Perspective, GG24-3738. Reviews client/server computing implementations using current technology products and software. It presents considerations and guidelines to assist in designing client/server computing applications running on SAA platforms.

APPC, APPN, and CPI-C Publications

This section lists current IBM publications related to general APPC, APPN, and CPI-C topics.

APPC (Advanced Program-to-Program Communication)

APPC and CPI-C Product Implementations, GG24-3520. Shows how different products have implemented LU 6.2 and compares the different product implementations against the LU 6.2 architecture. Contains chapters comparing APPC to NetBIOS, TCP/IP, and OSI.

Program-to-Program Communications in SAA Environments, GG24-3482.

Systems Network Architecture Technical Overview, GC30-3073.

SNA Transaction Programmer's Reference Manual for LU 6.2, GC30-3084. Presents detailed information on the functions that SNA LU 6.2 provides to systems and applications programs through the description of the protocol boundary for LU 6.2.

SNA LU Type 6.2 Reference: Peer Protocols, SC31-6808. A detailed, formal, and comprehensive definition of LU 6.2 using SSCP-independent protocols.

SNA APPN Architecture Reference, SC30-3422.

Customer Cues Coexistence Solution Series, G320-9561. Discusses Forest Computer's Connection Systems, which allows AS/400 and DEC VAX computers to coexist by joining SNA and DECnet networks. LU 6.2 is discussed.

Advanced Architectures: APPC, SNADS, DIA, and DCA, GG22-9105. Examines the relationship between APPC, SNADS, DIA, and DCA. Emphasis on APPC and SNADS and how together these architectures provide an advanced form of communication through an SNA network, and form a base to support architectures for specific applications, such as DIA and DCA.

Low Entry Networking and APPC, GG22-9137.

Enterprise Networking with SNA T2.1 Nodes, GG24-3433.

APPN (Advanced Peer-to-Peer Networking)

APPN Architecture and Product Implementation, GG24-3669. Contains a tutorial on APPN, and an overview of the various product implementations.

SNA APPN Architecture Reference, SC30-3422.

AS/400 with PS/2 APPN, 3174 APPN, 5394 and Subarea Networking, GG24-3717. Describes the concepts, configurations and flows between APPN network nodes, APPN end nodes, and Low-Entry Networking (LEN) nodes. It provides a number of scenarios with these nodes interacting both through and independently of a subarea network.

An Overview: Advanced Peer-to-Peer Networking, GC38-7026. Discusses SNA LEN as a new extension to the SNA architecture that supports peer-to-peer communications S/36 and AS/400.

3174 APPN Implementation Guide, GG24-4174. Describes the 3174 Establishment Controller Configuration Support-C Release 1 Licensed Internal Code APPN and Peer Communication customization.

CPI-C (Common Programming Interface for Communications)

Note: A related book, *X/Open Developer's Specifications (CPI-C)* is described on page 75.

Common Programming Interface Communications Specification, SC31-6180. Contains architecture specification for CPI-C Version 1.2 This is a common programming interface for program-to-program communication (APPC, LU 6.2, and OSI TP).

SAA Common Programming Interface Communications Reference, SC26-4399. The definitive reference on CPI-C verbs and usage. The latest edition of this book includes CPI-C information for CICS, MVS, and OS/2.

Program-to-Program Communications in Systems Application Architecture (SAA) Environments, GG24-3482. Provides extended information on configuring VM, OS/2, and OS/400. for SAA communications.

AS/400 CPI Communications Selected Topics, GG24-3722. Describes the OS/400 Communication Programming Interface-Communications (CPI-C) support. It provides tips and hints on how to design, program and test CPI-C programs effectively.

Common Programming Interface Resource Recovery Reference, SC31-6821. Defines the resource recovery element of the SAA common programming interface (CPI). SAA resource recovery, also known as CPI Resource Recovery, provides a consistent interface to system services that enable programs to coordinate exchanges of data and updates to databases and other resources.

VM Programmable Workstation Communication Services, Programming for VM PWSCS, SC24-5586. VM PWSCS provides a CPI-C programming interface for developing applications that communicate between VM and either DOS, Microsoft Windows, OS/2, or AIX workstations. While the application programming interface is CPI-C, the underlying communications protocol is not APPC/LU 6.2.

VM/ESA R2 Common Programming Interface Communications User''s Guide, SC24-5595. Provides step-by-step instructions for using CPI-C communications to write communications programs for the CMS environment. Sample programs show how to use CPI-C calls, and the CMS CPI-C extensions.

Introduction to CPI-C Programming in an AIX SNA Environment, GG22-9510. Introductory guide for transaction programmers who are unfamiliar with either CPI-C or the AIX programming environment. It can also be used as a reference for experienced programmers.

Publications for Product Platforms

The product platforms are listed below in alphabetical order. Publications that apply to more than one platform appear under each of the appropriate platforms.

General Information on IBM Platforms

Network Products Reference, GX28-8002. Provides a concise reference for IBM communications software and hardware products.

AIX on the RISC System/6000

AIX Version 3: Communications Concepts and Procedures, GC23-2203. Describes how to define the SNA profiles required to establish communication from the RISC System/6000 to other APPC systems.

Introduction to CPI-C Programming in an AIX SNA Environment, GG22-9510. Introductory guide for transaction programmers who are unfamiliar with either CPI-C or the AIX programming environment. It can also be used as a reference for experienced programmers.

Using AIX SNA Services/6000, SC31-7002. Provides end-user information for the SNA Services/6000 product. Describes installation, configuration, operation, and problem resolution information.

AIX SNA Services/6000 Writing Transaction Programs, SC31-7003. Provides application program interface information for the SNA Services/6000 product. Includes information on how to design, code and test SNA Services/6000 transaction programs.

VM Programmable Workstation Communication Services, Programming for VM PWSCS, SC24-5586. VM PWSCS provides a CPI-C programming interface for developing applications that communicate between VM and either DOS, Windows, OS/2, or AIX workstations. While the application programming interface is CPI-C, the underlying communications protocol is not APPC/LU 6.2.

AS/400

AS/400 Communications: APPN Network User's Guide, SC21-8188. Describes the APPN support provided by the AS/400 system. Also describes APPN concepts and provides information for configuring an APPN network. APPN advanced considerations and configuration examples are included.

AS/400 Communications: APPC Programmer's Guide, SC21-8189. Describes the APPC support provided by the AS/400 system and is intended to be used as a guide for developing application programs and defining the communications environment.

AS/400 CPI Communications Selected Topics, GG24-3722. Describes the OS/400 Communication Programming Interface-Communications (CPI-C) support. It provides tips and hints on how to design, program and test CPI-C programs effectively.

Examples of APPC Between the AS/400 and CICS, GC21-8183. A short book containing two extended examples of APPC between the AS/400 and CICS on MVS.

AS/400 with PS/2 APPN, 3174 APPN, 5394 and Subarea Networking, GG24-3717. Describes the concepts, configurations and flows between APPN network nodes, APPN end nodes, and Low-Entry

Networking (LEN) nodes. It provides a number of scenarios with these nodes interacting both through and independently of a subarea network.

OS/2 EE APPC to AS/400 APPC Programming, GC21-8247. Demonstrates how to use the OS/2 EE API to allow application programs running on a OS/2 system to communicate with application programs running on an AS/400 system

AS/400 PC Support: DOS Router Application Program Interface Reference, SC21-8254. Describes the APPC program interface provided by the PC Support DOS router function.

AS/400 PC Support: DOS and OS/2 Technical Reference, SC21-8091.

AS/400 PC Support: OS/2 Planning and Installation Guide, SC21-8196.

AS/400 Communications: User's Guide, SC21-9601.

AS/400 Programming: Performance Capabilities Reference, ZC21-8166.

IBM AS/400 - Consultant Reports on Client/Server Computing (by INTECO Corporation), G325-4131, 4/91.

AS/400 Distributed Systems Implementation Guide Volume 3, GG22-9458. Discusses the decision criteria that must be considered when choosing a topology for an AS/400 System APPN network.

S3/X and AS/400 APPN Nodes Using the SNA/LEN Subarea, GG24-3288. Describes the incorporation of a S/370 SNA subarea into a network containing APPN network nodes. Intended for systems programmers and systems engineers in the intermediate systems and VTAM/NCP areas.

AS/400, System/38, and PS/2 as T 2.1 Nodes in a Subarea Network, GG24-3420. Contains information on the implementation of APPN in a network consisting of an AS/400, an S/38, a PS/2, and a S/370 SNA subarea network.

Managing Multiple AS/400s in a Peer Network, GG24-3614. Describes the tasks required to manage multiple AS/400 systems in a networked environment with AS/400 acting as the management focal point.

AS/400 Communications: APPC and APPN User's Guide, SC21-9598 or SQ00-1254. Describes the APPC and APPN support provided by the AS/400 system and is intended to be used as a guide in developing communications application programs that use APPC/APPN.

Networking Services/2 Installation, Customization, and Operation, GG24-3662. Provides planning information for Networking Services/2. Contains an extended example on connecting Networking Services/2 and AS/400, with their respective configurations.

Networking with AS/400s in an SNA Network, GG66-3161.

Transaction Processing: Concepts and Products, GC33-0754. Provides an overview of transaction processing and describes IBM's transaction processing products. Includes an appendix on AS/400.

5494 and OS/2 Extended Services: Connecting Remote User Groups to AS/400s, GG24-3828. Describes using the 5494 remote control unit and OS/2 Extended Services as different means for connecting remote work groups to an AS/400 system. Connection to different systems in an APPN network is also covered.

CICS (Customer Information Control System)

Examples of APPC Between the AS/400 and CICS, GC21-8183. Short book containing two extended examples of APPC between the AS/400 and a System/370 running CICS.

OS/2 and CICS/ESA Distributed Function: Implementation Example with CPI Communications, GG24-3768. Intended for those planning to implement an SAA cooperative processing application with distributed functions between OS/2 client and CICS/ESA server environments using CPI-C.

CICS/OS/VS Version 1 Intercommunication Facilities Guide, SC33-0230. Contains guidance information on intersystem communication (CICS to CICS, CICS to APPC system, and CICS to IMS/VS) and CICS multiregion operation.

CICS/MVS 2.1 Intercommunication Guide, SC33-0519. Contains guidance information on intersystem communication (CICS to CICS, CICS to APPC system, and CICS to IMS/VS) and CICS multiregion operation.

CICS/ESA Version 3 Intercommunication Guide, SC33-0657.

CICS/ESA Version 3.1.1 Application Programmer's Reference, SC33-0676.

CICS ESA Version 3.3 Distributed Transaction Programming Guide, SC33-0783. Provides guidance in designing and developing application programs that exchange data through distributed transaction processing (DTP) on APPC, LU 6.1, and MRO links.

CICS/VSE Intercommunication Guide Version 2, SC33-0701. Contains guidance information on intersystem communication (CICS to CICS, CICS to APPC system, and CICS to IMS/VS) and CICS multiregion operation.

Experiences Connecting APPC/PC and CICS/VS with the 3174 Token-Ring, GG66-0287. *AS/400 with PS/2 APPN, 3174 APPN, 5394 and Subarea Networking*, GG24-3717. Describes the concepts, configurations and flows between APPN network nodes, APPN end nodes, and Low-Entry Networking (LEN) nodes. It provides a number of scenarios with these nodes interacting both through and independently of a subarea network.

APPC Security in a Network with System/36, System/38, and CICS/VS, GG22-9427. Intended as a guide for systems programmers for implementing LU 6.2 security between System/36, System/38, and CICS systems.

National Support Center CICS/VS APPC, G320-0579. Views APPC primarily from a CICS/VS perspective. However, most of the information about the reasons for the evolution of this architecture and the functions it provides may be applied to other products implementing support for LU 6.2.

Transaction Processing: Concepts and Products, GC33-0754. Provides an overview of transaction processing and describes IBM's transaction processing products. Includes an appendix on CICS.

CICS OS/2

CICS OS/2 Version 1.20 System and Application Guide, SC33-0616.

Communicating with CICS OS/2, SC33-0736.

CICS OS/2 Communications with CICS/VSE, GG24-3460. Designed to be a cookbook for installing and

configuring CICS OS/2 and for configuring and testing Function Shipping (FS) and Transaction Routing (TR) on an LU 6.2 link.

CICS OS/2 and CICS/ESA Cooperative Processing: Implementation Examples, GG24-3541.

DOS

Networking Services/DOS User's Guide and Reference, S20G-0438. Explains how to plan for, configure, and use Networking Services/DOS (NS/DOS). Also provides information on writing distributed applications and diagnosing problems with NS/DOS.

APPC/PC User Application Interface, GG24-3025.

Introduction to Programming for APPC/PC, GG24-3034. Provides an introduction to APPC/PC which allows users to write transaction programs for a PC that will execute in cooperation with transaction programs on other APPC systems, according to the LU 6.2 architecture.

IBM APPC/PC Programming, SX27-3757.

Experiences Connecting APPC/PC and CICS/VS with the 3174 Token-Ring, GG66-0287.

APPC/PC Programming Guide, SC40-0100. This publication helps application programmers develops programs that use the APPC/PC API and can communicate with other APPC systems.

AS/400 PC Support: DOS Router Application Program Interface Reference, SC21-8254. Describes the APPC program interface provided by the PC Support DOS APPC router function.

AS/400 PC Support: DOS and OS/2 Technical Reference, SC21-8091.

VM Programmable Workstation Communication Services, Programming for VM PWSCS, SC24-5586. VM PWSCS provides a CPI-C programming interface for developing applications that communicate between VM and either DOS, Windows, OS/2, or AIX workstations. While the application programming interface is CPI-C, the underlying communications protocol is not APPC/LU 6.2.

IMS (Information Management System)

IMS/VS LU 6.2 Adapter Function and Implementation, GG24-3323. Provides hints and tips for installing, implementing and customizing the Adapter for LU 6.2 application.

Client/Server Computing with IMS/ESA Using APPC, GG24-3981. Describes the APPC implementation of IMS/ESA, Version 4.1. Provides an overview of client/server concepts, APPC and IMS concepts, and how IMS/ESA Version 4.1 has implemented APPC support. Explains how the MVS, IMS, and OS/2 environments must be configured to communicate with IMS using APPC.

IMS/VS Version 2 Release 2 LU 6.1 Adapter for LU 6.2 Applications, SC26-4328. Describes how to install and operate the IMS LU 6.1 Adapter for LU 6.2 applications in an installation.

IMS/ESA V3R1 LU 6.1 Adapter for LU 6.2, SC26-4392. Describes how to install and operate the IMS LU 6.1 Adapter for LU 6.2 applications in an installation.

IMS LU 6.1 Adapter for LU 6.2 Applications, SH20-9254. Describes the tasks a system programmer or applications programmer must perform to use the IMS/VS LU 6.2 Adapter.

Transaction Processing: Concepts and Products, GC33-0754. Provides an overview of transaction processing and describes IBM's transaction processing products. Includes an appendix on CICS.

MVS (Multiple Virtual Storage)

APPC System Definitions in MVS/ESA and OS/2, GG66-3224. Provides information to assist with tasks necessary to make the system definitions that are necessary for cooperative applications between APPC/MVS and OS/2 Extended Edition.

APPC Programming Considerations in MVS/ESA and OS/2, GG24-3818. Provides information about developing cooperative applications using APPC/MVS and Networking Services/2 in the MVS/ESA and OS/2 environments.

APPC Security: MVS/ESA, CICS/ESA and OS/2, GG24-3960. Helps users define a security policy when APPC/MVS, CICS/ESA, and OS/2 are part of a cooperative processing application. Describes the security facilities provided by these products and outlines factors to consider when defining such policy.

APPC Application Examples in MVS/ESA and OS/2, GG24-3819. Provides examples of cooperative applications in an OS/2 to APPC/MVS environment.

APPC System Definitions in MVS/ESA and OS/2, GG66-3224. Provides information to assist with tasks necessary to make the system definitions that are necessary for cooperative applications between APPC/MVS and OS/2 Extended Edition.

APPC Security: MVS/ESA, CICS/ESA and OS/2, GG24-3960. Helps users define a security policy when APPC/MVS, CICS/ESA, and OS/2 are part of a cooperative processing application. Describes the security facilities provided by these products and outlines factors to consider when defining such policy.

APPC/MVS Server Facilities Presentation Guide, GG24-3863. Describes the functions provided by the APPC implementation in MVS/ESA (APPC/MVS) that is available in MVS/ESA SP 4.3.0.

MVS/ESA Applications Development: Writing Transaction Programs for APPC/MVS, GC28-1121. Describes how to design, code, and test APPC/MVS transaction programs, and how to define MVS using TP profiles and side information.

MVS/ESA Planning: APPC Management, GC28-1110.

MVS/ESA APPC/MVS Handbook for the OS/2 System Administrator, GC28-1133.

MVS/ESA SP Version 4 APPC/MVS, GG24-3596. Describes the functions provided by the implementation of the APPC protocols in APPC/MVS.

SAA and LU 6.2 Considerations for CICS/MVS Applications, GG24-3295. Contains guidelines on CICS/MVS application design in an SAA environment using LU 6.2 communication.

Performance Considerations in an APPC/MVS Environment, GG66-3206. Intended to help customers tune APPC/MVS and APPC/MVS applications.

VTAM Programming for LU 6.2 V3R3 for MVS, VM and VSE/ESA, SC31-6410. Describes VTAM's LU 6.2 programming interface for host application programs.

OS/2

Communications Manager/2 Version 1 APPC Programming Guide and Reference, SC31-6160. Provides information necessary to create application programs in C, COBOL, or Macro Assembler that utilize the APPC programming interface functions.

Communications Manager/2 Version 1 System Management Programming Reference, SC31-6173. Provides detailed descriptions of the APPN configuration and subsystem management verbs. These verbs allow configuration and management of APPN nodes.

Communications Manager/2 Version 1 Application Programming Guide, SC31-7012. Describes how to write application programs for Communications Manager.

ES OS/2 Communications Manager APPC Programming Reference, S04G-1025. Describes how to develop programs that use the ES OS/2 APPC interface.

APPC Application Examples in MVS/ESA and OS/2, GG24-3819. Provides examples of cooperative applications in an OS/2 to MVS APPC environment.

APPC Programming Considerations in MVS/ESA and OS/2, GG24-3818. Provides information about developing cooperative applications using APPC/MVS and Networking Services/2 in the MVS/ESA and OS/2 environments.

OS/2 EE V1.3 APPC Programming Reference, S01F-0295. Contains information necessary to create programs in C. COBOL, Pascal, or Macro Assembler that use the APPC programming interface functions in OS/2 EE V1.3 Communications Manager. This manual is superseded by the *Networking Services/2 APPC Programming Reference*.

OS/2 Extended Edition Communications Manager, Z360-2786. Presentation guide providing an in-depth overview of the Communications Manager. Intended for customers interested in OS/2 installation and migration, especially connectivity solutions.

OS/2 Extended Edition Version 1 Cookbook: Communications Manager Design and Implementation, GG24-3552. Provides detailed information on the design and practical implementation of the Communications Manager component of OS/2 EE V1.2. This includes an overview, practical configuration examples, and programming considerations.

OS/2 Extended Edition 1.2 Cookbook: Communications Manager SNA Environment, GG24-3553. Provides an introduction of the OS/2 EE V1.2, containing information for designing, implementing, and maintaining OS/2 EE V1.2 based applications.

AS/400 PC Support under OS/2 Extended Edition Version 1.2, GG24-3446.

AS/400, S/38, and PS/2 as T 2.1 Nodes in a Subarea Network, GG24-3420. Contains information on the implementation of APPN in a network consisting of an AS/400, S/38, PS/2 and a S/370 SNA subarea network.

OS/2 EE APPC to AS/400 APPC Programming, GC21-8247. Demonstrates how to use the OS/2 EE API to allow application programs running on a PS/2 system to communicate with application programs running on an AS/400 system.

Integrating OS/2 Workstations into Local Area Networks and Enterprise Networks, GG22-9490.

MVS/ESA APPC/MVS Handbook for the OS/2 System Administrator, GC28-1133. Describes how to configure APPC for a connection between OS/2 and MVS step-by-step, coordinate APPC-related information with other components in SNA networks and validate the APPC configuration.

VM - OS/2 Connectivity and Functional Use, GG24-3473. Describes the different products and possibilities that IBM provides to allow a VM system to be connected to a personal computer running OS/2. It is intended to help VM specialists understand the function and use of these products.

VM Programmable Workstation Communication Services, Programming for VM PWSCS, SC24-5586. VM PWSCS provides a CPI-C programming interface for developing applications that communicate between VM and either DOS, Windows, OS/2, or AIX workstations. While the application programming interface is CPI-C, the underlying communications protocol is not APPC/LU 6.2.

OS/2 and CICS/ESA Distributed Function: Implementation Example with CPI Communications, GG24-3768. Intended for those planning to implement an SAA cooperative processing application with distributed functions between OS/2 client and CICS/ESA server environments using CPI-C.

5494 and OS/2 Extended Services: Connecting Remote User Groups to AS/400s, GG24-3828. Describes using the 5494 remote control unit and OS/2 Extended Services as different means for connecting remote work groups to an AS/400 system. Connection to different systems in an APPN network is also covered.

OS/2 Extended Edition: SAA Networking Services/2

Networking Services/2 Installation and Network Administrator's Guide, SC52-1110.

Networking Services/2 System Management Programming Reference, SC52-1111.

Networking Services/2 APPC Programming Reference, SC52-1112. Contains information necessary to develop programs in C, COBOL, Pascal, or Macro Assembler that use the APPC and CPI-C programming interfaces in OS/2 EE Communications Manager with Networking Services/2.

Networking Services/2 Problem Determination Guide, SC52-1113.

Networking Services/2 Installation, Customization, and Operation, GG24-3662. Provides planning information for Networking Services/2, including information concerning the optimization of the network based on node configuration. Contains an extended example on connecting Networking Services/2 and AS/400, with their respective configurations.

Series/1

Series/1 Event Driven Executive: Advanced Program-to-Program Communication Programming Guide and Reference, SC34-0960 or SQ00-0519. Describes how to install and use the support for APPC on an EDX system.

Series/1 Event Driven Executive: Network Definition Utility Guide, SC34-0764. Intended for anyone who needs to define DLC devices, APPC nodes, or a primary SNA communication network.

Series/1 Realtime Programming System: Advanced Program-to-Program Communications Programming Guide and Reference, SC34-0608.

Series/1 Realtime Programming System: Network Definition Utility User's Guide, SC34-0623.

System/36

System/36 Using System/36 Communications, SC21-9082. Among other things, provides information for the reader to be able to define an APPC or APPN subsystem.

System/36 Interactive Communications Feature: Base Subsystems Reference, SC21-9530. Describes the APPC, BSCE, CCP and Peer subsystems.

System/36 APPN, SC21-9471. Assists the System/36 programmer in planning, installing, configuring, activating, and debugging APPN networks.

APPC Security: MVS/ESA, CICS/ESA and OS/2, GG24-3960. Helps users define a security policy when APPC/MVS, CICS/ESA, and OS/2 are part of a cooperative processing application. Describes the security facilities provided by these products and outlines factors to consider when defining such policy.

APPC Security in a Network with System/36, System/38, and CICS/VS, GG22-9427. Intended as a guide for systems programmers for implementing LU 6.2 security between System/36, System/38, and CICS systems.

System/38

System/38 Implementation of Communications Architecture, SC21-8033. Contains reference information on System/38 implementation of SNA LU 6.2, SNADS, DIA, and DDM.

System/38 Communication Administrator's Guide, SC21-8035. Contains information on System/38 communications as it relates to APPC and Document Interchange, describing the function and administration of a SNADS application and the use of a system distribution directory.

System/38 Distributed Data Management Performance Guidelines, GG22-9424. Discusses user-written APPC programs.

AS/400, System/38, and PS/2 as T 2.1 Nodes in a Subarea Network, GG24-3420. Contains information on the implementation of APPN in a network consisting of an AS/400, System/38, PS/2 and a System/370 SNA subarea network.

APPC Security in a Network with System/36, System/38, and CICS/VS, GG22-9427. Intended as a guide for systems programmers to implement LU 6.2 security between System/36, System/38, and CICS systems.

System/88

System/88 Advanced Program-to-Program Communication: Planning and Operations Guide, SC34-0759. Provides information for systems administrators and network operators on planning and operating APPC in a System/88 environment.

System/88 Advanced Program-to-Program Communication: Programming Guide and Reference, SC34-0760. Provides programming information for System/88 APPC users who write either programs for APPC or programmed operator applications for an APPC environment.

System/88 Primary and Secondary System Network Architecture Programming Guide and Reference, SC34-0758. Provides programming information for System/88 APPC users who write either programs for APPC or programmed operator applications for an APPC environment.

System/88 APPC Resource Definition Guidelines, GG66-3133.

System/88 and Cooperative Processing, GG24-3495. Describes a method of developing applications according to the principle of cooperative processing between System/88 and another system offering APPC communications.

Transaction Processing: Concepts and Products, GC33-0754. Provides an overview of transaction processing and describes IBM's transaction processing products. Includes an appendix on CICS.

VM (Virtual Machine)

VM/SP Connectivity Programming Guide and Reference Release 6, SC24-5377.

VM/ESA CMS Application Development Guide, SC24-5450. Contains information on APPC/VM or CPI-C facilities. Samples programs are also included.

VM/ESA R2 Common Programming Interface Communications User''s Guide, SC24-5595. Provides step-by-step instructions for using CPI-C communications to write communications programs for the CMS environment. Sample programs show how to use CPI-C calls, and the CMS CPI-C extensions.

VM/SP Connectivity Planning, Administration, and Operation, SC24-5378.

VM/ESA Connectivity Planning, Administration and Operation, SC24-5448. Describes how to set up and maintain APPC programs, the TSAF virtual machines, and APPC/VM VTAM Support (AVS) virtual machines.

VTAM Programming for LU 6.2 V3R3 for MVS, VM and VSE/ESA, SC31-6410. Describes VTAM's LU 6.2 programming interface for host application programs.

Using the Enhanced Connectivity Features of VM/SP R6, GG24-3372. Contains a CPI-C sample.

VM - AS/400 Connectivity and Functional Use, GG24-3430. Describes the different products and possibilities that IBM provides to allow VM system to connect to an AS/400 system. Helps VM specialists understand the function and use of these products.

VM - OS/2 Connectivity and Functional Use, GG24-3473. Describes the different products and possibilities that IBM provides to allow a VM system to connect to a personal computer running OS/2. It is intended to help VM specialists understand the function and use of these products.

VM Programmable Workstation Communication Services, Programming for VM PWSCS, SC24-5586. VM PWSCS provides a CPI-C programming interface for developing applications that communicate between VM and either DOS, Windows, OS/2, or AIX workstations. While the application programming interface is CPI-C, the underlying communications protocol is not APPC/LU 6.2.

VSE (Virtual Storage Extended)

VTAM Programming for LU 6.2 V3R3 for MVS, VM and VSE/ESA, SC31-6410. Describes VTAM's LU 6.2 programming interface for host application programs.

VTAM (Virtual Telecommunications Access Method)

VTAM Programming for LU 6.2 V3R3 for MVS, VM and VSE/ESA, SC31-6410. Describes VTAM's LU 6.2 programming interface for host application programs.

VTAM Programming for LU 6.2, SC30-3400. Documents the VTAM programming interface for LU 6.2 sessions.

DB2-APPC/VTAM Distributed Database Usage Guide, GG24-3600.

VTAM APPC API Scenarios and Programming Experiences, GG24-3297. Describes how to implement VTAM LU 6.2 programs running under MVS/VTAM V3R2.

3174

3174 APPN Implementation Guide, GG24-3702. Describes the 3174 Establishment Controller Configuration Support-C Release 1 Licensed Internal Code (APPN) and Peer Communication customization.

Experiences Connecting APPC/PC and CICS/VS with the 3174 Token-Ring, GG66-0287.

AS/400 with PS/2 APPN, 3174 APPN, 5394 and Subarea Networking, GG24-3717. Describes the concepts, configurations and flows between APPN network nodes, APPN end nodes, and Low-Entry Networking (LEN) nodes. It provides a number of scenarios with these nodes interacting both through and independently of a subarea network.

4680

IBM 4680 SNA LU 6.2 Communications, GG24-3623. Describes implementation and/or the migration to LU 6.2 communications function contained in the 4680 Operation System V3.1 product. Provides configuration and application program interface descriptions, samples, and technical hints on installing LU 6.2 in various environments.

5394

AS/400 with PS/2 APPN, 3174 APPN, 5394 and Subarea Networking, GG24-3717. Describes the concepts, configurations and flows between APPN network nodes, APPN end nodes, and Low-Entry Networking (LEN) nodes. It provides a number of scenarios with these nodes interacting both through and independently of a subarea network.

5494

5494 and OS/2 Extended Services: Connecting Remote User Groups to AS/400s, GG24-3828. Describes using the 5494 remote control unit and OS/2 Extended Services as different means for connecting remote work groups to an AS/400 system. Connection to different systems in an APPN network is also covered.

Technical SNA Manuals

Data Management Architecture: General Information, GC21-9527.

Data Management Architecture: Implementation Planner's Guide, GC21-9528.

Data Management Architecture: Implementation Programmer's Guide, SC21-9529.

IBM Distributed Data Management Architecture: Reference, SC21-9526.

IBM Implementation of X.21 Interface General Information Manual, GA27-3287.

IBM Synchronous Data Link Control: General Information, GA27-3093. Describes the procedures and components of SDLC.

An Introduction To Advanced Communications Function, GC30-3033. Presents an overview of SNA's networking concepts.

SAA Overview, GC26-4341.

SAA CPI Communications Reference, SC26-4399-3.

SNA Concepts and Products, GC30-3072. Provides an overview of SNA concepts, terminology, and implementing products.

SNA/Distribution Services Reference, SC30-3098. Provides a detailed, state-oriented definition of SNA/DS.

SNA/File Services Reference, SC31-6807. Provides a detailed definition of SNA/FS.

SNA Format and Protocol Reference Manual: Architecture Logic, SC30-3112. A detailed, formal, and comprehensive definition of SNA for designers. SC30-3339.

SNA Format and Protocol Reference Manual: Architecture Logic for LU Type 6.2, SC30-3269. Presents a detailed, formal, and comprehensive definition of LU type 6.2 using SSCP-dependent protocols.

SNA APPN Architecture Reference, SC30-3422.

SNA Format and Protocol Reference Manual: SNA Network Interconnection, SC30-3339.

SNA Formats, GA27-3136. Provides all the formats needed for attaching a peripheral node to an SNA subarea network and for APPN networks.

SNA Fundamentals, a self-study course including:

- Text Vol. 1, SR20-8490
- Text Vol. 2, SR20-8491
- Personal Reference Guide, SR20-8492
- Videotape, SR20-8498.

SNA LU Type 6.2 Reference: Peer Protocols, SC31-6808. A detailed, formal, and comprehensive definition of LU 6.2 using SSCP-independent protocols.

SNA/Management Services: Alert Implementation Guide, GC31-6809.

SNA Management Services Overview, GC30-3429. Provides an overview for the reader who is interested in the management services reference manual.

SNA/Management Services Reference, SC30-3346. Provides a comprehensive definition of SNA management services.

SNA Network Registry, G325-6025. Describes how a company can obtain a unique SNA network ID (NETID) for use throughout their company.

SNA: Sessions Between Logical Units, GC20-1868. Provides a definition of various LU types other than LU type 6.2.

Token-Ring Network Architecture Reference, SC30-3374.

The X.25 [1980] Interface for Attaching IBM SNA Nodes to Packet-Switched Data Networks—General Information Manual, GA27-3345. Describes the elements of the 1980 CCITT Recommendation X.25 selected for use in SNA products.

IOTS (Inter-Operation Test Service)

IBM provides the Inter-Operation Test Service for companies developing APPC platforms, not applications. This service allows a company with a new APPC implementation to test whether that implementation matches the architected definition of APPC and thus communicates successfully with other APPC implementations.

SNA LU 6.2 Inter-Operation Test Service General Information, GC31-6820. Describes how this service allows communication systems developers to ensure that CPI Communications and LU 6.2 implementations are consistent as defined by SAA.

APPC Books from Other Sources

This section provides brief descriptions of the following types of publications:

- General publications on distributed computing
- APPC and SNA publications
- Publications for IBM and non-IBM platforms on which APPC is available.

This section also provides descriptions of toolkits for various platforms that are composed of publications, programming examples, and sample code. The toolkit descriptions appear under the platform for which they are available.

Distributed Computing

Note: See also the IBM distributed computing publications on 56.

Client/Server Architecture. Alex Berson, ISBN 0-07-005076-7, New York: McGraw-Hill, 1992. This book describes in detail the much discussed but little understood client-server model—its architecture, components, benefits, and functions—and existing products and industry ends and standards. Systems and network integrators, project managers, and MIS/DP executives and decision-makers will find a wealth of practical information, examples, and recommendations.

SAA Common Communications Support: Distributed Applications. James Martin with Kathleen Kavanagh Chapman and Joe Leben, ISBN 0-13785-908-2, Prentice-Hall, 1992. Common Communications Support (CCS) is one of the standard set of computer interfaces provided by SAA. This book explains how to use IBM's CCS facilities to construct distributed applications.

Distributed Computing and the Mainframe. Kurt Ziegler, Jr., ISBN 0-47151-753-4, New York: John Wiley & Sons, Inc., 1991. Provides the background needed to reorganize your overall information strategy in light of the latest developments in distributed computing.

Communications for Cooperating Systems: OSI, SNA, and TCP/IP. R. J. Cypser, ISBN 0-20150-775-7, Reading, MA: Addison-Wesley Publishing Co., 1991.

> "This book provides the first comprehensive description of IBM's new computing paradigm to supply network services in a heterogeneous, multivendor environment. Drawing on hundreds of interviews with the top technical staffs at IBM's eleven laboratories, the author presents a detailed vision of where the industry requirements and technology will take networks in the coming years. It explains the objectives and technical approaches of the Advanced Peer-to-Peer Network and its relation to SNA subarea networks."

SAA IBM's Systems Application Architecture. Stephen J. Randesi and Donald H. Czubek, ISBN 0-44200-468-0, New York: Van Nostrand Reinhold, 1991.

APPC Publications

Note: See also the IBM APPC publications on page 56.

SAA/LU 6.2 Distributed Networks and Applications. John J. Edmunds, ISBN 0-07019-022-4, New York: McGraw-Hill, 1992.

This book focuses on APPC as the IBM connectivity method for SAA enterprise networks in the 1990s. This book can help you design both cooperative processing applications and distributed applications using the APPC and CPI-C cooperative processing architectures.

APPC: Introduction to LU 6.2. Alex Berson, ISBN 0-07-005075-9, New York: McGraw-Hill, 1990.

> "Here is an accessible and comprehensive guide to mastering this powerful new system. Starting with the foundations of APPC, this reference systematically explains key topics. Illustrated with coding examples and resource definitions for LU 6.2, and supplemented with a complete list of LU 6.2 verbs, *APPC: Introduction to LU 6.2* covers the cutting edge of networking and communications."

To order the following report, contact:

International Data Corporation (IDC)
Five Speen Street, Box 9015
Framingham, Massachusetts USA 01701
Phone: 508-872-8200
Fax: 508-935-4015
Contact: Lucinda Santisario

Advanced Program-to-Program Communication End-User Survey, 42 pages, 1991. This report, a summary of a recent user survey, profiles the APPC activity at IBM mainframe installations and discusses the demand for and growth in APPC applications.

APPC Publications

Note: See also the IBM APPN publications on page 57.

To order the following book, contact:

Systems Strategies, Inc.
One Penn Plaza
New York, New York USA 10119
Phone: 800-876-7671 or 212-279-8400
Fax: 212-967-8368

APPN Primer: A Guide to Advanced-Peer-to-Peer Networking.

CPI-C Publications

To order the following book, contact:

X/Open Company Ltd.
1010 El Camino Real, Suite 380
Menlo Park, CA 94025
415-323-7992

X/Open CAE Specification, CPI-C Document Number C210. X/Open Company, Ltd., ISBN 1-87-263035-9, 1992.

SNA Publications

Note: See also the IBM SNA publications on page 69.

SNA Architecture, Protocols, and Implementation, Atul Kapoor, ISBN 0-07-033727-6, McGraw-Hill, 1991.

This book provides a concise overview of SNA, plus details on the components of SNA and how they work. This guide examines SNA protocols, data structures, and flows, peer-to-peer distributed processing using APPC, SNA gateways to other SNA networks, Token-Ring LANs, and OSI, and network operation and management.

SNA: A Tutorial. Anton Meijer, ISBN 0-04702-101-5X, John Wiley & Sons, Inc., 1988.

Systems Network Architecture: IBM's Networking Solution, James Martin and Kathleen Kavanagh Chapman, ISBN 0-13-815143-1, Prentice-Hall, Englewood Cliffs, N.J., 1987.

To order the following report, contact:

Gen2 Ventures
12930 Saratoga Avenue, Suite D-5
Saratoga, California USA 95070
Phone: 408-446-2277
Fax: 408-446-4755

Internetworking with the New SNA. This research report addresses the most challenging networking problem for the 1990s, internetworking, from the point of view of the industry's largest corporate networks.

To order the following book, contact:

American Data Group
P.O. Box 920687
Norcross, Georgia USA 30092
Phone: 800-521-0935 or 404-921-1123
Contact: Judith Anderson

SNA/MATE. This 374-page reference handbook contains formats and descriptions of major SNA commands, sense codes, SDLC formats, 3270 DSC screen controls, and sample USS and logmode tables.

Publications for Product Platforms

IBM and non-IBM product platforms are listed below in alphabetical order. Publications that apply to more than one platform appear under each of the appropriate platforms.

CICS (Customer Information Control System)

Understanding CICS Internals. Richard Lefkon and John Kneiling, ISBN 0-07-037040-0, New York: McGraw-Hill.

This book provides the most recent information on CICS foundations, including storage allocation, task management, program control, terminal access, and terminal hardware and management programs. Over 1000 quick review questions and answers provide you with specific solutions to every problem you face when dealing with CICS.

Distributed Processing in the CICS Environment. Arlene J. Wipfler, ISBN 0-07-071136-4, New York: McGraw-Hill, 1989.

> "*Distributed Processing in the CICS Environment* is the complete guide to CICS Intercommunication. This practical book begins with a comprehensive overview, including a discussion of IBM's System Network Architecture and its relation to CICS InterSystem Communication. The detailed discussions address design issues, application programming considerations, internal mechanisms in CICS, and resource definitions. Command syntax is explained, and coding examples are abundant."

CICS Handbook. Yukihisa Kageyama, ISBN 0-07-033637-7, New York: McGraw-Hill, 1989.

"Fully up-to-date and comprehensive, *CICS Handbook* is your practical and authoritative guide to every aspect of CICS application development. *CICS Handbook* describes virtually all CICS commands with commonly-used options. It stresses practical applications, and features real-world programming techniques illustrated with scores of useful examples."

To order the following books, contact:

American Data Group
P.O. Box 920687
Norcross, Georgia USA 30092
Phone: 800-521-0935 or 404-921-1123
Contact: Judith Anderson

CICS/MATE. This 670-page reference handbook explains the purpose, structure, and content of major CICS control areas. This book also serves as a reference to command level functions and syntax, CEMT commands, and more.

Inside CICS. This 305-page study guide explains how CICS is composed and describes logical structures and control flows and linkages of major CICS components.

CICS/OS/2

Note: See also the IBM CICS/OS/2 publications on page 61.

IBM Workstation CICS. Bob Crownhart, ISBN 0-07-014770-1, New York: McGraw-Hill.

This manual serves as a guide to the transaction management and development facilities on your PC. It provides workable examples that show you how to move host applications, enable CICS OS/2 communication, and maintain CICS OS/2 applications on multiple workstations.

DOS

Note: See also the IBM DOS publications on page 62.

Cooperative Processing with AS/400 PC Support. Janice R. Glowacki, Stephen A. Knight, and Desiree S. Strom, ISBN 0-44-200624-1, New York: Van Nostrand Reinhold, 1991. Explains how to use PC Support functions, including the PC Support Router and other communications functions. This book provides details on the Router API (an APPC API) so that you can write your own programs to the API.

NetWare

To order the following toolkit, contact your local Novell office, or call:

Novell Technical Marketing Support
Phone in the U.S.: 800-733-9673
Phone in Canada: 512-794-1796

NetWare for SAA LU6.2 Tools: A developer's toolkit that provides reference materials and programming examples to help software developers create LU6.2 applications for use with NetWare for SAA. This toolkit includes:

- *X/Open CPI-C Developer's Specification Manual*
- *NetWare LU6.2 NLM Programmer's Guide*
- *NetWare APPC Technical Reference Manual*
- *LU6.2 Programmer's Guides for DOS and Windows*

- APPC and CPI-C Programming Examples.

OS/2

Note: See also the IBM OS/2 publications on page 64.

Client-Server Programming with OS/2 2.0, Dan Harkey and Robert Orfali, ISBN 0-442-01219-5, New York: Van Nostrand Reinhold, 1992. 1088 pages. Contains information on designing and implementing client-server applications on OS/2 2.0 using multiple protocols. Includes a tutorial on CPI-C and APPC, and several client/server program examples.

OS/2 Notebook: The Best of the IBM Personal Systems Developer. Edited by Dick Conklin, ISBN 1-55615-316-3, Redmond, Washington: Microsoft Press, 1990. Contains articles from the *IBM Personal Systems Developer* magazine, including three articles on APPC for OS/2 EE.

SNA•ps

To order the following kits, contact:

Apple Computer, Inc.
20525 Mariani Avenue
Cupertino, California USA 95014-6299
Phone: 408-996-1010

SNA•ps APPC Developer's Kit: This product contains two Macintosh disks with sample code and header files, one Programmer's Reference, and a standard software license agreement. Includes detailed information on programming with the SNA•ps product, Apple Computer's implementation of APPC.

SNA•ps APPC Documentation Kit: This product contains the complete documentation for SNA•ps APPC. This documentation is intended for software developers who need to use SNA•ps to write transaction programs in a mixed IBM-Macintosh environment.

VTAM (Virtual Telecommunications Access Method)

Note: See also the IBM VTAM publications on page 68.

Advanced SNA Networking: A Professional Guide to VTAM/NCP. Jay Ranade and George C. Sackett, ISBN 0-07051-143-8, New York: McGraw-Hill, 1991. This book is a sequel to the authors' 1989 book, *Introduction to SNA Networking Using VTAM/NCP*. It contains detailed information on 3745, 3174, SNI, LEN, and Token-Ring.

Introduction to SNA Networking Using VTAM/NCP. Jay Ranade and George C. Sackett, ISBN 0-07051-144-6, New York: McGraw-Hill, 1989.

> "This is the first book ever published for programmers, consultants, and systems analysts new to SNA and VTAM/NCP software. It is aimed at the 150,000 data communications professionals working in 36,000 IBM installations worldwide."

To order the following book, contact:

American Data Group
P.O. Box 920687
Norcross, Georgia USA 30092
Phone: 800-521-0935 or 404-921-1123

Contact: Judith Anderson

Inside VTAM. This 318-page study guide explains how VTAM is composed and describes logical structures and control flows and linkages of major VTAM components.

Specialized Periodicals on APPC

These periodicals specialize in coverage of SNA issues and products.

- *The APPC Connection*

  This bimonthly newsletter from the IBM APPC Market Enablement group provides you with an interactive forum to answer your questions and give you the latest news on APPC, APPN, and CPI-C. Each issue includes:

  - Feature articles on industry news and trends
  - Tips and techniques for programmers
  - Case studies of businesses that are using APPC and APPN
  - New products, books, classes, and conferences
  - Interviews with leading consultants

  To subscribe to *The APPC Connection*, send your name and complete mailing address (please print) to:

  The APPC Connection
  P.O. Box 369
  Orangeburg, NY 10962-0369
  Or fax your request to: 201-784-2240.

- *The Gen2 Report on IBM Networking and Cooperative Processing*

  The Gen2 Report is a monthly report that provides news and analysis of the latest developments in SAA and SNA. Gen2 also publishes special reports, such as *Internetworking with the New SNA*.

  Gen2 Ventures
  12930 Saratoga Avenue, Suite D-5
  Saratoga, California USA 95070
  Phone: 408-446-2277
  Fax: 408-446-4755
  Attn: Donald Czubek

- *IBM Internet Journal* is a monthly magazine published by Cardinal Business Systems.

  Cardinal Business Systems
  10935 Estate Lane, Suite 375
  Dallas, Texas USA 75238
  Phone: 214-343-3717
  Fax: 214-553-5603

- *IBM Personal Systems Developer*

  This quarterly journal is a publication of the IBM Developer Assistance Program. It regularly contains articles on APPC programming and related development tools.

  IBM Personal Systems Developer
  IBM Corporation
  P.O. Box 1328
  Boca Raton, Florida USA 33429-1328

- *SNA Network Focus*

  SNA Network Focus is a quarterly newsletter published by NetSoft (formerly Network Software Associates, Inc.).

  NetSoft
  39 Argonaut

Laguna Hills, California USA 92656
Phone: 714-768-4013
Fax: 714-768-5049

- *SNA Perspective*

  SNA Perspective is a monthly newsletter covering IBM's Systems Network Architecture.

  The Saratoga Group
  12930 Saratoga Avenue, Suite A-1
  Saratoga, California USA 95070
  Phone: 408-446-9115
  Fax: 408-446-3174

- *SNA Update*

  SNA Update is a quarterly technical journal covering IBM's Systems Network Architecture. Subscribers to *SNA Update* have access, free of charge, to machine-readable copies of all articles, using Xephon's Chicago bulletin board. Xephon also publishes special reports, such as *APPN and the Networking Blueprint*.

  Xephon Publications
  P. O. Box 1059
  Oviedo, Florida USA 95070
  Phone: 407-366-6751
  Fax: 407-359-8350

APPC Platforms and Gateways

This catalog provides a listing of APPC platforms and gateways offered by IBM and other companies:

The entries appear in alphabetical order by the name of the product. Appendix C, "Contacts for Vendors" on page 171 contains addresses, phone numbers, and contacts for the vendors listed in this section.

Summary of APPC Platforms and Gateways

Product Name	Environments Supported	Vendor
ACF/NCP (Advanced Communications Function/Network Control Program)	Comten 3600, 5600	NCR Corporation
AdaptSNA	NetBIOS, NetWare, VINES	Netsoft
AdaptSNA APPC	DOS	Netsoft
AdaptSNA APPC + 3270	DOS, Microsoft Windows	Netsoft
AIX SNA Services/6000	RISC System/6000	IBM
APILU 6.2	DG ECLIPSE	Data General Corporation
APPC/MVS	MVS	IBM
APPC/PC	DOS	IBM
AS/400 PC Support	DOS, Microsoft Windows, OS/2	IBM
BrxLU6.2 API	UNIX	Brixton Systems, Inc.
BrxLU6.2 CPIC API	UNIX	Brixton Systems, Inc.
BrxLU6.2/IP Router	UNIX	Brixton Systems, Inc.
BrxPU2 SNA Server	UNIX	Brixton Systems, Inc.
CLEO APPC	UNIX	CLEO Communications
Communications Manager/2	OS/2	IBM
Communications Manager Client Server/2	OS/2	IBM
CTOS LU 6.2	CTOS	Unisys Corporation
CPI-C SNA API	Bull DPX/2 midrange computers	Bull Worldwide Information Systems
Customer Information Control System/Enterprise Systems Architecture (CICS/ESA)	VTAM	IBM
DECnet CT, ST, Ultrix/SNA	Mainframe gateways for DECnet and TCP/IP networks	Digital Equipment Corporation (DEC)
DEC Domain Gateway	Mainframe to DECnet PU 5 Gateway	Digital Equipment Corporation (DEC)
DECnet/SNA VMS APPC/LU 6.2	DEC VMS	Digital Equipment Corporation (DEC)
DEC Ultrix APPC/LU6.2	Ultrix	Digital Equipment Corporation (DEC)
Distributed Processing Programming Executive (DPPX/370)	370/ESA	IBM
Domain/LU 6.2	UNIX: Apollo workstations	Apollo Computer, Inc.

Product Name	Environments Supported	Vendor
DynaComm/Elite Version 3.4	Microsoft Windows 3.x	Future Soft Engineering Inc. and NetSoft
DynaComm/Elite APPC	Microsoft Windows 3.x	NetSoft
EiconAPPC Subsystem for OS/2	OS/2	Eicon Technology Corporation
Eicon SNA Gateway Family	DOS, OS/2, Netware 3.11, Microsoft Windows, UNIX	Eicon Technology Corporation
EXPRESS APPN	OS/2, OS/400, 3174 Cluster Controller	Systems Strategies, Inc.
EXPRESS CPI-C	OS/2, OS/400, VTAM, CICS, UNIX System 5	Systems Strategies, Inc.
Elite/400	Microsoft Windows 3.x	Netsoft
FAXCOM Fax Server	SNA	Biscom, Inc.
The Forest Network Resource	AS/400, Digital VAX, Decsystem, Decserver, MVS, S/36, S/38, UNIX, VM, VSE	Forest Computer
FTX SNA APPC	Stratus XA/R Systems	Stratus Computer, Inc.
Gupta SQLGateway/APPC	DOS, Microsoft Windows, OS/2	Gupta Corporation
HP-UX SNAplusAPI	HP 9000 Series 300,400,700, and 800 Computer Systems	Hewlett-Packard
Information Management System (IMS)	MVS	IBM
Intergraph SNA/LU 6.2	Intergraph	Intergraph Corporation
Intersystem Communications Environment (ICE)	Tandem	Insession, Inc.
IRMA WorkStation for Windows	Microsoft Windows	Digital Communications Associates, Inc.
IRMA WorkStation for OS/2	OS/2	Digital Communications Associates, Inc.
LAN-to-LAN Wide Area Network Program	OS/2	IBM
LynxLU 6.2	SCO Open Desktop, SCO XENIX 386, UNIX	Computone Corporation
Maxess SNA Gateway	DOS LAN/SNA Gateway	Attachmate Corporation
Micro Decisionware Database Gateway for DB2	MVS/CICS, OS/2	Micro Decisionware
Micro Decisionware Database Gateway for SQ DLS	DOS VSE/CICS	Micro Decisionware
NCR SNA Services for NCR 3000	NCR 3000	NCR Corporation

Product Name	Environments Supported	Vendor
NCR SNA Software Distribution Products (SPD)	OS/2	NCR Corporation
NetWare for SAA	Novell servers	Novell, Inc.
NetWare SNA Links	NetWare server	Novell, Inc.
Networking Services/DOS	DOS	IBM
Networking Services/2	OS/2 EE 1.2 or 1.3	IBM
Novell NetWare SNA Gateway	Netware	Microdyne Corporation
Open Advantage Gateway APPC	DOS, Netware, Netbios	Rabbit Software Corporation
Open Advantage UNIX APPC	AIX/6000, 386 UNIX	Rabbit Software Corporation
OpenConnect Server	UNIX	OpenConnect Systems
OpenConnect/APPC	CICS, IMS, UNIX	OpenConnect Systems
Operating System/400	OS/400	IBM
OS/2 Extended Edition	OS/2	IBM
PenAPPC	PenPoint OS	Compsoft Services, Inc.
Prime SNA API	Prime OS (PRIMOS)	Computervision
Select Communications Server	OS/2	Digital Communications Associates (DCA), Microsoft Corporation
Select Communications Workstation	DOS, OS/2	Digital Communications Associates (DCA), Microsoft Corporation
IBM Series/1	Series/1	IBM
Six/25	DOS	TDT Group, Inc.
SNA•ps	Mac/OS	Apple Computer, Inc.
Prime SNA LU 6.2	Prime OS (PRIMOS)	Computervision
SNAP-IX	UNIX	Data Connection Limited
SNAP APPN	UNIX	Data Connection Limited
SNAP-2.1	UNIX	Data Connection Limited
SNAP-IX	UNIX	Data Connection Limited
SNA Services	AT&T 3B2, StarServer, 6386 WGS,	NCR
SNA LU 6.2 Facility	Bull DPX/2 midrange computers	Bull Worldwide Information Systems
SNAX/APC	EXT, CLX, CLX/R, Cyclone, Cyclone/R, Tandem NonStop II, TXP/Guardian VLX	Tandem Computer, Inc.

Product Name	Environments Supported	Vendor
SNS/LU 6.2	DEC (DECnet/SNA), MVS, VM,	Interlink Computer Sciences, Inc.
SNS/SNA Gateway	DEC (DECnet/SNA), MVS, VM	Interlink Computer Sciences, Inc.
SunLink SNA Peer-to-Peer	Sun workstations	Sun Microsystems, Inc.
System/36	System/36	IBM
System/38	System/38	IBM
System/88	System/88	IBM
UTS System	UNIX	Amdahl Corporation
Virtual Machine (VM)	VM	IBM
Virtual Storage Extended (VSE)	VSE	IBM
Virtual Telecommunications Access Method (VTAM)	DOS/VSE, MVS, VM,	IBM
VM Programmable Workstation Communication Services (VM PWSCS)	AIX, DOS, Novell NetWare, OS/2	IBM
VS Access APPC LEN API	Wang VS Systems	Wang Laboratories, Inc.
VS Access APPC LEN Services	Wang VS Systems	Wang Laboratories, Inc.
VS LU 6.2 API	Wang VS Systems	Wang Laboratories
VS LU 6.2 Services	Wang VS Systems	Wang Laboratories
3174	3174	IBM
4680 Store Systems	4680 Store Systems	IBM
6611	6611	IBM

APPC Development Tools

This section provides the following information on APPC development tools offered by IBM and other companies:

- Name of tool
- Name of vendor
- Description of the functions provided
- Environments supported
- Person to contact for more information

Abbreviations Used in This Section

Following is a list of abbreviations which appear frequently in this section:

API Application programming interface

CASE Computer-assisted software engineering

CUA Common User Access

DDE Dynamic Data Exchange

GUI Graphical user interface

PC An IBM or IBM-compatible personal computer capable of running the following operating systems: DOS, Microsoft Windows, or OS/2.

PWS Programmable workstation

SAA Systems Application Architecture

SNA Systems Network Architecture

4GL Fourth-generation language

Action RAD Tools

Vendor

DevTech Associates

Description

Action RAD (Rapid Application Development) Tools enable you to easily build cooperative processing applications featuring graphical user interfaces (GUI). Applications that feature GUIs are generally easier to use, more flexible, and more productive. However, the newness and complexity developing GUIs has slowed acceptance among developers. Action helps you solve this problem by providing a true RAD environment — application development without programming.

With Action, you define a model of your business applications, data elements, relationships, and rules. The Action product takes this high-level model and builds both your database and application code, including Presentation Manager screens, all database calls, and all APPC communications code necessary for multiprocessor interaction.

Your programmers do not need GUI or APPC coding skills. Once you define an Action model, you can generate application code that operates in the following environments:

- Standalone PS/2
- LAN (PS/2 to PS/2 server)
- Cooperative - PS/2 to AS/400 (APPC/Client-Server)
- Cooperative - System/370 CICS (APPC/Client-Server).

One development effort — the development of the model — enables you to generate GUI cooperative processing applications across many platforms, from a stand-alone workstation to the largest mainframe.

Environment

- PC: OS/2
- AS/400: OS/400
- 30XX, 43XX, 9370: CICS/DB2

Contact

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DevTech Associates
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AD/MAX

Vendor

PAXUS Corporation

Description

AD/MAX is a cross-lifecycle application development tool. It complements AD/Cycle by addressing the design, test, production, and maintenance aspects of this cross-lifecycle model. With AD/MAX, you can rapidly develop complex applications that comply with SAA standards.

Features include nonprocedural application definition facilities such as CUA standards with specifications supporting both programmable and nonprogrammable workstations. AD/MAX also provides support for LU 6.2, therefore enabling the development of cooperative processing applications in the information systems environment.

Note: AD/MAX is currently available in Europe and Australia only.

Environment

- PC: OS/2
- 30XX, 43XX, 9370: MVS/ESA, DB2

Contact

Victoria Cole
PAXUS Corporation
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Aion Development System (AionDS)

Vendor

Trinzic Corporation

Description

The Aion Development System (AionDS) is a business process automation tool designed for use by application developers who prefer the enhanced control and flexibility generally associated with detail-level programming environments. It consists of a core set of advanced software development technologies, a method for analysis and design of applications, and the tools needed to deliver and maintain knowledge base systems on a variety of hardware platforms.

AionDS is best used for transaction-driven, embedded applications or applications that need to integrate closely with an organizations' CASE strategy. Designed to support the full lifeycle of applications, AionDS runs in mainframe, PC, workstation and client/server environments.

The Cooperative Processing Option uses APPC to provide seamless access from personal computers to data bases and knowledge bases residing on mainframes.

Environment

- PC: OS/2, DOS and Microsoft Windows
- 30XX, 43XX, 9370: VM, MVS, VMS
- Sun OS

Contact

Fred Lizza
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Palo Alto, California USA 94301
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AIX VIADUCT

Vendor

IBM

Description

AIX VIADUCT for AS/400 is an interactive data bridge that allows RT system and RISC System/6000 customers to integrate their AIX applications with AS/400 databases. This bridge gives AIX application users access to information resident on the AS/400 and provides:

- Shared database access for AIX and AS/400 system users
- Minimized duplication of data
- Connection of AIX and OS/400 environments through SQL
- Easy-to-use Application Programming Interface (API)
- Interactive LU 6.2 APPC protocol.

AIX VIADUCT enables applications in the AIX environment to have access to application data in the AS/400 system database by using an SQL API. The API accesses AS/400 VIADUCT functions through subroutine calls. After interpreting these subroutine calls, it uses the SNA LU 6.2 APPC protocol to transfer the SQL request to the AS/400. The AS/400 runs the SQL request against the specified SQL database and table or AS/400 physical file. It formats the results and transfers them to the AIX system. The AIX system completes the formatting of the data, does any necessary data conversion, and returns a pointer to the data for use by the AIX application.

Environment

- RS/6000: AIX
- AS/400: OS/400

Contact

Contact your local IBM marketing representative.

ALE Laser Forms Print Subsystem

Vendor

ALE Systems

Description

ALE Laser Form Print Subsystem develops special document formats, merges variable data with the format, and prints the merged document on plain paper from the AS/400.

The ALE Laser Print Subsystem enables you to:

- Design your own laser forms quickly and efficiently
- Merge data from your application with those forms without extensive reprogramming
- Print laser documents with user data overlaid on a laser printer
- Maintain version control of laser document formats from the AS/400.

The ALE Laser Forms Print Subsystem is designed to print intricately formatted laser documents with variable user data overlaid directly from the AS/400. You can integrate the Subsystem with almost any application that creates printed output that is merged with a preprinted form. The software also includes a comprehensive format generator tool which enables users without extensive programming or DP experience to create a laser format, compile it, and store it on the AS/400. The format may then be merged with data from the user's application for printing on plain paper with an inexpensive laser printer.

With ALE Laser Forms Print Subsystem, user applications can "call" the various executable modules and seamlessly embed them. Optionally, the module also picks up a properly formatted AS/400 spool file of user data and overlays it with the laser format during the print process.

The software makes extensive use of APPC and IBM-supported extensions of PC Support/400. As a result, you can use an attached personal computer to print the completed document on a typical laser printer. No other specialized software is required.

Environment

- PC: DOS
- AS/400: OS/400

Contact

C. Wesley Lucas or Donald S. Cowan
ALE Systems
1616 East Parham Road
Richmond, Virginia USA 23228
Phone: 804-262-5850
Fax: 804-262-8626

AM (Application Manager)

Vendor

Intelligent Environments

Description

AM (Application Manager) is an OS/2-based tool for developing industrial-strength, client/server applications that access data on LANs and remote host machines. AM fully supports all of the features of OS/2, including CUA-compliant Presentation Manager screens, SQL database access, multiple threads and windows, interactive graphics, and DDE (Dynamic Data Exchange).

The AM family includes a full development environment, including workbench products for:

- Static (production) SQL
- Terminal emulation (3270/5250)
- Screen scraping
- Communications conversations, including APPC, CICS OS/2, and Named Pipes.

You can use AM to write cooperative processing applications without learning C or OS/2.

CP/Workbench is a high-level transaction/buffer definition toolkit provided as a separate AM program. Using an enhanced set of AM interface functions, CP/Workbench can import and edit basic communications libraries and parameters, such as:

- APPC
- SNA partner and transaction ID
- Synchronization
- EBCDIC/ASCII data conversion
- Security
- Mode and synchronization.

The AM Editor uses a CUA interface to define conversations, including the buffers and the fields within a conversation. The AM Compiler then generates an OS/2 binary program data file, an AM data definition file, and full documentation for programmer reference.

Environment

- PC: OS/2
- AS/400: OS/400, SQL/400
- 30XX, 43XX, 9370: VM Release 6

Contact in US

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Contact in Europe

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Intelligent Environments Europe, Ltd.
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Sundbury-on-Thames
Middlesex TW16 7UL United Kingdon
Phone: (011 44) 932 772266
Fax: (011 44) 932 771499

APPC++

Vendor

Microformatic S. A.

Description

The APPC++ class library is a simplification of the APPC protocol defined by IBM. With this package, you can incorporate an APPC conversation into your program within minutes.

The APPC++ package is designed to :

- Reduce the number of APPC verbs to a manageable superset
- Create an intuitive set of verbs to make programming easier
- Make the library accessible from C or C++ programs.

The APPC++ package includes:

- Executable DLL and full source code written in C++
- All required header files for inclusion into your code
- Several examples of source code and compiled code in C and C++
- All makefiles, .DEF files, etc.
- Comprehensive printed documentation
- Binary available.

Environment

PC: OS/2

Contact in the US

Cyndy Ainsworth
American Telerep
610 Niederwerfier Road
South Windsor, CT 06074
Phone: 203-644-1708
Fax: 203-648-9587

Contact in Europe

Microformatic S.A.
2 Rue Navoiseau
93100 Montreuil-Sous-Bois
France
Phone: (011 33) 1-48-70-1900
Fax: (011 33) 1-48-70-2729

APPC/APPN Test Facility

Vendor

AB Systems, Inc.

Description

The APPC/APPN Test Facility is an intelligent transaction control program (TP) that you can use to test CPI-C, APPC, and APPN applications for conformance to IBM specifications. The Test Facility performs error testing, stress testing, parallel session testing, and configuration testing. CPI-C, APPC and APPN verbs can be issued interactively using the Presentation Manager GUI interface, or by high-level, user-written script files. The scripts consist of high level statements that are fully portable and run transparently on any platform.

The Test Facility supports all the APPC, CPI-C, APPN, and Subsystem Management verbs and parameters that supported by OS/2 2.0. The Test Facility includes test scripts which exercise all of these options. You can easily modify these test scripts, or create new ones, and no programming is required.

You can use the Test Facility:

- To test third party CPI-C, APPC, and APPN products for conformance to IBM specifications
- As a technical support tool, to recreate problems found in the field
- As an end-user development aid, to prototype APPC applications
- As an educational training aid.

Environment

- PC: OS/2 2.x

Contact

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AB Systems, Inc.
P. O. Box 269
Felton, CA 95018
Phone: 408-335-1204
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E-Mail: 71411.164@compuserve.com

Or

Alex Perel
MSC Systems, Inc.
724 Covington Road
Los Altos, CA 94024
Phone: 415-969-2449
Fax: 415-964-5763

APPC/STV

Vendor

Class Act Software

Description

APPC/STV is a 32-bit class library which provides an implementation of LU 6.2 (APPC) for developers who program using Smalltalk/V for OS/2 2.0.

With over 100 methods, APPC/STV provides the Smalltalk/V programmer with all the tools necessary to start and stop APPC transaction programs, and to allocate, deallocate, synchronize and control both basic and mapped APPC conversations.

APPC/STV provides everything necessary for peer-to-peer communication between a Smalltalk/V application and another application running on any platform which supports APPC. The possibilities include PC to PC, PC to midrange, and PC to mainframe. The partner applications to not have to be written in Smalltalk/V.

The peer-to-peer conversations made possible by APPC/STV provide an infrastructure on which the developer can build any or all of the following models:

- client-server
- transaction processing
- local and remote IPC
- distributed processing

Environment

- PC: OS/2 2.0

Contact

Eleanor Tremblett
Class Act Software
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Sparta, NJ 07871-0461
Phone: 201-726-0200

APPC Toolkit for Windows

Vendor

NetSoft (formerly Network Software Associates)

Description

NetSoft's APPC Toolkit for Windows is a powerful software development package that can be used to develop Windows applications that use APPC for peer-to-peer SNA communications. APPC provides developers with sophisticated functions over SNA and LAN network environments. The APPC Toolkit for Windows provides an APPC engine and development tools for access to NetSoft's DynaComm/Elite APPC Dynamic Link Library (DLL).

Product highlights include:

APPC Access
Provides full APPC function set access using function declaration headers and DLLs.

APPC Verbs
Both APPC mapped and basic conversation verbs are available. These allow APPC use at high record-level, or low data-stream states.

Control Verbs
Allow programmers to probe beyond the IBM-defined return codes and determine specific information about the conversation and link.

WinAPPC
The *WinAPPC Programmer's Reference* details the use of each APPC verb.

ASSIST
NetSoft's ASSIST application and source code in both VisualBASIC and C are provided as examples. ASSIST provides an experimentation environment for programmers to test verb usage.

Windows Standards
Supports Windows standards such as Dynamic Data Exchange (DDE), clipboard, and Windows-based help.

Non-Proprietary
Provides a non-proprietary software development environment for APPC development.

Environment

- PC: Microsoft Windows

Contact

Kimber Glennon
NetSoft
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Laguna Hills, California USA 92656
Raleigh, North Carolina USA 27606
Phone: 714-768-4013
Fax: 714-768-5049

Application to Application Interface (AAI)

Vendor

Creative Systems Interface, Inc.

Description

The Application to Application Interface (AAI) enables an application to start a remote program using a simple programming call in any language. AAI connects the applications using APPC/LU 6.2 and provides many features to manage APPC conversations. Because this SAA-compatible product provides a high-level application programming interface, no commands are needed by the programmer. AAI is available on many systems that support APPC.

AAI eliminates the need for APPC coding and all communications testing. AAI helps ensure that applications are easy to maintain after installation by providing an online Administration System that lets you globally administer all AAI resources, including timings of all cooperative transactions, and produce statistical reports.

In short, with the AAI Family of Products, connecting cooperative applications on IBM systems is as easy as calling a subroutine.

Environment

- PC: OS/2, DOS, Microsoft Windows
- AS/400: OS/400
- 30XX, 43XX, 9370: All versions of CICS, MVS Batch, and TSO
- RS/6000: AIX

Contact

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Creative Systems Interface, Inc.
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Application Software Expert: Client/Server Development Tool

Vendor

Software Artistry, Inc.

Description

Application Software Expert (ASE) is a tool for developing cross-platform client-server applications. ASE addresses the needs of corporations that are downsizing mission-critical applications to PC local-area-networks, and require enterprise-wide connectivity.

The elements of ASE include a graphical development environment, "point-and-click" utilities for screen layout and report generation, and a multi-threaded, object-oriented programming language.

The ASE development environment uses a notebook metaphor to visually represent projects and their components, such as code modules, dialog boxes, icons, and SQL tables. An integrated source code debugger includes a code "animator" that allows developers to quickly locate problems and verify an application's proper execution.

The ASE programming language is designed to be powerful, yet easy to learn and use. The language begins with a multi-threaded, block-structured, strongly typed foundation which is syntactically similar to Pascal and Modula2. The language provides user interface functions that enable the developer to create event-driven graphical user interfaces. Basic dialog box controls include entry fields, list boxes, combo boxes, radio buttons, check boxes, sliders and multi-line editors. More sophisticated controls include notebooks, spreadsheets, multimedia viewers, and SQL data management windows. The ASE language also includes direct support for SQL including queries, insertion, deletion, updates with passive concurrency protection, and external data descriptions. ASE can interface to most major SQL servers, including DB2, OS/2 DB2/2, SQL/400, Microsoft LAN Manager, Sybase, Oracle, Novell Netware SQL, and Informix. Addition language constructs are provided for interaction with the operating system, including process control and the launching of executable programs and command files.

ASE provides several facilities for integration into enterprise-wide systems. These include support for named pipes, EHLLAPI, and CPIC. Using these facilities, developers can integrate ASE applications into enterprise networks and create seamless interfaces to host applications such as NetView and Infoman.

Environment

- PC: OS/2, Windows NT
- RS/6000: AIX
- UNIX

Contact

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Software Artistry, Inc.
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Indianapolis, Indiana USA 46268
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Fax: 317-876-3258

APS for Application Generation

Vendor

INTERSOLV, Inc.

Description

APS is a full-function application generator for host, mid-range and PC platforms. You can use APS to develop both stand-alone and cooperative information systems. Developers can generate high-performance code that is optimized for specific targets without learning underlying technologies, multiple platform configurations, or distributed application communications protocols.

APS generates structured, native COBOL and COBOL/2 applications for CICS, IMS/DC, ISPF, DOS/VSE, OS/400, Microsoft Windows, and OS/2 Presentation Manager environments. APS generates data access for VSAM files, and IMS, DB2, IDMS, SQL/400, SQL/DS, Database Manager, and SQL Server databases. New APS/PC client server targets include OS/2 Presentation Manager and Microsoft Windows clients, with OS/2 LAN servers, and mainframe CICS and MVS servers. Client/server communication is accomplished using either generated CPI-C, APPC, or both.

APS/PC offers a complete development solution for enterprise-strength cooperative processing applications with graphical front-ends and true distributed function and data support through generated server programs. APS/PC lets developers specify application functions independently of their distribution, and automatically generates distributed components from your single specification.

Environment

Development

- PC: OS/2, DOS
- 30XX: MVS

Production

- PC: OS/2, DOS, Microsoft Windows
- AS/400: OS/400
- 30XX, 43XX: MVS, DOS/VSE

Contact

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Arbiter

Vendor

Tangram Systems Corporation

Description

Arbiter gives hundreds of users transparent access to information on the MVS mainframe. Users can transfer files, utilize mainframe remote disks and perform terminal emulation without knowing anything about the mainframe. There are four components of Arbiter:

- Remote Disk Environment (RDE) allows users to create and maintain storage space on a mainframe DASD that users can access as if it were a workstation hard drive.
- Remote File Server (RFS) is a mainframe-based file server that allows many users to read and write to the same file on a remote disk. RFS uses the remote disks to provide the same services as a LAN file server without a LAN connection.
- External File Interface (EFI) provides file transfer functionality between the mainframe, workstations or remote disks.
- Interactive Session Relay (ISR3270 and ISR3297) provides 3270 emulation and enables users to receive mainframe output on their workstation-attached printer.

  Arbiter provides cost savings for application development, training and support with its common menu system, commands and application programming interface.

Featured uses include store-and-forward, unattended file transfer, backup of a workstation's data to the host, data conversion and extraction from host to workstations (SAS or Focus to a Lotus workstation format), submitting batch jobs to the host, automating file transfer through a scripting language, and a 3270 emulation with a toggle key.

Arbiter supports workstation-to-mainframe communication, and supports over 120 ways to connect to the host, including APPC, COAX, X.25, asynchronous or LAN gateways. Arbiter supports LU 0, LU 1, LU 2 and LU 6.2.

Environment

- PC: OS/2, DOS, Microsoft Windows
- S/370, S/390: MVS with VTAM

Contact

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Tangram Systems Corporation
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Raleigh, North Carolina USA 27606
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ARDIS LU 6.2/CICS Interface

Vendor

ARDIS

Description

ARDIS LU 6.2/CICS interface streamlines the process of connecting CICS host applications and the ARDIS nationwide radio data network. This interface provides easy access to the ARDIS network, while significantly minimizing development effort. ARDIS LU 6.2/CICS Interface also provides automatic error recovery and robust diagnostic capabilities.

ARDIS LU 6.2/CICS Interface works as a router, sending and receiving messages to and from the ARDIS network, thereby eliminating the need to understand details of the ARDIS LU 6.2 implementation. This interface also:

- Simplifies application development. Using the emulation mode provided by ARDIS LU 6.2/CICS Interface, you can test ARDIS applications before establishing ARDIS connectivity.
- Minimizes the development and implementation cycle
- Provides connectivity between ARDIS network and host applications with few modifications to the host system
- Supports a virtually unlimited number of terminals
- Reduces internal CICS resource demands for handling many terminals
- Implements an LU 6.2 wireless solution with low risk and high reliability
- Minimizes potential downtime, ensures connectivity, and improves troubleshooting.

This package is fully tested and supported by ARDIS. ARDIS provides complete documentation, assistance during installation, and ongoing support as required.

ARDIS operates the first nationwide radio data information service enabling in-building and on-street data communications between hand-held terminals and host computers. ARDIS provides comprehensive coverage in the top 400 metropolitan areas in all 50 states and in Puerto Rico and the Virgin Islands. The service enables executives and mobile workers to access their computers or communicate with their peers from practically any location in these metropolitan areas. The ARDIS goal is to provide seamless, worldwide access to any information needed by people who require an alternative to wire-based communications.

Environment

30XX, 43XX, 9370: CICS

Contact

ARDIS
300 Knightbridge Parkway
Lincolnshire, Illinois USA 60069
Phone: 708-913-1215
Fax: 708-913-4700

AS/SET

Vendor

System Software Associates, Inc.

Description

AS/SET is an AD/Cycle integrated case product line. Although AS/SET spans the entire development life cycle, it words like a single product. Seamless integration lets the developer operate efficiently and effectively across the life cycle. AS/SET products include:

AS/SET ADK	
AS/SET IWS	(Case workstation)
AS/SET WKD-U	(Workstation development kernel for UNIX)
AS/SET REV	(Reverse Engineering)
AS/SET AIM	(Methodology)
AS/SET RSD	(Rapid Systems Development methodology)
AS/SET UCI	(Upper case integration)
AS/SET PRM	(Project management)
AS/SET INT	(KnowledgeWare interface)
AS/NET	(AS/400 networking).

AS/SET operates on programmable workstations that are either detached, semi-attached, or attached to the AS/400 host, and on the AS/400 as a cooperative application using APPC.

AS/SET products support application development on the AS/400 or PS/2, together or independently. AS/SET excels in its use of existing information. Its data modeling facility easily includes existing database information. Existing CASE constructs can be retrieved through IBM's External Source Format or through an interface to KnowledgeWare's design workstation. AS/SET reverse engineering converts existing source to CASE constructs. AS/SET provides communications support for networks. AS/SET is available in nine national languages.

Environment

- PC: OS/2
- AS/400: OS/400

Contact

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System Software Associates, Inc.
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Chicago, Illinois USA 60601
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Choreographer

Vendor

GUIdance Technologies, Inc.

Description

Choreographer is a powerful and complete development tool for client/server, cooperative, and GUI applications. It includes facilities for designing, implementing, delivering and maintaining large, business-critical applications. Object technology integrated with access to corporate mainframe information systems provides crucial gains in development productivity. Conformance with common user interface standards results in applications that are easy to use. Choreographer extends your investment in existing systems by integrating with your existing COBOL, C and other standard language software.

Choreographer supports all modern communication standards and protocols, including APPC, 3270, SQL and DDE. This support provides integration with both corporate MIS legacy systems and LAN-based servers.

Environment

PC: OS/2, Microsoft Windows

Contact

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800 Vinial Street
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CICS OS/2

Vendor

IBM

Description

CICS OS/2 Version 1.2 is a major enhancement of the CICS family member for the programmable workstation (PWS) and a key component of the transaction processing strategy for CICS customers within SAA. CICS OS/2 provides significant new support for cooperative processing and extends SAA support so that applications can provide CUA screen interfaces and can fully conform to SAA in the OS/2 environment.

Enhancements in CICS OS/2 Version 1.2 include:

Cooperative processing support
CICS OS/2 Version 1.2 expands earlier communications support by adding communications capabilities to provide transparent host-to-PWS and PWS-to-PWS communications. CICS Distributed Transaction Processing (DTP) commands enable transactions running in a PWS to initiate and communicate synchronously with transactions in another PWS or a host using APPC protocols. CICS OS/2 also provides LAN support for communications via APPC protocols and NetBIOS protocols.

SAA conformance
CICS OS/2 extends the support provided for SAA, so that you can further develop your investment in OS/2.

New debugging facilities
The CICS application debugging aid, Execution Diagnostic Facility (EDF) helps you with problem determination.

Other enhancements include:

- A new external call interface (ECI)
- Extended support for the CICS command-level API
- Additions to the distributed program link (DPL) function
- Additional communications support, including communications between CICS OS/2 applications and both IMS and APPC/MVS applications.

Environment

- PC: OS/2 EE, DOS
- 30XX, 43XX, 9370: CICS/ESA, CICS/MVS, CICS/VSE, CICS/VM

Contact

Contact your local IBM marketing representative.

Commander EIS

Vendor

Comshare, Inc.

Description

The LAN capabilities of the AS/400 combined with the ease-of-use of Commander EIS make a powerful executive information system for distributing and displaying the information from AS/400 applications to executive users. Access to key information can be delivered automatically to:

- Personal computer workstations
- Off-desk, touch-sensitive monitors
- Large screen projectors for conference rooms and board rooms.

Commander EIS delivers critical business data to executives with no need for additional training or documentation. Using individualized PC workstation GUI screens, you can access intelligent, highly analyzed, refined, and summarized information drawn from diverse sources, both internal and external to a company's organization. You can select any number, title, graphic component, or text phrase to request more details.

Commander EIS facilitates effective analysis, planning, control, and decision making. It also lets geographically dispersed management teams communicate using reports, charts, memos, and spread sheets.

Environment

- PC: OS/2, DOS
- AS/400: OS/400
- 30XX, 43XX, 9370: VM, MVS/TSO

Contact

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Comshare, Inc.
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Ann Arbor, Michigan USA 48108
Phone: 313-994-4800 or 800-922-7979
Fax: 313-769-6943

Communications Integrator (CI)

Vendor

Covia Technologies

Description

The Communications Integrator (CI) is a software solution for companies that need to improve software development productivity for APPC-based applications, or to interoperate APPC-based networks with non-APPC-based networks.

The CI enables reliable message transport between applications, including applications that reside on dissimilar platforms. Because the CI resides between the application and the network services, applications are insulated from and independent of communications protocols.

Because applications use the simple CI Application Program Interface (API), programmers do not need expertise in communications programming. The CI handles all details of interfacing with the network. The CI interface consists of only four verbs: Register, Send, Receive, and Unregister.

The CI allows applications running on different operating systems to communicate with each other over heterogeneous networks. The virtual network that the CI creates allows true peer-to-peer communications. The CI is engineered for high-performance, high-capacity, and high-throughput environments.

Environment

- PC: OS/2, DOS, Microsoft Windows
- 30xx, 43xx, 9370: MVS, TPF
- Stratus: VOS
- Tandem: Guardian
- UNIX Platforms: Sun/OS, SCO, SVR4
- Protocols: APPC (LU 6.2), MPIF, UICV, HLH, NETEX, NetBIOS, TCP/IP, IPX.

Contact

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Covia Technologies
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Englewood, Colorado USA 80111
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CPI-C Application Prototyping System

Vendor

Insession, Inc.

Description

The CPI-C Application Prototyping System (APS) is an application prototyping system for Tandem computers on which Insession's Intersystem Communications Environment (ICE) is installed. Tandem programmers who are unfamiliar with APPC can use the APS CPI-C interface to design and test new APPC applications. The ICE CPI-C APS allows programmers to issue CPI-C verbs in a simulated test environment, and review the results in real time.

Using APS, a programmer can devise and test a sequence of APPC verbs before writing any application code. Under the control of the programmer, two CPI-C back-end processes establish a conversation with each other, enabling the programmer to simulate a client/server application running on two separate systems.

Environment

- Tandem Computer Systems

Contact in the Americas (including U.S.), Europe and Asia

Applied Communications, Inc.
330 South 108th Avenue
Omaha, Nebraska USA 68143
Phone: 402-390-7600
Fax: 402-330-1528

Contact in Australia and New Zealand:

Insession Pty., Ltd.
100 William Street, Level 8
Sydney 2011 Australia
Phone: 02-368-1444
Fax: 02-368-1064

DataPump/AS

Vendor

Patrick Townsend and Associates

Description

DataPump/AS is a high speed transaction processing tool that connects IBM AS/400 computer systems and Novell Netware LANs. DataPump/AS is ideal for any application that requires high speed exchange of data and files between the AS/400 and Novell Netware LANs. Because DataPump/AS is based on the SAA Common Programming Interface for Communications (CPI-C), the customer's long-term investment in communications technology is protected.

On the AS/400, DataPump/AS provides a set of application program interfaces (APIs) that allow easy integration with existing applications. AS/400 users can interface applications on the AS/400 with applications on the Netware LAN without having to develop extensive SNA or Netware communications expertise. DataPump/AS provides a highly reliable and recoverable set of applications that can provide the backbone for AS/400 and LAN integration.

On the Netware LAN, DataPump/AS resides on a PC running DOS or OS/2 with Extended Services. When running in an OS/2 environment, DataPump/AS can support multiple conversations and sessions. The tool is self-recovering and provides for round-the-clock operations. Application interfaces on the LAN side include a simple file interface on any available Netware file server.

Environment

- PC: DOS, OS/2
- AS/400: OS/400

Contact

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Distributed Application/2

Vendor

IBM

Description

Distributed Application/2 is a set of application programming interfaces (APIs) that provide a consistent way to access interprocess and network communication functions under Operating System/2 (OS/2) Version 2.0. Distributed Application/2 supplies you with a set of APIs designed to help you compete in the growing client/server programming arena. The APIs hide the complexity of the supported communications protocols, and enable you to select a communications protocol for your application at run time without requiring you to change your code.

Distributed Application/2 supports the following communications protocols: Advanced program-to-program communication (APPC), NetBIOS, and OS/2 named pipes.

Distributed Application/2 supports both C and REXX.

Environment

- PC: OS/2

Contact

Indelible Blue, Inc.
123 East Martin Street
Raleigh, North Carolina USA 27622
Phone: 800-547-1283
Fax: 919-783-8380
Compuserve: 70670,2352

Distributed Automation Edition Tools/2

Vendor

IBM

Description

Distributed Automation Edition is the key IBM plant floor system enabler. This family of products helps improve productivity by providing the capability to develop and use plant operations applications and to integrate these applications with other business management functions. Distributed Automation Edition Tools/2 enables Communications System/2 application programmers to interactively define application panels using Presentation Manager.

Tools/2 helps improve productivity by providing a simple, high-function program interface. Using this interactive WYSIWYG panel creation tool, you can create panels quickly by directly manipulating icons, which represent panel objects. Tools/2 also provides dynamic assistance with panel layout, so that you can concentrate on the content of the panel instead of formatting details. As a result, Tools/2 helps reduce the cost of application programming by reducing the level of knowledge required to develop easy-to-use applications.

Using the user interface component of Communications System/2, you can run Communications System/2 applications using interface panels created with Tools/2. A single application program can interact with multiple users concurrently. You can display multiple panels concurrently on one workstation, which provides significant growth opportunity in a distributed environment.

Environment

PC: OS/2

Contact

Contact your local IBM marketing representative.

EASEL

Vendor

IBM

Description

EASEL for OS/2 EE is a full-function OS/2 application development tool. It enables you to develop full-color, graphical user interfaces which help your workstation users productively use a wide range of local and host applications.

Both versatile and flexible, EASEL provides an array of facilities for creating highly visual, sophisticated applications quickly. These applications help you benefit from OS/2 Database Manager access, cooperative processing, terminal emulation, and even audio playback.

Other features include APPC support, which enables you to develop cooperative processing applications with IBM hosts. With OS/2 Communications Manager support, multiple host sessions can be active concurrently within each EASEL application. Using Asynchronous Communications Device Interface (ACDI), you can develop interfaces for IBM or non-IBM ASCII host applications, so workstations can operate more easily in multivendor environments. Fourteen business graphics routines, available for graphic presentation of data, help you and your users work more productively.

Environment

PC: OS/2 EE

Contact

Contact your local IBM marketing representative.

EASEL Workbench

Vendor

Easel Corporation

Description

EASEL Workbench is an OS/2-based, integrated development environment for building client/server applications that can access enterprise-wide data. EASEL Workbench provides application developers with a suite of powerful visual tools for developing client/server applications that leverage IBM technologies, including APPC, CICS OS/2 and the Cross System Product.

The EASEL Transaction Server (ETS) Toolkit, which is part of the EASEL Workbench, is designed to meet the online transaction processing (OLTP) needs of mission-critical Windows and OS/2 applications. The ETS Toolkit supports server-based static SQL processing, and reduces network traffic. You can use the toolkit to create an OS/2-based transaction server that provides high-speed access to IBM's SAA databases using the OS/2 Database Manager and Distributed Database Connection Services/2.

EASEL Workbench supports Information Builders' EDA/SQL product. Using the EDA/SQL support for EASEL Workbench, developer's can build client/server applications that can access more than 50 of the most widely used databases and file formats in the industry, both relational and non-relational.

Easel Workbench highlights include:

- Support for APPC, CICS OS/2, and EHLLAPI
- Support for Information Builders' EDA/SQL
- Access to all SAA databases with the ETS Tooklit
- Extensive SQL database support
- Visual programming and automatic code generation
- Enables programmers to compile and execute client application code for OS/2, Windows, and DOS production environments
- Integration of IBM's Cross System Product

Environment

Development environment:
PC: OS/2

Production environment:
PC: OS/2, DOS, Microsoft Windows

Contact

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Burlington, Massachusetts USA 01803
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ENFIN/2 and ENFIN/3

Vendor

Easel Corporation

Description

The ENFIN products provide a complete Smalltalk-based, object oriented, visual programming environment for developing OS/2 2.0 and Microsoft Windows client/server applications.

The ENFIN products leverage IBM technologies such as APPC for peer-to-peer communications and cooperative processing; CICS OS/2, OS/2 Database Manager, DDCS/2 and DRDA for transaction-based (OLTP) access to IBM SAA databases; and HLLAPI and CUA '91. The ENFIN products also support Information Builders' EDS/SQL product, which allows client/server application to access more than 50 of the most widely used databases and file formats in the industry, both relational and non-relational.

The ENFIN products:

- Support APPC and CICS OS/2
- Support multiple client/server architectures
- Provide access to all IBM SAA databases using Database Manager and DDCS/2
- Generates Smalltalk, a pure object oriented development language
- Exploits OS/2 2.0 32-bit, CUA '91, and Workplace Shell
- Supports Dynamic Data Exchange (DDE) and Dynamic Link Libraries (DLLs).

Environment

- ENFIN/2: Microsoft Windows
- ENFIN/3: OS/2

Contact

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EXPRESS PEER–TO–PEER

Vendor

Systems Strategies, Inc., a NYNEX Company

Description

EXPRESS PEER-TO-PEER is an easy to use, flexible software solution that permits efficient network communications between UNIX, VAX/VMS systems and IBM AS/400s. The software package enables users to perform bi-directional file transfer, execute remote job submissions, share printers, and develop program-to-program applications easily, using a common interface for simple APPC programming.

PEER-TO-PEER permits real-time computing, so you can transfer messages between any VAX or UNIX system and an AS/400 instantaneously. As a result, users and application programs can access remote information on their local system whenever they need it. This helps alleviate unnecessary multiple terminal log ins and allows users to work with the systems they know best.

With PEER-TO-PEER, distributed program-to-program file transfers and print service applications can reside anywhere in the APPN, DECnet or TCP/IP networks. And you can move these applications from one system to another without any changes.

PEER-TO-PEER components include:

- The Common Interface for real-time program-to-program communications.
- The Application Prototyper, which lets users design applications interactively, verify design concepts, and perform unit testing. Application Prototyper dramatically improves the application's time to production and reduces the application's cost.

Highlights of EXPRESS PEER-TO-PEER include:

- Easy APPC programming. No knowledge of APPC is required for your VAX, UNIX, or AS/400 users.
- Bi-directional file transfer, and printing capabilities all in one package.
- Transport independence. PEER-TO-PEER operates over SDLC or X.25 for wide area networking, and over token-ring for LAN-to-connections.
- Support for TCP/IP and APPN networking. UNIX systems running on TCP/IP can communicate directly with AS/400 systems running on IBM's APPN networks.
- Support for combined DECnet and APPN networking. VAX systems running on TCP/IP can communicate directly with AS/400 systems running on IBM's APPN networks.

Environment

- AS/400: OS/400
- UNIX System V
- Digital VAX/VMS

Contact

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New York, New York USA 10119
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ezBRIDGE TRANSACT

Vendor

System Strategies, Inc., a NYNEX Company

Description

ezBRIDGE TRANSACT provides real-time distributed processing between multivendor platforms, assuring end-to-end data delivery between systems.

ezBRIDGE TRANSACT offers a standard way of distributing messages across multivendor computing environments. Residing on LU 6.2, this message queuing software package ensures that no messages are lost or duplicated.

With ezBRIDGE TRANSACT, you develop applications using a simple programming interface common to all of the supported, multivendor platforms. So, you can create and maintain applications without learning about the underlying system. This package isolates you from the complexities of LU 6.2 communications and eliminates the need to build error recovery into your applications.

Environment

- IBM mainframe (CICS)
- AS/400
- RISC System/6000
- PC LANs (DOS, Windows, OS/2)
- Digital VAX/VMS
- Stratus/S88
- Tandem Guardian

Contact

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FOUNDATION

Vendor

Andersen Consulting

Description

FOUNDATION for Cooperative Processing is an integrated development environment that helps you create peer-to-peer cooperative processing applications that run on the OS/2 Presentation Manager and MVS platforms. FOUNDATION for Cooperative Processing minimizes the complexity and risk involved in developing cooperative processing systems by providing a framework that helps organizations balance responsiveness and corporate control.

FOUNDATION is automated across the entire systems development life cycle from planning and design through construction and maintenance. FOUNDATION'S components include:

METHOD/1
A workstation-based automated systems development method and project management toolset.

PLAN/1
An OS/2 or Windows workstation-based planning and analysis toolset for information planners and information engineers.

DESIGN/1
A DOS, OS/2, or Windows workstation-based toolset that automates analysis, design, and documentation tasks.

INSTALL/1
Is a mainframe development environment and application generator for the BULL, Digital, and IBM environments.

INSTALL/1 PC
A workstation-based application generation and testing tool for the CICS environment.

Environment

- MVS/XA with DB2
- IMS/DB or IMS/OC
- VS CobolL II
- CICS
- VSAM
- VTAM
- QMF
- ISPF/PDF
- ASSEMBLER H
- Digital Equipment VAX series under VMS, with VAX Rdb/VMS
- VAX SQL and VAX COBOL
- BULL HN DPS7 and DPS8 under GCOS7 V3A7 or GCPS8 SR3004
- PC: OS/2, DOS, Microsoft Windows

Contact

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Fax: 312-507-2548

ICE-ACCESS

Vendor

Insession, Inc.

Description

If your organization has applications and data that are shared among IBM and Tandem systems, your programmers can use ACCESS to quickly develop cooperative programs that allow for the timely interchange or real-time integration of critical data.

Using ACCESS, Tandem programmers can write applications that communicate with LU 6.2 applications on IBM systems using standard Tandem Guardian File System programming calls. ACCESS maps Guardian OPEN, READ, WRITE, CLOSE and other calls to the LU 6.2 protocol. And ACCESS maps the response from the LU 6.2 application into Guardian format responses, then delivers the response to the Guardian application. Because the Guardian-to-LU 6.2 mapping is transparent to the application programmer, the programmer does not need LU 6.2 coding skills.

Environment

- Tandem

Contact in the Americas (including U.S.), Europe and Asia

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330 South 108th Avenue
Omaha, Nebraska USA 68143
Phone: 402-390-7600
Fax: 402-330-1528

Contact in Australia and New Zealand:

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Sydney 2011 Australia
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Information Engineering Facility (IEF)

Vendor

Texas Instruments, Inc.

Description

Information Engineering Facility (IEF) is an Integrated Computer Aided Engineering (ICASE) product. IEF is a fully integrated set of tools for automating the creation of business applications. The IEF Toolset automates the entire system life cycle, from specification through design and maintenance. The IEF Toolset generates 100% of the source code.

The IEF developer designs the entire application using model diagrams, so the developer never needs to use the generated source. The IEF consists of Planning, Analysis, Design, and Construction toolsets. Using an OS/2 or Windows 3.1 based workstation, an application is generated using the Construction Toolset on either the workstation or a centralized Encyclopedia. Applications targeted for the IBM RS6000 systems are generated by the workstation-based Construction Toolset. The Construction Toolset generates C or COBOL source code and the database. The Encyclopedia links the toolsets and acts as a repository for the detailed business and application information. This provides the basis from which the application is generated.

Environment

- PC: Microsoft Windows, OS/2
- 30XX, 43XX, 9370: VM, MVS/ESA, MVS/XA, CICS, IMS, DB2
- RS6000: Oracle, Ingres

Contact

Marketing Department
Texas Instruments, Inc.
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InfoSpan/CaseSpan

Vendor

InfoSpan

Description

CaseSpan is an IRDS repository-based CASE tool integration and bridging framework—supporting your ability to choose the best-of-breed CASE, reverse engineering, dictionary and code generation tools. CaseSpan integrates a variety of reverse engineering tools and offers new opportunities and techniques to maintain and rejuvenate existing applications and standardize data elements.

CaseSpan:

- Offers a cost-effective CASE tool integration and bridging environment directly to the workgroup software development team.
- Consolidates design information across tools, methods, users, projects and information life-cycle in an OPEN repository.
- Supports exchange of information contained in logical data models, entity relationship data and flow diagrams, and a host of other design representations.
- Offers versioning, lifecycle phase partitioning, audit, view, and access control services.

CaseSpan is an ideal choice for a department or project level server-based software development environment. It complements AD/Cycle Repository Manager and Information Model with workgroup services, supporting subsets of the Information Model. Software designs and specifications in CaseSpan can be loaded into the AD/Cycle RM/MVS repository using the SAA Repository Manager Common Programming Interface. PC/AT-and OS/2-based applications use Dynamic Data Exchange (DDE) to work with AIX- or OS/2-based CaseSpan Manager software.

CaseSpan consists of a core CaseSpan Manager and a complementary set of optional tools, utilities and transformers which can:

- Import from reverse engineering and CASE tools, and Data Dictionary/Catalogs
- Maintain and rejuvenate the specifications
- Export the clean and verified specifications to a variety of "downstream" CASE and code generation tools.

Casespan offers design exchange facilities when you wish to use more than one CASE tool, AD/Cycle or non-AD/Cycle, or the Reverse Engineering tool for a design activity. You can also integrate designs from subprojects where team members use dissimilar tools. The project team can use the right tool for the right job -- matching skills and knowledge bases to tools.

CaseSpan supports tools from KnowledgeWare, INTERSOLV, Oracle, Bachman, and InfoSpan's COBOL Reverser and Loader. CaseSpan supports entity relationship and data flow diagrams, along with processes, data stores, externals; and structure charts, data and record structures, screen data, and business planning information.

Design information from COBOL programs and associated Copy Libraries can be extracted and loaded for design exchange and integration services. The design information extracted includes File and Working Storage section, module calling trees, action diagrams/program logic, CICS, data base, record and screen layout, and more.

Environment

- PS/2: OS/2, DOS
- RS/6000: AIX

Contact

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KBMS Knowledge Base Management System

Vendor

Trinzic Corporation

Description

KBMS is an application development tool for building knowledge based applications that require integration or use of data stored in a DBMS.

KBMS is an expert system development tool for the mainframe environment. KBMS incorporates the following key Artificial Intelligence (AI) technologies:

- Goal directed reasoning (backwards chaining)
- Data driven reasoning (forward chaining)
- Hypothetical Reasoning
- Object oriented programming
- Natural language processing
- Rete algorithm

KBMS offers close integration with DBMS, including DB2 and IMS. KBMS automatically generates SQL to interface to DB2, and automatically generates calls to IMS, VSAM, and other commercial DBMS, as follows:

- SQL/DS
- DL/1
- ADABAS
- IDMS
- CA-IDMS
- KDB
- DBC/1012 (Teradata)
- Oracle (VMS)
- RDB (VMS)
- OS/2 Database Manager
- Sequential.

KBMS incorporates a central server architecture that enables multiple users to share the same copy of KBMS.

Environment

- PC: OS/2
- DEC VAX: VMS
- 30XX, 43XX, 9370: MVS/ESA, MVS/XA, MVS, VM, CICS, IMS
- SUN: SUN OS

Contact

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LANSA

Vendor

LANSA USA, Inc.

Description

LANSA is a family of Computer Aided Software Engineering (CASE) products for the IBM AS/400. The foundation of LANSA is LANSA/AD — the application development kernel. LANSA/AD consists of the following:

- An open, portable design repository
- An active data dictionary for integrating existing applications
- An easy to use data modelling facility for improving database designs
- Fully customizable application templates
- A powerful 3GL—independent design language
- A flexible screen and report painter
- Integrated change management facilities.

Optional development and technology enablement products are available which complement LANSA/AD. These optional products include:

- An object oriented design facility for re—engineering and prototyping applications
- An upper CASE design interface
- A PC—based detachable development workstation
- An integrated project management facility
- A cross—platform portability bridge
- An automatic design documenter
- An end user graphical user interface for Microsoft Windows and OS/2 Presentation Manager.

LANSA/Server is a client/server enabler that provides secure, consistent access to an AS/400 database from PC applications. Using APPC LU6.2 communications, LANSA/Server is a set of standardized application program interfaces (APIs) that enable DOS, Windows, or OS/2 applications to access AS/400 databases. Unique features include:

- Access to and from existing AS/400 and PC applications software
- Standardized interfaces for PC software such as Microsoft's Excel and Visual Basic products
- Host database integrity and security.

Environment

- PC: DOS, Microsoft Windows, OS/2
- AS/400: OS/400

Contact

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LYNX APPC

Vendor

Computone Corporation

Description

The LYNX APPC Development System is a library of "C" language verbs (functions) that adhere to IBM's APPC and LU6.2 specifications. It supports a superset of APPC that includes Type-Independent verbs, basic conversation verbs, mapped conversation verbs, and control operator verbs. In addition, LYNX APPC supports many IBM-defined "Option Sets" that significantly extend the functionality of APPC transaction programs (TPs).

LYNX APPC includes several interactive utility programs to aid in testing and troubleshooting of TPs. One of these utility programs enables developers to test TPs containing control operator verbs; another is used to test programs containing type-independent, basic, or mapped conversation verbs, or any combination of these verbs. The source code for these programs is included in the package to provide you with a starting point in developing LYNX APPC TPs.

Environment

- PC UNIX SVR3.2, SCO XENIX 386
- UNIX SVR4.0, UNIX SVR4.2
- RS/6000: AIX V3.2

Contact

Computone Corporation
1100 Northmeadow Parkway, Suite 150
Roswell, GA 30076
Phone: 800-241-3946 or 404-475-2725
Fax: 404-664-1510

message EXPRESS

Vendor

Horizon Strategies

Description

message EXPRESS is a multi-modal middleware product that enables application programmers to build mission-critical cross-platform distributed applications. Through a simple 4 Verb application programming interface (API), programmers have access to services such as guaranteed message delivery, file transfer, RPC, and distributed SQL.

message EXPRESS:

- Requires that you learn only a simple 4 Verb API.
- Enables you to deliver client/server and peer-to-peer distributed applications with the skills you have today.
- Handles database replication and database synchronization for you automatically across multi-vendor, multi-platform database management systems.
- Enables you to develop customized, automated workflow applications.

Environment

Platforms and Operating Systems

- MVS/CICS
- DOS/VSE/CICS
- MVS/VTAM
- DOS/VSE/VTAM
- AS/400
- AIX
- OS/2 and OS/2 LAN Server
- Digital VAX/VMS
- Windows
- Novell Netware
- DOS
- HP-UX
- SUN OS
- Data General

Network Protocols

- SNA APPC/LU6.2
- TCP/IP
- Novell Netware
- Named Pipes
- DECnet

Contact

Sales Department
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Needham, Massachusetts USA 02194
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MetaNet Architecture

Vendor

LEGENT Corporation

Description

MetaNet Architecture supports communications across heterogeneous platforms, operating systems, and networks. It is designed to support proprietary network services such as SNA and DECnet, and standards-compliant network services such as TCP/IP and OSI.

MetaNet Architecture consists of five primary components:

MetaNet Directory Services
Associates a MetaNet Application with its fully qualified network address.

MetaNet Event Management
Provides a common, system-independent interface to manage multiple asynchronous events. It provides comprehensive event management, handling not only network events, but also terminal and disk I/O.

MetaNet Network Services
Provides a common, system-independent interface to a variety of network services. It works with IBM's SAA, Digital's NAS, and OSI network services.

MetaNet Connection Services
Handles session establishment, logical unit (LU) processing, and activation of applications on demand.

MetaNet Presentation Services
Provides the appropriate translation of data structures between heterogeneous computing environments.

MetaNet uses LU 6.2 and the DECnet/SNA gateway family of interconnect products to support interoperability between SNA and DECnet environments.

Environment

- 30XX, 43XX, 9370: MVS/XA, MVS/ESA
- DEC VAX: VMS

Contact

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Metaview Developers Workbench

Vendor

Metafile Information Systems, Inc.

Description

Metaview is a single interface to integrated information management, including document image processing, workflow, access to host applications and facilities, extensions to PC applications, and application development.

Metaview provides developers with a high-level, object-driven application environment and delivery language. The Metaview Developer's Workbench provides the facilities to access and manipulate the objects and data needed for an application. It is a highly productive, modular approach to developing and maintaining applications that permits faster application turnaround and quicker system design and analysis.

The greatest strength of the Metaview Developer's Workbench is the environment which provides developers with a common interface to information resource and functions. It insulates the application and the developer from hardware and operating system details. The power of the mainframe, midrange, and special purpose servers are all managed through the friendly and responsive programmable workstation.

Applications can be developed, delivered, and maintained in a fraction of the time required in traditional programming environments. Metaview is designed with an open architecture so that it coexists or communicates with existing applications, adding value and protecting your investment in your current system.

Complete document imaging and COLD solutions are also available.

Environment

- PC: DOS, Microsoft Windows, OS/2
- AS/400: OS/400
- MVS/VSAM

Contact

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Rochester, Minnesota USA 55902-3302
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Fax: 507-286-9065

MLINK APPC Communications System (MACS)

Vendor

Corporate Microsystems, Inc. (CMI)

Description

The MLINK APPC Communications System (MACS) is a powerful LU 6.2 application for high-speed, bulk file transfer and remote command execution. MACS is designed for automated communications applications. Either end of the link can initiate a session, transfer files, and submit commands for execution by the remote system.

MACS uses the LU 6.2 protocol to achieve very high throughput and reliability. It is designed for automated, unattended communications activities.

MACS also provides:

- Master and slave transaction programs at both ends of the connection to allow for session initiation at either end
- Flexible options for file transfer and command execution
- Unattended operation using a sequence of commands stored in a control file
- Automatic record reformatting and ASCII/EBCDIC translation
- A high-level API to the internal LU 6.2 interface. The API reduces the LU 6.2 verb set to three essential commands.

Environment

- PC: OS/2
- AS/400: OS/400
- 30XX, 43XX, 9370: VTAM, MVS, DOS/VSE
- RS/6000 and RT PC: AIX
- AT&T 486: UNIX V.4
- NCR 3000: UNIX V.4
- Bull DPX/2: UNIX V.3

Contact

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The Netwise System

Vendor

Netwise, Inc.

Description

The Netwise System provides enterprise-wide cooperative processing. Building distributed applications between mainframe, minicomputer, workstation, and PC environments is as simple as developing standalone applications when you use the Netwise System. When CICS and IMS programmers use RPC EXEC for CICS or IMS in the MVS environment, they can develop distributed applications that connect mainframe transactions with application-code running on PCs, microcomputers, and other mainframes — without a technical understanding of the underlying network. The Netwise RPC EXEC is a mainframe development tool that is used with other application development tools to provide intelligent communications between remote procedures.

CICS and IMS/DC transactions can act as either clients or servers, cooperating with processes executing in remote computing environments that are attached to SNA, TCP/IP, or SPX networks. So, multiple-tier client/server applications can combine the strengths of CICS and IMS transactions, PC graphical user interfaces (GUIs), and server databases.

The Netwise System for Mainframes also provides:

- OLTP performance
- Integration with existing security infrastructures
- Query and update access to production databases
- Access to multiple heterogeneous databases.

Environment

- MVS/CICS, IMS/DC
- PC: OS/2 DOS, Microsoft Windows
- Macintosh: Mac/OS
- DEC VAX: VMS
- UNIX: SUN/OS, HP/UX, DG/UX, AIX

Contact

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PassPort Application Development Kit

Vendor

The Indus Group, Inc.

Description

The PassPort Application Development Kit is a set of tools for generating SAA-compliant CICS/DB2 applications. The tools consist of:

- PS/2-based CASE tools for application design and definition
- A host-based code generation workbench that produces standard VS COBOL II source code.

The PassPort Application Development Kit supports an application architecture that complies with SAA and CUA and uses IBM's DB2 Database Management System.

Applications produced with the PassPort tools can be processed in a cooperative processing mode using the Indus Portal. The Indus Portal supports LU 6.2 peer-to-peer processing on IBM PS/2. In both 3270 and LU 6.2 communications environments, applications developed with PassPort fully implement such CUA features as pull-down menus, pop-up prompts, modeless user interfaces, and flexible navigation.

Environment

- PC: OS/2
- 30XX, 43XX, 9370: MVS, MVS/XA, MVS/ESA, CICS, DB2

Contact

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PeerNet Host-to-Host Communications

Vendor

SDM International, Inc.

Description

PeerNet is an advanced host-to-host Advanced Program-to-Program Communication (APPC) tool for integrating applications within and across enterprises. PeerNet lets you design requestor/server relationships and message transport networks between new and existing applications under any combination of CICS and IMS teleprocessing subsystems. PeerNet is equally effective whether you are integrating applications within a processor, across processors, between data centers, to business partners, or around a consortium of independent organizations.

PeerNet uses LU-LU session types 6.1 and 6.2 to allow communication between two applications running under IMS and CICS, either on the same or different processors. Data centers in a PeerNet network, known as network members, communicate directly, with no single point of failure. This configuration allows faster communication by eliminating potential bottlenecks caused by a central switch approach to networking. Plans are underway to incorporate the Message Queuing Interface (MQI) support into PeerNet.

Environment

- CICS MVS: VSE

Contact

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Peer Services

Vendor

Tangram Systems Corporation

Description

Peer Services is an LU 6.2 (APPC) programmer's tool kit for writing CPI-C compatible cooperative processing applications for DOS or Windows workstations and MVS mainframes. Peer Services allows communications with mainframe systems such as CICS, DB/2, and VSAM, and other applications running on remote systems such as the AS/4000 or DEC VAX attached to the mainframe with LU 6.2. The LU 6.2 attachment allows tasks from a single application to be distributed over two or more computers.

In addition to LU 6.2 support for cooperative processing applications, Peer Services provides interfaces to the major workstation languages such as COBOL, C and Pascal, complete system administration and security integration. Peer Services communication support includes selected APPC, SDLS, COAX, X.25, synchronous and LAN gateways.

Peer Services uses existing investments in hardware and software to allow programmers to build applications that distribute functions between workstations and mainframes.

Environment

- PC: DOS, Microsoft Windows
- S/370, S/390: MVS with VTAM

Contact

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PeerXchange Server

Vendor

The PeerCom GROUP ApS

Description

The PeerXchange Server provides general purpose, transparent peer-to-peer communications to users of UNIX, OS/2, and DOS computers. Based on LU 6.2, the industry standard, this product enables multiple application programs on a LAN or within a single system to exchange information with authorized remote applications that use the LU 6.2 protocol.

You can easily integrate The PeerXchange Server with other application enablers, including interactive 4GL database packages. Its simplified application interface hides details of the LU 6.2 protocol and the underlying network from its users. Network management events can be reported to host systems using IBM NetView-compatible messages and responses. Comprehensive security, data integrity, and operational reliability features are built into The PeerXchange Server.

Benefits of The PeerXchange Server are:

- While users see no change to interactive terminal procedures, PeerXchange extends the reach of their local applications to multiple remote locations.
- You can change user security profiles, service priorities, network configuration definitions, and remote program initialization parameters while PeerXchange is operating.
- PeerXchange dynamically adjusts the user of communication options to network conditions and to changing user workloads.
- One standard user interface for peer-to-peer communications replaces the implementation-dependent APPC interface that vendor platforms provide.
- PeerXchange provides automatic recovery from errors and unexpected transaction interruptions.
- To support network management activities, PeerXchange maintains server performance history, fault information, and records of configuration modifications.
- PeerXchange increases transaction throughput by maximizing use of available communication links as a function of application priority.

Environment

- PC: OS/2, DOS
- UNIX platforms: UNIX
- RS/6000: AIX

Contact

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PIPES Platform

Vendor

PeerLogic, Inc.

Description

PIPES Platform Version 3.0 is an enabling technology for distributed computing that support both client-server and true peer-to-peer applications. Using PIPES, nonprogrammers can easily build fast, robust distributed applications that communicate seamlessly over heterogeneous networks.

PIPES Platform consists of two major components, the PIPES Application Programmer's Interface (PAPI) and the Communications Management System.

The PIPES Application Programmer's Interface (PAPI) gives you a purely logical view of an arbitrarily complex physical network, a view that is independent of operating systems, protocols, and physical topologies. This easy-to-use API consists of twelve verbs which remain the same whatever the platform. With PAPI, you can build distributed applications that can be ported to new environments easily and quickly.

Since the library of PIPES function calls used in PAPI is the only element of the system bound to the application when it is compiled and linked, PIPES enables the application to locate and use different transport protocols at run-time. For example, applications written today for one protocol stack can run unchanged tomorrow over OSI stacks. PIPES can support an unlimited number of nodes.

The core of the product is the Communications Management System, a kernel which resides in any machine using PIPES. This system handles all of the resource and session management functions required for distributed computing. The kernel also provides a consistent error-handling mechanism; it automatically retries on errors and, if alternate routes exist, reroutes communications after network failures. In addition, the kernel handles routing of PIPES messages from one protocol stack to another, so that applications running in machines using different protocols can communicate with one another—without knowing that they do not share a common communications protocol.

Environment

- PC: OS/2, DOS, Microsoft Windows
- 30XX, 43XX, 9370: MVS
- UNIX platforms: Sun/OS, AIX, HP/UX
- NetWare 386
- Vines

Contact

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PM/FOCUS

Vendor

Information Builders, Inc.

Description

PM/FOCUS is a 4GL database application development system. Using FOCUS 4GL and OS/2 Presentation Manager's graphical capabilities, PM/FOCUS enables you to develop fully functional graphical database applications that work with most of the popular database servers available today, including SQL/Server and OS/2 Database Manager.

PM/FOCUS includes graphical painting tools for database design, data forms design, report design, and front-end design. These tools allow your applications to incorporate radio buttons, list boxes, check boxes, multi-line entry fields, multi-record fields, scanned or drawn images (PCX, TIF, and BMP), graphical buttons, and invisible button regions.

PM/FOCUS also contains capabilities for developing distributed processing applications. Using PM/FOCUS and Information Builders' EDA/SQL technology, you can design graphical applications to work directly with mainframe databases such as DB2, SQL/DS, IMS, FOCUS, and more than 35 other platforms. PM/FOCUS also works with Information Builders' own FOCUS database server, so that you can design multi-user applications for OS/2 LAN Manager, LAN Server, Banyan, or Novell Networks.

Environment

- PC: OS/2

Contact

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Process Operations Management System (POMS)

Vendor

IBM

Description

Process Operations Management System (POMS) is a distributed architecture software system developed by INCODE and IBM along with five major Fortune 500 companies to solve specific problems on the process plant floor.

POMS operates on a network of IBM PS/2 or Industrial Computers in cooperation with a central host such as an IBM 9370 or AS/400. The host computer normally runs the company's business systems, including manufacturing resource planning and scheduling systems (MRP), financial and accounting, and inventory control. POMS links to these systems to extract information for delivery of the full POMS Order Packet to the plant floor. The Order Packet contains all information and manufacturing procedures or instructions for making a particular product. At the plant floor level, POMS also can be linked to programmable logic controllers (PLCs), sensors, and other plant operations systems via a data acquisition package.

POMS consists of five modules:

Host Interface
This module resides on the plant host computer and provides a communications path for transaction coming from both the plant manufacturing resources planning system and from the plant floor. The host computer can be any platform which supports APPC.

Order Server
This module, which runs on a PS/2, matches the current manufacturing procedures to the specific production order being manufactured.

Manufacturing Procedures Author
This module builds and maintains the sets of procedures and automatic event analysis criteria used to guide manufacturing.

Operations Supervisor
This module enables the supervisor to view the manufacturing schedule and release production orders to the manufacturing operators.

Operator Station
This module provides the operator with all the information required to manufacture the product and to capture the pertinent process and product information.

Environment

PC: OS/2

Contact

Contact your local IBM marketing representative.

ProCycle

Vendor

Systemhaus GEI

Description

ProCycle is an analysis and design tool in the AD/Cycle environment. ProCycle provides graphical support for the following methodologies:

- Structured Analysis (Yourdon/DeMarco)
- Enhanced Entity Relationship Modeling (Chen)
- Modular Design, consisting of structure design with object-oriented enhancements and Program Design Language (PDL).

The user interface supports Presentation Manager and is fully compliant with CUA standards. All tools are integrated through a central repository, which resides on a PS/2 server and can simultaneously be accessed by multiple users.

The ProCycle repository has open interfaces and can be enhanced for integrating external tools with ProCycle. Upload and download facilities to and from the IBM repository are provided. Using build-in desktop publishing functions, ProCycle automatically generates requirement and design documents.

ProCycle emphasizes checking capabilities in a multiuser environment. ProCycle ensures that interfaces between all the different portions of a specification match.

Environment

PC: OS/2

Contact

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Realtime Communication Toolkit

Vendor

CIMATIC A/S

Description

Realtime Communication Toolkit (RCT) is a software product developed to help application designers and programmers create distributed applications within the framework of IBM's Systems Application Architecture (SAA).

RCT, an interface that resides between APPC and the application program, shields the program from the complexities of communication. With RCT, application programmers do not have to deal with communication terminology or protocols. Instead, they can concentrate on the logic of the programs and how to distribute the various functions.

The ability to distribute the functions of an application is highly dependent on the techniques available to the programmer through an Application Programming Interface (API). RCT has a defined API with the following key elements:

- Asynchronous message transfer
- Remote or local program load
- Remote or local program status
- Globally known data variables
- Global serialization techniques
- Global synchronization techniques.

Environment

PC: OS/2

Contact

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ROCHADE

Vendor

R & O Software-Technik GmbH

Description

ROCHADE supports a wide range of tasks in an application development environment. Using either an enterprise-wide or a project-specific repository, you can use the work management in AUTOPILOT for several process models, project management, data dictionary, functionality, documentation, re-engineering, and the integration of PC-based CASE tools.

The project management function is an integrated part of the work management and controls the activities of project leaders and software developers. The data dictionary is available for DBS, IMS, COBOL, and PL/1. Re-engineering tools with a direct import interface to the ROCHADE repository support COBOL, PL/1 Assembler, CSP, C, MVS-JCL, and other languages and databases.

With ROCHADEgraphic, you can edit the structures and contents of the repository with windowing techniques. The client/server architecture combines the ROCHADE environments under MVS, VM/CMS, UNIX, DEC VMS, BS2000, OS/2 and DOS using APPC.

Environment

- PC: OS/2, DOS
- 30XX, 43XX, 9370: MVS, VM
- DEC VAX: VMS
- UNIX

Contact

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RUMBA Tools for APPC

Vendor

Wall Data Incorporated

Description

RUMBA Tools for APPC provides an easy way for you to build and use APPC transaction programs (TPs) in the Microsoft Windows environment. Transaction programs built with RUMBA Tools for APPC use the LU 6.2 capabilities of RUMBA software to communicate with partner TPs on the local computer, on a remote peer device, or on a host.

RUMBA Tools for APPC includes:

- A Configuration utility based on RUMBA's FastPath configuration and connection feature that guides you through the host connection process.
- A Trace utility that lets you monitor and capture SNA and APPC sequences to an active Window, an auxiliary monitor, or a file.
- The VerbTalk Utility, which allows you to use APPC interactively as a learning tool, write APPC verb macros, and incorporate your macros into your run-time APPC transaction applications.
- The APPC help reference, which provides extensive information about all the included utilities and a reference section on APPC verbs.
- Sample APPC transaction programs that provide examples of how to use APPC. Examples are included that demonstrate how to use a VerbTalk APPC macro within your program and how to write an APPC transaction program in Microsoft Visual Basic.

Environment

- PC: Microsoft Windows 3.x

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SequeLink

Vendor

TechGnosis, Inc.

Description

SequeLink is a comprehensive software environment which provides both host and client code for direct access to the AS/400 relational database from OS/2, Microsoft Windows, and Macintosh clients. SequeLink supports the following client applications:

Application	Platform
Microsoft Excel	OS/2, Microsoft Windows, Mac/OS
Informix Wingx	OS/2, Microsoft Windows, Mac/OS
4th Dimension	Mac/OS
HyperCard	Mac/OS
ToolBook	Microsoft Windows
SmallTalk	OS/2, Microsoft Windows, MAC/OS
Visual Basic	Microsoft Windows
4th Dimension	MAC/OS
Easel Workbench	OS/2

In addition, object libraries enable you to incorporate SequeLink function into any application written in third-generation languages such as C and COBOL.

Using SequeLink, you can access the AS/400, generate queries, and update the host database—all without leaving the client application. By offloading application processing to the desktop, SequeLink maximizes the productivity of the host platform while taking full advantage of workstation graphical user interfaces (GUIs).

On the AS/400, SequeLink interfaces directly with the AS/400 relational database. In addition, you can use the same SequeLink client software with RS/6000, OS/2 EE Database Manager, and several OEM server platforms. SequeLink also provides links to most major networking protocols, including NetBIOS, APPC/LU 6.2, AppleTalk, and DECnet.

Environment

- PC: OS/2, DOS, Microsoft Windows
- AS/400: OS/400
- Macintosh: Mac/OS

Contact

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ShowCase

Vendor

Rochester Software Connection

Description

ShowCase is a family of PC-to-AS/400 software connectivity products. ShowCase provides a variety of fast, efficient PC-to-AS/400 client/server solutions for all types of end-users, from non-technical managers and executives to developers.

ShowCase consists of the following components:

ShowCase ODBC DLL

ShowCase ODBC DLL is an Open Database Connectivity (ODBC) Dynamic Link Library (DLL) that provides a standard application programming interface (API) for direct PC-to-AS/400 connectivity.

ShowCase ODBC DLL facilities PC application development from within a Microsoft Windows environment. ODBC DLL reduces application backlogs by accommodating PC application development tools like Microsoft Visual Basic, Borland Object Vision, or any other ODBC-compliant tool. Using ShowCase ODBC DLL, developers can create portable PC applications that provide access to AS/400 data and access to any other ODBC-compliant database, such as SQL Server, Sybase, Oracle and Informix.

ShowCase WindowLink

ShowCase WindowLink is a cooperative processing solution that is similar to ShowCase ODBC, except that it provides developers with an AS/400-specific DDE API for PC-to-AS/400 connectivity.

Environment

- PC: Microsoft Windows
- AS/400: OS/400 V2R1.1

Contact

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SNA Development and Test Facility (SDTF)

Vendor

Applied Computer Technology

Description

SNA Development and Test Facility (SDTF) is a consistent and economical PC-based TesTool for developing and testing SNA, SDLC, Token-Ring, or X.25 QLLC software and hardware products. You can use SDTF to verify that an SNA product or implementation under test (IUT) conforms to its functional specifications. You can also use SDTF to place a load on a system and measure its performance characteristics. The SDTF LU 6.2 Validation Test Cases (LU 6.2 VTC) provides validation of a product's conformance to the LU Type 6.2 and T2.0/T2.1 Node specifications, and evaluates the performance of the product. The LU 6.2 implementation under test (IUT) must provide an open, native APPC or CPI-C application programming interface (API).

SDTF provides a menu-driven user interface and produces test results in several formats. The SDTF LU 6.2 VTC package contains:

- An LU 6.2 software toolkit with native APPC and APPN functions
- Performance tests with automatic report/results generation
- SAA CPI-C compliance testing
- Reference transaction programs for the IUT in C for OS/2 and Pascal for APPC/PC for quick porting
- Test case result analysis for OS/2, Networking Services/2, and APPC/PC
- Extensive log and trace facilities.

The LU 6.2 validation tests consist of libraries of test cases that test all aspects of LU 6.2 T2.0/T.1 Node compatibility and function.

The test cases cover the following SNA layers, elements, and capabilities:

SNA Layer: Positive and negative for validation of layers and components

- DCL: Primary, secondary, and negotiable
- PC: Routing, segmentation/assembly, T2.0/T2.1 Node, subarea/peripheral nodes, TH formats
- TC: Sequence checking, pacing, normal/expedited flows
- DFC: Message format checking, chaining, request/response correlation, request/response mode, brackets
- Resource Manager: Presentation services and conversation management
- Session Manager: Bind/unbind protocols and checking
- Control Operator: Verbs and functions

Performance/Stress: Measures performance and creates stress conditions

- Series A: Performance testing for basic and mapped. conversations.
- Series C: Classic client/server transaction performance.

SAA

- Series B: SAA compliance testing.

APPC and CPI-C: Deterministic testing that guarantees proper operation of all state transitions in user TPs.

- Error free flow: tests all legal basic and mapped function-set verb sequences (both native APPC and CPI-C) in both confirm and non-confirm protocols using basic and mapped conversations.

APPN End Node (EN)

- XID operation, link station negotiation, TG number negotiation, control vector checking, CV22 error condition checking.

The ready-to-run test libraries currently contain over 6,100 test cases and over 156,000 lines of code.

Environment

PC: DOS

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SNADS-PC Developers Toolkit

Vendor

David Goodenough & Associates Ltd. (DGA)

Description

SNADS-PC is a "store and forward" distribution system for OS/2 which implements IBM's SNA messaging standard. SNADS-PC for OS/2 is designed to make an OS/2 machine a full SNA/DS node. The SNADS-PC Developers Toolkit enables you to use SNADS-PC to develop your own applications. These applications use SNA/DS services for sending and receiving all types of data on IBM networks.

With SNADS-PC, you can connect a PC-LAN into the same network used by the corporate IBM-based electronic mail system. Using the Toolkit, you can write your own mail transactions to make the OS/2 system a full participant in IBM host mail systems. Alternatively, you can use the Toolkit to build a gateway from other e-mail environments into IBM systems.

You can also use the Developers Toolkit to build your own "store and forward" transaction programs. These types of programs can continue submitting requests even when the information provider or the physical connections are not available. Examples of applications that do not require immediate responses include:

Application	Examples
Banking	Ordering check books, requesting customer status
Distribution	Ordering, submitting status inquiries, submitting stock level inquiries
Insurance	Submitting automatic proposals or claims

The SNADS-PC Developers Toolkit includes:

- Sample transaction programs
- DLL libraries
- Full C language bindings
- Complete SNA/DS API documentation.

The Developers Toolkit requires SNADS-PC for application development and as a runtime component.

Environment

PC: OS/2

Contact

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SQL System Programmer's Toolkit

Vendor

Gupta Corporation, Inc.

Description

The SQL System Programmer's Toolkit provides a quick and reliable method for C and COBOL programmers to design, prototype, code, and test complete DB2 SQL database applications on the PC, independently from the mainframe. By freeing up mainframe scheduling and response time dilemmas, this package accelerates DB2 application delivery by up to 50%. The Toolkit provides LOAD/UNLOAD capability, full backup and recovery for existing development databases, and full dynamic link library compatibility.

The SQL System Programmer's Toolkit includes the following components:

SQLBase
A single-user engine that runs in extended memory. SQLBase frees up real memory for the Microsoft C compiler. It is compatible with XM from Micro Focus.

SQLTalk
An interactive data manager for creating and accessing SQL databases. SQLTalk provides a command-line SQL interface to your database to test the results of your COBOL program. It has a facility for creating tables, views, synonyms, and indexes used by DB2 COBOL applications.

SQLTalk also enables you to grant and revoke user authority, and provides a facility for entering test data into tables of an SQL database.

SQLPrecompiler
An interface which supports multiple cursors. This interface allows host variables in queries and data manipulation statements.

Environment

PC: OS/2, DOS, Microsoft Windows

Contact

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SUPRe/DAISys

Vendor

S/Cubed, Inc.

Description

SUPRe/DAISys is a PC-based advanced application development tool which assists developers during the full development cycle: from gathering business requirements, through design and modeling and finally code generation. This fully integrated product delivers application code to the exact specification of end-users on a wide variety of client/server or cooperative processing-based hardware and software environments.

SUPRe/DAISys delivers client/server or cooperative processing-based applications by using an expert system and object-oriented design methods to automatically split the application into server and client components. System requirements are defined in ordinary business terms and automatically transformed into working code. SUPRe/DAISys is particularly advanced in its ability to ensure the integrity of data and enforcement of critical business policies and procedures while at the same time providing PC users with the ability to customize their client workstations to suit their preferences. Used with DAISys, a developer can generate either a mainframe-based system or a cooperative processing application from the same business requirements.

SUPRe/DAISys takes full advantage of, and is fully compliant with, IBM's SAA and CUA standards. SUPRe/DAISys creates (generates) distributed applications across all three tiers of SAA: mainframe, AS/400, and PS/2. SUPRe/DAISys produces COBOL with imbedded SQL for the S/370 and AS/400 and C or COBOL for the PS/2 running OS/2 Version 2.0. SUPRe, the client empowerment and support facility, runs under Presentation Manager or Microsoft Windows. In addition to generating SAA compliant applications, DAISys also produces cooperative applications for AIX environments.

Environment

PC: OS/2, DOS

Contact

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SYNERGIST

Vendor

Gateway Systems Corporation

Description

SYNERGIST is a cooperative processing development tool that integrates PCs with host/server computers. Using SYNERGIST, you can develop, test, compile, and run a transactional-based application on a PC.

All SYNERGIST applications run on the PC, accessing databases on the host, PC, or both. SYNERGIST's synchronized processing environment performs the bidirectional transfer of data between the host and PC. SYNERGIST also supports other environments, such as cooperative, stand-alone, and networked processing.

Modules such as the Data Dictionary, Forms Generator, and Forms Compiler make it easier to develop applications. You can use SYNERGIST to generate reports from the PC, regardless of whether you store the data on the PC or download the data to the PC from the host.

SYNERGIST provides several features which enhance usability, including pop-up windows, lists, tables, conditional displays, and redefinable function keys.

Environment

- PC: DOS
- AS/400: OS/400

Contact

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Synon Application Development Tools

Vendor

Synon, Inc.

Description

Synon provides an integrated set of application development tools for the AS/400 environment. These tools include:

Synon/2E
A comprehensive, flexible software development tools that lets you tailor applications to your present needs and has built-in assurances for future needs.

Synon/Entry
A low-cost, easy-to-use AD/Cycle application development environment for low-end IBM AS/400 developers. Synon/Entry is a subset versions of Synon/2E, providing access to most of Synon's powerful functions.

Synon/2G
The computer set of Synon CASE tools for the AS/400 accessed through a PS/2-based DOS Graphical User Interface (GUI).

Synon AD/Interface
Enables the AS/400 developer to take advantage of the power of PS/2 Design and Analysis tools that are enabled for external source format (ESF).

Synon/CSP Enablement Facility
A Synon generator option that enables Synon design specifications to be generated in ESF.

Synon/CSG (Client/Server Generator)
An option to Synon/2E or Synon/2G that enables a Synon developer to generate distributed function cooperative processing applications for an OS/2 client and an OS/400 server.

Environment

- PC: OS/2, DOS
- AS/400: OS/400

Contact

John Otti
Synon, Inc.
1100 Larkspur Landing Circle
Larkspur, California USA 94939
Phone: 415-461-5000
Fax: 415-461-2171

Visual Programming with REXX

Vendor

UNCANDU Software

Description

Visual Programming with REXX (VP/REXX) is an easy-to-use visual programming tool that supports REXX. Visual Programming with REXX offers a CUA'91 interface, WYSISYG editors, and drag-drop programming. These features allow you to visually construct OS/2 2.0 applications without prior knowledge of REXX.

Even non-programmers can use VP/REXX to create their own applications. VP/REXX offers multiple views, drag-drop interaction, pop-up menus, settings notebooks, direct editing, and other CUA '91 features, and supports the OS/2 2.0 font and color palettes. VP/REXX offers a full range of business graphics. It supports APPC, HLLAPI, and OS/2 2.0 Database Manager. With VP/REXX, you can build client-server programs and migrate existing REXX procedures to the OS/2 2.0 GUI environment. When your application is completed, VP/REXX creates a single, small .EXE file for license-free distribution.

VP/REXX ships on a single 720K diskette and includes a self-running demo and sample programs.

Environment

- OS/2 2.0

Contact

Sales Department
UCANDU Software
P. O. Box 336
Cary, NC 27512-0336
Phone: 919-387-7391
FAX: 919-380-0757

VIS/TP Transaction Processing System

Vendor

VISystems Inc.

Description

VIS/TP (CICS on AIX) is a proven distributed online transaction processing (OLTP) system that provides the functionality of CICS and COBOL on UNIX platforms.

VIS/TP is compatible with existing CICS/COBOL/VSAM applications and data. VIS/TP provides the facilities needed for downsizing mission-critical applications, including online, batch, development, migration, maintenance, communication, and security facilities.

New distributed applications can be developed and executed under VIS/TP or CICS with one portable version of SAA compatible source code. CICS applications executing under VIS/TP can access local and mainframe VSAM data, mainframe DL/1 data, and DB2 data (planned for 1992).

VIS includes the following components:

- VIS/EXECUTIVE
- VIS/BATCH
- VIS/COBOL
- VIS/CICS
- VIS/SCREENMAKER
- VIS/ASYNC
- VIS/TCP/IP
- VIS/LINK CICS.

VIS/LINK CICS provides VIS/TP applications on UNIX access to VSAM and DL/I (IMS/DB) databases that reside on IBM CICS mainframes (MVS and VSE). VIS/LINK CICS connects to IBM's SNA LU 6.2 hardware and software using the protocols to expand the capability of both CICS and VIS/TP, allowing data resources to be shared. VIS/LINK CICS requires CICS Release 1.7 or higher.

Environment

RS/6000: AIX

Contact

John Phillips
VISystems Inc.
14755 Preston Road, Suite 200
Dallas, Texas USA 75240
Phone: 214-960-8649
Fax: 214-458-1116

XCOM 6.2

Vendor

LEGENT Corporation

Description

XCOM 6.2 is a facility for transferring data, including reports, jobs, and files, between the following systems:

- IBM mainframe
- System 3X
- AS/400
- DEC VAX
- PC (DOS, OS/2, and Microsoft Windows)
- Stratus S/88
- Tandem
- Macintosh
- Token-Ring LANs
- LAN gateways
- UNIX-based systems.

XCOM 6.2 provides a consistent user interface regardless of the computer on which it is installed. By using APPC/LU 6.2, XCOM 6.2 permits peer-to-peer transfers to be initiated, unattended, at either end. XCOM 6.2 also offers extensive error checking and automatic error recovery.

XCOM 6.2 supports communications at the level of the operating system, without terminal emulation. XCOM 6.2 typically allows record lengths of up to 32KB and supports dial-up or dedicated lines, CPU channels, coax, and Token-Ring LAN. It handles both binary and character data transparently in either ASCII or EBCDIC. XCOM 6.2 provides any-to-any communications between all supported devices, and it is fully compatible with PU 2.1.

Environment

- PC: OS/2, DOS, and Microsoft Windows
- Macintosh: Mac/OS
- AS/400: OS/400
- ES/9000, 30XX, 43XX, 9370: MVS, VM, VSE
- DEC VAX: VMS
- Tandem Guardian
- Stratus VOS
- RS/6000: AIX
- HP 9000
- HP/UX
- SCO UNIX

Contact

Pamela Meola
LEGENT Corporation
Tower Park North, Suite 700
10700 North Freeway
Houston, Texas USA 77037
Phone: 713-931-0700
Fax: 713-931-9700

XPATH

Vendor

Enhanced Software Products, Inc.

Description

ESP's XPATH provides client server communication between personal computers and mainframe VM, MVS, and VSE platforms. XPATH offers two main capabilities:

- **XPATH-FT** is the File Transfer element. XPATH-FT enables complete files of any record characteristic to be to be transferred directly, without the use of spooling or any intermediate datasets.
- **XPATH-API** enhances the base File Transfer product by providing programmers with the ability to read and write individual records to and from datasets residing in other operating systems.

XPATH supports several access methods:

- For MVS: VSAM KSDS and ESDS, sequential, IMS/DB direct from server, CICS/IMS DB files for PDS members.
- For VM: minidisk files, SFS files, and spool files (input only).
- For VSE: VSAM KSDS and ESDS, sequential, batch DL/1 direct from server, CICS files, CICS DL/1, and POWER PDS - PUN and LST queues.
- For PC DOS: standard DOS files.

Environment

- PC: DOS, Microsoft Windows
- S/370, S/390: MVS, VM, VSE

Contact

Enhanced Software Products, Inc.
1 Hollis Street
Wellesley, Massachusets USA 02181
Phone: 617-235-3518
Fax: 617-235-7367

Appendixes and Index

Appendix A. The APPC Info Exchange Forum on CompuServe

The APPC Info Exchange Forum provides you with the latest information and help on APPC topics and techniques, 24 hours a day.

On the APPC Info Exchange Forum, you can:

- Talk to the experts
- Get up-to-date information
- Access simple programs and tools
- Tell us what you need to use APPC successfully.

This forum is managed by the IBM APPC Market Enablement team. Whether you're an experienced APPC software developer or a novice who's just started learning about distributed applications, we're committed to giving you the information and support you need to get the most from APPC.

Accessing the Forum: GO APPC

After you become a CompuServe member, type **GO APPC** at the ! prompt to access the APPC Info Exchange Forum.

In this forum, you'll find message sections, where you can ask questions and get expert guidance on:

- Designing APPC Applications
- Using APPC on Small, Medium, and Large Systems
- Using the Common Programming Interface for Communications (CPI-C).

You can also contribute to the APPC Suggestion Box and let us know your ideas for improving APPC, CPI-C, APPN, and related products.

The APPC Info Exchange Forum also provides libraries, where you can get:

- Answers to frequently asked questions about APPC
- Recent technical papers on APPC application design and APPC products
- Source code examples that illustrate coding techniques
- Complete sample programs that demonstrate the power of APPC
- Tools and utilities for designing, coding, and testing your applications
- Configuration samples to help you build networks that support APPC applications.

We invite you to contribute your own programs, samples, and information to these libraries.

Call Now for Your Free Membership

You can try CompuServe and the APPC Info Exchange Forum for yourself with no risk or obligation.

To get your free introductory membership, phone CompuServe:

- In the US and Canada, phone 800-848-8199
- In Argentina, phone 541-322-186
- In Australia, phone 008-023-158
- In Chili, phone 56-269618807
- In Germany, phone 0130-3732
- In Japan, phone 0120-22-1200
- In Taiwan, phone 02-515-0330
- In the UK, phone 0800-289-378
- In the rest of Europe, phone 44-272-255-111
- Elsewhere, phone 614-457-0802

Be sure to ask for representative 337.

You will receive:

- A $15 introductory usage credit to explore the APPC Info Exchange Forum and other CompuServe offerings
- A private ID number and password
- An introductory subscription to *CompuServe Magazine*.

Appendix B. SNA Network Registry

IBM has established the SNA Network Registry, a worldwide clearinghouse for registering Network Identifiers (netids). This registry is available at no charge to customers who are licensed for the following networking products:

- Advanced Communications Function/VTAM (ACF/VTAM)
- Operating System/400.

The SNA Network Registry is a repository for information related to SNA networks. IBM established this registry to help SNA network owners create and maintain unique netids.

What Is an SNA Netid?

In SNA, a network is an interconnected group of nodes logically associated by a common identifier called a *netid*. To communicate among SNA networks, each netid involved must be unique.

SNA defines the netid as a one- to eight- character field consisting of alphanumeric characters. The SNA Network Registry adds a hierarchical structure to this definition. This new structure enables the netid to identify the country in which the network is managed, the enterprise that owns the network, and the suffix of the associated network. In the new structure, the format of the netid is **cceeeenn**, where:

cc = country code

eeee = enterprise code

nn = network suffix code

A country code specification is limited to those characters defined by ISO Standard 3166. You may choose enterprise codes and network suffixes from any of the allowable characters of Character Set 1134. For example, the netid **USABCD01** indicates that the country code is US, the enterprise code is ABCD, and the network suffix code is 01.

How Do You Register a Netid?

To register a netid, contact your local IBM branch office. You must supply the following information:

- Your enterprise name and address
- The name of the resident country
- Up to three choices for an enterprise code.

The requested enterprise code must be different from all other enterprise codes for the same country code. If the enterprise code passes this test, IBM will register 1296 netids for you, using all of the network suffix combinations.

Why Register Your Netid?

Registering a netid in the SNA Network Registry ensures that your netid is different from all other netids within the registry.

By registering your netid, you help protect the time and effort invested in defining the netid throughout the network. You also help avoid future connectivity problems when adding new networks to an interconnected community.

Why Use a Structured Netid?

A hierarchical structure enables the netid to convey additional information about the network, such as the country in which the network is managed. This information can be used by applications involved in routing decisions, like network management applications or distributed services applications that do connectionless routing.

After IBM validates a unique enterprise code for you, you can register up to 1296 netids. As a result, you can grow your networks using preregistered netids. In addition, you enjoy the administrative advantage of using the same country code and enterprise code for all netids in your networks.

How Is the Registry Related to OSI?

The SNA Network Registry and the structured netid play an important part in efforts toward OSI/SNA interoperability. This registry is now part of the OSI registration process, thereby providing a registration vehicle that enables the SNA addressing token to be used as part of a Network Service Access Point (NSAP) in the OSI environment.

When Should You Register Your Netid?

The SNA Network Registry is available today. Because requests are accepted on a "first come, first served" basis, IBM recommends that you register your netids early.

If you have already established an SNA network, you should submit requests as soon as possible. If you have a selected networking product that is not part of an existing network, you should also request a registered netid.

What about Existing Netids?

What if you have already established a netid for your network? Before you change your netid to a registered netid, review the following considerations:

- Is the netid unique within the community of networks to which it may connect?

  You may need to change an existing netid if:

  - The network you want to connect to "knows" another network by the same netid.
  - A directly connected network needs to change its netid.

  - A network that is in the interconnected community but not directly connected needs to change its netid.

- Do the benefits of using a structured netid outweigh the impact of changing the current netid?

  Benefits: By changing the current netid, you:

  - Protect your investment in the network
  - Avoid future connectivity problems.

  Impact: Changing the netid requires you to:

  - Change the use of the netid in all nodes in your network
  - Notify connection partners of the change.

Can You Register an Unstructured Netid?

To register an unstructured netid, contact your local IBM branch office. Your IBM representative will consult *Registration Process for SNA Netids: User's Guide for SNA Network Registry*, ZZ27-7425.

You must supply the following information:

- Your enterprise name and address
- Netid to be registered.

IBM recommends that you obtain a registered netid for each of your networks and that you use structured netids. However, IBM recognizes that you may need to continue using an existing unstructured netid in certain situations.

You should not use an unstructured netid if the first two characters coincide with an ISO country code. Registration of an unstructured netid follows the "first come, first served" rule for registering structured netids.

Appendix C. Contacts for Vendors

Note: For more information on IBM applications, contact your local IBM branch office, your local IBM Authorized Dealer, or call 1-800-IBM-CALL.

ALE Systems
1616 East Parham Road
Richmond, Virginia USA 23228
Phone: 804-262-5850
Fax: 804-262-8626
Contact: C. Wesley Lucas or Donald S. Cowan

Amdahl Corporation
1250 East Arques Avenue
P.O. Box 3470
Sunnyvale, California USA 94088-3470
Phone: 800-538-8460 or 408-746-6000
Fax: 408-738-1051

American Data Group, Inc. (ADG)
3305 Breckinridge Boulevard, Ste. 108
Duluth, Georgia USA 30136
Phone: 800-521-0935 or 404-921-1123
Fax: 404-921-1089
Contact: Judith Anderson

American Institute Consulting Group
437 Madison Avenue, 23rd floor
New York, New York USA 10022
Phone: 800-345-8016 or 212-826-1260
Fax: 212-826-6411
Attn: Sue Kemp

American Telerep
610 Niederwerfier Road
South Windsor, CT 06074
Phone: 203-644-1708
Fax: 203-648-9587
Contact: Cyndi Ainsworth

Andersen Consulting
69 West Washington Street
Chicago, Illinois USA 60602
Phone: 800-458-8851 or 312-580-0069
Fax: 312-507-2548
Contact: Julie Silka

Apollo Computer, Inc.
A Division of Hewlett-Packard Co.
300 Apollo Drive
Chelmsford, Massachusetts USA 01824
Phone: 508-256-6600
Fax: 508-256-9374
Sales Center: 303-229-2200

Apple Computer, Inc.
20525 Mariani Avenue
Cupertino, California USA 95014-6299
Phone: 408-996-1010

Applied Communication Inc.
330 South 108th Avenue
Omaha, Nebraska USA 68154
Phone: 402-390-7600
Fax: 402-330-1528

Applied Computer Technology
3200 Broadway Boulevard, Suite 410 LB17
P.O. Box 47006
Garland, Texas USA 75047-7006
Phone: 214-271-6550
Fax: 214-240-6813
Contact: Burt Gearhart

Architecture Technology Corporation
P.O. Box 24344
Minneapolis, Minnesota USA 55424
Phone: 612-935-2035

ARDIS
300 Knightbridge Parkway
Lincolnshire, Illinois USA 60069
Phone: 708-913-1215
Fax: 708-913-4700

Attachmate Corporation
3617 131st Avenue, S.E.
Bellevue, Washington USA 98006
Phone: 800-426-6283 or 206-644-4010
Fax: 206-747-9924

Automated Training Systems (ATS)
21250 Califa Street, Suite 107
Woodland Hills, California USA 91367
Phone: 818-999-5753 or 800-426-8737
Fax: 818-703-0547

Biscom, Inc.
321 Billerica Road
Chelmsford, MA 01824
Phone: 508-250-1800
Fax: 508-250-4449
Contact: B. Neal McCann

Brixton Systems, Inc.
185 Alewife Brook Parkway
Cambridge, Massachusetts USA 02138-9608
Phone: 800-274-9866 or 617-661-6262
Fax: 617-547-9820
Contact: Donna White

Bull Worldwide Information Systems
300 Concord Road, MA30-863A
Billerica, MA 01821
Phone: 508-294-5664
Fax: 508-294-2583
Contact: Donald J. McGinley

California Software Products, Inc.
515 North Cabrillo Park Drive
Santa Ana, California USA 92701-5017
Phone: 714-973-0440
Fax: 714-558-9341
Contact: Liz Richell

Cambar Software
4975 La Cross Road
P.O. Box 10266
Charleston, South Carolina USA 29411
Phone: 803-747-4539
Fax: 803-554-2970
Contact: Roger K. Davis

Cap Programator Monitor
Rådmansgatan 49
S-113 82 Stockholm Sweden
Phone: 46 8 300710
Fax: 46 8 34 61 74
Contact: Tibor Karaszi

Center for Advanced Professional Development
1820 E. Garry St., Suite 110
Santa Ana , California USA 92705
Phone: 714-261-0240
Fax: 714-261-6277
Contact: Barbara Stern

CIMATIC A/S
Computer Integrated Manufacturing
Postboks 57
1414 Trollåsen
Norway
Phone: 47-2-320698 or 47-2-303730
Fax: 47-2-426561
Contact: Sten-Tore Fiskerud

CLEO Communications
A Division of Interface Systems, Inc.
3796 Plaza Drive
Ann Arbor, Michigan USA 48108
Phone: 313-662-2002
Fax: 313-662-1965
Contact: Chris Kochmanski

Compsoft Services, Inc.
202 River Run
Greenwich, CT 06831
Phone: 203-531-8162
Fax: 203-531-1476
Contact: Bob Perry

Computervision
201 Burlington Road
Bedford, MA 01730
Phone: 800-827-7463
Fax: 800-743-1755

Computone Corporation
Box 100040
1100 Northmeadow Parkway, Suite 150
Roswell, Georgia USA 30076
Phone: 800-241-3946 or 404-475-2725
Fax: 404-664-1510

Comshare, Inc.
3001 South State Street
Ann Arbor, Michigan USA 48108
Phone: 800-992-7979 or 313-994-4800
Fax: 313-769-6943
Contact: Chris Kelly

Corporate Microsystems, Inc. (CMI)
P.O. Box 2059
Lebanon, New Hampshire USA 03766
Phone: 603-448-5193
Fax: 603-448-4836
Contact: Gerry Hunt

Covia Technologies
5350 S. Valentia Way
Englewood, CO 80111
Phone: 303-397-5140
Fax: 303-397-5299
Contact: Tom Prosia

Creative Systems Interface, Inc.
46 Park Street
Framingham, Massachusetts USA 01701
Phone: 508-872-0965
Fax: 508-879-7423
Contact: Jim Byrd

In the U.S.:
Data Connection Limited
Tyson's Corner
2102D Gallows Road
Vienna, Virginia USA 22182

In the U.K.:
Data Connection Limited
100 Chruch Street
Enfield, Middx EN2 6BQ
England

Data General Corporation
4400 Computer Drive
Westboro, Massachusetts USA 01580
Phone: 800-328-2436 or 508-366-8911
Fax: 508-366-1299

David Goodenough & Associates, Ltd.
283 City Road
London, United Kingdom EC1V 1LA
Phone: 44-71-490-2266
Fax: 44-71-490-2343
Contact: Steve Lapthorn

DevTech Associates
1280 Iroquois Drive, Suite 300
Naperville, Illinois USA 60563
Phone: 708-355-4404
Fax: 708-355-2944
Contact: Brett Oliker

Digital Communications Associates (DCA)
1000 Alderman Drive
Alpharetta, Georgia USA 30202-4199
Phone: 404-442-4000
Fax: 404-442-4361

Digital Equipment Corporation (DEC)
146 Main Street
Maynard, Massachusetts USA 01754-2571
Phone: 800-344-4825 or 508-493-5111
Fax: 508-493-8780

Easel Corporation
25 Corporate Drive
Burlington, Massachusetts USA 01803
Phone: 617-221-3077
Fax: 617-221-3099
Contact: Chip LeBlanc

Eicon Technology Corporation
2196 32nd Avenue (Lachine)
Montreal, Quebec Canada H8T3H7
Phone: 514-631-2592
Fax: 514-631-3092
Contact: Patrick Leung

In the U.S.:
Eicon Technology, Inc.
14755 Preston Road, Suite 620
Dallas, TX 75240
Phone: 212-239-3270
Fax: 212-239-3304

In Europe:
Eicon Technology Limited
Kingsway Business Park
Oldfield Road, Hampton
Middlesex, United Kingdom TW12 2HD
Phone: 44-81-941-7122
Fax: 44-81-941-0548

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1 Hollis Street
Wellesley, Massachusts USA 02181
Phone: 617-235-3518
Fax: 617-235-7367

Forest Computer, Inc.
1749 Hamilton Road
Okenos, Michigan USA 48864
Phone: 517-349-4700
Fax: 517-349-2947

Future Soft Engineering, Inc.
1001 S. Dairy Ashford, Suite 101
Houston, Texas USA 77077
Phone: 713-496-9400
Fax: 713-496-1090

Galaxy Consultants, Inc.
P. O. Box 33051
Los Gatos, California USA 95031-3051
Phone: 408-354-2997
Fax: 408-354-2365

Gateway Systems Corporation
4660 S. Hagadorn Road, Suite 110
East Lansing, MI USA 48823
Phone: 517-337-8960
Fax: 517-337-2868
Contact: Jim Zoellner

Gen2 Ventures
12930 Saratoga Avenue, Suite A-1
Saratoga, California USA 95070
Phone: 408-446-2277
Fax: 408-446-4755

GUIdance Technologies, Inc.
800 Vinial Street
Pittsburgh, Pennsylvania USA 15212
Phone: 412-231-1300
Fax: 412-231-2076
Contact: Jim Waldron

Gupta Corporation, Inc.
1060 Marsh Road
Menlo Park, California USA 94025
Phone: 800-876-3267 or 415-321-9500
Fax: 415-321-5471
Contact: Dan Berkowitz

Hewlett-Packard Company
3000 Hanover Street
Palo Alto, California USA 94304
Phone: 800-752-0900 or 415-857-1501

Horizon Strategies
75 Second Avenue
Needham, Massachusetts USA 02194
Phone: 617-444-7575
Fax: 617-444-7375
Contact: Sales Department

The Indus Group, Inc.
60 Spear Street
San Francisco, California USA 94105
Phone: 415-904-5000
Fax: 415-904-5055
Contact: Lou Perrelli

Information Builders, Inc.
1250 Broadway
New York, New York USA 10001
Phone: 800-969-4636 or 212-736-4433
Fax: 212-695-3247
Contact: Kevin Quinn

InfoSpan Corporation
5700 Smetana Drive
Minneapolis, Minnesota USA 55439
Phone: 612-939-0088
Fax: 612-939-0380
Contact: John Ebert

In the Americas, Europe and Asia:
Insession, Inc.
100 Arapahoe Avenue, Suite 5
Boulder, Colorado USA 80302
Phone: 303-440-3300
Fax: 303-440-3525

In Australia and New Zealand:
Insession Pty. Ltd.
100 William Street, Level 8
Sydney 2011 Australia
Phone: 02-368-1444
Fax: 02-368-1064

In the U.S.:
Intelligent Environments
2 Highwood Drive
Tewksbury, Massachusetts USA 01876
Phone: 508-640-1080
Fax: 508-640-1090
Contact: Terry Golesworthy or Rhonda Veilleux

In Europe:
Intelligent Environments Europe, Ltd.
Crystal House
P. O. Box 51
Sundbury-On-Thames
Middlesex TW16 7UL United Kingdom
Phone: (011 44) 932 772266
Fax: (022 44) 932 771499
Contact: Laurence Shafe

Intergraph Corporation
One Madison Industrial Park
Huntsville, Alabama USA 35894-0001
Phone: 800-826-3515 or 205-730-2000
Fax: 205-730-2461
Tech support: 800-633-7248

Interlink Computer Sciences, Inc.
47370 Freemont Boulevard
Fremont, California USA 94538
Phone: 510-657-9800
Fax: 510-659-6381
Contact: Steve Milligan

International Data Corporation (IDC)
Five Speen Street, Box 9015
Framingham, Massachusetts USA 01701
Phone: 508-872-8200
Fax: 508-935-4015
Contact: Lucinda Santisario

Intersolv Inc.
One Main Street
Cambridge, MA 02142
Phone: 800-777-8858 or 617-494-8200
Fax: 617-494-8591
Contact: Bob Goulet

Kaptronix, Inc.
332 Lincoln Drive
Haworth, New Jersey USA 07641
Phone: 201-769-4250
Contact: Anne Kielblock

LANSA USA, Inc.
460 Quail Ridge Drive
Westmont, Illinois USA 60559
Phone: 708-323-7779
Fax: 708-789-2176
Contact: Ian Halliday

LEGENT Corporation
Tower Park North, Suite 700
10700 North Freeway
Houston, Texas USA 77037
Phone: 713-931-0700
Fax: 713-931-9700
Contact: Pam Meola

Metafile Information Systems, Inc.
421 First Avenue SW
Rochester, Minnesota USA 55902-3390
Phone: 800-638-2445 or 507-286-9232
Fax: 507-286-9065
Contact: Nick Sprau or Jerry Asher

Micro Decisionware, Inc.
2995 Wilderness Place
Boulder, Colorado USA 80301
Phone: 800-423-8737 or 303-443-2706
Fax: 303-443-2797
Contact: Bruce Lehman

Microdyne
239 Littleton Road, Suite 2B
Westford, MA 01886
Phone: 508-392-9953

Microformatic S.A.
2 Rue Navoiseau
93100 Montreuil-Sous-Bois
France
Phone: 4870-1900
Fax: 4870-2729

Microsoft Corporation
1 Microsoft Way
Redmond, Washington USA 98052
Phone: 800-882-8080
Fax: 206-883-8101

National Educational Training Group
1751 West Diehl Road
Naperville, Illinois USA 60563
Phone: 800-323-0377 or 708-369-3000
Fax: 708-983-4541

NCR Corporation
1334 South Patterson Boulevard
Dayton, Ohio USA 45479
Phone: 513-445-4732
Fax: 513-445-1847

Netwise, Inc.
2477 55th Street
Boulder, Colorado USA 80301
Phone: 800-733-7722 or 303-442-8280
Fax: 303-442-3798
Contact: Marie Warren

NetSoft
(formerly Network Software Associates, Inc.)
39 Argonaut
Laguna Hills, California USA 92656
Phone: 714-768-4013 or 800-352-3270
Fax: 714-768-5049
Contact: Kimber Glennon

Novell, Inc.
122 East 1700 South
Provo, Utah USA 84606-6194
Phone: 800-453-1267 or 801-429-7000
Fax: 801-429-5775

OpenConnect Systems
2711 LBJ Freeway
Dallas, Texas USA 75234
Phone: 214-484-5200
Fax: 214-490-5052
Internet: info@oc.com
Contact: Cathy Kingeter

Oracle Corporation
500 Oracle Parkway
Redwood Shores, California USA 94065
Phone: 800-542-1170 or 415-506-7000
Fax: 415-506-7150
Contact: Brian Perry

International Inquiries:
Oracle Corporation
Phone: 415-506-6001
Fax: 415-506-7101

PAXUS Corporation
2206 Eglinton Avenue East
Suite 300
Scarborough, Canada M1L 4S7
Phone: 416-755-7000
Fax: 416-755-6271
Contact: Victoria Cole

The PeerCom GROUP ApS
Poppelvej 20
2670 Greve
Denmark
Phone: 45 42 90 86 62
Fax: 45 42 90 76 44
Contact: Don Bailey

PeerLogic, Inc.
555 DeHaro Street
San Francisco, California USA 94107
Phone: 415-626-4545
Fax: 415-626-4710
Contact: Bob Scher

Proginet Corporation
(Formerly Teleprocessing Connection)
50 Charles Lindbergh Boulevard
Uniondale, New York USA 11553
Phone: 516-228-6600 or 516-228-6616
Fax: 516-228-6605
Contact: Joe Mohen

Rabbit Software Corporation
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Synon, Inc.
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Texas Instruments, Inc.
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