

*Multiprotocol networking gains flexibility  
for your business*



## Integrate SAP R/3 and your SNA or APPN network

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### **Highlights**

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**Integrate SAP R/3 and your SNA or APPN network with IBM AnyNet multiprotocol technology**

**Support more R/3 clients using SNA link than using a TCP/IP router link, at the same line speeds**

**Make application decisions independent from existing network protocols**

**Connect TCP/IP networks through SNA or APPN backbones with no changes required to R/3 server and client systems**

**Preserve existing skills investment**

**Take advantage of SNA's traffic prioritization for R/3 data**



*IBM and SAP AG, a leading client/server business-application solution provider with headquarters in Walldorf, Germany, work together to make networking connections better than ever.*

# Network connections made easier

## **A challenge, a solution**

In today's world, as more and more businesses increasingly rely on their networks, they face the challenge of interconnecting people and applications. When it comes to networking, one size does not fit all. IBM understands that your network environment is unique to you. And we're helping you find the solution to connect your network when hardware, software, and protocol components are so diverse.

## **About R/3**

IBM has worked closely with leading application solution providers to provide applications to help your business be competitive. You need the right application to give you that competitive advantage. Why not enhance your competitiveness in the marketplace with R/3?

R/3, based on a client/server model, provides application functions that control and execute core business processes. With R/3, you can make informed decisions that will keep your business operational and competitive.

R/3 is an online application, with mission-critical response times, that uses TCP/IP as the communication protocol between servers and clients.

Like many customers, you use SNA and APPN as your strategic backbone network. You would like to run R/3 over your network, but you don't want to change your existing infrastructure. And so, you are faced with questions like:

How do I protect my investment?

Over the years, you've invested a lot in your SNA backbone in skills, processes, tools, and equipment.

Do I need a separate TCP/IP network?

SNA has served you well—in fact, you wish the other protocols in your network could be as resilient and dependable.

How do I get it all to work together?

Integrate R/3 and your SNA network to gain the benefits of SNA and avoid parallel networks.

## **The multiprotocol option**

You have a choice when it comes to selecting a multiprotocol networking solution. You want a solution that:

- Protects your current investments
- Utilizes your present skill base
- Guarantees priority for your critical applications
- Meets your future network requirements
- Easily integrates with your existing network
- Reduces network operation costs

## **Power of integration**

Multiprotocol networking is getting easier. Sockets-based R/3 application integrates with your existing SNA or APPN network without changing the hardware infrastructure. AnyNet multiprotocol technology, integrated with IBM Communications Servers and 2217 Nways Multiprotocol Concentrator (2217), is making it happen.

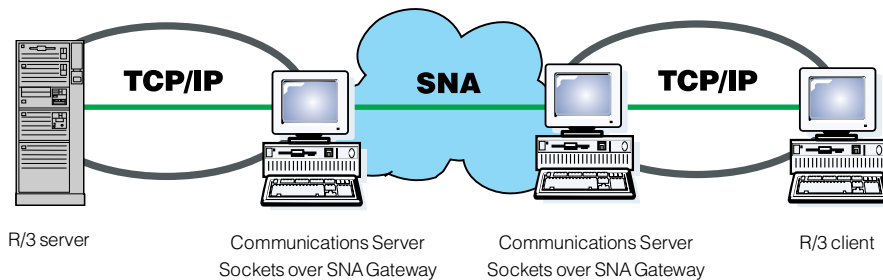
AnyNet, based on open standards, delivers multiprotocol combinations on key networking platforms, letting you add applications where you need them—not just where your network protocol allows them.

AnyNet lets you break from the constraints of your existing network. You get all the benefits, without the hassle of modifying your applications!

## **How Sockets over SNA works**

Sockets over SNA function, included in Communications Servers and the 2217, fulfills your requirements by providing powerful multiprotocol support for SNA and APPN networks in two configurations.

One option uses a single Sockets over SNA gateway to connect TCP/IP and SNA networks. Sockets over SNA access node software (in the Communications Server OS/2 Access Feature or Communications Server for AIX) and R/3 client software are installed on SNA workstations. This configuration enables R/3 clients to communicate through the gateway to an R/3AIX server running on a TCP/IP network. No modifications to R/3 are required.



*Paired gateways connect R/3 client and server over an SNA (or APPN) network.*

Another option is to use paired Sockets over SNA gateways to connect remote TCP/IP LANs across an SNA or APPN network. R/3 clients and servers, running on separate IP LANs, can communicate with no change to client or server platforms. In configurations where R/3 runs on an AIX server, one of the paired gateways can be implemented in the AIX server with Communications Server for AIX—with no need to roll out a separate server.

### Proving it works

IBM helped Drogeriemarkt, a German retailer, benefit from a multiprotocol solution. The retailer ran R/3 over SNA. They used two Sockets over SNA gateways, installed in several eastern European countries, to connect IP LANs over the SNA network to provide multiprotocol connectivity for running Sockets-based R/3 over SNA. The remote store locations, running on DOS and Windows, can access an R/3 AIX server over the SNA network to connect to the retailer's main store. Users at the store locations are taking advantage of SNA class of service for TCP/IP traffic prioritization. SNA traffic prioritization isolates R/3 interactive traffic from print traffic resulting in improved and predictable response times.

All Sockets-based applications, including R/3, Lotus Notes, and Web browsers running over SNA, benefit from SNA networking features through:

- Cost-effective bandwidth utilization
- Predictable response times
- Traffic prioritization
- High-performance routing

### IBM Communications Servers

IBM Communications Servers separate the choice of applications from the choice of protocol and platform—saving time and resources. It lets you focus on the heart of your business—not on the complex technologies you need to get there. IBM offers the right networking solution for you, whether your system is SNA-based, IP-based, or is a mixed network.

Communications Server for OS/2 Warp is a high-performance, multiprotocol gateway that incorporates the comprehensive support provided in today's Communications Manager/2 (CM/2) and AnyNet technology.

Communications Server for AIX, a UNIX platform, also provides a high-performance, multiprotocol gateway which can be channel-attached to the central computer.

With your existing SNA network and the Sockets over SNA capability of Communications Server for OS/2 and Communications Server for AIX, you can access other sockets applications, such as Lotus Notes, or even connect to the World Wide Web (WWW).

### IBM 2217 Nways Multiprotocol Concentrator

The 2217 Nways Multiprotocol Concentrator (2217) is an SNA-oriented, multiprotocol solution for high-speed LAN interconnection across WAN backbones. For example, the Sockets over SNA gateway is integrated in 2217. The 2217 lets you offer your LANs the

advantages of SNA, such as traffic prioritization, data compression, cost-effective bandwidth utilization, and proven management. And, 2217 enables all your protocols to take advantage of third-generation technologies—high-performance routing (HPR), Advanced Peer-to-Peer Networking (APPN) network node, and dependent logical unit requester (DLUR) function. The 2217 extends the scope of your SNA and APPN backbone to include multiprotocol transport. It lowers the cost of network ownership by reducing network management, administrative support, and bandwidth needs.

### Certification testing

Tests at the IBM SAP International Competence Center in Walldorf, Germany resulted in the official SAP certification of products that integrate AnyNet Sockets over SNA gateway technology as vendor-supported products for R/3.

IBM and SAP AG intensively tested and approved SAP graphical user interface (GUI) client to R/3 application server communication using AnyNet technology. Communications Server and 2217 delivered robust performance and better throughput capability than router technology during the benchmark. Specifically, based on a Sales and Distribution (SD) benchmark with 2217-200 in an SNA environment, more R/3 clients were supported over SNA than the SAP AG recommendations for the router TCP/IP environment. Tests were done over 96-Kbps and 64-Kbps lines.

The performance benchmarks showed the impressive throughput capability of the 2217-200. Based on this benchmark, the 2217-200 can easily support 8 users per 9.6-Kbps line and 48 users per 64-Kbps line.

Both numbers are higher than the SAP AG recommendation of not more than 5 users per 9.6-Kbps line and 30 users per 64-Kbps line over native TCP/IP networks.

The benchmark shows that the 2217, using SNA features such as congestion control, can work with a higher utilization on the same physical link than a TCP/IP router can. R/3 communication over SNA works effectively with no penalty for protocol conversion.

In the SD benchmark, R/3 over 2217-200 connections tested favorably with the following clients:

- DOS/Windows, Version 3.1, and SAP-GUI 3.0B
- Windows 95 and SAP-GUI 3.0B (32 bit)
- Windows NT, Version 3.5.1 and SAP-GUI 3.0B

- OS/2 Warp Connect and SAP-GUI 3.0B
- Win OS/2 and Windows SAP-GUI
- AIX, Version 4.1.4, and SAP-GUI 3.0B

**The solution for now and for the future**

With IBM, you get the solutions to fit your needs now and in the future. Your productivity is bolstered with applications, such as R/3 over SNA using Communications Servers and 2217. With the IBM Communications Server line of products, you can take control of your networking environment and concentrate on what's important—the success of your business.

**Related publications**

The following publications can be ordered:

- German retailer benefits from a multiprotocol solution, G325-3624
- Communications Server for OS/2 Warp, G325-3596-01
- Communications Server for AIX, G325-3572-01
- 2217 Nways Multiprotocol Concentrator, G325-3515

**For more information**

To learn more about IBM Communications Server line of products, contact your IBM marketing representative or business partner, today. Or look for us on the WWW at URL:

<http://www.raleigh.ibm.com>



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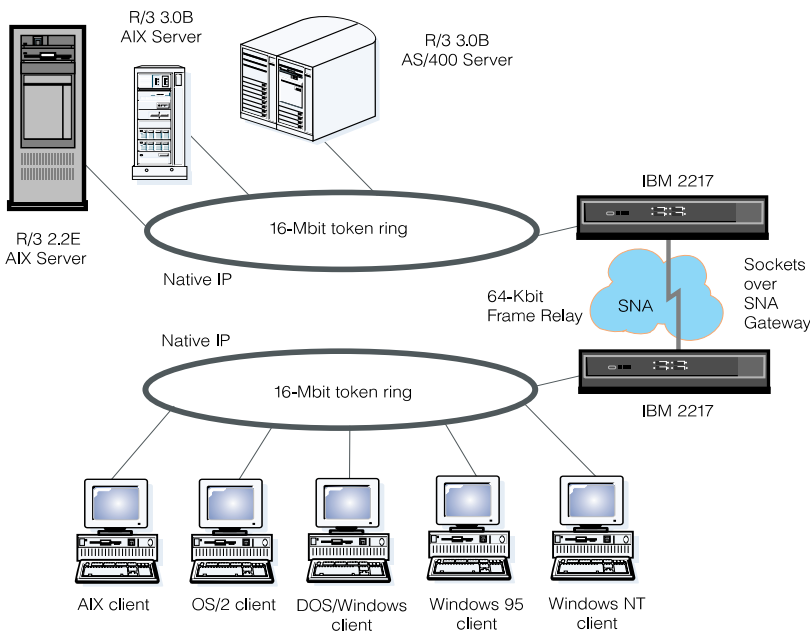
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