



data communications

UNIQUE ACCESS SOLUTIONS



Company Profile



RAD Data Communications offers a wide range of cost-effective product solutions for fast rollout of new voice and data services to help carriers and service providers remain competitive. These products enable them to create new revenue streams, gain market share and reduce operating costs. RAD's technology lets enterprises cut WAN costs, reduce infrastructure expenses and smooth the transition to next generation corporate networks.

UNIQUE ACCESS SOLUTIONS



About Us

Products

Solutions

Global Reach

COMPRESSED VOICE SYSTEM (CVS) (SERVICE PROVIDERS) → 12:1 Voice Compression over Leased Lines or Satellite (Channelized or Unchannelized) → 12:1 Voice Compression over ISDN (24 Voice Channels over 128 kbps Link) → Voice over IP (VoIP) and Voice over Frame Relay (VoFR) → Terminating Voice Transmission System → **ATM ACCESS SOLUTIONS (SERVICE PROVIDERS)** → ATM NTU as a Network Demarcation Solution → Connecting Third-Party Routers across ATM Networks → Integrating Ethernet, T1/E1 CES and Frame Relay over ATM → **INTERWORKING OF T1 AND E1 SERVICES (SERVICE PROVIDERS)** → T1/E1 Conversion → E1 over T1 Leased Lines → **DATA AND VOICE INTEGRATION FOR CORPORATE NETWORKS**

About Us



CREATIVE

Since its inception in 1981, RAD has developed an uncommon business approach: We genuinely understand our partners' and customers' needs, engineering our products and solutions to meet real-world applications.





THINKING FOR ACCESS NETWORKS

INNOVATIVE COMMUNICATIONS TECHNOLOGIES

Combining the flexibility and innovation of a start-up with the financial strength and international resources of a 21-year-old company, RAD offers carriers, service providers and enterprises the technological know-how, product mix and reliability to address all their access network requirements.

Despite the difficult economy in 2001, we grew our presence in several markets. Our sales to Western Europe rose by 10%, our African operations increased by 19% and we experienced record revenues in Japan. RAD customers are supported by RAD offices and by more than 200 distributors in 109 countries worldwide. End users in North America can purchase RAD products on-line through RADirect, the company's e-business catalog site.

The keys to this success are a quick response to shifting market conditions and technologies, and a willingness to "go the extra mile" to work together with our partners and customers to fulfill their demands.

RAD incorporates a broad range of technologies under one roof: ATM; IP; Frame Relay; E1/T1; E3/T3; broadband transmission; fiber optics; voice compression; rate, interface and protocol conversion; routing; ASIC; and integrated management.

COMMITMENT TO OUR CUSTOMERS

Total commitment to the customer is emphasized in RAD's extensive service and support activities, conducted through a unique combination of partners, regional service offices and a central support staff at company headquarters.

Partners are the first tier of RAD's customer support program. Their professional knowledge makes them an appropriate address for customer service issues. The partner in each locality serves as the immediate point of contact for all inquiries about installing, configuring and operating RAD products. A specialized team of pre-sales and post-sales staff is available to provide support for key accounts.

RAD's Help Desk is located in the company's corporate headquarters and offers partners immediate answers to product-related questions. Highly skilled engineers are on hand to provide real-time assistance. A continuously updated extranet open exclusively to partners also allows for quick response.

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Products



http://www

The era of data/voice convergence calls for dedicated access solutions that support legacy services and architectures and deliver most of the reduced cost and complexity benefits of next generation products. RAD's unique access products are based on hybrid systems that span technology boundaries to enable new, value-added services and a lower total cost of ownership.

MULTISERVICE ACCESS PLATFORM

RAD's Multiservice Access Platform (MAP™) deploys specialized multiservice access equipment at the customer premises, Local Loop or at the carrier's POP (point-of-presence, or local access node). MAP bundles multiple services (analog and digital voice, fax, high and low speed data, Frame Relay, IP and ISDN) over the same platform.

LOCAL LOOP/LAST MILE

A complete range of standalone xDSL, fiber optic and baseband modems are available, as well as a central site SNMP-managed modem rack, providing integrated solutions over copper and fiber up to E3/T3 data rates. Built-in IP routers and Ethernet bridges support LAN-to-LAN extension applications.

ATM ACCESS

In an era of bandwidth-hungry applications, ATM is the technology of choice for large corporate headquarters and carriers offering multiple services. RAD offers a wide range of access devices that provide intelligent demarcation between carrier and customer networks, expand carriers' ATM-based multiservice offerings to the customer premises and ensure end-to-end Quality of Service.

ETHERNET/IP ACCESS

Spurred by the growth of LAN-to-LAN applications and Internet access, Ethernet technology is migrating from the LAN to the MAN and WAN. RAD products provide LAN extension and IP routing, as well as offering cost-effective delivery of legacy services over Ethernet, and Ethernet over SDH and ATM networks.

E1/T1; E3/T3



COMPRESSED VOICE SOLUTIONS

RAD offers compressed voice solutions over multiple platforms. RAD's Compressed Voice System (CVS™) enables carriers and alternative service providers to offer high quality voice services for a small initial investment while lowering operating costs, enabling a complete return on investment in 1–6 months.

TDM OVER IP

RAD's IPmux™ family ensures a smooth migration to the future with transparent E1/T1 or E3/T3 connectivity over new, high performance IP/Ethernet networks. The IPmux TDM over IP (TDMoIP) gateway transparently converts E1 or T1 circuits to IP packets for transmission over Gigabit Ethernet-based backbones. This maintains the quality of legacy traffic, allowing legacy voice and data to be transported over IP without requiring any higher layer processing such as that provided by IP gateways.

CELLULAR ACCESS

RAD's Access for Mobile Transport Solutions (AMTS™) offers a smooth migration path to evolving 3G networks while supporting current technologies and services. These solutions provide the link to all types of equipment for both circuit-based and packet-based IP or ATM networks.

FRAME RELAY

RAD's diverse line of Frame Relay access devices are used to construct high performance private networks or efficient extensions of public networks. They deliver voice, LAN, legacy data and multiprotocol traffic, including low speed data, over packetized links.

INTEGRATED ACCESS DEVICES (IADs)

RAD provides integrated access solutions employing TDM, IP and ATM technologies. These integrated access devices (IADs) support data, analog and digital voice, fax, LAN and video, and are cost-effective for point-to-point or point-to-multipoint topologies. The devices incorporate DSL, ATM and IP uplinks.

FIBER CONNECTIVITY FOR DIVERSE INFRASTRUCTURES

RAD Data Communications offers carriers and enterprises an extensive range of fiber access solutions and technologies for TDM, ATM and Ethernet/IP networks. These field-proven solutions, including Fiber-to-the-Building/Curb and Fiber-to-the-Office, are based on a wide array of product lines, including multiservice access nodes, ATM NTUs, fiber optic modems, rate/media converters and multiplexers.

NETWORK MANAGEMENT

RAD offers integrated, interoperable network management solutions that adhere to international standards. The RADview™ system allows network managers to monitor and control both telecom and corporate networks from a central management platform. Open-architecture, CORBA-based applications support multi-vendor environments.

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Innovative products and technologies provide seamless migration of data and voice services over legacy and next generation networks. Our solutions boost network performance while preserving carrier/service provider and enterprise investments in equipment and infrastructure.

For more customer references, please visit our Web site www.rad.com/cases/cases.htm



DATA AND VOICE INTEGRATION FOR CORPORATE NETWORKS (ENTERPRISE) → Data Routing and Voice Switching over Frame Relay with Optional ISDN Backup → Data Routing and Voice Switching over Leased Lines → Integrated Access for Voice and Data over Channelized T1/E1 Circuits (IAD) → T1/E1 Circuit Emulation over IP or Gigabit Ethernet → Integrated Campus and WAN Solutions Using Fiber, xDSL, Frame



NEW T&T, HONG KONG

New T&T provides broadband services to office buildings using RAD's multi-tenant unit (MTU) solutions. The DXC-8R™ 4-port multiservice access node, installed in each building's basement, grooms voice and data transmissions. It connects to the central office over a single broadband link, reducing New T&T's line costs for serving separate customers.

Relay, ATM and IP → **NETWORKING ACROSS WIRELESS, CELLULAR AND SATELLITE LINKS (WIRELESS)** → Extending T1/E1, T3/E3 and 10/100BaseT Ethernet across Wireless Links → Data and Voice over Unchannelized Satellite or Microwave Link

(e.g. V.35) → Microwave/Radio Solution → Drop-and-Insert and Efficient Bandwidth Sharing → **SMART FIBER SOLUTIONS (SERVICE PROVIDER, ENTERPRISE, INTEGRATOR)** → Point-to-Point Solutions over Fiber → Point-to-Multipoint Solutions over Fiber → Fiber Converters and Repeaters → Multiple Electrical and Optical Interfaces → **CELLULAR TRANSPORT SOLUTIONS** → **ATM** → Connecting multiple base stations

Data into BTS Traffic → E1 Grooming in the Transport Infrastructure → **VALUE-ADDED SERVICES** → Adding Low Cost Long-Distance Service → Remote Management of Cellular Base Stations → Grooming Several Base Stations onto One E1/T1 Line → Increase Revenues by Providing Internet Services → ATM Transport for 3G Networks → Mobile Operators Transport Cellular Traffic over IP → Increase Revenues by Providing Competitive Long-


Distance Service over Satellite Links → **TDMoIP SERVICE PROVIDER SOLUTIONS** → **CIRCUIT EXTENSION OVER IP** → Leased Line Services over Packet-Based Wireless and Optical Networks → Leased Line Services over Packet Networks with Redundant Central Site → Voice Services to Multi-Tenant Buildings over T1/E1 or T3/E3 Local Loops → Service Extension to Tier 3/4 Markets over T3/E3 or OC3 using ILEC




ROCKEFELLER GROUP TELECOMMUNICATIONS SERVICES (RGTS) INC., NEW YORK, USA
 In disaster recovery efforts in the wake of the September 11 tragedy, RGTS installed RAD's IPmux™ TDMoIP multiplexer over free space optics for fast provisioning of T1 circuits to companies forced to relocate. The TDMoIP solution let RGTS provision services overnight, without the need for costly upgrades to the existing equipment.

IP/Ethernet Links → Extend Cellular Networks over IP with Migration from 2G to 3G → Traditional T1/E1 Leased Line Services over IP or Ethernet Networks → Toll Bypass with Voice Compression over IP Networks → **TDMoIP**


ENTERPRISE SOLUTIONS → **CENTRALIZED VOICE SERVICES** → Voice and Video across Campus LAN → Metro Area Networks:



FRANCE TELECOM
 In the first medical operation of its kind, doctors in New York performed successful gallbladder surgery on a patient located in Strasbourg, France, using a robotic surgical system that relies on LAN data, broadcast-quality video, IP telephony and videoconferencing. The reliable, real-time communications were provided by RAD's ACE-2002™ ATM device over a high speed fiber optic link.



STAR*HOME, SWITZERLAND
 Converse subsidiary star*home uses RAD's DXC-8R™ 1U high multiservice access nodes to groom signaling information from multiple E1 lines, enabling mobile operators to provide value-added services to roaming cellular users.



DEUTSCHE TELEKOM, GERMANY
 Deutsche Telekom has deployed RAD's plug-and-play ACE-50™ ATM-aware NTU to define manageable demarcation points between carrier and customer networks. The ACE-50 extends the carrier's ability to monitor the operational status and to support maintenance of broadband ATM-based services end-to-end, up to the customer premises.

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GLOBAL NETWORK FOR INTERNATIONAL PROJECTS

In an era when even local applications can quickly become international, it is essential to choose a vendor with truly international capabilities.

With a sales and service network of distributors and value-added resellers in over 100 countries, RAD is in an ideal position to offer worldwide installation and management for even the most complex projects.

The company's international service program, which offers a single point of contact for project administration, can assist carriers and corporations in designing and implementing a system that meets their needs.

SHARING STRENGTHS:

COOPERATION WITH INDUSTRY LEADERS

It is quite common in the communications industry for major manufacturers to work together to offer end users complete solutions to their networking requirements. RAD's specialization in dedicated access products makes it an ideal partner.

QUALITY LEADERSHIP

RAD takes all possible measure to ensure that its products and services are of the highest quality. In 2001, RAD was awarded ISO 14001 certification for waste reduction and the prevention of pollution. RAD's diligent commitment to quality was officially recognized in 2000, when RAD received Israel's coveted National Quality in Industry Award. The company earned ISO 9001 certification in 1996 for its research and development processes and manufacturing facilities.

THE RAD GROUP

A unique business philosophy distinguishes the RAD Group, which has no holding company, but is strategically guided by its founders. Each of the RAD Group companies operates autonomously under a common strategic umbrella.

This decentralized approach maximizes the advantages inherent in smaller business units, such as flexibility, entrepreneurial spirit and management focus. A new company is established when a market opportunity is identified – requiring a technology, marketing approach or corporate culture that does not exist in any of the other companies.

Six RAD Group companies are traded on the Nasdaq Stock Market in the U.S. Others are privately held by the Group's founders and several venture capital firms.



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● **International Headquarters**
RAD Data Communications Ltd.
24 Raoul Wallenberg Street
Tel Aviv 69719, Israel
Tel: 972-3-6458181
Fax: 972-3-6498250
email: market@rad.co.il

● **U.S. Headquarters**
RAD Data Communications, Inc.
900 Corporate Drive
Mahwah, NJ 07430, USA
Tel: 1-201-529-1100
Toll free: 1-800-444-7234
Fax: 1-201-529-5777
email: market@radusa.com

Regional Offices

● **Far East**
RAD Far East Ltd.
Suite A, 26/F, One Capital Place
18 Luard Rd., Wanchai
Hong Kong, China
Tel: 852-25270101
Fax: 852-25284761
email: market@radfe.com.hk

● **Latin America**
RAD América Latina S.A.
Viamonte 1345-3° Piso "G"
1053 Buenos Aires, Argentina
Tel: 54-11-43714000
Fax: 54-11-43710734
email: info@radal.com.ar

● **Scandinavia**
RAD Scandinavia ApS
Farum Gydevej 87
3520 Farum, Denmark
Tel: 45-44 34 20 30
Fax: 45-44 34 20 39
email: info@radscandinavia.dk

Local Offices

● **Brazil**
RAD do Brasil Ltda.
Av. Irai, 79-Conj. 92-B, Moema
São Paulo SP CEP 04082-000, Brazil
Tel: 55-11-55611309
Fax: 55-11-55352879
email: market@radbr.com.br

● **Canada**
RAD Canada
6600 Trans Canada Highway, Suite 750
Pointe Claire, Quebec H9R 4S2, Canada
Tel: 1-514-694-6380
Fax: 1-514-694-6471
email: djones@radusa.com

Visit RAD online at: www.rad.com

● **China**
RAD China Beijing
Grand Pacific Building, Suite 530
No. 8, Guanghua Road, Beijing, China
Tel: 86-10-65816677
Fax: 86-10-65810588
email: marketing@raddata.com.cn

RAD China Shanghai
Unit 11, 16/F, Central Plaza
227 Huangpi Road N.
Shanghai 200003, China
Tel: 86-21-63758691/2
Fax: 86-21-63758693
email: rosana_s@raddata.com.cn

● **France**
RAD France
Immeuble l'Européen
98, allée des Champs-Élysées
91042 Evry cédex, France
Tel: 33-1-60 87 85 00
Fax: 33-1-60 87 85 01
email: info@rad-france.fr

● **Germany**
RAD Data Communications GmbH
Berner Str. 77
60437 Frankfurt / M, Germany
Tel: 49-69-950022-0
Fax: 49-69-950022-99
email: info@rad-data.de

● **Japan**
RAD Japan K.K.
Bureau Toranomom 10F
2-7-16 Toranomom, Minato-ku
Tokyo, Japan
Tel: +81-3-5251 3651
Fax: +81-3-5251 3652
email: japan@rad.co.il

● **United Kingdom**
RAD Data Communications Ltd. (UK)
6 Fortuna Court, Calleva Park
Aldermaston, Berkshire RG7 8UB,
England
Tel: 44-1189-820900
Fax: 44-1189-812600
email: info@raddata.co.uk

