THE REDCOM ADVANTAGE

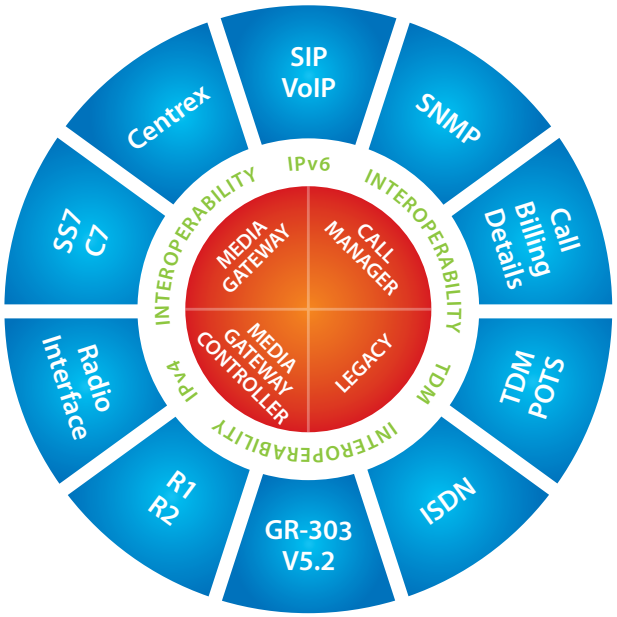
REDCOM Interoperable Telecom Solutions

POWERED BY TRANSip

Overview

The convergence of TDM, Radio and IP communications is fundamentally changing the telecommunications industry. There are a wide variety of applications demanding reliable interoperability. REDCOM solutions connect multi-technology networks delivering maximum interoperability, including SIP, V.150.1, T.38, IPv4, IPv6, SS7/C7, GR-303, V5.2, CAS, DTMF, MFC/R2, MF/R1, FGC, FGD, CLASS, ISDN PRI/BRI and Euro ISDN.

At the heart of REDCOM's softswitch solutions is the innovative TRANSip IP technology suite, based on the industry-standard Session Initiation Protocol (SIP). TRANSip consists of four functional core elements — a Call Controller, Media Gateway, Media Gateway Controller and Legacy Support — all housed in a single integrated system for seamless interoperability. REDCOM's TRANSip technology suite allows IP and TDM networks to interoperate, as well as radios and wireless communications, enabling a seamless, incremental transition to VoIP networks.



REDCOM HDX

REDCOM's HDX softswitch allows users to future proof their networks to interoperate today and tomorrow with a wide range of protocols and interfaces, positioning them for long-term evolution. REDCOM builds the interfaces and supports the protocols that enable secure and interoperable communications.

With the HDX, customers can continue to interoperate with their existing TDM networks while leveraging next-generation VoIP applications. This functionality provides REDCOM's customers with the flexibility to smoothly and incrementally migrate to IP in a cost-effective manner when it makes sense for them, while still being able to deploy advanced communications technologies without compromising service quality and reliability.

Benefits of the REDCOM HDX System:

- SIP-based VoIP capabilities
  - Scalable from 100 to 96,000 SIP subscribers
  - SIP Trunking
- Integrated Call Controller & Media Gateway
- Integrated VoIP, TDM, and Radio Interface, in a single platform
- Extensive Conferencing (TDM, VoIP and Radio)
- Interoperable with HF (pulse) or UHF/VHF (DTMF) radio for simplex or duplex operation
- Multiple Codec Standards for Compression
- Modem over IP V.150.1 & Fax over IP T.38
- Enhanced Centrex (IP and TDM)

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REDCOM SLICE® 2100™

REDCOM's SLICE 2100 with TRANSip is a Commercial-Off-The-Shelf (COTS) integrated communications platform that provides a flexible, reliable VoIP solution. Functioning as both a softswitch and gateway, SLICE 2100's integrated SIP Call Controller and Media Gateway offer a simple-to-install, single-box solution contained in a 1U platform. With SLICE 2100 there are no expensive server boxes, no separate gateway boxes, and no separate VoIP software to load and configure. SLICE 2100 allows you to get up to 2,000 IP subscribers in a single unit.

Benefits of the REDCOM SLICE 2100 System:

- SIP-based VoIP capabilities
  - Up to 2,000 SIP subscribers per unit
  - SIP Trunking
- Integrated Call Controller & Media Gateway
- Adaptable to multiple T1/E1 Trunks and Analog Trunks
- Analog Lines and ISDN-BRI Lines
- Extensive Conferencing (TDM, VoIP and Radio)
- Radio Circuits and Magneto Circuits Interoperability
- Multiple Codec Standards for Compression
- Modem over IP V.150.1 & Fax over IP T.38
- Enhanced Centrex (IP and TDM)

IP Centrex

REDCOM systems support IP Centrex service in addition to traditional POTS and ISDN lines, delivering the same features to IP Centrex users that they deliver to analog and ISDN Centrex users. With REDCOM's IP Centrex solution, service providers can offer their customers all the benefits of PBX features, such as call hold, call transfer, last number look-up and redial, call forwarding, call park, call waiting, and conference calling, but without the expense of traditional PBX systems.

Radio Interface Delivers VOX, COR & PTT Calling

REDCOM's radio interface, available on both the HDX and SLICE 2100, provides radio users with all the same benefits of a REDCOM system normally available to station users. This feature allows any phone in the REDCOM system to dial out to a remote radio, or allows a radio to dial directly into the system and ring a phone, make an outside call, or call another remote radio system. The REDCOM Radio Interface contains two circuits and supports full two-way calling with Push to Talk (PTT), Voice Operated Transmission (VOX) or Carrier Operated Relay (COR). Each circuit can interface with an HF (pulse) or UHF/VHF (DTMF) radio for simplex or duplex operation. The Radio Interface allows direct, back-to-back radio patches with both VOX and COR.

Scalable Operator Platform

To provide customers with a complete, user-friendly overview of network services, REDCOM offers the Scalable Operator Platform—a GUI software package call management system that delivers extensive conferencing, call control and handling capabilities. Working with any standard PC, the system creates a powerful attendant console that allows operators to place, accept, and intercept calls. Operators can also control held calls, active conferences, directory assistance requests, and call queue management.

Why REDCOM?

Unlike other major telecommunications system manufacturers, we support all our released software versions. REDCOM's systems are proven products that continue to grow and advance with the latest technology. We do not impose mandatory upgrades. Based on the patented MSU architecture, our systems are designed to operate in adverse environments with no scheduled maintenance. REDCOM's systems provide a current platform from which you can plan growth, technical advancement, and implementation of Next Generation features and interfaces. All this is available while retaining your investment, and on a proven, reliable platform. REDCOM's systems are the logical solution for your future network requirements.

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REDCOM V5.0 Features & Specifications

PRIMARY CONFIGURATIONS
- Class 5 End Office
- Class 4 Tandem/Transit Exchange
- Media Gateway
- International/IP Gateway
- Call Manager

HDX PHYSICAL SPECIFICATIONS
- 19 in rack mount / 48 cm
- Power:
  - –48 VDC
  - 100/120/240 VAC, 50–60 Hz
- Redundant Processor
- Hot-Swappable Interfaces and Processor Boards

SLICE 2100 PHYSICAL SPECIFICATIONS
- Width: 19 in rack mount; 17.5 in / 44.5 cm
- Height: 1U 1.75 in / 4.4 cm
- Depth: 17.5 in / 45.5 cm
- Weight: 16 lbs. / 7.3 kg
- Power:
  - –48 VDC; 2.3 amps
  - 100/220 VAC, 50–60 Hz (external rectifier)
- Two bays for field-replaceable modules
- Two 10/100 Ethernet Ports
- Two E1/T1 Ports
- Stackable up to 3 units (up to 6,000 IP subscribers)

ENVIRONMENT
- Operating temperatures: 32–122 °F / 0–50 °C ambient
- Operating humidity: 5%–90% (non-condensing)

SYSTEM ARCHITECTURE
- Distributed Control
- Carrier-Class Reliability: 99.999% (“five nines”)

SYSTEM FEATURES
- Administrative Package
- Call Records SMDR/CDR/LAMA
- Emergency Services (911)
- Least Cost Routing
- Local Number Portability (LNP)
- Multiple Home Exchanges
- Percentage Trunking
- REDCOM ClusterNet™: host/remote for integrated network operation
- Three PIC Equal Access
- Toll Restriction
- User Defined Announcements
- Voice Mail System Interface

NETWORK MANAGEMENT
- E-Mail: maintenance notes and traffic usage reports to any e-mail address
- Management of multiple systems via REDCOM MAUI
- SNMP support for alarms and system monitoring

CLASS℠ & BILLABLE FEATURES
- CLASS Features
- Automatic Call Distributor (ACD)
- Automated Call Processing (ACP)
- Broadcast Ringing
- Caller ID (Name and Number Delivery)
- Centrex (IP and TDM)
- Conferences
  - Conference Control
  - Preset, Meet-Me, Progressive
  - Optional Password Protection
  - Loudest Party Talker
  - Firebar
- Customer-Originated Call Trace
- Hotlines
- Single Number Services (Find Me)

ACCESS SOLUTIONS
- Broadband Loop Carrier (BLC)
- Direct wire 2-wire subscribers
- FXO/FXS
- GR-303
- ISDN BRI
- MSAN
- Radio
- SIP
- V5.2

SIGNALING & PROTOCOLS
- A-Law/μ-255 Law PCM Conversion
- C5/SS5
- DTMF & RFC 2833
- E&M
- FXO/FXS
- GR-303
- GSRD/LSRD
- ISDN PRI (4ESS, 5ESS, NI1, DMS100, & Euro)
- ISDN BRI (5ESS, NI1 & Euro)
- MF/R1, FG-C&D
- MFC R2
- Radio Interface
- SIP RFC 3261
- SS7
  - 800 dips via TCAP
  - ANSI SS7 & ITU C7
  - LNP via TCAP
  - TCAP CNAME
- T1/E1
- V5.2

REDCOM TRANSIP® IP TECHNOLOGY SUITE
- Up to 3,000 registered IP subscribers per shelf
- SIP Call Controller/Call Manager
- SIP Trunking
- Dual Stack IP (IPv4, IPv6)
- Audio Streaming RTP (RFCs 3550, 3551, 3389)
- Comfort Noise Generation
- DHCP client
- DNS client
- Echo Cancellation: G.165, G.168 (up to 128ms)
- Fax over IP (T.38) and Modem over IP (V.150.1)
- IMS Compatible
- IP Bandwidth Management
- Legacy Interface Support
- Media Gateway
- MGCP/NCS Line Support (Packetcable 1.5)
- Network Time Protocol (NTP)
- QoS: IP Differentiated Services (DiffServ) marking
- RFC 3261, 3326, 4028
- SDP Manipulation
- Silence Suppression
- SIP support for CLASS lineside features
- System CRON Timers
- Telephony Tones: RFC 4733
- VLAN Tagging
- VoIP (SIP standards-based)

CODECS
- G.711A&μ (64kbps PCM)
- G.723.1H&L
- G.726 (16, 24, 32, 40kbps ADPCM)
- G.729A&B (8kbps CS-ACELP)
- iLBC
- RFC4040 (64 kbps)
- Fax over IP: T.38, Media Gateway Conversion (MGC) & Auto
- Modem over IP: V.150.1

COMPLIANCE
- CALEA: TIA J-STD-025A and J-STD-025B
- Electromagnetic compatibility: FCC Part 15 Class A
- Industry Canada CS-03
- TIA-968-A

SECURITY
- Distributed control
- Lawful Intercept (CALEA): US J-STD-025A & US J-STD-025B
- PIN Number Authorization
- Priority Override
- RADIUS Authentication
- SRTP
- TLS
- User Level Security

APPLICATION DEVELOPMENT
- Application Programming Interface (API)
- Computer Telephony Integration (CTI)
- External Database: MySQL
- Host Control Interface

WIRELESS CAPABILITIES
- Radio Interface (VOX, COR, PTT)
- Wireless IP Subscribers

ANCILLARY PRODUCTS
- Maintenance and Administration Graphical User Interface (MAUI)
- Link Command System (LCS): Operator/Directory Assistance

Note: Some features are optional. Please contact REDCOM for a more detailed description of product features and capabilities.

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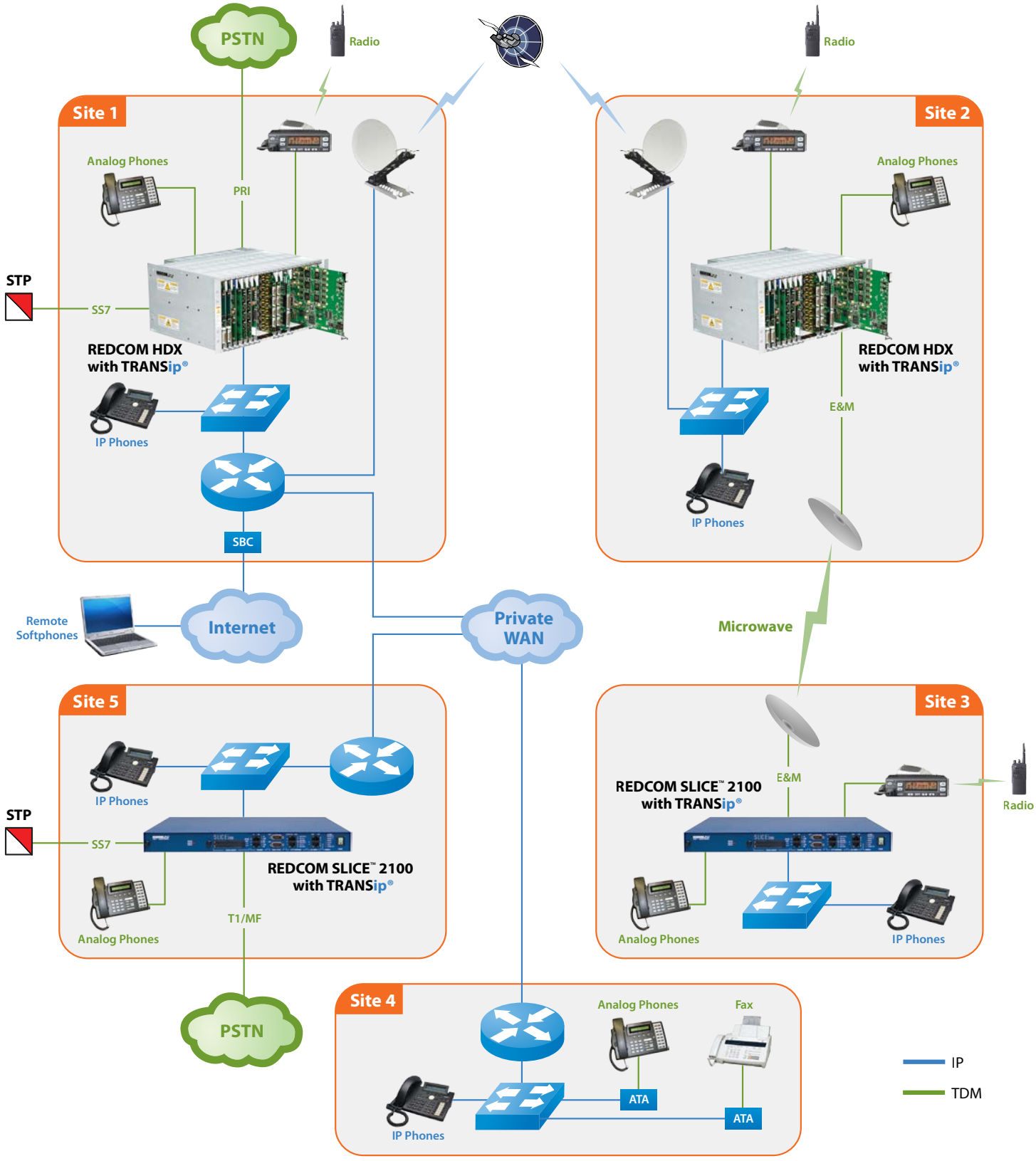
Multi-Site Hybrid Intelligent Telecom System



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