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CORAL TELECOM AT A GLANCE

Coral Telecom Limited is a leading design and manufacturing company that provides converged "enterprise communication solutions" with focus on applications for Railways, Metro, Mines, Defence and other similar private communication networks. Converged platforms provide **wired as well as wireless** subscribers for enterprise customers as both type of networks will always co-exist in real life. IMS switching core seamlessly provides call control function not only for legacy TDM devices or modern day IP desk phones, but also to mobile customers on 4G & 5 G Handsets.

Primarily engaged in design, development & re-engineering of IMS based Unified Communication solutions, We also handle voice, video and data requirements of any modern enterprise. **Specialized software applications have been designed** to provide **integrated communication solutions** with Paging, Video conferencing and Despatcher applications that find use on Railways, Metro Projects, and Smart City Applications.

Solutions include converged 4/5 G core that provide seamless communication with LTE / 5G based radio networks to facilitate private enterprise communication across **wired as well as wireless** devices. We support mission critical and MCX based floor control services to facilitate PTT (push to talk) features for audio and video broadcast that are **critical for enterprise communication applications in Utility companies, Police and para military forces**. The solutions support Autonomous vehicles, Robotic arms, IOT and M2M applications for Mines, Submarines, Oil rigs and can cater to needs of Industry 4.0 in general.

A common IMS platform, switching wired as well as wireless devices creates a compelling reason for enterprises to adopt our 5G solution. We provide Common GUI, Common NMS and Common Provisioning mechanism, thus creating a great impetus for adoption of our product.

These private 5G networks would converge Voice, Data, IOT & M2M communication within the enterprise and will open a plethora of applications to **address diverse customer requirements**. Private networks are already being deployed in a wide range of industries for indoor and outdoor applications but private 5G networks will accelerate the process as **every industry**, including mining, ports, automotive, durable goods and chemicals would need them for digital transformation that would include IOT & M2M applications. Voice and data communication may be peripheral use cases

Common NMS, Common GUI, facilitate **simple user-friendly management** and configuration of all network elements. Ability of our solution **to support plug and play function** for Gateways, Wired phones, Mobile phones, Cameras, IOT devices with centralized control and common alerts makes it a **preferred choice** of users.

Coral has designed and manufactured associated embedded hardware or media gateways to provide **seamless inter-operability** with legacy protocols like FXS, FXO, PRI, GSM, E&M etc., with emphasis on converged multi-service, multi-protocol access gateways that can work **as part of an IP Multimedia sub-system yet capable of stand-alone existence**.

Based on these strengths, Coral has designed special devices like Cab-radio and 4/5G Help desks for LTE networks. Coral has also built a rugged JSSS55555 compliant network in a Box that delivers the entire converged product and services in a **single box** that can be mounted on a vehicle **for quick deployment**.

Coral's specialization lies in the fact that it has **total control on technology**, thus offering a unique ability for customization. Its diverse experience in the fields of telecommunication, convergence technology, software, hardware, application development and project management, places it as an **ideal provider of solutions** across the value chain.

CTL has some of the largest deployments of IP based next generation communication solutions to meet requirements of **secured communication** at ISRO, DRDO, Indian defence forces etc. India's largest aircraft carrier- Vikramaditya, Western Naval command, Porbandar Naval base, Jodhpur core with multiple remote stations, Sukhna as well as Patiala Core **rely on us for communication needs**. The **entire voice communication** at Konkan Railway and 60% of voice communication for Indian railways goes through CTL PBX systems.. Enterprises like L&T, NTPC and Hospitals like Artimis, AIIMS, Sir Gangaram, Safdarjung, Apollo use CTL systems.

TYPICAL 4G/5G CONVERGED NETWORK



Coral can provide all sub systems in red border



PRODUCT LINES

CTL has a wide range of products that are divided, depending on technology used and also on the basis of its usability, features and market segmentation. Each of these products is developed in-house & hence, the Company has complete control on the hardware & the software of these products.

Products are categorized as follows:

- IMS based converged and Unified Communication solutions offering Voice Video and Data switching requirements of enterprises from IP phones, Analog as well as 4/5 G devices.
- TDM Switching products (DX & IRIS) up-to 8,000 ports that can act as media gateways and work seamlessly with Soft switches. These support UHF / VHF as well as Satellite connectivity.
- IP MUX & PD Mux as well as Train control and communication System as per specifications of Railways Cab radios, Autonomous
 vehicles with IOT & M2M applications seamlessly working with converged enterprise communication network
- IP based Voice paging systems. Soft phones for Windows Mobile as well as IOS. Mobile devices management and secured crypto for enhanced security running on custom Operating Systems.



FEATURES SUPPORTED

USE CASES

1. Campus deployment as an extension of the enterprise PABX, where Private 5G can support mobility requirements within large campuses, of an integrated factory with residential blocks, Hotels, Hospitals & institutions where some staff is always on the move. Offshore drilling rigs, construction and mining sites are potential customers. Once high-speed low latency network is established, it would double up for IOT & M2M applications for plant monitoring maintenance and predictive alerts on impending faults.

2. Ships / Islands and Forest guards need quick deployment of complete networks that may be backhauled on Satellite / UHF or VHF where such 5G based private networks would be an ideal choice for basic communication.

3. Submarines would need it for communication as well as predictive fault alerts by use of appropriate sensors and AI algorithms. Time-Sensitive Networking (TSN) and real-time- based decision making is rapidly finding role in several mission- critical applications across many industries, including manufacturing, oil and gas, aerospace, and transportation that will require such 5G networks.

4. Battery powered Tactical Deployments mounted on vehicles in a compact single box for quick deployment of wired and wireless service could be an ideal communication box for Disaster management teams or for defence setups. These could be housed in jeeps or ships with onboard gensets and can cover 5 to 7 Kms radius. Deployment of half a Dozen such mobile communication systems can cover a larger area seamlessly communicating between each other as part of Tactical deployment. UN peacekeeping forces or troops stationed in any part of the word can be customers for such applications. IOT devices tightly intertwined on the 5G network will help identify, locate threats and protect critical assets as well as enhanced predictive preventive maintenance of critical equipment and services.

5. Utility companies, Railway stations, Airports & Accident sites will need these private 5G network for support on all legacy communication including communication on Quad cable, E&M, BWT & even magneto trunks. Railway accident relief trains can provide immediate voice and data communication that will work seamlessly with their laid-out communication system. Railways could use it for specialized Train control and communication system (TCCS).

6. It can be an effective replacement for imported Tetra based communication systems with 5G based high bandwidth low latency communication. Metro projects, Airports, Disaster management teams will find them cost effective and far more efficient. PTT and broadcast communication modes for the system shall address these requirements.

7. Disaster Management is expected to cater to emergency services & rapid deployment of mobile network at sites where existing GSM network is destroyed due to natural calamities such as cyclones, landslides and earthquakes. These private networks can quickly set up reliable communication facilities that can be used by all agencies working on the site viz NGO, Red Cross, Paramilitary, Army, State departments, Fire service etc. Security agencies including Police & National Security groups will find many applications to extend emergency services during natural disasters or man-made crisis like terror strikes where the need of the hour would be to provide voice, video text and high-speed low latency data services.

8. Construction sites & mining sites in far flung areas with no or limited existing telecom networks could deploy these private networks to cater for all type of reliable high-speed communication needs within the private campus. Oil rigs, Oil wells and large construction sites or mining areas could be ideal customers for such private network deployments. They would need high speed low latency 5G networks to use IOT devices for automated/robotic or remote managed applications that are sensitive & mission critical.

9. In-building solution to enhance mobile coverage in the building thereby releasing load on the macro BTS network, local switching and intelligence will provide enhanced coverage & additional subscriber density. This would also help effective use of scarce spectrum as each private cell would reuse the same spectrum band.

10. Greenfield deployments in rural areas by providing cost effective & quick deployment methodology that can help local youth to manage and run these networks on commercial basis. This will create jobs and entrepreneurs who would ensure upkeep and maintenance at remote locations. These private networks can also be used for temporary deployment in a Games village or for a temporary holiday camp over a few kilo meters that can be powered from solar energy.

DEPLOYMENT OPTIONS FOR CONVERGED NETWORK



Battlefield



Rural Deployments



Train control & communication



Disaster Management

WHO IS THE BUYER



- Railway is deploying a GSM R on 70000 route Km for signalling and communication for trains.
- Defence Services need captive mobile networks for quick deployment of communication service in battlefield.
- Government offices looking for secured private Mobility solutions which are not dependent on Telco networks. Eg : ISRO / BARC
- Large campuses that require mobility e.g Oil rigs, Ship, Submarine, Island resort, Accident sites.
- Industry 4.0 for High speed low latency network. For machine to machine or IOT applications. Robotic surgery.
- Disaster Relief operations.
- Tele-medicine , Robotic surgery
- Utility companies like Airports, Ports, Stadiums, Police for wireless private emergency communication

MARKET SIZE

The global private 5G network market size is estimated to reach USD 14.28 billion by 2028, registering a CAGR of 39.7% from 2021 to 2028.

Market Size in India as per DOT, Min of Communication is expected to be over 50000 Cr in India for Enterprise communication and CNPN networks. Coral products directly address 20% of this market.

SHAREHOLDING

S.No	Name	No of SharesHeld	Percentage
1	Promoter	3325384	80.80%
2	Team members and Associates*	680156	16.52%
3	Financial Institutions	110,000	2.67%
	Total	4,115,540	100.00%

Table 1 : Shareholding structure of CTL

KEY FINANCIAL NUMBERS

S. No	Financial Year	Revenue in Crores of Rupees	Profit in Crores of Rupees
1	2020-21	22.17	1.74
2	2021-22	38.36	4.54
3	2022-23	43.22	5.80

Table 1: Revenue Profitability

KEY MANAGEMENT AND COMPANY HIERARCHY

Board of Directors of the Company

Rajesh Tuli Managing Director	Started the business in 1991, as a trading company in the field of PBX systems. Later started Design & Manufacture of complex telecommunication systems. A Management Graduate from Punjab University. He is the promoter of Coral Telecom which is nurtured as an employee owned organization . Prior to joining Coral, he worked with Usha Electronics, Telecommunications Consultants India Ltd & Modi Group companies.
Vinod Kumar Pabreja Director	A Qualified Chartered Accountant since 1976. After having worked with a large Indian group for 6 years, moved to Dubai in the year 1982. Has extensive experience in the Financial sector in the Corporate world, in Wealth Management and is presently managing a consultancy firm in the fields of business, finance and wealth management in Dubai.
Poonam Tuli Director	A Graduate from Delhi University with excellent negotiation skills & is responsible for HR, & Administration functions.
Naveen Khanna Director R&D	A Graduate from Delhi University, Head of Coral's R & D, looks over the R & D activities of the company since 25 years.
Mukesh Upreti Director National support	A Graduate in Computer Applications. Result oriented, has 16 years of versatile experience in System Design and Network deployment. Proficient in Architecture Design reviews, system debugging, Network optimization, Customer satisfaction and National support. Key role in providing directions to the design team based on inputs from the field.

R&D ACTIVITIES; MAJOR MILESTONES

- Year 1996-97 Reverse Engineered Analog EPABX products
- Year 1998-99 ISDN & E1 functionality was added in DX 2000
- Year 1999-00 Upgraded DX 2000 to cater to 512 ports
- Year 2000-03 Developed IRIS 2000 that support up to 2000 voice ports
- Year 2003-05 Improvised IRIS developed Data switching & PRI Interface
- Year 2003-05 Developed Data Switching and IP capabilities of IRIS
- Year 2004-07 IRIS support for ADSL2, VoIP, TMDoIP & IP switching.
- Year 2008-09 Ruggedized switches & developed interfaces for Defence specific Applications like Ethernet mapper, UHF, VHF interface
- Year 2009-10 IP based core switching architecture adopted that would support all the old peripheral cards as media gateways.
- Year 2010-17 Development of IP based platforms with integrated Unified Communication, High availability and Active-Active server media gateway architecture. Load sharing and load balancing. Cloud and cluster working.
- Year 2018 -20 Soft Clients for Android, Windows & IOS. Security functions, SBC, load sharing with integrated encryption, security. NMS, Rich operator console and Low cost server box hardware. Voice Logger.
- Year 2020-21 Video Conferencing, Media gateway with redundant gigabit backhaul support on OFC, IP phones audio and Video. New Graphical user Interface with rich user experience. Hospitality and Call centre application enhancement.
- Year 2020-23 upgraded IP based switching to IMS architecture along with EPC for interface with eNodeB & gNodeB to seamlessly support mobile devices. CPE developed.
- Year 2023 -25 3GPP compliant MCX architecture supporting MC Audio Video services and 5Qci. Along with various CPE devices required for Railway applications.
- Year 24-27 Mobile mesh supported Mobile communication NIBs

KEY EMPLOYEE OF THE COMPANY

Anil Nagpal Director Operations	An Engineer in Electronics & Communication from the University of Karnataka, has extensive e knowledge and experience of over 30 years in the Telecom Industry and overall working experience of over 30 years. He has the experience of handling large projects in NTPC, BHEL, CPWD, Army, Navy and many other organizations. He along with his team handle all Operations ,including Marketing and Customer support across the country and overseas for all products lines.
Vedprakash Jain COO - Central	Aggressive and target oriented with excellent interpersonal skills, articulate in commercial & business profitability computation . Responsible for sales activities in Central India. Responsible for commercial decisions of the company at national level. Adept at liaising with Govt., corporate, ISPs and dealer accounts & high value system integrators.
Ulhas Deshpandey COO - West	He has been an integral member of the core management team from the inception of the group's business in December 1995. He has excellent technical & commercial skills responsible for handling technical & marketing functions of the Company in Maharashtra as well as Goa.
Mukesh Upreti Director National Support	A Graduate in Computer Applications. Result oriented, Has 16 years of versatile experience in System Design and Network deployment. Proficient in architecture design reviews, system debugging, Network Optimization, Customer satisfaction and National support. Key in providing directions to the design team based on inputs from the field.
Amit Sharma System Architect	A Graduate in Computer Applications. Has been with the Company from its inception and is part of the core development team at Coral . He is responsible for design and development of various engines in the IMS architecture as well as in hardware design.
Amit Pal Solution Architect	A Master in Computer Application (MCA). Is the Technical resource of the company for the last 11 years. Responsible for system software architecture to develop various features and call manager.
Rishi Saini Head Systems & IT	A Graduate Engineer (B Tech) with excellent skills on IT network design , Manages IT infrastructure for the company and does network design for customer deployments. Responsible to ensure safeguard against cyber- attacks and security certification for hardware as well as application.
Bharat Singh Rajput Branch Manager	Has over a decade of experience in enterprise communication. Responsible for integrated designs with third party devices & handles field deployment of complex requirements to meet the market requirements.

ORGANIZATION CHART



CTL has a strong workforce with more than 200 employees, spread over 14 Branches. Our Company has extensively focused on development of software-based VoIP switching fabric & has a team of over 50 engineers working in integrating new technologies. Coral has associated itself with outsourced R&D labs for development of hardware platforms on exclusive basis.

Coral extends its reach to every corner of the country through its team of 50 resellers. A unique driver of growth is the fact that most of the key employees have a stake in the company which forges an enviable team.

Coral Telecom Limited

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