Khushi Communications Pvt. Ltd. (KCPL) has been incorporated in the year 2015 by an engineering professional with proven track record of 20+ years of experience in the telecommunications industry. The founder of the company has held various leadership positions working for different multinational companies. Khushi Communications is manufacturer's representative & takes great pride in being innovative technology solution provider for telecommunication networks.

We primarily focus on delivering Network Synchronization solution (Time & Frequency) and Test & Measurement equipment for telecommunication networks. Our technology solutions are based on best-in-class products from the industry's leading manufacturers mainly coming from USA & Europe.

Bringing the latest and futuristic technological solution in partnership with our renowned and innovative Principals, we are poised to serve Telecommunications, Defense, Space, Research, Design & Development segments among others.

Being a new company we are poised, alert & extremely flexible. We are more intimate and innovative towards our customer's needs and expectations. We live with a belief & principle that allows us partnering with our customers on long term basis. Have a faith in our expertise & professionalism we are your most trusted partners.

Khushi Communications is based out of Delhi. We are on the path of continued growth & success and expanding our operation very fast.
Handy Ethernet Testers & IP Tools

We deliver products from world renowned leaders in telecom and networking solutions. The equipment and services allow telecom networks to quickly come into being, reducing installation risks and maximizing the Quality of the services to be deployed. Every single product and service which supplied from Khushi Communications guarantees innovate, effective and competitive solution.

Our product range comprises from small handheld, battery fed testers to full featured service performance assurance tools and distributed monitoring systems.

Ether10.Genius: Multi-technology tester (10GbE)

- Double Port 10GbE
- 10GbE / GBE / PTP / SyncE / Jitter & Wander / E1 / Datacom / C37.94 support
- 6 Hours of continuous operation
- Y.1564 / Y.1731 QoS statistics and SLA
- Symmetrical / Asymmetrical RFC2544
- L1/L2/L3/L4 Loopback
- MPLS support

AT.2048 : E1 / Datacom / Jitter & Wander tester

- Designed & Manufactured in Europe
- E1, nx64, Datacom, Jitter, Wander, Frame Relay, Pulse Mask, Voice Frequency
- Double Port
- New Datacom interfaces with CISCO data cables
- Jitter & Wander generation / analysis
- ITU-T G.826, G.821 and M.2100
- Color Touch Screen, SD memory, USB and Ethernet port, Smart Serial 26p DTE/DCE ports.
- 24hours on battery
- Remote Control operation
These tools are unique and able to Emulate WANs, Filter Traffic, Capture, Storage and Tap by hardware at wirespeed in a small, compact and battery operated devices. They support ALL the features of high-end taps and capture devices in a small, battery operated instrument to provide mobility and storage capacity to reach any point of the network.

**Net. Hunter**

- Two form factor: 1U rack-mounted and Hand held
- Filter / Capture / Record at full duplex Gbit
- Ideal for Security and Forensic application
- Non stop packet capturing – 24 x 7 x 365
- No MAC, no IP: Undetectable and can't be hacked
- Mirror & Pass-through mode
- Storage at wire speed: 60 / 120 Gbytes hard disk
- Wireshark friendly for protocol analysis
- VNC remote control

**Net. Storm**

- Two form factor: 1U rack-mounted and Hand held
- World's first hand held battery operated WAN emulator
- Helps Engineers to model & modify arbitrary performance dynamics including packet delay, jitter, bandwidth limitations, congestion, packet loss, errors and duplication on live IP packets.
- Check the tolerance of services to QoS degradation
- Assured Service and SLA

**Net. Shark**

- World's first hand held, battery and 100% autonomous TAP
- Hardware (FPGA) based TAP with Filtering, Capture, Storage, Aggregation capabilities
- Provides mobility and storage capacity to reach any point of the network
- Delivers 100% packet analysis on any IP architecture
- Pass-through mode, capture Full Duplex traffic at wire-speed
- Captured packets can be either saved onto SD Card or PCAP format with time stamp or copied to a LAN in real time for further analysis
With the ever-increasing requirements in terms of quality service, needed by network operators for their customers, synchronization is the best warranty for a total quality service in high speed digital transmission. Telecommunication networks have been experiencing a shift from TDM circuits to next generation Ethernet traffic. We provide customized E1/T1 TDM, IEEE1588 PTPV2 and SyncE solutions for a flexible mixture of TDM and packet traffic, suitable for both transitional phase and the long term.

**ALL-IN-1 : QUALIFICATION, PROVISION & MONITORING OF PTP SYNCHRONIZATION**

- ETSI 1U Rack-mounted PTP Grandmaster Clock
- Configurable as Master or Slave PTP Clock
- Multiple Time References: GNSS, PPS / ToD, OCXO, SyncE, PTP, E1/T1, 10MHz
- Multiple Timing Outputs: PTP, SyncE, E1/T1, 2.0/1.5MHz, 1PPS
- PTP Wander Analysis TIE, MTIE, TDEV
- SyncE Wander analysis / generation
- Asymmetric Delay Analysis
- Latency test assisted by GNSS including One-way and Two-way delay measurement
- Redundant Power Supply (AC+AC / AC+DC / DC+DC)

**SSU / PRC (GPS based) : USG5e**

- 19”/ 23” ETSI Sub-rack, Fully Modular and Redundant
- SSU / SDU / PRC (GPS) / PTP GM / NTP All-In-One Solution
- Up to 10 Reference Inputs
- Dual GPS Reference Receivers and Antenna Inputs
- Oscillator Options - Quartz and/or Rubidium
- Up to 8 Output Cards (Protected), maximum 160 1+1 output ports
- NTP Client / Server Card, 1+1 redundant
- IEEE 1588v2 PTP Grandmaster Card, 1+1 redundant
- Dual Power Supply modules, -35V to -72VDC
- Remote Management
Network Synchronization

GNSS (GPS/GLONASS) Receiver: UNISYNC 1U

- Designed to operate as mini Synchronization Supply Unit (SSU/BITS)
- Compliant with ETSI, Telcordia and ITU-T G.811 and G.812
- Accept up to two (2) timing reference timing signals
- Single GPS or GNSS (GPS/GLONASS) receiver module
- Oscillator Options – Quartz or Rubidium
- Up to 12 output timing sources; all outputs are settable
- NTP Sever (optional)
- Remote Management, SNMP for equipment supervisory
- NEBS level 3, ROHS compliant

GPS Clock: MGPS

- Single GPS Receiver to provide Primary Reference Clock (PRC) capability
- Compliant with ETSI, Telcordia and ITU-T G.811 and G.812
- Up to 3 Outputs (2MHz / E1); 1 x 1PPS and 1 x 10MHz output port
- Quartz Oscillator stratum 3E
- NTP Server stratum level 1 (optional)
- -48VDC dual power supply with alarm capability
- 1 x Local and 1 x Remote Management connection via RJ45
- Web User Interface, SNMP for equipment supervisory
- 1U 19” sub-rack, all front face connectors

Ether.Sync

- Synchronization according G.8261, G.8262, G.8264
- Built-in GPS Option
- SyncE MTIE / TDEV Measurement
- SyncE Wander analysis / generation
- PTP / IEEE 1588v2 support decoding
- PTP support / generation as master or slave
- Master Clock Operation on each port using internal / external reference
- Support Y.1564 & Y.1731 to verify QoS and SLA
- Symmetrical & Asymmetrical RFC2544 test
- L1/L2/L3/L4 loopback
Precise time synchronization requirements are emerging in multiple industries including mobile infrastructure, power smart grid, industrial automation and sensor networks. Qulsar's Managed Timing Engines (MTE) are designed to deliver embedded precise timing, especially implementing the IEEE 1588 PTP packet timing protocol and algorithms.

The MTEs come in three broad categories, and each is suited for different levels of integration, performance and application. The MTE Q-series (subsystems) are fully characterized timing engines, most suited to high precision and performance critical applications. These MTE subsystems can be rapidly integrated and are highly versatile, providing custom levels of holdover performance for the host system. They could even be designed into a full system with a few changes.

The MTE P-series (boards) are high performance timing engines that use packet timing to deliver precise timing outputs. The MTE boards are mezzanine cards that can be quickly integrated into a host system and provide a stable timing outputs.

The MTE M-series (modules) form the core of all timing engines. They feature full packet timing capabilities and all the software and algorithms to derive precise time from packet networks. The MTE modules are most appropriate for integration into high volume applications, and use the MTE boards as an intermediate stage (reference designs).

The tables below outline some sample applications and the use of the different types of MTEs.

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<tr>
<th>Series</th>
<th>Description</th>
<th>Features</th>
<th>Sample Applications</th>
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<tr>
<td>M series</td>
<td>Miniature module</td>
<td>Low power</td>
<td>Femto, or small cells, Intelligent Electronic Devices (IEDs)</td>
</tr>
<tr>
<td>MTE module</td>
<td></td>
<td>Multi-sync full timing solution</td>
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</tr>
<tr>
<td>P series</td>
<td>Sync mezzanine board</td>
<td>Full system solution</td>
<td>Macro &amp; micro cells (eNodeBs), higher holdover systems</td>
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<tr>
<td>MTE board</td>
<td></td>
<td>Simplified interfaces</td>
<td>Edge Grandmasters for Communications and Power Smart Grids</td>
</tr>
<tr>
<td>Q series</td>
<td>Full embeddable system</td>
<td>Multi-sync solution (includes GNSS)</td>
<td>Macro cells (eNodeBs), Edge Grandmasters, and other carrier class</td>
</tr>
<tr>
<td>MTE subsystem</td>
<td></td>
<td>Fully characterized</td>
<td>network equipment</td>
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<td></td>
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<td>Extended holdover</td>
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<td>Rapid design integration</td>
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We are young and dynamic provider of communications products & services established in year 2015. However, the promoter of the company has vast experience and deep understanding of telecommunications networks that allows network operators to maximize the benefit of investment in the technology & services we deliver.

We are equipped to undertaking following services:

- SYNCHRONIZATION CONCEPT
- SYNCHRONIZATION AUDIT / TESTING
- INSTALLATION & COMMISSIONING
- TRAINING
- SERVICE LEVEL AGREEMENTS
- CONSULTANCY SERVICES

Our Principals

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