



TELECOM TECHNOLOGY STACK

FCC LICENSED | PORTLAND, OREGON | CARRIER INFRASTRUCTURE | RINGZU.COM

This document provides a verified technical specification of the privately owned and operated infrastructure supporting RingzU Telecommunications Corporation's carrier-grade VoIP, AI voice agent, and business communications platform. Every component listed is physically deployed, owned outright, and operated from our Portland, Oregon facility.

THE SPEC

Left column. Pure technical specification. Model numbers, protocols, throughput, capacity. Written for the IT professional or network engineer who needs to verify what's actually under the hood.

WHAT THAT MEANS FOR YOU

Right column. The same information translated into plain English for the business owner. No jargon. Just what it means for your calls, your data, and your operation.

NETWORK SECURITY

THE SPEC	WHAT THAT MEANS FOR YOU
<p>Dual-Layer Perimeter Defense</p> <p>Layer 1: Lumen Commercial Carrier-Grade firewall, anti virus, network segmentation, stateful packet inspection.</p> <p>Layer 2: Grandstream Next-Generation Firewall Layer 3-7 IDS/IPS, Deep Packet Inspection (DPI), SSL deep inspection 9Gbps NGFW throughput, geo-IP enforcement DoS and spoofing defense, content control</p>	<p>Two completely independent firewalls standing between your calls and anyone who shouldn't be listening.</p> <p>One from Lumen as fiber provider. One we installed ourselves. Because one lock on the front door was never enough.</p>
<p>Advanced Threat Protection</p> <p>Signature-based IDS/IPS with automatic rule updates</p> <p>Real-time SSL deep inspection</p> <p>SSL certificate blacklist and white-list enforcement</p> <p>Application and protocol monitoring via DPI</p> <p>Instant identification and response to sophisticated attacks</p>	<p>If something suspicious tries to sneak through a fake certificate, a rogue application, a probing attack the system identifies it in real time and shuts it down before it gets anywhere near your data or your calls.</p>

THE SPEC	WHAT THAT MEANS FOR YOU
<p>Encrypted Traffic and Secure Boot</p> <p>TLS-encrypted traffic end-to-end throughout entire stack. (UDP is accepted traffic)</p> <p>Secure boot with unique security certificates per device</p> <p>TPM 2.0 hardware security module on primary compute server</p> <p>Encrypted VPN tunnels for all remote access</p> <p>WireGuard, OpenVPN, IPSec, L2TP, PPTP support</p>	<p>Every piece of data moving through this system is encrypted. Every device boots with a verified identity. No one gets in pretending to be something they're not.</p>
NETWORK INFRASTRUCTURE	
<p>Primary Internet Connection</p> <p>Carrier: Lumen Technologies</p> <p>Download: 2 Gbps</p> <p>Cat Upload: 2 Gbps</p> <p>Type: Commercial Contracted Symmetric Fiber</p> <p>IPs: Multiple static commercial IP addresses</p> <p>Cabling: Cat7 direct throughout facility</p>	<p>Two gigabits of commercial dedicated fiber. Not home internet dressed up in a suit a commercially contracted line with dedicated IP's and the kind of upload speed that keeps voice calls crystal clear even when the system is running flat out.</p>

THE SPEC	WHAT THAT MEANS FOR YOU
<p>Grandstream PBX's - UC Platform</p> <p>CPU: Quad-core Cortex-A73 at 1.8GHz VPN throughput: 10 Gbps NGFW throughput: 9 Gbps HA hot standby and high availability fail-over Management: GDMS cloud, Web UI, SSH, SNMP, CLI WAN: Load balancing and fail-over PoE: 370W with PoE++ support</p>	<p>The device that secures networks, switches your traffic and routes calls.</p> <p>Think of this as the brain of the operation. Carrier-grade hardware that most regional telco's would be proud to deploy.</p>
<p>APC by Schneider Electric Back-UPS 4500</p> <p>Type: Uninterrupted Power Supply 4500VA Function: Bridge power to building emergency generator Connected to: Facility backup power panel Protection: Clean shutdown for all connected systems Coverage: Server, Networking Hardware</p>	<p>The power goes out. You stay live. The UPS buys enough time to switch over to the backup generators so your callers never hear dead air and your systems never crash mid-call.</p>
<p>PRIMARY COMPUTE SERVER</p>	

THE SPEC	WHAT THAT MEANS FOR YOU
<p>Main Operations Server</p> <p>Processors: Dual Intel Core i9-12900KF, 12th Generation Series</p> <p>Speed: 3.20 GHz</p> <p>Cores/Threads: 16 Performance + 8 Efficiency</p> <p>Threads: 24</p> <p>Dual Motherboard: ASUS Z690 Extreme 6E</p> <p>RAM: 256 GB total (128 GB installed + 128 GB extension module)</p> <p>RAM Speed: 2,667 MT/s</p> <p>Operating Systems: Windows 11 Pro 64-bit, Linux, Ubuntu</p> <p>Security: TPM 2.0 Trusted Platform Module</p>	<p>This isn't a server bought off a shelf. It's purpose-built & running 256 gigabytes of RAM. Actually more memory than most small businesses have in all PC's combined storage.</p> <p>It handles AI processing, call routing logic, platform internal services, and dashboard analytics simultaneously without breaking a sweat. We're not even counting our fail safe deployment RAM.</p>
<p>Dual GPU's: 2 NVIDIA RTX 3080 Ti</p> <p>Dedicated VRAM: 12,288 MB GDDR6X</p> <p>CUDA Cores: 10,240 at 1,665 MHz</p> <p>Memory Bandwidth: 912 GB/s</p> <p>Memory Interface: 384-bit</p> <p>Total Available Graphics Memory: 155,468 MB</p>	<p>A professional-grade GPU handles AI inference, voice processing, and real-time analytics. The same class of hardware that powers machine learning labs is sitting in our stack, processing your calls.</p>

THE SPEC	WHAT THAT MEANS FOR YOU
<p>Primary Server Storage Array</p> <p>Disk 1: 10 TB SDD 9,314 GB Healthy Disk 2: 12 TB SSD 1,863 GB Healthy Disk 3: 2 TB HDD 1,863 GB Healthy Security Drives: 13 Proprietary Drives Total System Server: 16 Drives Total server storage: 24 TB File system: NTFS volumes confirmed Healthy 100% Uptime/No Failures</p>	<p>Twenty-four terabytes of storage on the primary server alone is crazy space. Audio recordings, transcripts, call logs, customer data there's room for everything, with space to grow for years before anyone needs to think about purchasing an upgrade.</p>
SECONDARY SERVER DEPLOYED	
<p>AI Sandbox and Testing Infrastructure</p> <p>Platform RAM 128GB Hard Set Virtual RAM: 128GB Expansion Volume 1: Healthy — 17 TB free Volume 2: Healthy — 13.5 TB free Free Storage: = 20.5TB Total storage: approximately 22 TB System status: Healthy Continuous Uptime - Confirmed Rated: 100% Uptime / No Failure</p>	<p>A dedicated secondary server running independently from the primary stack. It's the sandbox where AI gets tested before it touches a customer. It's also where backups live, where replication runs, and where the emergency phone system sleeps just in case.</p>

THE SPEC	WHAT THAT MEANS FOR YOU
<p>Installed Deployed Software Stack</p> <p>AI Console: Active Chat Server: Active Cloud Sync: Active DHCP Server: Active Directory Server: Active SSO Server: Active Node.js: v18, v20, v22 Python 2, Python 3.9: In Use Virtual Machine Manager: Active Snapshot Replication: Engaged Replication Service: Active Storage Analyzer: Active Ai Knowledge Base/RAG: Running OAuth Service: Active Secure Sign-In Service: Active Tail-scale VPN: Engaged Active Insight: Running</p>	<p>This isn't a simple server just storing files. It's a completely secondary system running its own web services, its own authentication layer, its own AI environment, and its own VPN all independently from the primary server.</p> <p>Two separate systems means if one has a problem, the other keeps your services running.</p>
<p>Emergency Backup Systems</p> <p>Platform: Asterisk 22 Deployment: Secondary Servers Status: Standby activates automatically on primary PBX failure. Capability: Full SIP telephony fail Safe Power: Emergency Generators/APC UPC's</p>	<p>If the primary phone system ever has an issue, Asterisk wakes up and your calls keep routing.</p> <p>Your customers never know anything happened. This is the fail over most telecom providers charge extra for we built it in.</p>

TELEPHONY INFRASTRUCTURE

THE SPEC	WHAT THAT MEANS FOR YOU
<p>VoIP & VoLTE PBX: Grandstream GCC6021</p> <p>Capacity: 10,000+ Users Per Trunk Simultaneous Calls: 15,000+ Per Channel Protocols: SIP, TCP/UDP/IP, RTP/RTCP, SRTP, TLS, STUN, LDAP Audio codecs: Opus, G.711 A/U-law, G.722, G.722.1/C, G.723.1, G.726-32, G.729A/B, iLBC, GSM, T.38 Video codecs: H.264, H.263, H.263+, VP8 QoS: FEC, Jitter Buffer, NetEQ, ToS, DSCP Full REST API: For third-party integration (CRM, call center, and PMS integration support)</p>	<p>15,000+ calls in progress by 10,000 users on each trunk simultaneously. Now multiply by endless SIP trunks. That's not a small business phone system. That's why we are true carrier infrastructure.</p> <p>We built it so we never have to tell a customer we're at capacity. Now ask your reseller to do the that. Go ahead, we'll wait.</p>
<p>FCC-Licensed Carrier Operations</p> <p>Carrier License: 837921 Encryption: TLS Supported SIP signaling: Supported DID provisioning: DID Supported Local PTSN/VoIP: Supported Toll-free: Supported Number porting: Supported AI Tools: Native Carrier Infrastructure Automation: Supported A2P: Supported 10DLC: Compliant USF/USAC: Compliant</p>	<p>RingzU's Carrier FCC license.</p> <p>We're not a reseller adding markup to someone else's service.</p> <p>We're provisioned directly as a National Service Provider which is exactly why our pricing looks the way it does.</p> <p>Starting to like us more and more, right?</p>
<p>TOTAL INFRASTRUCTURE STORAGE</p>	

THE SPEC	WHAT THAT MEANS FOR YOU
<p>Storage Across All Systems</p> <p>Primary Server: 20 TB Physical Drives: 16 Hardware/SSD Volumes: 4 @20TB Secondary External: 22 TB Total Confirmed Infrastructure Storage: 42 TB Redundancy: 2 Active Independent Systems Health Monitoring: Continuous on all volumes</p>	<p>Forty terabytes of storage spread across two independent systems. Your recordings don't disappear. Your transcripts don't get purged.</p> <p>Your data has room to breathe and a backup copy on a completely separate machine.</p>

ABOUT RINGZU TELECOMMUNICATIONS CORPORATION

RingzU Telecommunications Corporation is an FCC-licensed telephone service provider headquartered in Portland, Oregon. We are not a reseller, not a VoIP app, and not a middleman. We own our infrastructure, operate our own platform, and provision services directly on national carrier backbone — which is exactly why our pricing looks the way it does. Every specification in this document reflects hardware physically deployed and operational at our Portland, Oregon facility.

CONTACT	WEB	PHONE	LOCATION
support@ringzu.com	ringzu.com	(888) 848-4855 (503) 498-6969	2700 NW Vaughn St Portland, OR 97210

Specifications subject to change.

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RingzU Telecommunications Corporation Portland, Oregon.