

Connect Core™ Server (for Small Deployments)

Note: The same version of CenTrak's Core Software will be used regardless of deployment size. However, servers with reduced requirements may be used. See below for minimum requirements suitable for smaller deployments.



Supported Operating Systems

Windows Server 2012 R2, 2016, 2019

Minimum Hardware Requirements

Server can be a Virtual Machine or Physical Server

Processor	Dedicated Dual Core Processor running at 2.75 GHz or higher. Virtualized systems should have at least the 2 cores dedicated, not shared, across other software applications.
Memory	4 to 8 GB RAM
Hard Drive	250 GB local disk space (minimum 15k RPM) for application components, backups, and log-files on data drive where CenTrak components are installed. Using a dedicated partitioned data drive for CenTrak software is highly recommended.
Network Adapter	Dedicated 1Gbps connection

Network

Remote Connectivity	Remote access via SecureLink for CenTrak personnel to allow unsupervised 24/7 access to all CenTrak servers via a generic admin account for installation, administration, maintenance, and troubleshooting. (Note: user documentation and session recordings provided to any site upon request.)
Communication Speed	<p>CenTrak products require a high speed connection between endpoints (Timing Controllers, Stars, or Security Controllers) for system synchronization purposes. Due to this necessity specific latency statistics between endpoints (averaged over time, not single point tests) must be maintained; this is typically only sustainable inside private networks. A separation of Core Server applications and system endpoints by any section of public network is not supported.</p> <p>A maximum of 100 milliseconds of latency for completion of round trip communication between the Core server and any endpoints is required to sustain system stability. Stars' reporting events will timeout after 150 ms, at which point the Star will purge the data packet to prioritize the new location information from a subsequent system cycle.</p> <p>Security Controllers are unsynchronized, and thus have a 30 ms maximum latency requirement from their network location to the Core Server. This is mandated by a 45 millisecond reporting event timeout. Upon timeout, the Security controller the data will be dropped in favor of the next location packet.</p> <p>A maximum of 7 milliseconds of network latency is permissible for round trip communication between Timing Controllers and Stars, whether located at a single campus or multiple campuses. Higher latency can cause delays or missed location and sensing events.</p>

Required Applications

- Microsoft Internet Explorer 9 (or above) or Google Chrome
- JavaScript support must be enabled
- Adobe Reader
- WinRAR 3.0 or above (license to be acquired by customer)
- Microsoft .NET Framework 4.0 or above
- Microsoft Visual C++ 2010 Redistributable Package

Internet Protocol Addressing

	Static	DHCP or Static
IP Addresses	Server Timing Controller	Stars Security Controllers

Supported Devices

Device Type	Tags - Qty. 100 Stars - Qty. 10	Any combination of Monitors, Virtual Walls, LF Exciters, and Hand Hygiene Sensors Deployment with Stars: Qty. 50 Deployment without Stars: Qty. 100
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For systems which plan to exceed any of the above device quantities, please contact CenTrak. Please supply which device type will be exceeded, the total quantity of the device type and current server system hardware specifications for review.

Port Configuration

The following Ports need to be opened for the CenTrak RTLS Server.

Device	Ports	Protocol
Star, Security Controller	7070, 4747, 6128, 3030, 5051, 5050, 5580	UDP, TCP
Wi-Fi Associating Devices	5757	UDP
Cisco MSE or CMX	9292, 4567, 443	UDP, TCP
Cisco DNA Spaces	10309	TCP
Aruba ALE	7117, 7779, 443	UDP, TCP
External Applications	7170 to 7270	UDP
Security Solutions Server	8181	TCP
Security Solutions SQL Server	1433	TCP

Network Security Configuration

Criteria	Reason
Anti-virus software must exclude scanning and live protection on all CenTrak folders (e.g. D:\CenTrak, C:\Program Files\CenTrak).	CenTrak software continuously writes data to storage. Due to the format of the file and consistency of the writing, anti-virus and other security software will monitor and block these writes. The entire folder will need to be excluded from both periodic scanning and from being monitored in real time.
Exclude CenTrak folders from network monitoring/firewall software.	CenTrak software makes many network connections with the various CenTrak hardware deployed. Network monitoring software will intercept network communications and scan for signatures. This process slows down the ability for CenTrak to provide locations and alerts in real time, and in some cases, CenTrak software is completely shut down due to the intrusive security measures.
Open all applicable local network ports in firewall software.	CenTrak software will communicate using UDP and TCP through several different ports to CenTrak hardware. Therefore, the CenTrak server should be able to communicate to any CenTrak hardware inside the network. If there are any restrictions on internal (within the network) communication, exceptions need to be provided to CenTrak server to be able to communicate to all CenTrak hardware.
Open outbound access to CenTrak Cloud for Connect Pulse™ use (see hostnames and ports below). All TCP connections require inbound traffic (not connection) and no other inbound access is needed. Firewall settings should reference hostnames and not IP addresses as IP addresses are subject to change. If firewall can only reference IP addresses, customer is responsible for monitoring for IP address changes and updating firewall in order to maintain an active connection to the cloud. Proxy settings must be excluded for the Pulse sites and ports. In HTTP/HTTPS calls, the firewall/proxy server should not modify the request headers and should support authentication headers.	<p>Transfer log files for maintenance and access in CenTrak Connect Pulse Portal.</p> <p>Proxy servers tend to block files from being transferred. Pulse needs the RTLS equipment log files to be uploaded from the on-site server to the Pulse cloud server.</p> <p>Starting with Connect Core versions 5.14 SP23 GA (Pegasus) and 5.15 SP8 GA (Orion), TCP Port 80 for all URLs is not required or used and api.centrak.com (TCP Port 443) is required.</p> <p>Starting with Connect Core versions 5.14-SP23 GA Patch1 (Pegasus) and 5.15 SP8 GA (Orion), TLS 1.2 is supported by default. Prior versions only support TLS 1.0 and 1.1.</p>
<p>US-Based Pulse</p> <ul style="list-style-type: none"> ✓ gms.centrak.com - Port 443 (TCP) ✓ gmsdata.centrak.com - Port 443 (TCP) ✓ gmsrtdata.centrak.com - Port 10309 (TCP) ✓ api.centrak.com - Port 443 (TCP) 	<p>EU-Based Pulse</p> <ul style="list-style-type: none"> ✓ eupulse.centrak.com - Port 443 ✓ eupulldata.centrak.com - Port 443 ✓ eupulsertdata.centrak.com - Port 6379 ✓ eupulseapi.centrak.com - Port 443
<p>AU-Based Pulse</p> <ul style="list-style-type: none"> ✓ connectpulse.centrak.com.au - Port 443 ✓ augmsrtdata.centrak.com - Port 10309 	