Problem
You have a datacenter with limited rooftop access, making it difficult to deploy a traditional outdoor antenna.

You have a critical application that requires GPS backup. You cannot afford the risk of a system failure due to intentional or unintentional interruption of GPS service.

Solution
STL (Satellite, Time & Location) is a revolutionary source for precision time broadcast from the Iridium® satellites constellation. Orolia has partnered with Satelles to integrate this signal into the SecureSync platform, providing a secure and accurate timing reference that can augment or take the place of GPS in RF denied environments. STL works indoors using a small patch antenna that mounts right near your server rack – no rooftop antenna needed. The STL signal can extend deep into buildings where GPS signals are too weak to reach. As a bonus – because the signal is encrypted and uses a license key specific to each receiver, it is almost impossible to spoof. When used in tandem with GPS and other GNSS signals, STL provides a powerful, resilient backup for critical timing applications.

- Works indoors
- Mounts right near your server rack ... no rooftop antenna needed
- 1000x stronger than GPS
- Delivers timing even in GPS-denied environments
- Encrypted signal resists jamming and spoofing
- Incredibly accurate ... +/- 500 ns to UTC
- Specifically designed for timing applications

www.orolia.com
sales@orolia.com
The Only Global, Encrypted Signal Reference Commercially Available Today

Signal Comparison to GPS

<table>
<thead>
<tr>
<th></th>
<th>GNSS</th>
<th>STL</th>
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<tbody>
<tr>
<td>Timing accuracy</td>
<td>-20 ns</td>
<td>-200 ns</td>
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<tr>
<td>Anti-jam</td>
<td>Low signal level – easily jammed</td>
<td>30-40 dB stronger signal – difficult to jam</td>
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<tr>
<td>Anti-spoof</td>
<td>Encrypted signals for military users only</td>
<td>Encrypted signal available to all users</td>
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<tr>
<td>Coverage</td>
<td>Global precision degrades at poles</td>
<td>Global coverage increases at poles</td>
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<tr>
<td>Indoor operation</td>
<td>Very limited</td>
<td>Widely available</td>
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</table>

STL Antenna Specifications
- Active magnet mount Iridium® antenna
- Custom high gain, 5 dBi dual-feed patch
- Axial ratio < 2 dB over full bandwidth
- 15 KV ESD circuit protection
- IP67 weather proof housing
- Robust industrial grade enclosure
- RoHS compliant, ideal for harsh environments
- Magnet or screw mount
- Antenna gain (dBic,100mm ground plane) 4.5

Electrical
- Frequency bandwidth 1615 to 1626.5 MHz
- Polarization RHCP
- LNA Gain 26 dB (min)
- Input voltage 2.5-12 VDC
- Current 19 mA
- Cross polarization rejection typically 20 dB
- VSR (at antenna) < 1.5:1 typ
- ESD circuit protection 15 KV air discharge
- Noise figure 1 dB typ

How to Order
STL is available as an annual or multi-year subscription service. Choose the STL option card or order it already integrated into a SecureSync.

1204-3E STL option card
The STL card adds the ability to use encrypted satellite signals as an input reference. Such satellite signals are suitable for use indoors.

Specifications

<table>
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<tr>
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<th>Input</th>
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<tbody>
<tr>
<td>Quantity</td>
<td>1</td>
</tr>
<tr>
<td>Connector</td>
<td>SMA</td>
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<tr>
<td>Maintenance Port</td>
<td>RJ45</td>
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<tr>
<td>Supplied with Iridium indoor antenna with 96&quot; cable</td>
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Ordering Information
1204-3E: STL signals module
STL-SS-1Y: STL annual subscription service
Ancillary kit available for already-fielded unit. Multi-year subscriptions are also available. Contact your Orolia salesperson for details.