



SUCCESS CASE

At StratumOne secures precise time for critical infrastructure, enabling operational continuity, data integrity, and compliance across finance, aviation, and energy.

This document showcases practical case studies demonstrating how StratumOne's trusted time solutions enable organizations to address critical operational challenges, enhance system resilience, and meet stringent regulatory requirements.



Financial



Power Utilities



5G Telecommunications



FINANCIAL

If you're running a financial business, you know how important it is to keep all your systems and devices in sync. That's where Network Time Protocol (NTP) comes in.

- Accurate time synchronization is crucial in financial trading. Even a small difference in time accuracy can result in significant financial losses.
- NTP ensures that your risk management systems are accurately timestamped,
- Regulatory requirements demand accurate time-stamping of financial transactions, and NTP ensures that your systems comply with these regulations.
- With NTP, you can process millions of transactions daily, including trades, wire transfers, credit card transactions, and ATM withdrawals, all while keeping accurate time-stamps.

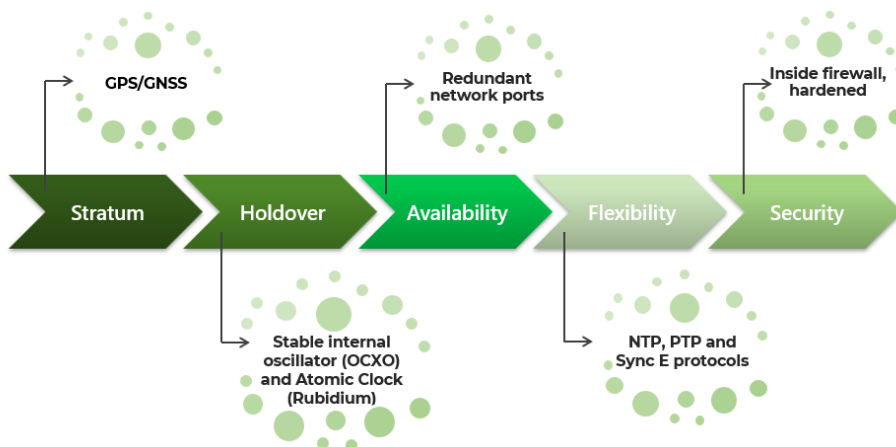
Customer Challenges:

- PKI and digital signatures require accurate time-stamping to ensure transactions are secure and protected from fraud. NTP helps maintain accurate time synchronization between all systems and devices to ensure the integrity of the digital signature and PKI systems.
- Compliance with regulations such as PCI DSS v3.1 and SEC's Regulation NMS requires accurate and real-time logging of all access attempts and time-stamping of financial transactions. NTP helps meet these requirements by ensuring accurate time synchronization across all systems and devices.
- Risk management systems should be time synchronized as they are time sensitive. Accurate and synchronized clocks are essential for identifying and managing financial risks in real-time. Timestamping is also critical for auditing purposes, ensuring that transactions are recorded accurately and in the correct order.

Hardware Security Modules (HSMs) require accurate time-stamping to provide secure transaction processing. NTP helps keep HSMs accurately synchronized to prevent any discrepancies that could lead to financial losses.

Accurate time-stamping of ATM transactions is crucial for preventing fraud and ensuring compliance with regulations. NTP ensures all ATM transactions are accurately time-stamped, providing an extra layer of security for your financial transactions.

StratumOne Solution



Installing a source of network time directly inside your firewall, synchronizing your network time to Coordinated Universal Time (UTC) from GPS/GNSS. This method is recognized globally as the most trusted option, with widespread adoption in financial institutions.

With our expertise in designing, implementing, and providing localized support for precise time and frequency synchronization solutions, time distribution chassis, and time displays, RNTrust is equipped to meet your specific needs.

Our system is compliant with environmental regulations and adheres to federal and industry regulations, including Sarbanes Oxley, PCI DSS, NESA, and ADSIC. You can trust us to keep your NTP compliant and secure.

- Plus, with RNTrust Localize Support Services - "STRATUMONE 24/7 SLA," you can rest easy knowing our team of technical experts are dedicated to ensuring maximum availability of your NTP and its components. We collaborate with your Support Teams to troubleshoot any hardware and software issues that may arise with your NTP products.

POWER UTILITIES



Time synchronization is fundamental to operating and controlling the modern generation, transmission, and distribution substations. Grid fault data, when accurately time-stamped, can be efficiently analyzed to determine the root cause and sequence of events.

Customer Challenges:

A utility company was experiencing issues with inaccurate time synchronization across their network, which was causing problems with the monitoring and control of critical infrastructure, such as power plants and distribution networks. To address this issue, RNTrust implemented a Stratum 1 time server that would provide accurate and reliable time information to all devices on the network.

StratumOne Solution

The Stratum1 time server was configured to receive time information from multiple highly precise atomic clocks and distribute it to client devices using the Network Time Protocol (NTP). The time server was placed in a secure location and configured to receive time information from a GPS receiver to ensure that it was synchronized to Coordinated Universal Time (UTC) and maintained accurate time even in the event of a power outage or other disruptions.

After implementing the Stratum 1 time server, the utility company noticed significant improvements in time synchronization across their network. This helped to improve the monitoring and control of critical infrastructure, as well as reduce the risk of network outages and other problems that could lead to power disruptions.

Stratum 1 can play different roles, depending on its configuration and module selection. Our server can use GPS/GNSS, 1PPS or IRIG time codes as its synchronization sources but can also accept PTP and even NTP in a user configurable priority.

In addition, the Stratum 1 time server helped to improve the accuracy of billing and customer service operations. Accurate time synchronization ensured that billing systems were correctly charging customers for their electricity usage, and that customer service operations were able to respond to customer queries in a timely and accurate manner.

Overall, the implementation of the Stratum 1 time server helped the utility company achieve greater accuracy and reliability in their time synchronization, which in turn improved their business operations and customer satisfaction. The company was able to prevent potential network outages and improve their billing processes, leading to increased revenue and improved customer retention.



5G TELECOMMUNICATIONS

With increasing demand within the mobile standard mean that frequency alignment alone is no longer enough to keep networks in sync. Now phase and time-of-day synchronization is also required to take spectrum utilization to new levels and leverage the full capabilities of the 4G environment as well as upcoming 5G applications. Our product portfolio enables mobile network operators to meet skyrocketing levels of data demand and also equip their synchronization network in readiness for LTE Advanced Pro and 5G. Harnessing our unique technology enables a seamless upgrade of existing infrastructure and provides phenomenally precise frequency and phase synchronization.

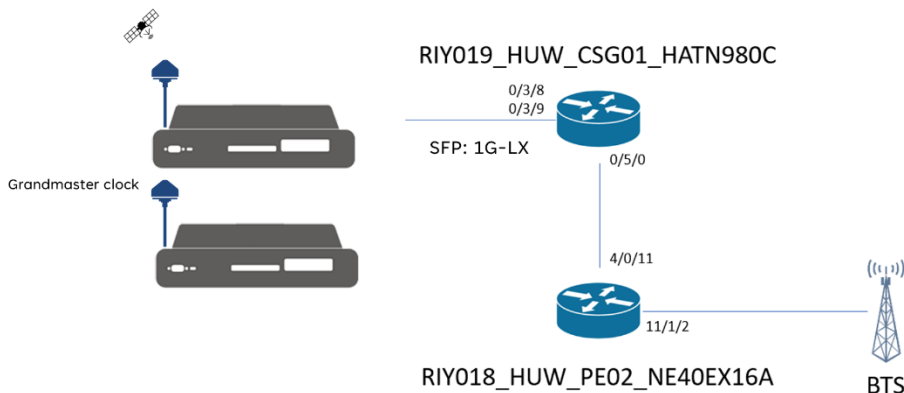
A combination of network-based synchronization using IEEE 1588 Precision Time Protocol (PTP) and satellite-based timing selecting from GNSS solves the shortcomings of each individual approach and provides the best quality and highest availability at a reasonable cost for mobile network operators.

Customer Challenges:

Telecom operator require accurate time-stamping as well as frequency alignment to ensure phenomenally synchronization and highest availability.

Telecom operator required for a backup source of time that can be configured for all areas of a mobile backhaul network: in the core, metro or access levels.

StratumOne Solution



A telecom company that operates a large-scale network was experiencing issues with accurate time synchronization across their network. This was causing network errors, dropped calls, and billing discrepancies, which was leading to a loss of revenue and customer dissatisfaction. To address this issue, the company decided to implement a Stratum 1 time server that would provide accurate and reliable time information to all devices on the network.

The Stratum 1 time server was configured to receive time information from several highly precise atomic clocks and distribute it to client devices using the Network Time Protocol (NTP). The time server was placed in a secure location and connected to a GPS receiver to ensure that it was synchronized to Coordinated Universal Time (UTC) and maintained accurate time even in the event of a power outage or other disruptions.

After implementing the Stratum 1 time server, the telecom company noticed significant improvements in time synchronization across their network. Dropped calls were minimized, and network errors were greatly reduced. In addition, billing discrepancies were eliminated, which helped to reduce customer complaints and improve customer satisfaction.

Overall, the implementation of the Stratum 1 time server helped the telecom company achieve greater accuracy and reliability in their time synchronization, which in turn improved their business operations and customer satisfaction. The company was able to prevent potential network outages and improve their billing processes, leading to increased revenue and improved customer retention.

