

SPIRENT PROFESSIONAL SERVICES

FOR TIMING & SYNCHRONISATION

Move forward with confidence

Spirent Professional Services can accelerate and de-risk the testing regimen of GNSS-based solutions that support advanced timing and synchronisation capabilities in key sectors:



Telecommunications: Using GNSS for time synchronisation in datacentres and mobile networks – including conformance with ITU-G.8272 standards for 5G networks



Digital broadcasting: Using GNSS for synchronisation of data packets over digital broadcast networks to ensure glitch-free broadcasting of video and audio



Energy and finance: Using GNSS-based timing to synchronise operations in critical energy infrastructure, and accurately timestamp financial transactions in line with MiFID II rules

With Spirent's industry-leading PNT and test expertise readily available through a portfolio of Professional Services, you can assure the safety, functionality and integrity of your positioning, navigation and timing (PNT) solutions throughout the full product lifecycle.

Professional Services Portfolio



Lab as a Service

Assure your solutions in a world-class GNSS timing test lab

Spirent will test your timing solutions in our fully equipped UK lab, using high-end simulators, interference generators, RF Record & Playback systems, and Spirent software for scenario definition, test execution and test results reporting.

Lab as a Service is a simple, 3-step process:

1. We define the testing scope jointly with you
2. You ship your device(s) to our lab and we execute the agreed tests
3. We deliver the results to you in a full test report

If required, we can also set up a temporary test facility at your premises using our own equipment.

LAB TESTING COMPETENCIES

1 Standards Conformance Testing

Test conformance and performance against key standards such as ETSI, ITU or MiFID II.

2 Benchmarking

Compare your own or a supplier's solution against the rest of the industry to improve your performance.

3 Performance Testing

Lab testing to understand your timing performance such as PTP performance across global conditions.

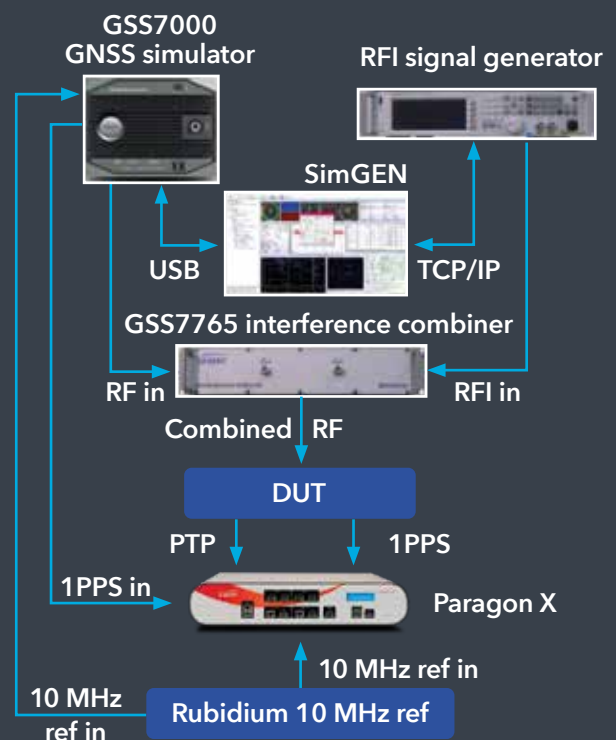
4 Integrity Testing

Ensure your critical solutions are robust to all (un-/intentional) perturbations in the real world.

USE CASE: ASSURING GNSS ROBUSTNESS

A provider of extranet security and synchronisation solutions needed to assure its customer that its solution is robust in the face of GNSS interference and spoofing.

Specifically, it wanted to assure 1PPS stability, 10 MHz.





Installation and Onboarding

Get up and running fast with your Spirent equipment

Get your new Spirent investments up and running fast with our expert installation and onboarding service.

Spirent engineers will work at your premises to set up and configure your equipment, and provide customised integration with your existing third-party software and hardware.

Combine with a Spirent training programme to leverage the full value of your Spirent investment from day one.

Training

Accelerate your learning curve

Maximise the return on your Spirent investment with standard or tailored training courses for your test team. Spirent experts will deliver a course at your premises, at our UK premises in Paignton, Devon, or via videoconference.

A typical course is delivered over two days and includes:

- One day of training in the use of your Spirent hardware and software
- One day of tailored training geared to the specific objectives of your test programme

You'll quickly gain inhouse expertise to unlock the full value of your Spirent equipment.

Test as a Service

Accelerate and de-risk your GNSS testing

One or more Spirent test engineers will work onsite with your lab team to set up, manage and conduct the GNSS-based timing testing element of your overall test programme.

Our end-to-end service can include:

- Test strategy
- Scenario definition and creation
- Test execution
- Test environment management
- Analytics and reporting

Engagements are tailored to your requirements: short-term to fulfil a specific need, or longer-term to manage and oversee a complete GNSS timing test programme.





Scenario Provisioning

Test faster and more reliably with Spirent-built scenarios

Choose existing test scenarios from Spirent's extensive database built up over years of PNT testing, or have Spirent build custom scenarios according to your test requirements.

This service is tailored to your needs and budget, with options including:

- Scenarios for any Spirent GNSS simulator
- Scenarios generated on a Spirent simulator and recorded with an RF Record & Playback system
- Real-world recordings captured in a location of your choice on an RF Record & Playback system

Available scenarios include test packs for conformance with timing standards, as well as handling of time base drifts, historical segment errors, leap second insertions and rollover events – helping you assure the robustness of critical infrastructure that relies on your solution.

Environment Assessment

De-risk your real-world operations

Spirent engineers will assess your operational environment to uncover issues affecting GNSS performance for your timing and synchronisation equipment. Depending on your needs, we'll apply:

- Multipath analysis using 3D simulation
- Signal obscuration site survey
- RFI site measurements
- DOP analysis based on simulation

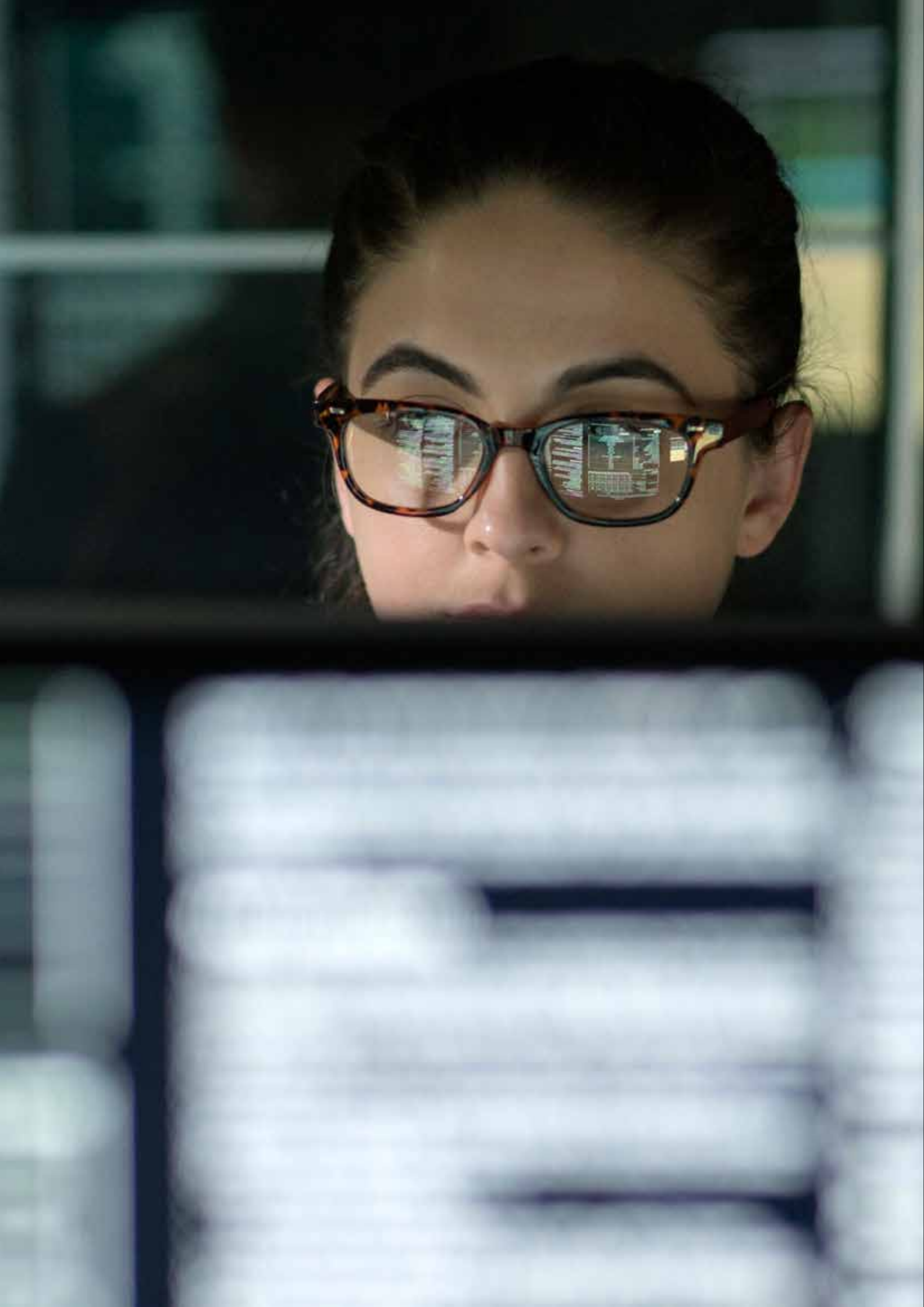
You'll get a detailed report that you can use to understand and mitigate operational hazards in your network infrastructure and determine optimum antenna placement (e.g. for primary reference timing clocks).

USE CASE: 5G RAN TESTING

An operator was experiencing issues with time synchronisation at a 5G RAN site. It asked Spirent to assess the site and find the root cause of the issue.

Spirent conducted a 5-day site survey, including RFI detection and measurement and the generation of a multipath heatmap.

The survey revealed cyclical RFI events as well as adverse multipath effects. Spirent recommended an alternative placement of the GNSS antenna to eliminate the issues.

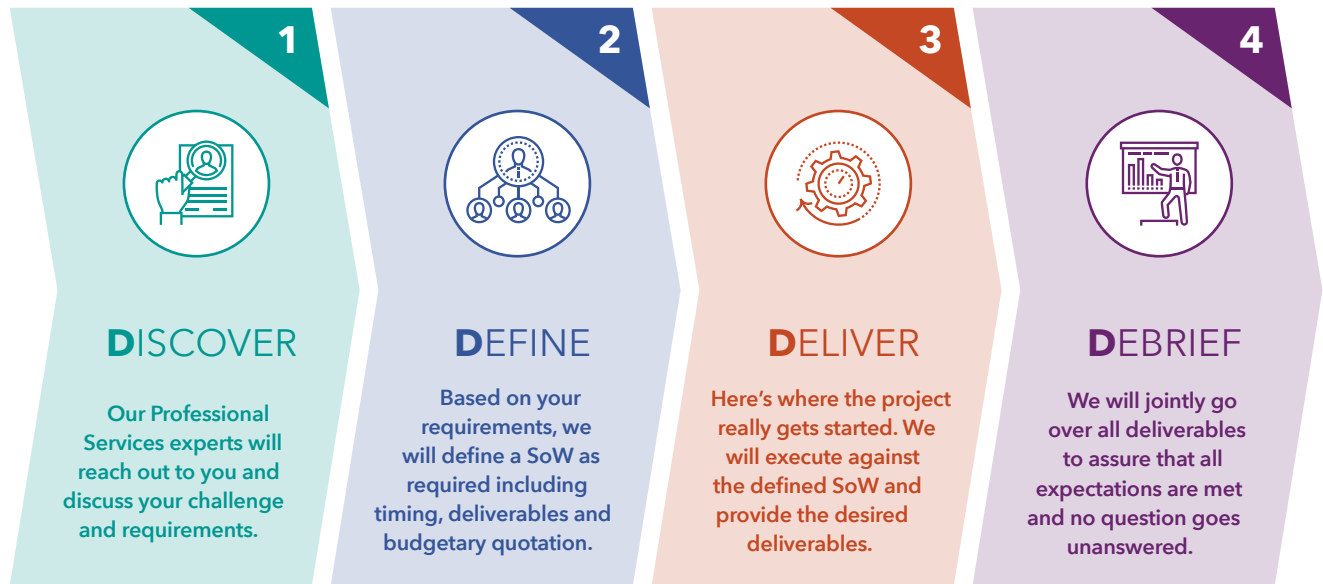


Tailored Services

Test expertise tailored to your needs

If you have a PNT test requirement that isn't covered in any of the services outlined in this brochure, Spirent can still provide a solution. Contact us to discuss your needs and to see how our experienced PNT test engineers and consultants can help.

Next Steps



Positioning you for success

Spirent has spent over 30 years at the forefront of PNT, working with government, military, space, industry, and leading timing and synchronisation solution providers to evaluate and test PNT solution performance.

Our test engineers and consultants have many years of professional test experience, combined with in-depth knowledge of GNSS testing hardware and software. We can help you get started faster and make full use of Spirent's expertise to assure every aspect of your product's timing and sync capabilities.

Contact us to discuss your GNSS test programme today.



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