Ospirent™
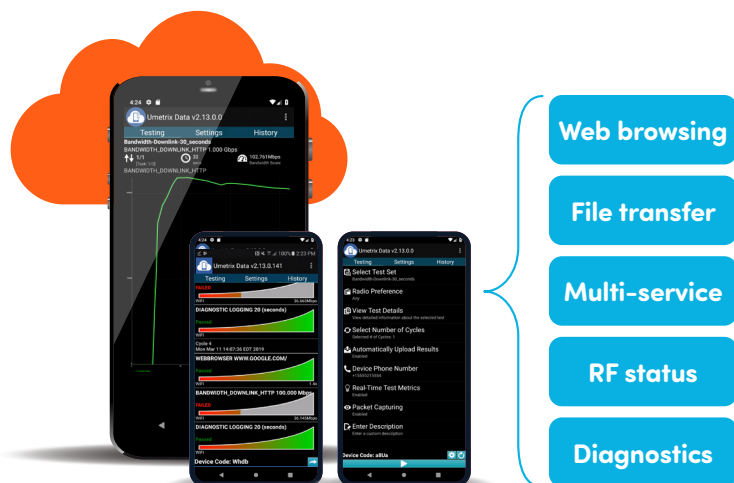
Spirent Umetrix® Data

Solution for Data Experience Evaluation

Evaluate the User Experience of Data Services

Web browsing

File transfer

Multi-service

RF status

Diagnostics

Umetrix Data (formerly Datum) evaluates user experience for **any major device and any data service** including Wi-Fi, LTE and 5G. It enables management of application configuration, automatic upload of test results and reporting via the centralized, cloud-based or lab-based, Umetrix Data Server.

Use Cases

1. **Launch readiness assessment for new or upgraded data services.**
   Compare the experience of new 5G data services to previous releases or competitive services prior to launch. Set launch criteria and evaluate trial, soft launch and commercial networks to determine readiness.

2. **Comparative analysis and ranking of data experience across device models.**
   Compare and rank any major device based on live network data experience criteria, such as web browsing and file transfer speed. Use the rankings to drive device marketing and acceptance.

3. **Pre-testing for carrier device acceptance.**
   Umetrix Data enables device manufacturers to pre-test new device models prior to submission to carrier acceptance programs. By addressing issues proactively, acceptance can proceed without delay.

4. **Low latency application performance testing to the mobile edge.**
   Benchmark latency and throughput to the public cloud vs. the mobile edge. Triage end-to-end network performance issues to the mobile edge vs. the public cloud.
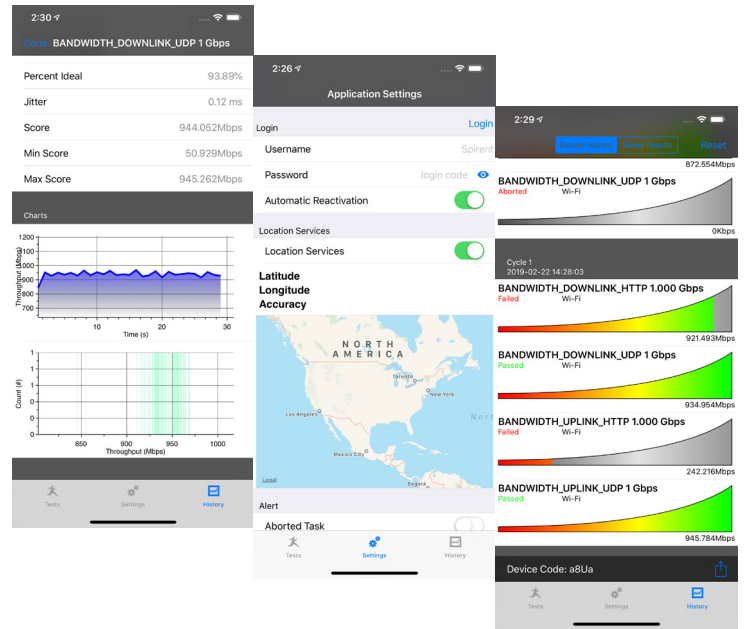
Highlights

- Objectively measure the user experience of data services with a unified approach across all major mobile OS platforms and PCs

- Capture device diagnostic data (Real-Time Test Metrics, or RTTM) such as RF signal and bearer to enrich voice, data and multi-service experience analysis

- Application measurements are directly integrated with Umetrix LM for access to chipset baseband logging and root cause analyses

- Pre-test devices to accelerate Spirent Fit4Launch submissions and carrier acceptance

- Measure in the lab or the live network

- **NEW!** Perform one-way latency measurements to the Mobile Edge to assess performance of low latency on-line applications

- **COMING SOON!** Automation and monitoring capability for Android devices

Features

Use a Consistent Test Approach on any Mobile Device

Umetrix Data measures user experience with an objective, consistent approach across Android and iOS mobile platforms or Windows-compatible portable PC. That enables true apples-to-apples comparisons of user experience across devices, service providers and network technologies. Umetrix Data's consistent metrics help device, network and service teams work together to identify and solve user experience issues.

Manage the Measurement Process Centrally

The Umetrix Data Server provides a repository for all test cases, allowing them to be centrally managed. Furthermore, all test results are uploaded to this central repository, enabling seamless management of user experience measurement processes across teams or geographic locations.

Define Realistic Use Cases

Umetrix Data enables the definition of use cases (referred to as test sets) that mimic real-world user activities such as uploading a picture, downloading a file attachment, updating social network status, or browsing a website. Each test set consists of one or more of the following tasks: web browsing, file transfer, streaming data, multi-service (call and data), and latency test cases. Tasks can be combined in any order and are highly configurable to match specific user profiles or scenarios.

System Overview

Umetrix Data is comprised of several key components:

Umetrix Data Mobile App. The Umetrix Data Mobile App runs on iOS or Android devices. It operates in two modes:

Data experience evaluation mode: Umetrix Data receives agent configuration information from the Umetrix Data Server, performs end-to-end data tests with the Umetrix Media Server, and uploads all test results to the Umetrix Data Server.
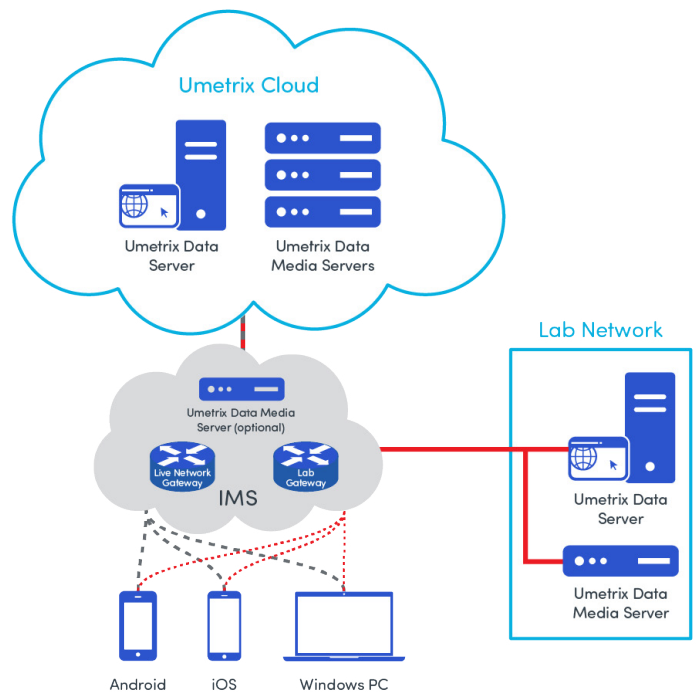
Diagnostic data mode: Umetrix Data collects RF status and other diagnostic data from the device while it performs voice, data or multi-service tests and uploads this data to the Umetrix Data Server.

Umetrix Data is also offered as a Win32 application (Umetrix Data PC).

Umetrix Data Media Server. The Umetrix Data Media Server acts as an endpoint for all data experience tests, hosting various types of media and services required to perform HTTP, FTP and UDP file transfers and ping tests. In addition, the Umetrix Data Media Server acts as a web server for reference web pages to enable web browsing speed tests. Umetrix Data Media Servers can be hosted by Spirent in the public cloud and can be self-hosted by Spirent customers on mobile edge compute resources of their own choosing.
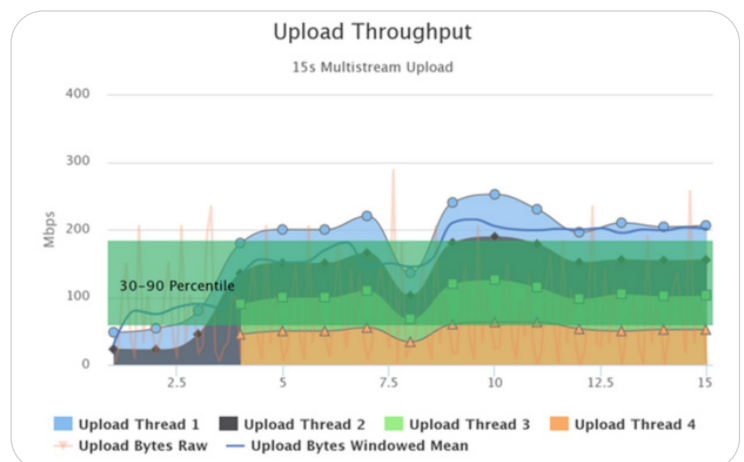
Umetrix Data Server. The Umetrix Data Server provides web-based applications hosted in the cloud or in the lab (or both), dependent on specific customer needs. The web interface accelerates evaluation of user experience for large and/or distributed teams. Project managers use the Server to specify the correct Umetrix Data configuration for a designated project. When field engineers begin testing, they first login to the Server using the Umetrix Data Agent and select the appropriate pre-defined Umetrix project. The Agent then downloads and applies configuration settings for all tests. As the engineer performs data experience tests or collects diagnostic data, all results/data are uploaded to the relevant project on the Server, allowing the project manager to monitor test status and validate results. Once all tests are completed and the data are validated, reports may be generated in a matter of minutes.

Umetrix Data may also be configured to coordinate multi-service voice and data tests, which establish data sessions and then initiate voice calls during the data transfer (for Android devices only).
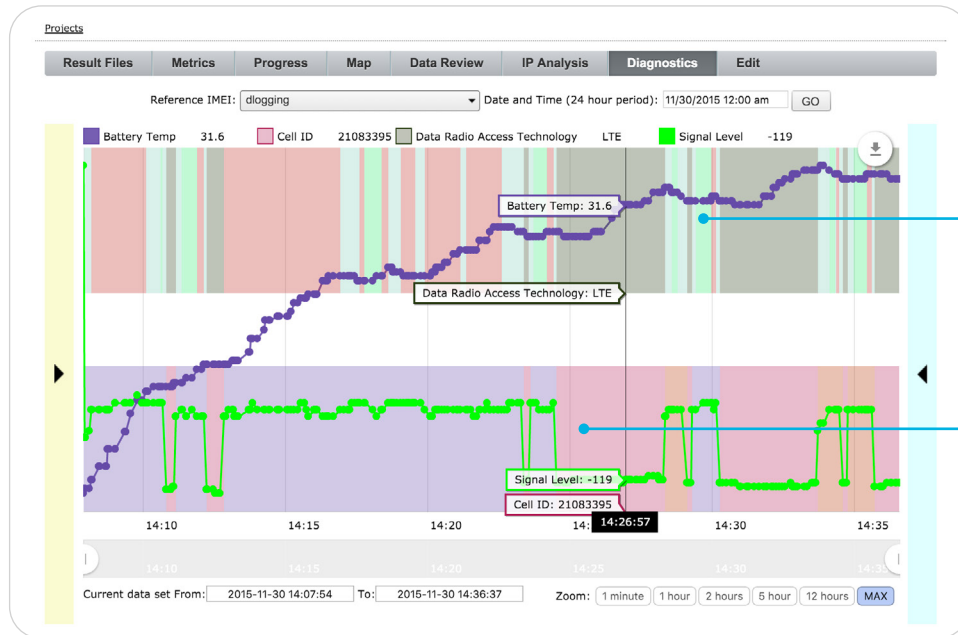
Use Case: Bandwidth Testing

- Quickly check the status of your internet connection
- Test maximum network bandwidth for both downlink and uplink to generate a bandwidth score
  - The **download test** uses two threads and is time-based.
  - The **upload test** begins with two threads, which scale dynamically up and down based on the instantaneous throughput. They are time-based and continuous individual uploads are performed.

Example Analyses & Reporting

Diagnostics View

Projects

| Result Files | Metrics | Progress | Map | Data Review | IP Analysis | **Diagnostics** | Edit |

Reference IMEI: dlogging   Date and Time (24 hour period): 11/30/2015 12:00 am   GO

■ Battery Temp   31.6   ■ Cell ID   21083395   ■ Data Radio Access Technology   LTE   ■ Signal Level   -119

Battery Temp: 31.6

Data Radio Access Technology: LTE

Signal Level: -119
Cell ID: 21083395

14:10   14:15   14:20   14:   14:26:57   14:30   14:35

14:10   14:15   14:20   14:25   14:30   14:35

Current data set From: 2015-11-30 14:07:54   To: 2015-11-30 14:36:37   Zoom: 1 minute | 1 hour | 2 hours | 5 hour | 12 hours | MAX

Quickly visualize transitions in radio-access technology

Identify relationships between signal strength and cellular information

Available Test Protocols

Bandwidth Downlink FTP	FTP Upload
Bandwidth Downlink HTTP	HTTP Download
Bandwidth Downlink HTTPS	HTTP Upload
Bandwidth Downlink UDP	HTTPS Upload
Bandwidth Simultaneous HTTP	Mobile Originated Call
Bandwidth Simultaneous UDP	Mobile Originated Call MultiRAB
Bandwidth Uplink FTP	Ping
Bandwidth Uplink HTTP	Traceroute
Bandwidth Uplink HTTPS	UDP Simultaneous DL/UL
Bandwidth Uplink UDP	UDP DL/UL
FTP Download	Web Browser
FTP Simultaneous DL/UL	

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