

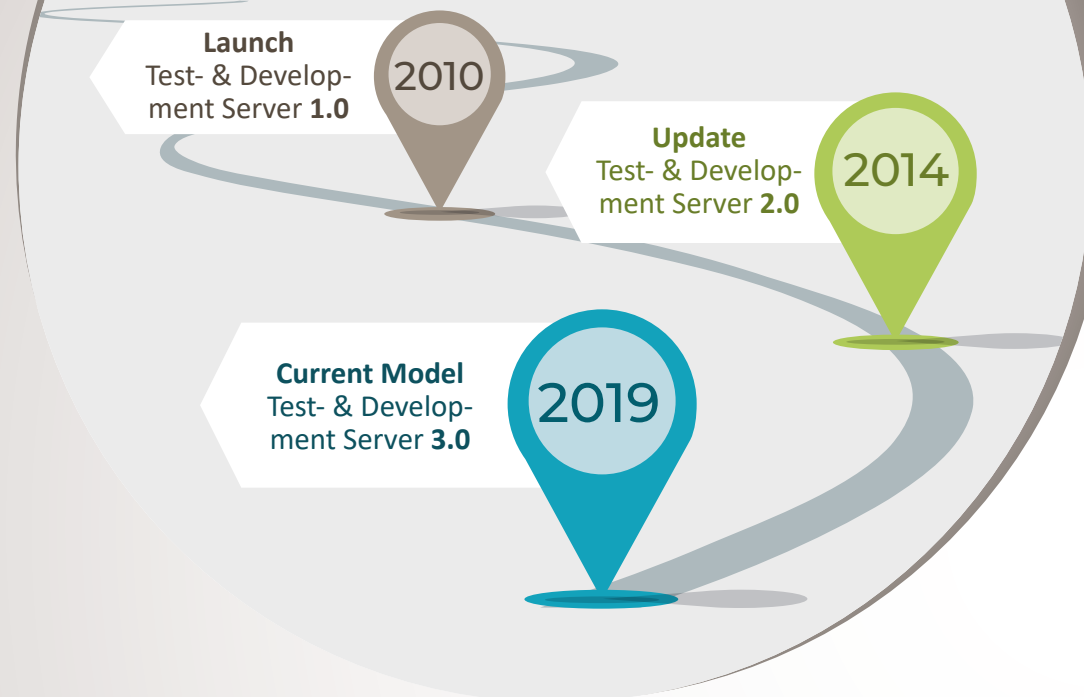


ECALL TEST- AND DEVELOPMENT SERVER 3.0



Success story

OECON eCall Test- & Development Server

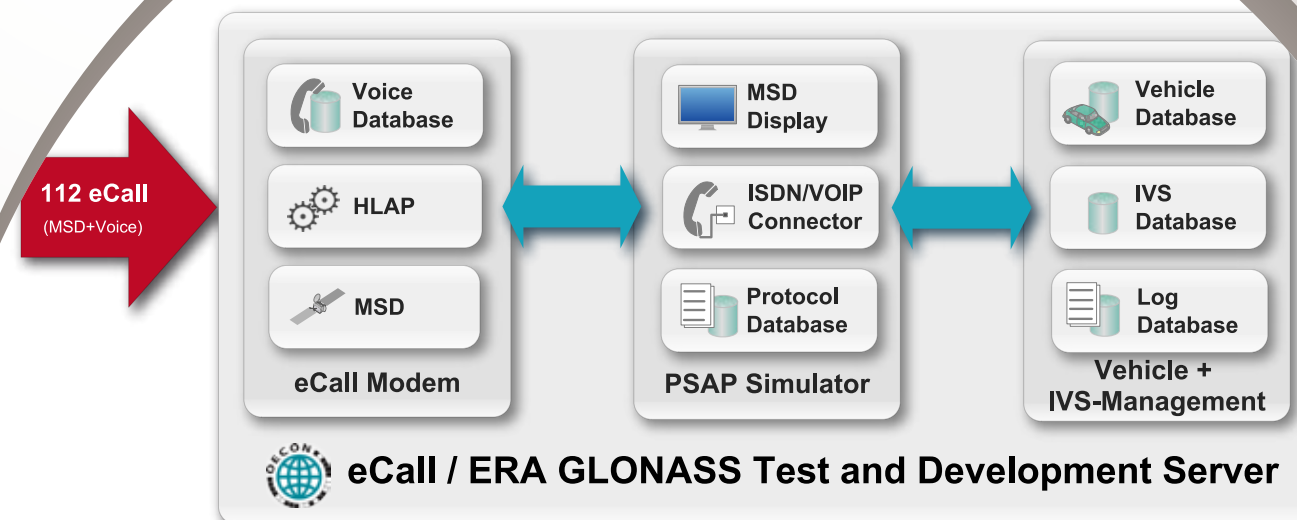


Key features of all versions of the eCall Test and Development Server:

- eCall test platform for vehicle manufacturers, suppliers and in-vehicle system (IVS) developers for the development of eCall vehicle components
- Ideal for IVS real-time and field tests for pan-European eCall and ERA GLONASS, supports current specifications in accordance with CEN, ETSI and GOST R
- Complete, easy-to-use web interface for PSAP simulation, configuration of test cases and evaluation
- Detailed process logs with map display, immediate delivery via e-mail for success monitoring

Our successful product

Since its launch in 2010, our eCall Test and Development Server has been a resounding success, with automotive manufacturers and suppliers around the world using our tools to test eCall devices used in their vehicles against a certified tool.



The new version 3 of the eCall Test and Development Server is already prepared for the eCall future:

- **Support for the next generation of eCall (eCallNG) via SIP header-based data transmission.**

The server accepts and transmits calls over IP-based telephony and decodes the MSD data transmitted in the SIP header.

- **Remote interface for integrating the server into existing automation test procedures.**

This interface allows you to perform everything that is possible within the web interface from an automation testing tool - including the functions „recall“, „resend MSD“ and „audio loop“.

- **Comes with a comprehensive set of predefined test cases according to EN16454.**

With these test cases, the conformity of an eCall-based IVS according to EN16454 can be checked without further preparation. The extended test options are available as before for your own custom tests.

Support for all communication types

The eCall Test and Development Server supports all current and new communication channels for eCall:

- **In-band modem for pan-European eCall according to ETSI TS 126 268.**

The transmission of the data (MSD) takes place in the voice channel, so that data and voice con-

Benefits

support for the next generation of eCall (eCallNG)

remote interface for integrating the server into existing automation test procedures

comprehensive set of predefined test cases according to EN16454

nection use the same line and reach the same operator in the PSAP. In version 3 the eCall Test and Development Server supports VoIP-based telephone systems or connections. Specialties for configuring the telephone network, such as the echo cancelling tone, are also available.

- **SMS and IP transmission for ERA Glonass.**

The Russian ERA Glonass system does not only use in-band technology, but also SMS and IP data for data transmission from the vehicle. For this purpose, an SMS gateway is required in addition to the eCall Test and Development Server.

- **NEW: Data transmission via SIP header.**

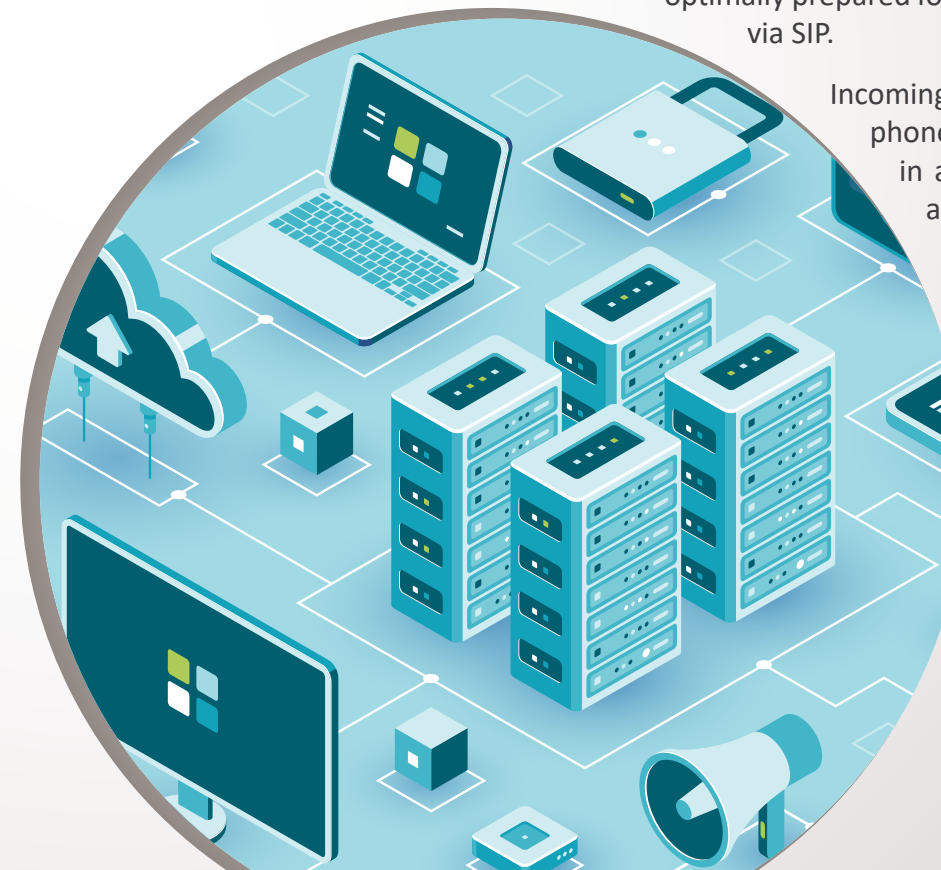
The next eCall generation (eCallNG) will no longer transmit data as an alternative to speech, but in parallel - and above all faster than before. The eCall Test and Development Server V3 is already optimally prepared for this task and can also receive and process data via SIP.

Incoming calls can also be forwarded to existing telephone systems, VoIP phones or cell phones. Thus, in addition to the fully automatic operation with announcement function, a true PSAP operation with voice connection can be simulated.

Note:

1) The eCallNG specification currently has a "draft" status. Should there be any changes until the final release, we will integrate these into the eCall Test and Development Server and provide updates free of charge.

2) Receiving eCall data via SIP requires a point-to-point connection from the vehicle to the server - the vehicle must also have a SIP-enabled eCall device.





Test Case

Expect: call_incoming ✓

Send: call_reject_busy

Expect: call_incoming with

Test: Pass ✓

Reproducible and meaningful test results

Since version 2, the eCall Test and Development Server supports a comprehensive test case management. In the new version 3, we have thoroughly revised this again:

- **Test cases are linked to the numbers of the eCall vehicle systems.**

This allows reproducible tests per vehicle / IVS. Each test case supports a parameter set for HLAP and in-band modem which allows limit and tolerance tests.

- **Detailed process logs are created with the digital map.**

Depending on the test case, the logs can be sent to up to two recipients by e-mail for immediate success monitoring.

- **Multi-user capability through user groups.**

Calls, phone numbers and test cases are only visible within a user group, so that the eCall Test and Development Server can also be used by independent groups.

- **NEW: Predefined test cases according to EN16454.**

Thus, the conformity of an eCall-based IVS according to EN16454 can be checked without further preparation. The test cases support all EN16454 tests that require the PSAP as a receiver.

- **NEW: Test cases now also support multi-part functions.**

For example, with a test case, the functions "Resend MSD" (second request for an MSD record by the PSAP) and "call back" (recall by the PSAP after a fixed time) can now be executed per test case, without intervention on the user interface of the eCall Test and development server is required.

Support for test automation environments

For the first time, with the add-on module "Remote Interface", Version 3 of the eCall Test and Development Server offers a comprehensive interface that can be used for test automation - also for integration into existing automation environments:

- **A remote interface allows you to call all functions that are also available in the web interface.**

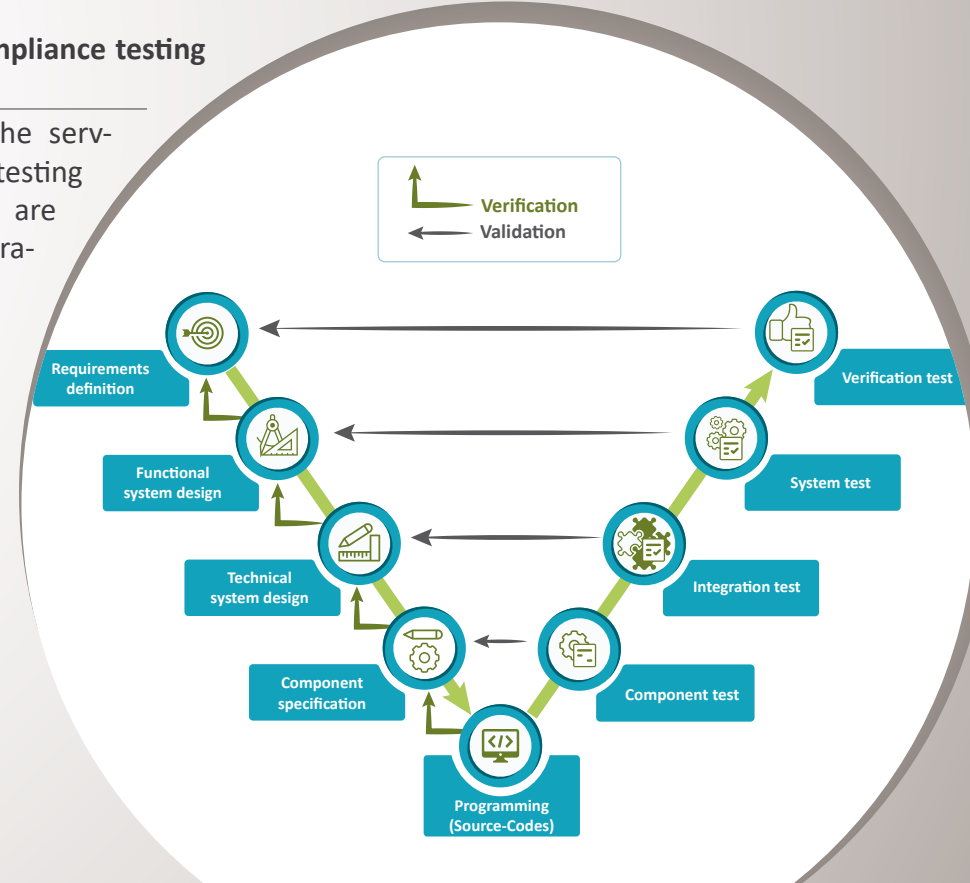
This concerns the procedure during the test, but also the configuration of the eCall Test and Development Server, for example when processing test cases.

- **Easy control and integration into automation environments through an XML control protocol.**

The web interface of the eCall Test and Development Server is of course still available; however, tests can be operated completely without it.

- **Usability of all test cases for compliance testing according to EN16454.**

Immediately after installation, the server is available for conformance testing because the required test cases are already part of the basic configuration.



Modular concept

The eCall Test and Development Server has a modular structure and can be expanded as needed with additional modules.

The basic module “eCall Test and Development Server” as the basis of all functions is required for all additional modules. All additional modules are independent of each other and can be used at the same time.

- **ERA Glonass add-on module:**

The Russian ERA Glonass system is based on the specification of the pan-European eCall, but adds additional functions for data transmission, for example via SMS. The add-on module enables the use of all PSAP-related ERA Glonass functions in accordance with GOST R.

- **IVS Test Server add-on module:**

The “eCall IVS Test Server” is still on board in version 3. The eCall IVS Test Server is certified and meets all requirements of the eCall EU standards and the Commission Delegated Regulation (EU) 2017/79. Therefore, the eCall IVS Test Server can be fully used to perform an eCall Conformance Test with eCall Vehicle Systems (IVS).

- **NEW: Remote Interface add-on module:**

The Remote Interface allows you to call all functions that are also available in the web interface from Third-Party applications. This concerns the procedure during the test, but also the configuration of the eCall Test and Development server, for example when processing test cases. It is therefore ideally suited for integration into (new or existing) automation environments.

Maximum flexibility
through modular design



Configuration options

The eCall Test and Development Server can either be installed locally at the customer's site or alternatively used as a hosted version at OECON - depending on the options and regulations for customer safety and technology.

- **Local Installation:**

The local installation will be delivered as a preconfigured virtual machine, running on Intel Core i5 or equivalent AMD processor platforms. Further requirements are:

- Minimal 4GB RAM - recommended: 16GB RAM
- Storage: 500GB
- VoIP telephone system or VoIP connection
- Internet or Intranet access for web interface (https, port 443)
- Digital map requires access to openstreetmaps.org
- Server PC on 19" housing basis with pre-configured system optionally available
- Software maintenance contract optionally available

- **Hosted Version:**

The hosted version runs on common browsers: Google Chrome, Mozilla Firefox, Apple Safari, Microsoft Edge. Thereby you get access to the OECON eCall server in Braunschweig. Additions and administration are made by OECON, a software maintenance contract is included.

For users of version 2 of the eCall Test and Development Server we offer attractive upgrade offers - please contact us.



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About Us

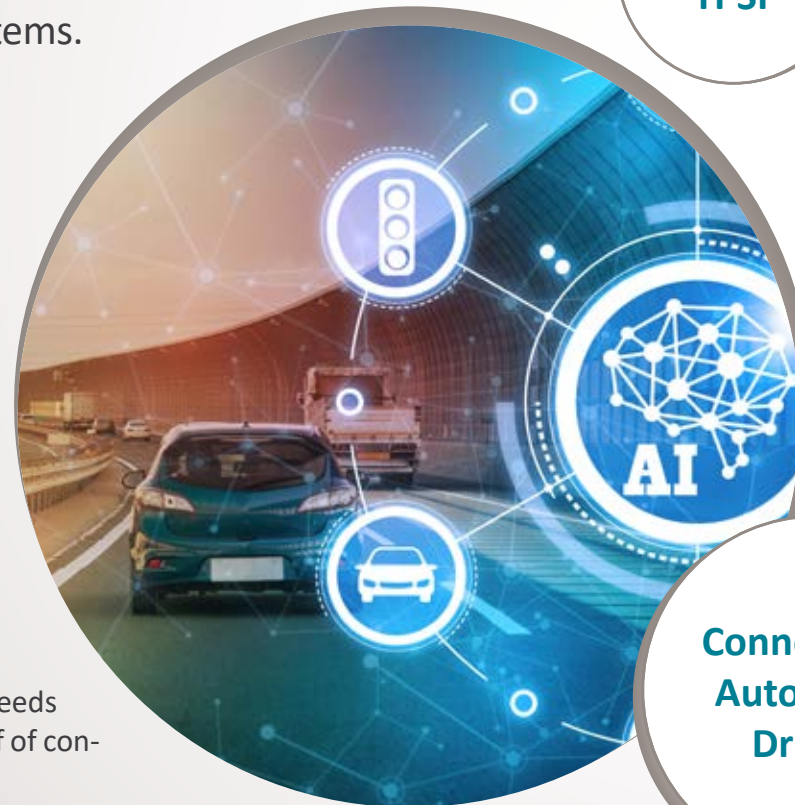
We are one of the world's leading providers of cutting-edge testing and location-based smart mobility solutions that support manufacturers and suppliers of the automotive industry and associated industries. Driven by our passion for innovation, we develop solutions enabling the cost and time effective high quality testing processes, and applications of information communication technologies to accelerate the transition to intelligent transport systems.

Our Business

Our broad portfolio of innovative products and services is organized into four main segments:

- OECON's market-leading **eCall products**;
- smart solutions and test systems for **connected and automated driving** including innovative applications and "V2X sim4real software";
- end-to-end solutions for **UAV management**
- as well as **smart parking systems**.

Our products and services support customers' needs across the entire technology life cycle from proof of concept to the actual implementation.



eCall &
TPSP



UAV
Management



Smart
Parking

Connected &
Automated
Driving

Our Customers

Numerous customers in EMEA, East Asia and North America take advantage of our cutting-edge testing and smart mobility solutions. Additionally, PSAPs all over Europe trust our eCall Router technology. We thrive on and strive for delivering outstanding customer service, while meeting business objectives of increasing profitability, productivity and growth.

Industry Experts

We are experts in PSAP services, information communication and mobile positioning technologies. With our team of dedicated and specialized professionals who are connected with opinion leaders and important decision makers as well as our experiences gained from various projects for the last 15 years, we are equipped to provide products and services to meet your specific requirements.





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