

Press release

Braunschweig/Frankfurt, May 13, 2008

Deutsche Telekom operates a new supercomputer for aviation research -
DLR scientists with computer simulator in the top class worldwide.

Today in Braunschweig, the Deutsche Telekom subsidiary T-Systems introduced to the public the supercomputer for the Deutsches Zentrum für Luft- und Raumfahrt (German Aerospace Center, DLR). The new turbo-computer will allow the DLR in the future to simulate precisely how planes will behave as early as at the draft stage. The scientists in Braunschweig wish to use this to reduce development costs and make air travel even safer. Through computer simulation, the researchers are also looking for ways to reduce the amount of noise and pollutant emissions caused by planes in the future. The computer – one of the fastest in the world used industrially for aviation research – will be used in the Center for Computer Applications in AeroSpace Science and Engineering (C²A²S²E), the joint simulation center of DLR, Airbus and the state of Lower Saxony.

The high performance computer, conceived and operated by T-Systems, will carry out 46.6 trillion calculations with so-called floating-point numbers per second. The figures calculated within one second could fill up with data a pile of CDs 640 meters high. A specialty: Because of today's very short development cycles for processors, in the development of the computer, the hardware had to be adapted to the software, not the other way round.

The IT infrastructure, developed on the basis of Sun Microsystems hardware, ensures a high data transfer rate, which makes possible parallel calculations of several highly complex simulations. It was especially important for the C²A²S²E

project to increase significantly the number of processor cores used simultaneously. Instead of a maximum of 500 cores, as has been the case up to now, researchers can now employ 768 Blade Server Modules and thus will have access to 6,144 cores at the same time. By 2010, this performance should rise even further by using the next server generation.

The aim of the C²A²S²E project, which is planned to last at least 15 years, is to use thorough and highly precise calculations – such as flow simulations – to accelerate and improve aircraft development and at the same time reduce development costs. According to experts, the number of air passengers is expected to treble by 2020, while fares will be halved. The Advisory Council for Aeronautics Research in Europe (ACARE), founded by the European Union and the European aerospace industry has therefore demanded that exhaust emissions should be reduced by more than 50 per cent, and aircraft noise by between 10 and 20 decibels by 2020.

Press Photos

Download at <http://www.t-systems.com/press-photos>



It would take a stack of CDs over 600 meters high to hold the figures this machine processes in one second. T-Systems operates this new supercomputer for aviation research at the Braunschweig simulation center C²A²S²E, an innovation partnership between Airbus, the state of Lower Saxony and the German Aerospace Center (DLR).

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No supercomputer means no high-flyers. Long before the first model is built high-powered computers simulate the behavior of future aircraft designs in the air. The supercomputer operated by T-Systems is one of the fastest computers in the world used industrially for aviation research. It is available to scientists and engineers of the German Aerospace Center (DLR) and Airbus at the Braunschweig simulation center C²A²S²E. © T-Systems/DLR

About C²A²S²E

C²A²S²E is a center of excellence, embracing a number of subject areas, for numerical simulation in flight physics. This simulation center is an innovation partnership between Airbus, the state of Lower Saxony and the German Aerospace Center (DLR). The basis of the simulation center is Europe's fastest high performance computer for aviation research. The conception, construction and operation of the computer are the responsibility of T-Systems.

About T-Systems

T-Systems is Deutsche Telekom's enterprise customer unit. More than 160,000 corporations and public institutions use the provider's network-centric information and communications technology (ICT) services – ranging from data center operations and global Internet Protocol services to the development and management of applications. With locations in over 20 countries, T-Systems is a preferred supplier for Corporate Europe's global business activities. The company, based in Frankfurt/Main Germany, serves all industries and is a leading provider for the automotive and telecommunications industries as well as the public sector. With approximately 56,500 employees, T Systems posted revenues of 12 billion euro in 2007.

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