瑞士
高性能
计算中心
的智能软件解决方案
INTELLIGENT
SOFTWARE SOLUTION
FOR SWISS HIGH
PERFORMANCE
COMPUTING CENTRE

Lugano新CSCS建筑设计。
Design for the new CSCS building in Lugano.

CSCS（瑞士科学计算研究中心）是瑞士的国家高性能计算中心。CSCS是苏黎世ETH（瑞士联邦技术研究所）的一个自主服务和研究单位，其与瑞士高等教育机构、ETH研究站、CERN、国家气象局和包括国际性机构在内的其他科研院所展开了紧密合作。

The Centro Svizzero di Calcolo Scientifico (CSCS) is Switzerland's national high performance computing centre. An autonomous service and research unit of ETH Zurich (Swiss Federal Institute of Technology), the CSCS works closely with Swiss higher education institutions, ETH Research Stations, CERN, the national meteorological service and other research institutes, including international ones.

由于CSCS拥有优秀的技术资源，并且深谙对如何在高性能计算（HPC）中保持领先的知识，因此在计算机辅助科学领域，CSCS被认为是瑞士的中心联系人。它为瑞士的学术研究提供了现代化的超级计算机，从而可分析大量数据或模拟复杂处理。它同时可支持其客户使用定制的内部开发系统，并传播所需的技术知识。为此，CSCS在Manno保留了瑞士最大、最有效的HPC系统。

In the field of computer-assisted science the CSCS is considered to be Switzerland's central contact, with both the technical resources and know-how to make high performance computing (HPC) possible in the first place. It makes modern supercomputers available to Swiss research, for example to analyse large amounts of data or to calculate simulations of complex processes. It also supports its customers using tailor-made in-house developments and by passing on the requisite technical knowledge. To this end the CSCS maintains Switzerland's largest and most efficient HPC system in Manno.

瑞士国家超级计算中心采纳了德特威勒的建议，该建议涵盖面向全面数据中心记录和复杂未来管理任务的支持与服务。

The Swiss National Supercomputing Centre opted for a proposal from Datwyler covering both support and services for comprehensive data centre documentation and sophisticated future management tasks.

在2012年春天，CSCS将搬迁至位于Lugano的新办公场所，因此必须做好大量的准备工作。搬迁计划的核心部分是在软件的帮助下充分记录Manno数据中心的各个细节。为实现该目标，必须创建一个组件库和一个对象设计，从而创建设备和基础设施的主数据。

In spring 2012 the CSCS is moving to new premises in Lugano, so extensive preparations are necessary. A central component of relocation planning is to fully document every detail of the Manno data centre in advance with the aid of software. Among the things needed to do this are a component library and an object designer to create the master data for equipment and infrastructure.

未来管理任务
Future management tasks

除了正在进行的记录，CSCS还计划使用软件来负责新站点的重要管理任务。因此，除了故障排除和搜索可用端口等标准工具以外，还需要许多其他功能。

As well as for ongoing documentation, CSCS plans to use the software for other important management tasks on the new site. Numerous other features were therefore required in addition to standard tools like troubleshooting and a search for available ports, for instance.

HPC Cray XT 5 Monte Rosa超级计算机包括22,032个处理器内核和211.51万亿次浮点运算次数/秒的运算能力。

HPC Cray XT 5 Monte Rosa supercomputer with 22,032 processor cores and a computing power of 211.51 TeraFlops.

也就是说，该软件需要显示楼层、电缆通道和电缆路径，并自动计算所需的电缆长度。以及必要的安装和制图工作流的触发顺序选项。

This meant that the software had to show hierarchies, cable ducts and cable runs, and automatically calculate the cable lengths required. It had to provide the option of triggering orders for essential installations and mapping workflows.

仓库管理需要众多功能，其中包括电缆存货的简便管理，特别是修补电缆存货的简便管理。模拟错误情形可让负责人提前识别出潜在的单个故障点。

Warehouse management called for various functions including the simple administration of cable stocks, particularly patch cables. Simulations of error situations had to allow those responsible to identify potential single points of failure in advance.

最重要的是，CSCS希望可以读取单个设备的能耗数据，以及自动向单个成本中心分配这些或者其他成本（如服务呈现）的选项。

Not least, the CSCS wanted options for reading the energy consumption data of individual devices and for automatically allocating these and other costs – for example services rendered – to individual cost centres.

在2010年11月，CSCS委托了一名专业工程顾问来评估合适的解决方案。在进行标准化的评估流程之后，德特威勒力压其他竞争对手，于2011年4月中标该项目。

In November 2010 CSCS commissioned a specialist engineering consultancy to evaluate a suitable solution. After a standardised evaluation process Datwyler beat all its competitors' offers in April 2011.

极具吸引力的整体服务
Attractive total package

人们对该产品的好评如潮，这完全得益于"Panorama"，这一多客户端、基于Web的管理软件解决方案，并可在各个方面符合CSCS的要求。而真正让该产品大放异彩的并不仅仅是软件本身，还包括德特威勒公司所提供的服务，其中包括客户定制的研讨会和性价比极高的整体服务。

The greatest impression of all was made by "Panorama", the multi-client, web-based management software solution, which met the requirements of the CSCS in every respect. What clinched the matter, however, was not only the software itself, but also the services provided by Datwyler, including customised workshops and the good price/performance ratio of the total package.

CSCS为众多用户设置了该软件，在2011年8月首次召开现场研讨会之后，CSCS的负责人创建了模块化数据库（组件库）。现在他们正在实施该模块。

The software was set up at CSCS for several users. Following an initial workshop held on-site in August 2011 those responsible at CSCS created the module database (component library). They are in the process of implementing the modules now.

2011年11月，CSCS赶在采取行动前召开了第二次研讨会。

The second workshop was held in November 2011, before the move takes place.

德特威勒的"Panorama"是一项多功能的管理应用软件，该应用软件可让用户规划并可视化地观测、控制数据中心内所有与基础设施相关的设备。

Datwyler's "Panorama" is a multifunctional management application enabling users to plan, visualise, observe and control all infrastructure-related entities in the data centre.

Beat Schertenleib
伯尔尼地区销售经理
Area Sales Manager Berne
beat.schertenleib@datwyler.com