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## **UNESP Center for Scientific Computing in São Paulo, Brazil introduces Kytos, a new SDN platform, during TNC'17**

The Center for Scientific Computing (CSC) team at the São Paulo State University (UNESP) introduced **Kytos**, its new Software Defined Networking (SDN) platform, during the TNC'17 conference, held in the city of Linz, Austria, from May 29 to June 2.

Kytos has been developed by the CSC team, and its main goal is to offer an innovative solution for controlling SDN networks. The platform is 100% open-source and is able to communicate with any switch that supports OpenFlow. In addition, the Kytos platform introduces the concept of Network Applications (NApps), which can be developed by independent developers and shared among the community of users. The development team, led by Beraldo Leal, has already developed a list of applications that can run within the platform, and intends to promote the establishment of a community of Kytos users so that in the future the members themselves will be able to develop new applications and add them to the list.

Kytos was first introduced in the Supercomputing Conference 2016 (SC'16), held in Salt Lake City (USA) from November 13 to 18. It will also be used in a demonstration in the upcoming SC'17, which will take place in Denver (USA) from November 12 to 17, Kytos will act as an SDN network controller in an infrastructure that will interconnect distinct sites in Latin America using the optical links provided by AmLight. The CSC team expects that this experimental infrastructure will become the prototype of an experimental platform for research and development in long-distance networks through SDN technologies, linking the CSC (São Paulo, Brazil) with some of its international partners, such as Caltech (USA) and the European Organization for Nuclear Research (CERN), located on the border of France and Switzerland.

The design of this experimental platform has been based on the concept of a "networked infrastructure-as-a-service" (NIaaS), and will be focused on practical experimentation, inspired by the North American project ExoGENI. CSC has been establishing partnerships with Caltech and CERN for more than a decade through the São Paulo Research and Analysis Center (SPRACE), a research center in the area of High Energy Physics led by Prof. Sérgio Novaes and funded by the São Paulo Research Foundation (FAPESP), whose computational resources are installed in the CSC datacenter.



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The development of Kytos is supported by **Huawei**, a Chinese multinational networking and telecommunications equipment and services company, which has been investing in R&D in Brazilian universities by means of the IT Law. The Brazilian IT Law guarantees tax incentives for companies that invest in technology innovation within the country.

Kytos is available at [kytos.io](http://kytos.io) and its release cycle occurs every six months. The first release was held in February during the First Kytos Summit (SDN All Hands Meeting Workshop, held at the CSC, and the next one is scheduled for the second semester of 2017.

## About UNESP

UNESP (Universidade Estadual Paulista "Júlio de Mesquita Filho") is one of the largest and most important Brazilian universities, with outstanding performance in teaching, research and extension services to the community. Created in 1976, from isolated institutes of higher education that existed in several regions of the State of São Paulo, UNESP has 34 teaching and research units that offer more than 180 options of undergraduate courses in 68 professions of higher education. In addition, it has more than 230 postgraduate programs that form about 5.6 thousand new professionals each year. Maintained by the Government of the State of São Paulo, it is one of the three public universities of the State of São Paulo. UNESP has a multi-campi structure and is present in 24 cities in the State of São Paulo.

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