

UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA

VSIX

**VSIX** Centro di Ateneo  
per la Connettività  
e i Servizi al Territorio

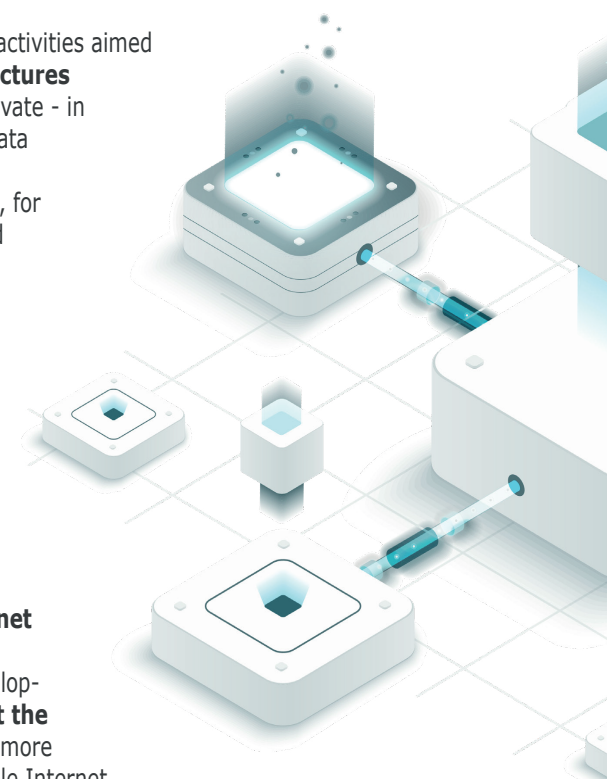
The **University Center for Connectivity and Territorial Services - VSIX** manages the Padova Internet Exchange, the Northeast's main **research network hub**. In a single Node the networks of the PA, Internet operators, and the research network - GARR T - meet, constituting the gateway to all of these realities.

The Center's purpose is to encourage activities aimed at optimizing, **connectivity infrastructures** including security - both public and private - in order to facilitate the interchange of data between entities through the use of information technology and telematics, for the benefit of citizens, businesses, and public administrations, with a view to interoperability/integration.

Among the University's primary purposes, in addition to teaching and research, and services dedicated to them, is also to pursue direct interaction with civil society, through the transfer of academic results and knowledge dissemination to improve the usability of public/collective goods to be enhanced.

The presence of the **Northeast Internet Exchange**, called VSIX, is therefore strategic especially for the future development of innovative **services aimed at the region** that are demanding more and more high-performance, scalable, and reliable Internet access.

In 2019, VSIX was **awarded ISO 27001** certification and recognition by the Internet Society **MANRS** for compatibility with all 5 planned actions on the topic of best practices in routing Internet networks.



University of Padova  
University Center for Connectivity and Territorial Services - VSIX  
Galleria Spagna, 14 - 35127 Padova

[www.vs-ix.org](http://www.vs-ix.org)



UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA



### ✓ Public peering

Public peering is the core service of the Northeast Neutral Access Point (VSIX). The afferent operators connect their border routers to the NAP's technology platform, which serves as the center-star of the interchange point and provides mutual visibility to all participants on a single public VLAN. Public peering agreements are made for the interchange of Internet traffic at no charge between NAP participants assigned at least one AS and IPv4 and/or IPv6 address space. These agreements are based on the BGP4 protocol and do not allow transit. It's available a route server RPKI services.

### ✓ Private peering

Private peering is a value-added service of the Neutral Access Point. Private peering arrangements are made over dedicated VLANs, through the NAP's switching platform, or through direct interconnections called back-to-back. They allow mutual visibility only to stakeholders.

The traffic exchanged on the private VLANs is added to the traffic generated by public peering for the purpose of calculating the actual bandwidth consumption, while back-to-back, dedicated structured cabling is implemented.

### ✓ Remote peering

This service allows a Carrier VSIX to interface the ethernet port of a Member's remote router by presenting it to the VSIX's peering LAN as if it were directly connected to it. Interested operators will have the relevant Carrier for the transport and/or bandwidth components used and VSIX for the annual participation fee as their administrative contacts.

If, in the future, the operator considers installing proprietary equipment at the VSIX it will normalize the membership by applying the costs related to the full service.

### ✓ Carrier services

Carriers that join the NAP can take advantage of rack space to install their own transport infrastructure; they can also request fiber patch panels to the meet-me-room for direct resale of telecommunications services to other members.

### ✓ Selective housing

Selective housing services are an opportunity to be given to those companies that, having not yet accrued interest in joining the VSIX, are nevertheless interested in experimenting with or delivering services at an interchange point that facilitates their implementation through peering, particularly for services involving the distribution of large volumes of electronic content. This service provides for promiscuous hosting on dedicated racks, and in addition the applicant's interconnection to present carriers for Internet connectivity is allowed.

In view of the fact that housing services in general have a strongly commercial nature, the Board of Directors of the Center for Connectivity and Territorial Services - VSIX will deliberate on the reception of applicant entities after careful assessment that the contents have a strong connotation in the field of education, research, or are private or public services recognized as being of broad utility.

### ✓ Institutional housing

The Center for Connectivity and Territorial Services - VSIX can host technical infrastructure such as disaster recovery or network nodes for other external entities based on appropriate agreements.

### ✓ Accreditation and Overnetwork Monitoring

The Center for Connectivity and Territorial Services - VSIX, in collaboration with the Veneto Region Information Systems Directorate, is responsible for collecting and evaluating requests for accreditation to Overnetwork from afferents who wish to be included in the list of accredited Internet Service Providers for this service.

They also monitor the status and efficiency of the interconnections between the accredited operators and the region to ensure smooth operation of the service.

### ✓ Continuity of service

The Center for Connectivity and Territorial Services - VSIX offers 24 hour monitoring and on-call service on all its components. This service includes corrective and preventive maintenance activities and access to the data center.