Two BINP colliders VEPP-4M and VEPP-2000 were commissioned with feeding from VEPP-5 Injection Complex in 2016/2017. In order to ensure continuous operation it was proposed to create highly available IT-infrastructure for both colliders and Injection Complex.

IT-infrastructure for accelerators consist of servers, network equipment, UPS and system software with average operation life cycle about 10 - 20 years. It requires support and periodical upgrade.

The following points where laid down during designing: high availability, flexibility and low cost. High availability is achieved through hardware redundancy – doubling servers, disks and network interconnections. Flexibility is reached by extensive use of virtualization that allows easy migration from one hardware to another in case of fault and gives users an ability to use custom system environment. Low cost – from equipment unification and minimizing proprietary solutions.

Since all facilities have similar requirements VEPP-5, VEPP-4M and VEPP-2000' IT-infrastructures share same ideas and have common concept in order to minimize costs, simplify deployment and maintenance.

The following points where laid down during designing:

- Control system
- IT-infrastructure
  - High availability
  - Flexibility
  - Resource utilization
  - User friendly
  - Redundancy
  - Virtualization
  - Clustering

Injection complex and colliders' control systems exchange online operation data and send queries over network:

- Custom-made hybrid SAN/NAS was developed on top of two nodes with shared DAS.
- Virtualization is based on Proxmox VE using LXC and KVM.
- CentOS 7 was chosen as a primary OS for virtual machines.

VEPP-5 Injection Complex IT-infrastructure:

- 16x damping ring BPM processors
- 2x Maxa RS-485 computers
- 8x Ethernet camera
- 2x CAN servers
- 11x CAMAC crate
- cPCI crate
- 2x CAN networks
- 10x lab network
- 10x controllers VLAN
- 10x Computers VLAN
- 2x Infra 1 server
- 2x Infra 2 server
- 2x Firewall server
- 10x HW1 server
- 10x HW2 server
- 10x SSS storage
- 4x x thin client terminal
- 4x control room workstation
- 2x CAN networks
- 15x inac BPM processors
- 8x Ether camera
- 15x VEPP-2000 Networks
- VEPP-4 Networks
- VEPP-5 Networks
- Institute Network
- 2x network link
- VEPP-2000 network link
- VEPP-5 network link
- VEPP-4 network link
- Dedicated inter-facility Backbone Network
- Prospective
- Lab network
- VLAN
- BNP VLAN
- IPM VLAN
- Lab network

To increase reliability we created dedicated inter-facility network with strong isolation between facilities' network and especially from institute network.