

# Clustering

**Cluster** - is a set of connected together **Smartswitch** instances, which are installed on a set of servers (physical or virtual). **Cluster** makes possible to accomplish next functions:

- **high-availability.**  
When one of nodes gets denial of service all other nodes continue to work.
- **load-balancing.**  
When the load increases it should be balances across several servers.
- **geographical distribution.**  
If your company provides services in several geographical locations, you can install node per each region. This will provide less jitter and packet loss and therefore better voice quality.
- **reduce dependency on data center.**  
When data center goes out of Internet connection, or out of power, or is under DoS attach, the provision of your services might be blocked as well.  
This might be unacceptable for your customers.  
When spreading nodes across several data centers, you get rid of this mproblem.

Depending on the aim and topology, various schemes of **Smartswitch cluster** could be deployed.

Below they are listed in the ascending order of complexity.

Also these schemes could be combined together to make a more complex solution.

Usually we recommend to use next rule when choosing clustering scheme: choose the most simple among the schemes which suit you.

Available schemes:

[Distributed components of one Smartswitch instance](#)

[Distributed Smartswitch instances](#)

[Русский перевод](#)