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## *Designing a local enterprise network: call-center*

### ***Company description***

The company is engaged in calling customers with various mobile phone offers.

### ***Organization structure***

*The structure of the organization includes the following departments:*

- *Administration(5 workers)*
- *Bookkeeping(3 workers)*
- *Technical department(4 workers)*
- *Operations department(до 30 workers)*

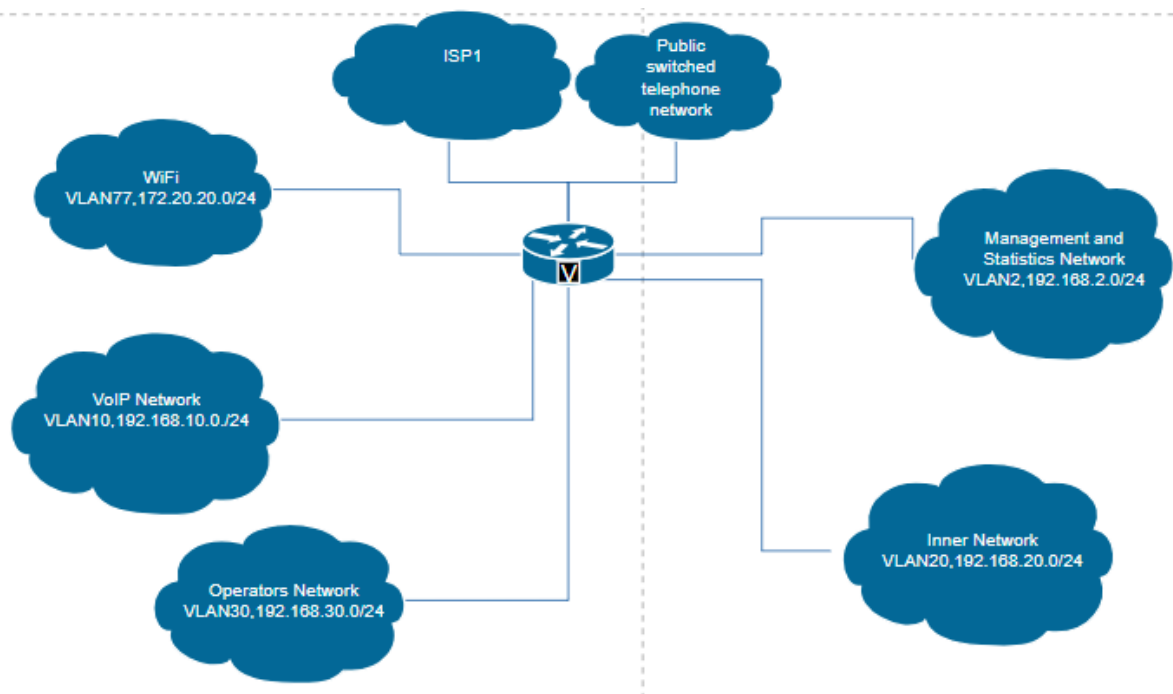
*There are roles within the organization:*

- *Operator*
- *Supervisor*
- *System Administrator*
- *Technical Support specialist*
- *Bookkeeper*
- *Chief bookkeeper*
- *General manager*
- *SMM manager*
- *Head of HR Department*
- *Secretary of the head of HR Department*
- *Financial Director*

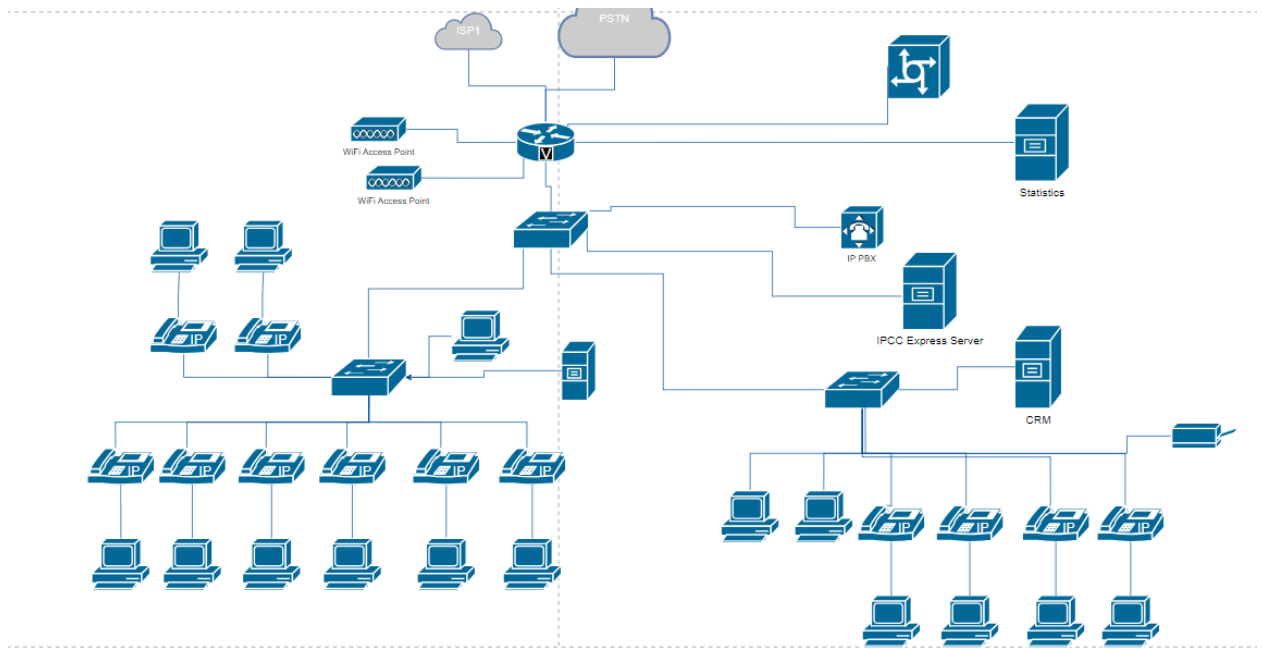
*The layout of the premises is shown on the plan*



Network map



Network topology



## LAN organization

Since the complexity of the network does not imply the installation of more than one router, the topology of the projected network will be a *star type*, also due to the fact that the network implies the presence of servers to maintain a CRM system, VoIP telephony and statistics collection, then the client-server architecture and the corresponding LAN model are selected as the one used. The network uses Twisted Pair cables of categories 5E and 6. The 802.3 Gigabit Ethernet channel layer protocol is used. Operators' subscriber devices implement VoIP technology, therefore they use the TCP/IP protocol stack in a similar way to a local network.

Equipment:

1. Cisco 250 48-Port Gigabit with 4-Port 10-Gigabit Smart Switch(78400)
  2. Cisco 250 24-Port Gigabit with 4-Port 10-Gigabit Smart Switch x2 (94600)
  3. Cisco Meraki MX68 - Security appliance - 10 ports - Gige - desktop (95800)
  4. Access point Cisco AIR-AP1815I-R-K9 802.11a/b/g/n/ac Wave 2, 2x2 MIMO, 2 internal 2.4GHz 2 dBi/ 5GHz 4 dBi, WPA/WPA2 (802.11i) (95200) x2
  5. Cisco 6800 IP Phone x36 (1 800 000)
  6. Сервер SUPERCLOUD R5210 G11, 2U (289990)
  7. Компьютер iRU Home 310H5SE, Intel Core i3 10100, DDR4 8GB, 240GB(SSD), Intel UHD Graphics 630 x 40 (2 000 000)
  8. Network cable UTP, cat.5E, 100m, 4 couples, 24AWG, 0.50mm, aluminum-copper, solid, gray (1700)
  9. TELECOM UTP category 6 RJ45 Internet cable 50 meters LAN networking Ethernet (1300)
  10. Wired keyboard KEYRON Eclipse x40(36000)
  11. DEXP DF24N2 black x40(300 000)
  12. Garniture Logitech 960 x30(100 000)
- Total cost **4 892 990**

## Placement on the company

