



## Problems of modern networks

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### Abstract

Most of the modern computer networks encounter a lot of problems in order to use the new development of technologies with its needed and requirements, especially for data density, which affect to the large data Losses, this leading to the collapse of the economy .

The spread of social networking including the huge connection between users led a positively effect to the economy in the word, while if there is a user's cut of the social network will led a big loss in all academic life and economic.

### Keywords:

Social network, telecommunications, SAN Cryptography; Security



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## Introduction

These modern networks and applications that can be used locally so that you submit tasks and services in order to be properly to transfer data and the absence of a big loss in the economy. The companies work's, which are depending on the modern technologies requirements that have been developed strictly for engineers who are design and follow-up, make sure for controlling of all maintenance work by using the techniques to develop information technology uses engineering applications , particularly applications and software engineering in order to be modern network devices that is operate on a regular basis requirements to lead the system to cycle the high level of quality in the performance, which leads to the development and testing work for the system where high quality lead to a high-speed network data transfer and presentation quality access to acceptable goals.

Now we consider the model of the total traffic, which is arbitrary number of packets to be transferred between pairs of nodes.  $1 \leq i, j \leq n$ , let  $s(t_i, r_j)$  is the number of packets for transmission from the transmitter to the receiver  $t_i, r_j$ . Transfer  $(t_i, r_j)$  can be discharged, ie all of  $s(t_i, r_j)$  packets cannot be transmitted sequentially. Receivers  $r(p-1)n/w + 1 \dots rpn/w$  share a wavelength, and a set of receivers designated  $R_p$  for  $1 \leq p \leq w$ . Because of this, we introduce the bipartite graph model for this problem. Our terminology is standard grip.

## PROBLEM STATEMENT

One of the main driving forces in the development of information technology is the computer networks and the Internet as the underlying infrastructure. However, the architecture of the Internet is outdated. Its foundations are laid in the late 60 's - 70 's, when there were no mobile nodes , wireless communications ( except satellite , which was then in its infancy ) . The development of microprocessor technology and telecommunications ( Moore's law , the law of Gilder ) radically changed the status , role and importance of computer networks in the community. Today, the number of users of computer networks based on wireless technologies exceeds the number of users with a fixed connection, the number of mobile terminals per one person in developed countries, more than three. Changed the very paradigm of algorithms in the Company: the place of client-server computing organization came Data Processing Center (DPC), and cloud computing, file systems and databases are transformed into a storage area network (SAN) .

These laws for the last 30 years have led to qualitative changes that require revision network architecture. The number and complexity of the protocols are huge ( today the number of actively used protocols and versions higher than 600), the combination of control and data make supervision and management of the network is very complex, requiring highly skilled professionals , issues of security still have no reliable solutions . Any changes to the funds networked time-consuming, costly, long in duration, is not possible without the involvement of the manufacturer. You can never guarantee that the software and hardware products contain only the functionality that is described in the standard documentation.

In computer and telecommunications networks, the situation may be even more difficult - such functionality can be distributed. Tools for building networks today are proprietary, closed for innovation on the part of network owners, the academic community.

## APPROACH

Social networks are playing an increasing role such as communication, music, films - in online mode takes much of the time. Not far off online shopping, online loans, training in the network.

The problems of the state, and why would we do the desire is quite possible to implement with the help of social media.

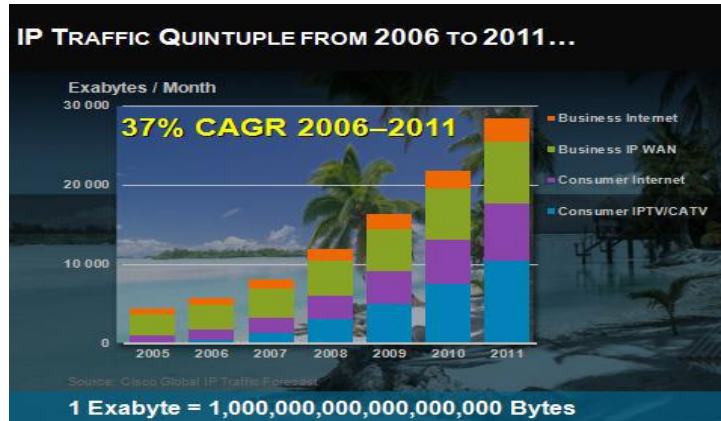
Share the secret - welcome to the "Twitter" entertainment - in millions of applications available to the user, movies. I would like to popularity - ". And for something serious, important civil simply do not have time.

Social networks allow modern people do not think about everything - just everything - on a plate. Flat humor, base content, availability of illicit materials leads to a gradual degradation of the younger generation, this led to the degradation of our future.

Social networks - an issue that silently swallowed whole country and what it might lead in the future

## 1 - Trends and market needs

According to the data in the figure below, the volume of traffic on the Internet in the last 5 years has increased three-fold. At present, an annual growth of about 100%, ie doubles. In this case, by 2014 about 80 % of this traffic will be video traffic. These figures suggest that the capacity of modern communication with the existing methods and tools to control traffic in networks is close to exhaustion.



The current growth rate of the network bandwidth will not be able to meet the Mobile wireless networks today are faced with two contradictory trends. Image processing power of mobile terminals implies increased capacity computing applications running on them. This in turn increases the bandwidth demands of mobile communication channels. At present, the volume of mobile data traffic is growing exponentially and becoming more diverse. According to the Cisco Systems traffic doubles example every nine months, this would increase the burden on several orders of magnitude over the next few years. Meanwhile, today available frequency spectrum efficiency (i.e., the maximum achievable throughput per Hz range ) is close to saturation. In fact, the spectral efficiency of 4G LTE PHY approaches (within  $\approx 20\%$ ) of the Shannon limit , and further improvements are likely to be very expensive to implement and provide limited benefits .

To cope with such a buildup of traffic, the wireless network must have a dense cover, The surest way to increase the per-user bandwidth - to make a small cell and closer to the base station the mobile client, as it improves communication and reduces the number of users per cell . According to experts, the density of base stations will have to increase by 20 times, to cope with the exponential growth of traffic.

Today, however, the network architecture is poorly adapted to support such a dense traffic of the existing wireless infrastructure. First, it is impossible to evenly increase the density of the coating is 20 times or more, the base station must deploy where possible, i.e. chaotic. However, this infrastructure will be very difficult to manage, it will experience a very uneven loads, the mutual influence of cells and other factors. And finally, a dense infrastructure is very expensive to deploy and operate. Such large-scale changes in the mobile communication infrastructure can be carried out only very large operators, but even their 20-fold increase in the density of the coating may not be able to

**2 - Problems of modern computer networks can be categorized in:**

Research - Today we cannot control, and reliably predict the behavior of complex objects such as global computer network.

Social - in everyday life, we increasingly rely on the Internet. However, data security, which we trust, including our personal data, we are not guaranteed, the Internet is not resistant to external attacks.

Problems of development - in the architecture of modern networks are significant barriers to the introduction of innovation, experimentation, development of new services

Structure of the Center for Applied Research Computer Network





## Results

- Strategy for the promotion of products and solutions in the market under discussion involves overcoming these barriers, based on the following key activities:
- Security has become important issue for large computing organizations [6]. There are different definitions and Ideas for the security and risk measures from the perspective of different persons. The security measures should be Designed and provided, first a company should know its need of security on the different levels of the organization and then it should be implemented for different levels.
- The development of specially prepared industrial partners solutions and system models.

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