

NETWORK FLOW ESTIMATION ALGORITHM AND MODEL

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ANNOTATION

First, augmenting path algorithms that satisfy the conservation constraints at intermediate vertices and the second reflow push relabel algorithms that violates the conservation constraints at the intermediate vertices resulting incoming flow more than outgoing flow. In this paper, we study different algorithms that determine the maximum flow in the static and dynamic networks.

The OSI network model is a reference model for the interaction of open systems; in English it is similar to the "Open Systems Interconnection Basic Reference Model". Its purpose is in the generalized representation of network tools.

That is, the OSI model is a generalized standard for software developers, with the help of which any computer can equally solve the password of the data transmitted from another computer. To make it clearer, I will give a life example. It is known that bees see everything around in the morning in purple light. That is, our eyes and bees perceive the same picture in a completely different way, and what insects see may not be felt for human vision.

The same applies to computers - if one developer writes a program in any programming language that understands his computer, but is not available to another, on any other device you cannot read the document created by this program. Therefore, we got the idea to follow the only rules that are understandable to everyone when writing an application.

OSI layers

For clarity, the process of working a network is usually divided into 7 levels, each of which has its own group of protocols.

A network protocol is a set of rules and technical procedures that allow computers on a network to communicate and exchange data.

A group of protocols united by a single end goal is called a set of protocols.

There are several protocols for performing various tasks related to the maintenance of systems such as TCP / IP stack. Let's take a closer look at what information from one computer is sent to another computer over a local network.

Tasks of the SENDER computer:

Get data from the app

If bulky, divide them into small packages

Prepare for transmission, that is, specify the route, encrypt and re-encode to the network format.

Functions of the receiver's computer:

Accept data packets

Remove service information from it

Copy data to clipboard

Once all packages are fully received, create an original data block from them

Give it to the program

Presentation layer

Translates this information into a single universal language

The fact is that each computer processor has its own data processing format, but they need to access the network in one universal format - this is the presentation layer.

Session layer

He has a lot of tasks in front of him.

Set up a communication session with the recipients. The program warns the receiving computer that data will be sent to it.

Identification and protection of the name is carried out here:

identification-name identification

authentication - password verification

registration-transfer of powers

Implementation carries out data transfer from which side and how long it will take.

In the general flow of information, it is easy to arrange checkpoints, in case of loss of some part, it is easy to determine which part is missing, and it must be re-sent.

Segmentation is the division of a large block into small packets.

Transport layer

Provides applications with the level of protection required when delivering messages. There are two groups of protocols:

Connection-oriented protocols-they monitor the delivery of data and, if necessary, require re-sending in case of failure. It is a TCP-transfer control protocol.

Connectionless (UDP) - they just send blocks and no longer monitor their delivery.

Network layer

Ensures that the package is transmitted from tip to tip by calculating its route. At this level, in packets, the sender'S and receiver'S IP addresses are added to all previous data generated by the other levels. From this point on, the data set is called the PACKAGE itself, which has IP addresses (IP protocol is a protocol for working on the Internet).

Data link layer

Here, the package is transmitted over one cable, that is, one local network. It only operates up to one LAN's border router. The link layer to the received package adds its own header - the MAC addresses of the sender and recipient, and in this form the data block is already called FRAME.

REFERENCES

1. Rakhmanov, A.T.; Ruziboev, O.B. To the solution of the classification problem for three classes. *Science and world* 2015, 2(18), 21–25.
2. Nishanov, A.X.; Ruzibaev, O.B.; Tran, N.H. Modification of decision rules “ball Apolonia” the problem of classification. *Int. Conf. on Information Science and Communications Technologies ICISCT 2016*, 1–3.
3. Mahajan, P.: Applications of pattern recognition algorithm in health and medicine. *Int. J. Eng. Comput. Sci.* 5, 16580–16583 (2016)
4. Ashok, B., Aruna, P.: Comparison of feature selection methods for diagnosis of cervical cancer using SVM classifier. *J. Eng. Res. Appl.* 6(1), 94–99 (2016)
5. Nishanov, A.K., Akbaraliev, B.B., Samandarov, B.S., Akhmedov, O.K., Tajibaev, S.K.: An algorithm for classification, localization and selection of informative features in the space of politypic data. *Webology* 17(1), 341–364 (2020)