

New Models for Long-Term Internet Traffic Forecasting Using Artificial Neural Networks and Flow Based Information

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Despite many Internet Service Providers (ISPs) administrators still perform the prevision of resource's future needs based on experience and intuition, this approach is not adequate for planning large networks. Most of the literature is composed of techniques for short-term prediction and has obtained the historical data, defined as a sequence of unidirectional data with common characteristics of origin and destination within a certain time-frame, by using SNMP, which measures the number of bytes traversing the interfaces of network equipment. Since it can be a limitation when there is a need for information in other layers of the protocol stack, the paper by Miguel et al. proposes a different method for collecting historical data from Internet data flows. They also present the use of new long-term forecasting models based on multiple settings of Time-Lagged Feedforward Networks (TLFN), which is a static neural network whose model includes a delay window that works as a short-term memory. Results show that this approach is a good option for planning network links that transport Internet traffic.

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