Data distribution system: clustering based on neural network technologies.

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Problem description and methodology

This article is about data distribution of high load systems. We proposed a way of distribution by means of data clustering based on neural network technologies. Clustering of the test sample of data from server stations performed. This sample of data received from cloud computing server stations distributed across different data centers. Results of experimental research proved the effectivity of neural networks in case of high load data distribution.

The paper considers a method for processing and analyzing data on the state of server stations. This allows to increase the speed of data delivery by applying neural network technologies. Neural networks are widely used when performing clustering procedures, under conditions of criteria uncertainty, when analyzing large amounts of data.
An algorithm for iterative learning of a neural network

Figure 1. An algorithm for iterative learning of a neural network.
Results of experimental studies

**Figure 3.** Clustering of test sample

After clustering, each request will be distributed to the server in accordance with the selected group. This distribution method will allow the system to increase the speed of data delivery and ensure information reliability.

| № | Group | G1 | G2 | G3 |
|---|-------|----|----|----|
| 1 |       | 0.32 | 0.45 | 0.38 |
| 2 |       | 0.57 | 0.62 | 0.9 |
| 3 |       | 0.64 | 0.32 | 0.7 |
| 4 |       | 0.81 | 0.5 | 0.064 |
| ... | ... | ... | ... | ... |
| 10 |      | 0.22 | 0.4 | 0.69 |