Synchronization and replication of geodata in the Esri platform

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Main goals

Theoretical part

- definition of the synchonization and replication processes
- description of replication possibilities, types and properties
- description of solutions for different types of tasks

Main goals
Practical part

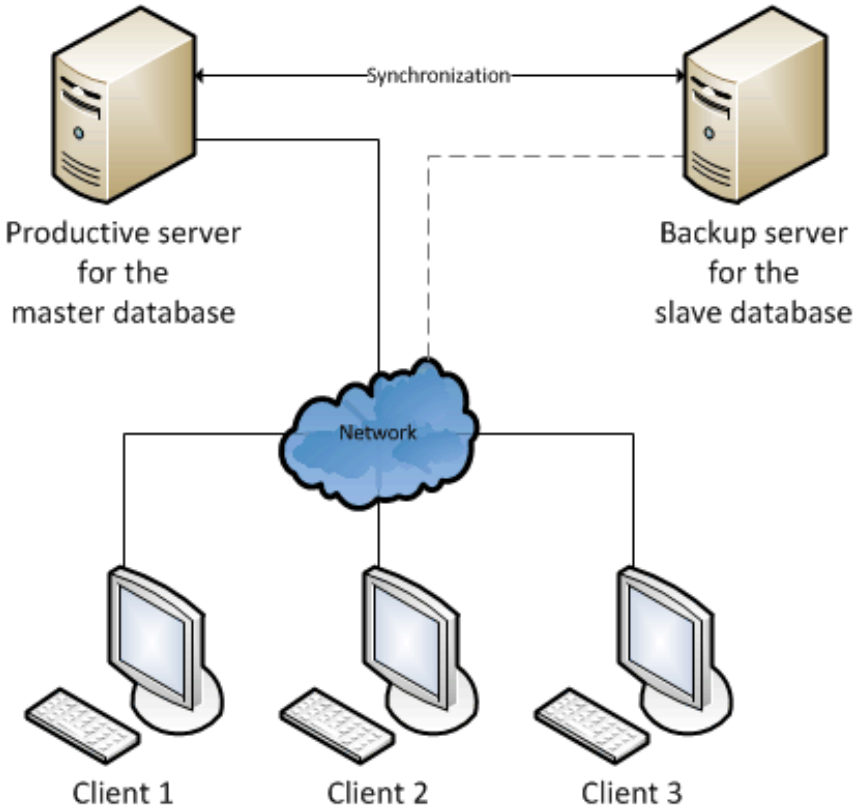
- practical test of replication for different data types and different types of tasks
- test: speed, completeness, accuracy, quality of transferred data, formats
- databases: PostgreSQL 9.x + PostGIS
- ERSI products: ArcSDE + ArcGIS for Desktop or ArcGIS for Server

Replication

- copying and distribution of data and database objects from server to another
- means full copy of data and then synchonizate of changes
- main reasons for replication:
  - high availability
  - data movement
  - sharing data across the users
- synchronous x asynchronous replication
- one-way x two-way replication

Replication

- master-slave replication



(zdroj:http://www.passwordsafe.de/uploads/pics/db_replikation_EN.gif)

ArcSDE Technology

ESRI product

- middle-ware for communitacion between user and SQL database (example. ArcGIS for Desktop and PostgreSQL)
- for managing spatial data in relational database system
- multi-user editing
- support for PostgreSQL

Results of the diploma thesis

- description of the replication and synchronization processes and their requirements for Ersi products
- manual how to configure replication
- evaluation of replication process depend on speed, quiality, completness, ..

What I've already did?

- set up replication on two computers: both WIN XP + pgAdmin3 + Slony-I
- Slony-I is plugin for master-slave replication
- visualization in the QGIS
- data set: simple vector data