GMPLS aware intelligent cloud network
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Problems of Cloud Network
- DCs are connected via Internet.
- Network security is vulnerable.
- Link bandwidth are narrow.

Intelligent Cloud Network
- DCs are connected via VPL.
- Data is delivered with parallel transmission.
- Low cost and low bandwidth private lines are applied as multiple routes.
- Dynamically construct a suitable network for on-demand services by increasing/decreasing the number of paths.
Proposal Parallel Transmission System

- Parallel routes are set up by GMPLS.
- TCP/IP over SCTP/IP is applied to the parallel transmission system.

Experimental Environment

- User requests service to DC.
- Each gateway selects 3 parallel routes for demanded services.
- Suitable EROs are computed, and multiple paths are established.
- Under this environment, it takes 8msec to establish the 3 end-to-end paths.

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