

## **Guidelines for Providing Connectivity to Third Party Communication Networks provided by Duke Energy**

The connection that a Transportation Service Provider may provide to a third party communication network should be implemented outside the Transportation Service Provider's firewall(s).

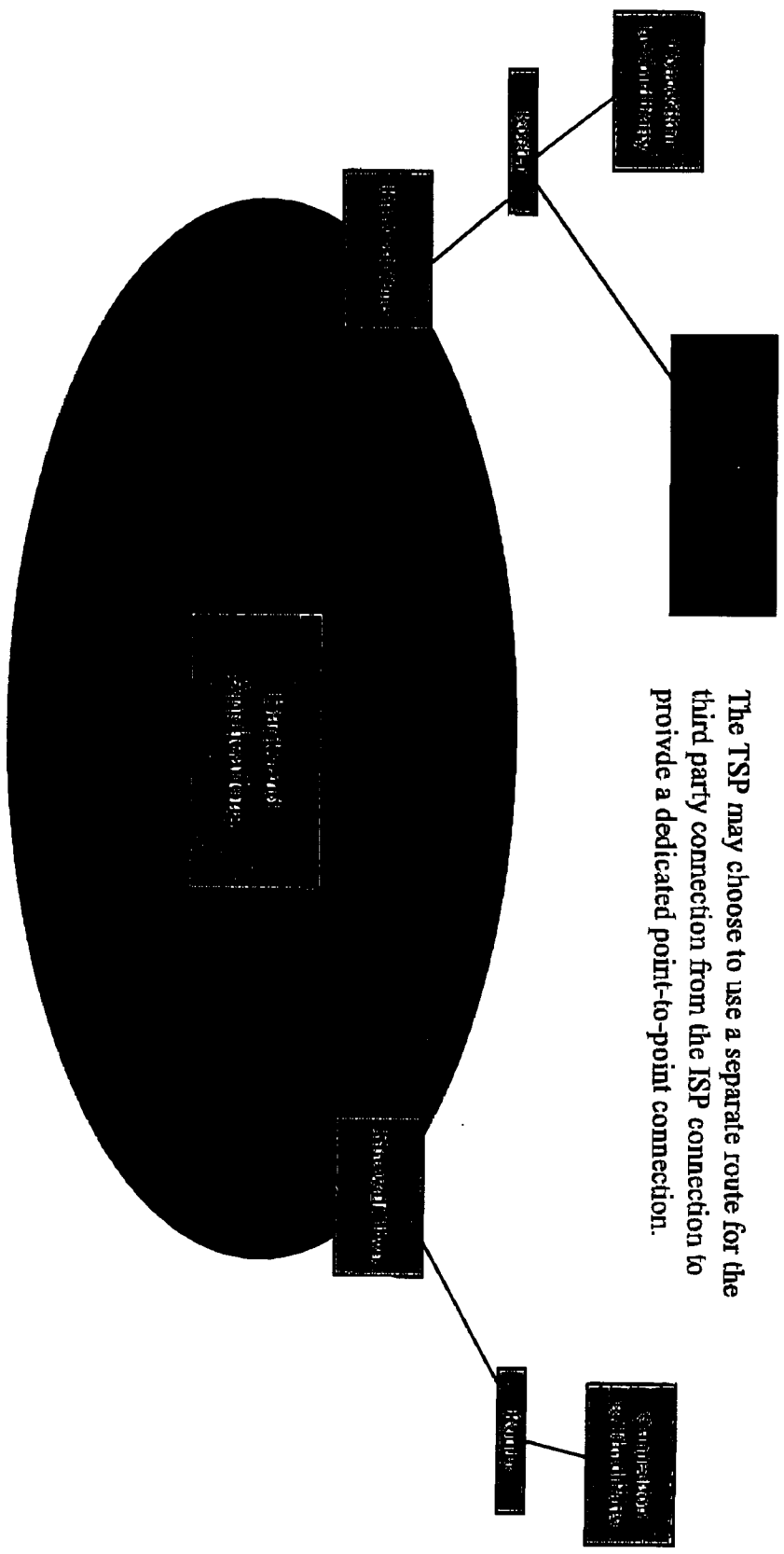
The following two methods, among others that a TSP may choose from are:

**Dedicated Point-to-Point** - A direct, non-shared circuit between the TSP's external router and the "third party network's" router. Commercial circuit carrier (AT&T, Sprint, SWBT, etc.) is typically of little consequence other than availability and cost. To overcome incompatibilities between disparate routers (Cisco, Bay, 3-Com, etc.), a standard line encapsulation protocol such as the Point-to-Point Protocol (PPP) should be used.

**Frame Relay** - Rather than end-to-end connections, a TSP's circuit and the "third party network's" circuit is connected to a Commercial packet-forwarding network. Through the provisioning of Private Virtual Circuits (PVC), multiple "third party networks" can share a single TSP connection, thus providing for some economies in line and router port costs. Works best and is thus preferred when both TSP and "third party network" are connected to the same Frame Relay Carrier. Network-to-Network Interface (NNI) is available between some, but not all Frame Relay Carriers. NNI's are more costly and add additional latency to the network.

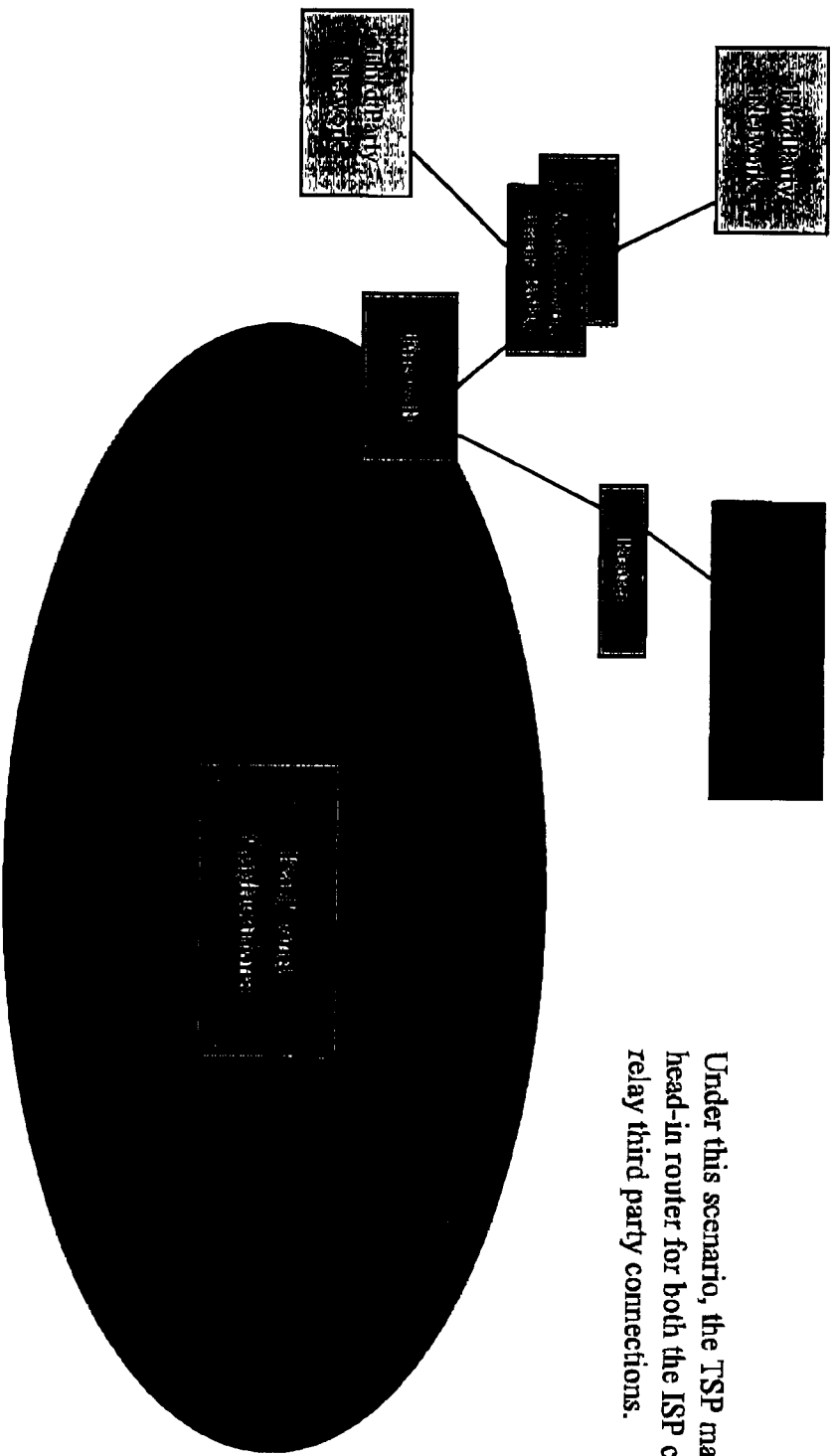
**Example of a TSP Network Configuration with Multiple Firewalls and More than One Point-to-Point Connection to a Third Party Network**

The TSP may choose to use a separate route for the third party connection from the ISP connection to provide a dedicated point-to-point connection.



The ellipsis represents the boundary of the internal network.

## Example of a TSP Network Configuration with One Firewall and Using Static Route Frame Relay Relay Connection to Third Party Networks



Under this scenario, the TSP may opt for using the same head-in router for both the ISP connection and the frame-relay third party connections.

The ellipsis represents the boundary of the internal network.