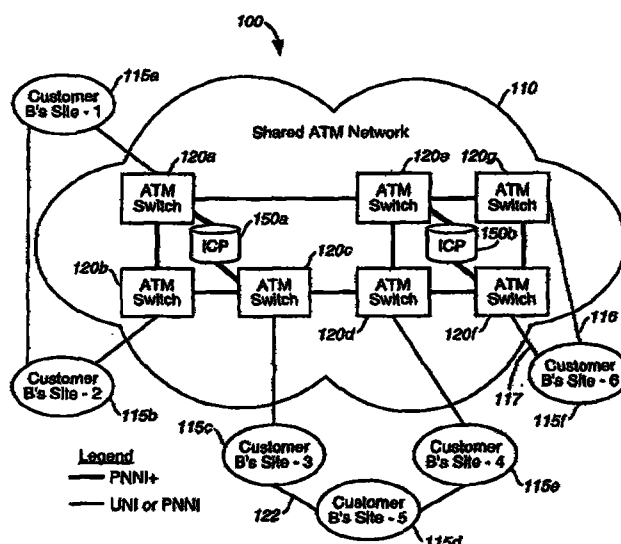




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(57) Abstract

A network architecture and service platform for providing virtual private network ("VPN") over an ATM network (110). The architecture provides services for voice, video and data traffic among multiple VPN customers over a shared ATM network by implementing intelligent control devices (150a) to perform enhanced processing of ATM call set-up messages, including validations and routing translations. Hierarchical routing mechanism provided by ATM, along with customized customer addressing schemes, are used to overlay customer VPNs (115a) as higher-level networks onto the shared ATM network. The control devices translate customer ATM VPN address to internal ATM network addresses. The ATM switch (120a) network then performs lower-level network processing, using internal network addressing to set-up a virtual connection for a VPN call. The intelligent control devices may also explicitly state the end-to-end route.