

# 串口服务器在单点交通信号控制系统中的应用与设计

刘姝黎 1, 史健芳 1, 杨 静 2

(1 太原理工大学 信息工程学院, 山西 太原 030024;

2 太原理工大学 信息化管理与建设中心, 山西 太原 030024)

**摘要:** 设计了基于 Direct - Net 核心处理模块,支持 IPv6 通信协议的串口服务器, 实现了单点信号控制器基于 IPv4 或 IPv6 联网的功能, 对智能交通、物联网等领域的发展具有一定的现实意义.实验结果表明, 在 IPv4 和 IPv6 环境下, 上位机客户端均可以通过串口服务器和单点信号控制器通信, 实现了现场运行状态远程监视和控制的设计功能.经测试, 系统可靠性、稳定性、功能性等各项指标均达到设计要求.

**关键词:** 智能交通系统; 单点信号控制器; IPv6; 串口服务器

## The Application and Design of Serial Server in Single Point Traffic Signal Control System

LIU Shu-li1,SHI Jian-fang1,YANG Jing2

(1 College of Information Engineering, Taiyuan University of Technology, Taiyuan  
030024,China;

2 Center of Information Management and Development , Taiyuan University of  
Technology, Taiyuan 030024,China)

**Abstract:** The paper designs a serial server based on Direct-Net that supports next generation Internet communication protocol named as IPv6 to make single point signal controllers be networked based on IPv4 or IPv6,which has a certain practical significance for the development of intelligent transportation, Internet of Things and other fields. In the IPv4 and IPv6 environment, the PC client can communicate with the single point signal controller through the serial server to achieve the functions of remotely monitoring and controlling running state in the field. After testing, the reliability, stability, functionality and other indicators of system have reached the design requirements.

**Key words:** intelligent transportation system; single point signal controller; IPv6; serial server

作者简介:

刘姝黎 男, (1991-), 硕士研究生.研究方向为智能仪器、目标跟踪.

史健芳 (通讯作者) 女, (1966-), 博士, 教授.研究方向为智能仪器及检测技术、智能信息处理、目标跟踪.E-mail:sxyshijianfang@163.com.

杨 静 男, (1970-), 博士, 副教授.研究方向为信息融合.