

目 录

视点聚焦

1 光网络的发展趋势与挑战

韦乐平

专题:三网融合

7 三网融合时代的机遇和挑战

鲁 维

12 三网融合环境下视频安全的挑战及对策

陈 戈,庄一嵘

17 三网融合下 IPTV 的发展思路浅析

海锦霞

21 三网融合下的移动家庭影视业务探讨

何 峰,黎 艳,贾聿庸

29 基于 IPTV 的家庭音乐融合产品研究

张路宜

研究与开发

34 超宽带系统的功率谱密度限制问题研究

赵 亮,刘双平,金 梁,陈金玉

40 适合高速铁路通信的多天线技术研究

王海波,尹学锋

45 僵尸网络技术发展新趋势分析

张 冰,杜国琦,李 静

50 3G 背景下异构互连网络的中间人攻击

李万雷,曹晓梅,陈丹伟

58 MIMO-OFDM 系统基于交织前缀的最大似然定时估计方法

张丙杰,胡捍英,王大鸣

62 认知无线 Mesh 网络跨层设计研究

匡为君,张 静,陈迎春,仵国锋

68 基于 Kademlia 的云存储系统数据冗余方案研究

吴吉义,章剑林,傅建庆,平玲娣

74 P2P SIP 抖动测试研究

朱 伟,杨海涛,蒋晓琳,段世惠

Huahuan

北京华环电子股份有限公司

“使信息更加通畅，为顾客创造价值”

- ◆ 致力于为运营商提供创新性的电信级接入解决方案
- ◆ 成立于1989年1月，清华大学控股的高新技术企业
- ◆ 二十年光接入经验，国内光接入领域的技术引领厂家
- ◆ 产品大规模成功应用于国内外主流运营商

地址：北京市海淀区上地六街26号 电话：010-62981998 网址：www.huahuan.com

- | | |
|-------------------------------|-----------------|
| 81 2D-Mesh 片上网络中通信密集点优化方法 | 韩国栋,谢同飞,肖庆辉 |
| 86 TD-SCDMA 集群通信系统中二基站宏分集性能分析 | 刘杰珍,唐 宏 |
| 91 物联时代智能车载电子系统发展分析 | 夏胜枝 |
| 96 全集成 CMOS SCA 接收机单片化探讨 | 徐 建,王志功,马 力,曾贤文 |
| 100 基于达芬奇技术的智能视频监控终端的开发 | 朱向军,毛剑飞,鲍卫兵 |

观察与交流

- 105 物联网网关系统设计 罗俊海,周应宾,邓霄博

运营支撑技术创新论坛

(亿阳信通股份有限公司协办)

- | | |
|----------------------------------------|---------|
| 111 “运营支撑平台”将面临一次新的革命——谈谈智能管道和智能运营支撑平台 | 宋俊德,马 珠 |
| 115 网络运维胜任力评估算法的研究及系统实现 | 李 焱,冉晋雪 |

运营与应用

- | | |
|---------------------------------|-----------------|
| 119 高清视频监控中的若干关键技术分析 | 任广杰,朱启东,曹 宁 |
| 124 视频监控信息服务运营模式探索 | 崔瑞琳,曹 宁 |
| 127 基于客户感知的 TD 网络异常话务专家系统的研究与建设 | 彭 赞,吴 波,周 蓓,任 重 |
| 131 基于深度业务识别(DPI)的 TD 业务感知提升策略 | 张 崑,贾思远 |

简讯 6,16,20,28,33,67,80,90,95,104,110,134

热烈祝贺华环成功入围 中国电信集团2010年光纤收发器集采 中国联通集团2009年MSAP设备集采

- ◆ MSAP多业务接入平台
- ◆ SDH/MSTP STM-1/4/16光传输设备
- ◆ PDH光传输设备
- ◆ PCM综合业务复用设备
- ◆ 协议转换器设备
- ◆ 光纤收发器设备
- ◆ TDM over IP设备等

地址:北京市海淀区上地六街26号 电话:010-62981998 网址:www.huahuan.com

Telecommunications Science

February 2011 (Vol.27 No.2)

- Development Trends and Challenges of Optical Fiber Networks Wei Leping(1)
Opportunities and Challenges of Triple Play Lu Wei(7)
Video Service Security Challenge and Solution Under Tri-Networks Integration Background
..... Chen Ge, Zhuang Yirong(12)
Preliminary Analysis of IPTV Development Strategy Under Tri-Networks Integration Hai Jinxia(17)
Study of Mobile Family TV/Video Service Under Tri-Networks Integration
..... He Yao, Li Yan, Jia Yuyong(21)
Musical Family Integration Product Based IPTV Zhang Luyi(29)
Research on the Power Spectral Density Limit in UWB Systems
..... Zhao Liang, Liu Shuangping, Jin Liang, Chen Jinyu(34)
Capacity Study of MIMO Technique for High-Speed Train Communications
..... Wang Haibo, Yin Xuefeng(40)
Analysis of Development Trends of Botnet Techniques Zhang Bing, Du Guoqi, Li Jing(45)
The Man-in-the-Middle Attack of Heterogeneous Network Interconnection in the Background of 3G
..... Li Wanlei, Cao Xiaomei, Chen Danwei(50)
Maximum Likelihood Estimation of Timing Synchronization for MIMO OFDM System Based on Interleaved Cyclic Prefix Zhang Bingjie, Hu Hanying, Wang Daming(58)
Research on Cross-Layer Design for Cognitive Wireless Mesh Networks
..... Kuang Weijun, Zhang Jing, Chen Yingchun, Wu Guofeng(62)
Study on Data Redundancy Scheme in Kademia Cloud Storage System
..... Wu Jiyi, Zhang Jianlin, Fu Jianqing, Ping Lingdi(68)
Research on Churn Test of P2P SIP Zhu Wei, Yang Haitao, Jiang Xiaolin, Duan Shihui(74)
Optimizing Communication Hot-Spot in 2D-Mesh NoC Han Guodong, Xie Tongfei, Xiao Qinghui(81)
Performance Analysis of Macrodiversity Based on Two Base Stations for TD-SCDMA Trunking Communication System Liu Jiezheng, Tang Hong(86)
Development Analysis of Intelligent Automotive Electronic Systems for Internet of Things Xia Shengzhi(91)
Research of Fully Integrated CMOS SCA Receiver
..... Xu Jian, Wang Zhigong, Ma Li, Zeng Xianwen(96)
Development of Intelligent Visual Surveillance Device Based on Davinci
..... Zhu Xiangjun, Mao Jianfei, Bao Weibing(100)
Design for Gateway System in Internet of Things Luo Junhai, Zhou Yingbin, Deng Xiaobo(105)
"Operation Support Platform" is Faced With a New Revolution —Intelligent Pipe and Intelligent Operation Support Platform Song Junde, Ma Lin(111)
Research and System Realization of Network Operation Performance Evaluation Li Yan, Ran Jinxue(115)

Chief Editor : Liang Haibin

Sponsor: China Institute of Communications

Poste and Telecommunications Press

Editor: *Telecommunications Science* Magazine Office (Room 602-607,F6,Talent International Building,No.80 East Section of Guangqumennei Avenue, Chongwen District, Beijing 100062, China)

General distribution office: Beijing Newspapers and Periodicals Distribution Office

Overseas distributor: China International Book Trading Corporation (P.O.Box 399, Beijing, China)