

关联规则经典算法的一种改进

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摘要: Apriori 算法是关联规则挖掘中的经典算法。针对 Apriori 算法的瓶颈提出一种改进算法产生频繁 2 项目

集, 并给出了一种简单有效的逐步缩减交易数据库的方法。新算法减小了存储空间, 并显著提高了 Apriori 算法

的效率, 并改进了数据挖掘算法的性能。

关键词: 数据挖掘; 关联规则; Apriori 算法

An Improved Apriori Algorithm for Association Rules

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Abstract: Apriori algorithm is a classical algorithm of association rule mining. To solve the bottleneck of the apriori

algorithm, a new method to generate the 2-frequent item sets is put forward. A simple and highly efficient method of

minimizing the trade database is given. The result shows that the new algorithm promotes the algorithm efficiency and at

the same time improves the performance of the data mining technique through cutting down the store space.

Keywords: data mining; relation rule; Apriori algorithm

基于群集行为的稳定性分析

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摘要: 本文着重研究了群及其聚结规则, 由雷诺兹启发提出的控制规律确保所有个体的前进方向和速度以渐近

线趋向于相同值, 并且避免个体间的相互碰撞。本文重点对群集运动的稳定性进行分析研究, 通过采用 5 个 agent

的仿真, 我们验证了群集运动的稳定性。

关键词: 群; 聚结规则; 群集行为; 稳定性

Stability Analysis of Flocking

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Abstract: Flock and flocking rules proposed by Reynolds are mainly introduced. The control laws presented ensure that

all agent headings and speeds converge asymptotically to the same value and collisions between the agents are avoided.

The stability of the flocking is researched in this paper. And we proved that the flocking motion is stable by the

simulation of 5 agents.

Keyword: flock; flocking rules; flocking motion;

基于FPGA 的SERDES 接口设计与实现

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摘要: SERDES 作为一种串行接口正在逐步代替传统并行接口而成为高速接口技术的主流。详细讨论了采用

VERILOG 语言并结合FPGA 来实现高速串行接口SERDES, 不但在数据中增加了CRC 校验位, 有利于传输中

随机错误的检测, 而且还增加了时钟比特, 有效地克服了源同步设计中数据和时钟的偏斜。

SERDES 接口的使用

有效地提高系统传输带宽, 同时也显著地降低了PCB 布线难度。实验表明8 通道数据位宽8bit 的SERDES 接口

数据传输速率可以达到737.28Mbit/s, 并且具有很好的带宽扩展和抗干扰性。

关键词: SERDES; 串行接口; FPGA; PCB

Design and Realization of SERDES Interface Base on FPGA

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2 University of Electronic Science and Technology of China; 3. Southwest Jiaotong University)

Abstract: Utilizing SERDES as a serial interface substituted parallel interface is becoming wider and wider in high

speed data transmission system. In this paper, the method to implement a high speed serial interface SERDES using

FPGA device and Verilog language is presented fist. It not only adds Cyclic Redundancy Checks for detection and

correction transmission errors but also embedded clock for handling skew between data and clock in source synchronous

system. The use of SERDES interface effectively improves system bandwidth and simplifies printed-circuit-board layout.

The SERDES interface of eight channels and 8bit widths is able to transmit at a speed of 737.28Mbit/s, it has a good

performance in bandwidth expanding and anti-jamming.

Key words: SERDES; Serial interface ; FPGA; PCB

数字跳频对讲机的设计与实现

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3 国电南京自动化股份有限公司, 江苏 南京 210096)

摘要: 本文介绍了用OMAP5912 实现G723.1 语音编解码, 经过信道编解码及交织解交织, 以及通过ARM 及

DSP 的相互通信实现了数字跳频手持设备。本文分析和介绍了实现数字跳频手持设备的一些过程和原理。

关键词: OMAP; G723.1; ARM_DSP 相互通信; 跳频

Abstract: This text introduce how to accomplish G723.1 Voice coding and decoding ,Channel

coding ,interlacing and
Deinterleaving by OMAP5912,and then Elaborate how to realize Figure Hopping handheld device by
DSPLink.The text
analysis and introduce the principle and process of realize Figure Hopping handheld device .
Keywords: OMAP; G723.1; DSPLink; Frequence Hope

Z 规格说明中笛卡尔积算子自动求精的研究与实现

文欣

(泉州仰恩大学计算机学院 362014)

摘要: 采用自然语言描述的规格说明通常具有模糊性和二义性,为了克服这种缺陷,人们提出了形式化方法。

Z 是目前最为流行的一种形式规格说明语言,但由于Z 本身缺少自己的编译环境,在工业界尚未达到广泛应用的

程度,鉴于这个原因提出了Z 向高级程序语言自动转化的思想。本文介绍了Z 规格说明中的数据类型,主要研

究了Z 中笛卡尔积算子的自动求精。

关键字: Z 规格说明; 笛卡尔积; 自动转换

Descarte Operator Automatic Refinement Research And Implementation In Z Specification

Wen Xin

(Yang En University 362014)

Abstract: Specification described by nature language frequently is obscure and divergent,formal method is preferred in

order to override deficiency of specification described by nature language. Z is presently the most fasionable formal

specification . It is not extensively applied in indusy field due to lack of own complied environment .So the automatic

transforment thought of Z specification to high language is put forward. Z data type and descarte operator transforment

are discussed princially in paper .

Keywords: Z Specification; Descarte; Automatic; Transforment

IFR 协议综述及实现

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摘要: 本文对FC 协议, IFR 协议进行了综述,并提出了IFR 的简单模型,及实现此模型的各功能模块的划分。

关键词: FC; SAN; IFR; 光纤通道

REVIEW OF IFR Protocol and Implementation mechanism

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Abstract: This paper introduce the FC protocol an review the IFP protocol. Propose a simple module, and give a

function module how to implement that.

Keywords: FC; SAN; IFR; Fiber channel

MESH 型时钟路由算法

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摘要: 本文主要解决的是网状型ASON 网络的时钟组网的问题。本文在Dijkstra 算法的基础上, 对算法做出改

进, 将网状网重整为树状拓扑结构, 根据树的结构向下游结点传递同步信息, 使整个网络达到同步。

关键词: 网状网; 同步; 自动交换光网络; Dijkstra 算法

Route Algorithm of Mesh-based Synchronous Network

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Abstract: This paper gave an algorithm of the constructing a synchronous network for the mesh-based ASON network.

Improving on Dijkstra algorithm, we reformed the mesh topology to a spanning tree, which conveyed synchronous

message to the backward notes according to its configuration, and the whole network is synchronous together.

Keywords: Mesh; Synchronous; ASON; Dijkstra Algorithm

一种基于信誉机制的安全P2P 系统*

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摘要: 由于因特网环境的开放性和动态性的特点, P2P 系统不可避免的会遭受各种攻击。本文提出了一种应用

于P2P 系统的信誉机制, 它使得系统中的一台主机在给另一台主机转发数据时不仅考虑它的传输速率, 同时还

考虑它的信誉度, 所以这种机制不仅能够保持数据的传输效率, 同时还能够保证数据传输的可靠性。

关键词: P2P 系统; 信誉机制; 信誉度; 可靠性

A Secure P2P System Based On Reputation Scheme

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Abstract: For the nature of Internet environment, P2P systems suffers from various kinds of malicious attacks

unavoidably. This paper put forward a reputation scheme which is applied to P2P systems, when one host forwards data

to another host, the scheme not only considers the transmission speed, but also takes the level of the reputation into account. This scheme not only keeps transmission efficiency, but also ensures reliability in the data transmission.

Keywords: P2P System; Reputation Scheme; Reputation; Reliability

利用VC++实现串行通信数据实时接收与存储

刘四方 张志宝

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摘要: 介绍了在VC++环境下实现串口通信的主要方式, 并着重阐述API 通信函数及其参数的含义; 结合工程实

际成功实现利用多媒体定时器实现串口数据的接收, 同时存入数据库的功能, 经过实际测试收到理想效果。

关键词: 串口数据; 实时接收; 存储

Research on Incepting and Storage of Serial Communication Data Using VC++

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Abstract: In this text, introduce most method of serial communication by VC++, expatiate on API communication

function and the meanings of preference; finish successfully incepting communication data using multimedia timer in

practice. Meanwhile, realize the function of access data to database and get ideal effect.

Keywords: Serial Data; Incept real-time; Storage

基于FPGA 的实时SAR 成像系统转置存储的实现

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摘要: 介绍了如何利用FPGA 控制SDRAM 实现实时SAR 成像系统的转置存储。首先介绍了转置存储的工作

原理, 接着分析了SDRAM 的工作状态并重点研究了基于FPGA 的SDRAM 控制器设计, 最后立足系统设计指

标, 构造地址计数器和引入乒乓倒换结构存取以满足SAR 实时成像系统中转置存储的需求。

关键词: FPGA; 转置存储; SDRAM; SAR; 乒乓倒换

Corner Turn Memory Design Based On FPGA In Real-time SAR Image System

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Abstract: This paper presents how to realize corner turn memory in real-time SAR image system by

using FPGA to control SDRAM. It commences with the working principle of corner turn memory. Moreover, it analyses the working states of SDRAM and studies with emphasis how to design SDRAM controller based on FPGA. Finally it constructs an address counter and introduces the ping-pong alternative storage method to satisfy the demand of corner turn memory in real-time SAR image system.

Keywords: FPGA; corner turn memory; SDRAM; SAR; ping-pong alternative storage

基于局域网的CDMA 网络模拟的实现

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摘要: 作者将局域网的文本与语音通信关键技术与CDMA 网络结构相结合, 实现自定义的CDMA 网络模拟系统, 使得应用该软件的用户在享受局域网语音与文本通信的同时了解CDMA 网络结构和运行机制, 文中重点介绍自定义的基于局域网的CDMA 网络模拟系统的信令系统、数据库实现和语音通信的原理和实现过程。

关键字: TCP/IP; 套接字; 语音通信; 信令系统

Realization of the Simulation on CDMA based on LAN

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Abstract: The authors realized the simulation system of CDMA based on LAN by the way of combining the key technology and the theory of data and voice communication based on LAN and the structure of CDMA. The article mainly introduces the theory and the realization of the controlling signal system and voice communication module of the Simulation system of CDMA.

Keywords: TCP/IP; socket; Voice Communication; signal system

基于delphi 的传感器网络通讯的上位机软件设计

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摘要: 在自主设计了一种轻量级的传感器网络协议以及在该协议上实现了控制器以及节点硬件等设计的前提下, 开发了一个用于传感器网络通讯的上位机监控软件。本文主要介绍了该软件的两个主要模块: 组态模块和实时监控模块。测试结果显示该软件能有效实现网络通讯的实时监控与控制, 以及实时数据的显示与更新。

关键词: 监控组件; delphi; 监控设置; 数据采集

Upper Computer Software Design of Sensor Network

Communication Based on Delphi

Zhu Weiwei Ju Chunhua Xing Jianguo Zhao Wenmin

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(Zhejiang Gongshang University, Hangzhou 310018,China)

Abstract: Under the premise of having independently designed one kind of lightweight sensor network protocol, as well as having designed Controller and the node hardware based on the protocol, designed a upper computer software design for sensor network communication. This paper mainly introduces the two main modules of this software: configuration module and real-time monitoring module. The test result shows that this software can effectively implement the network communication and real-time monitoring and controlling, as well as the real-time data display and renewal.

Keywords: Monitoring Component; Delphi; Monitoring Establishment; Data Acquisition

基于delphi 的传感器网络通讯的上位机软件设计

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摘要: 在自主设计了一种轻量级的传感器网络协议以及在该协议上实现了控制器以及节点硬件等设计的前提下, 开发了一个用于传感器网络通讯的上位机监控软件。本文主要介绍了该软件的两个主要模块: 组态模块和实时监控模块。测试结果显示该软件能有效实现网络通讯的实时监控与控制, 以及实时数据的显示与更新。

关键词: 监控组件; delphi; 监控设置; 数据采集

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Keywords: Monitoring Component; Delphi; Monitoring Establishment; Data Acquisition

一种基于Oracle 的SVG 地图文件生成算法

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摘要: 本文提出了一种基于Oracle 数据库的SVG (Scalable Vector Graphics, 可伸缩矢量图形) 地图文件的生

成算法。算法充分利用了数据库存储过程的可扩展性, 速度快等特性, 结合空间数据的存储方式, 直接生成SVG

格式的地图文件。实验表明所生成的地图文件符合SVG 格式规范, 利用该方法, 可以构建出基于SVG 的矢量地

理信息系统。

关键词: oracle 空间数据库; 可伸缩矢量图形; 矢量地理信息系统

A Svg Vector Map Document Generation Algorithm base on Oracle

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(School of Information Science&Technology, Southwest Jiaotong University, Chengdu 610031, China)

Abstract: This paper presents a database based on the oracle Svg Vector Map document generation algorithm. The

procedure of database have good scalability, speed and other characteristics. The paper is tied in wedlock space data

memory way and generate the SVG Vector Map document directly. The experiment enunciation matches SVG format

norm the born map document. Using this method can be constructed based on svg vector GIS.

Keywords: oracle spatial; svg; vector geographic information system

一种有利于资源选择的网格资源发现机制

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摘要: 分析以往的网格资源发现机制, 在分层思想的基础上提出了一种新的网格资源发现机制。在虚拟组织内

利用注册资源信息表, 进行快速资源发现, 在虚拟组织间进行资源搜索过程中引入了移动Agent 的新路径算法,

节省了用户比较选择的时间, 有利于用户对资源进行选择, 减轻网络负载, 提高资源发现效率。

关键词: 网格; 资源发现; 资源选择; 虚拟组织; 移动代理

One kind is advantageous to the resources choice grid resources discovery mechanism

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Shandong 257061, China)

Abstract: Analysis of past Grid resource discovery mechanism, the stratified on the basis of a new Grid Resource Discovery. The virtual organization registered with the use of resources information table for quick resources found in the virtual inter-organizational resources search process for the introduction of the new Mobile Agent path algorithm, saving users more choice of time and resources to help users make choices, and reduce network load and improve resource discovery now efficiency.
Keywords: grid; resource discovery; resource selection; virtual organizations; mobile agent

卫星红外图像序列仿真技术的研究与实现

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摘要: 为了降低实际获取卫星红外图像序列所需的代价, 针对探测器的特点, 提出一种结合星空背景仿真卫星红外图像的方法。该方法采用红外图像仿真技术建立了卫星和星空背景的几何模型、运动模型和红外辐射模型, 并生成了与星空背景结合的卫星红外图像序列。结果表明, 仿真生成的卫星红外图像序列效果逼真, 为目标检测、跟踪算法研究及评估提供了实验验证的仿真环境。
关键词: 红外图像仿真; 卫星红外图像序列

Study and Implementation of Infrared Images Simulation Technology of a Satellite

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Abstract: According to the characteristics of detectors, we propose a solution which simulates the infrared images of a satellite in the star sky to cut the cost of getting the infrared images. We establish the 3D models, motion models and infrared radiation models of the satellite and stars. At the same time, the infrared images of a satellite combined with the star sky are generated. Simulation results illustrate that our method which supplies a simulation condition is suitable to the study of targets detection and targets track.

Keywords: Infrared Images Simulation Technology; Infrared Images of a Satellite

电信增值业务如何跨越“市场裂谷”

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提 要: 目前, 电信运营商都处在战略转型的关键时刻, 中国联通副总裁李正茂称: “未来的电

信产业必将进入
TIME（通信：telecom；信息：information；传媒：media；娱乐entertainment）时代。”也就是
电信运营商要从传
统网络提供商向综合信息服务提供商转变，从原有的电信基础业务向媒体、娱乐等增值业务领
域延伸，电信服务
唯有大力发展电信增值业务，才能创造出新的利润增长点，实现可持续发展，这是未来发展的
趋势，也是目前电
信运营商首要考虑的问题。
但是，在发展电信增值业务的时候我们却遇到了“裂谷”现象，有的业务如短信在短时间成功
跨越裂谷，成
为一炮而红的“明星”业务；而近几年推出的很多新业务都处于半死不活的境地，实际上就是
摔下了“裂谷”。
本文就是基于生命周期模型和裂谷理论对电信增值业务进行梳理分析，提出经营模式建议，以
期其成功“跨越裂
谷”。

关键词：增值业务；互联网；生命周期模型；裂谷

How the telecom added business to span the rift valley

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Abstract: At present, the telecom operators are at the key time of transformation. The assistant president of China Unicom Li Zhenmao said:” The future telecom industry will be in TIME age.(T-telecom, I-information, M-media, E-entertainment)”. It means that the telecom operators will change from traditional network supplier to integrate information service provider, whose businesses will extend to media and entertainment industry. They should supply more and more telecom added businesses. In this way they could find new increasing profit, realize continuable development, which is not only the developing trend, but also the principle problem to the telecom operators. But, we met the phenomenon of rift valley when developed added businesses. This essay will analyze the telecom added business according to the PLC and rift valley theory, and bring forward the develop strategy, hoping them successfully span the rift valley.

Keywords: added business; internet; product life cycle; rift valley

基于S3C44B0 处理器的uClinux Bootloader 的分析与实现

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摘 要: 在嵌入式系统设计过程中，Boot Loader 的设计是遇到的第一个难点，本文以基于ARM（S3C44B0）的

uClinux 为例, 分析了Boot Loader 的基本原理, 提出了具体实现的方案, 并给出了关键代码。

关键词: 嵌入式系统; S3C44B0; uClinux; BootLoader

Analyse and implementation of uClinux BootLoader based on S3C44B0 processor

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Abstract: During the developing of embeded system, the design of BootLoader is the first problem.

Using the uClinux

(based on S3C44B0 MCU) as an example, This paper analyses the concept of the BootLoader, put forward the

implementation project, and gives the key code of the bootloader.

Keywords: embedded system; S3C44B0; uClinux; BootLoader;

A New Training Algorithm for the Process Neural Network and Its Application

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Abstract: This paper presents a new training algorithm for the process neural network (PNN) when it is used to model an

industrial process. On the base of the pretreatment for the process discrete data considering their including some pseudo

ones, a new training algorithm based on discrete Walsh conversion was used to convert the discrete data to be the direct

inputs of PNN, which can shorten the PNN training time and improve the PNN mapping capability.

The PNN model

with the new training algorithm and two hidden-layers structure was applied to forecast the mycelium density of the

glutamate fermentation process, and the simulation results were excellent.

Keywords: process neural network; Walsh conversion; data pre-treatment; mycelium density; fermentation process

基于Web 的业务支撑系统的设计与实现

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摘要: 本文在B/S 系统MVC 模式的基础上介绍了Struts, Hibernate, Spring 三个开源框架的体系结构, 结合

软交换的BOSS 系统的具体模块, 讨论了基于Web 的业务支撑系统采用这三个框架组成J2EE 架构的设计与实现。

关键词: MVC 模式; Struts; Hibernate; Spring; 基于web 的业务支撑系统

Design and Realization of Web-based Network Management System

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Abstract: This paper introduces the framework of Struts, Hibernate and Spring based on MVC model in the B/S system. It presents the design and realization of Web-Based Business Support System based on these frameworks with one model of the J2EE structure.

Keywords: MVC pattern; Struts; Hibernate; Spring; Web-Based BSS

一种网络告警的增量式情景规则挖掘方法

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摘要: 基于WINEPI 算法挖掘电信网告警中的情景规则是故障管理中的一个研究热点, 目前多数研究是在一次挖掘前提下改进WINEPI 的挖掘效率。本文基于WINEPI 算法框架, 针对告警数据增加而导致的重复挖掘, 提出了一种增量式挖掘算法IERMA, 通过利用原告警序列的挖掘结果构造约束条件, 使之对新告警序列下的候选情景集进行削减。实验证明IERMA 在重复挖掘情况下取得了比WINEPI 更高的挖掘效率。

关键词: WINEPI; 增量式挖掘; 频繁情景; 情景规则; IERMA

A Method for Incremental Episode Rules Mining on Network Alarms

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Abstract: It is a hotspot in the network fault management by mining episode rules implicated in telecommunication network alarms based on WINEPI algorithm. Currently most researches focus on improving the efficiency of WINEPI on the assumption that the mining algorithm runs one time only. In this paper an incremental algorithm IERMA is presented for the repeated mining caused by increase of alarms. By using the mining result on previous alarm sequence we construct several constraint conditions which can reduce the size of candidate episode set on new alarm sequence. The experiment indicates that IERMA is more efficient than WINEPI on the condition of repeated mining.

Keywords: WINEPI; Incremental Mining; Frequent Episodes; Episode Rules; IERMA

无线网络信号质量监测系统事件通知模块的设计

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摘要: 介绍了无线网络信号质量监测系统中基于.Net Remoting 通信机制的事件通知模块, 阐述了事件通知模块的设计流程。本论文为需要实现实时系统消息广播的应用软件提供了基本的设计模型, 具有较好的可移植性。

关键字: Remoting; 事件通知模块; 设计

Event-Notification Module Design in Wireless Network Signal

Quality Monitoring System

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Abstract: This paper mainly introduces the Event-Notification Module in wireless network quality signal monitoring system, it also illuminates the basic working process of the Event-Notification Module. The Module is characterized by strong migration, which provides a common framework for those application software systems who need to realize real time system information broadcasting.

Keywords: Remoting; Event-Notification Module; Design

借奥运之机, 大力发展IPTV

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摘要: 为更好地满足全国人民观看奥运比赛的需求, 同时提前为三网融合带来的新的竞争做好准备, 我国的电

信运营商应以IPTV 技术作为切入点, 在良好的时机背景下, 结合优势技术, 推出适宜的产品满足市场需求, 培

养品牌意识、引导全民健身, 同时也符合和谐社会的理念。在这一过程中不仅发挥运营商的作用, 更以领导者的

身份顺应三网融合的趋势, 抓住时机实现企业的基业常青。

关键字: 奥运会; IPTV; 三网融合

Depending on the opportunity of 2008 Olympic Games to

promote IPTV

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Abstract: In order to meet the demand of people watching Olympic Games and prepare for the ongoing Triple play competition, our communications companies should utilize IPTV technology to go into the new

market. Under the circumstance of 2008 Olympic Games, they should take advantage of their better IPTV technology to launch suitable product so that they can build strong brand and induce people to exercise at the same time and meanwhile accord with the idea of harmonious society. At that time they will not only be service providers but also be first movers to grasp the chance of triple play to last forever.
Keywords: Olympic Games; IPTV; Triple play

美军C4ISR 的体系结构框架研究及对我军的启示

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摘要: 加强体系结构研究的根本目的是确保在联合作战中各种武器系统能够协调配合和有效部署, 因此成为当今各国研究的热点。本文分析了美国C4ISR 体系结构以及体系的指导原则和步骤, 对C4ISR 体系结构框架进行了研究和探讨, 并提出了我军体系结构开发的几点启示和建议。

关键词: C4ISR; 体系结构; 启示

The Research of C4ISR architecture framework of the United States' army and The Enlightenment for my army

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Abstracts: The fundamental purpose of strengthening the study of the architecture framework is to ensure that the various weapon systems can cooperate harmonized and arrange effectively, so it has become a hot research issues. This paper analyses the United States C4ISR system architecture and its guiding principles and steps, at the same time, it studies and discusses the C4ISR architecture framework, and puts forward some suggestions and Enlightenment of the development of military architecture for my army.

Keywords: C4ISR; Architecture framework; Enlightenment

基于XML 的统一配置管理系统的研究*

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摘要: 随着网络的发展, 各种网络设备和各种增值业务的管理变得极为复杂, 我们结合XML 技术和Linux 内核着重研究软件架构的管理平面设计, 分析和讨论了统一配置管理对客户机和服务模式的支持, 以及多客户机与内核交互的接口实现, 实现对多种业务配置的重用性设计。

关键词: XML; 配置管理; 注册; 服务模块

Research for Unify Configuration Management System Based on XML

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Abstract: With the network development, it is a significant technical challenge to manage and configure kinds of network equipments and add-value services. The paper provide reliable high- universal management plane 's architecture based on XML and Linux kernel , it give the outline of reusability and challenges which a designer may face while supporting C/S model and interface design between multi-clients and kernel .

Keyword: XML; configuration management; register; service module

大规模垃圾短信实时过滤系统的设计与实现⁵

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2 中国联通浙江分公司, 浙江 杭州 310006)

摘 要: 垃圾短信是近年来困扰手机用户和运营商的一大难题。在分析现有短信监控系统不足的基础上, 结合文

本分类技术和行为识别技术, 设计了一种垃圾短信监控和过滤系统。系统综合考虑短信发送行为特征、短信文本

内容等特点, 并采用实时分类和离线分类相结合地方法进行高效短信过滤。此外, 系统还设计了一组基于反馈的

自学习机制, 使分类器具备增量式学习能力。相比传统方法而言, 本系统在过滤效率和准确率两方面均获得大幅

度提升。

关键词: 垃圾短信过滤; 统计学习; 文本分类

The Designing and Realizing of Large-Scale Online Spam

Message Filtering System

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Abstract: Spam short message (SMS) had been a big problem that disturbed cell-phone users and mobile operators

recently. We designed a spam-message-filtering system to resolve this problem, which combined online filtering with

offline classifying. The system could filter the messages efficiently according to the characteristics of sending behavior

and the content of the messages. Further, the system brought forward a feedback self-learning mechanism, so the

classifiers in the system could improve themselves according to the filtering result. Comparing with

traditional methods,
the mentioned idea showed obvious improvement in filtering efficiency and accuracy.
Keyword: Spam short message filter; Statistical learning; Text categorization

移动核心网WAP 监控分析系统的设计与实现

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摘要: 本系统由数据采集系统、用户接口系统、数据库三大部分组成。在核心网的Gn 接口对 WAP 业务进行

监测和分析,并将数据存入数据库。系统在J2EE 平台上采用MVC 模式,使用户可以通过个人终端上的浏览器

访问用户接口系统,查询到WAP 报表信息。可以应用于省/市级的移动运营商。

关键词: WAP; 数据采集; 数据库; J2EE; MVC

Design and Implementation of WAP-MonitoringSystem in Mobile Core Net

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Abstract: The System is constituted by three parts : DataCollectionSystem , ClientViewSystem and Database . It monitor

the service of WAP and analyse the data on Gn interface in core net , then push the data into database .Because this

system adopt MVC model on J2EE platform , user can visit ClientViewSystem and query WAP reports information

easily through any browser on his/her PC . It could be useful for mobile-phone operators .

Keyword: WAP; Data Collection; Database; J2EE; MVC

网格能力在局端接入设备中扩展的可行性研究

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摘要: 网格是继Internet、Web 之后的第3 次互联网技术革命。网格的实际价值体现基于网络中同构或异构机群

对网格支持的能力。网络中资源的有效利用,已不仅限于网格高层协议或网元的能力,局端接入设备对网格这种新

技术支撑可能会成为网络发展策略性的趋势。本文给出了针对该趋势发展的一个基于协议的解决方案。

关键字: 通信技术; 网格; 接入; 调度; 并行

Research of Grid Ability in Access Network

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Abstract: Grid technology is the 3rd internet technology revolution after internet technology and Web service. The

benefits of the grid are based on the process ability among isomorphic & isomeric computer-cluster online. It is now far beyond the scope of grid application protocol designing and network element ability when seeking for a way of internet resource fully usage. Grid ability in access network maybe is a technical trend submitted to current internet developing policy, and so , a protocol based solution is designed and provided.
Keyword: communication technology; grid; access; scheduler; parallel algorithm

支持在线更新的多系统Bootloader 及模块化软件更新设计

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摘要: 在载人航天某系统的研发过程中, 为了应对空间辐照等特殊环境, 满足系统高可靠性的要求, 要求在系统存储多个系统以提高可靠性。本文论述了一种有效应对空间辐照对系统可靠性影响的bootloader 的原理和实现方式, 它支持从多个冗余系统中选择最新系统启动和CRC 校验功能等。本同时介绍了基于此bootloader 的模块化软件更新设计实现。实践证明此系统设计可以大大提高系统的可靠性, 极大地减少由于部分错误导致整个系统崩溃的可能性。

关键词: DSP; TMS320C6713; BOOTLOADER; 多系统启动; 模块化; 软件更新

The design of a multi-system bootloader system that support updating and the modue-update system

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Abstract: Payload Data Handling and Transmission system need high reliability as an important part of aircraft. This system can avoid the effect of the spaces rays to the flash system, and improve the reliability effectly. It can choose a lasted right system from the board to boot, and also can updating on line. The experiment shows that it can improve the reliability rightly.

Keywords: DSP; TMS320C6713; BOOTLOADER; MultiSystem Boot; software update

一种新型基片集成波导结构研究

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摘要: 小型化基片集成波导(SIW)是通过磁壁的作用将原来基片集成波导结构尺寸减小一半,

但是这种新型结构不便于运用到实际电路。为了解决这一问题，提出了一种改进后的小型化基片集成波导结构。这种结构虽然尺寸稍增加，但是比普通基片集成波导还是小，且易于运用到实际电路中。通过HFSS 对一个工作于Ku 频段的结构来进行仿真验证，结果表明，这种改进后的结构传输特性基本不变，但是频率有一定的偏移，适合运用于实际电路，具有很大的研究价值。

关键词：基片集成波导；小型化；S 参数；磁壁

Research of Novel Substrate Integrated Waveguide (SIW)

Structure

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Abstract: Depending on the effect of magnetic wall, the miniaturized substrate integrated waveguide (SIW) can reduce

half size of original SIW. However, this new type structure is difficult to be implemented in actual circuit. In order to

solve this problem, an improved miniaturized SIW structure is introduced, which is a bit larger but easier to be used in

real circuit. A Ku-band planar transition between micro-strip and the miniaturization SIW was designed to validate, and

used HFSS to simulate. The result shows that the innovative structure of miniaturized SIW is worth to be further

researched with large potential applied value because the transition is almost invariable in despite of some remotion in frequency.

KeyWords: SIW; miniaturization; S parameter; magnetic wall

Design of Hardware-in-the-loop Simulation System to UAV

Landing Guidance

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² The Telecommunication Engineering Institute of Air Force Engineering University)

Abstract: the UAV ILS is key component to realization of UAV automatic landing , How to design and test the stability,

reliability and performance indicators of landing guidance system, and not spend a lot of financial and material resources

for the actual flight risk, become an important topic in the project development. This paper describes the design of a

Hardware-in-the-loop Simulation system that can practical alternative to flight tests, and the maximum simulated

instrument landing system to guide UAV landing.

Keyword: UAV; Automatic Landing Guidance; Hardware-in-the-loop Simulation

IPv6 SSM 组播技术研究及其实现

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摘要: 文章介绍IPv6 组播的基本原理, 在分析IPv6 特定源组播 (SSM) 工作原理和特点的基础上, 提出了基

于IPv6 的PIM-SSM 协议的特定源组播实现方案。

关键词: IPv6; MLD; SSM 组播; PIM-SSM 协议

IPv6 Source-specific Multicast and Its Implementation

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Abstract: This paper describes the basic principle of IPv6 multicast, based on the analysis of the theories and characters of

IPv6 source-specific multicast (SSM), it presents a realization scheme of IPv6 SSM based on the PIM-SSM protocol.

Keywords: IPv6; MLD; SSM; PIM-SSM

利用膨胀图求解SAT 问题*

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摘要: 一般的求解SAT 问题的随机算法是对一个CNF 公式的解进行 t 次随机搜索, 共需要 tn (n 为变元个数)

个随机位。本文提出的算法, 利用膨胀图的性质诱导随机步搜索CNF 公式的 t 个解, 只需要 $(+ n n t \log)$ 位随

机位, 降低了算法对随机位的依赖。

关键字: SAT 问题; 膨胀图; 随机算法; NP 完全问题

The Expander Graphs are Applied to Solve SAT Problems

Wu Xuejiang

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Abstract: A general random algorithm for SAT problem is to randomly search t solutions with n random bits for CNF

formula and requires a total tn random bits. In this paper expander graph can be applied to locally search t solutions

for CNF formula and only requires $(+ n n t \log)$ random bits. This algorithm reduce the dependences of random bits.

Keyword: SAT problem; expander graphs; random algorithms; NP complete problem

移动数据业务实时监控分析系统的研究

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摘要: 随着技术发展,移动数据业务的应用也越来越多。移动数据业务的运行状况就是值得关注的问题。针对

移动数据业务的实时监控系统,本文主要研究系统的架构设计以及系统的工作流程。可以按照设计方案来实现实时

监控系统,得到网络运营的实时数据,通过分析得到相关数据来评估网络质量,为提高网络质量作出相关指导。

关键字: 移动数据业务;实时监控系统;系统架构

Research of Real-time Monitoring System for Mobile Data Service

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Abstract: With the technological development,the application of mobile data services is more and more.So the

operational state of Mobile Data Network is worth paying close attention to.This paper mainly discuss the system frame

of the real-time monitoring system and study the technological process of the system.According to the design plan,we

can realize the purpose,and we can obtain the real-time data of the network,and by analyzing those data,we can appraise

the mass of the network.Those data can also give some suggestion to approve the mass of Mobile Network.

Keywords: Mobile Data Services; Real-time Monitoring System; System Frame

基于Apriori 算法及其改进算法综述

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摘要: Apriori 算法是关联规则中的一种重要算法。全面总结了Apriori 算法的研究现状,总结了针对Apriori

算法进行的改进算法,分析比较了它们的性能差异和各自存在的优点及问题,并展望了Apriori 算法未来的发展

方向。

关键词: 数据挖掘; 关联规则; Apriori Algorithm

Survey based on Apriori Algorithm and it's Improved

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Abstract: Apriori algorithm is an important algorithm in association rules. This paper provides a detailed survey of

current research on Apriori algorithm, and summarizes some improved algorithm based on Apriori algorithm, then it

makes a comparison among them, illustrates the merits existing in them, and identifies the problems to be solved and the

new directions in the future according Apriori algorithm.

Keywords: data mining; association rules; apriori algorithm

基于PLC 技术的未来智能家庭控制系统的设计与实现

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摘要: 本文介绍了智能家居和基于电力通信总线 (PLCBUS) 的家庭网络控制技术, 提出了一种综合利用

PLCBUS 技术、802.11 网络、GSM/GPRS 网络的家庭信息网络智能控制系统的实现方案, 并详细说明了该方案

系统的实现架构、控制过程。最后分析了该方案的特点并提出改进方向。

关键词: 智能家居; 电力线载波通信; WLAN; 自动控制

The Design and Implementation of A Smart Home Control System Based on PLC

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Abstract: In this article, firstly both the Smart Home and a kind of Power Line Communication (PLC) based control

technology are introduced. Moreover, we proposes a smart home control scheme by means of PLC, 802.11 network,

GSM/GPRS etc. Then the implement and control process are described in detail. At last, we analyze the character of the

scheme and point out its shortage.

Keywords: Smart Home; PCL; Auto Control; WLAN

Parlay X 在电信增值业务开发中的应用

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摘要: 如何快速开发部署电信增值业务一直是个难题, 本文介绍了Parlay X, 电信增值业务开发部署的新平台。

作者将在详细介绍Parlay X 规范的同时对Parlay 和Parlay X 规范进行比较, 并提出了基于Parlay X 的业务生成

系统 Parlay X SCE。

关键词: 电信增值业务; Parlay X; Parlay; SCE

The Application of Parlay X in Developing Telecommunication Value-added Services

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Abstract: How to develop and deploy Telecommunication Value-added Services has been a difficult

problem for a very long time, this passage introduce Parlay X- a new flat roof in developing and deploying Telcommunication Value-added Services.

The author will introduce Parlay X rules particularly and compare Parlay rules with Parlay rules particularly at the same time ,and introduce Parlay X SCE which is based on building system of Parlay X service.

Keywords: Telcommunication Value-added Services; China Mobile Parlay X; Parlay; SCE

一种准静态容错DVS 节能调度算法

陈海坚 张拥军

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摘要: 容错与功耗的均衡最近成为实时系统研究中的一个热点, 目前的大多数工作主要围绕基于动态电压调节

(dynamic voltage scaling, DVS) 的节能技术和基于时间冗余的容错技术展开。本文研究一类存在依赖关系的硬

实时多任务集在容错约束下的功耗优化问题, 为了充分利用由于任务实际执行时间与WCET(最差执行时间)的

差值及故障发生的不确定性而产生的动态slack(空闲时间), 提出一种低在线开销的准静态DVS容错节能调度

算法。模拟结果证明该算法能以较低的在线开销充分利用动态slack, 达到既满足容错要求又能使系统能耗大幅

降低的目的。

关键词: 实时系统; 嵌入式系统; 动态电压调节; 容错; 调度算法

A Quasi-Static DVS Scheduling Scheme for Real-Time

Embedded Systems with Fault-Tolerant Constraint

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Abstract: Recently, the tradeoff between energy consumption and fault-tolerance in real-time embedded systems has

been highlighted. These works have focused on dynamic voltage scaling (DVS) to reduce dynamic energy dissipation

and on-time redundancy to achieve transient-fault tolerance. In this work, we investigate power optimization for a set of

hard real-time tasks that exist dependencies. We propose a quasi-static approach that is able to exploit, with lower online

overhead, the dynamic slack that arises from variations in the actual number of task execution cycles and fault

occurrences. Simulation results show that the proposed scheme can take full advantage of the dynamic slack to achieve

significant energy savings while preserving the system reliability.

Keywords: real-time systems; embedded systems; dynamic voltage scaling; fault tolerance; scheduling scheme

河南农村党员干部现代远程教育系统介绍

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摘要: 在全国远程办和信息产业部的关怀和关注下, 在河南省委省政府的正确领导和积极推动下, 河南农村党

员干部现代远程教育项目顺利开展, 在探索符合中国农村特点的现代远程教育和推动社会主义新农村信息化建设

方面, 走出了一条创新之路。

关键字: 远程教育; 党员教育; 农村信息化; 机顶盒; 宽带网

The Introduction of Henan Modern Distance Education System

for Party Members and Cadres

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2 China Netcom Henan Branch Network Management Centre 450008)

Abstract: With the care and attention of Remote Office and the Ministry of Information Industry, with the correct

leadership and actively promoted by the Henan Provincial government, Henan Modern Distance Education System for

Party Members and Cadres is being carried out smoothly. This system goes out of a creative path in exploration the

characteristics of modern long-distance education and promotes the new socialist information building of China's rural areas.

Keywords: distance education; party members education; agricultural information; set-top box; broadband network

蓄电池组监测数据分析及故障处理

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摘要: 本文首先介绍了动力环境监控系统的作用及构成情况, 对通信蓄电池组实施监控的重要性, 蓄电池组接

入监控系统情况、接入方案以及监控系统的可靠性问题, 然后重点介绍动力环境监控系统有关蓄电池组运行监测

数据的分析, 及时发现问题及预见蓄电池组可能存在的隐患, 指导设备维护人员及时对蓄电池组进行维护, 同时

详细介绍了有关电池组部分的监控系统故障的分析及处理方法, 为监控系统维护人员积累经验、为快速处理监控

故障提供参考。

关键词: 蓄电池组; 监测数据分析; 故障处理; 充/放电曲线; 实时曲线

现代仿真技术研究与应用中值得关注的几个方向

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摘要: 仿真技术是当前应用最广泛的实用技术之一, 研究、应用仿真技术已成为各行各业的一种时尚。本文首

先介绍了仿真技术的概念, 接着对现代仿真技术研究与应用中值得关注的几个方向进行了探讨。

关键字: 仿真技术; 研究与应用; 方向

Several Popular Orientations in Research and Application of Modern Simulation Technology

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Abstract: Simulation technology is currently one of the most extensive practical application of technology. The research and application of it have become a fashion in every trade. An introduction to Simulation Technology is given at first,

and then several orientations which are worth to pay attention to research and application in Modern Simulation

Technology are discussed.

Keywords: Simulation Technology; research and application; orientation

移动IP 穿越防火墙的新技术研究

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摘要: 本文描述了如何把IPSEC 技术应用于移动IP 穿越防火墙的方案中, 研究移动IP 穿越防火墙的安全问题,

指出应用IPSEC 技术的优势, 设计了IPSEC 技术和移动IP 技术的结合方案, 然后结合IPSEC 技术和防火墙技术

为实现穿越设计了一个安全的平台。

关键词: 移动IP; 防火墙; IP 安全

The New Technical Research of Mobile IP Traversing Firewall

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Abstract: This text described how to apply IPSEC technology to the scheme of mobile IP traverses firewall, studies the

security problem that mobile IP traverses the firewall, points out that uses the advantage of IPSEC technology, designs

combination scheme of IPSEC technology and mobile IP technology at first, then combines IPSEC technology with

firewall technology for designing a safe platform to realize traversing.

Keywords: Mobile IP; Firewall; IPSEC

仿真模型组件的开发与测试

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摘要: 联邦测试是开发基于HLA 的分布仿真系统必不可少的步骤。基本对象模型 (BOM) 的出现一方面更好地解决了FOM 重用的问题, 另一方面也改变了传统的联邦成员的结构和开发方式, 给联邦测试带来了新的挑战。

在基于组件的联邦开发方式下, 要对联邦进行测试必先测试构建联邦成员的仿真模型组件。本文分析了仿真模型

组件的结构及其运行环境, 根据联邦测试理论提出了仿真模型一致性测试的概念, 同时给出了仿真模型组件一致

性测试的步骤以及可行的测试方法。

关键词: 基本对象模型; 仿真模型组件; 组件一致性测试; 概念模型; 概念模型动态测试

Development and Testing of Simulation Model Components

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Abstract: Federation Testing is indispensable to the development of distributed simulation systems based on HLA. The

appearance of BOM (Basic Object Model) is not only to solve the reusable problems which are encountered by FOMs

(Federation Object Models), but also changes the structure and the development mode of federate.

Meanwhile, it brings

new challenge to the Federation Test. In the development mode based on component, the first step of Federation Testing

is to test components which are composed to build federates. This paper analyses the structure and run-time environment

of simulation model components, and brings forward the concept of Simulation Model Component Compliance Testing.

Moreover, this paper discusses the steps of simulation model component compliance testing and feasible testing methods.

Keywords: Basic Object Model; Simulation Model Component; Component Compliance Testing; Concept Model; Concept Model Dynamic Testing

基于OMAP 平台的嵌入式流媒体传输系统设计

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摘要: 本文提出了一种基于OMAP1510 双核平台的嵌入式流媒体传输系统的设计与实现。介绍了其以OMAP 为

核心的硬件系统组成。详细阐述了一种基于Arm-Linux 操作系统平台, 采用RTP 协议传输 MPEG-4 流媒体的软件

设计方案。

关键字: OMAP; RTP; MPEG-4

Design of Embedded Stream Media Transmission System

Based on OMAP Platform

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Abstract: This paper proposes an implementation of a stream media embedded transmission system based on OMAP

Dual-Core platform. We introduce the hardware of this system, and then explain a software design of using RTP protocol

to transfer MPEG-4 stream media which is based on Arm-Linux operating system specifically.

Keywords: OMAP; RTP; MPEG-4

网络编码的安全检测

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摘要: 在随机分布式网络中引入网络编码技术, 会在信息传递过程中产生新的安全问题。本文针对网络编码的

安全检测方法做了一个全面的综述。首先, 介绍在信息传递过程中受到拜占庭攻击采取的拜占庭修改检测法; 接

着, 详细论述拜占庭修改检测法中的一个关键技术—同型哈希函数, 并给出了相关算法和证明; 最后, 文章详尽

地介绍了一种效率更高的合作型安全措施, 并在此基础上提出了一种改进方法。

关键词: 拜占庭修改检测; 同型哈希; 合作型安全措施

Secure detection of Network Coding

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Abstract: The introduction of Network Coding into randomized distribution networks, will bring about new secure issue

in the information transmission. The thesis makes a comprehensive summarization of secure detection on network

coding. Firstly, it presents Byzantine modification detection when information transmission suffers Byzantine attack.

Secondly, it detailedly describes a key technology in Byzantine modification detection—Homomorphic Hashing function,

then it gives related arithmetic and proof. Lastly, it makes an elaborate explanation of a more efficient method—

cooperative security technique and bring up an improvement on it.

Keywords: Byzantine modification detection; Homomorphic Hashing; Cooperative security

Research on the Security in Wireless Sensor Network

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Abstract: As sensor networks edge closer towards wide-spread deployment, security issues become a central concern.

Typical sensors possess limited computation, energy, computation, memory resources and they are always deployed in a

harsh, unattended or hostile environment, so the security issues posed by sensor networks represent a rich and

challenging field of research problems. In this paper, we probe into various security requirements with regard to Wireless

Sensor Network (WSN). Furthermore, we analyze status quo of the security in WSN from three aspects: key

management, identity authentication as well as attacks and countermeasures. In conclusion, we point out its development

direction based on the analysis and remark of problems remaining unsolved in WSN.

Key words: Sensor Network; Security; Key Management; Authentication; Attacks and Countermeasures

安全多播密钥更新实现研究*

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摘要: 传统的批量更新机制在安全性方面存在一系列的问题。本文结合批量密钥更新机制和key rotation 机制,

提出了一种新的定期密钥更新机制, 增加了密钥更新机制的安全性和可用性, 性能分析表明该机制具有较强的扩

展性和较高的安全性。

关键词: 密钥管理; 批量密钥更新

Research on secure multicast rekeying

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Abstract: Batch rekeying schemes suffer from many problems in security. This paper puts forward a full new multicast

rekeying scheme, the scheme combines batch rekeying and key rotation scheme together to enhance system's security.

Through detailed analysis in this paper, we show that it has better scalability and security.

Keywords: key management; batch rekeying

网络安全投资外部性及博弈策略的再研究

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摘要: 本文对网络安全的投资外部性及博弈策略进行了再研究, 改进了相互依赖的信息安全风险模型。由于网关的引入, 使得网络中的博弈企业依赖自身的风险偏好有了更多的变数, 针对出现的多重纳什均衡状态所产生的社会问题做了探讨。最后, 根据网络的外部特性引入政府或权力组织, 对网络中的企业进行适当的激励和惩罚, 以最少的社会成本产生最优社会效用。

关键词: 博弈论; 信息安全; 投资; 社会问题

Further Research in Investment externality and Game Strategies of Network Security

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Abstract: This paper is direct to the further research of the externality within interconnection networks security and the game strategy,improving the model of interdependent information security risk.With a gateway,the enterprise which base itself risk in the net changes to have more option.Moreover,there is some society essays with the multi-ply Nash equilibrium.the last,it makes a focus on the government and power organization when they turn to the problem how to do with the enterprises in order to achieve society optimization.

Keywords: game theory; information security; investments; society essay

基于安全数字水印协议的DRM 系统

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摘要: 目前, 对于DRM 的研究存在片面重视版权保护, 忽视数字产品流通过程中对参与各方的权益与责任的全面管理的问题。针对上述情况, 借助PKI 技术, 综合运用了加密和数字签名技术, 提出了安全水印协议下的DRM 实施方案, 即有效保护了版权, 又保护了消费者的权利, 同时明确了各方的责任。最后, 分析了系统的安全性和可行性。

关键词: 数字权益管理 (DRM); 公钥基础设施 (PKI); 数字水印; 数字签名

A DRM System Based on Secure Digital Watermarking Protocol

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Abstract: At present, some of researches about DRM focus on copyright protection seriously, but ignore the management of responsibilities and rights which every entity own. In order to solve the above-mentioned problem, this paper presents a new frame of DRM based on secure digital watermarking and PKI technologies,

which imports encryption and the digital signature. The new model not only protects the copyright of product and the consumer's rights, but also makes all the entities be managed effectively. Finally, the security and feasibility of the model is analyzed.

Keywords: digital rights management(DRM); public key infrastructures(PKI); digital watermarking; digital signature

军事指挥信息系统安全保密建设问题研究

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(通信指挥学院一系战略通信教研室 430010)

摘要: 军事指挥信息系统建设,在平时及未来作战中具有举足轻重的作用。该文结合当前安全保密建设存在的问题,从思想认识、基础建设、系统应用与安全保密关系、培养人才四个方面阐述了系统安全保密建设的相应对策。

关键词: 军事指挥信息系统; 安全保密建设; 措施

Research on Construction of Security and Secrecy of Military Commanding Information System

Commanding Information System

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Abstract: The construction of military commanding information system is of crucial importance during wartime and peacetime. Combined with the problems arising from construction of security and secrecy, the author, in terms of cognition, infrastructure, relationship between secure secrecy and system application and talent nurturing, expounds the measures toward the construction of security and secrecy of the system.

Key words: military commanding information system; construction of security and secrecy; measures

网络对抗与信息安全

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摘要: 本文介绍网络对抗技术的军事需求、发展趋势、发展目标、关键技术、研究内容以及研究方法等内容。

关键词: 网络中心战; 网络对抗; 访问控制; 计算机病毒; 病毒库

Network Antagonize & Communications Safety

Mo Shiyu

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Abstract: This paper introduces Martial Requirement、Progress Trend and Aim、Key Technic、Research Content and

Means etc on Network Antagonize.

Keyword: NCW; Network Antagonize; MAC; Computer Virus; Virus warehouse

BOTDR 在光缆线路防窃听监测的应用

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摘要: 从光纤微弯窃听实验出发,分析了这种隐蔽窃听所引起的光缆线路性能变化,得到了实现隐蔽性窃听的

最佳弯曲半径。针对窃听所引起的光缆线路机械特性的变化,提出了利用布里渊光时域反射技术(BOTDR)的

监测模型;研究了布里渊频移和应力变化的线性关系,介绍了BOTDR的测量原理,最后建立了基于BOTDR的

监测实验系统。

关键词: 隐蔽窃听; 应力变化; BOTDR

Application of BOTDR on Fiber Cable Tapping Detection Method

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Abstract: Based on the experiment of fiber microbend interception, the performance change of the fiber cable because of

tapping is analyzed, and achieved the optimum bend radii for covert tapping. Aiming at detect the change of fiber cable

mechanical features because of tapping, the detection model using the technology of BOTDR is proposed. Based on the

linear relation between the Brillouin frequency ripple and strain change, the theory of BOTDR is introduced. In the end,

the system of detecting experiment has been set up.

Keywords: Covert Tapping; Strain Change; Brillouin Optical time Domain reflectometer

Research and Implement of Grid Security Authentication Model based on Globus

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Abstract: On the basis of analyzing authentication mechanism which is broadly adopted today, we integrated the needs

of grid's development and researched GSI and KX.509 in different grid environment. Drawing the proxy idea of KX.509,

we built a grid authentication model in the Globus environment, the model adopt web-login module and it provided three

main functions for the campus grid users: transparent creating certificate, enable users using certificate

easily and managing certificate safety. In the process of registration and authentication, web-login module could create digital

proxy certificate for users automatically, and users needn't have their own digital certificate.

Keywords: grid security; security protocol; authentication; Kerberos; KX.509

网络用户信息泄露的根源分析和研究¹

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摘要: 分析了目前几种典型的通信网用户信息泄露的根源, 提出了一些网络用户信息安全防护的新思路和新技

术。

关键词: 用户信息泄露; 标识功能耦合; 标识冗余使用; 安全防护

Analysis and Research on the Springhead of Network Subscriber Information Revealing

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Abstract: Pointed out subscriber information revealing springhead in several current representative communication

networks and produced some new thoughts and techniques to fence the network subscriber information security.

Keywords: subscriber information revealing; identifier function coupling; identifier redundancy use; security fence

导数和 e -导数在研究 H 布尔函数中的应用

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(西北民族大学 计算机科学与信息工程学院 兰州 730030)

摘要: 本文将在文《 e -导数在Bent 函数研究中的应用》^[3]引入的概念的基础上, 讨论另一类在密码学中有重

要作用的函数, 即 H 布尔函数和它的导数、 e -导数及线性函数的关系, 并得出一些有关 H 布尔函数的结构特点

和性质的结论。

关键词: 布尔函数; e -导数; H 布尔函数; 非线性度

The Application of Derivative and E-derivative on H-Boolean Functions

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Abstract: On the basis of the conception of《The derivative and e -derivative of Bent functions》, this paper study

another kind of important functions in cryptology, that is H Boolean functions and its derivative, e -derivative, linear

function and relationships among them. Eventually, the paper has gained some conclusions of characteristics and

properties about H Boolean functions.

Keywords: Boolean functions; e - derivative; H Boolean functions; nonlinearity

安全增强型主动自调度集群 (ASAS-ES) 实现

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摘要: 本文主要讲述在ASAS 软件中实现抗DDoS 模块的实现方法。相比早期的ASAS, 在实现了数据的进出

流分离的基础上, 利用多因素确认法如自相似性, 对称性等因素, 充分利用负载调度器的计算性能, 实现抗DDoS

而不加重执行服务器的负载。本文基于此实现了安全主动自调度集群。

关键词: ASAS-ES; 集群; 多因素法; DDoS; IP

Enhanced Security-Automatic Self-Allocating Cluster

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(National Laboratory for Parallel and Distributed Processing ,NUDT,Changsha,410073, P.R.China)

Abstract: This paper is about the theory and the algorithm applied in ASAS-ES. Compared with the ASAS, fully make

use of Director' s computing performance when flow separating has already been realized ,affirm DDoS by multi-factors

theory such as self-comparability and symmetry, and realize counter-DDoS without aggravating real server's load. This

paper realized ASAS-ES based on the information upon.

Keywords: ASAS-ES; Cluster; Multi-factors theory; DDoS; IP

E-导数在Bent 函数研究中的应用

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摘要: 本文通过定义布尔函数的e-导数, 利用导数、e-导数、和一个确定的线性函数, 从一个新的角度来讨论

Bent 函数的判定问题及其一些相关性质, 使Bent 函数的判定和构造都更为简便。

关键字: e-导数; 线性函数; Bent 函数; 判定; 构造

The Application of E-derivative in Studying Bent Function

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Abstract: This paper defined the e-derivative of Boolean function, studied the discrimination and some correlatively

characters of Bent function from the e-derivative of Boolean function. Then simplified the discrimination and

construction of Bent function.

Keywords: e-derivative; linear function; Bent function; discrimination; construction

前向安全的带密码学入侵证据的数字签名体制

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摘要: Gene Itkis 在 ACM 会议 CCS 2003 上提出了一个新的概念—密码学入侵证据, 并给出了一个具体的带密

码学入侵证据的数字签名方案。该方案通过一个算法 *Div* 来实现入侵的检测: 给定两个签名, *Div* 能够判断是否

其中有一个是伪造的, 进而判断是否有密钥泄露。然而 Itkis 的方案没有考虑前向安全的特性, 本文通过引入证

书链的思想, 给出了一个具有前向安全特性的方案, 并在标准模型下证明了其前向安全性。由于认证链的生成和

验证在每个周期都只进行一次, 新方案较原方案大大提高了效率。

关键字: 密钥泄露; 数字签名; 密钥演化; 入侵证据; 前向安全; 证书链

A forward-security signature scheme with tamper-evidence

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Abstract: At ACM's CCS 2003, Gene Itkis proposed a new notion of cryptographic tamper evidence, and present

constructions of tamper-evident signature schemes. A tamper-evident signature scheme provides an additional procedure

Div which detects tampering: given two signatures, *Div* can determine whether one of them was generated by the forger,

and so can detect the key exposures. Firstly, this thesis improves the original by introducing the thought of

certificate-chain, giving a new forward-security scheme, and furthermore, gives the forward security proving in the

standard model. Since both the chain's composing and verifying are performed once in every period, the new scheme is

more efficient than the original.

Keywords: key exposure; digital signatures; key evolution; tamper evidence; forward security; certificate chain

基于VLR 短群签名的安全电子拍卖*

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2 中国海洋大学数学系, 青岛 266071;

3 陕西师范大学数学与信息科学学院, 西安 710062)

摘要: 用群签名设计电子拍卖系统的主要困难之一是群签名缺乏有效的成员撤销方法。本文基于 q -SDH 假设

和 DTDH 假设, 利用双线性映射提出了一个新的具有局部验证者撤销 (VLR) 的短群签名。与 Nakanishi 等的

VLR 群签名方案比, 新方案签名过程减少了 2 个双线性运算, 验证过程减少了 3 个双线性运算, 而且, 签名长

度由 2893 比特减少为 2044 比特, 缩短了 29%。进而, 基于所提出的 VLR 短群签名方案, 设计了一个安全公开

电子拍卖系统。与Liu 等拍卖方案比,新系统投标信息的签名长度由26240 比特缩短为2385 比特,缩短了91%,

因而节约了存储空间,降低了通信量。

关键词: 电子商务; 电子拍卖; 短群签名; 局部验证者撤销; 双线性映射

Secure Electronic Auction Based on VLR Short Group Signature

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Abstract: One of the main difficulties to design electronic auction system with group signature is lacking of effective revocation algorithm. A new verifier-local revocation short group signature is proposed by use of bilinear maps based on q -SDH assumption and DTDH assumption. The size of a signature in the proposed scheme is 2044 bits, while it is 2893 bits in Nakanishi and Funabiki group signature scheme, it reduces about 29%. Furthermore, compared with NF'05 scheme, the computations reduce 2 bilinear maps in the step of signing and 3 bilinear maps in the step of verifying. Also, a secure public electronic auction system is given based on the proposed VLR short group signature. The signature size of the bidding information in the new system is 2385 bits, while it is 26240 bits in Liu et al auction system, it reduces about 91%, so the storage space is decreased and the communication quantity is reduced.

Keywords: electronic commerce; electronic auction; short group signature; verifier-local revocation; bilinear map

基于提升小波变换的音频数字水印隐藏与检测算法

杨立东

(内蒙古科技大学信息工程学院 014010)

摘要: 本文研究了音频数字水印的一种新算法,利用提升小波变换可以快速实现水印的隐藏与检测。此算法具

有较好的鲁棒性,具有抵抗各种信号处理变换的能力,而且对原始音频信号的影响基本上察觉不出来。最后给出

了计算机仿真的实验结果,证明了本算法的有效性。

关键词: 提升小波变换; 音频数字水印; 隐藏; 检测

An Algorithm for Audio Digital Watermarking Based on Lifting Wavelet Transform

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(Information Engineering Institute ,UST Inner Mongolia 014010)

Abstract: A new algorithm for digital audio watermarking based on lifting wavelet transform is proposed in this paper.

This algorithm is robust when the watermarked audio signal was being processed or under strong noises. By using this algorithm, the watermarked audio signal sounds the same as the original one. Finally, computer simulation results show that the algorithm for digital watermark hiding and detecting is effective.
Keywords: lifting wavelet transform; audio digital watermarking; hiding; detecting

基于前缀劫持的垃圾邮件攻击及其对策

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摘要: 路由系统是Internet 的核心设施, 它的安全性直接影响着Internet 的安全, 作为骨干网的BGP 协议安全性更为重要, 历史上也发生过很多针对域间路由系统的攻击。本文主要介绍了一种新的基于前缀劫持的垃圾邮件发送方式, 与传统的方式比较具有更好的隐蔽性。文章最后给出了基于路由系统安全的解决方案。

关键词: 域间路由; BGP; 前缀劫持; 垃圾邮件

Prefix hijacking-based spam attack and countermeasures

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Abstract: Inter-domain Routing System is a critical component of Internet routing infrastructure, whose security impacts the internet security. As a backbone protocol, BGP security is very important, and there are many security events about inter-domain routing system in history. The paper introduces a new way about spam based on prefix hijacking, which is shadier than traditional method. At the end of the paper we give some ideas about how to solve the security problem in the routing system.

Keywords: Inter-domain routing; BGP; Prefix hijacking; Spam

图像数字水印技术

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摘要: 图像数字水印是近几年来出现的数字产品版权保护技术, 是多媒体信息安全研究领域的一个热点, 也是信息隐藏技术研究领域的重要分支。本文着重对图像数字水印技术的特点, 算法和应用领域等进行了分析研究, 并对图像数字水印技术的发展方向做了展望。

关键词: 数字水印; 空域水印; 变换域水印; 水印攻击

A Literature Review of Digital Watermarking

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Abstract: Digital watermarking is a digital copyright protection technology emerging in recent years, which is an effective way of copyright protection, a hot of the area of multimedia information security research, and an important branch of the area of information hiding technical. In this paper, the digital watermark technology features, algorithms and application fields are discussed, and the prospects of digital watermarking technology research and development directions are analyzed.

Keywords: Digital watermarking; Airspace watermarking Domain Watermarking; Watermarking attack

孔缝的电磁脉冲耦合分析

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3 总参第五十四研究所, 北京 100083)

摘要: 电磁脉冲可以通过孔缝耦合到电子设备内部, 对电子系统产生干扰与破坏作用。本文利用时域有限差分

法(FDTD)模拟了电磁脉冲通过孔缝进入屏蔽体的耦合过程, 通过分析屏蔽体中距孔缝1cm 处场强随时间的变

化曲线, 得出了面积相等的不同形式孔缝与屏蔽效能的密切关系。该模拟仿真结果可直接应用于屏蔽体的设计与防护。

关键词: 电磁脉冲; 孔缝; 耦合; 时域有限差分法

Electromagnetic Pulse Coupling analyses of Aperture

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Abstract: Electromagnetic pulse couples with interiors of electronic devices through apertures, which interferes with

electronic systems and also has destructive effects on them. This paper utilizes a finite-difference time-domain (FDTD)

method to emulate coupling processes of electromagnetic pulse coming into shielding entities through apertures. And we

conclude close relations between different apertures with equal areas and shielding energy through analyzing changing

curves of electromagnetic field strengths in shielding entities VS time which is a centimeter away to the aperture.

According to the electromagnetic pulse coupling simulation results, one can easily design proper shielding entities to protect the electronic devices.

Key words: EMP; Aperture; Coupling; FDTD

立足现状, 提高计算机网络安全防护水平

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随着计算机网络的发展，网络信息战在现代战争中的地位越来越重要，我国的网络技术较之西方国家起步较晚，但发展速度却很快。网络的飞速发展同时也带来了网络的攻击和反攻击。如何防护网络，这已成为迫在眉捷的问题了。

基于神经网络专家系统的入侵检测系统的研究

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摘要: 鉴于现有入侵检测系统不能很好的检测未知攻击和已知攻击变种的问题，本文利用神经网络与专家系统

相结合的方法，设计了一个基于神经网络专家系统的入侵检测系统模型。阐述了该系统的组成和工作过程，详细

分析了系统主要构成部件入侵检测分析器的结构。该系统能有效地发现和检测未知攻击模式的特征，提高了系统

检测能力和安全性。

关键词: 网络安全；神经网络专家系统；入侵检测系统

Research of a Neural Network-based Expert System Intrusion

Detection System

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Abstract: In view of the fact that the existing intrusion detection systems cannot detect the unknown attacks and the

mutation of known attacks very well. This paper, using neural network in combination with expert system, designed a

intrusion detection system model based on neural network-based expert system. Elaborated composition and work

process of the model, particularly analyzed the intrusion detection analyzer structure which is the major component of

the model. The intrusion detection system can effectively detect and discover unknown attack patterns, and improve the

intrusion detection system's detection capability and security.

Keywords: Network Security Neural; Network-based Expert; System Intrusion Detection

物理隔离技术

陈利明

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摘要: 信息时代的到来，随着计算机技术在通信领域的应用和融合，改变了传统通信方式在时间、空间上的限

制，拓展了通信的业务范围，使通信变得更加便捷、高效。在人们对计算机通信网络（以下简称网络）的依赖程

度越来越高的同时，网络传输的准确性、保密性问题日益凸显出来。物理隔离技术是确保把有害的攻击隔离，在

可信网络之外和保证可信网络内部信息不外泄的前提下，完成网间数据的安全交换。

关键字：物理隔离；事故响应；信息安全；电磁泄漏；网络安全管理

Physics isolation technology

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Abstract: Information era arrival , application and anastomosing being in the field communicating with computer technology, have changed tradition communication way restricting on time , space . It has shown communicative business range , has made communication become especially convenient and rapid, high-effect. More and more high simultaneous of degree of reliance (being called a network for short to computer communications network following) in people , network transmission accuracy, keep secret the nature problem is gradually protrusive. The physics isolation technology is to ensure harmful attack to keep apart, before the safety accomplishing the net data besides credible network and under the premise that information leaks nothing more than in the inside of credible network of guarantee, exchange.

Keyword: Physics isolation; The accident responds to; Information is safe; Electromagnetism leakage; The network safety is managed

Ad Hoc 网络随选驱动的认证路由协议

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摘要: Ad Hoc 网络路由是Ad Hoc 网络最容易受攻击的环节。实际在ad hoc 网络中,即使是在使用安全路由协议的网络上,密钥交换流程也得不到安全保障。本文所讨论的一种随选驱动的认证路由协议,它所使用的密钥建立过程不需要在节点之间进行预共享密钥分发。该协议没有预共享密钥,使用基于ID 的静态键控认证法思想,而是通过一个路由发现协议,在源节点和目的节点之间会同时建立一条路由和一个会话密钥。

关键词: 认证路由; HMAC; ADSR

Authenticated On-Demand Ad Hoc Routing Protocol

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Abstract: Ad hoc routing has been a main target for an attacker to disrupt an ad hoc network ,as key exchange process can not ensure security even using a secure routing protocol.The protocol discussed here is an Authenticated On-Demand Ad Hoc Routing Protocol,whose pre-shared secret key distribution among nodes does not involve the key exchange process .The protocol makes use of the notion of ID-based statically keyed authenticator ,and has no pre-shared secret key.With a routing discovery protocol , a route and a session key will establish at the same time.

Keywords: Authenticated routing; HMAC; ADSR

密钥泄漏建模和密钥寿命估计*

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摘要: 在密钥管理中, 合适的密钥更新周期将在密钥安全性和更新代价之间取得平衡, 密钥泄漏过程首次被研

究以估计密钥寿命。通用Hash 函数被引入, 它以高概率从泄漏的密钥中提取出几乎均匀分布的仍然是秘密的随

机比特; 密钥安全熵的概念被定义来表征密钥的安全性; 部分的逐渐的密钥信息泄漏过程被建模为复合泊松过程,

最后, 一个有效的估计密钥寿命的算法被提出。

关键词: 密钥管理; 密钥泄漏; 密钥更新; 通用Hash 函数; 复合泊松过程

Modeling Key Exposure and Estimating Key Life

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Abstract: Proper key renewal period might control the trade-off between security and renewal cost in key management,

and thus key exposure was first studied to estimate key life. Universal hash function was introduced to extract still secret

almost uniform random bits with high probability from a compromised key. Key security entropy was defined to

represent key security. Partial and gradual leakage of key information was modeled as a compound Poisson process. An

effective algorithm was proposed to estimate key life.

Keywords: key management; key exposure; key update; universal hash function; compound Poisson process

浅谈量子密码技术在军事通信上的应用

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摘要: 量子密码是信息理论的一个重要方面, 它利用量子力学的一些独特性质, 突破了传统密码学的限制, 能

够绝对安全地传送信息。本文简要介绍了量子密码的基本原理和优点, 并最后介绍了量子密码技术在军事通信方

面的应用前景。

关键词: 量子密码; 量子纠缠; 量子隐形传态

Military Communication Application In Quantum Cryptography

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Abstract: Quantum cryptography is an important aspect of the information theory, it uses the miraculous properties of

quantum mechanics to break the confines of classical encryption, and it can make the communications absolutely

secure. The paper briefly introduced the basic principles and advantages of quantum cryptography, Finally the

developing trend for the military communication application in quantum cryptography is prospected.

Keywords: quantum cryptography; quantum entanglement; quantum teleportation

Anonymous Identity-based Encryption

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Abstract: Analyzing some typical identity-based encryption schemes, we get that most of them are not anonymous. In

this paper, we present a method to add the anonymity property to those schemes that are not anonymous. Using this

method, we take Boneh and Boyen scheme^[1] for example, realize this method and present an anonymous identity-based

encryption system.

Keyword: Anonymity Property; Identity-Based Encryption

一种基于扩频技术的信息隐藏算法研究

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摘 要: 由于扩频技术具有较强的保密性和隐蔽性, 文章提出了一种基于扩频技术的信息隐藏算法。利用密钥K

产生m 序列扩频码, 并用该扩频码对水印信息进行调制, 然后利用小波变换法将扩频后的水印信息嵌入到传输

载体中, 接收端采用同样的编码进行解调和相关处理, 恢复原始信息数据。仿真实验结果表明该算法具有很强的

安全性和不可见性, 对噪声污染和压缩攻击具有良好的鲁棒性。

关键词: 扩频技术; 小波变换; 信息隐藏; m 序列

Research on A Information Hiding Technology Arithmetic Based on Spread Spectrum

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Abstract: Spread spectrum technique has strong ability of secrecy and concealment ,so a information hiding algorithm is

proposed based on spread spectrum technique. Watermarking sequence is modulated by a m sequence which is

controlled by a encryption K. The transformed watermarking sequence is embedded in level of wavelet coefficients of

carrier image.The receiver use the same way to manage it and get the original watermarking .The experimental results

show that this algorithm possesses better secrecy and invisibility,and has good robustness to noise and JPEG

compression attack.

Keywords: spread spectrum technique; wavelet transform; information hiding; m sequence

适合层状群组军事通信的密钥管理方案

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摘要: 组播是群组通信中一种重要的网络技术, 本文利用安全组播技术, 基于层状结构群组, 针对军事通信应

用的特点及安全性需求, 提出了一个新的密钥管理方案。

关键词: 安全组播; 军事通信; 层状群组; 密钥管理

A Key Management Scheme for Military Hierarchical Group Communication

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Abstract: Multicast is an important technology in groups. In this paper, we propose a new key management scheme for military hierarchical group communication, which is based on security multicast and satisfies the security requirements.

Keywords: secure multicast; military communication; Hierarchical Group; key management

一种基于规则的委托约束授权模型

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摘要: 委托授权是访问控制模型的重要机制。现有的授权委托模型能够支持用户到用户、角色到角色的委托,

并且支持层次角色环境下的委托, 但是在这些模型中, 在策略指定方面和对委托约束的研究还有待于进一步展开;

并且在多人满足委托约束条件, 如何对被委托人进行判定问题上存在不足。因此本文提出了基于规则的委托授权,

引入了规则化的语言形式, 从而通过判定约束规则, 对委托进行判定。

关键词: 委托; 约束; 访问控制

A rule-based delegation constraint model

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Abstract: Delegation is an important mechanism of access control. The delegation models that have been present can

support user-user and role-role delegation. And the models can support the delegation in role hierarchy. But in these

models, about policy designation and delegation constraint need to farther study. When some users satisfy the delegation

conditions, how to decide delegate is still a question. This paper provides a rule-based delegation model and inducts a

regularization language form. Through determining the constraint rule, the paper introduces a evaluation mechanism to

decide delegation.

Keywords: delegation; constraints; access control

NGN 安全保障体系

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摘要: 为了提高业务的扩展性以及IP 网络端到端各个设备之间的互操作性, NGN 提出了一个非常开放的网络架构, 从而导致了越来越多的安全隐患, 本文主要结合现有的一些安全技术从宏观角度创

新地提出了一套较完整的NGN 安全保障体系架构, 能够有效的防御各种威胁, 保护NGN。

关键词: 下一代网络; 威胁; 防御; 保障; 体系

The Secure Architecture of NGN

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Abstract: In order to improve the extension of transaction and make the operation between peer and peer easily on the IP network, The NGN put forward an very opened network structure, which cause more and more threatens. Therefore, a set of more completely secure guaranteed structure of NGN is given in this present document, which can defend various menaces effectively and protect NGN.

Keywords: NGN; threaten; resist; defend; structure

一种基于CPK 技术的IP 安全机制

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摘要: 网络安全问题成为网络发展急需解决的一个重要问题, 目前的网络大都是基于IP 实现的, 实现了IP 层的安全可以大大提高网络的安全性。文章介绍了一种基于组合密钥技术的IP 安全机制, 并用OPNET 进行了仿真试验。

关键字: IP; 安全; OPNET

A Mechanism of IP Security Based on CPK

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Abstract: Network security is an exigent problem to be resolved for the development of network. Recently, most of networks are built on the protocol IP, so the realization of IP security can make advanced progress in the security of network. A mechanism of IP security based on CPK and ECC is introduced. At last, the mechanism is simulated by OPNET.

Keywords: IP; Security; OPNET

一种符号间隔调制方法的初步研究

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摘要: 对扩频脉冲间隔调制系统做了改进, 提出了一种基于符号间隔调制 (SSM) 的新方法。首先, 从待传的数据流中周期性地抽取特定位置的比特作为符号, 再用直接序列对这些符号进行扩频调制, 而相邻符号间的

数据则以符号间的时间间隔表示。相比于传统的直接序列扩频系统，理论上，该方法具有诸多优点。初步分析

了数据传输率、传输可靠性和发射功耗，并提出了以提高传输可靠性为目的的帧结构策略和信道编码方法。

关键词：符号间隔调制；直接序列扩频；扩频脉冲间隔调制；脉冲位置调制；超宽带

The Preliminary Research For A Method of SSM

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Abstract: This paper improves on Spread Spectrum Pulse Spacing Modulation (SS-PSM) system and presents a new

method based on Symbol Spacing Modulation (SSM). First, the bits in specific locations are extracted periodically

from the data flow as to be considered as symbols, then these symbols are spread-spectrum modulated by direct

sequence, and the data between symbols are mapped by the symbols spacing. In theory, this method has several

advantages comparing with SS-PSM system. The data transmission rates、the reliability of data transmission and the

transmission power are analyzed in brief, also a frame configuration strategy and two channel coding methods are

introduced to enhance the reliability of data transmission.

Keywords: symbol spacing modulation(SSM); direct sequence spread spectrum; SS-PSM; PPM; UWB

基函数法设计重采样滤波器

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摘要：重采样滤波器设计是全数字接收机中实现符号同步的关键技术之一。针对可变速率基带信号，采用基

函数组加权组合的方法设计了一种具有通用系数的重采样滤波器冲激响应。在确定了滤波器冲激响应表达式中

权系数的求解域之后，分析得出了逼近理想增益响应的优化目标函数，进而可以求解出最佳权系数。仿真结果

表明，基函数法的误差性能优于基于多相分解结构的相邻最近法等传统方法，并且由于权系数的对称性，相对

于多项式拟合高阶内插滤波器法可以节省一半的比例乘法器。

关键词：符号同步；重采样滤波器；基函数法；可变速率

Design of the Resampling Filter Using Basis Functions

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Abstract: The design of the resampling filter is a key technique for symbol synchronization in all-digital receiver. To

deal with the variable-rate baseband signal, the impulse response of the resampling filter with fixed coefficients is

designed by the weighted combination of the basis functions. Once the domain where weighted

coefficients were computed, the target function of the optimization to approximate the ideal gain response was got, and then the optimal weighted coefficients can be calculated. Simulation results show that the resampling performance of this proposed approach is better than that of the conventional filters, such as the nearest-neighbor resampling method using the polyphase decomposition structure, and half of the scaling multipliers is saved compared with the polynomial-fitting high order interpolation-filter method because of the symmetry of the weighted coefficients.

Keywords: symbol synchronization; resampling filter; basis-function approach; variable rate

复杂电磁环境下雷达生存及反干扰探析

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摘要: 在综述复杂电磁环境内涵的基础上, 简要概述了雷达面临的四大主要威胁。本文从技术手段、战术战

法两个方面, 分析了复杂电磁环境下雷达实施反干扰的主要措施, 并对如何提高复杂电磁环境下雷达反干扰能

力提出了几点看法。

关键词: 复杂电磁环境; 四大威胁; 反干扰

Approach on Radar Survivability and Anti Jamming Under

Complex Electromagnetic Environment

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Abstract: On the Basis of outlining Complex Electromagnetic Environment theory, Four Main Threats That the Radar

faced were summarized. From Two aspects of the Technology and Tactics, Main Measures That the Radar Carries out

Anti Jamming was analyzed In the Paper. And the Paper puts forward Pieces of Advice How to Enhance the

capabilities of Radar Anti Jamming Under Complex Electromagnetic Environment..

Keywords: Complex Electromagnetic Environment; Four Main Threats ; Anti Jamming

实时高速回放分系统的设计与实现

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摘要: 介绍了一种回放分系统的设计方案。回放分系统的设计包括硬件设计与软件设计。硬件部分对所设计的

PCI 光纤传输卡和回放接口模块的设计分别进行了讨论。软件部分包括应用程序与驱动程序的开发。最后, 给

出了仿真结果, 证明所设计的回放分系统具有良好的性能。

关键词: 数据回放; PCI 总线; 双口RAM; FPGA 逻辑控制; RocketIO

Design and implementation of high-speed Data Playback

Sub-system

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Abstract: The design plan of a playback sub-system was introduced. The playback sub-system included hardware design and software design. In the hardware part, PCI-Fibre transfer card and playback interface card were analysed.

And in the software part, applicative procedure and driving procedure were designed. At last, the simulated result was

demonstrated that the playback sub-system had fine function.

Keywords: data playback; PCI Bus; dual-port RAM; FPGA Logical Control; RocketIO

幅频畸变的均衡研究

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摘要: 本文主要研究由于信道频率特性不理想所引起的幅度—频率畸变问题, 根据幅度—频率畸变理论知识,

在MATLAB 仿真软件上编写m 文件, 采用自适应滤波器实现均衡校正, 最终对比有、无采用均衡技术所得到

的接收信号有何不同, 并加以分析, 得出具有参考性的结论。

关键词: 幅度—频率畸变; 自适应均衡器; MATLAB 平台

Equalization Study Of Amplitude-frequency Distortion

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Abstract: Amplitude-frequency distortion is discussed in this paper. Amplitude-frequency distortion is simulated on

MATLAB platform. The signal corrected by automatic adaptive equalizer or not is contrasted.

KeyWords: Amplitude-frequency distortion; Automatic adaptive equalizer; MATLAB platform

一种并行高速数字下变频结构及FPGA 实现

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摘要: 软件无线电已经广泛运用于各个领域, 其中的关键技术之一是数字下变频。常采用FPGA 实现数字下

变频以处理A/D 采样后的高速信号, 但仍很难实时处理高采样率信号。本文提出了一种采用一体化多相混频和

多相滤波的并行数字下变频结构, 给出了算法推导、计算机仿真和FPGA 实现结果。此结构显著降低了混频器

和滤波器的运算速率, 使FPGA 中实现高采样率信号的数字下变频成为可能。本文提出的数字下变频与多路

A/D 并行交替采样结合, 能够实时处理500MSPS 的信号。

关键词: 数字下变频; 多相混频; 多相滤波; 交替采样

A Parallel Structure for High-speed DDC and Its FPGA Implementation

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Abstract: Software defined radio (SDA) has been widely used in many areas, and one of the key technologies of SDA is digital down conversion (DDC). Normally DDC is implemented in a field programmable gate array (FPGA) for processing the high-speed data flow from A/D converter, but presently implemented sampling rate is not high enough. In this paper, a new parallel structure which integrates polyphase filter with polyphase mixer (PFPM) in DDC is proposed for high-speed DDC for communication signal processing. Computer simulation and FPGA implementation results have been done to verify the validity of the new structure. The PFPM structure decreases both the operation rate of mixers and filters, and can process the signals with the sample rate which was too high to realistically implement in FPGA. When combine the proposed DDC structure with the time-interleaving sampling of multi-ADCs, we can process 500MSPS realtime signals.

Keywords: Digital Down Conversion (DDC), Polyphase Mixer, Polyphase Filter, Time-interleaving Sampling

Motion Trajectories by Isomap and SVR*

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Abstract: The union method of Isomap and SVR is proposed for exploring motion trajectories of moving objects. Isomap is one of the famous NDR methods, is rapidly in implementation, doesn't require extra preprocessing for input data, can give the intra dimensionality of high dimensional nonlinear input data, and has the capability of providing low dimensional representation which is useful for finding motion trajectories. But the motion trajectories from Isomap output are only analogous motion trajectories, not real motion trajectories. So a nonlinear mapping from Isomap output to real trajectories must be established to gain correct motion trajectories. SVM is one of the excellent machine learning methods with predominant ability of small samples learning. When SVM is used for regression or function estimation, it is called SVR. SVR is adopted for calibrating Isomap output. Calibration error vector and calibration error are defined as the measurement of adjusting quality. The comparison between SVR and other methods is also studied.

Experiments results show, proposed method is effective and correct.

Keywords: motion trajectories; motion analysis; NDR; Isomap; SVR

基于树状扫描的零树编码方法研究

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摘要: 本文在经典零树编码算法的基础上, 提出了一种新的扫描方法, 这种方法改变了孤零节

点的子孙节点
与后序节点的扫描顺序，在遇到孤零节点时并不是像经典零树编码那样采取Z 字型扫描，而是采取树状扫描机制。这种方法减少了重复扫描，即减少了系数与阈值比较的次数，有效的节省了零树编码算法的运行时间，并节省了数据的存储空间，而与经典的零树算法相比这种方案没有遗漏对任何重要系数的编码，特别适用于存在大量孤零节点的情况。

关键词：零树编码算法；树状扫描机制；孤零节点

The study of zero-tree coding method based on tree-shape scanning

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Abstract: Based on the classical zero-tree coding algorithm, this article proposed one new scanning method. This method changed scanning sequence of the isolated zero node's child node and the nodes behind it, when met with the alone node it is not like the classical zero-tree coding algorithm to adopt the Z font scanning, but adopts the tree-shape scanning mechanism. This method reduced the repetition scanning, namely reduced the comparison number of times of the coefficient and the threshold value, thus effectively has saved the zero-tree algorithm encoded running time, and has saved the data storage space, but compared with the classics this kind of plan does not omit to carry on coding to any important coefficient, and especially is suitable for the situation of existing massive alone pitch points.

Keywords: zero-tree coding algorithm; tree-shape scanning mechanism; isolated zero node

基于Curvelet 变换的视频编码研究

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摘要: 由小波变换发展而来的Curvelet 变换是一种新的多尺度分析方法，具有各向异性的特点；它能克服小波在处理二维图像边缘时的缺陷，更加适合于分析二维图像中的曲线或直线边缘特征。本文将Curvelet 变换应用到视频编码中，实验结果表明，利用Curvelet 变换的视频编码方法优于当前流行的小波变换方法，在保证压缩效率的同时，有效降低了误差。

关键词：Curvelet 变换；视频编码；小波变换

Video Coding Based on Curvelet Transform

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Abstract: Curvelet transform developing from wavelet transform is a new multiscale analysis algorithm, it has the anisotropy properties; curvelet overcomes the limitation of wavelet in analyzing edges of 2-D image, and it is more suitable for analyzing the curve and line edges characteristics of 2-D image. In this paper, Curvelet transform is applied to video coding, experimental results show that Curvelet transform is superior to wavelet transform in video coding, it can reduce error effectively when the compression efficiency is satisfied.

Keywords: Curvelet transform; video coding; wavelet transform

Analysis on Orthogonal-Code Repeat Transmission for MIMO-OFDM System

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Abstract: In this paper, we propose a repeat transmission scheme for MIMO-OFDM system. The data symbols are repeated in frequency and time domain by using orthogonal codes. The performance of the proposed system with 8 transmit antennas and 2 receive antennas is evaluated by simulations and different repetition schemes are employed for comparisons. The results show that repeat transmission improves the performance of the MIMO-OFDM system for low-mobility scenarios. Besides, the zero-forcing receiver can further improve the system performance.

Keywords: MIMO; SISO; OFDM; QAM; ZF

解相关MUD 的一种新方法

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摘要: 本文研究一个符号波特内的同步接入条件下的多用户检测, 根据有结构的干扰的特点, 充分运用信号处理的方法, 借用有界算子的理论, 提出了新的解相关的多用户检测的方法, 它可以避免矩阵求逆的复杂运算, 有效的减少计算复杂度。

关键字: CDMA; MAI; 解相关; 有界算子

A New Decorrelating Method of MUD

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Abstract: The multiuser detection of CDMA under the synchronous condition is researched. Based on the character of structure inference and with the signal processing methods, to apply the theory of definite operator, the new decorrelating method of sub-optimization MUD is pointed out. It can avoid the computation of reverse matrix, so it can availably decrease the computing complex.

Keywords: CDMA; MAI; Definite Operator; MUD

一种保持图像几何特征的去噪模型

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摘要: 本文从图像水平线随曲率运动的角度构造了一种非均值扩散模型, 此模型具有较好的保持图像边缘以

及图像中曲率较大的点(本文简称角点)等图像几何特征的能力, 并构造了此模型的数值计算方法, 同时给出了

模型中的几个重要参数的估计, 从数值实验结果来看, 我们的模型能较有效地去除噪声而且能较好地保持图像

的一些细节特征。

关键词: 图像去噪; 几何特征; 非均值扩散

A Denoising Model for Preserving Geometric Characteristics of Image

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Abstract: In this paper, a new diffusion model is proposed for image denoising by analyzing the moving of the level

lines of the image. The model can preserve the geometric characteristics in the image such as corners. Furthermore,

we construct the numerical computational method and estimate some important parameters for the proposed model.

The numerical examples are presented to show that our model can remove the Gaussian white noise very efficiently

and preserve the fine structures very well.

Keywords: image denoising; geometric characteristics; anisotropic diffusion

利用DSSS 技术提高卫星通信系统抗干扰性能

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摘要: 分析了直接序列扩频通信(DSSS)的基本原理与特点, 针对卫星通信系统抗干扰性能需求, 提出了一

种基于DSSS 技术的卫星通信系统, 给出了系统结构, 分析了系统抗干扰能力, 并讨论了提高DSSS 卫星通信

系统抗干扰能力的方法。

关键词: DSSS; 卫星通信系统; 抗干扰

Using DSSS Technology to Improve The Anti-jamming Performance of Satellite Communications System

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Abstract: This paper analyses the basic theories and the characteristics of DSSS technology. Based on the

anti-jamming requirements of satellite communications system, this paper presents a sort of satellite

communications system which based on DSSS technology and its system configuration, analyses its anti-jamming performance, and discusses the ways how to improve the anti-jamming performance of satellite communications system.

Keywords: DSSS; satellite communications system; anti-jamming

高动态环境中多进制扩频系统的载波同步技术研究

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摘要: 本文针对高动态环境中的多进制扩频系统的载波同步问题进行了分析, 并在此基础上提出了一套载波

同步算法。计算机仿真结果表明, 在一定信噪比下, 这种算法可以实现高动态环境中载波的有效捕获和跟踪和

数据的相干解调。

关键词: 高动态; 多进制扩频; 载波同步

Carrier synchronization for M-ary spreaded spectrum system in high dynamic environment

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Abstract: In this paper, the problem about carrier synchronization for M-ary spreaded spectrum system in high

dynamic environment is analyzed, and two algorithms are introduced for this difficulty. It's supported by the

simulation results that the algorithms can achieve the carrier acquisition and tracking above certain threshold for SNR,

and then coherent de-spreading can be carried out.

Keywords: high dynamic; M-ary spreaded spectrum; carrier synchronization

基于双核DSP 标清视频编码器的实现与优化*

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摘要: 基于ADSP-BF561 双内核处理器设计一种并行算法来实现MPEG-4 视频编码器, 并使之具备对4CIF

视频图像序列实时编码的能力。针对双核处理器与MPEG-4 算法结构特点, 以减少双核处理器间的同步与通信

开销为原则, 制定了双内核处理器的分工与通信设计方案。通过调整数据传输与内存分配策略, 进一步提高双

核之间的通信效率。采用以图像宏块为单位循环并发流水线处理的方式来分割编码器, 使得处理任务均衡分配

到两个处理器中, 避免单个处理器的溢出。此外, 将MPEG-4 编码器基于uClinux 下实现。实验结果表明 BF561

两处理器处理速度均工作在600MHz, 编码器对4CIF 图像序列编码, 量化值为3, 可达到25fps, 系统工作稳

定。

关键词: 4CIF; MPEG-4; 流水线; 双核

Development and optimization of video encoder based on dual-core DSP

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Abstract: Design a parallel algorithm to optimize MPEG-4 video encoder based on High-speed dual-core DSP of ADI BF561, which is capable of encoding 4CIF video sequence real time. According to the features of the dual-core processor and MPEG-4 video encoder algorithm structure, we design a scheme by which double processors can collaborate and communicate well. This scheme can efficiently reduce the cost of synchronization and communication between two processors. At the same time, in order to improve the potential of work efficiency of each processor, balance the system working burthen and avoid some processor overflowing, the encoder is divided into several parts to each processor by using concurrent streamline approach looped by macro-block unit. By adjusting plans of data transmission and memory allocation, communication efficiency between two processors is further improved. Additionally, MPEG-4 encoder is transplanted to uClinux for the sake of optimizing function among the modules. Experimental results show when based on BF561 dual-core chip, two processors' speed both 600 MHz, encoding 4CIF video sequence with the quantified value 3, the whole system works stably.

Keywords: 4CIF; MPEG-4; streamline; dual-core DSP

Low Phase Noise LC VCO

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Abstract: This paper presents a low phase noise LC VCO applied in PLL. Through inductor optimization, the circuit has a low phase noise and a wide tuning range with NMOS varactor. Simulation results with CSMC0.5 μ m CMOS process show that the tuning rang is 2.02GHz~2.5GHz and the phase noise is -175dBc/Hz at 500MHz offset with a 3.3V power supply.

Keyword: LC VCO; phase noise

基于高阶累积量的数字调制信号识别

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摘要: 本文针对数字调制信号的识别问题, 提出了一种以高阶累积量为分类特征, 实现了对 2ASK、4ASK、2PSK、4PSK、2FSK 和 4FSK 等调制信号的识别。理论推导和仿真实验表明, 该方法具有抗干扰能力强、分辨

力高等特点。

关键词：数字调制识别；特征参数；高阶累积量

Automatic Identification of Digital Modulation Signals Based on High Order Cumulants

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Abstract: In this paper, we propose a new feature based on received signal of high order cumulants for classification

digital modulation signals: 2ASK、4ASK、2PSK、4PSK、2FSK、4FSK. The method is illuminated and verified. The

computer simulations show that the proposed feature has higher recognition rate in moderate SNR and also can

suppress the Gaussian white noise.

Keywords: modulation identification; character parameters; high order cumulants

一种激光驱动器芯片过流保护电路的设计与实现

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摘要: 简要介绍了半导体激光器的温度特性的后, 分析了激光驱动器偏置电流提供和自动功率控制 (APC)

功能。本文着重介绍了一种过流保护电路。介绍电路结构, 分析了电路原理并给出了部分仿真结果。芯片采用

0.35 μ m BiCMOS 工艺实现, 能工作于3.3V/+5V、1.25Gbps 速率下。实际测试表明过流保护电路能较好起到保

护作用, 防止激光器损坏。

关键词: 激光驱动器; 偏置电流; 过流保护

Design and implement of an over-current protection circuit for Laser driver

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Abstract: After the introduction of the characteristics of semiconductor laser diode, the bias current supply of the laser

driver and the automatic power control (APC) function were analyzed. This paper emphasized on an over-current

protection circuit. The structure of the circuit was presented, the elements of the circuit function were analyzed and

some simulation results shown here. The chip realized with 0.35 μ m BiCMOS process, and it can work well under the

conditions of 3.3V/+5V power supply and bit rate of 1.25Gbps. The test results show that the over-current protection

circuit can work well and keep the LD away from ruining.

Key words: laser driver; bias current; over-current protection

关于DDRII 信号的系统级多板仿真技术研究

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摘要: 随着微电子技术和通信技术的不断发展, 信号完整性分析的应用已经成为解决高速数字系统设计的唯

一有效途径。借助功能强大的各种仿真软件, 利用仿真模型, 对高速信号线进行布局布线前的信号完整性仿真

分析是一种简单可行的分析方法, 这样可以提前发现信号完整性问题, 根据仿真结果对设计进行优化, 从而大

大缩短设计周期。

本文概要地介绍了信号完整性(SI)的相关问题和DDRII 信号的基本原理, 讨论基于Cadence 公司的

SpecetraQuest 仿真器和DDR 芯片的EBD 仿真模型进行PCB 设计的多板仿真的方法, 解决了在信号完整性分

析中多板协同仿真的问题。

关键词: 信号完整性; DDRII; 多板仿真; EBD

The Research of the Multi-board System Level Simulation

about DDRII Signal

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Abstract: With the development of micro-electronics technology and computer technology, application of signal

integrity analysis is the only way to solve high-speed system design. By dint of the powerful simulation software, it's a

simple and doable analytical method to make use of model to analyze signal integrity on high-speed signal lines before

component placement and routing. This method can find out signal integrity problem and make optimization design on

interrelated problem of signal integrity. Then the design period is shortened greatly

In this paper, interrelated problem of signal integrity, PCB design based on signal integrity are introduced

summarily. And discuss the multi-board simulation method based on the SpecetraQuest and the EBD model and

resolve the multi-board simulation problem in the SI simulation..

Keywords: Signal Integrity, DDRII; Multi-board Simulation; EBD(Electrical Board Description)

基于方向预测的MPEG-2 到H.264/AVC 频域帧内快速转码

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摘要: 现今在多媒体通信领域中, 从MPEG-2 到H.264 的转码已经成为一个热点。本文研究并给出了在变换

域实现MPEG-2 到H.264/AVC 快速转码的整个方案, 并对其中基于方向预测的帧内预测模式选择关键算法提出

了改进,最后通过VC 在PC 上实现了仿真,实验结果表明,本文算法在节约了40%左右的编码时间的同时,

仅仅增加了不到5%的码率开销和低于0.1dB 的峰值信噪比。

关键词: 帧内转码; 方向预测; DCT; HT; 变换域; MPEG-2; H.264/AVC

Transform Domain Fast Intra Transcoding from MPEG-2 to H.264 with Directional Prediction

Tan Wei Wang Xiaoyang Tu Xiaodong Zhou Qian

(School of Communication and Information Engineering University of Electronic Science and Technology 610054)

Abstract: Transcoding from MPEG-2 to H.264 is a hotspot in multimedia interoperability today. In this paper, we

present a novel approach to achieve a complete intra transcoding from MPEG-2 to H.264/AVC in transform domain. In

addition, we improve the key algorithm for fast intra mode decision with directional prediction.

Experimental results

strongly demonstrate that our method can reduce the transcoding time by nearly 40% with less than 5% extra bits to be

used and no more than 0.1 dB PSNR sacrifice.

Keywords: intra transcoding; directional prediction; DCT; HT; transform domain; MPEG-2; H.264/AVC

OTN 关键技术的发展和研究

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摘要: 传送技术是电信网发展的关键技术之一。本文首先介绍了传送网的发展过程,然后阐述了光传送网的主

要特征、生存性、分层结构以及关键光器件,最后论述了光传送网是未来理想的传送网解决方案。

关键词: 光传送网; 同步光网络/同步数字体系; 波分复用; 光分插复用器; 光交叉连接器

The development and research of key technology in OTN

Bu Wenting

(Wuhan Research Institute of Post and Telecommunications 430074)

Abstract: Transport technology is one of the key technologies in the development of the telecommunication network.

This paper introduces the development of transport network in the first, Secondly describes the main characteristics,

survival technologies, layering structure and the key Optical Components of optical transport network. Optical transport

network is the ideal solution of the future transport network, are discussed finally.

Keywords: OTN; SONET/SDH; WDM; OADM; OXC

CDMA 系统中呼叫接纳控制算法比较

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摘要: 呼叫接纳控制 (CAC) 是 CDMA 蜂窝系统无线资源管理的重要功能实体, 它建立在对各小区负荷的

测量基础之上。有效的 CAC 算法能满足各类业务的不同 QOS 要求的同时, 还能提高资源利用率。本文深入分析

了小区负荷, 讨论了 CDMA 系统中基于用户数、功率、剩余容量以及带宽的接纳控制算法, 并分别进行了比较

和改进。

关键字: 码分多址; 呼叫接纳控制; 小区负荷; 服务质量; 干扰

Study of call admission control arithmetic in CDMA system

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(National Digital System Research Center of PLA Information Engineering University)

Abstract: As one of the most important function entity of RRM (Radio Resource Management) in CDMA system, CAC

(Call Admission Control) is based on the measure of burden on a cell. An efficient CAC arithmetic is essential to

provide QOS guarantee of different services to enhance the utilization of radio resource. This paper researches the

burden on a cell. Finally, CAC arithmetic based on the number of users, power and residual capacity as well as

bandwidth utilization are discussed in CDMA system and then compared and improved.

Keywords: CDMA; Call Admission Control; burden on a cell; QOS; Interference

宽带OFDM 通信系统中降低PAPR 算法研究

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摘要: 如何降低 OFDM 系统峰均比 (PAPR) 是未来高速宽带通信系统必须解决的一个问题, 文章介绍了几种

主流方案进行, 并结合放大器特性对上述方案进行了性能比较与评估, 在此基础上对 DFT 矩阵变换方案进行了

改进。

关键词: 正交频分复用; 峰均比; 高速数传; 放大器

Research on PAPR Reduction Algorithm in OFDM BroadBand

Communication System

Ren Haigen Zhu Jiang Xu Xianchao Zhang Runfeng

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Abstract: In the future we must resolve the problem about how to reduce the OFDM system's PAPR in high speed and

broad band communication system. The article introduces several kinds of popular schemes, makes capability comparing

and evaluation combining the power amplifier, improves the technique of DFT matrix transform in actual engineering.

Keywords: OFDM; PAPR; High Speed Data Transmission; HPA

基于瑞利衰落信道多速率方案比较

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摘要: 本文研究了DS/CDMA(直扩码分)系统中基于瑞利衰落信道的几种实现多速率的方案,瑞利衰落信道

中的多速率信号性能主要取决于系统带宽,我们设窄带与宽带CDMA信道的瑞利衰落路径数不同,说明要设计

一个支持多速率的系统,采用不同的方案会有不同的结果,通过软件仿真表明,在瑞利衰落信道下其衰落路径数

对多速率系统性能有重要影响,宽带系统的性能要优于窄带系统。多调制技术也是一种可行方案,但它处理用户

的高速率数据的性能却明显劣于其他方案。

关键字: 瑞利衰落信道;多速率;方案

Comparison of Multiple Data Rates Schemes Based on

Multipath Rayleigh Fading Channels

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Abstract: In the DS-CDMA system based on Rayleigh fading channels several multi-rate program are studied in this

paper. Rayleigh fading channels of multi-rate signal is mainly depending on the system bandwidth and the type of

program diversity, We set up narrowband and wideband CDMA channel Rayleigh fading with several different paths,

Instructions to support the design of a multi-rate system, different programs have different results. The software

simulation shows that the number of fading channels will make important effects for property of multi-rate system, and

the wideband system is better than the narrowband system. Otherwise, the multi-modulation scheme is also possible, but

the performance for the users with the high data rates is significantly worse than the other schemes.

Keywords: Rayleigh fading channels; multi-rate system; schemes

一种快速设计梳状线腔体滤波器的新方法

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摘要: 微波滤波器对于通信系统的价值是举足轻重的,怎样减少微波滤波器的设计时间和成本,提高设计精度

一直是设计师关心的问题。本文介绍了一种新型,快速,准确设计微波腔体滤波器的方法,结合Ansoft HFSS 的

三维场仿真和Designer 的路仿真，能极大的减小设计微波滤波器的时间和成本。

关键字：梳状线；耦合系数；抽头；群时延；HFSS；Designer

Abstract: Microwave filters play an important role in communication system. For designers, It is a delicate problem that how to shorten the design time and reduce the cost while maintaining precision. This paper introduced a new, fast and accurate way to design microwave cavity filter. Using Ansoft HfSS together with designer, we can largely shorten the time and reduce the cost.

Keyword: combine line; coupling coefficient; tapped; group delay; hfss; designer

一种基于分布预留的增强型DCF 算法

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摘要：IEEE 802.11 DCF 作为无线局域网的一种接入方式因其自身的优势已被广泛采用，但随着通信节点数增

多时，DCF 在吞吐量和公平性方面的性能不能保持稳定的劣势也受到了关注。为了解决这一问题，本文提出了

一种基于分布预留的增强型DCF 算法，通过仿真验证了该算法可以提高系统吞吐量性能，并且能够维持很好的

公平性而不受节点个数的影响。

关键词：IEEE 802.11 DCF；无线局域网；分布预留；吞吐量；公平性

An enhanced distributed reservation based DCF algorithm

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Abstract: The IEEE 802.11 DCF (Distributed Coordination Function) standard as an access mechanism for Wireless

Local Area Networks (WLAN) has been accepted widely by people for its advantages. Although the random nature of

DCF reduces the collision probability, it cannot completely eliminate collisions. It is realized that the WLAN employed

IEEE 802.11 DCF cannot maintain its throughput performance and fairness as the number of active stations increases.

This paper proposes an enhanced distributed reservation based DCF algorithm. The simulations prove that the new

algorithm outperforms the 802.11 DCF in throughput and fairness.

Keywords: IEEE 802.11 DCF; WLAN; distributed reservation; throughput; fairness

探讨CDMA 系统切换特性对其容量及覆盖的影响

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摘要：当手机用户从一个小区移动到另一个小区服务范围时，必然发起切换，否则会导致语音质量的恶化，甚

至掉话。因此切换问题是影响系统通信质量的一个主要因素。本文主要研究在CDMA 系统的室内覆盖中，切换

问题对系统容量和覆盖的影响。以及如何通过合理的覆盖来增大切换成功率，从而保证室内的

通话质量，避免频繁切换。

关键字：CDMA 系统；切换；容量；覆盖

The Effect of Handoff on Capacity and Coverage of CDMA System

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Abstract: When mobile user move from one cell to another, there is handoff. The problem of handoff is an important

factor affect the communication quality. In this paper, we analyzed the relationship between handoff and CDMA system

capacity as well as coverage. Then we give an example about how to make the coverage to decrease the handoff.

Keyword: CDMA system; handoff; capacity; coverage

载波跟踪数字三阶锁相环分析与设计

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摘要: 数字三阶锁相环用于深空通信中配合锁频环跟踪载波多谱勒频移。论文介绍了一种适合工程实践的数字

三阶锁相环设计方法，分析了利用根轨迹法设计环路模拟参数，并由双线性变换转变为数字参数，对三阶锁相环

的稳定性和捕获速度慢等问题给出了解决方案，并给出了基于Dsp-Builder 和Simulink 的数字电路仿真结果，该

方法可直接应用于FPGA 实现数字三阶锁相环。

关键词：载波跟踪；三阶锁相环；多谱勒；根轨迹

Analysis and Design of Third-Order DPLL Used in Carrier Tracking

Ren Liang Lv Ming

Abstract: Third-Order DPLL is often used in Carrier Tracking in deep space communication together with AFC. This

article recommended a useful method to design Third-Order DPLL, analysed using root locus method to design the

analog loop parameters and the converting from analog to digital. Also the article give some solution to stabilization and

capture speed problem. The emulation is using Dsp-Builder and Simulink, and the result can be implemented by FPGA.

Keywords: Carrier Tracking; Third-Order DPLL; Doppler; root locus

一种降低OFDM 信号峰均功率比的改进限幅算法*

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摘要: OFDM 技术具有频谱利用率高, 抗多径干扰能力强的优点。但是高峰均功率比(PAPR)特性是OFDM

实用化的一个瓶颈。传统的限幅方法降低了PAPR 却增大了误码率和带外泄漏功率。本文提出了一种改进的限幅

算法,该算法通过修正限幅后的信号误差及使用功率掩膜来兼顾系统误码性能和带外泄漏功率。
理论分析和仿真

结果表明,改进的限幅算法在降低PAPR的同时,减小了系统误码率和带外泄漏功率。

关键词: OFDM; 峰均功率比; 限幅法; 误码率; 带外泄漏功率

An Improved Clipping Algorithm for PAPR Reduction in OFDM

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Abstract: Orthogonal frequency division multiplexing (OFDM) has a lot of advantages, such as High bandwidth

efficiency and immunity to multipath fading. However, the high peak-to-average power ratio (PAPR) has become a

bottleneck of OFDM realization. The traditional clipping algorithm could reduce PAPR effectively but resulting a higher

BER and out-of-band leakage power. To resolve the problem, an improved clipping algorithm is presented to reduce the

PAPR of OFDM signal. Contrast to the traditional clipping algorithm, the improved clipping algorithm has a better BER

performance and out-of-band power leakiness performance.

Keywords: OFDM; PAPR; clipping; BER; out-of-band power leakiness

软件无线电技术应用于装甲机械化部队通信的探讨

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摘要: 本文从软件无线电的技术特点,关键技术等方面进行了阐述,着重探讨了软件无线电技术在装甲机械化

部队通信中的应用。

关键词: 软件无线电; 装甲机械化部队; 应用探讨

Software Define Radio Technology Is Used For The Armored Mechanization Troops Communication

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Abstract: This paper introduces software define radio technology's Characteristics and the key technology,But this

paper Emphasizes on software define radio technology's application in the armored mechanization troops

communication

Keywords: software define radio; armored mechanization troops; application

基于肤色和模板匹配的新闻图像人脸检测

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摘要: 文章基于人脸肤色统计模型和模板匹配进行人脸检测和定位。对现有的高斯肤色模型进行改进,利用一

种自适应阈值的肤色分割方法得到肤色区域,然后运用连通区域标记法得到候选人脸区域,最

后使用人脸模板匹

配的方法验证候选区域是否为人脸。实验结果表明该方法可以有效地检测出新闻图像中的人脸。

关键词：人脸检测；肤色模型；模板匹配

Skin-Color And Template-based For Face Detection in News Images

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Province, 130012, China)

Abstract: In his paper human face was detected and located based on skin color detection and template matching. The

combined gauss model (CGM) derived of the present gauss model is used for the skin color model. Additionally, a new

adaptive thresholding algorithm for skin-color segmentation is presented, then template face (model) is used to verify the

existence of faces following connected region mark to candidate face in skin regions. The experiment results show the

effectiveness for detecting faces in news images.

Key words: Face detection; Skin color model; Template matching

二进制搜索算法在RFID 系统中的实现

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4 北京工业大学VLSI 实验室, 北京市 朝阳区 100022)

摘要: 针对RFID 系统中常见的反碰撞问题, 提出了一种以一个独特的序列号 (UID) 来识别标签为基础的二

进制搜索算法及其实现过程。二进制搜索算法是一种在RFID 系统中广泛使用的防冲突算法。

根据这一算法进行

编程, 结构简单, 容易实现防碰撞功能。

关键词: RFID; 反碰撞; Manchester 编码; 二进制搜索算法

Realization Of Binary Search Algorithm In RFID System

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Abstract: A binary search algorithm based on an unique UID identifying label is presented for solving the common

problem of anti-collision in RFID. The theoretics and realization were introduced. The binary search algorithm is an

anti-collision algorithm used far-ranging in RFID system, and program based on it has simple

structure. It is easy to

avoid collision.

Keywords: RFID; anti-collision; manchester coding; binary search algorithm

UWB 通信中的自适应单载波频域信道均衡

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摘要: 研究了时变UWB 信道环境下SC-FDE 系统的频域信道自适应均衡。通过估计信道的二阶统计特性, 频域

LMMSE 信道估计的均方误差小于最小二乘信道估计。将估计的信道作为自适应均衡的初值, 运用LMS 算法实现的频

域自适应均衡可以跟踪UWB 信道的时变, 在时变信道条件下性能总体优于MMSE 线性均衡。提出的自适应SC-FDE

系统均衡算法在UWB 时变信道模型下, 取得了较好的仿真结果。

关键词: SC-FDE; 时变UWB 信道; 自适应均衡

Adaptive Frequency-Domain Equalization for Single-Carrier

Block Transmission in UWB Communication

Liu Shunjia Hu Bo Zeng Yi

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Abstract: In this paper, we propose adaptive frequency-domain equalization for single-carrier block transmission in

UWB communication. Using autocorrelation matrix of channel frequency-domain response, MSE of LMMSE channel

estimation in frequency domain is smaller than LS channel estimation. Setting the estimated channel parameters as initial

value, adaptive frequency-domain equalization can adapt to the time varying UWB channel with LMS and RLS

algorithm, and shows better performance than MMSE linear equalization. Our adaptive SC-FDE scheme achieves high

performance under time-varying UWB channel model.

Keywords: SC-FDE; time-varying UWB channel; adaptive equalization

一种SSR 应答信号发生器的设计与实现

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摘要: 随着二次监视雷达(SSR: Secondary Surveillance Radar)模式S_[1]、自动相关监视(ADS: Automatic

Dependent Surveillance)等多种不同航管数据链_[2]技术的发展和應用以及民航交通的日益紧张, 以往结构简单功

能单一的模式A/C 应答信号发生器已经不适合现代译码器_[3]的测试系统的要求。多功能的应答信号发生器成了业

界研究的热点, 本文针对产生多功能应答信号设计中的重难点技术提出了一种SSR 应答信号发生器的设计方法

及其功能实现, 采用现场可编程序逻辑门阵列_[4](Field Programmable Gate Array) FPGA 来设计多目标、多模式、

多参数的应答信号发生器, 系统的实现则是基于MCU 和FPGA 相结合的硬件结构, 整个测试系统可满足多种

SSR 应答译码器的测试要求。

关键词: SSR; 模式S; ADS; MCU; FPGA

A Design and Implementation of Reply Generator in SSR

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Abstract: With the development of many kinds technology of data link in the Secondary Surveillance Radar (SSR)

system and the pressure of the civil aviation communication, such as mode S and ADS and so on, the previous Reply

Generator which is simply in structure and function is single that only can generate mode A and mode C target reply

signal, is not adapt to the test system of modern SSR signal processor. Multi-functional Reply Generator has attracted

more and more attention of lots of researchers, for the key and important technologies, this paper introduces a design and

implementation of reply generator in SSR. It adopts FPGA to design the reply signals which is possibly in the situation

of multi-parameter, multi-mode and multi-replay. The implementation of the system is based on the hardware structure of

MCU、FPGA and upper PC. The whole testing system meets the demand of many kinds of SSR signal processor's

testing system.

Keywords: SSR; mode S; ADS; MCU; FPGA

移动自组网路由协议性能比较研究

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摘要: 本文提出了一种移动自组网路由协议QDR。根据拓展仿真的原理和方法,在网络仿真器NS2 中对QDR、

DSDV、AODV 三种路由协议进行了仿真。最后利用仿真所得的trace 文件的输出数据对QDR、DSDV、AODV

协议的性能参数进行了比较分析。

关键词: NS2; 仿真; 路由协议; QDR; DSDV; AODV。

The Comparison Study of MANET Routing Protocols

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Abstract: A new routing protocol called QDR is introduced in this thesis. According to the extendable simulation

principles and methods of NS2, in this paper, adding routing protocols is studied and QDR, DSDV, AODV routing

protocol in Mobile Ad Hoc Networks is added to NS2. At last, the data transmission capability of QDR, DSDV, AODV is

compared in this article.

Keywords: NS2; simulation; routing protocol; QDR; DSDV; AODV

BIBD-LDPC 码的高围长改进算法

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摘要: 本文提出了一种基于均衡不完全分组设计 (BIBD) 构造的低密度奇偶校验 (LDPC) 码的改进算法。该

方法通过对校验矩阵中构成短环的关键节点进行替换, 达到减少短环的目的, 因而提高了LDPC码的围长, 弥补

了多数代数方法构造的准循环LDPC码, 只能去除长度为4的环的不足。实验结果表明, 该方法能有效降低该类

LDPC码的误码率, 并且不改变码的准循环 (QC) 特性, 因此仍然易于硬件实现。

关键词: 均衡不完全分组设计; 准循环低密度奇偶校验码; 围长

A method for large girth of BIBD-LDPC code

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Abstract: A method is introduced to improve the girth of quasi-cyclic low-density parity-check code based on BIBD.

The method replaces the key nodes of short cycles in the check matrix, so it can reduce the numbers of short cycles.

Most of QC-LDPC codes constructed by algebraic methods can only get rid of cycles whose lengths are 4, this method

can make up it. The method can improve the performance of bit-error-rate effectively, from the experiment result, and it

doesn't change the quasi-cyclic character of the codes, hence it is friendly for hardware.

Keywords: BIBD; quasi-cyclic LDPC code; girth

电磁兼容性最小频率-距离间隔算法研究

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摘要: 本文提出了通过确定无线电设备最小频率-距离间隔来保证电磁兼容的方法, 以确定最小频率间隔为主

分析、研究了确定最小频率-距离间隔的基本算法, 并通过实例分析说明了算法的实现及可行性。

关键词: 电磁兼容; 最小频率-距离间隔; 算法

在保障无线电设备的电磁兼容性时, 组织措施具有十分重要的地位和作用。这些措施通常在无线电设备计划、

展开和使用过程中实现, 其目的是减少或降低对无线电信道的工作质量所产生的无意的无线电干扰的程度。

需要强调的是, 这里的无线电设备电磁兼容性是指无线电设备在同一时间与其他无线电设备共同工作, 能够

在无意的无线电干扰下保持其必要的运行质量, 并且不会对其他无线电设备形成干扰的能力。

因此, 不考虑使用

时间间隔来提高电磁兼容性的方法。

突发性业务流的Gamma 泊松混合模型及排队性能研究

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摘要: 参考Markov 调制泊松过程 (MMPP) 和混合泊松流, 为突发性业务流设计了Gamma 泊

松混合模型。

通过仿真计算考查了该模型的自相似性，并比较了其和几种典型模型在单排机情况下的排队性能，结果表明

Gamma 泊松混合模型能更适合于对突发业务流的建模。

关键词：泊松混合过程；Gamma 分布；自相似性；排队性能

Gamma Poisson Mixture Model of the Bursty Packet Traffics and Its Queuing Performance

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Telecommunications 210003)

Abstract: A Gamma Poisson mixture model is inspired by MMPP and Poisson mixture traffics to model bursty packet traffics. The self-similarity of this model has been verified via a simulation method. And the performance of single queuing system, compared with some classical stochastic models, has been studied. The results show that the Gamma Poisson mixture is a fitter model for bursty packet traffics.

Keywords: Poisson mixture process; Gamma distribution; Self-similarity; Queuing performance

道尔夫—契比雪夫端射阵优化综合方法仿真研究

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摘要: 目的 研究道尔夫—契比雪夫端射阵优化综合方法。方法 利用道尔夫—契比雪夫边射阵特性研究最优端

射阵的综合方法，并用计算机进行仿真。结果 给出了优化道尔夫—契比雪夫端射阵的仿真结果。

结论 该方法对

线阵可产生最窄波束方向图。

关键词：天线综合；方向图；端射阵；优化算法

Simulation for Optimization and Synthesis Technique of

Horizontal Radition Dolph-Chebyshev Arrays

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Abstract: Aim The simulation of optimization and synthesis technique of horizontal radition Dolph-Chebyshev arrays

were researched. Methods Make use of the character of vertical horizontal radition radition

Dolph-Chebyshev arrays to

research optimization and synthesis technique of arrays, which was simulated by computer. Results

Show the map of

the simulation of horizontal radition Dolph-Chebyshev arrays. Conclusions It could generate the most narrow lobe for

line-arrays.

Keywords: antenna synthesis; radition direction map; hozizontal arrays; optimization algorithm

分数低阶统计信号在通信抗干扰中的应用及研究进展*

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摘要: 分数低阶统计信号是一种包含高斯信号, 但又具有更广泛适用性的随机信号。本文简要介绍了分数低阶

统计信号的基本概念及其特性, 分析总结了分数低阶统计信号在通信抗干扰中的应用及研究进展, 同时指出了今

后的研究方向。

关键词: 分数低阶统计信号; 抗干扰; 码分多址; 交织多址

Development and Application of Fractional Lower Order

Statistics Signal in Communication Anti-jam

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Abstract: The fractional lower order statistics signal is one kind of random signal which contains the Gaussian signal and

applies to much wide areas than the Gaussian signal. This paper introduces briefly the basic concepts and characteristics

of the fractional lower order statistics signal, gives a comprehensive survey on the application and development of

fractional lower order statistics signal in communication anti-jam. Finally the future research work on fractional lower

order statistics signal is pointed out.

Keywords: fractional lower order statistics signal; anti-jam; CDMA; IDMA

SIP 信令压缩的动态联系人列表方案及性能研究

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摘要: SIP 信令压缩是3GPP 及IMS 的关键技术之一。本文提出一种动态联系人列表压缩方案和协议扩展设计,

以Open SigComp 软件包为基础, 设计并开发压缩功能模块。通过对压缩性能进行分析, 该方案能有效改善压缩率。

关键词: 会话初始化协议 (SIP); 信令压缩 (SigComp); 联系人列表; 压缩效率

Dynamic Contactor List of SIP Signaling Compression and

Performance analysis

Xu Lue Sun Baozhu Wang Wengnai

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Abstract: SigComp is one of the key technologies of 3GPP and IMS. A new method called DCL (Dynamic Contact List)

is introduced in this paper, which conforms to the SIP extended rules and new SIP option tags and

headers are defined.

Then based on the software package of Open SigComp, the DCL function module has been designed and developed. The

performance of compression is analyzed. The results show that DCL improves the compression ratio.

Keywords: Session Initiation Protocol (SIP); Signaling Compression (SigComp); Contactor List; Compression Ratio

单片微波开关技术及研究进展

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摘要: 本文在介绍了场效应晶体管微波开关的工作原理及其单片微波集成电路实现技术的基础上, 全面综述了

单片微波开关技术的研究进展、微波开关芯片在带宽、插入损耗、隔离度、速度、功率处理容量等性能方面的最

新技术水平, 总结了微波开关芯片的设计方法及关键技术, 展望了单片微波开关技术的发展趋势。

关键词: 场效应晶体管; 微波开关; 单片微波集成电路; 单端单掷开关; 单端多掷开关

MMIC Switch Technology Developments and Prospects

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Technology of China, Chengdu 610054)

Abstract: In this paper, the recent scientific advances of microwave switches implemented by monolithic microwave integrated circuit (MMIC) technique all over the world are systemically reviewed after introducing the operating principle

of FET-based microwave switches and their MMIC implementation approaches, the state-of-the-art performances of MMIC

switch bandwidth, inserting loss, isolation, switching time and power handling capability are presented. MMIC switch

design methodologies and key techniques of MMIC switches are summarized, the prospects of MMIC switch technology is

anticipated, some suggestion to developed future MMIC switch is presented in the paper.

Keywords: Field Effect Transistor; Microwave switches; MMIC; Single-pole-single-throw switch; Single -pole -multi -throw switch

基于OTN 帧结构的4×STM-16 TMUX 盘的实现

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2 烽火通信科技股份有限公司 430074;

3 烽火通信科技股份有限公司 430074)

摘要: 本文简介了ITU-T G.709 建议的OTN 帧结构, 并分析基于OTN 帧结构的子速率透明复用TMUX 技术

的优势, 最后给出一种基于G.709 建议OTN 帧结构的4×STM-16 子速率复用盘的实现方案。

关键词: 光传送网 (OTN); G.709; 子速率透明复用; 数字包封

The realization for 4xSTM-16 TMUX based on the OTN frame structure

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Abstract: In this paper, the frame structure of OTN in ITU-T G.709 was introduced, and the advantage of TMUX based

on OTN frame structure was analysed, a solution for TMUX is given.

Keywords: Optical Transport Network (OTN); G.709; Transparent Multiplex; Digital Wrapper

V-BLAST 系统中几种检测算法的研究

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摘要: 垂直分层空时码系统 (V-BLAST) 作为 MIMO 系统的一种典型结构, 具有结构简单和频谱效率高的特

点, 因此受到广泛关注。而 V-BLAST 系统的接收端检测算法, 对于系统的应用可行性和误码率性能都有着重要

的意义。本文分析了 V-BLAST 系统中几种常用检测算法的原理, 对其性能和复杂度进行了比较, 并进行了数据

仿真。

关键词: MIMO; V-BLAST; 检测算法; OSIC

Research of Several Detection Algorithms for V-BLAST Systems

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(Telecom and Info Tech. Engineering School University of Electronic Science and Technology of China 610054)

Abstract: As a typical architecture of MIMO systems, Vertical Bell Laboratories Layered Space-Time (V-BLAST) is

simple and spectrum efficiency, and has been paid much attention. On the other hand, the detection algorithms play an

important role in the applications and BER performance of V-BLAST. In this contribution, we analyze the basic

principles of several familiar detection algorithms for V-BLAST, and compare the performance and complexity of each

other. Finally, some conclusions are drawn based on the simulation results.

Keywords: MIMO; V-BLAST; detection algorithm; OSIC

渐进图像压缩编码技术的应用研究

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摘要: 本文系统论述了渐进图像压缩编码技术的原理与实现方法, 介绍了该编码技术在岸船远程故障可视会诊

系统中的应用。

关键词：渐进图像编码；感兴趣区域；故障可视会诊

The apply research of the technology for the asymptotic image compressing coding

Wu Zongwen Wang Yuxiao Cheng Xuejun

(China Satellite Maritime and Controlling Department)

Abstract: This article systematically discusses principle and accomplishment method of the technology for the asymptotic image compressing coding, introduces the apply of the coding technology in the system of remote visual malfunction consultation between the ship and the land.

Keyword: asymptotic image coding; region of interesting; visual malfunction consultation

基于TD-SCDMA 的Ad hoc 网络性能分析

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2 解放军理工大学通信工程学院, 南京, 210007)

摘要: 提出了一种基于TD-SCDMA 的Ad hoc 网络的系统结构模型, 在单小区情况下, 分析了节点分布服从

泊松点过程时, 基站覆盖区发节点和Ad hoc 覆盖区的其他发节点对Ad hoc 覆盖区的收节点产生的干扰的数学表

达式, 进而给出了Ad hoc 覆盖区节点的信干比与节点离基站的距离、平均发节点个数、蜂窝覆盖扩展因子等参

数的关系式, 通过数值分析, 得到了各种参数对Ad hoc 链路中断概率的影响。

关键词: TD-SCDMA; Ad hoc 网络; 干扰; 中断概率

Performance Analysis of TD-SCDMA based Ad hoc Networks

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2 Institute of Communication Engineering, PLA University of Science and Technology, Nanjing, 210007)

Abstract: A new architecture of TD-SCDMA based Ad hoc networks is presented. Interference at a receiver in the Ad

hoc coverage area due to transmitters in the coverage area of base station and other transmitters in the Ad hoc coverage

area is analyzed respectively when the positions of nodes following a two-dimensional Poisson Point Process in a single

cell. The relationship among the SIR of a receiver in the Ad hoc coverage area, distance between the node and base

station, the average number of transmitters and coverage improvement ratio is derived. Finally, numerical computation

shows the impact of various parameters on the outage probability of the Ad hoc link.

Keywords: TD-SCDMA; Ad hoc networks; interference; probability of outage

浅谈波分复用技术

黄春根

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摘要: 随着通信技术的飞速发展, 传输网络正向高速率、大容量、大宽带的方向发展。多数设光缆、提高通信设备的处理速度, 远达不到现代通信的需求。波分复用技术(WDM、DWDM、CWDM)的迅速崛起及产业化发展, 已在传输网络中得到了广泛的应用。

On the Wave Division Multiplexing Technology

With the development of Communication technology, network transmission is becoming more and more unparalleled to the traditional optic fiber communication technology because it can't meet the needs of modern communication by laying more fiber cable or raising speed of the communication only. So wavelength division multiplex (WDM) has become the hot issues in the field of optical communication presently and lots of advantages of WDM such as high velocity and very big capacity make it widely used in network transmission.

Alpha 稳定分布噪声下最小误码率自适应均衡算法

李森

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摘要: 高斯噪声下的自适应均衡算法已经得到了很好的研究, 但是最近的很多研究表明通信信道中的噪声有时会呈现出显著的脉冲特性, 在这种脉冲噪声下原有的基于高斯噪声假设的均衡算法的性能将出现退化。为了提高脉冲噪声环境下均衡算法的性能, 本文以Alpha 稳定分布为脉冲噪声的数学模型, 利用高斯内核密度估计方法提出了Alpha 稳定分布噪声环境下的最小误码率线性自适应均衡算法, 2-PAM 和4-QAM 调制下的仿真结果表明该算法的性能要优于基于最小平均 p 范数准则的LMP 自适应均衡算法。
关键词: Alpha 稳定分布; 线性自适应均衡; 最小误码率准则

Adaptive Minimum-BER Equalization in Alpha Stable Noise

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Abstract: The problem of adaptive equalization in Gaussian noise has been studied perfectly. But, in some communication channels, the observation noise exhibits impulsive that made the performance of the present algorithms which are optimized under the Gaussian assumption is degraded. In order to improve the performance of the equalization algorithm in impulsive noise, the noise's mathematic model characterized by the alpha stable distribution is proposed in this paper. And then the new adaptive linear equalization algorithm based on the minimum bit error rate criterion is addressed using the Gaussian kernel density estimation method. Simulation results under 2-PAM and

4-QAM

modulation indicate that performance of the proposed algorithm is superior to the LMP algorithm which is based on least p norm criterion.

Keywords: Alpha stable distribution; linear adaptive equalization; minimum-BER criterion

MIMO 通信系统空域维纳预编码器及性能分析

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摘要: 本文分析了多输入多输出 (MIMO) 通信系统线性预编码器的性能。在最小均方误差 (MMSE) 意义下

直接导出了最优线性预编码器—空域维纳预编码器的解析表达式, 并提出了一种线性预编码器的统一表示方

法。通过仿真表明, 线性预编码器类中空域维纳预编码器可以达到最大信道容量和最低错误符号率。

关键词: 个人通信技术; 多输入多输出 (MIMO); 预编码; 快衰落信道

Performance Analysis of Spatial Wiener precoder in MIMO

communications Systems

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Abstract: This paper deals with a performance analysis of linear precoder in Multiple Input and Multiple Output

Systems, where the optimum linear precoder, called Spatial Wiener precoder, is deduced in a simple way based on

Minimal Mean Square Error sense. We introduce a uniform expression for linear precoder. By simulation we show that

Wiener precoder can achieve maximum channel capacity and minimum error symbol rate among the class of linear precoder.

Keywords: Personal communication; Multiple Input and Multiple Output Systems; precoding; Fast fading channel

一种基于宽带无线通信系统的上行无线资源分配算法

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摘要: 为了更好地解决宽带无线通信中多业务并发时的上行带宽分配问题, 提出了一种适用于宽带无线通信系

统的上行无线资源分配算法。并在详细描述算法的基础上, 建立了对应的仿真系统对算法进行了验证。从仿真结

果来看, 该方法较传统的分配算法提高了带宽利用率, 减少了协议开销和传输时延。

关键词: 无线资源; 宽带无线通信; 数据链路层

A algorithm of uplink radio resource allocation base on broadband

wireless communication systems

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Abstract: To resolve better the uplink bandwidth allocation problem for the simultaneous multiple services in broadband

wireless communication systems, a new algorithm of uplink radio resource allocation which is adapted to the broadband

wireless communication systems is given. And based on the detailed illustration of the algorithm, a simulation system is

established to verify it. The simulation results show that the new method improve the utilization efficiency of bandwidth,

and also reduces the protocol wasting and transmission delay.

Keywords: radio resource; broadband wireless communication; data link layer

基于软件无线电的QAM 解调方案的研究

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摘要: 本文研究了基于软件无线电的QAM 解调在实际工程应用中的一种具体实现方案, 方案中简化了A/D 前

端的设计, QAM 解调过程中采用了联合分数间隔常模算法(FS-CMA)和判决引导最小均方误差算法(DD-LMS)

的双模算法的判决反馈式结构的均衡技术, 还介绍了载波恢复、波特率跟踪等, 并对这些模块进行了MATLAB

仿真比较, 达到了很好的效果。并在70M 中频解调器中得以应用, 达到了比较好的技术标准。

关键词: 软电无线电; QAM 波特率跟踪; 双模均衡; 载波恢复

TD-SCDMA 与GSM 系统干扰仿真模型

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摘要: 本文提出了关于TD-SCDMA 和GSM 系统容量以及两系统共存的仿真准则和方法, 建立了仿真所需的

智能天线模型、小区模型、链路损耗模型, 并给出了接纳控制、功率控制等基本的资源管理算法。

关键词: TD-SCDMA; GSM; 共存; 仿真

The simulation model of interference between TD-SCDMA and GSM system

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Abstract: the paper puts in the simulation criterion and method which is about TD-SCDMA system and GSM system's

capacity and the Coexistence ,it establishes the smartantenna model、 the cell model and link loss model, and presents

the resource management arithmetic such as access control power control.

KeyWord: TD-SCDMA; GSM; coexistence; simulation

两种自适应回波抵消算法应用及仿真分析

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(¹ 解放军理工大学通信工程学院卫星教研室 210007; ² 解放军通信指挥学院20 队 430010)

摘要: 本文采用MATLAB 软件对LMS 和RLS 两种自适应均衡算法在回波抵消器中的应用进行仿真, 分析收

敛步长 μ 、抽头 w 、遗忘因子 λ 等参数对回波抵消器性能的影响, 并对两种算法下的性能做出比较。

关键词: LMS; RLS; 回波抵消

Simulation Of Two Adaptive Algorithms Applied In Acoustic Echo Cancellation

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² Institute of PLA Communication Command 430010)

Abstract: With the rapid development of communication technique techniques, people demand higher and higher speech

quality in communication. So acoustic echo cancellation (AEC) technique has become a hotspot. It can effectively

resolve the echo problems of long-distance telephone network and IP telephone with satisfactory speech

quality. Acoustic echo cancellation is normally achieved by means of an acoustic echo canceller. This paper in focused

on the adaptive filter algorithms usually used in echo cancellation are LMS, RLS. The performance of the main

algorithms mentioned here are analyzed by simulation.

Keywords: LMS; RLS; Acoustic echo cancellation

MSTP 传送以太网的研究

滕桂钧

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摘要: 本文对如何运用MSTP 传送以太网做了简单的阐述, 分析了LAPS 和GFP 协议, 描述了其的特点和应

用。

关键词: 以太网; MSTP; LAPS; GFP

The Study of MSTP Transmission Ethernet

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Posts&Telecommunications, Nanjing

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Abstract: The paper briefly describes how to use MSTP transmission Ethernet, analyzes two protocols LAPS and GFP,

and introduces the advantages and applications of LAPS and GFP.

Keywords: Ethernet; MSTP; LAPS; GFP

基于QR 分解的MIMO 自适应天线选择

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摘要: 未来的无线通信系统将会采用发射端和接收端都有多根天线的多输入多输出 (MIMO) 技术, 这样能获得很高的频谱效率。为了保证通信质量, 在信道情况发生变化时都需要进行发射天线选择。在本文中, 我们提出了一种基于QR 分解的天线选择准则。与传统的基于奇异值分解的天线选择相比, 基于QR 分解的天线选择复杂度低很多, 而且仿真结果显示, 性能损失很小。

关键词: 多输入多输出; 天线选择; QR 分解

QR Decomposition Based MIMO Adaptive Antenna Selection

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Abstract: Future wireless communication system will employ multiple-input multiple-output (MIMO) to obtain high spectral efficiency. To guarantee quality of service, it is essential to select an optimal subset of transmit antennas. In this paper we present a criteria based on QR decomposition. Compared with selecting criteria based on singular value decomposition (SVD), QR decomposition based criteria has lower complexity. Simulations show that the performance loss is little.

Keywords: MIMO; antenna selection; QR decomposition

SFBC-OFDM 系统中的软输出检测算法

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摘要: 在级联信道编码的SFBC-OFDM 系统中, 为了获得理想的误码率性能, 接收机需要采用软输出检测算法。本文研究了四种不同的软输出检测算法, 包括: 联合最大似然检测、简化最大似然检测、迫零检测和判决反馈检测, 并针对判决反馈检测算法提出了抑制错误传播的改进算法。仿真表明: 在快衰落信道下, 传统的简化最大似然检测算法会导致很高的残留误码率, 几乎不可用; 而另外三种检测算法的误码率性能得到大大的改善; 改进的判决反馈检测算法由于抑制了错误传播, 相对于传统的判决反馈检测算法带来重要的性能增益。

关键词: SFBC-OFDM; 检测算法; 软输出; 对数似然比

Soft-output Detection Algorithms for SFBC-OFDM System

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Chengdu, China)

Abstract: For SFBC-OFDM system which includes an error-correcting coder, the detector should output soft information to obtain better performance. Four soft-output detection algorithms are investigated in this paper. They are joint maximum-likelihood detection, simple maximum-likelihood detection, decision-feedback detection and zero-forcing detection. Simulation results show that simple maximum-likelihood detection can lead to a large error-floor in fast fading channel, and the other three detection algorithms can achieve much better bit error rate performance. Furthermore, we have proposed an improved algorithm for decision-feedback detection by suppressing the error propagation. Simulation results demonstrate that this improvement can outperform the original scheme significantly.

Keywords: SFBC-OFDM; detection algorithm; soft output

移动通信中的常用业务预测方法

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摘要: 业务预测已经是移动通信咨询工程重要组成部分之一, 本文将针对不同的业务情况介绍几种有效的业务预测方法。

关键词: 业务预测; 曲线拟合; 季节模型

Some Effectual Forecasting Algorithms of Mobile Communication Business

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Abstract:: operation forecast is the important part of mobile communication counseling, and this paper introduced several forecasting algorithm.

Keywords: forecasting; polynomial fit; seasonal model

基于CC1100 的无线数传系统设计与实现

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摘要: 德州仪器(TI)生产的CC1100 是全球首款单片集成收发于一体的低功耗无线射频芯片, 工作于低于 1GHz

的ISM 频段, 成本低且具有很多非常独特的数字功能, 例如, 整个数据包处理、FIFO 缓冲器、空闲通道评估和

无线电唤醒等。本文采用Atmel 公司产品Atmega128L 作为MCU, 通过高速串行SPI 接口对CC1100 进行参数配

置和收发控制, 从原理图设计、PCB 制板到软件调试等几个方面给出了一种无线数传系统的实现方案。

关键词: CC1100; Atmega128L; SPI

Design And Realization Of A Wireless Data Transition System

Based CC1100

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Abstract: The CC1100 made in TI is a low cost true single chip UHF transceiver designed for very low power wireless applications. The chip is mainly intended for the ISM(Industrial,Scientific and Medical) frequency bands at 315,433,868 and 915 MHz. It has many particular digital functions as data packet process、FIFO data buffer、Clear Chanel Assesment and WOR(Wake-On-Radio). This Paper selects Atmega128L as MCU, controlling transmission or receive and configuration key parameters in CC1100 are both done using its SPI interface., and gives a full realization scheme of wireless data transfers from theory picture design、PCB printing to software debug.

Key words: CC1100; Atmega128L; SPI

3GPP 中的ARQ 技术的研究

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摘要: 由于移动信道的时变和多径传输特性, 常常导致系统有较高的误码率, 而传统的前向纠错(FEC,

Forward-Error-Correction) 机制往往无法提供理想的系统性能, 于是人们提出了自动重传请求(ARQ,

Automatic-Repeat-reQuest) 技术。3GPP 已把ARQ 技术作为第三代移动通信后期高速数据传输的关键技术之一。

本文较为详细地介绍了在3GPP 中使用的ARQ 技术的理论基础、重传机制、混合ARQ 技术的类型及其特点等问

题, 并运用Matlab 仿真, 完整清晰地分析了不同类型HARQ 的吞吐量、误比特率等性能。

关键词: 自动重传技术; 混合ARQ; 前向纠错编码; 3GPP

The research of ARQ technique in the 3GPP

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Abstract: The mobile transmission system always has a high mistaken coding rate due to the time-varying nature of the channel and the effect of multi-path. A forward error correction (FEC) can not get an ideal performance, so the automatic repeat request (ARQ) technique appears. Recently, the 3GPP has proposed it as one of the most important techniques for

the high speed packet transmission. This paper introduces the basic theory, retransmission manner of ARQ technique

used in 3GPP and the types of HARQ in detail. Also it contains a lot of simulations by Matlab which are helpful to

analyze the differences of the Throughput, BER and other performances of the three HARQ types.

Keyword: ARQ; HARQ; FEC; 3GPP

PHS 基站参数调整——困境中求发展

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摘要: 本次实验主要针对道路覆盖的基站进行了参数调整。首先通过参数调整分别限定基站、手机的切换, 分

别测试出PHS 系统通话过程中上下行之间匹配度的情况, 推断出了PHS 系统通话流程中独有的下行受限的特点。

进而从数次测试数据中归纳出可行、有效、更适合道路覆盖所使用的参数调整方案, 对覆盖道路的基站进行参数

优化, 提高整体性能提高用户感知度。上述的实验得到的结果已经在南宁市部分主干道得到应用, 本次实验的经

验及结论适用于整个PHS 系统, 如此来提高维护、优化效果, 将使得PHS 能更好的充当2G 演变到3G 时代的

有利过度产品。

关键词: PHS 系统; 基站; 参数; 上行; 下行

Parameters Optimization of PHS Cell-station

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Abstract: This experiment mainly adjusts parameters to the Base station especially. Firstly it restricts the switch between

Base station and Mobil phone respectively through parameter adjustment, tests that matching between the up-link and

down-link during calls in the PHS system, and infers the special characteristics of limiting of the down-link in PHS

system. Therefore it concludes a feasible, effective and more suitable parameter adjustment method of Base station, and

optimizes parameter of Base station thereby enhance the whole ability of the PHS system. The result of above

experiments has been used in some main road in Nanning, and it is suitable for the whole PHS system to enhance routine

maintenance as well as optimize results. it will make PHS a better transition from 2G era to the 3G.

Keywords: PHS system; base station; parameter; up-link; down-link

多用户OFDM 系统中随机功率控制下部分传输序列模型

何继爱

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摘要: 大量用户通过允许共享一个OFDM 码元实现多接入使得多用户OFDM 成为可能。但是多用户OFDM

系统中由于使用的是多载波调制, 系统中存在峰均比的问题, 同时考虑到在传输过程中无线链路的衰落不同, 本

文提出了多用户OFDM 系统中随机功率控制下的部分传输序列模型, 并且对系统的PAPR 性能进行了分析。

关键词: 多用户OFDM; 峰均比; 部分序列传输; 随机功率控制

Partial Transmit Sequence under Stochastic Power Control in Multi-use OFDM

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Abstract: Multi-user OFDM is impossible by allowing a number of users to share an OFDM symbol to realize the

multiple access. But due to the multi-carrier modulation in the multi-user OFDM system, the

peak-to-average power

ratio is problem in the system. At the same time, the different degradation in the radio link, the partial transmit sequence

under stochastic power control in Multi-user OFDM system is proposed. At last, the performance of the PAPR is

analyzed.

Keywords: multi-user OFDM; peak-to-average power ratio; partial transmit sequence; stochastic power control

新型开槽线寄生频率抑制结构及其应用

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摘要: 为解决寄生频率响应抑制的问题, 同时实现电路结构的小型化, 文中首先基于一般的 4λ 开路线频率抑

制器提出了微带上直接开槽的新结构, 并在此基础上首次提出了紧缩型的多点抑制结构, 以及改进形成的、能够

增加抑制深度的双槽线抑制结构, 仿真结果显示, 紧缩结构能有效压缩结构尺寸, 而双槽线结构能获得更高的Q

值和更深的抑制深度。文章最后还分析了双槽线的结构参数变化对谐振频率的影响, 并在分析的基础上, 作为应

用实例设计了具有谐波抑制作用的Wilkinson 等功率分配器。

关键词: 寄生通带抑制; 谐波抑制; 四分之一波长开路线; Wilkinson 功分器; 双槽线抑制结构; 多点抑制

Novel Slotted Configuration with Spurious Responses Suppression and Its application

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Abstract: In order to solve the problem of spurious responses suppression, a novel configuration, based on general

suppressor with 4λ open stub, was proposed, which was generated from slotting on micro-strip.

Moreover, by

improving it, a compact configuration with multiple suppression point and a double slot configuration were formed

respectively. It was shown in the simulation result that higher quality factor and suppression depth were got. Based on

analyzing how does the change of Double-Slot Configuration (DSC) influence on the resonant frequency, a Wilkinson

power-divider with harmonic suppression was designed. According to the simulation result, it was reported that the

suppression got at third harmonic was more than 30dB.

Keywords : Spurious responses suppression; Harmonic frequency suppression; 4λ opened-stub; Wilkinson

power-divider; Double-Slot Configuration(DSC); Multi-point suppression

新型开槽线寄生频率抑制结构及其应用

崔志富 李平辉

(解放军理工大学通信工程学院, 江苏 南京 210007)

摘要: 为解决寄生频率响应抑制的问题, 同时实现电路结构的小型化, 文中首先基于一般的 4λ 开路线频率抑

制器提出了微带上直接开槽的新结构, 并在此基础上首次提出了紧缩型的多点抑制结构, 以及改进形成的、能够

增加抑制深度的双槽线抑制结构, 仿真结果显示, 紧缩结构能有效压缩结构尺寸, 而双槽线结构能获得更高的Q

值和更深的抑制深度。文章最后还分析了双槽线的结构参数变化对谐振频率的影响, 并在分析的基础上, 作为应

用实例设计了具有谐波抑制作用的Wilkinson 等功率分配器。

关键词: 寄生通带抑制; 谐波抑制; 四分之一波长开路线; Wilkinson 功分器; 双槽线抑制结构; 多点抑制

Novel Slotted Configuration with Spurious Responses Suppression and Its application

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Abstract: In order to solve the problem of spurious responses suppression, a novel configuration, based on general

suppressor with 4λ open stub, was proposed, which was generated from slotting on micro-strip.

Moreover, by

improving it, a compact configuration with multiple suppression point and a double slot configuration were formed

respectively. It was shown in the simulation result that higher quality factor and suppression depth were got. Based on

analyzing how does the change of Double-Slot Configuration (DSC) influence on the resonant frequency, a Wilkinson

power-divider with harmonic suppression was designed. According to the simulation result, it was reported that the

suppression got at third harmonic was more than 30dB.

Keywords : Spurious responses suppression; Harmonic frequency suppression; 4λ opened-stub; Wilkinson

power-divider; Double-Slot Configuration(DSC); Multi-point suppression

窄带干涉滤光片在蓝绿激光对潜通信中的应用

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摘要: 本文介绍蓝绿激光通信的信道特性。在接收系统中, 引进窄带干涉滤光片, 减少背景光的干扰, 增加信

号光透射率, 改善信噪比。并用Needle 方法对此窄带干涉滤光片进行设计和优化。

关键字: 蓝绿激光对潜通信; 窄带干涉滤光片; 膜系设计; 膜系优化

The application of narrow-band interference filter in

submarine blue-green laser communication

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Abstract: The channel characteristics of the submarine blue-green laser communication are introduced in this paper. In the receiving system, the narrow-band interference filter is introduced in order to reduce the background light, increase the signal transmission rate, and improve the signal-to-noise ratio. And the narrow-band interference filter will be designed and optimized by needle method.

Keywords: submarine blue-green laser communication; narrow-band interference filter; coating design; coating optimization

Embedded state metric storage used in MAP decoder implementation

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Abstract: A method, embedded state metric storage, is used for MAP decoder of turbo codes to reduce the memory requirement of state metrics information calculation. For log MAP decoder, this method includes selecting an embedded metrics from the updated state metric in each direction, forward and reverse, and subtracting the embedded metric from the state metrics. The contribution of an embedded metric during state metric updating and likelihood ratio calculation is embedded in the relationship among the state metrics. Thus, the embedded metric need not be kept in the state metrics memory, and calculation using the embedded metric can be omitted. Therefore, the latency and area in the implementation will be reduced with embedded state metric storage.

Keywords: Turbo code; ESMS Embedded state metric storage; MAP; Log_MAP

多普勒激光雷达在风场测量中的应用

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摘要: 在过去的四十年中,多普勒激光雷达在风场测量中的应用得到了越来越高的重视。文章总结了激光雷达

的特点,讨论了其在风场测量中的应用及相干检测和非相干检测在其的应用。在此基础,文章讨论了2微米激光

雷达特点,以及它在风场测量中的应用。文章的最后,对测风雷达的核心技术进行了展望。

关键词: 多普勒激光雷达; 风场; 测风; 相干; 非相干; 2微米激光器

Doppler lidar for wind measurement

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Abstract: Doppler lidar for measurements of atmospheric wind fields has been taken great considerations in the past 40 years. In this paper, first, the features of Lidars was being summarized. Then, the application of lidar for wind measurement was being discussed. In the third part, direct detection techniques and coherent detection techniques for wind field measurement were being discussed. In the next section, we discuss 2- micron lidars and its applications in wind fields measuring. At the end of the paper, some new trends and related dilemma in lidars are being put forward.

Keywords: Doppler lidar; wind field; wind measurement; coherent; incoherent; 2- micron lasers

改进的特征空间波束形成算法

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摘要: 本文提出了一种改进的特征空间算法 (GEBB), 它基于多约束LCMV 准则和特征空间算法。新算法的

权值具有更小范数和更小的输出噪声, 另外, 算法根据是否保留线性约束具有一定灵活性。

关键词: 智能天线; 特征空间; LCMV; 波束形成

Improved Eigenspace-Based Beamformers

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Abstract : This paper proposed a improved eigenspace-based beamformers (Generalized Eigenspace-Based

Beamformers), which is based on the rule of multiple LCMV and Eigenspace. The GEBB has a smaller norm and can a

lower output noise power, additionally, it has some flexibility on whether preserved the linear constraint.

Keywords: smart antenna; eigenspace ; LCMV ; beamformer

有限比特反馈下OFDM 系统的预编码技术

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摘要: 讨论了多天线有限比特反馈的OFDM 系统中各子载波预编码集的统一构造方法。通过发射端的波束成

形将多天线OFDM 无线信道等价于独立的并行子信道, 利用各子载波信道的相关性, 结合有限比特反馈预编码

集的最优设计, 推导了多发射天线OFDM 系统中子载波的预编码集的统一构造方法。数值仿真表明, 各个子

载波的预编码集的统一构造方法可使接收端信噪比接近最优波束成形方法1dB 内。该方法避免了各子载波单独

构造预编码集所带来的系统的复杂性, 使有限比特反馈下的OFDM 系统的实际应用成为可能, 可为带反馈信道

的多天线OFDM 系统设计提供参考。

关键词: 预编码; 正交频分复用; 发射分集; 波束成形; 反馈

The Precoding Method with Finite Bit Feedback in OFDM System

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Abstract: In OFDM system with finite bit feedback, the same construction of precoding set among sub-carriers was discussed. Through transmit beamforming, the wireless channel in multiple-antenna OFDM systems can be transformed into several equivalent parallel sub-channels, utilizing the coherence between each sub-channels, and with the combination of the optimal design of precoding set, the same construction of precoding set among sub-carriers is derived. Digital simulation indicates the SNR of receiver when using the same construction of precoding matrix set among sub-carriers can attain the optimal beamforming set method within 1dB. This method avoid the system complexity when construct their precoding set independently among sub-carriers, and pave the way for it be put into practice, and also provides a reference design in multiple-antenna OFDM systems with finite bit feedback.

Keywords: Precoding; OFDM; Transmit Diversity; Beamformer; Feedback

宽带接入家庭网关——国外成功案例对运营商转型的启示

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摘要: 文章从目前电信业普遍面临的转型压力出发, 重点讨论业务融合对电信业转型的驱动。通过学习法国、英国电信在宽带接入家庭网关的成功推广案例, 总结其对于国内电信运营商特别是固网运营商挽救用户流失, 提高ARPU 值, 成功实现业务转型的启示。

关键词: 运营商; 电信; 转型; 业务融合; 宽带接入家庭网关

Home Gateway The revelation from successful case abroad

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Abstract: The treatise focuses on strategies of integrative business development of telecom operators, according to industry reconstruction and transformation. By successful cases study of home gateway, it discussed the revelation for domestic telecom operators.

Keywords: transformation; business; integration; home; gateway

GPRS 测试中的非网络质量问题分析

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摘要: GPRS 网络承载了多种无线数据业务, 由于各种业务涉及网元较多, 如何保证用户的端

到端使用感受是

网络优化工作的重点。GPRS DT/CQT 测试模拟终端用户使用环境，便于定位网络故障，本文主要介绍DT/CQT

测试中异常问题的定位与分析。

关键词：小区重选；MMS；WAP；RAU

Analysis on Non-network Quality Problem in GPRS Test

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Abstract: GPRS network has borne more wireless packet services, which is related to several NEs, so ,it is more

important how to assure customer's normal service. GPRS DT/CQT test can find network fault by simulating customer's

environment. It is discussed in this paper is the analysis and

扩频通信技术在通信中的应用

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摘要: 扩频通信技术是扩展频谱通信 (Spread Spectrum Communication) 的简称，它是指用来传输信息的射频

信号带宽远远大于信息本身带宽的一种通信方式。扩频通信系统的出现，是通信技术的一次重大突破。扩频通信

的基本思想和理论依据是美国著名的信息理论学家 Shannon 在信息论的研究中得出了信道容量的公式： $C = W$

$\log_2(1 + P/N)$ 。这个公式指出：如果信息传输速率C 不变，则带宽W 和信噪比P/N 是可以互换的，就是说增加带

宽就可以在较低的信噪比的情况下以相同的信息传输率来可靠的传输信息，甚至在信号被噪声淹没的情况下，只

要相应的增加信号带宽，仍然能够保持可靠的通信，也就是可以用扩频方法以宽带传输信息来换取信噪比上的好

处。

关键字：扩频通信；无线扩频技术；无线局域网；蓝牙技术

The application of spreading spectrum communication technology in communication

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Abstract: Spread-spectrum communication technology is called spread spectrum communications, which is used to

transmit information that the RF signal bandwidth far greater than the information itself a bandwidth of communication。

The emergence of spread-spectrum communication systems is a major breakthrough in communication technology.

Spread Spectrum Communication Theory and the basic idea is based on well-known American scientist Shannon

Information Theory in the study of information theory that the channel capacity of the equation: $C = W \log_2(1 + P/N)$.

if the information transfer rate C isn't changed, bandwidth W and SNR P/N is interchangeable, meaning the bandwidth can be increased at a lower SNR circumstances to the same information transmission rate to reliable transmission of information, as long as the corresponding increase in signal bandwidth, it was able to maintain reliable communication, which is spreading method can be used to transmit information in exchange for the broadband signal to noise ratio on the benefits.

Keyword: Spread spectrum communication; Wireless spread spectrum technology; Wireless Local Area Networks; Blue tooth technology

A Novel Statistical Model of Mobile Satellite Channel Markov 2-state¹

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Abstract: A novel two-state Markov channel model is proposed, which assumes that the envelope of the received signal subjects to Rician distribution for an ideal channel state while the envelope of the received signal Corazza's channel model for a non-ideal channel state. The comparative results of the cumulative distribution, the level-crossing rate as well as the average duration of fades of simulation and measurement show that the assumption is simple, reasonable and useful in practice.

Keyword: satellite mobile; channel; channel model; fading channel

利用TCP 解决农村覆盖问题的探讨

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摘要: 本文主要介绍一种覆盖仿真方法——TCP 覆盖仿真, 该覆盖仿真方法解决了长期以来困扰我们的被动分析网络覆盖状况的难题。本文还介绍了在实际网络优化工作中利用该算法辅助分析网络覆盖问题得到的一些结论。

关键词: 覆盖仿真; 网络优化; TCP 对比

Discuss about the way to resolve the coverage problem of country by using TCP

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Abstract: One coverage simulation method (CSM) named TCP coverage simulation is introduced. CSM has helped us to solve the problem which has troubled us to analyze the coverage situation of network passively for a long time. It also introduces some conclusions from CSM assisted analysis the network coverage issues in the actual work of the Network

Optimization.

Keywords: coverage simulation method (CSM); TEMS CellPlanner; network optimize; contrast

基于Rimoldi 分解的CPM 相干解调

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摘要: 为了保证高频带利用率下的连续相位调制系统的性能, 考虑连续相位调制的相干解调。在Rimoldi 提出

的分解方法的基础上, 探讨了连续相位调制的相干解调和最大似然序列检测, 并对误码率性能进行了仿真分析。

结果表明, 基于Rimoldi 分解的CPM 解调方案降低了系统的复杂度, 而性能没有明显下降。

关键字: 连续相位调制; 相干解调; Rimoldi 分解; 最大似然序列检测

Coherent Demodulation of Continuous Phase Modulation with Rimoldi Decomposition

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Abstract: In order to get a high performance of the Continuous Phase Modulation under high bandwidth efficiency,

coherent demodulation of CPM is to be considered. We consider coherent demodulation and Maximum-Likelihood

Sequence Detector of CPM with the decomposition approach proposed by Rimoldi. The performance of the system is

also analyzed. The simulation results show that the complexity decreases apparently without incurring severe

performance degradations.

Keywords: CPM; coherent; demodulation; Rimoldi Decomposition; MLSE

下一代移动通信系统的跨层设计架构研究

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摘要: 下一代移动通信是全IP 网络, 分层协议将广泛应用, 移动信道的开放、时变、衰落特点与分层设计及

移动网络的业务特性相冲突。跨层设计是为较好地解决这一矛盾而提出的方法。分析了跨层设计的直观方法, 提

出了一般数学模型, 给出了跨层设计的量化方法并给出了层间接口及信息的物理实现方式。

关键词: 跨层设计; 结构; 优化理论; 层接口; 层间信息

Study on the Architecture of Cross-layer Design for the Next Generation Wireless Networks

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Abstract: Due to the conflict between the design methods of the conventional layered protocol and the characteristics of

the wireless channel, cross-layer design is proposed. The architecture of cross-layer design is studied

in practice

firstly, and then in mathematics theory. The general quantity method for cross-layer design is summarized and the

realize method for interface as well as information between layers is given.

Keyword: cross-layer design; architecture; optimization theory; connects between layers; information between layers

基于C8051F020 的射频信号强度测量系统设计

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摘要: 系统以C8051F020 单片机为核心, 基于CC1000 无线收发模块设计了射频信号强度测量硬件电路和软件。

系统通过识别发射节点身份和读取信号强度指示值 (RSSI) 来测量接收到的射频信号强度, 为无线传感器网络

(WSN) 室外定位、测距等技术的应用打下基础。

关键词: 无线通信; 射频信号强度; C8051F020; CC1000

Design of Radio Frequency Signal Strength Measurement System Based on C8051F020

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Abstract: The signal strength measurement system employed C8051F020 as the core component. The circuitry and

software were designed based on wireless module CC1000. The receiver measured the signal strength by recognizing the

identification of the transmitter and reading RSSI. The signal strength measurement technology sets a good foundation

for the positioning and range measurement technologies out door.

Key words: Wireless communication technology; Signal strength; C8051F020; CC1000

基于SSB-MMSE 的SS - MC - MA 迭代接收机

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摘要: 本文首先简要介绍了SS-MC-MA (Spread Spectrum - Multi-Carrier - Multiple Access) 发射机模型和IEEE

802.15.3a 推荐的信道模型, 其次研究了SS-MC-MA 方案, 设计了基于SSB (Soft Symbol Based)-MMSE 算法的

迭代接收机, 最后本文给出了几种方案的仿真结果。结果表明, 使用迭代接收机的SS-MC-MA 系统有较好的抗

多径衰落能力和稳健性。

关键词: 迭代接收机; MB-OFDM; SS-MC-MA; 最小均方误差

Performance of SS-MC-MA system with iterative receiver

based on SSB-MMSE

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Abstract: In this paper, the transmitter of SS-MC-MA (Spread Spectrum – Multi-Carrier – Multiple Access) system and channel model recommended by IEEE 802.15.3a are presented firstly. Secondly, we investigate the SS-MC-MA system, an iterative receiver based on SSB(Soft Symbol Based)-MMSE is proposed for SS-MC-MA system. And we compare these different systems through simulations, the result shows that the proposed solution, offers good performance and better robustness to cope with the channel frequency selectivity.

Keywords: Iterative receiver; MB-OFDM; SS-MC-MA; MMSE

T 公司基于平衡记分卡管理方法的案例研究

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摘要: 本文以一个通信设备制造企业为样本, 结合平衡记分卡理论进行案例分析和研究。从分析传统的绩效考评体系的缺陷出发, 分析样本公司的内外环境以及成功的关键因素, 进而绘制出公司的战略地图, 构建出了基于样本公司基本情况的平衡记分卡指标体系。

关键词: 平衡记分卡; 案例

A Case Study of T Company Based on Balance Scorecard Method

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Abstract: This paper presents a case that how an equipment vendor implements balance scorecard. This paper starts from an overview of the balance scorecard theory, then lists the internal and external environment of the company, gets the critical success factors, draws the strategy map for the company, defines the performance metrics.

Key words: case study; balance scorecard

基于Nakagami 衰落的MIMO 信道模型的研究与仿真

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摘要: Nakagami 分布是比Rayleigh、Rice 以及对数正态分布都更加符合实际的衰落信道模型。本文通过对MIMO 无线通信系统信道模型的研究, 提出了一种基于Nakagami 衰落特性的窄带MIMO 信道模型, 并结合一种新的 Nakagami 衰落信号的仿真方法, 在该衰落特性条件下通过不同的衰落指数 m 对MIMO 信道的容量等性能进行仿真和分析, 从而得到了衰落指数 m 和窄带MIMO 无线通信系统性能的关系, 同时证明了 Nakagami 模型对拟合不同衰落环境下的MIMO 信道具有较好的适用性。

关键词: MIMO; 信道模型; Nakagami; 信道容量

Study and Simulation of MIMO Channel Model over

Nakagami Fading

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Abstract: Nakagami distribution is a more realistic fading channel model to describe the radio environment than Rayleigh, Rice and Lognormal distribution. This paper proposes a statistical narrowband MIMO channel model over Nakagami fading. Then, the paper presents a novel simulation method for the Nakagami fading channel to simulate the channel capacity and other properties. Next, the relationship between the fading figure m and the performances of narrowband MIMO wireless system is given based on the simulation results. Meanwhile, it proved that the Nakagami model is applicable to fit the MIMO channels under different fading environment

Keywords: MIMO; channel model; Nakagami; channel capacity

考虑阴影衰落的分布式多天线正交频分复用系统的信道容量研究

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摘要: 分布式天线系统是近年来得到广泛研究的新型通信系统模型, 其具有增强系统容量、拓展网络覆盖以及减少邻小区干扰等优点。本文主要研究了在考虑随机阴影衰落的复合瑞利对数正态 (Composite Rayleigh-lognormal) 多径环境中, 分布式MIMO-OFDM 系统的遍历容量以及截止容量性能。

关键词: 分布式系统; 复合信道模型; MIMO-OFDM

Research on Capacity of Distributed MIMO-OFDM System

in Presence of Shadow Fading

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Abstract: Distributed antenna systems (DAS) have gained wide spread interest as an efficient means to expand system capacity, decrease transmission power and mitigate inter cell interference. In this paper, a distributed MIMO-OFDM system is studied over composite Rayleigh-lognormal multipath fading channels. Two kinds of information-theoretic

capacity measures -- ergodic capacity and outage capacity are evaluated.

Keyword: distributed system; composite channel; MIMO-OFDM

MIMO-OFDM 的最优导频与信道最优估计

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摘要: MIMO-OFDM 的散布导频用于估计信道的有限冲激响应, 它的插入原则不仅需满足 Nyquist 采样频率, 还应使子载波的峰均比小, 并满足估计的均方误差要求。本文分析最优导频的设计原则, 并采用最小二乘估计,

仿真比较了等间隔、等功率的随机导频、对角正交导频、相移正交导频的估计均方误差 (MSE) 和误码率 (BER)

性能, 以及有晶振频偏所引起的同步误差和相位噪声时三种导频的鲁棒性能。结果表明, 相移正交导频使导频值

均匀分布在所有时刻, 具有较小的估计均方误差和较好的鲁棒性。

关键词: MIMO-OFDM; 导频; 最小均方误差; 最小二乘估计

Optimal Training Pilot and Estimation for MIMO-OFDM

Channels

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Abstract: Pilot scattered in MIMO-OFDM symbols is necessary for the estimation of the channel finite impulse responses. It should not only meet the requirement of Nyquist sample frequency, but also the small peak-average-ratio of subcarriers. Furthermore, it should satisfy the mean-square-error of estimation. This paper analysis the design principles of optimal pilot and presents the common sequences. Based on least square estimation, the performances of three equapowered and equaspaced pilots of random, diagonal and phase-shift orthogonal sequences are testified, along with the presence of frequency offsets and phase noises. The results show the phase-shift orthogonal sequence has the better mean-square error and robustness.

Keyword: MIMO-OFDM; pilots; mean-square-error; least square estimation

CSRZ 码眼图控制理论

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摘要: 载波抑制归零码 (CSRZ) 由两个铌酸锂 (LiNbO₃) 外调制器级联产生, 这种材料受温度等外界环境的

变化, 导致输出的CSRZ 码眼图不稳定。文章提出一种自动控制CSRZ 码眼图的方法, 主要针对三个量进行控制:

半速率时钟偏置、信号偏置、以及相位关系。

关键词: 载波抑制归零码; 铌酸锂; 眼图; 半速率时钟; 外调制器

One Theory of CSRZ Eye-diagram Controlling

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Abstract: CSRZ signal is generated by two LiNbO₃ Mach-Zehnder modulators. Because of the impact of environment such as temperature upon LiNbO₃, the eye-diagram of CSRZ is not stable. We demonstrate a method which can control the

eye-diagram of CSRZ automatically on bias voltage of clock, bias voltage of NRZ, and their phase.

Keywords: CSRZ; LiNbO₃; Eye-diagram; half-speed-clock; Modulator

TD-SCDMA HSDPA 与EDGE 的技术对比分析

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摘要: EDGE 技术已经在全国很多地方得到了广泛应用,同时TD-SCDMA 网络的建设也在如火如荼,对于

HSDPA 的应用讨论非常广泛。本文通过比较TD-SCDMA HSDPA 和EDGE 的关键技术,从而分析了两种数据支

持技术的引入策略和定位,并同时对其应用前景进行了分析。

关键词: TD-SCDMA; HSDPA; EDGE; 比较; 应用前景

Technology Comparison and Analysis between TD-SCDMA

HSDPA and EDGE

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(ZTE CORPORATION)

Abstract: EDGE technology applies widely in China, while TD-SCDMA network building is also progressing well and

the application of HSDPA is discussed very widely. Through comparison of TD-SCDMA HSDPA and EDGE key

technology in the thesis, the strategy and positioning of both data technology are introduced , and the application

prospects are analyzed.

Keywords: TD-SCDMA; HSDPA; EDGE; Comparison; Application prospects

关于光缆线路障碍点正确判定的探析

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摘要: 本文论述了光缆线路障碍的种类及产生原因,并重点对如何正确判定障碍点位置进行了分析。

关键词: 光缆障碍; 测试; 位置判定

PHS 直放站监控系统的研究

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2 武汉虹信通信技术有限公司, 武汉 430074)

摘要: 文章介绍了PHS 直放站监控系统的组成,分析了监控中心与网关在系统中的作用。介绍了监控的组网

方式,分析了各自的原理及特点。最后分析了网关的功能和工作方式。

关键词: 直放站监控; 组网方式; 通信方式

Research on the monitor system of PHS repeater

Abstract: This paper introduces the monitor system structure of PHS repeater, analyzes the role of monitoring center

and gateway playing in the system. And it also introduces the networking mode of monitoring, analyzes the principle and

characteristic seperately. Finally it analyzes the function and operation modes of gateway.

Keywords: repeater monitoring; networking modes; communication modes

ZigBee 技术在高压塔杆突发电流检测中的应用

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摘要: 简要介绍了高压塔杆突发电流检测系统, 并设计实现了基于ZigBee 技术的突发电流检测器数据的无线传输方案。

关键词: ZigBee 技术; 突发电流; 电流检测器; 无线接力通信

The Application of ZigBee in The Monitoring System of Electric

Current Arising Suddenly of High voltage Transmission Line

Cao Chuanjie

(Wuhan Research Institute of Post and Telecommunications 430074)

Abstract: Brief introducing The Monitoring System of Electric Current Arising Suddenly of High voltage Transmission

Line, and design a plan of Data wireless transmission in the Electric current detector based on ZigBee technology.

Keywords : ZigBee technology; Electric current arising suddenly; Electric current detector; Wireless relay correspondence

快衰落信道中的嵌套多符号差分空时检测

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(解放军理工大学通信工程学院, 江苏南京 210007)

摘要: 针对快衰落信道中的差分空时调制, 提出了一种次优的多符号差分检测算法(OSML-FM-MSDSD)。

该算法是由一个多符号球形译码器和多个单步最大似然译码器组成的嵌套译码结构, 同时在球形译码中引入

Fano 算法的支路度量, 极大地降低了低信噪比时多符号球形译码算法的复杂度。仿真结果表明, 当信道衰落条

件变化时, 本文算法具有较好的鲁棒性, 在低信噪比条件下, 以较小的功率损失获得较快的收敛速度, 取得了系

统误码性能与应用复杂度的较好平衡。

关键词: 差分空时调制; 多符号差分检测; 球形译码; 最大似然译码; 多输入多输出

A Novel Nested Multiple-Symbol Differential Space-Time

Detecting for Rapidly Fading channels

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Abstract: A novel suboptimal multiple-symbol differential detecting algorithm termed OSML-FM-MSDSD is presented

for DSTM in rapidly fading channels. The proposed decoder is a nested decoding structure consisting of a

multiple-symbol sphere decoder and a number of one-step maximum likelihood decoders. The metric used in sphere

decoding is adjusted by the metric type used by Fano algorithm in order to reduce the complexity at low signal-to-noise ratio. Simulation results show that the proposed scheme is robust to different fading channel scenarios and achieve a significant performance-complexity tradeoff especially at low signal-to-noise ratio.

Key words: differential space-time modulation; multiple-symbol differential detecting; sphere decoding; maximum likelihood decoding; multiple-input multiple-output

超深亚微米级硅基螺旋电感器等效电路模型研究

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摘要: 本文根据超深亚微米级硅基螺旋电感器的物理特性, 利用全电磁波仿真程序模拟出硅基螺旋电感器的射频特性参量, 在此基础上提出了一种高精度的硅基螺旋电感器等效电路模型, 将射频特性拟合到等效电路中抽取出其元件参数值。在硅基螺旋电感器的自谐振频率以下, 其全电磁波仿真的射频特性与等效电路模型的仿真值之

误差均小于3%, 二者具有很好的吻合度。

关键词: 等效电路模型; 硅基螺旋电感器; 自谐振频率

Study of Deep Sub-micro level Si-Based Spiral Inductor

Equivalent Circuit Model

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Abstract: Based on the physical characteristics of deep sub-micro level Si-based spiral inductor and using the full EM simulation to simulate its RF characteristics, in this paper, a high-accuracy equivalent circuit model of spiral inductors using Si substrates is presented. The comparison of measurements of RF characteristics and the simulation results of their equivalent circuits is also given.

Keywords: equivalent circuit; spiral inductor based on Si substrates; self-resonance frequency

基于NS 仿真器模拟移动流媒体业务的研究与实现

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摘要: 本文讨论了在NS 网络仿真的环境下, 对移动流媒体业务数据流的设计和实现, 旨在建立一个黑盒模型, 提供更详细的网络流量信息。主要工作是介绍了中国移动流媒体业务的网络协议及其物理和逻辑结构, 并针对中国移动网络结构, 研究了基于RTP 代理, 如何添加仿真数据流的方法, 并对移动流媒体业务特点进行分析和抽象, 最终完成黑盒模型的建立。

关键词: 网络仿真; NS 仿真器; 流媒体; RTP/RTCP

Research and Implementation on Mobile Stream

Service based on NS

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Abstract: This paper discussed the design and implementation of the Mobile Stream Service in NS network simulator in detail. At last, it built up a black-box module which could provide more detailed information of network. First, it introduced the network protocols of China Mobile Stream Service and its topology both in logic and physics. The main task is to research the method of how to add new data stream based on RTP agent in simulator under the existing circumstance. Then analyze and abstract the characteristic of Mobile Stream Service. Finally design a black-box module.

Keywords: network simulation; NS simulator; Media Stream; RTP/RTCP

基于3G 网TDOA 定位的中频误差分析

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摘要: 随着移动通信网络的发展,手持终端的定位业务及定位精度越来越受到人们的关注。本文在分析3G 移动通信网中TDOA 定位技术的基础上,对时差定位的中频误差进行了详细的研究,然后列举出了降低中频误差的两种方法。

关键词: 3G 网; TDOA; 中频误差;

Intermediate Frequency Error Analysis Based on TDOA Location Technology in 3G Mobile Communication Networks

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Abstract: With the rapid development of mobile communication networks, the location service and position accuracy become more and more important. Based on the analysis of the TDOA location technology in 3G mobile communication network, the detailed study for intermediate frequency error analysis is firstly made. Then two methods are enumerated for eliminate the intermediate frequency error.

Keyword: G net; TDOA; Intermediate Frequency Error

改进扩展卡尔曼滤波器对机动目标的跟踪定位

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摘要: 扩展卡尔曼滤波算法是无源跟踪定位中最常用的跟踪算法,存在容易发散和对于机动目标的跟踪精度不

高等不足之处。强跟踪扩展卡尔曼滤波器是在扩展卡尔曼滤波器的基础上,引入一种带渐消因

子的强跟踪滤波算法, 实时调节滤波器的增益, 对于无源跟踪定位中的机动目标具有良好的自适应跟踪能力。采用无源单基地跟踪定位系统仿真, 比较强跟踪扩展卡尔曼滤波和扩展卡尔曼滤波对于机动目标的跟踪能力。仿真结果表明, 强跟踪扩展卡尔曼滤波算法对于机动目标的跟踪性能明显优于一般的扩展卡尔曼滤波算法。
关键词: 强跟踪滤波器; 扩展卡尔曼滤波; 机动目标跟踪

The Application of Strong Tracking Extended Kalman Filter in Passive Target Tracking

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Abstract: The extended Kalman filter (EKF) is the most popular algorithm used in passive target tracking, it also has some defects: sometimes it is not convergent and bad performance for the maneuvering target. The strong tracking extended Kalman filter (STFEKF) is presented based on the extended Kalman filter. By introducing a fading factor of strong tracking filter (STF), the STFEKF can adjust the gain of the filter at real time. It has the great adaptive tracking performance for the maneuver target in passive target tracking. To compare the tracking performance of the two algorithms for the maneuvering target, we choose the passive one base tracking system achieve this simulation. Simulation results show that, for tracking the maneuvering target, the performance of STFEKF is much better than the EKF.

Keywords: strong tracking filter; extended Kalman filter; maneuvering target tracking

一种紧凑型TD-SCDMA 线阵智能天线研究

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摘要: 本文提出一种紧凑型TD-SCDMA 线阵扇区智能天线结构。文中给出该天线的结构及其工作原理。它可

以大大减少扇区天线横向面积从而减小风阻, 降低通信工程施工难度, 对于加快实现以我国为主提出的第三代移

动通信技术(3G) TD-SCDMA 系统尽快组成大网, 实现商用化起到推动作用。

关键词: 智能天线; 线阵列; 波束赋形

One Kind of Compact TD-SCDMA Line Array Smart Antenna Research

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Abstract: This article proposes one kind of compact TD-SCDMA array sector smart antenna structure. In the article gives this antenna the structure and the principle of operation. Thus it may reduce this sector antenna crosswise area to reduce the wind resistance greatly, reduces the communication engineering construction difficulty, regarding speeds up the realization the third generation mobile communication technology (3G)TD-SCDMA system which primarily proposed by our country to compose a big net as soon as possible, the realization commercializing impetus function.

Keywords: Smart antenna; Line_Array; Beamforming

CMOS 基毫米波低噪声放大器的研究

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摘要: 低噪声放大器(LNA)是无线系统前端中重要器件,其性能决定了整个接收机的信噪比及整机性能。本文在介绍了低噪声放大器的工作原理之基础上,综述了CMOS基毫米波低噪声放大器的最新研究成果,展望了CMOS基毫米波低噪声放大器技术的发展趋势,提出了一些建议。

关键词: RF CMOS; 低噪声放大器; 毫米波; MMIC

A research on millimeter-wave low noise amplifier based on CMOS technology

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Abstract: In the front of wireless system, radio-frequency and microwave low noise amplifier (LNA) is the important component, which character determined the SNR and the performance of whole receiver. In this paper, a detailed overview of MMIC low noise amplifier is described and recent achievements of millimeter-wave LNA based on CMOS are reported. Some suggestions for developing the next generation millimeter-wave LNA based on CMOS are given.

Keywords: RF CMOS; low noise amplifier; millimeter-wave; MMIC

一种GSM全频段接收机的设计与实现

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摘要: 本文对GSM全频段接收机进行了整体设计,并详细介绍了GSM900M变频器、中频处理单元、基带处理单元模块的设计方案。该接收机具有大带宽、高增益、低功耗等特点,可实现对全频段所有信号的全概率接收,

在工程上有较强的可实现性及通用性。

关键词: GSM; 全频段; 接收机; GMSK

一种用于传感器网络的全局时钟精度测量方法1

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摘要: 传感器网络的同步性能分析需要对网络的全局时钟精度进行测量,而现有的测量方法大多依赖于外部设

备且难以在大规模网络中应用。提出了基于全局时钟偏差观测值估计时钟精度的方法。系统测试表明本算法能较

好地逼近真实的同步误差方差及全局时钟频偏方差。

关键词: 全局时钟精度; 同步误差; 时钟频偏; 传感器网络

Global Clock Precision Measurement in Sensor Networks

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Abstract: Global clock precision measurement is demanded in performance evaluation of sensor networks. Most of

available measurement methods depend on external devices and are hard to implement in large scale networks. It's

pointed out that clock precision could be estimated with observations of global clock offsets and the corresponding

estimation equations are given as well. Real-world system tests show that estimations of synchronization error variance

and frequency skew variance approximate the real ones.

Keywords: Global Clock Precision; Synchronization Error; Frequency Skew; Sensor Networks

多载波EV-DO 关键技术研究

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摘要: 多载波EV-DO 是cdma2000 的3G 演进版本。本文介绍了多载波EV-DO 的关键技术,包括信道汇聚、

导频集管理、自适应服务扇区选择、非对称操作模式、自适应负载平衡和多种设置场景等。这些关键技术为运营

商和用户带来了优势,降低了网络建设和运营成本,提高了频谱利用效率,改善了用户体验。

关键词: 多载波; EV-DO; 关键技术

About the Key Concepts of Multicarrier EV-DO

Guo Shengli

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Abstract: Multicarrier EV-DO is the 3G evolution of cdma2000 cellular networks. Several fundamental concepts are

presented, such as channel aggregation, set management, adaptive server selection, symmetric and asymmetric modes of

operation, adaptive load balancing, and multiple deployment scenarios due to flexible duplex carrier assignment. These

concepts bring not only the lower cost for the operator to construct and operate the networks, but also the improved

spectral efficiency and user experience.

Keywords: Multicarrier; EV-DO; Key concept

CDMA 系统中基于Kalman 的盲空时多用户检测器

杨鑫 段吉海

(桂林电子科技大学 541004)

摘要: 卡尔曼滤波是一种线性最小方差状态估计, 把它有效地结合阵列天线与多用户检测, 然后在利用修正的

紧缩近似投影子空间跟踪 (PASTd) 算法更新权向量的基础上, 给出了一种基于卡尔曼滤波的盲空时多用户检测

方法。该自适应多用户检测方法不需要发送训练序列。在多径衰落信道下, 仿真结果表明该方法收敛速度比LMS

算法更快, 有较强的抗多径和多址干扰能力。

关键词: PASTd; Kalman; 多用户检测; CDMA; 多径衰落

Blind Space-Time Multiuser Detector Based on Kalman in CDMA system

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Abstract: The Kalman filter is a linear minimum variance state estimator, and it combined array antenna and multiuser

detection effectively. Then a blind space-time detector based on Kalman in CDMA system is proposed, updating the

eigenvector by an improved projecting approximation subspace tracking with deflation (PASTd) algorithm. The adaptive

detector does not require training data sequences. In multipath fading channels, simulation results show that the detector

can converge faster than the space- time detector based on LMS algorithms. The detector can achieve better effectiveness

of suppressing multipath interference and multiple-access interference.

Keywords: PASTd; Kalman; multiuser detection; CDMA; multipath fade

TD-SCDMA 系统基于AOA 的定位

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摘要: 本文首先介绍了两类3G 特色定位业务及基本的无线定位方法, 然后针对TD-SCDMA 移动通信系统详

细描述了基于AOA 定位的几种方案, 并对AOA 定位性能做了分析总结。

关键词: TD-SCDMA; 定位业务; 到达角

The Location Bases In AOA of TD-SCDMA System

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Abstract: The paper introduces two characteristic kinds Location Based Service of 3G firstly, then particularly describes

several location schemes bases in AOA in allusion to TD-SCDMA ,finally analyses and summarizes the location

performance of AOA.

Keywords: TD-SCDMA; Location Based Service; Angle of Arrival

数据融合技术在移动台定位中的应用

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摘要: 本文首先介绍了无线定位及数据融合相关基础知识,然后给出了移动台定位数据融合的五种模型,重点

描述了数据融合技术在移动台定位中的应用。

关键词: 定位业务; 数据融合; 到达时间; 到达时间差

The Application of Data Fusion in Mobile Terminal Location

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Abstract: The paper first introduces the basic informations of Location Service and Data Fusion,then proposes five

models of mobile terminal location based in Data Fusion,and describes the application of Data Fusion in Mobile

Terminal Location in detail especially.

Keywords: Location Service; Data Fusion; Time of Arrival; Time Difference of Arrival

Turbo 码在OFDM 系统中的应用

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摘要: 正交频分复用(OFDM)技术和Turbo 码均是下一带移动通信中的关键技术,OFDM 是利用互相正交的

多个子载波传输信息,具有较高的频谱利用率和良好的抗多径干扰的能力,而Turbo 码由于采用交织器和迭代译

码的方法,具有优异的纠错性能。利用MATLAB 对信道编码采用Turbo 码的OFDM 系统进行仿真,从仿真结果

可以看出,采用Turbo 码的OFDM 系统具有优良的特性。

关键词: OFDM; Turbo 码; 多径干扰

Application of Turbo Code in OFDM Systems

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Abstract: The techniques of Orthogonal Frequency Division Multiplexing(OFDM) and Turbo codes are the keys of the

next mobile communication. OFDM employs orthogonal multi-carriers to transmit the signals, which has higher spectral

efficiency and better ability of resistance to inter symbol interference. Turbo codes have excellent performance in error

correction, because of application of iterative decoding algorithm and interleavers. The OFDM systems are simulated, in

which channel coding is Turbo codes in the paper, and the results show that the systems have better performance..

Keywords: OFDM; Turbo Code; Multipath Interference

基于Parlay X Web Service 网关的WAP Push 的设计与实现

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摘要: 在研究现行的WAP 推送模型的基础上,设计了下一代WAP 推送模型。引入Parlay X WS 网关作为业

务接入网关,并详细介绍了Parlay X WS 应用服务器和Parlay X WS 网关之间的通信过程以及Parlay X WS 网关

转发WAP 消息到WAP 代理网关的过程。

关键词: WAP; 推送; SOAP; Parlay X

Design and Implementation of WAP Push Based on Parlay X Web Service Gateway

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Abstract : Basing on the research of current WAP Push model , next generation's WAP Push model was

designed.Introduced Parlay X Web Service Gateway as the Service Access Gateway.Described the communication

process in detail between Parlay X Web Service Application Server and Parlay X Web Service Gateway ,and described

the process that Parlay X Web Service Gateway Forward message to WAP Proxy Gateway at last.

Keywords: Wireless Application Protocol; Push; Simple Object Access Protocol; Parlay X

航空发动机半实物仿真台中SPI 通信的实现

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摘要: 在发动机半实物仿真台设计中,为了使发动机数学模型、各种传感器、执行机构和电子控制器的多种物

理量信号进行有效通信,需要在几者之间加入信号调理接口箱。本文介绍了所设计的信号调理接口箱内部的主控

板卡和各块信号调理板卡之间的通信接口电路,主要围绕C8051F320 和FPGA 之间的SPI 总线通信来介绍,在

通信过程中采用CRC 校验,在考虑数据包传输速度快的同时保证其传输的准确性。本文以航空发动机仿真台为

背景,但其设计思路也可以用在其他多路物理量信号采集通信系统中。

关键词: 航空发动机; SPI 通信; CRC 校验; VHDL; FPGA

The implementation of SPI communication on the hardware-in-loop simulation platform of aeroengine

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Abstract: In the design of the hardware-in-loop simulation platform of aeroengine, it's necessary to join signal conditioning interface box with aero-engine the hardware-in-loop simulation platform of aeroengine model , various sensors,operation device and electronic controller that the valid communication among various physical signals will be achieved. The thesis introduces the communication interface circuit be used to connected the main controller board with kinds of signal conditioning cards all of which are parts of signal conditioning interface box. The emphasis of the content is the bus communication of SPI between C8051F320 and FPGA.In order to ensure the suffice communication exactitude and the high transmission rate,the CRC is adopted to verify the data package in the communication process.This thesis is based on the design of the hardware-in-loop simulation platform of aeroengine, the way of the thinking can be applied to another communication system of collecting multiplexing physical signals at the same time.

Keyword: Aircraft engine; SPI communication; CRC verify; VHDL; FPGA

方程段一种低复杂度的UWB 同步捕获方法

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摘要: 本文给出了一种低复杂度的UWB 同步捕获方法,该方法以有噪模板方法和最小二乘法为基础,采用两步法实现脉冲级同步捕获,克服了有噪模板方法在脉冲级捕获时性能不佳和最小二乘法复杂度高的缺点,仿真结果表明此改进算法在降低复杂度的同时能获得较好的同步捕获性能。

关键词: 超宽带; 同步捕获; 有噪模板; 最小二乘法

A Low-Complexity Timing Acquisition for UWB Systems

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Abstract: A low-complexity timing acquisition algorithm based on dirty template and least squares method for UWB systems is proposed in this paper. The algorithm uses two-step method to obtain pulse-level acquisition. It overcomes worse performance of dirty template method at pulse-level acquisition and high complexity of least squares method. Simulation results show that the improved algorithm can achieve good performance while reducing complexity.

Key words: UWB; timing acquisition; dirty template; least squares method

GEAPON 到10G EPON 系统演进的关键技术*

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摘要: 自从2004年制定EPON系统标准IEEE802.3ah以来,EPON系统得到了空前的快速发展,

以其结构简单, 成本低, 易于升级等诸多优点逐步取代了传统的xDSL 接入技术。随着HDTV 等视频业务需求的增长, 去年IEEE 出台的10GEPON 系统标准为未来高速率、大容量、个性化服务的接入网提供了很好的发展平台。本文详细介绍了10G EPON 系统标准IEEE802.3av 的内容, 对10GEPON 系统的结构特征、DBA 机制、安全问题等关键技术, 特别是对1G 与10G EPON 的共存问题做了详细的分析和研究, 并提出了一系列切实可行的解决方案。最后, 提出了1G 到10G EPON 系统的演进过程, 对10G EPON 系统的设计和逐步实现有一定的指导意义。

关键词: 以太网无源光网络EPON; 10G EPON; 演进; 光线路终端OLT; DBA

Key Technologies of Development Process from GEAPON to 10G EPON

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Abstract: Since the IEEE 802.3ah specifications for EPON system was developed and ratified in 2004, unprecedented field deployment of EPON systems was presented within following two years. Ethernet PON has therefore become a network of a choice for simple structure, low cost, high capacity, easy upgrade network, taking over the market previously dominated by DSL and cable modems. With the increasing demand of HDTV, the IEEE 802.3av specifications for 10G EPON system ratified in last year towards high data rate systems capable of providing a future-proof platform for delivery of truly subscriber oriented and personalized triple-play services. In this paper, the IEEE 802.3av specifications was introduced in detail and the key technologies of 10G EPON system such as structure characteristics, DBA mechanism and security conditions, especially coexistence problem of 1G and 10G EPON on the same PON plant were investigated and analyzed, series of practical were presented. Finally, development process from GEAPON to 10G EPON was derived. The conclusions above are good reference on design and realization of 10G EPON system.

Keywords: Ethernet Passive optical network (EPON); 10G EPON; proceeding; optical line terminal (OLT); DBA

基于机会中继的协作传输方案及其误码分析*

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摘要: 近年来提出的协作分集技术通过使网络中各单天线用户共享彼此天线以形成虚拟多天线阵列, 从而可以显著提高网络容量, 这也使得其备受科研工作者的广泛关注和大量研究。然而, 如何在动态网络环境中从所有的候选中继中选出最佳协作中继以实现协作分集的问题, 一直没有得到有效地解决。由此, 本文提出了一种基于机会中继的协作传输方案以适应不断变化的网络环境, 并对所提协作传输方案的误码性能进行了详尽地理论推导和分析。此外, 对协作传输方案的误码性能进行了系统级的计算机仿真, 得到了系统误比特率的仿真数值。结果表明: 相对于传统协作分集而言, 本文提出的机会协作传输方案获得了更多的性能增益, 系统平均误比特率大大降低。

关键字：协作分集；机会中继；动态网络环境

BER Analysis of Cooperative Transmission Scheme Based on Opportunistic Relay

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Abstract: Cooperative diversity technique proposed in recent years could form the virtual multiple antenna array and enlarge the network capacity enormously by sharing the different users' antennas in a signal antenna network, which has

been investigated widely by researchers. However, in the dynamic network environment, it's still an open challenging issue that how to select the best cooperative relay among all the candidate relays in order to implement the cooperative diversity protocol. Accordingly, an opportunistic relay-based cooperative transmission scheme is presented in this paper,

which works well in the dynamic network environment, along with the detailed BER (Bit Error Rate) performance analysis. Furthermore, the computer simulation is also conducted to obtain the numerical results of BER, which also demonstrates that our proposed opportunistic relay-based cooperative transmission scheme outperforms the traditional cooperative diversity with more performance gains in terms of the BER.

Keywords: cooperative diversity; opportunistic relay; dynamic network environment

GPRS 网络WAP 优化讨论

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摘要: 随着中国移动GPRS 网络数据业务的不断发展, 用户数量大幅度增加, 网络设备的负荷也随之不断增加。

如果不增加网络设备的条件下, 可以对网络性能做出有效优化, 就能最大程度地提高设备的使用率, 节约大量

的运营成本。本文从网元、协议栈、查询策略等方面来对GPRS 网络WAP 优化进行一些讨论。

关键词: GPRS; 网络优化; WAP 网关; WAP1x 协议栈; DNS 服务器

Discussion of WAP Optimization in GPRS Networks

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Abstract: While the development of CMCC data services in GPRS networks, the accounts of users have greatly increased. This leads the steady increase in the work load of the network elements. If we can optimize the network performance without increasing equipments, so the occupying coefficient of the equipments will rise and can save much

operating cost. This paper discusses WAP optimization in GPRS networks in the respects of the network elements, protocol stack, query strategy etc.

Keywords: GPRS; network optimization; WAP Gateway; WAP 1.x protocol stack; NDS server

UWB 信号的传输距离简单分析

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摘要: 在各种不同的传输情况下, UWB 信号的最大传输距离不同。在一定的情况下, 随着数据速率的增加,

传输的距离不断地减少; 随着误符号率的减小, 传输的距离也越来越近; 随着的输入的功率谱密度的改变传输的

距离也越来越远。

关键词: M-PAM; 误码率; 功率谱密度; 传输速率

The simple search of UWB signal transmission distance

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Abstract: The difference of transmission, the maximum distance is different. The same transmission, enhance the data,

the distance is decrease; The bit error is decrease, and the distance is decrease; power spectrum density is changed, the transmission distance is changed.

Keyword: M-PAM; bit error; power spectrum density; transmission data

普适计算环境下异步事件交互系统设计实现*

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摘要: 普适计算环境不同于传统的计算环境, 开放性、移动性、异构性特点鲜明。本文以特定的普适计算应用

为背景, 在发布/订阅系统基础上, 设计了普适计算环境下异步事件交互系统, 根据普适环境下移动用户位置的不确定性特点提出了实现移动应用的事件服务机制。

关键词: 发布/订阅; 异步; 事件交互; 移动性

Design and implementation of asynchronous event interactive

system in pervasive computing environment

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Abstract: Pervasive computing environment is different from the traditional computing environment in mobility and heterogeneity. In this paper, asynchronous events interactive system is designed based on publish/subscribe system and the background of specific pervasive computing application. For location uncertainty of mobile users, the paper put forward methods of events service for mobile application in pervasive environment.

Keywords: Publish/Subscribe; Asynchronous; Events Interactive; Mobility

差分相移键控DPSK 在40Gb/sDWDM 系统中的仿真

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摘要: 本文仿真了RZ-DPSK 和CSRZ-DPSK 信号在40Gbit/sDWDM 系统上的传输, 选取C 波段8 个波道, 通

道间隔100GHz。结果表明, RZ-DPSK 和CSRZ-DPSK 信号能有效的抵抗系统的非线性效应, 在FEC 上限为8dB 的情况下, 两种码型传输2400km; 在1dBQ 因子代价的条件下, RZ-DPSK 信号的色散容限为 $\pm 35\text{ps/nm}$, 而CSRZ-DPSK 的色散容限约为 $\pm 50\text{ps/nm}$; CSRZ-DPSK 码在传输中的信道间串扰要远远小于RZ-DPSK。

关键词: 差分相移键控; 40G; 非线性效应; 色散容限; 串扰代价

Modeling 40Gb/s DPSK transmission in DWDM system

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Abstract: We model a 40Gb/s transmission with 8 channels at 100GHz spacing using RZ-DPSK and CSRZ-DPSK. The

result shows that both formats can resist nonlinear effect effectively, at the cost of 8dB FEC value, both can transmit 2400km.;At the cost of 1dB Q value, the chromatic dispersion tolerance of RZ-DPSK is $\pm 35\text{ps/nm}$, and CSRZ is $\pm 50\text{ps/nm}$; RZ-DPSK has worse interference of channels than CSRZ-DPSK.

Keywords: DPSK; 40G; nonlinear effect; chromatic dispersion tolerance; interference of channels

A new backoff scheme based on channel state for IEEE

802.11e WLANs

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Abstract: The paper has brought forward a new access mechanism, which is called Dynamic Enhanced Distributed Channel Access (DEDCA), this mechanism connects a parameter of channel state (CS) with backoff windows, back-off window is dynamically adjusted change by CS. Furthermore, Backoff Time (BT) is divided into two decreasing phases:

reduction of one by one and reduction of exponent. Simulative experiments have certified that mechanism improves the performance of video and data with uninfluenced performance of voice.

Keywords: 802.11e; Channel state; Backoff windows; DEDCA

软交换向IMS 的平滑演进

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摘要: IMS 在业界备受关注, 是向下一代网络演进中的一个重要环节, 是未来网络融合的重点, 是实现FMC的最佳途径。而目前各大运营商已经建设并使用了大量的软交换网络。本文就软交换和IMS 之间的关系及两者发展的现状进行了比较分析, 并就软交换向IMS 平滑演进的可行性和方法提出了自己的观点。

关键词: 演进; 软交换; MS; NGN

Smooth Evolution from Softswitch to IMS

Abstract: IMS which draws a great attention in the IT industry, is an important tache toward the next generation network

evolution, the focus of future network convergence and the best way to implement FMC. At present, each operator has already constructed its Softswitch networks and put them into use. The author compares the relationships between the Softswitch system and IMS and their present situations of developments and brings forward his opinion about the possibility and methods of smooth evolution from the Softswitch to IMS.

Keyword: Evolution; Softswitch; IMS; NGN

多个UWB 设备对航电设备的干扰分析*

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摘要: 随着超宽带技术的成熟, 大量UWB 设备将被使用在WLAN, 无线传感器网络等设备中, 虽然其功率被

严格限制, 但高密度存在使得其合成干扰不能忽视。本文利用分部积分法原理, 对大量均匀分布UWB 发射机对

航空无线电设备的干扰进行了理论分析, 并给出干扰公式。利用该结论在FCC 与ETSI 模板下, 对UWB 对航空

仪器着陆系统的干扰进行仿真。

关键词: UWB; 电磁兼容; 航空无线电; 航空仪器着陆系统

Interference Analysis of Multiple UWB Equipment to Aeronautical Services

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Abstract: With the maturity of ultra-wideband technology, a large number of UWB equipments will be used in WLAN, wireless sensor networks, and other equipments. Although its power is strictly limited, its high-density existence of interference can not be ignored. This paper bases on the Principle of Integration by Parts, and makes a theoretical analysis of the interference between a large number of UWB transmitters which uniformly distribute and aeronautical services, and gives a conclusion at last. According to the formula mentioned above, we simulate the impact which the UWB equipments make on the Instrument Landing System under the FCC and ETSI limits.

Keywords: UWB; EMC; aeronautical services; Instrument Landing System

一种基于MEMS 光开关的波长选择开关的设计

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摘要: 提出了一种1X4 基于MEMS 光开关的波长选择开关的设计方法, 介绍了其光路部分的实现原理及理论

分析, 并开发了样品, 进行了测试, 测试结果和所做的理论分析结果基本一致。

关键词: 微机电系统; 波长选择开关; 可重构分插复用器; 光传送网

A Design of WSS Based on MEMS switch

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Abstract: a method 1X4 WSS based on MEMS switch is presented. the principle and theoretical analysis are introduced,

and the sample is developed and tested, the test results are basically the same as the theoretical analysis results.

Keywords: MEMS; WSS; ROADM; OTN

一种适用于战术环境的分层分布式网络移动互连协议

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摘要: 高效可靠的移动互连协议是实现战术机动组网的基础。针对现有移动IP 协议无法满足战术应用需求的问题, 基于所抽象的战术机动通信的分层分布式网络结构, 提出了分层分布式网络移动互连协议, 将移动互连共

性与战术机动组网的个性结合起来, 使所提出的协议能够满足战术应用, 并使战术机动组网的移动互连性能接近

理论上限。

关键词: 移动IP; 分层分布式; 战术应用

One Hierarchical Distributed Network Mobile

Interconnect

Protocol for Tactical Use

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Abstract: Efficient and reliable mobile interconnect protocol lays foundation for tactical maneuver networking. Aimed

at the contradiction between the requirements of tactical application and the mobile IP protocol in existence, one hierarchical distributed network mobile interconnect protocol was proposed based on the abstracted hierarchical distributed network configuration of tactical maneuver communication, which binds the commonness of mobile interconnect and the individuality of tactical maneuver networking. So it can meet the requirement of tactical application

and promote the performance of mobile interconnect to upper limit in theory.

Keywords: mobile IP; hierarchical distributed; tactical application

基于CORDIC 的64QAM 调制器的ASIC 设计¹

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摘要: 本文首先介绍64QAM 调制技术和CORDIC 算法的基本原理, 然后采用CORDIC 算法来设计64QAM 调制器的核心部分: 以面积换取速度的流水线技术来产生正交载波, 通过增加硬件资源来提高运算的精度和速度;

采用移位相加来代替乘法运算, 用定点数的格式表示乘法器的固定系数, CSD 编码的方式处理系数, 减少了加法器的数量。最后用HDL 对本设计进行编程, 功能、时序仿真和FPGA 硬件验证测试, 结果表明本设计是可行的, 具有一定的实用性。

关键词: 坐标旋转数字计算方法; 正交幅度调制; 流水线, 正则符号数字量

ASIC Design of 64QAM Modulator Based on CORDIC

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Abstract: This paper first introduces the basic principle of 64 Quadrature Amplitude Modulation technology and CORDIC arithmetic. Then it gives the ASIC design of the core part of 64QAM modulator based on CORDIC arithmetic. It produces orthogonal carrier by pipelining technology adopting area exchange speed. It improves the calculation precision and speed through increasing FPGA resources. The multiplication calculation is replaced by shifting and adder, using CSD code deal with its coefficient. It reduces the quantity of multiplier through using fixed points to express fixed coefficient. Finally programs this design with HDL language, carries out function simulation, timing simulation and hardware implementation with FPGA. The results show that this design is valuable and feasible in practice.

Keywords: CORDIC; Quadrature Amplitude Modulation; Pipelining; Canonic Signed Digit

基于几何统计信道模型传播的特性动态衍变*

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摘要: 本文在几何统计信道模型的基础上, 通过分析对最大延时随移动台位置变化的变化, 研究了无线信号空间来波到达方向和路径延时的概率分布函数随移动台在室外信道环境中运动时的变化趋势。通过仿真分析, 本文给出的空时传播特性动态衍变结果有助于预测信道环境的大尺度状态信息变化。

关键词: 波达角; 路径延时; 几何统计信道模型

Propagation Characteristic Varying Based on Geometrically Based Statistical Channel model

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Abstract: By analyzed the maximal multipath delay variation with the MS motion, this paper discusses the variation of the probability distribution function(PDF) of Angle of arrival (AOA) and the PDF of the path delay with the motion of the MS based on the geometry statistical channel model(GBSCM). By the simulation, the results of spatial-temporal propagation model would be help to predict the large scale channel state information (CSI).

Keywords: AOA; Path Delay; Geometrically Based Statistical Channel model

频域反相对称法原理与2FSK 潜在的抗噪声性能*

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摘要: 本文介绍了频域反相对称法的基本原理, 指出了2FSK 就是频域中的反相对称法, 并对相邻频带噪声之间的相关性进行了理论分析, 同时对2FSK 系统进行了实际测试和计算机仿真, 证实了2FSK 系统的实际误码率

低于经典理论值。

关键字: 反相对称法; 相关性; 2FSK

Phase-Inversion Symmetric Method in the Frequency Domain and Potential Anti-Noise Performance of 2FSK

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Abstract: This paper introduces the principles of Phase-Inversion Symmetric Method (PISM) in the frequency domain and shows that 2FSK is an application of PISM in the frequency domain. We analyzed the correlations of band-limited noise between adjacent frequency bands, tested and simulated performances of 2FSK system, and confirmed that the real

BER value of 2FSK system is less than that of classic theory.

Keywords: Phase-Inversion Symmetric Method; correlation; 2FSK

NG EPON 的实现及原理

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摘要: 基于IEEE802.3ah 标准的EPON 技术是一种比较适合光纤到户的接入网技术。EPON 具有大量的优点, 比如高速率, 易维护性, 支持大量新业务, 适合三网融合的趋势, 成本比其他的光纤接入技术要低。中国电信和

中国网通也从2005 年开始进行EPON 的试验网建设, EPON 系统的测试, 并于2007 年开始逐步正式商用化 EPON

作为FTTH 的主流技术。当前的EPON 还受到其他有源光接入方式以及GPON 技术的调整。在这样的背景下, 以更速率为代表下一代EPON 技术正受到业界的广泛关注。本文就其下一代EPON 展开适当的介绍和讨论。

关键字: EPON; GEAPON; 10GEAPON; OLT; ONU; 全模式波分; 根据速率的波分; 时分多址

NG EPON Deployment and Principle

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Abstract: EPON technology based on IEEE802.3ah is a kind of preferred access network for FTTH (Fiber to the Home).

It has many merits such as high speed, easy to operate and supporting multiple new services, lower cost than other optical access technology. Chinese Telecom and Chinese Netcom had been building pilot EPON project and EPON system testing. They have also deployed commercialized EPON system as the mainstream technology for FTTH in China. EPON is challenged by GPON and other active access optical network. On this background, NG EPON featured as high speed is focused by people in telecommunication field. This paper concentrates on this new advanced technology.

KeyWords: EPON; GEAPON; 10GEAPON; OLT; ONU; Full WDM; WDM based on rate; TDMA

基于双行为谐振器的窄带滤波器

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摘要: 本文提出了一种基于双行为谐振器的新型窄带滤波器结构, 其具有独立控制通带与阻带电特性的优点。通过在通带边缘引入相互独立的传输零点, 使得滤波器的过渡带更加陡峭, 能够很好地改善滤波器的带通特性。设计实现了一个C波段窄带滤波器, 其测试结果验证了新型滤波器的优越性。

关键词: 双行为谐振器; 窄带滤波器; 开路短截线

Narrow bandpass filters using dual behavior resonators

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Abstract: This paper reports on a new concept of narrow bandpass filters based on dual-behavior resonators (DBRs) leading to independently controlled electrical responses within both the required operating bandwidth and adjacent undesired bands. The attenuated frequencies are each located apart from the bandpass frequencies and controlled by means of transmission zeros introduced through original DBRs. Experimental results in microstrip technology are also presented in order to validate the proposed concept.

Keywords: dual-behavior resonator; DBR; narrow bandpass filter; open-ended stubs

DMT 调制中的高精度FFT 实现

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摘要: 基2级联基2平方单路延时反馈结构为基础的512点FFT处理器, 在使用和Altera Megacore 7.1差不多

资源的情况下, 精度提高了14dB, 最高工作频率能够达到100MHz以上, 完全能够满足DMT调制在精度和实时性上面的要求。

关键词: DMT; FFT; 基2; 基2平方

Realation of High Precision FFT in DMT (de)Modulation

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University of Electronic Science and Technology of China)

Abstract: This FFT processor is realized based on the structure of Radix-2 cascaded with Radix-22. We use almost the same resources as Altera Megacore 7.1. However, this processor's precision is 14dB higher, and the maximum frequency

is above 100MHz which is totally meet the precision and real-time request in DMT de(modulation).

Keywords: DMT; FFT; Radix-2; Radix-22

UHF 信道在移动卫星通信中的应用与分析

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摘要: UHF频段的特点使其近年来在卫星通信中得到了很大的发展。本文首先介绍了UHF频段的特点及在近年

年来在卫星上的应用, 然后分析了这一频段信道所受的干扰及存在的若干效应, 对这些效应的产生原因及特点做

了分析, 最后提出了解决这些问题的一些方法

关键词: UHF; 电离层闪烁; 地面多径; 衰落

The Application and Analysis of UHF Band in Satellite Communication

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Abstract: Because of the characteristic of UHF band, it has developed greatly in recent years. The paper first introduces the characteristic of UHF band and the application in satellite communication in recent years. Then the paper analyses the interference and effects in this band, and also analyses the reasons of these effects. Finally, the paper brings several methods to resolve the problem.

Keywords: UHF; ionospheric scintillation; terrestrial multipath; fading

微纳卫星星座与编队技术研究

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摘要: 微纳卫星是卫星移动通信的一个重要发展方向和热点领域。由于微纳卫星所具有的小型化、低成本、高性能、高灵活性等特点, 微纳卫星的星座和编队飞行技术将区别于常规卫星的组网, 有着独特的技术。本文阐述了微纳通信卫星的概念和应用, 对微纳卫星的星座设计、编队飞行技术进行了分析和研究, 最后结合我国情况进行了总结展望。

关键词: 微纳卫星; 星座; 编队; 卫星移动通信

Research Of Micro/Nano-Satellite Constellation And Formation Technologies

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Abstract: Micro/nano-satellite is an important branch and a hot field of satellite mobile communication. For some good features of micro/nano-satellite, the constellation and formation flying technology is different from normal satellite network. The paper introduces the concept and application of micro/nano-satellite for communication, analyzes the constellation and formation flying technologies. A summary is made in the end.

Keywords: Micro/Nano-Satellite; Constellation; Formation; Satellite Mobile Communication

移动通信新业务项目再分配收入模型研究

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摘要: 文章根据移动新业务通信项目的特点, 从网络成本资源占用的分析, 提出计算移动新业务的再分配收入的模型, 较全面地做出新业务投入产出分析, 为项目决策提供了科学的依据。

关键词: 新业务; 再分配收入; 成本; 网络资源占用

Mobile Communication revenue redistribution new business

model for the project

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Abstract: According to the new article mobile business communications features, the cost of resources from the occupation of network analysis, new mobile computing business to the redistribution of income, to make a more comprehensive new business input-output analysis, decision-making for the project provides a scientific basis.

Keywords: New business; Income redistribution; Cost; Network resources occupiers

线路时钟抖动对基站同步的影响

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摘要: 在影响网络质量的诸多因素中,同步对网络性能影响巨大。线路时钟抖动严重影响基站同步,同步不良将导致基站信道不能有效工作。本文以锦州无线市话网络中的实际案例具体阐述了线路时钟抖动对基站同步的影响。

关键字: 同步;时钟抖动

新闻视频中标题字幕的检测与识别

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摘要: 新闻视频的标题字幕中包含有丰富的语义信息,是实现自动化视频检索、分析和理解的重要信息源之一。本文通过研究新闻视频中标题字幕的分布特征,提出了一种新闻字幕检测和识别的方法。该方法主要针对新闻视频中的标题字幕进行检测和识别,包括视频流获取、灰度变换、边缘检测、字幕区域检测、字幕区域增强、OCR 识别等步骤。该算法具有简单、高效,对阈值的设定不敏感等特点,对大多数新闻视频中的标题字幕都具有较好的效果。

关键词: 新闻视频;字幕检测;边缘检测;字幕识别;视频检

Editing Caption Detection and Recognition in NewsVideo Frames

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Abstract: Editing captions in news video is one of the important sources for the realization of automatic retrieval, analysis and comprehension of videos since it implies lots of semantics inherently. A new method is presented to detect and recognize news editing-captions using spatio-temporal distribution feature of local-caption. This method mainly aims at editing captions in news video, such as titles. There are several steps in the method, including video frequency capture, gray transformation, edge detection, caption area detection, caption area enhancement, OCR recognition etc. It is simple, effective and insensitive to threshold. Experiments show it is effective to most news videos.

Keywords: News video; Caption detection; Edge detection; Caption recognition ; Video retrieval

极点跟随的LDO 稳压器频率补偿方法

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摘要: 提出了一种新型的用于LDO 稳压器的频率补偿方法,并通过动态偏置电压缓冲器进行了电路实现。该方法提供了快速的瞬态响应,且无需芯片上频率补偿电容,提高了芯片的集成度。理论分析与仿真结果表明,LDO 稳压器在满负载条件下的频率稳定得到了保证。

关键词: LDO 线性稳压器; LDR; 频率补偿; 频率稳定性

Pole Tracking Frequency Compensation for LDO Regulator

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Abstract: A novel frequency compensation technique for low-dropout linear regulator is presented. The proposed technique, called pole tracking compensation, provides fast transient response and does not need on-chip frequency compensation capacitor which helps enable higher integration. Theoretical analysis and simulation results show that the stability of the LDO regulator is guarded under full load condition.

Keywords: LDO Linear Regulator; LDR; Frequency Compensation; Frequency Stability

通信机房电源系统仿真模型的构建与应用

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摘要: 本文详细阐述了通信机房电源系统的工作原理,在此基础上,利用Saber 仿真软件构建了一套机房电源

系统的仿真模型,最后通过工程示例仿真模型给出了仿真结果。该模型的构建可以应用在工程前期方案论证,为

提高现场维护人员掌握通信电源工作原理和排除故障的能力提供有效的支撑手段。

关键字: 通信电源; 仿真模型; DC/DC 变换器; UPS

Foundation and Application for Simulation Model of Telecommunications Machine Room Power Supply System

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Abstract: In this paper, the operating principle of telecommunications machine room power supply system is introduced.

Based on Saber simulation software, simulation model of telecommunications machine room power supply system is founded. Simulation model can be applied on design of communication power supply system and improving abilities of engineers.

Keywords: Communication power supply; Simulation model; DC/DC converter; UPS

移动增值业务发展趋势及平台建设研究

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摘要: 主要介绍目前移动增值业务的发展情况,并对移动增值业务的分类和目前主流移动增值业务进行了介绍,

其中这些业务组成了增值业务行业生态格局。然后针对增值业务发展面临的问题,提出了建设增值业务平台的建

议,为未来3G 网络中各种移动增值业务的接入搭建统一而完善的业务平台。

关键词: 通信与信息系统; 移动通信; 增值业务; 平台建设

Research on Development Uptrend and Platform build in VAS

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Abstract: It's main to introduce the development of VAS, the sort of VAS and mainstream service which constitute VAS

framework. In allusion to the problem which VAS in face of, this article table a proposal of VAS platform construct, and

establish a uniform and consummate platform for the access of VAS in future 3G networks.

Keywords: communications and information system; mobile communications; VAS (Value-Added

Service) ; platform
establish

移动信息化更是过程创新

云晴

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摘要: 移动信息化是一种创新。然而移动信息化与管理实际相结合, 提高效率的目的却往往由于将移动信息化看成单纯的产品创新而无法有效达到。本文分析了过程创新的概念及特征, 指出移动创新更应该认为是一种过程创新。

关键字: 移动信息化; 创新; 过程创新

Mobile informisation as process innovation

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Abstract: Mobile informisation is a kind of innovation. However, the question 'how important is it to integrate it into the management process to improve efficiency' is always ignored. This paper shows that mobile informisation has more characters of process innovation and should be treated more as it.

Keywords: Mobile informisation; innovation; Process innovation

移动信息化在中国蓬勃发展, 在一定程度上突破了移动通信工

应急节能通风技术研究及其应用解决方案

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摘要: 降低空调能耗是通信企业机房的节能重点。本文通过对实现空调设备节能方法的研究与分析, 提出了应

急节能通风新技术, 并结合中国网通公司吉林省通信公司的运营情况, 制定了具体的应用解决方案。在近一年的

节能降耗试点工作中, 初步取得成效, 实践证明该技术具有较好的推广价值。

关键词: 空调节能; 通风技术; 应用解决方案; 通信机房

Research and Resolution on Ventilation Technology of Emergancy Energy Conservation

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3 College of Computer Science and Technology, Jilin University, Changchun 130012, China)

Abstract: It is important to save the energy of the air-conditioning in the communication machine room. By study on the technologies of the energy conservation, the ventilation technology of emergancy energy conservation is proposed in this

paper. And the corresponding applied resolution is put forward according to the operation condition in China Netcom

Corporation Ltd., Jilin Branch. The resolution has made outstanding achievements in the one year's pilot project. The

application practice proves that this technology has high spreading value.

Keywords: Energy Conservation of Air-conditioning; Ventilation Technology; Applied Resolution; communication machine room

移动通信基站交流供电方案探讨

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摘要: 通信市场竞争日益加剧,用户对通信服务质量的需求,以及我们市场拓展的需要,都要求我们提供处处

覆盖、处处畅通、处处优质的通信服务。电源是通信的基础,稳定、可靠、不间断向通信设备供电,是通信畅通

的基础,是保障移动通信各项网络设备正常、安全运行的关键。从客观实际出发,对移动通信基站的电源交流系

统设计进行探讨把握,以求从根本上最大限度地确保基站设备安全、稳定、高质量设备供电,从而可靠降低设备

故障概率,实现移动通信基站稳定、良好、低成本运行。

关键词: 竞争; 交流电源; 系统设计; 可靠

Mobile communication base depot exchange power supply plan discussion

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Abstract: The correspondence market competition intensifies day by day, the user to the correspondence grade of service

demand, as well as our market development need, all requests us to provide everywhere covers, everywhere

unimpededly, everywhere the high quality correspondence service. The power source is the correspondence foundation,

stable, reliable, uninterrupted to communication facility power supply, is the correspondence unimpeded foundation, is

safeguards the mobile communication each network equipment normally, the safe operation key.

Embarks from the objective reality, carries on the discussion assurance to the mobile communication base depot power

source alternating-current system design, fundamentally maximum limit guarantees the base depot equipment security in

order to, stably, the high grade equipment power supply, thus reduces the equipment failure probability reliably, the

realization mobile communication base depot stably, good, the low cost movement.

Keyword: keen competition; alternating current power supply; system devise; reliable

浅谈将超宽带{UWB}通信技术应用于装甲机械化部队通信

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摘要: 对超宽带技术的基本概念、技术特点进行了简要的介绍和分析。并展望了超宽带技术在装机械化部队通信方面的应用。

关键词: UWB; 通信组网; 保密抗干扰

Shallow Talk to Take Super Breadth{ UWB} The Correspondence Technique Applies to Mechanize The Troops

Correspondence in The Armor

You Feng Zhao Lin Su Peng

(Bengbu Tank Institute 233050)

Abstract: This paper briefly introduces something of Ultra Wide Band technology, such as basic concept, and put forward

the use in the communication of armor mechanization troops

Keyword: UWB; Correspond by letter a netting; Keep secret the anti-interference

河南电力高清晰视频会议系统的建设

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摘要: 本文介绍了视频会议系统的相关标准并且对其进行了比较, 根据河南电力发展需求, 设计并组建了一个

高清晰的视频会议系统, 并对该系统的应用情况进行了描述。

关键词: 视频会议; MPEG - 4; H.323 协议

The construction of Henan electric power high-definition video conferencing systems

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2 Power System DEPT, Henan Electric Power Survey & Design Institute, Zhengzhou 450007, China)

Abstract: This paper introduces the video conferencing system related standard and to carry on the comparison to

it, according to the needs of Henan electric power development, designs and builds a high-definition video conferencing

system and the application of the system are described.

Key words: Video conference; MPEG - 4; H.323 agreement

浅谈IPTV 在电力通信中的应用前景

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摘要: 本文介绍了IPTV 技术及其产业发展分析, 根据电力通信现状及发展趋势, 分析了IPTV 在电力视频监控、视频会议、办公自动化和电力社区宽带网等方面的应用, 说明IPTV 在电力通信中具有广阔的应用前景。

关键词: IPTV; MPEG-4; 视频监控; MCU; 电力通信

A discussion of IPTV technology and its applied foreground for Electric-power Communication

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² Power System DEPT, Henan Electric Power Survey & Design Institute,Zhengzhou 450007,China)

Abstract: The paper tells us Industrial Evolution and technology of IPTV, According to actualities and trend of

Electric-power Communication,The paper analyzes the application of IPTV in Electric-power Communication, i.e.Video

Surveillance of Grid,Video Conference, Office Automation and Broadband network of Electric Power community.It also

say IPTV will be wide applied in Electric-power Communication.

Keywords: IPTV; MPEG-4; Video Surveillance; MCU;Electric-power Communication

超3G 及其关键技术

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摘要: 随着3G 技术的日趋成熟,最近几年以来超3G 即B3G 已经成为一个热点话题。本文主要从B3G 发展

概况、系统结构、关键技术、主要优点等几个方面对B3G 系统做了系统的讨论和阐述。

关键字: 超三代; 正交频分复用; 多输入多输出; 智能天线

B3G and the key technology

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Abstract: As the technology of 3G is becoming more and more mature, B3G (Beyond IMT-2000) has been a popular

topic these years.This Article mainly introduces the system of B3G, including the development of B3G,the structure of

the system,the key technology and the main advantages.

Keywords: B3G; OFDM; MIMO; Smart Antennas

VDR 系统主控制器的研究设计

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摘要: 本文介绍了航行数据记录仪的核心单元—主控制器的实现步骤: 首先,以PXA270 为系统的MCU, 设

计嵌入式系统硬件电路; 然后基于VxWorks 操作系统编写应用程序, 实现对VDR 系统的实时控制。

关键词: VDR; PXA270; VxWorks

Research of the Main Controller in VDR System

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Abstract: In this paper, it's introduced the realization steps of main controller which is the core unit of

voyage data recorder. At first, PXA270 was adopted as MCU to design the embed system hardware electric circuit. Then the application was programmed based on the VxWorks operation system to realize controlling of the VDR system.

Keywords: VDR; PXA270; VxWorks

浅谈3G/TD 网络建设发展的“瓶颈”

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摘要: 在政府的政策下,中国移动已经在八个城市全面进行着3G/TD 的建设。虽然有政府的大力支持,但由于3G/TD 的顺利发展还存在很多瓶颈,这些瓶颈将直接影响中国的第一个通信标准TD 是否成功。本文从网络建设角度对3G/TD 网络建设发展的“瓶颈”进行一下分析。

关键词: 3G; 中国移动; TD 风险; TD 发展瓶颈; 网络建设; 基站辐射

Shallowly discusses on the "bottle neck" of the 3G/TD network construction development

Liu Hanlin

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Abstract: Under the governmental policy,China Mobile has carried through the construction of 3G/TD in eight cities.Although we have the support of the government,but there still has some bottlenecks in the development of 3G/TD,these bottlenecks will directly influence the first chinese telecommunication standard.This paper explored these bottlenecks in the development of network construction from the view of network construction.

Keywords: 3G; China mobile; TD risk; TD development bottleneck; Network construction; Base station radiation

关于厦门3G/TD “交钥匙”工程的思考

刘瀚林

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摘要: 国际通用的模式到中国后必然加上中国特色,比如国际上工程承包普遍采用的“交钥匙”工程,到中国又加上了怎么样特色?且这些特色对整个产业链有什么影响,本文通过对我国通信设备工程中交钥匙工程的简要

介绍,并根据我公司正在施工的厦门中兴3G/TG “交钥匙”工程情况对以上问题进行解答。

关键词: 交钥匙工程; 中兴; 通信设备; 承包; 运营商

The thoughts about the turn-key 3G/TD projects in Xiamen

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(The 4Th Engineering Bureau of China International Telecom Construction 450052)

Abstract: The international universal mode will be added with Chinese characteristics, for instance, the "turn-key

project" universally used in the international project, what characteristics will be added in china? and what influences these characteristics will bring to the whole industrial chain. This paper briefly introduce the "turn-key project" in our telecommunication project and answer the above-mentioned questions according to the situations of Xiamen ZTE

3G/TG Turn-key Project under construction of our company.

Keywords: The turn-key; project ZTE; Communication; facility; Contract Operation business

回波抵消技术的工作原理及在语音通信中的应用

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摘要: 本文主要介绍了回波抵消技术的工作原理和基于数字信号处理器DSP 进行自适应噪声对消技术的来实

现回波抵消, 获得较好的话音质量。

关键词: 回波; 数字信号处理; 自适应噪声对消

The principle and application of echo cancellation technic in

audio communication

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Abstract: The article introduces the principle of echo cancellationin technic and the base on dsp progressing automatic

noise cancellation realize echo cancellation.and obtain better audio quality.

Keywords: Echo; DSP; Automatic noise cancellation

潜艇通信浮标发展研究

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摘要: 在军事通信领域, 对潜指挥控制的通信系统研究受到极大关注。潜艇通信浮标就是隐蔽对潜指挥控制的

最有效装备之一。本文对潜艇通信浮标的分类进行了描述; 对潜艇拖曳通信浮标的国外研制发展状况进行了详细

讨论; 重点讨论了英国正在研制的系留光纤浮标方案和德国“卡里斯托”综合通信浮标方案。

据此可纵观通信浮

标装备潜艇的过去、现在和未来。

关键词: 潜艇; 通信; 浮标

Research of Submarine Communications Buoy Development

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Abstract: There is a special attention concerning the research of the communications system for command and control

operation of submarine in the military communication realm. The submarine communication buoy is the one effective

equipment supporting the command and the control operation of submarine. The classification of the

submarine communication buoy is described in this thesis. The development of the submarine towing communication buoy abroad is discussed in detail. And the communication buoy schemes of RTOF in UK and Callisto in Germany are discussed specifically. We can hereby view its past, today and future of the submarine communication buoy.

IPv4 向IPv6 过渡一种新型封装策略的研究与实现

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摘要: 以传统隧道技术(Tunnel)为基础, 针对隧道技术中IPv4 网络里的主机(host4)与IPv6 网络里的主机

(host6)不能互访的问题, 提出一种新型封装策略, 从而达到互访的效果。

关键词: IPv4; IPv6; 过渡; 报文; 报头

The research and realization of a new type of packaging strategy from IPv4 to IPv6 transition

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Abstract: Because the hosts in IPv4 net can't communicate with those in IPv6 net by tunnel technology, a new type of packaging strategy is put forward based on the traditional tunnel technology, then to achieve the effect of communicating with each other.

Keywords: IPv4; IPv6; Transition; Headers; Packet

网络中心战条件下的海上编队战术通信体制研究

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摘要: 本文阐述了网络中心战条件下的海上编队战术通信体制, 给出了海上编队战术通信系统的发展目标, 介

绍了美海军海上编队战术通信系统的发展动向, 提出了未来海上编队战术通信系统的基本构想。

关键词: 海上编队; 网络中心战; 战术通信; 武器协同; 数据链

Research of Naval Marine Tactical Communication Technical System Mechanism Based on Network Central War

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(2 School of Machine & Electronic Engineering, China University of Geosciences 430074)

Abstract: The naval marine tactical communication technical mechanism based on network central war is illustrated in this paper. It also gives future development goal of naval marine tactical communication system. The development way

of American naval marine tactical communication system is introduced in this paper. It points out basic scheme of future

naval marine tactical communication system.

Keywords: naval marine; network central war; tactical communication; weapon cooperation; data link

增值短信业务发展策略研究

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摘要: 本文通过分析增值短信业务发展所面临的困境,提出了建立短信门户导航系统解决方案,并对系统所采

用的关键技术及系统的优势分别进行了描述和分析,研究表明,短信门户导航系统方案可行且具有美好的前途。

关键词: 短信; 增值短信; 短信门户; SP; 自然语言; 特征分词; MISC; OTA

Study on SMS development strategy

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Abstract: By analyzing the dilemma of the value-add SMS development, this paper provides the solution that a SMS portal navigation system is established, and describes and analyzes the vital technology adopted by the system and the

advantage of the system. It is indicated that the project of SMS portal navigation system is feasible and has a splendid

future.

Keyword: SMS; value-add SMS; SMS portal; SP, natural voice; MISC; OTA

浅谈用户接入方式的选择与应用

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摘要: 目前,固网运营商对用户末端的接入方式主要依靠同轴电缆来实现,此种方式在市场相对垄断的情况下

可以实现较大范围和较多用户的接入,然而当前,在固网运营商业务种类相对单一,市场竞争异常激烈的情况下,

如何提高投资的回报率成为了大家关注的焦点,本文主要从论述传统接入方式的优缺点入手,对目前新兴的几种

用户接入方式进行分析比较,从而拓宽思路,以期在与实际结合后能够从中找出最佳解决方案,提高资源的利用

率,减少投资回报年限,实现市场收益目标。

关键词: 接入; 方式; 无线; 光缆; 软交换; 终端

Brief probe into the choices and applications of the user's

communication access way

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Abstract: At the moment, the fixed-line telephone network operators mainly depend on coaxial cable to realize the

access of the user's terminal, in the situation of monopoly market, this way can realize a large number and large scope

user's access, but, now, the reality is cruel, the competition of the market is very fiercely, because the

kinds of the service provided by operators is relative single and simple. So, how can upgrade the return of the investment have become the focus of us. This paper mainly concentrated to discuss the advantages and disadvantages of the traditional access way, and take a comparison between traditional way and emerging way, at the same time, the purpose is to broaden the idea. Through comparison with the ways, finding the best way to solve the issues in the reality, furthermore, raising the make use of resources, reducing the fixed number of years in the investment, and realizing the market receipts.

Keywords: access; way; wireless; fiber cable; NGN; terminal

面向构件的电信BSS 软件框架

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摘要: 基于面向构件的技术提出一种应用于电信业务支撑系统(BSS)的构件组装框架, 阐述了BSS的框架结构, 进一步说明了BSS中面向构件应用软件的开发结构, 以及面向构件应用软件与其他系统交互的解决方案。

该软件框架有效简化电信软件的开发、提高电信软件的开发效率。

关键词: 业务支撑系统; 面向构件; 软件体系; 关注分离

Component Oriented Software Framework for Telecommunication BSS

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Abstract: Based on the technology of component oriented, a component oriented software framework for telecommunication business support system was put forward. The architecture of the BSS was specified. Moreover, the development architecture of the component oriented application software and the solution between the component oriented application software and the other system in BSS was also introduced. The component oriented software framework can be effective on simplifying the development of telecommunication software and improving the quality of telecommunication software products.

Keywords: Business Support System; component oriented; software architecture; separation of concerns

一种基于Parlay X 的业务生成环境的实现

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摘要: 首先介绍Parlay X 业务开放接口, 然后分析了API、脚本、构件/框架三种业务开发类型, 在此基础上

提出了基于构件 / 框架级的一种业务生成环境 (SCE) 的实现方式, 并给出了天气预报业务的开发实例。

关键词: Parlay X; 业务生成环境; 实现

Realization of SCE Based on Parlay X

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(1. Wuhan Research Institute of Post & Telecommunication, Wuhan 430074, China; 2. FiberHome Telecommunication

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Abstract: The paper first introduces Parlay X Web Service interface. Then analyzes API, script, component/frame three

kinds of service developing type. On this basis, purposes an implement mode of Service Creation Environment (SCE),

which based on component/frame. Also gives a developing example of weather forecast service.

Keywords: Parlay X; Service Creation Environment; Implement

倡导企业转型文化, 提升转型执行力

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摘要: 2007 年, 中国电信企业从传统基础电信运营商向现代综合信息服务提供商的战略转型已经到了执行落

地阶段, 成为转型执行年。执行的关键在于业务创新、提升员工素质、提高运营效率, 而能统一这三点的内在因

素是建立起强有力的企业转型文化。

关键字: 企业文化; 转型; 执行力

Promoting Enterprise culture to advance the executive force of transformation

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Abstract: The year of 2007 is a key year for the operators' transformation, the purpose of which is to change the roles to

Modern Integrated Information Service Providers. The key process of the transformation is to promote enterprise culture

to advance the executive force of transformation.

Keywords: enterprise culture; transformation; executive force

如果说, 2006—2007 年电信企业转型重在统一认识的话

从种群生态理论看我国移动数据业务的发展

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摘要: 本文运用种群生态理论对中国移动数据业务的发展情况进行分析, 通过对比自然生态系统与移动数据业

务生态系统之间的区别与联系, 找出影响移动数据业务发展的内外部因素, 结合中国移动数据业务发展的实际情

况加以对比验证, 为移动数据业务市场中企业的经营决策提供参考借鉴。

关键词：种群理论；生态系统；移动数据业务；市场演进；竞争

Chinese Mobile Data Service Business Development ——from the Sight of Population-ecology Theory

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Abstract: The paper use Population-ecology Theory to analyzes the development of Chinese mobile data service business, through comparing nature ecology system with mobile data service business ecology system to find out the factors which effect mobile data service business development. Combined with the states quo of Chinese mobile data service business develop to provide reference suggestions for the corporations operating in mobile data service business market.

Keywords: Population-ecology Theory; ecosystem; mobile data service; market evolution; competitions

活动营销在通信企业应用的分析

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摘要: 本文通过传统意义上的活动营销在通信企业的应用情况进行分析, 通过对比通信企业用户的特殊性, 深入挖掘了三类用户的活动营销, 结合中国通信产业实际发展情况加以对比验证, 为未来中国通信企业营销决策提供参考借鉴。

关键字: 活动营销; 促销; vip 大客户; 明星效应

VHF 高速数传电台调制方案设计与实现

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(解放军理工大学通信工程学院无线通信系 210007)

摘要: 提出一种采用CPM 技术实现在25kHz VHF 信道上传输64kbps 数据的高速数传方案。在系统设计上给出不同数据速率条件下的信号调制参数以及简单的非相干检测算法, 并进行仿真。最后结合软件无线电思想进行了中频数字化硬件实现。

关键词: 超短波; 连续相位调制; 中频数字化

Design and realization of modulation schemes of VHF High-speed Tactical Radios

Sha Nan Gao Yu

(Department of Radio Communication ICE, PLAUST 210007)

Abstract: Presents a scheme for high-speed data transmitting which is to transmit data at the rate of 64kbps using CPM in 25kHz bandwidth-limited VHF channel. The modulation parameters of signals for different data rates are showed and a simple noncoherent detection algorithm is applied. The scheme is simulated. At last, the IF digital

scheme is implemented on the hardware platform by utilizing SDR thoughts.

SIP 协议在IMS 系统中应用的研究

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摘要: 本文首先对IP 多媒体子系统(IMS)的架构进行了简单描述,分析了主要的功能实体和IMS 中的SIP 接口。随后,介绍了IMS 对SIP 协议的要求和SIP 扩展。最后,通过分析IMS 呼叫流程中的SIP 交互阐明了SIP 协议在IMS 系统中应用。

关键词: IMS; SIP; CSCF

Research on SIP Protocol Application in IMS

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Abstract: In this paper we introduce the entities and basis infrastructure of the IMS and SIP protocol, and then discuss IMS requirement on the SIP protocol and SIP extensions. In the end, by using SIP flow in IMS, we analyses SIP protocol application in IMS.

Keyword: IMS; SIP; CSCF

如何发挥动力及环境监控系统的最大作用

冯海忠

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摘要: 随着现代通信网络的逐步扩大,通信规模的迅速扩容,大量动力设备的运行维护不可避免地走上集中监控、集中维护、集中管理的模式。因此如何充分发挥动力及环境监控系统的作用,为公司的维护和管理等工作服务,已成为一个新的课题。维护体制改革和围绕监控系统展开的系列工作是重中之重。

关键词: 动力及环境监控系统; 运行维护; 管理功能; 服务

How to develop the most function of power and environment control system

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Abstract: With the modern communication network's escalating and communication scale's mushrooming, maintenance of a mass of power equipment have to be done by the centralized monitor, centralized maintenance and centralized management mode. So how to use the power and environment monitor system and how to service for the company's maintenance and management have been the new task. The innovation of maintenance system and series job surround the monitor system have become the most important thing.

Keywords: power and environment monitor system; run and maintenance; managing function service

MPLS VPN 维护管理经验浅谈

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摘要: MPLS VPN 作为先进的IP VPN 技术,在实际的市场推广中,已逐渐得到市场的认可,在教育、零售和连锁、医药医疗、政府、物流等行业得到了广泛的应用。MPLS VPN 业务的开展与实施,需要网络人员具备一定的技术技能,维护能力。现将本人在实际维护工作中的经验和大家分享,希望对维护人员有一定的帮助。

关键词: 维护管理经验; MPLS VPN

数字同步网优化

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摘要: 市场需求的复杂化对网络的传输时延提出了更高的要求,作为支撑的数字同步网,有进一步完善的迫切需求。本文针对SDH 传输网络时钟优化的应用进行阐述,并对邯郸同步网的现状进行分析,提出具体的优化方案。

关键词: SDH; 时钟; 同步; 优化

Network optimizing of digital synchronous network

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Abstract: Market demand complication to network transmission when extended proposed a higher request, took the strut the digital synchronization network, had the further consummation the urgent demand. This article the application which optimizes in view of the SDH transmission network clock carries on the elaboration, and carries on the analysis to the Handan synchronization network present situation, proposes the concrete optimized plan.

Keywords: SDH; Clock; Synchronous; Optimize

随着通信网络的不断发展,各种业务的不断开展

大客户末端专线接入有效解决方案

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摘要: 本文分析了城域网现状,对大客户市场需求及末端光纤专线接入的网络拓扑方式进行了研究。通过对MSAP 和EPON 产品方案 and 传统方案进行比较,提出了大客户末端专线接入的有效解决方案。MSAP 主要为了解决在同一个光传输网络中对TDM 业务、以太网业务、IP 业务、ATM 业务的综合承载问题。多业务的千兆EPON 是一种在传输汇聚层上将TDM 电路和以太网混合传输的星形网络设备。两种设备的应用均能节省光纤资源,便于

于客户的业务升级、扩容,降低维护成本,提高设备的维护度,提升公司的整体竞争力。

关键词: EPON; MSAP; 城域网

Big Clients Access the Terminal Green Effective Solutions

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Abstract: This paper analyzes the status of metro network, studies the topology way of the big clients and terminal fiber

green accessing network. Through comparing to the MSAP and EPON product programs and traditional programs, this

paper raises the effective solutions of big clients accessing the terminal green. MSAP key to solve in the same optical

transmission network in the business of TDM, Ethernet, IP, ATM business integrated load problems. Multi-service

Gigabit EPON is a convergence of the transmission will be mixed TDM circuit and Ethernet transmission astrocytes

network equipment. Both devices can save the application of optical fiber resources, facilitate business customers

upgrade and expansion, reduce maintenance costs and improve equipment maintenance, improve the company's overall

competitiveness.

Keywords: EPON; MSAP; metro network

MPLS 流量工程技术及应用

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摘要: 首先分析了基于IGP 选路的IP 网络产生局部链路带宽 congestion 的原因, 随后引出MPLS 流量工程(以下简

称MPLS-TE) 的解决方法, 并通过实验展现了MPLS-TE 技术的两种设计方式。最后, 总结了该技术的优缺点及

在运营商网络中的应用前景。

关键词: IP MPLS-TE; IGP; Metric; tunnel; Diffserv-TE FRR

关于高效光传输网结构模型的研究

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(中国网通(集团)有限公司邯郸市分公司)

摘要: 目前通信网正逐步向下一代网络演进, 光传输网也同样演进, 从全网发展出发, 本文主要探讨提高传输

网效率及结构模型。

关键词: 传输; 星型; 链型; 树型; 环型; 两点环; 三点环

试论小区宽带的解决方案

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摘要: 小区的宽带接入技术总体上将朝着高带宽方向发展。体现在业务层面, 要求宽带接入网络具有提供高的

网络带宽, 能同时承载语音、视频、数据、互联网等业务, 并能根据客户和应用需求, 提供差异化服务的能力。用

户需求的多样化决定了小区宽带接入解决方案将长期呈现多种接入技术的融合与协调发展的局

面。XDSL、LAN 接入、光纤接入、无线局域网接入技术是当前小区宽带解决方案中常用的技术，它们各有长处与不足，在制定小区宽带接入解决方案时，应根据用户的具体情况和实际需要，灵活地采用小区宽带接入解决方案。
关键词：宽带接入网；小区的宽带接入技术；高带宽；多样化；融合；协调发展

Discusses the plot wide band the solution

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2 China Electronic Technology Group Corporation 13th research institute 050051)

Abstract: The plot broadband access technology, in the overall will face the high band width direction to develop.

Manifests in the service stratification plane , the request broadband access network has provides the high network band width, It can simultaneously service and so on load bearing pronunciation, video frequency, data, Internet, and can act according to the customer and the application demand, provides the difference service the ability. The user demand diversification had decided the plot broadband access solution for a long time will present many kinds of turning on technology the fusion and the coordinated development aspect. XDSL, the LAN turning on, optical fiber turning on, the wireless local area network turning on technology is in the current plot wide band solution the commonly used technology, they have the strong point and the insufficiency respectively, when formulates the plot broadband access solution, should according to user's special details and the actual need, uses the plot broadband access solution nimbly.

Keywords: Broadband access network; Plot broadband access technology; High band width; Diversification; Fusion; Coordinated development

试论网络呼叫中心

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摘要：传统的单点呼叫中心在网络上互相独立，呼叫只能在呼叫中心内部进行分配，呼叫中心资源也只能在内部进行共享，无法实现呼叫全网均衡分配和资源全网共享，造成呼叫中心资源浪费，制约着呼叫中心的发展。

网络呼叫中心在原呼叫中心的基础上，增加了网络呼叫路由和呼叫转移功能，使得网络呼叫中心的各单点呼叫中心互相共享资源，实现了呼叫全网均衡分配和资源全网共享，提供了一套先进网络呼叫中心解决方案。

关键词：网络呼叫中心；共享设备呼叫分配策略

Network Call Center

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Abstract: Tradition call center is absolute in the network ,the calls are distributed inside ,and resource is shared

inside .This mode can't realize that distributed calls and shared resource in the whole net .So as to wasting the resource

and confining the call center developingping .

Base on the tradition call center ,network call center add some function for network call route and network call

transfer .In network call center , every tradition call center shares resource each other , bring to success for balancing call

and shared resource in whole net .provide a advanced scheme for network call center .

Keywords: Network call center; Shared device for call distributed strategy

基于动环监控系统的蓄电池容量监测与管理

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2 保定市天河电子技术有限公司 071051)

摘要: 在动环监控系统上利用从开关电源采集到的蓄电池组放电电压和放电电流, 进行蓄电池容量在线检测与

估算。该方法得到的蓄电池性能分析报表及预警信息, 可用于指导蓄电池日常的维护及发电工作, 提高蓄电池维

护管理工作的效率。

关键词: 监控系统; 开关电源; 蓄电池; 终止电压; 容量

VRLA capacity detection and Management based on the

switching mode power supply

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2 Baoding Galaxy Electronic Technology Co.,Ltd., 071051)

Abstract: Using of the VRLA discharge voltage and discharge current from switching mode power supply, the paper

proposed a VRLA capacity detection algorithm based on PSMS. Through the algorithm we can form a VRLA

accumulator performance analysis journaling and prewarning information, guide and manage the VRLA daily

maintenance work , increase of the VRLA maintenance work efficiency.

Keywords: PSMS; switching mode power supply; VRLA; final voltage; capacity

√中国移动资本结构影响因素实证研究

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摘要: 本文首先对国内外的相关理论进行综述, 尤其是资本结构影响因素领域方面的研究, 然后重点对影响中

国移动资本结构的因素进行了实证分析, 得出结论: 对中国移动资本结构产生重要影响的因素是资产结构以及非

债务税盾, 并对于研究结果予以解释。

关键词: 资本结构; 影响因素; 中国移动

An Empirical Study on Determinants of China Mobile Capital

Structure

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Abstract: This paper introduces concerned theories, especially the research on the capital structure determinants. Then, do empirical research on determinants of China Mobile's capital structure. The conclusion is that assets structure and non-debt tax shields play a prominent role of China Mobile's capital structure. Finally, explain the research conclusions.

Keywords: Capital Structure; Determinants; China Mobile

TD-SCDMA 直放站在HSDPA 中的应用分析

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摘要: 3GPP 在Release 5 中引入了HSDPA 技术,目的是更好支持高速数据业务。本文解析了HSDPA 的技术

特点,探讨了现有TD-SCDMA 直放站应用于HSDPA 系统的可能性。

关键词: TD-SCDMA; 直放站; HSDPA

Analysis of the TD-SCDMA repeater application in HSDPA

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Abstract: In order to support high data rate services, HSDPA has been introduced in Release 5 version by 3GPP. This paper analyzed the technique characteristics of HSDPA, and probe into the possibility of the TD-SCDMA repeater application in HSDPA.

Keywords: TD-SCDMA; repeater; HSDPA

GSM 用户不在服务区问题的分析

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摘要: GSM 用户不在服务区是一个常见的问题,本文深入分析了GSM 寻呼规程,从九个方面对造成GSM 用

户不在服务区的原因进行了分析。

关键词: GSM; 用户不在服务区; 寻呼规程; 原因分析

Analyzing the Problem of GSM Subscriber no Existing in the Service Area

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Abstract: In GSM network, it is a familiar problem that the subscriber no existing in the service area. This paper construes the paging procedure thoroughly, then from nine ways, analysis various causes that the subscriber no existing in the service area.

Keywords: GSM; subscriber no existing in the service area; paging procedure; analyzing

T-DMB 系统的C 语言仿真

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摘要: 本文在简要介绍T-DMB 系统的基础上,在C 语言平台上对整个系统进行全面的仿真和分析,为T-DMB

系统的构建提供了可靠的参考数据。同时,本文所使用的C 代码,可作为代码原型,应用于T-DMB 发射和接收

系统的DSP 实现。

关键词: 数字多媒体广播; 数字音频广播; 正交频分复用

T-DMB System Simulation with C Language

Abstract: In this paper, we have simulated and analyzed the entire T-DMB system with C-Language to provide reliable

reference data for building a T-DMB system. At the same time, the C codes employed in this paper can also be used as a

prototype for T-DMB transmitter and receiver realization on

一种基于组件的通用软件无线电安全架构

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摘要: 软件通信体系结构 (Software Communication Architecture) 是一种面向对象的通信体系结构,它利用了

通用处理器加专用处理器 (如FPGA) 的方式构建硬件架构,并使用软件框架对硬件进行抽象和管理。SCA 中的

安全机制决定了整个通信架构的实用性,本文通过对SCA 安全机制的分析,提出了一种可适用于其他软件无线

电通信体系下的安全体系。该安全体系抽象了SDR 中的安全需求,并将其与SCA 本身的API 对应结合起来,并

提出了基于组件方式的实现方案,为软件无线电的安全架构提供了参考。

关键词: 软件无线电; 通用安全架构; 软件通信体系结构; 组件

A Common Software Defined Radio Security

Architecture based

on Component

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Abstract: Software Communication Architecture (SCA) is a object-oriented communication architecture. SCA is

constructed on General Purpose Processor plus Special Purpose Processor such as FPGA. The hardware is abstracted and

managed by SCA through software framework. The utility of SCA is decided by it's security mechanism. The security

mechanism is analyzed and a common security architecture which is suitable for other SDR communication architecture

is proposed. The common security architecture abstract the security requirements of SDR and those requirements combined with SCA's security APIs. A scheme of implementing the security architecture on component is proposed. The scheme is a reference of SDR's security architecture.

Keywords : Software Defined Radio; Common Security Architecture; Software Communication Architecture; Component

SP 违规治理与移动增值业务计费研究

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摘要: 针对当前增值业务运营中出现的SP 违规经营问题, 本文分析了现行增值业务计费模式与SP 违规经营

出现的相关性, 并对如何通过改进计费、收费方法遏止违规问题的发生进行了探讨。

关键字: 3G; 电信; 运营支撑系统; 信息服务

The Research to the Mobile Increment Service

Wang Limin

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Abstract: The against law behavior often arises in the SP business. We discovered that there is some relationship

between the difficulty of the behavior controlling and the charging method of the increment services.

So we suggest a

new charging and payment way, so as to help solving the problem.

Keywords: 3G; telecommunication; BSS; Information service

浅谈基站蓄电池安装与维护

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摘要: 本文对基站蓄电池的安装、维护等方面的方法和注意事项进行了浅析, 同时介绍了一些如何进行基站电

池预防性维护的方法。

关键词: 蓄电池; 安装; 维护

通信管线的规划与项目管理

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摘要: 随着通信企业竞争格局的形成, 通信资费大幅下降, 通信产品普及率空前提高。通信企业实力的差距在

竞争中开始显现并不断拉大。通信企业最核心的竞争是通信管线等基础网络的竞争。

通信管线建设集重要性及困难性于一身, 工作开展面临极大的压力。管线建设应遵循先规划后实施的原则,

充分重视网络规划工作。规划中需兼顾经济性、实用性、可扩展性; 合理定义和规划网络层次、结构、路由、规

模、容量以及设备配置等, 最终形成一个“统一规划, 分步实施; 层次清晰, 结构合理; 接入方便、管理高效”

的光纤物理网。项目管理是实现网络规划的手段, 以强调现场管理为内容, 以强化过程管理为

手段，以提高管理水平为核心，以实现管理目标为目的。项目管理是一个持续且具有阶段性特性的工作，立项批复、设计批复、竣工验收及施工结算是主要控制点，是影响施工质量及项目支出的主要因素。道德操守的培养及提高，是项目管理人员履行工作职责的基础，是实现管理目标的根本条件。
关键词：通信管线；规划；项目管理

Programming and Project Management of Pipeline to telecommunication

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Abstract: Along with the competition among the telecommunication corporations, the prevalence ratio of the telecommunication products has been enhanced unprecedentedly while the fee has been reduced to the fullest extent. At the same time, the disparity between the corporations has come out and been enlarged by the competition. The competition of the basic networks, like the Pipeline to the telecommunication etc., has become the main aspect of the competition. The construction of the Pipeline to the telecommunication, which combines importance and difficulty, faces huge pressure during the implementation. The construction should obey the principle that implementation after layout, and, we should attach more importance to the network layout, during which the cost, practicability and scalability should be taken into consideration. Meanwhile, we should define and design the framework, architecture, route, size, capability and the configuration of equipments reasonably to form a fiber physical network which has been designed after overall planning, implemented length by length, has a clear framework and reasonable architecture, and can provide a convenience approach to access, an efficient approach to manage. Project management, which emphasize the spot management and process management, enhance the management ability and realize the management aim, is an instrument to carry out the network layout. It is a persistent work which has different characteristic during different phases. The control points which become the main factor of influencing the project quality and expenditure include the agreement of the project establishment, agreement of design, checking and accepting, and construction settlement.

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Cultivating and enhancing the moral personal integrity is the fundamental for project managers to perform their job duty, meanwhile, it's the ultimate condition to realize the aim of management.

Keywords: Pipeline to the telecommunication; Planning; Project Management

河北网通3G 核心网设计方案

王宁

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摘要: 随着多媒体业务和高速率数据业务需求的增加, 第三代移动通信系统(3G)成为满足广大客户需求的首选方式。针对3G 核心网络的特点, 本文详细介绍了河北省3G 核心网的建设方案, 主要介绍了河北省核心网络拓扑结构, 并从接口设置方案、拓扑结构、客户的鉴权和认证、APN 分配等方面详细介绍了分组域网络规划方法。

关键字: 3G 核心网; 分组域网络; 网络结构

建立WLAN 工程快速响应机制

杨王

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摘要: 随着通信企业在市场中竞争的加剧, 如何提高企业的快速响应能力, 坚持领先对手有效创建和整合网络资源, 领先引导和满足市场需求是争取市场领先的关键。本文就如何在WLAN 工程中建立快速响应机制, 开拓移动数据业务市场做了详细的阐述。

关键词: WLAN; GSM; 双网合一; 快速响应; 关键技术

Establish a rapid response mechanisms in project of WLAN

Wang Yang

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Abstract: In the intense competition of communications market, Increasing the quickly action ability, effectively creating and integrating network resources, meeting and guiding the market demand is the key to be a leader among the communications company. This paper detailedly describe how to establish a rapid response mechanisms in project of WLAN, how to open up a mobile data services market.

Keywords: WLAN; GSM; Two; Network to One; Key Technology

提升中国电信运营企业2008 年北京奥运会 赛时通信服务竞争力的研究*

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摘要: 通信服务是2008 年北京奥运会“科技奥运”理念的重要组成部分。借助奥运会契机, 提升中国电信运营企业通信服务竞争力, 不仅可以提高企业整体运营能力, 而且可以加强全球合作, 拓展企业的全球影响力, 为企业实施国际化战略奠定良好的基础。本文首先界定了通信服务竞争力的研究范围, 分析了奥运通信服务的

重要性和特殊性，通过借鉴上届雅典奥运会中的通信服务的经验和教训，建议中国电信运营企业将奥林匹克运

动倡导的“更高、更快、更强”精神渗透通信服务管理过程，从服务质量、人员素质、业务流程、响应速度、

服务意识、应急处理等方面入手提升奥运会赛时通信服务竞争力。

关键词：奥运；通信；服务；竞争力

A Study on Chinese Telecom Operators to Improve the Competitiveness of Telecom Service in 2008 Beijing Olympic Games

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Abstract: Telecom service is an important component of the “high-tech Olympics” concept of 2008 Beijing Olympics.

Taking the opportunity of Beijing Olympics to upgrade the competitiveness of telecom service for Chinese Telecom

operators, it can not only enhance their overall operational capabilities, but also to strengthen global cooperation, and

to expand global influence, laying a good foundation for the enterprises to implement the going global.

This paper first

defines the competitiveness of telecom services, then analyses the importance and particularity of telecom services at

Olympic Games. Based on the experiences from the Athens 2004 Olympics, the paper put forward six suggestions on

how to upgrade the competitiveness of telecom service in 2008 Beijing Olympics from the perspectives of quality of

services, quality of personnel, business processes, response time, service awareness and emergency management

aspects, advising the telecom operators to practice the Olympic spirit of "higher, faster, stronger" in telecom service

management.

Keywords: Olympic games; telecom; service; competitiveness

舰船通信系统电磁兼容研究

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摘要: 本文分析了舰船通信系统的电磁环境; 在系列试验的基础上, 提出了舰船通信系统电磁兼容性研究设

计建议, 并展望了舰船通信系统电磁兼容性设计工作的前景。

关键词: 舰船通信电磁兼容; 电磁; 电磁屏蔽; 人为干扰; 瞬变干扰

Research on Electromagnetic compatibility of Ship Communication System

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Abstract: The thesis analyzes electromagnetic environment of ship communication system; proposes

study and design proposals for electromagnetic compatibility of ship communication system, on the basis of a series of experiments, and the work prospect of electromagnetic compatibility design of ship communication system is also discussed.

Keywords: Ship Communication Electromagnetic Compatibility; Electromagnetic environment; Electromagnetic shielding; Man-made interference; Transient interference

利用TCP 对动车覆盖优化的探索

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摘要: 本文主要阐述了利用爱立信TCP 网络规划平台对CRH2 型动车在不同时速、不同地理环境下切换、重

选临界电平的推算过程及进行铁路覆盖时最合理的站距、方位角及天线类型选择等, 并对高增益天线、GRRU、

村通宝等覆盖优化措施进行仿真。

关键词: CRH; TCP; 穿透损耗; 小区重选; 切换

EXPLORATION OF COVERAGE OPTIMIZATION TO CRH

USING TEMS CellPlanner

Li Jiangtao Chen Shuhua

(Hebei QuanTong Communication Co., Ltd 050060, China Mobile Group Hebei Co., Ltd 050060)

Abstract: This article mainly elaborated critical level inference process of handover and cell reselection when CRH2

trains run at the different speed, on the different geographical environment using the Ericsson TEMS CellPlanner, and

reasoned the most reasonable distance, the azimuth and antenna type selection and so on, and simulated coverage

optimization measures of High-gain antenna , GRRU, cuntongbao.

Keywords: China Railway High-speed; TEMS CellPlanner; Penetration loss; cell reselection; handover

语音通信中的回波抵消技术研究

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摘要: 回波是困扰通信质量的一个重要问题, 如何有效地解决回波问题是通信中的重要课题之一。文中对语

音通信中的回波抵消技术进行了深入系统的研究, 并在TI TMS320C54x 平台上设计并实现了一个自适应回波抵

消器系统, 在TI CCS 2.0 上的仿真测试结果表明该方案的主要指标符合G.168 要求。

关键词: 自适应算法; 双端讲话检测; 回波抵消; 语音通信

Study on Echo Cancellation in Speech Communication

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Abstract: A significant problem in communication is the generation of echoes, how to solve it

perfectly is an important topic. This paper studies adaptive algorithms commonly used in echo cancellation, and presents a design scheme on TMS320C54x platform. Simulations on TI CCS Simulator2.0 show that the main performance of this proposed system completely meets the needs of the ITU-G.168.

Key words: adaptive algorithm; Double Talk Detection; echo cancellation; speech communication

利用自然冷源实现核心机房节能降耗

冯元明

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摘要: 核心通信设备对环境要求严格。机房一般处于封闭状态,设备运行产生热量只能通过散热系统才能散

发。核心机房的温湿度传统上主要依靠空调长期制冷运转来保证,这需要消耗大量电能。通过努力,在核心机

房增加了新风系统,将外部冷湿空气过滤,利用外部冷湿空气对机房进行制冷。通过减少空调的使用,达到了

在保证机房环境的基础上节省能源。在华北地区,能够有效利用室外冷源的月份有4个月左右,部分利用冷源

的月份也有约4个月,核心机房的节能大有可为。

关键词: 机房; 新风系统; 节能

Using natural cold to achieve Energy Saving in the core equipment room

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Abstract: The core communications equipments require strict environment .The equipment room is general in a closed

state ,the heat generated by the equipment operation can only be distributed by the cooling system .

Traditionally,

humiture of the core equipment room depends on the long time refrigerating of the air conditioning, which consumed

substantial energy. Through efforts,

We set up the Fresh Air System, which filtrate cold wet air outside and use them to cool down .In this way we achieve

energy conservation by reducing the use of air conditioning on the basis of the normal environment. In north China,

this method of Energy Saving in the core room is promising because it is four months completely and four months

partly that we can use external cold resource in the north China.

Keywords: The equipment room; the Fresh Air System; Energy Saving

爱立信交换机CP 负荷的研究

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摘要: 本文共分为三部分,第一部分是通过爱立信CP 负荷的主要构成、负荷相关的功能块 (LOADS、

BARREG) 以及功能块LOAS 中JOB BUFFER 进行相关的描述, 对CP 负荷有个较完整、深刻地认识; 第二部分主要是对爱立信的主流CP (CP30、CP33、CP40) 在CP 负荷方面有优势的功能进行描述; 第三部分则很有条理地、清晰地描述了当出现高负荷或者限呼情况时采取的应急措施, 其中包括CP 高负荷的判定、高话务量引起高负荷的应急措施、其他原因引起的高负荷应急的方法等方面的描述。而且中间穿插了很多实例, 有的还有必要原理性的描述 (如TEST SYSTEM 的应用), 尽可以使读者能尽快地掌握CP 高负荷或限呼的各种应急措施。

关键词: 爱立信; CP 负荷; 监测方法; 控制; 应急措施

Ericsson Exchange CP load research

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Abstract: This article altogether divides into three parts, the first part is through to the Ericsson CP load main constitution, the load related function block (LOADS, BARREG) as well as in function block LOAS JOB BUFFER carries on the correlation the description, has completely, to the CP load knew profoundly; The second part mainly is to Ericsson's mainstream CP (CP30, CP33, CP40) has the superiority function in the CP load aspect to carry on the description; Then the third part had orderliness, described clearly the emergency procedures which when appeared the high load or limited shouts situation adopts, including the CP high load determination, the high traffic load caused aspect and so on high load emergency method which the high load emergency procedures, other reasons caused descriptions.

Keywords: Ericsson; CP Load; Monitor method; Control; Emergency procedures

电信业的RFID 融合与业务创新及高可靠性RFID 封装

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摘要: 在对射频识别技术 (RFID——Radio Frequency Identification) 介绍和对RFID 产业发展及应用进行阐

述和分析的基础上, 结合通信发展趋势和RFID 的特色功能, 对电信业以其在无线技术和网络资源方面的优势,

融合RFID 进行业务创新以及业务创新的前景进行了论述。最后, 简要介绍了微电子封装技术, 比较、分析了

三种RFID 封装结构, 提出了高可靠性的RFID 封装。

关键词: 电信; RFID; 微电子封装; 倒装芯片; 通信产业

RFID Convergence and Business Innovation of

Telecom and

RFID Packaging with High Reliability

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Abstract: Based on the introduction to RFID (Radio Frequency Identification) technology and the analysis to the development and application of RFID industry, according to the tendency of communication and the special functions of RFID, business innovation through converging RFID in telecom was discussed. As followed, the foreground of business innovation was expounded. In which the advantages of telecom in wireless technology and network resource were deeply taken into account. Finally, Microelectronic packaging technology was introduced briefly, three kind of RFID packages were analyzed comparatively, then high reliable RFID package was put forward.

Keywords: Telecom; RFID (Radio Frequency Identification) ; Microelectric Packaging; Flip Chip; Communication Industry

一种基于两网融合的数字广播手机电视技术

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摘要: 本文介绍了一种基于移动网络和数字广播网络融合的手机电视技术方案, 阐述了基于带外授权的数字广播手机电视的整体技术架构, 详细分析了国内首创的基于短信方式的带外授权方案的的业务流程及其实现, 总结了两网融合方案节省数字广播带宽、即开即通的用户体验等优点; 并介绍了基于此方案实现的灵活便捷的业务模式和业务实践。

关键词: 数字广播; 带外授权; 融合; 手机电视

基于I-WLAN 的WiMAX 与移动网络互连实现分析

杜艳艳

(中国移动通信集团上海有限公司 200060)

摘要: 纵观通信产业发展, 移动和宽带成为业务演进的主旋律。3G 网络具备成熟完善的移动核心网络和拥有丰富的移动数据业务; WiMAX 具备高速率无线接入能力。两者的有效结合将打造移动宽带业务发展的利器。本文对二者互连系统进行研究, 参考3GPP 和WiMAX 相关规范, 澄清了WiMAX 与移动网络互连的六种场景, 提出了基于I-WLAN 的WiMAX 与移动网络互连架构, 分析了该系统的实现机制, 并指出了该互连系统对3GPP 网络、WiMAX 网络以及终端的要求和影响。

关键词: WiMAX; I-WLAN; AAA; WAG; PDG

I-WLAN Based WiMAX-3GPP Inter-working System Analysis

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Abstract: The Inter-working of WiMAX and 3GPP network, taking both the advantage of Broadband Wireless access from WiMAX and the advantage of abundant applications from 3GPP network., will greatly benefit mobile multimedia services. This paper aims to clarifying the main points of WiMAX-3GPP Inter-working System. The scope and result of this paper include: network architecture, technical mechanism,

业务支撑系统中主机资源预警机制的研究与实现

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摘要: 本文采用数据挖掘和信息融合技术, 通过tpmC 应用和系统关联分解, 建立主机资源预警模型, 以真

实可靠的反映系统运行现状和对未来业务的支撑性能, 在系统资源发生潜在的紧缺现象前, 能够提前优化

升级, 做到系统运营风险的预防在先。对于资源使用临界点的设置, 也创新性地采用CPU 更换周期结合资

源使用预估进行回推计算, 避免“溢出”。通过预警机制的建立和实施, 将上海移动业务支撑系统IT 硬件

资源的管理从被动转为主动, 在满足新业务快速发展加强支撑服务保障的同时, 也为公司带来了可观的经

济效益和社会效益。

关键词: 预警; 临界值; 容量规划; tpmC

The research and implementation of server pre-alarm on BOSS

Chai kai

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Abstract: Using data mining and message merging, we establish the Server Resource Prealarm Model of BOSS in

order that we can come across some latent system risks in advance. About the critical point, we also expound the

creative, becoming scheme to avoid the system resource effusion.

Keywords: Prealarm; Critical Point; Capacity Planning; tpmC

一种基站机房空调节能方法的测算

郁明俊

(中国移动通信集团上海有限公司传输动力维护中心)

摘要: 通过对基站机房空调以及使用热交换器后工作状态的分析, 测算出基站机房在使用热交换器后节省电

能的效果。

关键词: 机房空调; 节能; 热交换器

A Calculation on Energy-saving of Air-conditioning in base station Room

Yu Mingjun

(China Mobile Group Shanghai Co., Ltd. Power Transmission Dynamic Maintenance Center)

Abstract: With the analysis on the working condition before and after using the heat exchanger on air-conditioning of base station room, it is to calculate the energy-saving effect with heat-exchanger.

Keywords: air-conditioning of station room; energy-saving; heat-exchanger

基于TR-069 的宽带增值业务管理解决方案

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摘要: 随着宽带产业的飞速发展,目前宽带用户已开始把注意力转向日益丰富的宽带增值应用方面,包括基

于IP 的语音(VOIP)及视频应用(IPTV)等业务。快速发展的宽带增值业务以及激烈的市场竞争要求运营商

对管理宽带增值业务具备一个完整可靠的解决方案。文章作者阐述了宽带增值业务的发展前景和当前运营商面

临的挑战,引入宽带增值业务管理系统解决方案。文章着重研究基于终端管理协议TR-069 的综合终端管理系

统(解决方案的必备主体)。文章解析了综合终端管理系统基于TR-069 协议的实现原理、构成和作用,同时

结合本地运营商的实际环境,给出了适合国情的相关业务管理流程。本文对国内基于TR-069 的数字家庭发展

潮流做出了有益的探索和尝试,并且做了前瞻性的展望。

关键词: 用户终端设备(CPE Customer Premises Equipment); 数字用户线(DSL Digital Subscriber Line); DSL

终端远程管理接口协议标准TR-069 (CWMP CPE WAN Management Protocol); 综合终端管理系统(ITMS

Integrated Terminal Management System); 自动配置服务器(ACS Auto-Configuration Server)

Management of broadband value-added business based on TR-069 Protocol

Zheng Minglei Wang Xiaobo

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Abstract: Along with the rapid development of broadband industries, broadband users have begun to pay attention to

the increasingly rich broadband value-added applications,which including VOIP and IPTV services.

All these and the

intense competition in the market requires broadband operators on the management of value-added services with a

complete and reliable solution.Then article describes the prospects of broadband value-added business and the current

challenges facing the operators. Also it introduced broadband value-added business solutions. The article focuses on

ITMS based on TR-069 (essential part in solution) .Principle, composition and efficacy of ITMS have been analyzed.

The management process in local operator's environment have been designed carefully.This paper has made some

useful exploration and forecast to domestic Digital Home development , based on TR-069 .

Keywords: CPE Customer Premises Equipment ; DSL Digital Subscriber Line ; CWMP CPE WAN Management

Protocol; ITMS; Integrated Terminal Management System; ACS Auto-Configuration Server

WiMAX 与移动网络融合的鉴权问题研究

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摘要: 通信产业界移动化和宽带化的主旋律将使WiMAX 网络与移动网络融合成为移动宽带业务发展的利器。

本文对WiMAX 网络与移动网络融合过程中的首要问题-鉴权加密进行研究, 参考3GPP、

WiMAX 相关协议标

准, 提出了鉴权的网络架构、分析了鉴权的技术原理、澄清了鉴权的消息流程、探讨了密钥转换派生方法, 并

指出了统一鉴权对WiMAX、3GPP 网络以及对终端的影响和要求。

关键词: 通信网络技术; 鉴权; 分析; WiMAX 3GPP; 融合

The Authentication Solution for WiMAX-3GPP Inter-working System

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Abstract: The Inter-working of WiMAX and 3GPP network, taking both the advantage of Broadband Wireless access

from WiMAX and the advantage of abundant applications from 3GPP network., will greatly benefit mobile multimedia

services. This paper focuses on authentication problem, the first problem faced when these two heterogeneous network

convergent. The scope and result of this paper include: authentication network, technical mechanism, message flow,

key generating, and the impact of respective network.

Keywords: Authentication; Analysis; WiMAX 3GPP; Inter-working

二维码, 让世博会更加美好

— 基于二维码技术的移动电子商务系统

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摘要: 本文结合2010 年世博会的信息化需求, 对二维码技术及移动电子商务技术进行深入研究, 介绍了移

动电子商务, 指出了目前移动电子商务中存在的几个问题, 针对这几个问题, 提出了基于二维码技术的解决

思路, 详细介绍了二维码的生成与识别原理, 阐述了一种基于二维码技术的移动电子商务系统架构, 最后结

合目前移动电子商务中的问题, 给出了在此架构下的两个解决方法。

关键词: 移动通信; 移动电子商务; 二维码; 电子票证

2D Bar Code, Let the World Expo more Wonderful

— Mobile E-commerce System Based on 2D Bar Code

Zhu Jian LI Hui Zhao Lei Deng Kaixu He Fengxiang

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Abstract: According to the informanization demand of World Expo in 2010, This article studies the 2D Bar Code

technology and Mobile E-commerce technology, points out several existing problems in Mobile E-commerce, and

proposes possible solutions based on 2D Bar Code.Then,this article introduces the creation and recognition principle

of 2D Bar Code and a Mobile E-commerce system architecture,finally proposes two solutions under this architecture

to solve the problems mentioned above.

Keyword: Mobile Communication; Mobile E-commerce; 2D Bar Code; E-ticket

基于网络处理器的WCDMA 数据面的负载均衡研究与实现

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摘 要: 本文首先分析了传统的负载均衡算法。对于5~7 层协议负载均衡, 并且要求保持数据的连接成为难

点, 本文对WCDMA 数据平面和网络处理器进行研究, 利用NP 的可编程能力及强大的高速转发处理能力,

解决WCDMA 数据平面的基于5~7 层协议内容的负载均衡。最后对所设计实现的负载均衡设备进行了测试和

分析。

关键字: 负载均衡; 网络处理器; WCDMA

Research and Implementation of Load Balance For WCDMA

Data Plane Using Network Processor

Dai Changjiang Ye meng

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Abstract: The traditional load balance mechanism was analysed first in this paper,the key difficulty was that load

balance mechanism should be based on 5~7 layer protocol and keep the data connect. This article does some

research on WCDMA data plane and network processor,using NP' complete programmable ability and powerful

high-speed transmitting and processing ability,solves the load balance of WCDMA data plane base on 5~7 layer

protocol.In the end it make a test and analysis to the designed load balanced equipment.

Keyword: Load Balance; Network Processor; WCDMA

LAC 规划新思路及实施效果分析

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摘 要: 此论文针对以往LAC 规划没有思路, 全凭规划人员个人经验的情况, 提出一种LAC 规

划的有效可行的新思路：利用网络统计数据，在其基础上根据一定条件对所有LAC 边界进行分析，找出最优的LAC 边界。首先详述LAC 规划的新思路及关键问题的处理方法，然后分析LAC 规划新思路在郑州网络的实施过程及效果评估。

关键词：LAC；位置区；LAC 规划；寻呼量；位置更新；统计分析

New Idea about LAC Border Planning and Implementary Result Analysis

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450011)

Abstract: Previously, LAC border planning was base on the planner's experience and no idle at all. In this article, a new idle about LAC border planning is proposed. which is based on plenty of network statistics and the analysis of current LAC border, aiming for optimizing the LAC border. First part of this article, we expatiate the new idea about LAC border planning and key technique. Then, explain the implement on ZhengZhou's network and effect evaluation.

Keywords: LAC; Location Area; LAC border planning; amount of Paging; Location Update; statistical analysis

浅论本地移动传输网组网与优化

张红钦

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摘要：本文通过简单明快的语言，分析移动本地传输网网络建设发展过程中存在的问题，从光缆线路、传输设备、网络结构和通道配置等方面，深入阐述移动本地传输网必要性和具体手段，以在传输网组网和优化过程中应注意的几个问题结束本文。

关键字：网络优化；传输资源；网络结构；网络安全；通道规划；传输系统互通

A tentative study on the construction and optimization of local mobile transmission network

Zhang Hongqin

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Abstract: This paper analyzes the existent problems of local mobile transmission network in the developing course by use of brief and clear language. From the aspects of optic cable circuit, transmission equipments, network structure and passage allocation, the writer deeply elaborates the necessity and practical means. This thesis ends in a

few matters which should be paid attention to in the process of the construction and optimization of transmission network.

Keywords: network optimization, transmission resources; network structure; network security; passage design, mutual communication of transmission system

浅谈GSM 手机的安全性

海培华

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摘要: 近期媒体上有大量关于“手机窃听器”的报道, 部分用户也反映自己的手机有被监听的经历, 造成

广大用户对GSM 系统的安全性提出了质疑, 本文从系统原理的角度对GSM 系统的空中接口安全性进行了分

析, 对常见的监听手段及其特点进行总结, 指出了目前主要的监听途径是利用和用户接触的机会窃取用户信

息, 在手机安装间谍程序或监听装置来实现的, 并不是GSM 系统存在安全漏洞, GSM 系统作为民用的通信

系统, 其安全性是得到充分保障的。

关键词: GSM; 手机; 安全性; 窃听方式

The Security of GSM Mobile Phone

Hai Peihua

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Abstract: Recently, there are many reports about mobile dictograph in the medium, Some mobile phone user also

claim that their mobile phone are monitored, Those reports arouse the mobile phone user to be suspicious of the

security of GSM system. This paper analyze the security of the Um air interface of GSM system, also summarize the

common means of monitoring. As a result, this paper point that the main means of monitoring is purloining the

mobile user's information. The security of GSM system is sufficient for commercial communications.

Keywords: GSM; Mobile Phone; Security; Monitor

从实际测试浅析EGPRS

谢振宇

(中国移动通信集团河南有限公司安阳分公司 455000)

摘要: 本文通过现场对新开通的79 个EGPRS 基站进行了详尽的测试, 从ATTACH、PDP 激活、WAP

DOWNLOAD、PING、FTP 几方面和GPRS 对比发现EGPRS 的一些特点, 实际的使用中, GPRS 应用层的平

均速率为10~12kbps (单时隙); 而EGPRS 的平均速率则能达到35~50kbps。EGPRS 的下载速率为GPRS

的3~4 倍, EGPRS 在静止时可以比较流畅播放约100kbps 左右的流媒体

关键词: 测试; 时隙; 激活; GPRS; EGPRS; FTP

Xie Zhenyu

(china mobile group henna co .ltd 455000)

Abstract: Enhanced GPRS, now EGPRS, is a digital mobile phone technology—a transition between

GSM and 3G

network technologies. packet switched enhancement for general packet radio service (GPRS) ,known as enhanced

GPRS or EGPRS-100bps.

Keywords: Test; Ts; Active; GPRS; EGPRS; FTP

浅谈光纤融接机G.655 光纤融接模式的更改

张伏兵 李玮玮

(中国移动通信集团河南有限公司安阳分公司 邮编: 455000)

摘要: 本文对常用单芯光缆融接机G.655 模式的更改方式进行了介绍, 并配以图片说明。

关键词: 光纤; 融接机; G.655

河北省各地区话务季节波动分析

艾秀青 徐长胜

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摘要: 通过对河北移动各地区历史话务数据函数曲线拟合的残差进行分析, 测算出各地区话务的季节波动

因子, 并结合地理、经济状况进行了初步探讨。

关键词: 季节因子; 话务波动; 曲线拟合; 残差

Seasonal Fluctuation of Traffic in HeBei province

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Abstract: As analysis of residual produced by functional fitting of Traffic curves,we measured Seasonal Fluctuation

Factors of Traffic in HeBei.Meanwhile the factors differ as the differrent geographical features and economical status of the area.

Keywords: Seasonal Factor; Fluctuation of Traffic; Curve Fitting; Residual

频率规划在TD-SCDMA 系统中应用的性能分析

王宁

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摘要: 本文首先根据CDMA 网络基本干扰容量模型, 结合3GPP 对 E_b/N_0 的建议, 提出了通过 λR 参数,

推导干扰抑止对速率等级的影响。进而对简单频率规划模型进行了分析, 得到简单频率规划对干扰的改善及

可能实现的速率等级的提高。最后针对TD-SCDMA 系统特点, 结合测试数据, 分析了TD-SCDMA 系统中引

入频率规划的必要性和优势, 并给出了TD-SCDMA 系统频率规划的建议。

关键词: 频率规划; CDMA; TD-SCDMA; 干扰; 同频组网; 异频组网

Analysis On the Performance of Applying Frequency Allocation

Method in TD-SCDMA Systems

Wang Ning

(China Information Technology Designing and Consulting Institute, 450007)

Abstract: On the basis of basic interference-capacity model of wireless CDMA system and 3GPP E_b/N_0 suggestion, this paper firstly introduces λR parameter and deduces effect of interference to data service hierarchy selection. Then, a brief analysis on wireless networks equipped with simple frequency allocation and how it affects data throughput are brought forward. At last, characteristics of TD-SCDMA and test results are analyzed, the necessities and advantages of introducing frequency allocation method to TD-SCDMA system are put forward, frequency allocation schemes suit TD-SCDMA system are suggested.

Keywords: Frequency allocation; CDMA; TD-SCDMA; Interference; co-frequency networking, anti-frequency networking

电信网IP 化发展策略探讨

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摘要: IP 技术的引入促进了电信网的组网灵活性以及高效性,也成为未来的发展方向。承载网的IP 化、

核心网的软交换化和信令网的IP 化是未来构建全IP 化电信网的关键环节,运营商在传统电信网中引入IP 技

术的时候,需要结合自身的网络实际分步实施,同时也要注意应对IP 化带来的一系列挑战。

关键词: 电信网;软交换;全IP

The Development Strategies of IP Technology Introduced into Telecom Network

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Abstract: The introduction of IP technology promote the Telecomm Networking's construction more flexible and

efficient, it becomes the future development direction. Carrier Networking's IP-lization, Core Networking's

Softswitch-lizaion and Signaling Networking's IP_lization are the key factors for the future All-Over-IP Telecomm.

While the operator introduce the IP technology in traditional Telecom network, they must face to these challenges.

Keywords: Telecom-Network; softswitch; All-IP

基于信息化的农村地区分类及运营商发展策略研究*

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(中讯邮电咨询设计院,郑州 河南 450007)

摘要: 随着城镇地区通信市场的逐步饱和,农村地区已成为运营商可持续发展的“蓝海”。文章从我国农村

通信及信息化地区现状差异入手,根据不同地区农村通信与信息化现状及发展潜力建立了农村地区分类指标

体系,并以北京农村为标杆地区,将我国省市自治区农村分成了三类,并针对不同地区的现状

及特点提出了
移动运营商的发展策略，为移动通信运营商因地制宜地制定农村市场发展战略提供参考，同时
也为我国分阶
段实现农村通信信息化提供决策参考。

关键词：农村；地区分类；指标体系；通信与信息化

Research Of Rural Area Classify And Telecom Operators' Developing Plots Based On Informatization

Li Jibing Lu Ying

(China Information Technology Design & Consulting Institute 450007)

Abstract: Along of the saturation of city communication market, rural area had become the “Blue Sea” for Telecom

Operators. The paper starts from the differences of the present situation of telecom and informatization in rural area,

according to the present situation and potential, established an index system for rural area classify. And then taking

Beijing as an model area, letting 31 provinces to three categories. According to the present situation of different area,

the paper gave some developing plots. All the plots will give mobile telecom operators consultations comfortably,

and also give consultations to government implement rural area's telecom and informatization gradually.

Keywords: rural area; region classify; index system; telecom and Informatization

从网络建设探索电信网与互联网融合发展策略

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(中讯邮电咨询设计院, 河南 郑州 450007)

摘要: 在网络全IP 化的发展趋势下，从网络建设的角度，探讨了电信网与互联网在业务层、控制层、承载

层、接入层、以及终端等不同层面的融合发展策略。

关键词：电信网；互联网；融合；建设

Research on the converged developing strategy of Telecom and Internet from the aspects of network deployment

Yang Yansong Li Shuangquan

(China Information Technology Designing & Consulting Institute, Henan Zhengzhou 450007)

Abstract: In the tendency of the all-IP network, it discusses the converged developing strategy of the Telecom and

Internet in different layers such as the service layer, control layer, carrier layer, access layer and the terminal from

the aspects of network deployment.

Keywords: Telecommunication network; Internet; Convergence; Deployment

浅谈通信事故应急预案的编制

李纹

(新疆电信有限公司长途传输局 830006)

摘要: 本文主要介绍了制定通信事故应急预案的准备工作, 通信应急预案的编制方法和内容。

关键词: 应急预案; 危险源; 辨识; 风险; 评价; 编制

Discusses the Compilation of communications incident response plan

Li Wen

(Long Distance Transmission Bureau Of XinJiang Telecom Limited 830006)

Abstract: This paper introduces the preparation of communications incident response plan establishment, the

preparation of communication contingency plans for methods and content.

Keywords: Contingency plans; Hazards; Identification; Risk; Evaluation; Establishment

通过提升用户体验发展WAP 业务的策略探讨

王东升

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摘要: 面对当前WAP 业务发展缓慢的局面, 移动通信运营商可以通过采用更为有效的业务适配技术, 改

善WAP 业务展现效果, 满足用户个性化需求, 提升用户体验, 推动WAP 业务发展。此外, 当前比较有代表

性的WAP 业务适配技术包括动态适配和静态适配两种技术方法。其中静态适配由内容提供者在业务开发时

完成内容适配, 而动态适配则由适配系统根据用户终端的物理性能和用户个性化需求, 在用户的业务请求过

程中完成。

关键词: 用户体验; WAP 业务; 动态适配技术; 静态适配技术

The Strategy Discussion on how to Develop WAP Services by Improving User Experience

Wang Dongsheng

(China Information Technology Designing & Consulting Institute 450007)

Abstract: In current market of China, operators of mobile telecommunication can further develop WAP services by

using more effective rendering technology to improve users' experience and satisfy users' individual requirements.

Besides, leading rendering technology for WAP services includes both dynamic and static rendering technology.

With the static manner, WAP services are rendered by Content Provider in process of service development.

Meanwhile, with the dynamic manner, WAP services are processed by a dynamic rendering system when users are

requesting WAP services.

Keywords: User Experience; WAP service; Dynamic rendering technology; Static rendering technology

ASON 技术在军事通信网中的应用研究

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(通信指挥学院 430010)

摘要: 论文首先简述了ASON 技术的概念和特点, 然后着重分析了在军事通信网中引入ASON 技术的迫切

需求, 提出了ASON 技术在军事通信网络中的应用策略。

关键词: ASON; 智能光网络; 光纤通信; 军事通信

The Application Research of ASON in Military Communication Network

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Abstract: The thesis firstly outlines the concept and technical characteristics of ASON, and then focuses on

analyzing the urgent requirement of ASON application in the military communication network, Finally, the thesis

puts forward the application strategies of ASON in the military communication network..

Keywords: ASON; Intelligence Optical Network; Optical Fiber Communication; Military Communications

浅谈信息化条件下战场通信系统的电磁兼容问题

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摘要: 信息化条件下, 战场电磁环境复杂, 电磁干扰问题突出, 结合在信息化条件下通信系统电磁兼容面

临的新问题, 深入研究战场通信系统的电磁兼容性, 在技术上和管理上采取有效措施, 提高通信系统的抗干

扰能力, 使战场通信系统的效能充分发挥, 保障战场通信顺畅。

关键词: 信息化; 通信系统; 电磁兼容

Shallow talk about the problem of the battlefield communication systems EMC (Electromagnetism compatible)

under the information-based condition

Li Qiuke

(Commanding and communications academy, WuHan 430010)

Abstract: Under the information-based condition ,Electromagnetism environment in the battlefield is complicated,

The electromagnetism interference's problem is outstanding, the communication systems EMC are faced with new

problems, through researching battlefield communication systems EMC, on the technique and management top

adopting valid measure to promote the communication systems' anti- interference ability, make full use of battlefield

communication systems and guarantee the battlefield communication smooth..

Keywords: Information-based; communication systems; EMC

未来手机电视发展趋势浅析

苗妍

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摘要: 本文首先介绍了基于2.5G 移动网络中的手机电视现状及问题, 然后从国内外手机电视标准出发, 针

对MBMS 标准的发展对手机电视在移动网络中的关键问题进行了详细分析, 最后提出了相应的解决方案。

关键词: 手机电视; 移动流媒体; MBMS; HSPA; CMB

The Analyse Of Futher Development In MobileTV

Miao Yan

(WuHan Research Institute of Posts and Telecommunications, WuHan 430074)

Abstract: This paper fistly shows a situation of MobileTV upon 2.5G networks , and then it focus on the key

problems during the development of the Mobile TV ,included BMS standard analysis. This paper also provides some

solutions to the Mobile TV in nowadays network.

Keywords: Mobile TV; Mobile Streaming; MBMS; HSPA; CMB

合作运营模式下增值业务平台告警管理的设计和实现

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2 北京海淀区上地东路9 号4 层南区 得实信息科技(北京)有限公司 北京(100085))

摘要: 本文首先介绍了基于SNMP TRAP 协议的告警管理实现方法,在分析了合作运营模式下增值业务平台

的特性和对告警管理系统的新要求后, 对基于SNMP TRAP 协议告警实现方法在业务平台中不适用的原因进

行了说明, 并设计和实现了一种基于应用日志实现告警管理的方法。文章最后对该方法的优点和缺点进行了

分析。

关键词: 电信管理网; 合作运营; 告警

Design and Implementation of Alarm Management In The VAS

Platform Under Revenue Sharing Pattern

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University of Posts and

Telecommunications, Beijing 100876;

2 Dascom Technology Beijing Ltd. 4/F Dascom Building, No.9 East Road, Shangdi, Beijing 100085)

Abstract: The alarm implementation based on SNMP TRAP is introduced at first. After an analysis on the

characteristics and the new requirement on alarm management of the VAS Platform under revenue sharing pattern,

the reason why the alarm implementation based on SMNP Trap can not be applied in the VAS plattform is given and a

new alarm implementation mothed based on the application's logfile is designed and implemented. The

advantage and disadvantage of this new alarm implementation are illuminated finally.

Keyword: TMN; Revenue Sharing; Alarm

电信运营企业技术中心建设探析

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摘要: 企业技术中心是技术开发体系的核心。在阐述企业技术中心的内涵和意义的基础上, 分析中国电信

运营企业技术创新组织机构现状, 提出电信运营企业技术中心建设的思路、组织形式和运行机制。

关键词: 技术创新; 企业技术中心; 电信运营企业

Study on Construction of Technology Centre in Telecom Carriers

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2 Department of Technology of China Unicom 100032)

Abstract: Enterprise's technology center is the core of technological development system. On the basis of setting

forth connotation and significance of enterprise technology centre, it analyses current situation of technological

innovation organization in China's telecom carriers, and makes suggestions from the aspects of train of thought ,

organization form and operating mechanism in the construction of technology centre in telecom carriers.

Keywords: technological innovation; enterprise technology center; telecom carrier

电信运营商网络及系统安全增值业务模型研究

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摘要: 针对目前互联网宽带用户终端安全性差, 缺乏规范引导的特点, 分析并提出了由电信运营商通过提

供网络及系统安全增值服务来解决该问题的思路。

关键词: 安全; 增值业务; 模型; 网络及系统

Study of Value-added Business Model of Telecom Operators Network and System Security

Chang Yansheng

(China Netcom (Group) Corporation LTD. HeNan Branch Network Management Centre 450008)

Abstract: Targeted at broadband Internet user terminals of poor security, lack of standards to guide the

characteristics of analysis and by telecommunications carriers to provide network and system security value-added

services to solve the problem of thinking.

Keywords: Security; Value-added Business; Model; Network and System

河南电子商务的初步探讨

董晏

(河南网通公司宽带内容应用中心 450000)

摘要: 本文对河南电子商务发展的基本原则、发展战略以及系统模型进行了初步探讨,并提出了河南电子商务发展的对策建议。

基于数据挖掘技术的客户流失预警研究

李宝玲

(中国网通公司鞍山市分公司 114001)

摘要: 随着国内电信企业自身的发展,以及市场竞争的加剧,企业急需改变传统的粗放型营销模式,即从

传统的以生产为中心,转化为以客户为中心,以信息为基础的模式。本文根据电信运营商的系统现状,利用

生命周期理论,采用数据挖掘分类算法,设计预警流失模型。经过反复实验,建立了能够对流失客户进行有

效预警的模型。客户流失预警模型的建立为企业向以客户为中心的精细化营销方向转变,做出了有益的探索,

具有很强的现实意义。

关键词: 流失预警; 数据挖掘; 客户

3G 室内分布系统改造思路与实施方案

赵彦明

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摘要: 随着3G 时代的到来,各电信运营商都在积极地为3G 做着准备,由于3G 的业务大都发生在室内,

室内分布系统在3G 网络中将起到重要作用。3G 所使用的频段较高,空间衰耗增大,室外信号对室内的覆盖

将减弱,这也要求我们在室内覆盖上重点投资。本文将对联通公司的3G 分布系统的升级方案进行讨论。

关键词: 室内分布系统; CDMA; 3G 改造

Abstract: With 3G times coming, the telecom operators are actively preparing for the 3 G. Since 3 G business

mostly happens indoor, the indoor distribution system plays an important role. 3G uses higher frequency bands,so

space attenuation increases. The indoor coverage by outdoor signal will be weakened, so it requires that we focus on

indoor coverage in the investment. This paper will discuss China Unicom's 3G distribution system upgrade plan.

Keywords: indoor distribution system; CDMA; 3G reconstruction

拆机挽留工作的实践经验

庄俊芳 吴晓灵

(辽阳市网通公司客服中心, 111000)

摘要: 本文结合辽阳网通分公司客服中心设立拆机挽留专项窗口的实践经历,论述了拆机挽留

工作在目前

经营环境下的积极意义以及在实践中总结出的一些行之有效的挽留拆机用户的经验和方法。

关键词：拆机挽留；专项台席；协作

The Practical Experience of Telecommunication

Clients

Detention

Zhuang Junfang Wu Xiaoling

(China Netcom Company LiaoYang Branch Customer Service Center 111000)

Abstract: According to the practical experience for establishing expert reception of LiaoYang China Netcom

Company Customer Service Center, discuss the effective experiences and means of pretending clients from

abandoning CNC service, and the active meaning of the prosecution circumstance..

Keywords: client detention; expert reception; team work

电信运营企业集团客户的精细化营销

檀海仁

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摘要: 电信运营企业实施集团客户精细化营销，就是根据市场竞争形势、客户需求变化以及营销管理中存

在的问题，对营销战略、营销策略、营销流程、营销服务体系、营销渠道、营销队伍等进行系统的分析、调

整和创新，以建立起具有主动营销能力的，高效率的，以市场为导向、以客户为中心、以效益为目标的营销

管理体系。

关键词: 电信企业；集团客户；精细化营销

The Circumspect Customer-group Marketing of the Telecommunication-running Enterprises

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Abstract: Telecommunication-running Enterprises adopt the circumspect customer-group marketing. That is to say,

according to the competitive situation in market, the changes of the customers' needs and the problems existing in

marketing management, make our analyses, adjustment and innovation systematically for the marketing strategies, marketing tactics, marketing technological process, marketing service system, marketing channels,

marketing strategies, marketing troops and so on. So that we could build up a marketing management system of

positive marketing capability and high efficiency. And also the system is directed by market, concentrated on

customers and aimed at benefits.

Keywords: the telecommunication-running enterprises; customer-group; circumspect marketing

反SP 自消费管理业务支撑方案

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摘要: 梦网SP 自消费严重干扰正常的电信市场经营秩序,给电信运营商造成了大量经济损失。通过对SP

自消费行为的研究,结合移动业务支撑系统的特点,提出了基于SP 自消费分析的分帐户解决方法,遏制了

SP 自消费行为。SP 自消费问题的解决对于电信运营商管理合作伙伴具有借鉴意义,对运营商发展增值业务

具有战略意义。

关键词: 算法; 业务支撑方案; 自消费; 分帐户

Business Support Solution against SP Self-consumption

Chu Zhengwei

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Abstract: Monternet SP self-consumption disturbed orders of Telecom Market, brought Telecom Operators lots of economical loss. Researched SP self-consumption and combined Business Support System, we bring forward

divided-account Solutions based on Self-Consumption Analyses which restricts SP Self-Consumption and benefits

Telecom Operators.

Keyword: Arithmetic Theory; Business Support Solution; Self-Consumption; Divided-Account

基于流程管理的运行维护组织再造

旻孙

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摘要: 传统的电信企业运行维护组织架构是以职能为界限的金字塔形组织结构,面临激烈的市场竞争,难

以适应。电信企业如果不能及时调整运行维护组织的运作流程,进行组织架构的再造,就无法建立以市场为

导向、以客户为中心、以效益为目标的企业运行维护模式。现代电信企业的运行维护组织应该是一种基于维

护流程的组织,它以流程为中心、面向顾客,组织结构更加柔性化、扁平化、信息化。各项指标表明,再造

后的网络运维绩效提高明显。

关键词: 流程管理; 组织再造

Operation and Maintainness Organization Reengineering Based On Process Management

Sun Min

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Summary: Operation and Maintainness Organization in the traditional telecommunication enterprise is based on

function,pyramid shape.It's difficult to adapt the fierce market competition.If the telecommunication doesn't adjust

the process of the operation and the maintainness,doesn't reengineering the organization ,it will not

establish the operation and maintainess model .which is market guide,which focus on the customer and aims at the benefit.

The operation and maintainess organization in the morderm telecommunication enterprise should be based on

the maintainess process,should be more elasticized,flattenized and informationalized.

Keyword: Process Management; Organization Reengineering

网通人家·“智”家有方—固网电信运营商的数字化家庭产品

田宇 王红军

(沈阳网通分公司, 110002)

摘要: 从产业发展来看, IT 技术、CT 技术融合的趋势已经显现, 家庭网络的发展点燃了人们对于数字生

活的无限畅想, 数字化家庭的商机已经显现。网通人家是网通公司推出的数字化家庭产品, 是固网电信运营

商推进数字化家庭标准的尝试, 也是固网电信运营商寻求新的业务增长点, 向全业务宽带化运营转变、向电

信/IT 服务集成运营商转变的体现。

关键词: 数字化家庭; ICT (信息和通信技术); 网通人家; 智能家居

安徽移动业务支撑系统开发运营管理研究

周展翅

(中国移动通信集团安徽有限公司, 230031)

摘要: 安徽移动业务支撑系统全省集中的、服务1000 万客户、7*24 小时永远在线、新业务升级频繁的

系统。从整个业务支撑系统的风险来看, 主要集中在开发运营两个方面, 做为企业的IT 组织—计费业务部必

须寻找可靠、高效的实施办法来开发运营管理业务支撑系统。

本人从05 年开始担任安徽移动计费业务部主任助理, 一直致力于研究大型系统运营、开发管理方法。通

过两年的研究及实践, 在ITIL 的十大流程里, 我们选用了事件管理、问题管理、变更管理三大流程为改善安

徽移动业务支撑系统运营管理的突破点, 从被动维护转变为主动维护; 在CMM2 关键过程域的引入上, 选

择采用CMM2 中需求管理、软件质量保证、配置管理、软件子合同管理四个关键过程。

通过实践, 将国际标准定义的方法细化为企业可操作、可执行、可考核的流程, 同时建立了与之配套的

组织结构、考核方式, 保证流程执行到位; 在流程正式实施后, 进一步建立电子平台解决流程执行效率问题,

打通了需求、设计、测试、上线、维护各个环节, 将运营管理的ITIL 流程与开发管理的CMM 流程有机结合,

形成良性互动的开发运营环境。

关键词: 业务支撑系统; 能力成熟度模型; 信息技术基础架构库

Research on development and operation management of

Business Operation Support System of mobile company of ANHUI

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Abstract: Bussiness Operation Support System (BOSS) of mobile company of ANHUI concentrate the whole

province,serve 10 million users all day and night, often update the version of software.The risk of BOSS concentrate

on the developing and operating.Billing Departement is in charge of company's IT system , must seek reliable and

high efficiency ways to develop and operate BOSS.

I started from 2005 years as assistant to the director of Anhui Mobile Billing business, I has devoted to the research

of Operation, development management.of large system. Through two years of research and practice, We choose

event management,problem management,change management subprocesses as BOSS ' s operating process,

maintaining change from passive to active maintenance; CMM Key Process Areas in the introduction, We choose

four kpa,they are requirement management, software quality assurance, configuration management and software

sub-contract management.

The international standards for enterprise are executed as operational, enforceable, the appraisal process through

practice.In addition to establishing a coordinated structure to examine ways to ensure that the implementation

processes are in place; In the process of implementation, further consideration of the implementation process to

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create an electronic platform to resolve the question of efficiency which had been united the requirement, design,

testing, on-line, maintaining various processes, For ITIL and CMM process organic combination, that has developed

a better environment between the operating and development.

Keywords: Bussiness; Operation; Support; System/CMM/ITIL

采用双电源系统两路供电，提高通信系统用电可靠性

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摘 要: 目前通信电源系统正由集中型供电方式向分散型供电方式转变,供电的安全性有所提高。但由于采用

分楼层或按设备类型分别供电，通信设备的两路供电接入功能仍未能得到充分利用，供电系统的可靠性仍不

够高。本文通过对目前在用交换、传输、无线设备通信设备的供电情况的调查分析，提出用双电源系统通信设备实行双路独立供电方案，确保通信设备的主、备侧供电的独立性，提高了整个局站通信系统供电安全可靠。

关键词：两套电源；重要网元；独立供电

Adopting double power supply system to supply two road

power,improving the reliability of telecommunication system

giving or getting electricity

Li Yongning Song Lifang

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Summery: Currently, telecommunication power supply system is just changing from the concentration type the power supply method to the dispersion type, the safety of power supply has an exaltation. But because the electricity is transmitted to separate floors or transmitted separately depending on the kind of the equipment being used. The access to the two road power supply though communication equipment can not yet get full exploitation, and the credibility of the power supply system leaves much to be desired. The author, though his investigation and analysis the current power supply conditions of using commutation, delivering, wireless equipments telecommunication equipments, put forward a double-way independent power supply project using a pair of power supply system for the telecommunication equipments, to ensure the telecommunication equipments' independence on the primary and side power supply, which has improved the safety and reliability of the whole telecommunication system in the bureau.

Keywords: two sets of power supply; the important elements; the independent power supply

移动数据业务在电子商务中的应用研究

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摘要: 文章从电子商务的定义入手，分析了移动数据业务在电子商务应用中所特有的普遍性、便利性、本地性等优势，介绍了WAP、GPRS、JAVA/BREW、WPKI 等移动数据业务应用的主要技术和标准；从信息类、娱乐类、交易类、办公类、位置类等方面研究了移动数据业务在电子商务中的主要应用；并从深入挖掘客户需求、加强产业价值链管理等方面对于移动电子商务的制约因素提出了建议。

关键词：移动通信；数据业务；电子商务

Research on the use of mobile data business in the

field of electronic commerce

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Abstract: starting from the definition of electronic commerce, this paper analyzes the universality, convenience, local character of the use in mobile data business, introduces the main technology and standard of mobile data business, such as WAP, GPRS, JAVA/BREW, WPKI etc. it makes analysis on the application of mobile data business in the field of E-commerce from information, entertainment, business transaction, official business, and direction. Moreover, the paper makes suggestions from how to excavate the customers' needs, how to strengthen the management of industry chain etc.

Keywords: mobile communication; data business; electronic commerce

ASON 网络发展及应用

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摘要: 本文简要介绍了传输网络发展的过程及其发展到ASON 的必然, 重点分析了ASON 的特点及其软件结构, 介绍了ASON 通过传输路由智能控制和自动灵活交叉提高传输可靠性的方法, 另外对ASON 在黑龙江省通信公司传输网络中的应用进行了概括介绍并展望了其发展方向和需要解决的问题。

关键词: GMPLS; ASON; 保护; 恢复

The Development and Application of ASON

Che Kai Chen Feng

(China Netcom Group Corporation (harbin) Limited 150001)

Abstract: This paper introduces the process of the development of transmission network, Analysis of the characteristics of ASON and its software structure, Introduces the ASON enhancement transmission reliable method, Also Introduces the ASON transmits in the network in the Heilongjiang company to apply, And has forecast its development direction With question which needs to solve

Keywords: GMPLS; ASON; Protection; Restoration

通信行业竞争日趋激烈, 业务方对传输质量的要求

基于SNMP 的嵌入式光纤收发器网管系统的研究

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摘要: 本文提出了一种远程网络管理系统, 该系统基于广泛应用的标准SNMP 简单网络管理协议, 为用户提供基于WindowsXP/Windows2000 系统、管理站——代理模式的远程管理解决方案。采用嵌入式系统, 具有良好硬件适应性和移植性。适用于构建宽带城域网, 可以便捷稳定地为用户提供光纤IP 网络解决

方案。

关键词：SNMP；嵌入式；网管

Research of Embedded Network Management System of Optic Fibre Transceiver Based on SNMP

Ye Fengxia Liu Guohui

(WuHan Research Institute of Posts and Telecommunications, WuHan 430074)

Abstract: This paper proposes a kind of Network Management System, the system is based on SNMP, and provides a solution of remote management for users based on WindowsXP/Windows2000 OS、Management Station—Agency's mode. The system adopts the Embedded System, and it has perfect adaptability and Transplanting. Also, the system suits for constructing Broadband MAN, and it provides a solution of fiber IP Network conveniently for users.

Key words: SNMP; Embedded; Network Management

基于多媒体通信的主流协议对VOIP 系统的研究

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摘要: H.323 和SIP 是目前VOIP 系统使用的两种主流信令控制协议。本文从两种协议的协议模型及组件特征进行阐述, 并在VOIP 系统中剖析各自呼叫控制机制的实现原理及典型的呼叫流程。此外, 通过分析VOIP 当前发展现状及面临的热点问题, 引出了下一代VOIP 协议-H.325, 并阐述了H.325 协议的设计思想和探讨了其可能的协议栈, 最后分析了VOIP 系统安全问题的解决方案。

关键词: VOIP; H.323; SIP; H.325; 呼叫控制; 安全

Reserch Of VOIP System Base On Multimedia Communication's Main Protocols

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(Wuhan Research Institute of Posts and Telecommunications, Hubei Wuhan 430074)

Abstract: H.323 and SIP is two main signaling's control protocols of current VOIP system. This paper is carry on by the protocol model and module characteristics to analyze in the system of VOIP each from implementation principle of calling control mechanism and typical call process . In addition, according to analyze current development trend of VOIP and focus problems for face, derivate the next generation VOIP protocol- H.325, and elaborate that the design thought and discussion its possible protocol stacks, analyzed VOIP system' solutions of security issues finally.

Keywords: Voice Over IP; H.323; SIP; H.325; Call Control; Security

基于DirectShow 的课件制作系统的设计实现

牛智明 张占军 郑伟

(装甲兵工程学院, 北京 100072)

摘要: 本文分析了DirectShow 的体系结构和流媒体采集和播放的关键技术。设计并实现了基于DirectShow 课件制作系统。通过对系统的分析,实现了系统的功能。实践证明, 该系统具有很好的效果, 可大大提高了国防远程教育效率。

关键词: 课件制作系统; 流媒体; DirectShow; 采集; 播放

Design and Realization of Courseware Creation System Based on DirectShow

Niu Zhiming Zhang Zhanjun Zheng Wei

(Academy of Armored Force Engineering , Beijing 100072)

Abstract : Architecture of DirectShow and general method of developing application based DirectShow are described. Several key technologies, such as Capturing and playing Streaming Media are emphasis. The Courseware Creation System based on DirectShow is designed and implemented. It is proved having good efforts by tests.

Keywords: Courseware Creation System; Streaming Media; DirectShow; capture; playing

基于802.11 无线mesh 网络多信道算法的改进

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摘要: 为了提高Mesh 网络的聚合容量, 充分利用无线资源, 多信道MAC 层协议的研究成为一种趋势。本文在基于802.11 多信道Hyacinth 结构与算法的基础上进行改进, 提出动态更新信道分配周期的算法, 通过仿真实验可以看出, 改进的算法提高了网络容量, 降低了时间影响。

关键字: mesh; Hyacinth 结构; 聚合容量; 负载均衡

An Improvement about Multi-Channel Algorithm on the Basis 802.11 Protocol in Mesh Networks

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Abstract: In order to increase the aggregate capacity of wireless mesh networks and make fully use of the wireless resources, multi-channel MAC is the trend of the research on MAC protocol. In this paper, we made an improvement on the basis of multi-channel Hyacinth structure and algorithm with 802.11 protocol, and presents a new algorithm to update channel assignment period adaptively. In the end, the simulation proves its true. The new

algorithm improves the networks goodput and drops the impact of time.

Keyword: mesh; Hyacinth structure; aggregate capacity; load-balancing

无线自组织网传播模型探讨*

吴价 毛玉明

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摘要: 立足于自由空间传播模型, 研究Egri 模型、Okumura 系列模型、Longley-Rice 模型, 分析它们各自应用的物理特性, 结合无线自组织网应用的地域特点, 比较上述各模型在郊区和山区的传播损耗, 选择适合无线自组织网的无线传播模型。

关键词: 自由空间模型; 传播损耗; Egri 模型; Okumura 模型; Okumura-Hata 模型; Cost231-Hata 模型; Longley-Rice 模型

Exploring MANET Radio Propagation Model

Wu Jia Mao Yuming

(NCL UESTC 610054)

Abstract: Starting with Free-Space propagation model, analyze typical radio propagation models such as Egri model, Okumura-Hata model, Longley-Rice model and Cost231-Hata model, find out their respective applied physical properties. Considering the specific terrain MANET apply, select a suitable MANET radio propagation model among them.

Keywords: Free-Space model; Transmission loss; Egri model; Okumura model; Okumura-Hata model; Cost231-Hata model; Longley-Rice model

MESH 结构OE 路由节点设计

蒋勇男 李玉柏

(电子科技大学通信学院 610054)

摘要: 本文主要介绍了NOC 网络设计的一种应用OE 模型来进行路由节点设计的MESH 结构, 路由节点设计

中通过OE 转弯模型来避免死锁的产生, 同时给出了资源评估比对。

关键字: OE 模型; 片上网络; MESH 结构

OE router design in MESH fabric

Jiang Yongnan Li Yubai

(University of Electronic Science and Technology of China 610054)

Abstract: In this paper ,we talk about OE router design in MESH fabric which is used in NOC design,we chose OE turn module to avoid the deadlock,also gives the resource report ,and compare with XY router arithmetic.

Keywords: OE module; NOC; MESH

Self-similar packet traffic and capacity performance in downlink

WCDMA networks

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Abstract: This paper presents the capacity performance study of a downlink wideband code division multiple access

(WCDMA) network system. The characteristics of the packet-switched data traffic simulating internet web browsing and

their effects on the capacity of downlink WCDMA network are investigated. The system level simulations are performed

using a model based on the release 4 configuration of the 3rd Generation Partnership Project technical specification. The

results indicate that the system capacity performance can be dramatically degraded by the self-similar properties of the data traffic.

Keywords: WCDMA; self-similar; capacity performance

基于WMPLS 的移动自组网组播路由协议研究与仿真

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摘要: 基于WMPLS (无线多协议标记交换) 协议体系, 结合移动自组网特点, 提出了一种采用WMPLS 技术

建立标记交换路径的移动自组网组播路由协议—WMAH 组播协议。然后对其进行了仿真分析, 仿真结果表明新

协议能发挥 WMPLS 技术的独特优势, 在一定程度上满足移动自组网组播应用对QoS (服务质量)、TE (流量

工程) 等方面的需要。

关键词: 移动自组网; 无线多协议标记交换; 组播

Research and Simulation on WMPLS-Based Multicast Routing

Protocol in MANET

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Abstract: Based on framework of Wireless Multi-Protocol Label Switching protocol and characteristic of Mobile Ad hoc

Network, a kind of multicast routing protocol-WMAH for MANET was proposed, it used extended CR-LDP signaling

protocol to establish Label Switched Path. The simulation results show that WMAH protocol can exert the particular

advantage of WMPLS and meet the needs for quality of service and traffic engineering of multicast applications in

MANET to some extend.

Keyword: MANET; WMPLS; Multicast

基于NS2 的MPLS 仿真研究和分析

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摘要: MPLS 被认为是下一代Internet 骨干网络平台。本文介绍了MPLS 的工作原理以及NS2 中的MPLS 仿真器。并且详细描述了未标签包和标签包在LSP 上的传输过程。它支持标签交换、LDP、CR-LDP 和不同的标签分发功能, 通过例子对仿真结果进行了评价和分析。

关键词: 多协议标记交换; 显式路由; 标签分配协议; NS2

MPLS Simulation Research and Trace Analysis Based on the NS2

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Abstract: MPLS is supposed to be the backbone network platform for the next generation Internet. This paper introduces the principle of MPLS and the MPLS simulator in NS2. And it describes how the unlabeled packets and the labeled packets act on the LSP. The MPLS simulator supports label swapping operation, LDP, CR-LDP and various sorts of label distribution function. Finally we evaluated and analysis the trace result by an MPLS example.

Keywords: MPLS(multi-protocol label switch); ER-LSP; LDP; NS2

浅谈“花生壳”在僵尸网络检测系统中的妙用

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摘要: 本文从僵尸网络的危害出发、简要介绍了僵尸网络检测系统之行为检测的工作原理与缺陷、并对“花生壳”软件做了必要的简单介绍, 据此提出了“花生壳”在僵尸网络检测系统中的应用。

关键词: 僵尸网络; 行为检测; “花生壳”; 动态IP; 静态IP

Discussing simply the Application of PeanutHull in the Botnet Detecting Program

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Abstract: Beginning with the harm of the Botnet, this article presents briefly the principle and the defects of the Behavior detection in the Botnet Detecting Program, including the simply introduction of PeanutHull. thus it shows the application of PeanutHull in the Botnet.Detecting Program.

Keywords: Botnet; Behavior detection; PeanutHull; Dynamic IP; Static IP

传送MPLS (T-MPLS) 体系的OAM 机制

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摘要: 传送多协议标签交换 (T-MPLS) 体系是目前传送网技术研究的热点之一。其中, 合理的OAM 机制是

保证服务质量的关键。本文在ITU-T、IEEE 等标准化组织近期的研究成果基础上, 介绍了T-MPLS OAM 功能定

义, OAM 帧格式, OAM 转发机制。最后指出T-MPLS 的 OAM 还有待于进一步研究。

关键词: 传送多协议标签交换; OAM; 性能监控; 运行管理

Operation&Maintenance mechanisms for T-MPLS layer networks

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Abstract: Transport MPLS(T-MPLS) is the keypoint in recent transport network technology study.

Appropriate

Operation&Maintenance mechanisms is the key to ensure the quality of service. The function definition of T-MPLS

OAM were introduced in this paper. And then the frame structure and

无线环境下TCP 协议的研究

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摘要: 本文首先概括性地介绍了传统的TCP 协议的拥塞控制算法, 接着重点阐述了无线环境下TCP 协议性能

改进的各种典型方案, 并重点提出了对Snoop 协议和延迟重传分组协议的理解, 最后对各种方案进行了综合性地

比较, 得出了要想得到性能良好的无线环境下的TCP 协议, 就必须是多种方案结合的结论。

关键词: 无线环境; 传输控制协议; Snoop 协议; 延迟重传分组协议; 分段连接

Research on TCP Protocol in the Wireless Environment

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Abstract: This paper introduces the congestion control mechanisms of traditional TCP protocol. Then accounts for the

schemes to improve the performance of wireless TCP and presents the comprehension of Snoop protocol and Delayed

Repeat Packet protocol. Finally, we gain the conclusion that it is necessary to combine several schemes for getting

desired wireless TCP.

Keywords: wireless environment; Transmission Control Protocol(TCP); Snoop protocol; Delayed Repeat Packet

protocol; split connection

基于NS2 的STP 协议故障恢复性能的仿真研究*

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摘要: 针对以太网在MAN/WAN 应用中的故障恢复性能研究,以NS2 为基础,设计并开发桥接局域网STP 协议

模块,以环网为例对网络性能进行仿真研究。经测试得出的故障恢复时间和STP 协议的30~50s 经验值吻合。

关键词: 生成树协议; 桥接局域网; 故障恢复; 仿真器开发

Study on Network Simulation for STP Failure Recovery

Performance Based on NS2

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Abstract: Aiming at the performance of failure recovery for Ethernet in applying for metropolitan area network and wide area network, a STP simulation module based on NS2 is designed and developed for Bridged LAN. A ring typed network has been taken as a case for testing the fault recovery time. The obtained simulation results show that the recovery time meets to the emperical value of STP:30~50 second.

Keywords: Spanning Tree Protocol; Bridged Local Area Network; Fault Resilient; Simulator development

一种基于IPv6 的新型P2P 网络模型的设计

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摘要: IPv6 作为下一代互联网的核心通信协议,具有许多IPv4 不可比拟的优势,它必然将逐步地代替IPv4。

P2P 网络是一种分布式网络,它具有高效资源共享、传输速度快、健壮性强、负载均衡等优点。本文提出了一种

基于IPv6 的新型P2P 网络模型,取消了在应用层上的逻辑虚拟网络(Overlay Network)。利用IPv6 的控制报

文协议ICMPv6,将P2P 网络部署在网络层。该方案有效地解决了Overlay 层和底层物理网络之间不匹配的问题,

能够提高P2P 网络的节点加入和退出的灵活性并且提高了资源的查找效率。

关键词: IPv6; P2P; Overlay

A New P2P Model Design Based on IPv6

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Abstract: IPv6 is the main technology of next generation Internet. It has many advantages that IPv4 incomparable and will replace IPv4 gradually. P2P network is a distributed network. It has many advantages too. Such as effective resource sharing, robustness and load balance. A new P2P network model based on IPv6 was presented in this paper, the virtual

network(Overlay Network) was cancelled on application layer. This model deployed P2P to the

network layer through
ICMPv6. The solution can solve the mismatching question between the Overlay and physical
network,also can enhance
P2P network efficiency of Resource Location and flexibility of nodes to join and leave network.

无线传感器网络中基于接收者的数据传输协议

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摘要: 无线传感器网络中由于节点的周期性休眠、失效等因素, 网络拓扑变化较为频繁, 数据通信面临着较大

的挑战。本文提出了一种基于接收者的数据传输协议RDF (Receiver-based Data Forwarding), 其特点是发送节点

不直接指定下一跳的转发节点, 而是由邻居节点根据自身状况按一定的规则参与转发权的竞争, 由竞争获胜的节

点来转发数据。RDF 协议具有通信开销低, 可靠性高的特点, 受节点休眠、失效等因素的影响较小, 具有很好

的鲁棒性和可扩展性。

关键字: 无线传感器网络; 数据传输协议; 转发优先度; 转发权竞争

Receiver-based Data Forwarding Protocol in Wireless Sensor Networks

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Abstract: Due to the periodical sleep and disability of nodes, the topology of the wireless sensor networks changes

frequently so the communication is confronted with great challenge. A Receiver based Data Forwarding Protocol (RDF)

is put forwarded in this paper. In this protocol, the sender don't appoint the special node to forward data in next hop,

however, it allows the receivers to content for the forwarding rights based on their own states. RDF possesses a lot of

advantages, such as low communication cost, high reliability and it can deal with the sleep and disability of nodes well.

Keywords: Wireless Sensor Networks; Data Forwarding Protocol; Forwarding Priority; Forwarding Right Contentio

基于MPLS 的网络拥塞问题研究与仿真

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摘要: 为解决由于UDP 业务数据的增加而出现的网络拥塞问题, 提出了基于MPLS(Multi-protocol Label

Switching) 的流量工程与QoS 相结合的解决方案, 它能很好地解决由于TCP/UDP 业务之间的不公平竞争网络带

宽资源而带来的问题。仿真结果表明, 这种方案能很好地分配与充分利用网络资源, 提高了网络服务质量。

关键词: 多协议标签交换; 网络拥塞; 流量工程; 服务质量

Research on Network Congestion Based on MPLS and Simulation

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Abstract: To solve the network congestion problems because of the increase of UDP traffic, a solution based on MPLS

traffic engineering and QoS scheme is brought forward, it can well solve the problem which is brought on when TCP

traffic and UDP traffic compete each other for the network resource. The simulation indicates that this solution can

distribute and make the best of the network resource well, it also improves the quality of service.

Keywords: MPLS; network congestion; traffic engineering; QoS

ASP.NET 2.0 新技术在IP 网络工程项目中的应用

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摘要: 我们公司负责河南省部分电力系统社区宽带网的接入和运营, 由于用户均为系统内职工, 所以在初期只

是采用静态IP 地址分配的方式来管理系统。随着网络规模的扩大和用户的增多, IP 地址盗用和未经许可私接用

户的现象逐渐增多。于是公司于2006 年初构建了出口网关认证系统。本文以此项目为案例, 重点讨论了在此认

证系统实施过程中, 如何利用ASP.NET 2.0 的新技术与认证产品相结合, 以便充分满足管理员和用户的需要。

我作为此次认证系统实施的技术人员, 参与了系统的技术选型、方案设计、需求分析、系统测试等工作。现

在该项目圆满完成, 得到领导和用户的一致好评。

关键词: ASP.NET2.0; 新技术; IP 网络工程

The appliance in IP network project by new technique of

ASP.NET 2.0

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Abstract: Our company takes charge of the connection and running of electric power community network in parts of

Henan province. According to most of customers are systemic workers, we adopted static IP address to run this system at

initial stages. As the extended scale of network and increased customs, the phenomenal of embezzled others IP address

and unlicensed users, had progressively increased. In early 2006, our company has build gateway authentication system.

This report would based by the project to mainly discuss, in the execution process, how to connect the new technique of

ASP.NET2.0 with authentication product, to fully meet the needs of administrators and customers.

As a technician of this authentication system, I took part in parts of select suitable types, needs analysis, testing systems, ect. Now we carrying this project to full completion, and received complimentary reviews with both leadership and customers.

Keywords: ASP.NET 2.0; new technique; IP network project

Ad Hoc 网络中的MAC 协议综述

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摘要: Ad Hoc 网络是一种不依赖于任何固定通信设施的无线移动节点的自组织系统。独有的灵活性使它在军用及民用和商业领域得到广泛的应用。MAC 协议是Ad hoc 网络的重点研究方向之一, 它体现了其技术挑战性和重要性。本文全面介绍了Ad Hoc 网中的各类MAC 协议, 分析了它们的优缺点。重点介绍了引入有向天线后的定向MAC 协议, 阐述了它的分类, 列举了一些改进方案。

关键词: Ad Hoc 网络; MAC 协议; 邻节点; 隐藏终端; 暴露终端

A Survey of Medium Access Control Protocols for Ad Hoc Network

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Abstract: Ad Hoc network is a self-organizing system of wireless mobile nodes that requires no fixed communication infrastructure. Its proper flexibility makes it very popular in military, civil and business application. As one of the important research directions, MAC protocol presents the challenge and importance of Ad Hoc network. This paper introduces various MAC protocols for Ad Hoc network comprehensively, analyzes their merits and shortcomings. Emphatically introduces the directional MAC protocols, elaborates its classification and some improvement projects.

Keywords: Ad Hoc network; MAC protocol; neighbor node; hidden terminal; exposure terminal

MEN 中以太网通用业务结构定义

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摘要: 本文定义了用于建立在城域以太网 (MEN) 承载的以太网业务上的被称为以太网业务类型的通用业务结构, 即点到点连接的称为以太网专线 (E-Line) 业务和多点到多点连接的称为以太网LAN (E-LAN) 业务。

然后详细说明了这些业务类型所包含的业务属性。最后介绍了在EPL 和EVPL 业务定义下, 在一个给定的UNI

上用户L2CP 帧的处理要求。

关键词: MEN; 以太网专线业务; 以太网LAN 业务; L2CP

Definition of Ethernet Generic Service Constructs in

MEN

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Abstract: This document defines two generic service constructs called Ethernet Service Types used to create Ethernet

services over a Metro Ethernet Network (MEN), which are specified as Ethernet Line (E-Line) Service type and Ethernet

LAN (E-LAN) Service type. Then, this document specifies the Ethernet Service Attributes that are used with the

different Ethernet Service Types. Finally, it also describes the requirements for the processing of a customer's Layer 2

Control Protocol (L2CP) frames on a given UNI for the EPL and EVPL service definitions.

Keywords: MEN; Ethernet Line Service; Ethernet LAN Service; L2CP.

基于Matlab 的FIR 数字滤波器的设计

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摘要: 滤波器设计是信号处理的核心问题之一, Matlab 软件在多个研究领域都有着广泛的应用。本文介绍了基

于Matlab 环境下, 用窗函数设计法实现FIR 数字滤波器的设计, 并给出实例, 说明了MAT-LAB 在数字信号处

理中的应用。

关键词: MATLAB; 数字信号处理; 窗函数; FIR 数字滤波器

IP 网运行指标与客户上网感知的关系

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摘要: 客户的互联网上网感知本身是一个非常复杂的问题, 涉及多方面的环节, 如计算机本身硬件配置、外线

质量、网络设备性能、互联网出口带宽、对方服务器等等。本文通过深入分析IP 网络运行指标, 探索运行指标

与客户上网感知之间的内在联系, 按照客户端不同的应用类型分别给出IP 城域网运行指标范围, 并对三项指标

时延、丢包率和抖动分别进行详细描述和定义, 提出网络综合运行指标SLA 概念。作者根据在互联网技术维护

一线十几年的实践经验, 在首次创造性地给出客户感知与网络运行指标之间的权重关系, 提出了改善城域网SLA

的三项措施, 为城域网络优化提供了思路。

关键词: 服务等级协议SLA; 网络运行指标; 客户感知; 时延; 抖动; 丢包率

基于用户名系统的下一代网络技术

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摘要: 本文首先分析了互联网发展的根本问题——七个主要缺陷, 和导致这些缺陷的根源——四个基本假设。

采用用户名系统以及相应的地址观念为基础, 提出了全新的下一代网络体系架构——通播网。本文提出了通播网

大三层细八层的网络架构模型。阐述了通播网的主要技术发明：UNS 及其映射结构，需求描述语言及通用业务

控制协议，超级IP 协议及转播网技术。本文清晰地分析了当前IPv6 体系结构的深刻问题，证明了IPv6 是一个

错误的、并且失败可能性极大的技术方向。

关键词：网络基本假设；用户名系统；UNS；通播网；需求描述语言；用户地址；逻辑地址；层区地址子层；通

用业务控制协议；超级IP 协议；转播网

Next Generation Network Technology Based on User Name System

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Abstract: This paper analyzes the basic problems of the Internet development - seven major defects, and the key cause of these shortcomings - four basic assumptions. The user name system and the corresponding concept for the foundation is

based on, we propose the brand-new next generation network system construction - Communicast network architecture.

This paper proposes the four basic assumptions of Communicast network, the three-tier network architecture and the eight

small tier in detail. We explain the main technical invention of the Communicast network: UNS and its structural mapping,

demand Description Language and its Generic control protocol, and the Super IP network and the technology of the

broadcast network. This Paper has analyzed the current profound problems of IPv6 architecture clearly, and strictly proved

that IPv6 is a completely wrong, the possible enormous technology direction which is defeated.

Keywords: Network Basic Assumptions; User names system; UNS; Communicast network; Demand Description

Language; User Address, Logical Address; the Sublayer of the Layer & Zone Address; Generic Control Protocol; the

Super IP Protocol; Relay and Multicast Network

防火墙业务整合及其应用

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摘要：由于移动公司业务的不不断扩大，外部业务系统的不断增加，核心BOSS 网络需开放很多的外部系统接口，

需要由防火墙来控制核心BOSS 网络内外业务系统之间的安全访问。本文阐述了对不同外部系统接入防火墙进行

整合的方案和实际部署案例，并对防火墙整合的收益进行了分析，为移动公司外部业务系统接入及相关网络建设

提供了一整套完备可用的解决方案。

关键词：防火墙；业务整合

The integration and application of the firewall business

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Abstract: Due to the constant expansion of the Mobile Corporation business territory and the external business system, it is increasingly demanding that more external system interfaces be supplied by the Key BOSS Network and the safety access in between external and internal systems of the Key BOSS Network be monitored by the firewall. In this article, we survey various proposals and their ensuing applications of interfacing the Firewall with the external systems, analyses thoroughly the benefit of Firewall integration and propose a whole package solution to integrating external business systems and constructing relative networks for the Mobile Corporation.

Keywords: firewall; business integration

基于MPLS 技术下服务保障的网络仿真分析

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摘要: 针对在局域网中应用MPLS 技术之后, 我们使用网络仿真能够得到网络性能改善相对准确的预测, 这在实际应用中用户在提高网络利用率的同时, 可以有效降低投资风险。本文简单介绍了MPLS 协议和网络仿真软件OPNET, 分析了在应用MPLS 技术的局域网中, 如何利用网络仿真手段得出数据流在通信中可以获得有保障传输的结论。

关键字: 多协议标记交换; OPNET; 转发等价类; 网络仿真

Simulation and Analysis of Guaranteed Service Based on MPLS

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2 North University for Ethnicities, Yinchuan 750021)

Abstract: When MPLS (MultiProtocol Label Switch) is applied to LAN, we need to forecast accurately whether the performance of Network is improved efficiently and the investment risk is depressed. Those are the real reasons why Network simulation is used. This paper introduces MPLS and Network simulation software OPENT, then analyses how to draw the conclusion about safe transmission of data information by use of Network simulation technology.

KeyWord: MPLS; OPNET; Forwarding Equivalence Class; Network simulation

综合宽带分合路平台的解决方案

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摘要: POI (综合宽带分合路平台) 系统是当前解决室内覆盖多种问题的最有效的方法之一。该系统将各路信号通过独立的端口接入, 混合后输出到相应分布系统的端口, 从而实现分布系统的共用。本文

重点分析了POI
系统的解决方案。
关键词: POI

The solution of POI (Point Of Interface)

Yanling runjie Tian Yuxing

Abstract: POI (Point Of Interface) is one of the most effective methods to resolve problem in building coverage. This system accesses the different signals through the respective port, mixes and sends them to relevant port. The process can realize the share of distributed system. This thesis mainly analyses the solution of the POI.

Keywords: POI

网络维护浅谈

陈泽宇 薛泉

(中国石油天然气管道通信电力工程总公司 065000)

摘要: 本文讨论了在安装、维护ADSL、VDSL 和局域网时可能会碰到的一些难题。

关键词: ADSL; VDSL; 局域网; 网卡; 交换机; 服务器; 工作站

Discussion of network maintenance

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(China Petroleum & Gas Pipeline Telecommunication & Electricity Engineering Corporation 065000)

Abstract: This text discusses some nuts to crack that may run into while install, supporting ADSL, VDSL and local area network.

Keywords: ADSL; VDSL; local area network; network adapter; switch; server; workstation

浅析搜索引擎

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摘要: 介绍了搜索引擎的概念、分类、原理、组成结构、基本工作方式和流程, 对现今搜索引擎中所使用的技

术进行初步的比较和分析, 并对将来的研究方向进行了展望。

关键词: 搜索引擎; 检索; 索引

The Analysis of Search engine

Peng Ke Liao Wenjian

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Abstract: In this paper, we illustrate the basic concepts, category, principle and architecture of the search engines. Then search engines' technology which was used nowadays will be compared and analyzed. And a prospect to the future study will be made at last.

Keywords: Search engine; Search; index.

家庭网关中的UPnP NAT 技术

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概述: 文章介绍了家庭网关的概念、UPnP 技术和NAT 技术,并针对目前家庭网关设备中NAT 技术使用导致

的问题进行了说明,并详细介绍了支持UPnP 技术的NAT Traversal 解决方案。

关键字: 家庭网关; UPnP; NAT

UPnP NAT Technology in Home Gateway

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Abstract: In this paper, the conception of home gateway 、UPnP and NAT technology have been introduced.And

Describes the problems that are caused by NAT technology in home gateway device.Finally , the solution proposal of

NAT Traversal based on UPnP technology is presented.

Keywords: Home gateway; UPnP; NAT

基于VPN 的安全网络平台的研究和设计

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摘要: 文章介绍了VPN 技术以及应用; 分析了IPSecVPN 和SSLVPN 的技术特点; 结合OpenVPN 技术, 详

细讨论了如何在Linux 系统中实现VPN 的级联, 构建一个安全的网络。

关键词: 虚拟专用网; OpenVPN; 网络平台; 级联

The Research and Design of Secure Network platform based on VPN

Hu Jiang Tang Kun

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Abstract: This paper presents the technology and application of VPN,then gives the analysis and comparison between

the IPSecVPN and SSLVPN,lastly,focuses on how to make use of OpenVPN to construct secure network platform。

Keywords: VPN; OpenVPN; network; platform; cascade

一种无环四的LDPC 码Gallager 校验矩阵改进*

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² 深圳市睿初科技有限公司, 广东 深圳 518057, 中国)

摘要: 本文对LDPC 码创始人Gallager 所提出的LDPC 码校验矩阵的构造方法进行分析, 提出了一种改进的

Gallager 校验矩阵生成方法。该方法可以避免码中环四的出现, 给出了改进Gallager 校构矩阵构造法, 可以避免

了环4 的出现。我们还给出了一种检查环四存在性的新算法, 并使用该算法验证了我们改进方法的正确性。

关键词: 低密度奇偶校验码; 环四; 校验矩阵

An Improvement on Gallager Check Matrix of LDPC

Code without Cycle Four

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Abstract: After an analysis of the generating method of check matrix proposed by Gallager who is the founder of LDPC

code, we give an improved method which can avoid the occurrence of cycle four. Moreover, a new algorithm is

presented to determine the existence of cycle four and is finally utilized to verify the correctness of our improved method.

Keywords: Low Density Parity Code; Cycle Four; Check Matrix

基于多核处理器的NAT-PT 的软件架构的研究

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摘要: 随着网络的发展, 多核处理器被广泛的设计进了各种网络设备。基于多核处理器的软件架构与实现都变

为极为复杂, 我们结合多核技术着重研究软件架构的控制平面和数据平面分层结构, 分析和讨论了IP 网络中关

键的NAT-PT 设计实现, 实现对多核处理器的性能和功能的完整实现。

关键词: NAT-PT; 多核处理器; 数据平面; 快速路径

Research for NAT-PT Software Architecture on Multi-core Processors

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Abstract: With the network development, multi-core processors is targeted for use in a wide variety of networking

equipment. It is a significant technical challenge to provide reliable high-performance and universal software

architecture based on multi-core processors. The paper will give the outline of design and challenges which a designer

may face while designing high performance NAT-PT system using multi-core processors. Several key problems as well

as the control/data plane, fast/slow path, are analyzed and discussed.

Keyword: NAT-PT; multi-core processors; data plane; fast path

互联网网间流量结算模型研究

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摘要: 网络商业化应用以来, 网间结算问题一直是国际互联网互联及发展中的重要课题。网间结算应当充分考

虑互连各方的运营成本, 因此网络间传递的通信流量大小已逐渐成为结算的主要依据。本文以此为研究目的, 提

出基于自治系统关系的网间流量结算模型。同时为适应网络区分服务的发展需要，我们对该模型进行扩展，提出

基于标准类型流的结算模型。

关键词： 邮电通信管理工程；流量模型；自治系统；边界网关协议

Studies of flow-based settlement Models on the Internet

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Abstract: Networks settlement has been becoming an important issue on International Internet Connectivity (IIC), since networks were broadly used for business. Operational costs should be sufficiently taken into consideration for both sides of connectivity, which makes the exchanged traffic flow volume be one main element. This paper, for purpose of advancing the theory, provides a flow-based settlement model that is based upon autonomy system relationship.

Moreover, in order to satisfy the demand of differ-service networks in future, the model is expanded, and moreover another standard type flow-based model is inferred.

Keywords: engineering of posts and telecommunications management; flow-based settlement models; Autonomy System; Border Gateway Protocol

谈BCCH 与TCH 载频故障对网络性能的不同影响

史琳

(河北全通通信有限公司)

摘要： 本文描述了BCCH 载频、TCH 载频出现故障后，分别会对网络性能造成哪些影响。

关键词： BCCH 载频；TCH 载频；BCCH 信道；FCCH 信道；SCH 信道；CCCH 信道；PCH 信道；RACH 信道；AGCH 信道

different EFFECTION WITH tch and bcch hitch

Shi Lin

(Hebei QuanTong Communication LTD,Co. ,Network Optimize Department)

Abstract: This thesis describe the different effection with tch and bcch hitch

Keywords: BCCH carrier; TCH carrier; BCCHchannel; FCCH channel; SCH channel; CCCH channel; PCH channel; RACH channel; AGCH channel

光纤通信网络链形自愈保护系统的研究与实现

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(辽宁省沈阳市东北大学软件学院 110004)

摘要： 本文根据当前军队光纤通信网络现状及其现存问题，给出了一套提高网络生存性能力的解决方案，并依

据此方案设计并实现了链形自愈保护系统，并根据事先设定的自愈逻辑产生控制切换指令和其他一些系统需要的性能信息。

关键词：网络自愈；光通信网络；开销

The Research and Implementation of Chain Optical Fiber

Communication Self-Healing System

Zhu Zhiliang Song Jingping Yu Hai Jiang Linying

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Abstract: This paper brings forward a kind of solve scheme of improving network survivability, mainly based on problems of present military optical fiber communication network, designing and implementing Chain Optical Fiber

Communication Self-Healing System. The system can acquire real-time the alarm and function message, which will come into being controlling exchange ordering and other message.

Keywords: network self-healing; optical fiber communication network; overhead

PON 系统的保护方案

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摘要: 本文介绍了PON 系统常见的A、B、C、D 四类保护方案，并比较了它们的优、缺点。并在此基础上提出了改进的E 类保护方案。E 类保护方案对OLT 采用了X+1 备份，即X 台OLT 共享一台备用OLT。任何一台OLT 出现问题，数据都可以通过X×1 和1×X 光开关被倒换到备用OLT 上。这比B、C、D 类的1+1OLT 保护方案大大的节约了保护成本。E 类保护方案还对常规的ONU 进行了改进，改进后的两个ONU 可以通过一根备用光纤连接。当其中任何一个ODN 到ONU 的光纤出现故障时，光开关将选路到备用光线上，通过与其相连的ONU 转发数据，这样就可以保护ODN 到ONU 之间的光纤。E 类保护方案相比C 类、D 类更加经济、实用。

关键词: 无源光网络；保护；E 类保护方案

The Protection Schemes in PON System

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Abstract: In this paper, four kinds of protection schemes in PON system are introduced. Their advantages and disadvantages are compared. The improve protection scheme named tape E is provided. The X +1 backup protection scheme is used to protect OLT in scheme tape E, which is X OLT share one backup OLT. When any one of OLT is failure, the data will be switched to the backup OLT using the X×1 and 1×X optical switches. In this way, the cost of protection is much cheaper than in the tape B, C and D which use 1+1 OLT protection scheme. In scheme tape E, the normal ONU is improved so that two improved ONU can connect with a backup optical fiber. When any one of optical fiber which

connects between ODN and ONU is failure, optical switch will select to backup optical fiber and use connected ONU to transmit data. In this way, we can protect the optical fiber between ODN and ONU. Compare to tape C and tape D, protection scheme tape E is more inexpensive and utility.

Keywords: passive optical network (PON); protection; protection scheme of tape E

基于Distributed binning 策略的CDN 负载均衡技术

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摘要: 负载均衡是内容分发网络CDN (content distribution network) 的四大要件之一。但目前的CDN 负载均

衡技术只强调在服务器之间均匀地分配负载, 而并没有充分利用文件访问的历史信息以及网络拓扑信息, 因而用

户请求内容得不到及时响应。针对这一问题, 本文提出一种基于Distributed binning 策略的负载均衡算法, 该算

法利用服务器上客户集群拓扑信息的文件访问历史记录, 对文件的“冷热”程度进行分析, 有效地完成对“热”

文件内容分发; 并利用客户端提供的拓扑信息以及服务器提供的拓扑信息和负载, 有效地完成内容的路由。使用

户可以就近取得所需的内容, 缓解Internet 网络拥挤的状况, 提高用户访问网站的响应速度。

关键词: CDN; distributed binning 策略; 历史记录

The load balancing of CDN based on Distributed binning

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2 Institute of Graphics and Image, HangZhou Dianzi University 310018)

Abstract: The technology of load balancing is one of four key components with CDN. But the existing load balancing

technologies emphasize too much on distributing load evenly among servers, and not make the best of the network

topological information and the historical information of file accessed. So the content requested by users cannot be

acquired in time. To solve the above problem, this paper present a load balancing algorithm which effectively completes

distributing network contents. Through analyzing the popularity of files with the access history of the clusters of clients

from the servers, it effectively distributes the files of high popularity among servers. Besides it make use of the

topological information offered by the clients and the topological information of the servers to eventually realize the

content routing. Eventually it can makes users closely get their requested content , relieve the congestion situation in the

internet and then enhance the speed of response when users accessing websites .

Keywords: CDN; distributed binning strategy; history record

面向对象思想在客服网络优化改造中的设计、规划与实施

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摘要: 本文在基于对客服系统原有网络分析的基础上, 针对客服网络需达到规范性、安全性、可用性和有效性的需求与目的, 提出了相应的方案设计、规划, 并以功能、数据、接口为三部分进行应用逻辑和物理拓扑的划分, 在整个网络架构中体现了一定的面向对象的安全封装、可重用和可扩展思想。最终通过该优化改造方案的实施, 使得整个客服网络的功能和性能都得到了有效地提高和改进。

关键字: 客户服务系统; 网络; 面向对象; 防火墙

Chai Kai

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Abstract: On the basis of forthcoming network architecture of custom service system, we creatively use the object oriented conception. Through the applying of the improvemental scheme, the CCS make a great progress in the end.

Keywords: Custom Service System; Network; Object Oriented; Firewall

自动统计海光缆故障中断电路计算实现

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摘要: 海底光缆通信传输系统承载了大部分的国际通信业务, 因此每次故障都会造成大量业务中断。由于国际业务运维的重要性和高成本性, 尽快获得故障中断电路的具体情况, 进行业务恢复对于各大运营商十分重要。本文主要分析海光缆系统的维护特点, 深入研究海光缆系统作为4F-MSPRING (Trans-oceanic) 环境保护传输网络的自愈功能, 以ITU-T G.841 建议为基础, 结合现场业务维护的迫切需求, 对利用算法自动统计因海光缆故障造成中断的电路的可行性进行分析, 并重点讨论了该算法的具体实现。

关键词: 4F-MSPRING; APS; NPE; RINGMAP; 电路模型; 段落模型

Realization of automatically computing traffics interrupted by the fault of Submarine sea cable system

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Abstract: Submarine sea cable system is a communication transmission system that carries most of the international communication services. Therefore, each fault occurs in the system causes severe services interruption. Due to high cost and great importance of the maintenance of international services, it's the first prior for these major carriers to understand the situation that how many traffics are broken, by which they can implement their restoration schedule. This paper analyzes the characteristics of sea cable system maintenance, studies the self-heal function based on 4F-MSPRING

(Trans-oceanic protocol) and then makes an analysis on the possibility of designing an algorithm which is able to automatically compute the traffics interrupted by sea cable system. Then this article introduces the algorithm in detail.

Keywords: 4F-MSPRING; APS; NPE; RINGMAP; Path Model; Segment Model

论合理无线网络利用率取值及其应用

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摘要: 本文通过对大量统计数据进行分析,提出了合理无线网络利用率的定义,导出了相应的近似公式,并分析

了其误差的范围,最后介绍了合理无线网络利用率的适用范围和应用情况。

关键词: 合理无线网络利用率; 近似公式; 实际无线网络利用率; 平均每小区话务量; 小区忙时不均衡系数; 无

线网络超载率

The best Value and Utility for Ideal Utilization Rate of Radio Network

Xue Yongbei

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Abstract: Basing on analysis of a great deal traffic data from running network,The author bring forward the concept and approximately formula for Ideal Utilization Rate of Radio Network, then analyze the error scope about the

approximately formula. In the end, holding true scope and utility for ideal utilization rate of radio network is discussed.

Keywords: Ideal Utilization Rate of Radio Network; Approximately Formula; Factual Utilization Rate of Radio

Network; Average Traffic of Every Cell; Nonsynchronization Factor about busy Hour of Cells; Over Loading Rate of Radio Network

一种固定用户接入IMS 网络的漫游控制方案

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摘要: 3GPP 对移动用户接入IMS 的漫游控制有明确的规定,但对于固定用户接入IMS 的漫游控制,目前还

缺乏标准的支持。本文针对固定接入IMS 的组网方式,给出了一种对固定用户进行漫游控制的方案。

关键词: IP 多媒体子系统; 漫游控制; 固定接入; 会话边界控制

A scheme of roaming control of fixed IMS user

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Abstract: There is explicit specification for roaming control of mobile user accessing IMS. But there is no specification

support for roaming control of fixed IMS user. A new scheme of roaming control of fixed IMS user for a specific network deployment in this paper.

Keywords: IP Multimedia Subsystem; roaming control; fixed access; Session Border Control

基于Stackelberg 的域间网络资源配置研究*

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摘要: 当今因特网由无数服务提供商 (ISP) 组成。由于商业利益的驱使, 每个ISP 在网络中的表现都是自

私的, 其目的是自身网络利益最大化。基于这种特殊的域间关系, 文章使用博弈论中的

Stackelberg 理论对自治

域间的网络资源分配问题进行了建模及分析, 提出了一套新颖的资源框架模型。并证明此框架结构不仅是纳什均

衡的, 而且也是帕累托最优。最后, 将激励兼容机制引入最大最小公平算法, 提出改进的分布式资源分配算法—

—MMFA 算法。

关键词: 自治域; stackelberg; 分布式; 纳什均衡; 帕累托最优

Cooperative Inter-Domain Distributed Resource Allocation Using Stackelberg Game

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Abstract: Multiprovider inter-domain resource allocation can be modeled using game theory, since the ISPs act as selfish

agents always trying to maximize their revenues. In this paper, we present a new distributive resource allocation

framework based on the concept of Stackelberg game theory and dual decomposition. We show that the hierarchy

structure game jointly achieve the global optimization through distributed method without any sensitive internal

information revealed (such as network topology or self utilities). Under the scheme, we suggest a scalable algorithm for

ISPs to implement its policy in a distributed way. And more importantly, our approach is provably Fair and

Pareto-efficient. Our scheme and application of game theory between ISPs provides a new, promising direction in

distributed algorithmic design, which has heretofore been focused mainly on multicast and ad-hoc network.

Keywords: inter-domain; stackelberg game; distributive; nash-equilibrium; pareto-efficient

SIP 协议在IPv6 中的应用研究*

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摘要: 随着下一代互联网 (CNGI) 在我国的建成和使用, 研究基于IPv6 上的各种应用具有极

为迫切的现实意

义，视频应用是下一代互联网的杀手级应用之一。为了研究视频在下一代互联网中应用，本文提出了一种在纯IPv6

环境下基于SIP协议的多级视频传输应用系统，此系统可有效减少视频传输量，节省网络带宽，本文还利用JAIN

SIP API 和Java Media Framework for RTP 实现了该系统。

关键词：SIP 协议；IPv6；JAIN SIP；JMF for RTP；视频传输；组播服务器

The application research of SIP protocol in IPv6

Zhang Peng Fu Guangxuan

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Abstract: With the establishing and usage of the next Internet (CNGI) in our country, researching on every application

on IPv6 has extremely urgent practical or immediate significance, video application is very important in the . The

paper brings forward one transferring application system in pure IPv6 environment on the base of SIP agreement for

video, this system but effective decreases video transfer amounts, saves the network bandwidth, the paper also use of

JAIN SIP API and Java Media Framework for RTP to realized this system.

Keywords: SIP protocol; IPv6; JAIN SIP; JMF for RTP; video transmitting; multicast server

基于开放式API 的下一代军事网络管理系统研究

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摘要: 本文在分析了下一代网络(NGN)对军事网络管理的总体需求的基础之上，提出了一种基于NETCONF

协议的下一代军事网络应用编程接口(API)技术，并阐述了这种开放式API技术的整体框架及其关键技术。并

在此基础上，提出了下一代军事网络管理系统模型并对其进行了评估验证，结果表明该模型能够极大地提高网络

自动化配置程度，同时也显著降低了网络管理者的工作负载。

关键词：军事网络；网络管理；应用编程接口

Design of the Next Generation Military Network

Management

System based on NETCONF

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Abstract: This paper presents the requirement of the military network management on the next generation network

environment, and suggests a NETCONF-based application program interface(API) technology for military network, and

it also discusses the architecture and technology of the API. Based on this discussion, it gives a military network

management system model for the next generation network and evaluated its effectiveness. The result presents that this

system improves the network configuration automatization,at the same time,it remarkably reduces the workload of

network management.

Keywords: military network; network management; API

认知无线电ad hoc 网络的跨层设计

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摘要: 本文在介绍认知无线电之后,主要探讨了认知无线电ad hoc 网络的特征和跨层设计需求,展现了跨层

设计在认知无线电ad hoc 网络设计中的必要性和重要性,最后分析了跨层设计中的一些细节问题。

关键字: 认知无线电; ad hoc 网络; 跨层设计

Cross-layer design of Cognitive Radio ad hoc network

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Abstract: After introducing Cognitive Radio, we talk about the characters of Cognitive Radio ad hoc network and the

requirement of cross-layer design, so you can see how necessary and how important of cross-layer design for it. In the

end, we give some details about cross-layer designs.

Keywords: Cognitive Radio; ad hoc network; cross-layer design

多接口多信道无线ad-hoc 网络的广播研究

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摘要: 在多接口多信道无线网络中,每个节点可以装备多个天线,并利用不同的信道进行通讯,这给广播问题

带来了新的挑战。本文结合多接口多信道技术的特点,在考虑冲突避免问题的同时,给出了一种构造最小冗余广

播树的分布式算法。模拟实验结果证明了该算法的有效性。

关键字: 广播; 多接口多信道; 冗余

Broadcast in multi radio multi channel wireless ad-hoc network

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Abstraction: In multi radio multi channel wireless network, each node can equipped with multiple radios tuned to

multiple channels. This brings a new challenge to the broadcast problem, which was mostly studied in the single channel

wireless networks. In this paper, the approach gives a algorithm for the broadcast tree construction, considering both

minimal redundancy and collision-free. Simulation results show the effectiveness of the approach

Keyword: broadcast; multi radio; multi channel; redundancy

流媒体ad hoc 网络的路由与速率联合优化研究

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(武汉邮电科学研究院 430070)

摘要: 由于ad hoc 网络的特殊性, 所以基于ad hoc 网络传输流媒体给目前的研究带来许多挑战, 学术界都倾向于跨层联合设计。本文就是在这样的背景下, 结合考虑路由选择和速率分配, 以阻塞和失真为衡量尺度, 从而对流媒体ad hoc 网络的优化进行分析和推导, 提出了一种分布式控制方法。最后, 我们展现了仿真的过程和结论。

关键词: 流媒体; ad hoc 网络; 联合设计; 多路径路由

A jointly design of routing and rate allocation for streaming video ad hoc networks

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Abstract: because of ad hoc networks' speciality, the study of transferring streaming video on it is very challenging.

Many people in Academe think the cross-layer designing is necessary. Under this background, we have a try to study the jointly allocation of multi-path routing and data rate. We choose network congestion and video distortion as the metrics,

analyze and deduce with formulates. In the end, we verify our theory by simulating using NS-2.

Keywords: streaming video, ad hoc networks, jointly design, multi-path routing

IP over ASON 双层网络保护恢复机制研究

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摘要: 自动交换光网络(ASON)是当前光传输领域的研究热点, 其中保护恢复机制是增强网络生存性的关键。

首先介绍了ASON 中保护和恢复机制及各自的特点, 分析讨论了ASON 与IP 网络进行保护恢复的优势, 从而提

出IP over ASON 双层网络保护恢复机制并简要分析了该机制的优势, 为未来网络的健壮发展奠定理论基础。

关键词: 自动交换光网络; 保护恢复; IP over ASON; 双层保护恢复机制

Study on IP over ASON double-layer protection and restoration mechanism

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Abstract: Presently, ASON is the research hotspot in optical transportation network, in which protection and restoration

mechanism is the crucial problem to enhance network survivability. Firstly, the characteristic of protection and

restoration in ASON is introduced. A detail analysis and discussion about the advantage is given between the IP and

ASON in protection and restoration. Then the paper puts forward a mechanism about IP over ASON

double-layer

protection and restoration. Finally it analyzes the advantage briefly. It will establish theory basic for
hale development of
future network.

Keywords: automatically switched optical network; protection and restoration;IP over ASON;
double-layer protection

and restoration mechanism

搜索竞价排名算法分析

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摘要: 随着全球网络搜索引擎领域的快速发展,用户数不断增长,受关注度显著提高,近年来,
各大搜索引擎

公司如google、yahoo、baidu 等均推出了搜索竞价排名产品,简单地说就是商家(广告主)通
过竞拍的方式,用

户在搜索其购买的相应“关键词”(keyword)时使其网站获得更好的展现位置,从而达到推广和
宣传的目的。本

文主要在原始的竞价算法基础上,通过现在网络系统中对QoS(服务质量)概念引申,引入CQL(广
告质量的概念),

并设计新的竞价算法,目的是将综合质量更好的竞价条目排在前面,从而提升搜索结果的相关
度和用户感受,又

为商家和网站带来更大的收益,实现双赢。

关键词: 搜索引擎; 竞价排名; keyword; QoS; CQL

PPC Search Algorithm Analysis

Liu bo

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Abstract: With the rapid development of global Internet search engine, the growing number of users,it
is more and more

concerned.In recent years,In recent years, major search engine companies such as Google,Yahoo and
baidu have all

introduced the online keyword advertising auction products which we can call it "PPC". In simple
terms, it is business

(advertisers) through the auction , then users in search of its purchase of the "Keywords" (keyword),
the web site belongs

to advertisers to better display location,aimed at promoting and publicizing.This paper mainly in the
original bidding

algorithm based on the system through the network now QoS (quality of service) extend the
concept,with introduce CQL

(the concept of advertising quality), and design the new bidding algorithm, the aim was to better the
quality of the

comprehensive competitive entry standing in the front, so as to enhance the relevance of search results
and user

experience, and to bring more businesses and Web sites the proceeds from the realization of a win-win
situation.

Keywords: SearchEngine; PPC; keyword; QoS; CQL

IP 网优化评估系统

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摘要: IP 网是实现各种互联网业务的物理平台, 随着技术的不断发展以及宽带用户的快速增长, 网规模越来越大, 设备的类型也日趋复杂多样。同时, 随着互联网应用的进一步多样化, 这些新的应用不但对网络的带宽要求高, 对网络质量也提出了更高的要求。要解决目前存在的问题, 提升网络性能, 使之能满足各种新业务的要求, 必须先对IP 网性能进行综合评估, 再根据评估的结果进行网络优化。
关键词: IP 网; 拓扑结构; 软件结构; 评估

IP Broadband Networking Optimization Support System

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Abstract: IP network is to achieve all the physical platform of the Internet business, with the constant development of technology and the rapid growth of broadband users, a growing network size, the type of equipment has become increasingly complicated and diverse. At the same time, with the further diversification of Internet applications, these new applications of the network are not only the high bandwidth requirements for network quality to a higher demand. In order to solve an existing of these problems, and enhance the performance of the network and satisfy the new business requirements, the IP network must first be a comprehensive evaluation of the network performance and then, according to the results of the evaluation to optimize the network equipments.

Keywords: IP network; Topology; structure Software; structure; Evaluation

浅谈流媒体关键技术

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摘要: Internet 的迅猛发展和普及使流媒体技术广泛应用于互联网信息服务的方方面面, 对人们的生活产生了深远的影响。本文介绍了流媒体技术背景、发展现状和应用前景, 对流媒体关键技术进行分类, 并对涉及的关键技术如数据压缩/解压缩、传输协议和数字版权管理进行了介绍, 最后对于流媒体关键技术在IPTV 业务中的应用做了简要分析。

关键词: 流媒体、数据压缩/解压缩、RTP、RTSP、RSVP、DRM

Discussion of Streaming Media Key Technologies

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Abstract: With the rapid development and universal of Internet, streaming media technology is widely used in all aspects of the Internet information service and a profound impact has had on people's work and life. This paper introduces the streaming media technical background, the development status and application prospects. It makes

classification for streaming media, introduces some key technologies such as data compression/decompression, transmission protocol and digital rights management, and finally makes a brief analysis of the key technology for streaming media in IPTV application service.

Keywords: Streaming Media、Data compression/decompression、RTP、RTSP、RSVP、DRM

基于MPLS 的HMIPv6 网络体系结构及其全融合微移动性管理方案的研究

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摘要: 移动IPv6 为未来的全球移动互联提供了技术支持, MPLS 可以提供高速转发能力和极大的可扩展性。

基于MPLS 的层次移动IP 网络将两种技术相结合, 通过区域注册和LSP 重建, 减小了切换时延和信令开销, 允

许用户频繁无缝移动。本文首先给出了基于MPLS 的HMIPv6 网络的体系结构, 然后针对现有的移动IP 与多协

议标签交换(MPLS)融合方案存在建立标签交换路径(LSP)所需时延大、信令冗余多等问题, 提出了一种新

型的全融合微移动性管理方案, 并初步分析了LSP 建立的过程。

关键词: HMIPv6; MPLS; 移动互联; 体系结构

The Research for Architecture and Full-Ysyncretize Micro-Mobility Management of HMIPv6 Network Based on Mpls

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Abstract: Mobility IP6 supports a technology for the future global inter-connecting. MPLS has ability of high

forwarding and high scalability. based on MPLS,the HMIP6 networks which integrates the two technology, by region

register and LSP re-building, decrease the handoff time delay and signal spending and make the user move seamlessly.To

do this,the paper firstly depicts the corresponding the HMIPv6 network architecture,which is based the MPLS.Then,

aimed at some existent problem for the current scheme,the paper brings forward a new fully-syncretized scheme

which is based on the HMIP6 and MPLS and analyses the building the lsp process simply.

Keywords: HMIPv6; MPLS; mobile inter-connected; architecture

全IP 移动网络中基于信令预测的动态资源预留

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摘要: 无线移动网络中的QoS 是最近的研究热点之一, 其中资源预留协议(Resource Reservation Protocol, RSVP)

是一个关键技术。为了提供更多的服务，蜂窝在变小，这样切换更频繁了。为了保证切换时的QoS，需要进行资源预留。当有多个移动主机需要进行预留时，就需要对它们进行优先级排序。本文提出一种在全IP移动网络中

基于信令预测优先级排队的动态排序算法，以有效地对多个移动主机进行资源预留。

关键字：资源预留协议；切换；信令预测优先级排队；全IP移动网络

Dynamic Resource Reservation Ordering Based on Signal

Prediction Priority Queuing in All-IP Mobile Networks

Zhao Yue Gao Shikun Zhao Linliang Wang Guangxing

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Abstract: QoS in wireless mobile network is one of the hottest topics recently, while RSVP protocol is a key technology.

The cell is becoming smaller to provide more service, making handoff more frequent. It is necessary to reserve resource

to guarantee QoS during handoff. Moreover, priority ordering is important when many mobile hosts need to reserve

resource. This paper presents a dynamic ordering algorithm based on signal prediction priority queuing (SPPQ) to

efficiently reserve resource for many mobile hosts.

Keywords: resource reservation protocol (RSVP); handoff; signal prediction priority queuing; all-IP mobile networks

多服务器传输SIP 消息的负载均衡策略的研究

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摘要：在下一代的通用移动通信系统(UMTS)的IP多媒体子系统(IMS)中，3GPP将使用会话初始化协议(SIP)

作为会话信号的传输协议。在这样的网络架构之下，某些关键节点需要在传输层级别上处理大量的SIP消息。本

文提出了SIP消息传输负载均衡策略，该策略可以处理SIP消息的路由和用户分配，同时针对现有的连续散列路

由提供在消息传输过程中出现的路由拥塞处理。本策略的核心是避免拥塞而不是处理拥塞。

关键词：SIP；IMS；过载；消息路由；用户分配

Study on A SIP Message Overload Transfer Scheme On

MultiServer

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Abstract: As SIP is more and more used by 3GPP in IMS network of UMTS as a session signaling protocol, certain

nodes on the signaling layer have to process a large number of SIP message. Chances are that disruption may be caused

in them by extremely high volume of message. This paper introduces a concept for SIP Message Overload Transfer

Scheme, and the Scheme can dispose SIP message routing and user assignment, synchronously it can provide routing congestion disposal during message transfer in allusion to continuous incompact routing. The core of the Scheme is to avoid congestion rather than dispose congestion.

Keyword: SIP; IMS; overload; message routing; user assignment

IPTV-CDN 网络的构建

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摘要: 在IPTV 视频点播网络的构建中, 为了确保QoS, 往往采用CDN 的组网技术。但在传统的CDN

网络中, 采用的是基于C/S 结构的内容分发技术, 针对这种技术对于IPTV 视频点播网络的不适合性, 本文提出

了一种适合于提供IPTV 视频点播服务的CDN 网络架构——IPTV-CDN 网络。实践表明, 本IPTV-CDN 网络有

着广阔的应用前景。

关键词: IPTV; 视频点播; 内容分发

IPTV-CDN networking

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Abstract: In order to ensure the quality of service in IPTV VOD network, content delivery network (CDN) is usually

adopted in networking. In the traditional CDN, the content delivery technology is based on the Client/Server framework,

which is not fit to IPTV VOD network. So a novel CDN network architecture — IPTV-CDN network was proposed in

this paper to provide better IPTV VOD service. Practices showed that the IPTV-CDN network

proposed in the paper was promising for application.

Keywords: IPTV; video on demand; content delivery

网络智能化改造与支撑系统配套建设的探讨

燕继红

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摘要: 随着通信市场竞争的日趋激烈, 为了企业的可持续发展, 固定电话运营商网络转型势在必行, 网络智能

化改造是固网转型的重要措施。本文重点分析了固定电话运营商网络智能化改造对支撑系统建设的影响, 明确

了支撑系统改造的目标和原则, 探讨了具体的改造方案。

关键词: 通信网络; 信息化; 改造

无线局域网入侵检测系统研究

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摘要: 随着无线局域网技术的发展, 安全性问题成为大家关注的焦点问题。受无线网络自身的特点限制, 所面

临的安全威胁除了以往有线网络上的传统威胁外, 还有其特有的安全威胁。本文通过对无线局

域网的简要分析，

提出了用无线入侵检测系统来保护无线局域网的安全。重点对无线入侵检测系统的特点进行了分析。并在此基础

上提出了一种基于协作代理的分布式入侵检测系统。

关键字：WLAN；无线传感器；频道扫描；协作代理

The Research of Wireless LAN Intrusion Detection System

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Abstract: With the development of Wireless LAN technology, security becomes a important issue.

Taking account of the

characteristic of Wireless LAN, except of the familiar risk of network, Wireless LAN is faced with special risk. After

brief analyse of WLAN, we suggests to protect Wireless LAN with WIDS(wireless lan intrusion detection system). We

analyse the trait of WIDS in the paper and design the distribution IDS based on cooperation-vicegerency.

Keyword: WLAN; Wireless-sensor; channel scanning; cooperation-vicegerency

BAS 在IP 城域网中的应用及发展趋势

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摘要: 本文根据城域网建设发展过程中的实际情况，分析BAS 在城域网建设过程中的不同模式，重点阐述在

现阶段BAS 的应用，提出BAS 在网络中的调整思路，并对其发展趋势做一展望。

关键词: BAS；城域网；DSLAM；LAN；SR

Application and development tendency of BAS in IP MAN

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Abstract: This article describes the analysis of different modes of BAS in the construction of MAN with respect to the

real circumstances of the development of MAN. It highlights the application of BAS at current state.

The ideas of

adjusting BAS in MAN are suggested and the general development direction is pictured.

Keywords: BAS; MAN; DSLAM; LAN; SR