《UNIX操作系统》

图书基本信息

书名：《UNIX操作系统》

13位ISBN编号：9787040319071

10位ISBN编号：7040319071

出版时间：2011-4

出版社：刘玉坤 高等教育出版社 (2011-04出版)

页数：368

《UNIX操作系统》

内容概要

《UNIX操作系统(英文版)》是一个源代码操作系统，广泛应用于企业级行业应用领域以及嵌入式设备中。《UNIX操作系统(英文版)》全面地、系统地介绍了UINX操作系统的开发和管理原则、内核服务、shell、计算机联网和应用。内容包括五个部分：背景以及如何开始、文本编辑器、UNIX的内核服务、UNIX的命令解释以及编程和UINX的网络连接。
《UNIX操作系统(英文版)》可作为高等院校计算机专业研究生和高年级本科生的教学参考书，也可供程序设计员参考。

《UNIX操作系统》

作者简介

郭立炜，1988年硕士研究生毕业于哈尔滨电工学院，现任河北科技大学信息学院院长、教授。长期在高校从事教学及管理工作，主讲过10门大学课程，参与完成了与波兰华沙电工研究所的大型发电设备电磁场计算及其频率特性分析的合作课题，在国内外发表有影响的学术论文30多篇。Yukun Liu(刘玉坤)河北科技大学计算机系副教授，英国贝德福特大学应用计算研究所博士研究生。Yong Yue(岳勇)英国贝德福特大学教授，应用计算研究所主任，计算机科学与技术系执行主任。

《UNIX操作系统》

书籍目录

1 Background of UNIX Operating System 1.1 Introduction of Operating System 1.2 Types of UNIX 1.3 History of UNIX 1.4 Summary Problems References2 How to Start 2.1 UNIX Software Architecture 2.1.1 UNIX Kernel 2.1.2 System Call Interface 2.1.3 Standard Libraries and Language Libraries 2.1.4 UNIX Shell 2.1.5 Applications 2.2 UNIX Environment 2.3 Character User Interface Versus Graphical User Interface 2.4 UNIX Command Lines 2.4.1 UNIX Command Syntax 2.4.2 Directory Operation Commands 2.4.3 File Operation Commands 2.4.4 Displaying Online Help 2.4.5 General Utility Commands 2.4.6 Summary for Useful Common Commands 2.5 UNIX Window Systems 2.5.1 Starting X 2.5.2 Working with a Mouse and Windows 2.5.3 Terminal Window 2.5.4 Using a Mouse in Terminal Windows 2.6 Shell Setup Files 2.7 Summary Problems References3 Text Editors 3.1 Difference Between Text Editors and Word Processors 3.2 Introduction of Pico Editor 3.2.1 Start pico, Save File, Exit pico 3.2.2 Create a New File with Pico 3.2.3 Cursor-moving Commands in Pico 3.2.4 General Keystroke Commands in Pico 3.3 The vi Editor and Modes 3.3.1 Three Modes of the vi and Switch Between Them 3.3.2 Start vi, Create a File, Exit vi 3.3.3 Syntax of the vi Commands 3.4 Practicing in Insert Mode of the vi Editor 3.5 Practicing in Command Mode and Last Line Mode of the vi Editor 3.6 Using Buffers of the vi Editor 3.7 The vi Environment Setting 3.8 Introduction of the emacs Editor 3.8.1 Start emacs, Create File, Exit emacs 3.8.2 Buffers, Mark and Region in emacs 3.8.3 Cursor Movement Commands 3.8.4 Keyboard Macros 3.8.5 Search and Replace 3.8.6 Operation Example 3.8.7 Programming in emacs 3.9 Summary Problems References4 UNIX Process Management 4.1 Multiple Processes'Running Concurrently 4.1.1 Fundamental Concept for Scheduler and Scheduling Algorithm 4.1.2 UNIX Scheduling Algorithm and Context Switch 4.2 Process States ……5 Unix Memory Management6 Unix File System7 Unix i/o System, i/o Redirection and Piping8 Unix Shell Introduction9 How to Program in Bourne Shell (1)10 How to Program in Bourne Shell (2)11 Unix in Internet and Computer Networkingindex

章节摘录

版权页：插图：When the demand paging handler is invoked during the fork system call,the kernel increments the region reference field of shared regions for the childprocess. For each of private regions of the child process, the kernel allocates anew region table entry and page table. The kernel then examines each entryin page table of the parent process. If a page is valid, the kernel incrementsthe reference process number in its frame table entry, indicating the numberof processes that share the page via different regions rather than through theshared region in order to let the parent and child processes go in differentways after the execve system call. Similarly, if the page exists on the swapspace, it increments the reference field of the swap table entry for this page.Now the page can be referenced through both regions, which share the pageuntil one of the parent or child processes writes to it.Then the kernel copies the page so that each region has a private version.To do this, the kernel turns on the copy-on-write bit for each page table entryin private regions of the parent and child processes during the fork systemcall. If either process writes the page, it causes a protection page fault thatinvokes the protection handler. Now we can see that the copy-on-write bitin a page table entry is designed to separate a child process creation fromits physical memory allocation. In this way, via protection page fault, thememory allocation can postpone until it is needed.The protection page fault can be caused in two situations. One is whena process references a valid page but its permission bits do not allow theprocess access, and the other is when a process tries to write a page whosecopy-on-write bit is set by the fork system call. The kernel has to check firstwhether or not permission is denied in order to make a decision about whatto do next, to signal an error message or to invoke the protection handler. Ifthe latter, the protection handler is invoked.When the protection handler is invoked, the kernel searches for the ap-propriate region and page table entry, and locks the region so that the pagecannot be swapped out while the protection handler operates on it. If thepage is shared with other processes, the kernel allocates a new frame andcopies the contents of the old page to it; the other processes still referencethe old page. After copying the page and updating the page table entry withthe new frame number, the kernel decrements the process reference numberof the old frame table entry.

《UNIX操作系统》

编辑推荐

UNIX操作系统是一个源代码操作系统，广泛应用于企业级行业应用领域以及嵌入式设备中。《UNIX操作系统(依据UNIX内核服务的开发指南英文版)》全面地、系统地介绍了UNIX操作系统的开发和管理原则、内核服务、Shell、计算机联网和应用。内容包括五个部分：背景以及如何开始、文本编辑器、UNIX的内核服务、UNIX的命令解释以及编程和UNIX的网络连接。本书由刘玉坤、岳勇、郭立炜编著。

《UNIX操作系统》

版权说明