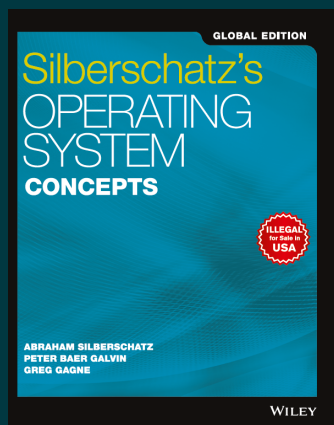




Silberschatz's Operating System Concepts, Global ed

By [Abraham Silberschatz](#), [Peter B. Galvin](#), [Greg Gagne](#)

Paperback

9789357460569

[NOT PROVIDED]
publication_date

₹849.00

Pages : 888 pages

Description

The fundamental concepts and algorithms covered in the book are often based on those used in both open-source and commercial operating systems. Our aim is to present these concepts and algorithms in a general setting that is not tied to one particular operating system. However, we present a large number of examples that pertain to the most popular and the most innovative operating systems, including Linux, Microsoft Windows, Apple macOS (the original name, OS X, was changed in 2016 to match the naming scheme of other Apple products), and Solaris.

About the Author

Abraham Silberschatz, Peter B. Galvin, Greg Gagne

Abraham Silberschatz

Yale University

Peter Baer Galvin

Pluribus Networks

Greg Gagne

Westminster College

Table of Contents

Part One Overview

Chapter 1 Introduction

1.1 What Operating Systems Do

1.2 Computer-System Organization

1.3 Computer-System Architecture

1.4 Operating-System Operations

1.5 Resource Management

1.6 Security and Protection

1.7 Virtualization

1.8 Distributed Systems

1.9 Kernel Data Structures

1.10 Computing Environments

1.11 Free and Open-Source Operating Systems

1.12 Summary

Chapter 2 Operating-System Structures

2.1 Operating-System Services

2.2 User and Operating-System Interface

2.3 System Calls

2.4 System Services

2.5 Linkers and Loaders

2.6 Why Applications Are Operating-System Specific

2.7 Operating-System Design and Implementation

2.8 Operating-System Structure

2.9 Building and Booting an Operating System

2.10 Operating-System Debugging

2.11 Summary

Part Two Process Management

Chapter 3 Processes

3.1 Process Concept

3.2 Process Scheduling

3.3 Operations on Processes

3.4 Interprocess Communication

3.5 IPC in Shared-Memory Systems

3.6 IPC in Message-Passing Systems

3.7 Examples of IPC Systems

3.8 Communication in Client-Server Systems

3.9 Summary

Chapter 4 Threads & Concurrency

4.1 Overview

4.2 Multicore Programming

4.3 Multithreading Models

4.4 Thread Libraries

4.5 Implicit Threading

4.6 Threading Issues

4.7 Operating-System Examples

4.8 Summary

Chapter 5 CPU Scheduling

5.1 Basic Concepts

5.2 Scheduling Criteria

5.3 Scheduling Algorithms

5.4 Thread Scheduling

5.5 Multi-Processor Scheduling

5.6 Real-Time CPU Scheduling

5.7 Operating-System Examples

5.8 Algorithm Evaluation

5.9 Summary

Part Three Process Synchronization

Chapter 6 Synchronization Tools

6.1 Background

6.2 The Critical-Section Problem

6.3 Peterson's Solution

6.4 Hardware Support for Synchronization

6.5 Mutex Locks

6.6 Semaphores

6.7 Monitors

6.8 Liveness

6.9 Evaluation

6.10 Summary

Chapter 7 Synchronization Examples

7.1 Classic Problems of Synchronization

7.2 Synchronization within the Kernel

7.3 POSIX Synchronization

7.4 Synchronization in Java

7.5 Alternative Approaches

7.6 Summary

Chapter 8 Deadlocks

8.1 System Model

8.2 Deadlock in Multithreaded Applications

8.3 Deadlock Characterization

8.4 Methods for Handling Deadlocks

8.5 Deadlock Prevention

8.6 Deadlock Avoidance

8.7 Deadlock Detection

8.8 Recovery from Deadlock

8.9 Summary

Part Four Memory Management

Chapter 9 Main Memory

9.1 Background

9.2 Contiguous Memory Allocation

9.3 Paging

9.4 Structure of the Page Table

9.5 Swapping

9.6 Example: Intel 32- and 64-bit Architectures

9.7 Example: ARMv8 Architecture

9.8 Summary

Chapter 10 Virtual Memory

10.1 Background

10.2 Demand Paging

10.3 Copy-on-Write

10.4 Page Replacement

10.5 Allocation of Frames

10.6 Thrashing

10.7 Memory Compression

10.8 Allocating Kernel Memory

10.9 Other Considerations

10.10 Operating-System Examples

10.11 Summary

Part Five Storage Management

Chapter 11 Mass-Storage Structure

11.1 Overview of Mass-Storage Structure

11.2 HDD Scheduling

11.3 NVM Scheduling

11.4 Error Detection and Correction

11.5 Storage Device Management

11.6 Swap-Space Management

11.7 Storage Attachment

11.8 RAID Structure

11.9 Summary

Exercises

Further Reading

To purchase this product, please visit:

<https://wiley.indiafin.com/silberschatz-s-operating-system-concepts-global-ed.html>



Scan to buy