

<<基于质量的互联网内容传输技术>>

图书基本信息

书名：<<基于质量的互联网内容传输技术>>

13位ISBN编号：9787313067166

10位ISBN编号：731306716X

出版时间：2011-3

出版时间：上海交通大学出版社

作者：李翔，李建华 著

页数：139

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

## <<基于质量的互联网内容传输技术>>

### 内容概要

In this book, we try to illustrate the Internet content delivery mechanism. And based on this mechanism we propose an adaptive content delivery framework which can greatly help Internet Service Providers and Internet Content Providers to achieve quality-based content delivery service. This book can be used as an introduction for Internet content based technology researchers, and can also be used as a reference book for graduate students.

This book is the refined wisdom from the Institute of Information Security Engineering, Shanghai Jiao Tong University. We appreciate all of our colleagues for their great help in this book. And we would also express our sincere appreciation towards Shanghai Jiao Tong University Press. Without their help, we would never have this book published so smoothly.

书籍目录

- 1 Introduction
  - 1.1 Background
  - 1.2 Challenges
  - 1.3 Research Topics
  - 1.4 Focus of This Book
  - 1.5 Book Outline
- 2 Related Work
  - 2.1 New Challenges to Web Content Delivery
  - 2.2 Overview of Active Network
  - 2.3 Basic Technologies in Active Network
    - 2.3.1 Basic Proxy Caching
    - 2.3.2 Transcoding for Pervasive Internet Access
    - 2.3.3 Adaptive Content Delivery
  - 2.4 Adaptive Web Content Delivery Systems Built
    - 2.4.1 IBM's Transcoding Proxy
    - 2.4.2 Berkeley's Pythia and TranSend
    - 2.4.3 Rice's Puppeteer
  - 2.5 Special-Purpose Proxies
    - 2.5.1 Compression Proxy
    - 2.5.2 WAP Gateway
    - 2.5.3 Single Point Transform Server, ASP
    - 2.5.4 Blocking and Filtering
  - 2.6 Analysis of Existing Adaptive Content Delivery Frameworks and Systems
  - 2.7 Summary
  - References
- 3 Chunk-Level Performance Study for Web Page Latency
  - 3.1 Introduction
  - 3.2 Basic Latency Dependence Model
  - 3.3 Web Page Retrieval Latency
  - 3.4 Experimental Study and Analysis
    - 3.4.1 Experimental Environment
    - 3.4.2 Web Page Latency Breakdown
    - 3.4.3 Object Retrieval

Parallelism

3.4.4 Definition Time and its

Rescheduling

3.5 Discussion about Validity of Observed

Results Under Different Environments

3.6 Conclusion

References

4 Accelerating Web Page Retrieval Through Reduction in  
Data Chunk Dependence

4.1 Introduction

4.2 Pre-requisites for Rescheduling of

Embedded Object Retrieval

4.3 Intra-Page Rescheduling for Web Page

Retrieval

4.3.1 Object Declaration

Mechanism (OD)

4.3.2 History-Based Page

Structure Table Mechanism (PST)

4.3.3 Analysis of Object

Declaration and History-Based PST Mechanisms

4.4 Experimental Study

4.4.1 Potentials of Push-Forward

and Parallelism Effect in Web Page Retrieval

4.4.2 Effect of Object

Declaration Mechanism

4.4.3 Effect of History-Based

Page Structure Table (PST) Mechanism

4.4.4 Effect of Integrated OD

and PST Mechanism

4.5 Conclusion

References

5 Modes of Real-Time Content Transformation for Web  
Intermediaries in Active Network

5.1 Introduction

5.2 Basic Web Content Transformation

Model

5.3 Modes of Content Transformation on

Streaming Web Data

5.3.1 Byte-Streaming

Transformation Mode

5.3.2 Whole-File Buffering

Transformation Mode

5.3.3 Chunk-Streaming

Transformation Mode

5.4 Discussion of the Impact of

Transformation Mode on Web Page Latency

5.5 Experimental Study

## <<基于质量的互联网内容传输技术>>

- 5.5.1 Regrouping and Push-Backward Effects on Object Perceived Time
- 5.5.2 Regrouping and Push-Backward Effects on Page Retrieval Time
- 5.5.3 Regrouping and Push-Backward Effects in the Presence of Proxy Cache
- 5.6 Conclusion
- References
- 6 System Framework for Web Content Adaptation and Intermediary Services: Design and Implementation
- 6.1 Introduction
- 6.2 Basic Proxy Cache
  - 6.2.1 DataFlow Path of Proxy Cache
  - 6.2.2 DataFlow Path in SQUID Proxy Cache
- 6.3 Four-Stage AXform Framework
  - 6.3.1 Stage 1 of AXform Framework: Client Request Stage
  - 6.3.2 Stage 2 of AXform Framework: Server Request Stage
  - 6.3.3 Stage 3 of AXform Framework: Server Data Stage
  - 6.3.4 Stage 4 of AXform Framework: Client Data Stage
  - 6.3.5 Summary
- 6.4 System Implementation Considerations for AXform Framework
  - 6.4.1 Handling of Working Space
  - 6.4.2 Accessing Other System Resources
  - 6.4.3 Client Information Collection
  - 6.4.4 Server Information Collection
  - 6.4.5 Environment Parameters Collection
  - 6.4.6 Client Request Modification
  - 6.4.7 HTTP Reply Header Modification
  - 6.4.8 HTTP Body Modification
  - 6.4.9 Cache Related Module
- 6.5 Conclusion
- Reference

<<基于质量的互联网内容传输技术>>

7Conclusion

7.1Conclusion of the Book

7.1.1Performance Model

7.1.2Improving the Delivery by  
Reducing the Object Dependence

7.1.3Transformation Model

7.1.4System Framework and  
Requirements

7.2Future Research

7.2.1APIs Definition

7.2.2Unified Data Format

7.2.3Data Integrity and  
Security

7.2.4Protocol Design

Index

## 章节摘录

版权页：插图：In developing the transformation proxy, it is better to make the transformer modular. Hence, one should avoid modifying the working mechanism of the original proxy cache as much as possible. However, to further utilize the cache system provided by the proxy, we might need to make some modification to the cache related module. There are two kinds of such cache related modules, one for the cache control module and the other for the cache hit/miss check module. Each of these modules will be discussed below.

### 6.4.9.1 Cache Control Module

The cache control module is used by the proxy cache to determine whether the HTTP reply is cacheable. It is triggered between Stage 3 and Stage 4. As we discussed in the modification of HTTP header, the transformation proxy might sometimes need to overwrite the rules set by the original server for better caching. This can be done by modifying the HTTP reply header. But this solution might have undesirable side effects. With the cache control header modified, all the clients and the downstream proxies will get the revised cache control information. There is no way for them to differentiate whether this rule is set by the original server or by the transformation system. This might affect the caches of the clients and downstream proxies. An alternate solution is to modify the cache control module. By applying new rules to the cache control module, we can control the cache management of this working system and at the same time limit the effect to this system only. For this solution, we need to know the side effect of deploying new rules and make sure it will not malfunction.

编辑推荐

《基于质量的互联网内容传输技术(英文版)》由上海交通大学出版社出版。



版权说明

本站所提供下载的PDF图书仅提供预览和简介, 请支持正版图书。

更多资源请访问:<http://www.tushu007.com>