IP Quality of Service (QoS)

IPC_109d | On-Demand | Transport | Express
Course Duration: 3 hours

The Internet is coming to a new age where various applications have their own QoS requirements, and one size does not fit all. This course introduces the concept of QoS and discusses the current limitations within the Internet. The new services requirements driving QoS in the Internet are presented. The two basic techniques used for QoS - Integrated Services and Differentiated Services - are presented. The discussion includes the benefits and limitations of the Integrated Services and the Differentiated Services approaches to QoS. While IntServ and DiffServ are the approaches, service providers need an infrastructure to deploy QoS-based applications rapidly.

Intended Audience

This course is intended for anyone seeking an overview of the IP Quality of Service architectures in the Internet.

Objectives

After completing this course, the student will be able to:

- Determine the limitations of the best effort approach to QoS
- Describe the need for QoS with respect to new applications
- Explain how QoS requirements are communicated
- Define policy-based architecture
- Explain the benefits and limitations of the Integrated Services approach to QoS
- Explain the benefits and limitations of the Differentiated Services approach to QoS
- Describe the protocols that are used for each of the QoS approaches
- Identify emerging trends in IP QoS

Course Prerequisites

No Prerequisites

Outline

1. Motivation for Quality of Service (QoS)
1.1 Definition of Quality of Service
1.2 Service examples
1.3 QoS parameters

2. QoS in today's Internet
2.1 Current QoS mechanisms
2.2 Limitations of the current QoS mechanisms

3. QoS Requirements
3.1 Requirements of QoS on the Internet
3.2 Service Level Agreements (SLAs)
3.3 Challenges for deploying IP QoS
3.4 Policy based QoS architecture

4. QoS Models
4.1 Application approach vs. aggregated approach
4.2 Introduction to IP QoS models

5. Integrated Services Approach (IntServ)
5.1 Limitations of the Integrated Services approach
5.2 ReSerVation Protocol (RSVP)

6. Differentiated Services Approach (DiffServ)
6.1 Differentiated services approach
6.2 DiffServ protocol
6.3 DiffServ implementation
6.4 Traffic management functions
6.5 Issues with DiffServ

7. Emerging Trends in QoS
7.1 Hybrid architectures
7.2 Automated QoS management
7.3 Bandwidth brokers

8. Summary
8.1 Put It All Together
8.2 Assess the knowledge of the participant based on the objectives of the course

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