

Requirements of Communication Systems



Article Overview

Communication systems must meet performance, reliability, and regulatory requirements, including throughput, latency, error tolerance, and adaptability to varying conditions.

Key Performance Requirements

- **Throughput:** This is the rate at which data is successfully transmitted through the system, typically measured in bits per second (bps) or megabytes per second (MB/s). High-throughput systems are essential for applications like video streaming, cloud computing, and autonomous systems, where large volumes of data must be transmitted efficiently .
- **Latency:** Latency refers to the time delay between the transmission and reception of a message. Low latency is critical for real-time applications such as telemedicine, online gaming, and industrial automation .
- **Error Tolerance:** Communication systems must handle errors caused by noise, interference, or signal degradation. Error detection and correction mechanisms, such as parity checks, cyclic redundancy checks (CRC), and forward error correction (FEC), are essential to maintain data integrity .
- **Burst Tolerance:** Systems should accommodate non-uniform data rates or bursts of traffic without performance degradation. This ensures stability during sudden spikes in network usage .

Functional and Non-Functional Requirements

Article Content

Communication Systems: Components, Types and Importance

Business and trade: Communication systems enable global trade and commerce by providing platforms for negotiations,

6.9: Detail

Naturally, different communication systems, though they all might be well described by our model, differ in their requirements. The

Communication System

A communication system consists of a transmitter, a receiver and communication channels. Type of mediums and network

6G Wireless Communication Systems: Applications, Requirements ...

Beyond 5G, some fundamental issues that need to be addressed are higher system capacity, higher data rate, lower

Communication Requirement

Communication requirements refer to the needs for information exchange necessary to achieve system stability or

Communications Distribution System Requirements

Acceptance Testing for the Communications Distribution System shall be incremental and based upon testing, inspection, and

Exploring Communication Systems: Theory and Applications

In summary, communication systems form the backbone of contemporary society, playing an integral role in facilitating interactions

What is ICT (information and communications technology)?

ICT (information and communications technology) is the infrastructure and components that enable modern

How to Document and Communicate System Requirements

Learn how to document and communicate system requirements to different audiences and levels of detail using tips and best

Communication Systems

Communication systems are engineered combinations of hardware, software, and protocols designed to transfer information from

6G Wireless Communication Systems: Applications, Requirements ...

6G Wireless Communication Systems: Applications, Requirements, Technologies, Challenges, and Research

System Requirements Definition

The System Requirements Definition process transforms the stakeholder view of desired capabilities into a technical, developer view

Software Requirement Specification (SRS) Format

Software Requirement Specification (SRS) Format as the name suggests, is a complete specification and description

Communications system

A communications system is a collection of individual telecommunications networks systems, relay stations, tributary stations, and

International Journal of Communication Systems

The International Journal of Communication Systems is a communications journal publishing research papers on public and private

(PDF) Communicating Requirements

Abstract Requirements are the language we use to communicate stakeholder needs for a system of interest to

Communication Systems Basics

Communication Systems Basics Communication Systems Explained: A Comprehensive Overview for Beginners Hello, fellow tech

(PDF) Communicating Requirements

Each means of communication has its strengths and weaknesses depending on which message is being

Requirements for Effective Communication

Effective communication is an important element of business for businesspeople in any industry, any location or of any

How to Write a Software Requirements Specification (SRS) Document

A detailed Software Requirements Specification (SRS) document is key to building software that meets both business

What Are the Key Components of a Communication System?

Communication systems are the backbone of modern society, enabling us to exchange information quickly and

ADA Requirements: Effective Communication

The communications assistant will explain how the system works if necessary. Remember, the purpose of the

Handout 1: Communication Systems Overview

1 A System View on Communication Communication systems used to have a straightforward architecture, where we only mean to

1.2 Requirements

Identify Common Communication Patterns Designing abstract channels involves first understanding the communication needs of a

Setting and Checking Availability Requirements for Communication ...

Dependability requirements are increasing with each new generation of communication networks and systems.

Communication System - 15+ Examples, Types, Principles

□□ Uncover the secrets of communication systems with 15+ examples! From types to principles, discover how we stay connected

Communication System: Basic Elements and Its Applications

Thus, this is all about the basic elements of the communication system, and the key components of this system mainly include

IMT-2030: Technical requirements for the 6G future

Mobile communications experts at the International Telecommunication Union (ITU) have

NEC Article 800: General Requirements for Communications Systems ...

NEC Article 800 outlines the requirements for communications systems, covering installation, operation, and maintenance. This

Communication Requirement

In this chapter, we study the communication capacity requirements (usually in terms of bits) for controlling the physical dynamics in

Contact Us

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