SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution
Coimbatore-35

Department of Artificial Intelligence and Data Science

23ITT204 – Computer Networks

II B.Tech – AI&DS / IV SEMESTER

UNIT I :INTRODUCTION AND APPLICATION LAYER

Topic 6: File Transfer Protocol (FTP)

Session's Agenda:

- Empathize

- Define

- Ideate

- Prototype

- Test

- Real-world Scenario

- Challenges

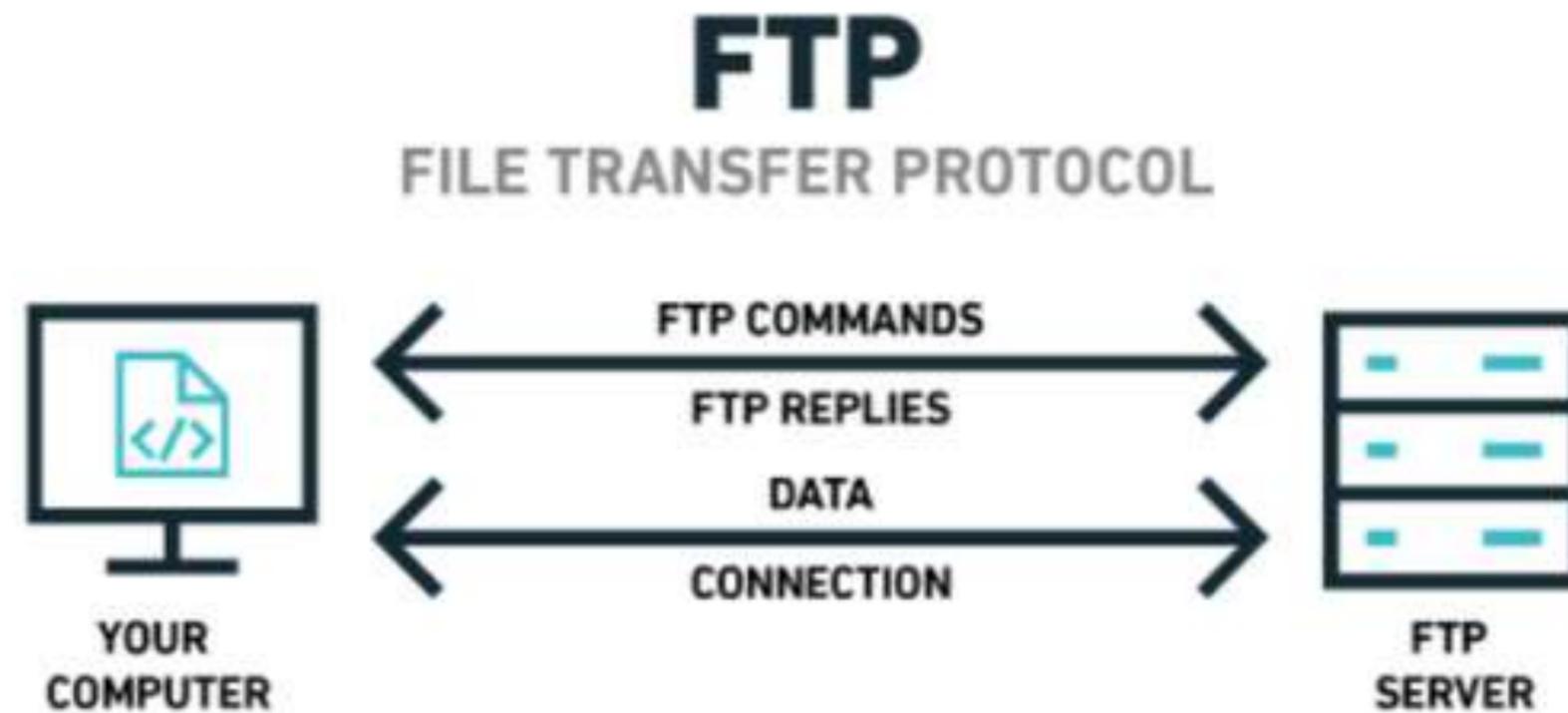- Conclusion

Recap

The need for a standard protocol: HTTP

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31-Dec-25

Empathize – Why FTP?

Why do users struggle to move large or multiple files over a network?

User Verification — 01
Access Control — 02
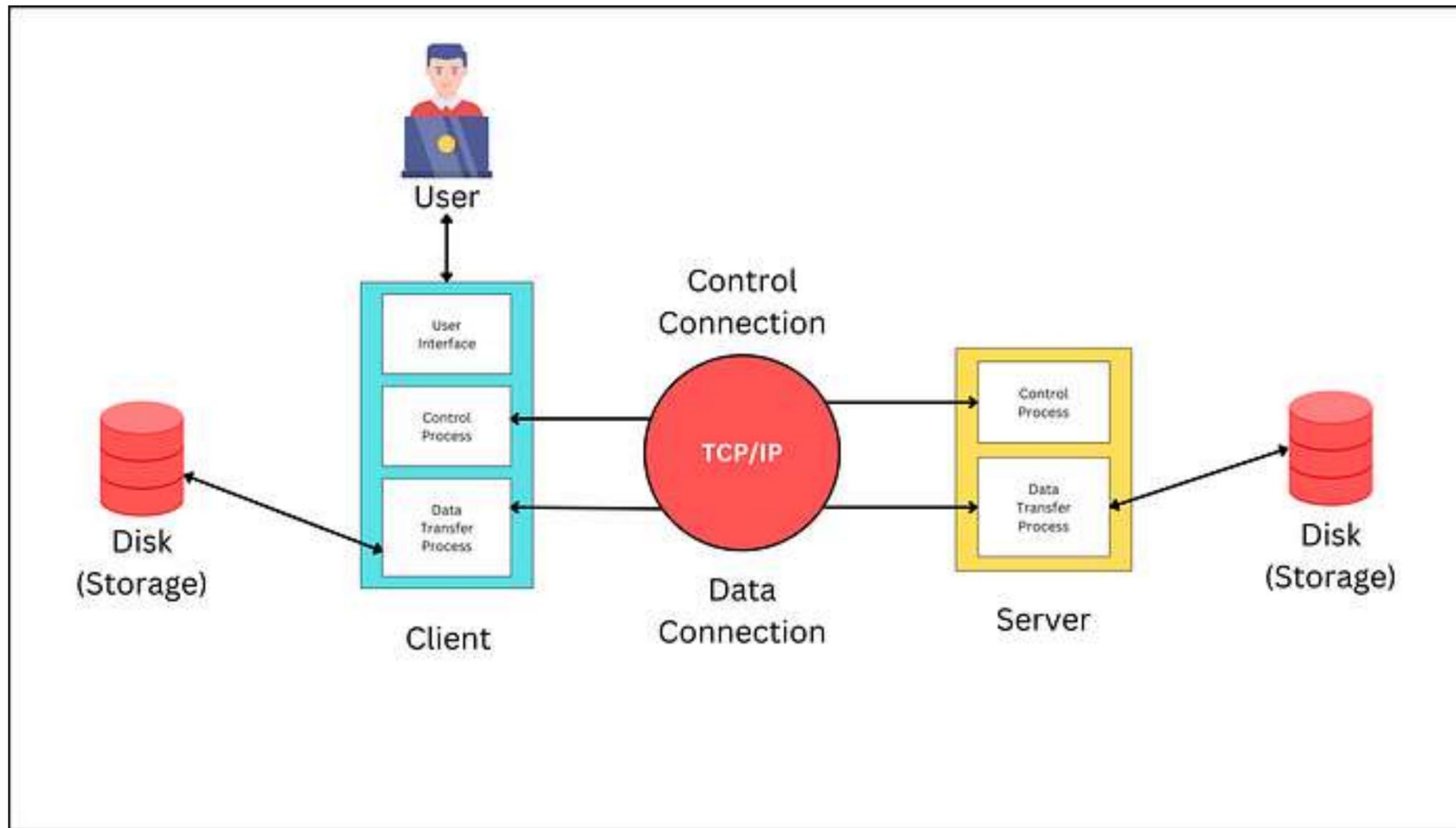Protects Data Integrity — 03
Regulatory Compliance — 04

Define – Defining the need for FTP Protocol

Users face confusion and delays when browsers and servers do not follow common communication rules.

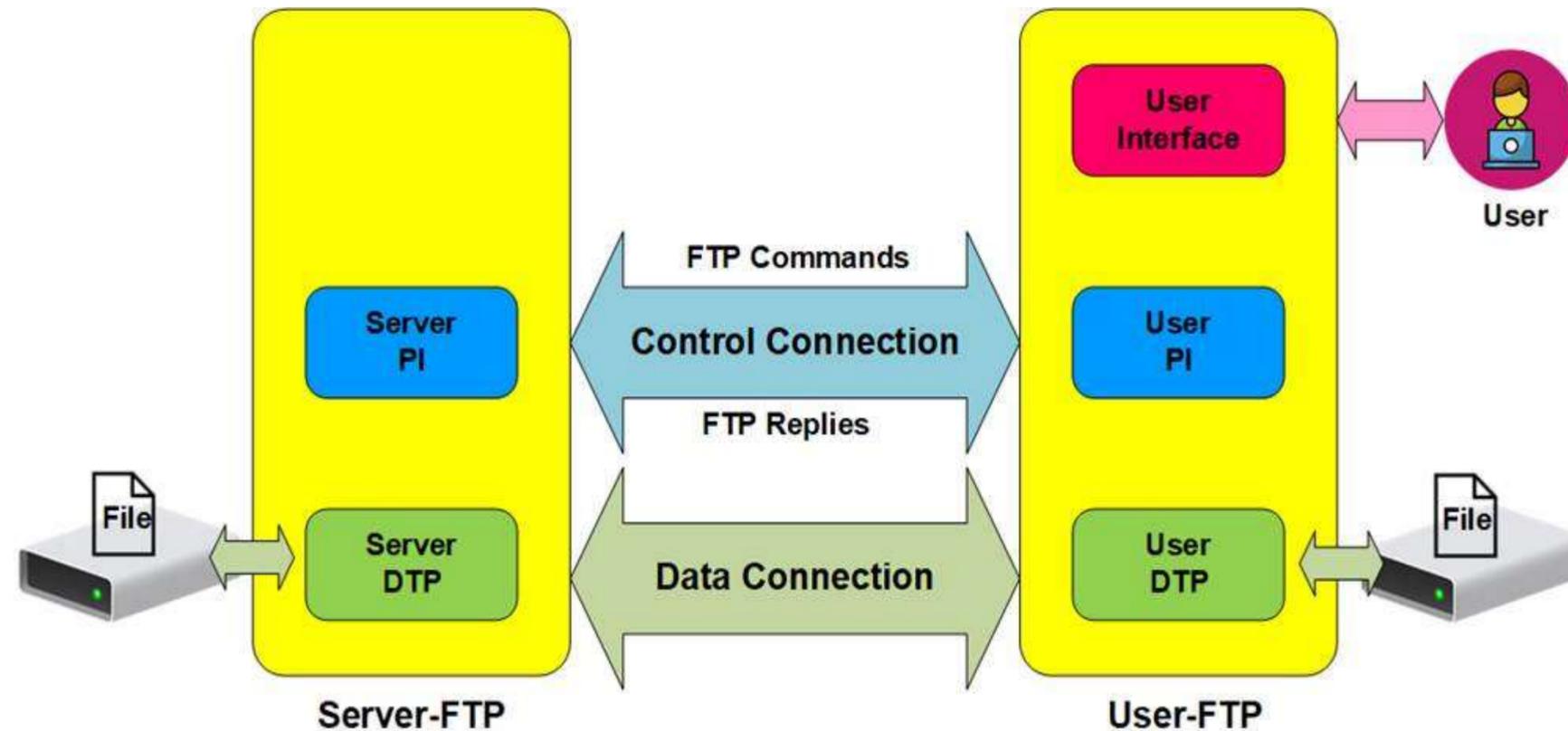Computer Networks | File Transfer Protocol | Ms.K.Revathi | SNSCT

Ideate – Designing FTP Protocol

FTP solves file transfer problems by providing a clear, standardized mechanism for uploading, downloading, and managing files between clients and servers.
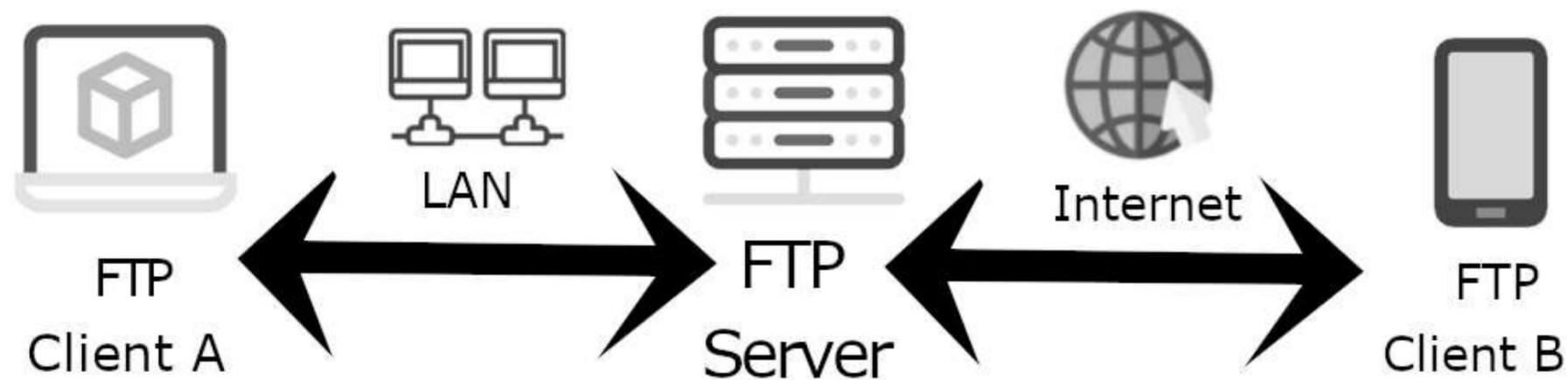
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Prototype – FTP Protocol

How can FTP be prototyped to demonstrate step-by-step data flow from client to server and back?

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Test – How Data Travels through FTP

FTP transfers data by first establishing a control connection to send commands and responses, followed by a separate data connection to move actual files between client and server.
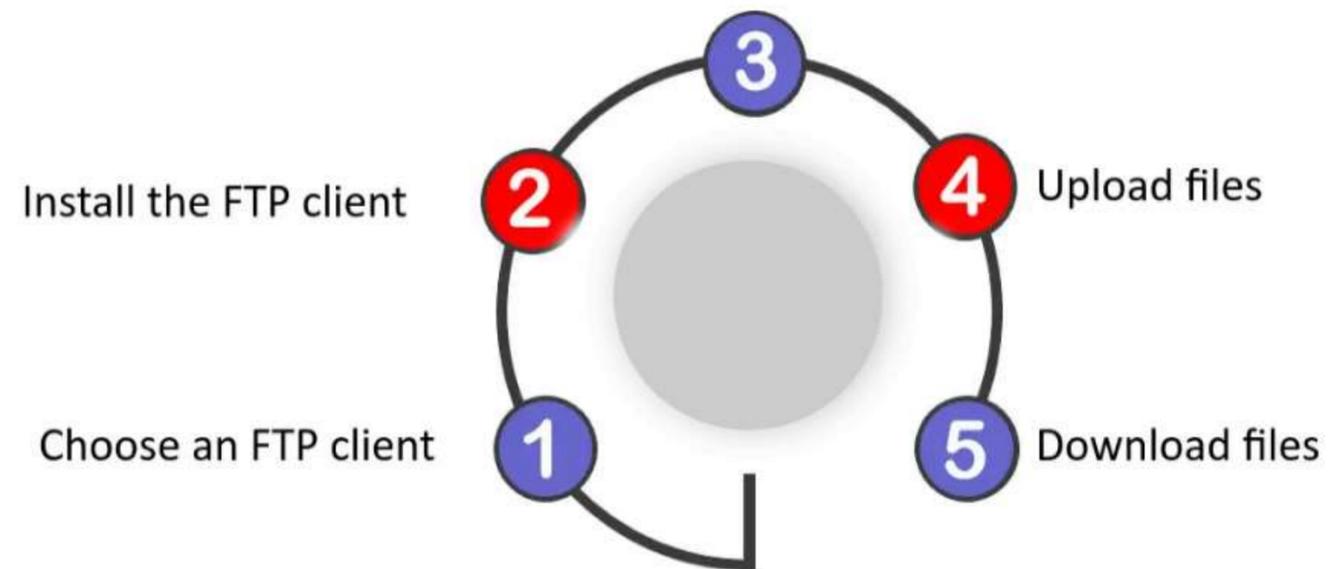
Real-world Scenario (FTP)

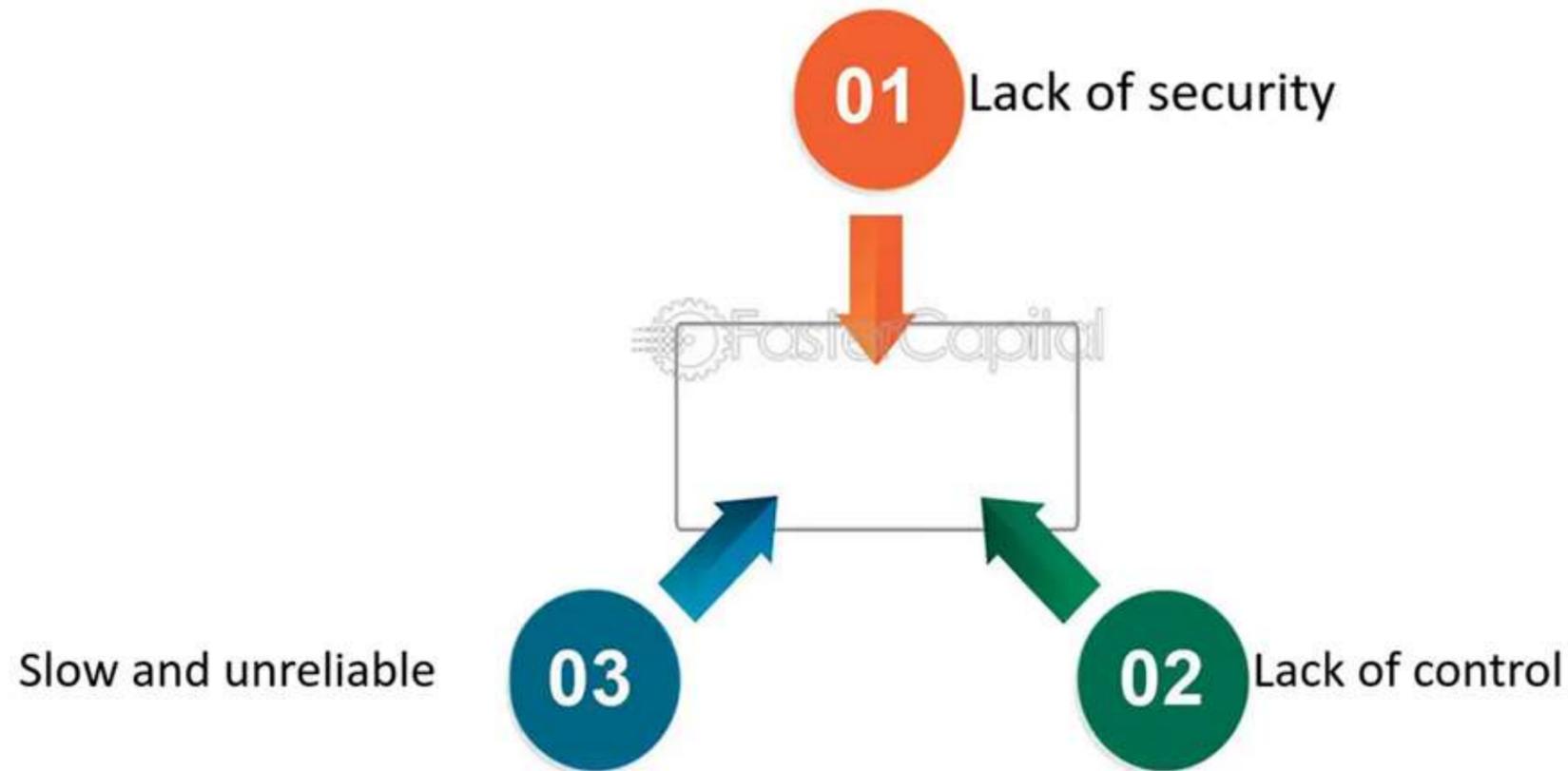How can FTP communication be tested to verify that data travels correctly from client to server and back?

Challenges of FTP

FTP is insecure because it transfers data and passwords in plain text without encryption.

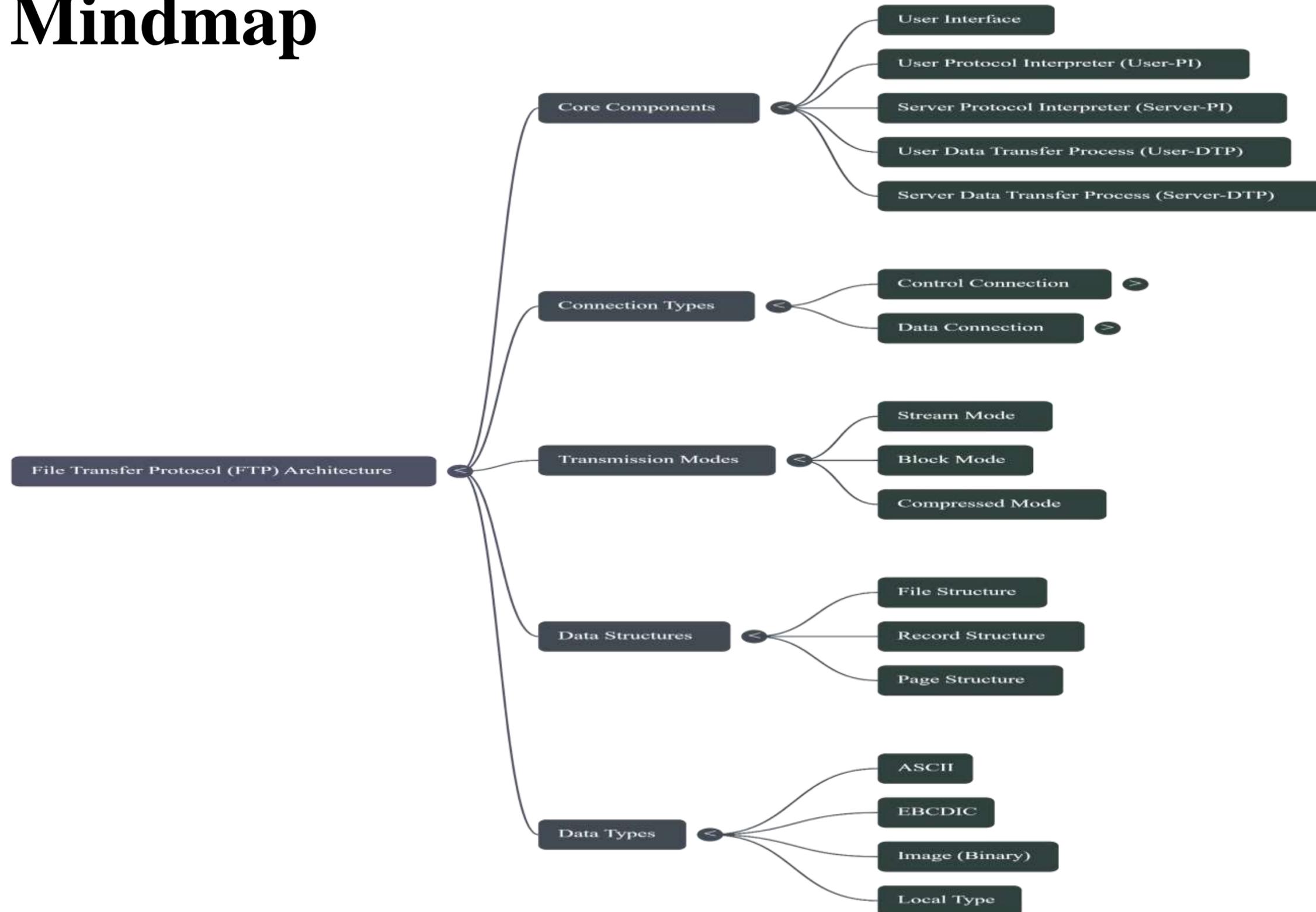It faces firewall and NAT issues due to separate control and data connections.

01 Lack of security

03 Slow and unreliable

02 Lack of control

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Conclusion – FTP solves Real Problems

Why is FTP essential?

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Mindmap

Thank You

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