

Robocopy (Robust File Copy) is a command-line utility in Windows that is designed for efficiently copying files, directories, and even entire drives from one location to another. It was introduced as a more powerful and flexible alternative to xcopy .

## Key Features of Robocopy

### 1. Resilience and Error Handling:

- Robocopy is designed to handle interruptions and errors gracefully. If the network connection drops or a file is locked, Robocopy can resume the copying process once the issue is resolved, without starting over.

### 2. Selective Copying:

- It can copy only files that have changed or been newly created since the last copy operation, using the /MIR (mirror) or /XO (exclude older) options.
- It can also copy files based on attributes like archive, system, hidden, etc.

### 3. Logging:

- Robocopy can generate detailed logs of the copy process, which can be extremely useful for troubleshooting and auditing.

### 4. Directory Tree Mirroring:

- With the /MIR switch, Robocopy can mirror an entire directory tree, meaning it can replicate the source directory structure in the destination, including any deletions.

### 5. Multi-Threaded Copying:

- Robocopy supports multi-threaded copying (using the /MT option), which can significantly speed up the process by copying multiple files simultaneously.

### 6. Retry Options:

- If a file is in use or locked, Robocopy automatically retries the operation a specified number of times with a delay between attempts.

## Comparison with xcopy

### 1. Error Recovery:

- Robocopy is much more robust in recovering from errors compared to xcopy , which might fail completely if it encounters an issue like a network disruption.

### 2. Efficiency:

- Robocopy is more efficient in handling large amounts of data, especially over network connections, due to its ability to resume transfers and retry failures.

### 3. Multi-Threading:

- Robocopy supports multi-threaded operations, which xcopy does not, allowing for faster copying of large numbers of files.

#### 4. Logging and Detailed Reporting:


- While xcopy offers basic logging, Robocopy provides extensive logging and reporting options, making it easier to monitor and troubleshoot copy operations.

#### 5. Directory Mirroring:

- Robocopy can mirror entire directory structures, including deletions, which is more complex to achieve with xcopy .

## Basic Robocopy Syntax

cmd


 Code kopieren

```
robocopy [source] [destination] [options]
```

## Example Command:

To copy all files from C:\Source to D:\Destination , while preserving the directory structure and copying only new or updated files:

cmd

 Code kopieren

```
robocopy C:\Source D:\Destination /MIR /MT:8
```

- /MIR mirrors the directory structure.
- /MT:8 uses 8 threads to speed up the process.

Overall, Robocopy is the preferred tool when dealing with complex or large-scale copy operations, especially in professional and network environments.