

# Increasing File Transfer Rates

## Category: Best Practices

**Summary:** If you are moving large files, use the `bbftp` or `shiftp` commands instead of `cp` or `scp`. An online NAS service can help diagnose your remote network connection issues, and our network experts can work with your specific file transfer problems.

For fastest file transfer between Pleiades /nobackup and Lou2, log into Lou and use `shiftp`, `cxfsftp`, `cp`, `mcp`, or `tar`.

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Moving large amounts of data efficiently to or from NAS across the network can be challenging. Often, minor system, software, or network configuration changes can increase network performance an order of magnitude or more.

If you are experiencing slow transfer rates, try these quick tips:

- Pleiades /nobackup are mounted on Lou2, enabling disk-to-disk copying, which should give the highest transfer rates. You can use the `shiftp`, `cp`, or `mcp` commands to copy files or even make tar files directly from Pleiades /nobackup to your Lou home directory.
- If using the `scp` command, make sure you are using OpenSSH version 5 or later. Older versions of SSH have a hard limit on transfer rates and are not designed for WAN transfers. You can check your version of SSH by running the command `ssh -v`.
- For large files that are a gigabyte or larger, we recommend using bbFTP. This application allows for transferring simultaneous streams of data and doesn't have the overhead associated with encrypting all the data (authentication is still encrypted).
- Another reliable option for large file transfers is through the [Shift client](#), which includes options specific to the NAS environment, such as checking to see whether files residing on Lou are also on tape.

## Online Network Testing Tools

The [NAS PerfSONAR Service](#) provides a custom website that allows you to quickly self-diagnose your remote network connection issues. It reports the maximum bandwidth between sites, as well as any problems in the network path. Command-line tools are available if your system does not have a web browser.

Test results are also sent to our network experts, who will analyze traffic flows, identify problems, and work to resolve any bottlenecks that limit your network performance, whether the problem is at NAS or at a remote site.

## One-on-One Help

If you would like further assistance, contact the NAS Control Room at [support@nas.nasa.gov](mailto:support@nas.nasa.gov), and a network expert will work with you or your local administrator one-on-one to identify methods for increasing your transfer rates.

To learn about other network-related support areas see [End-to-End Networking Services](#).

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<http://www.nas.nasa.gov/hecc/support/kb/entry/292/?ajax=1>