



Industry Cohort Benchmark: Large-File Performance with Stryq 2.3

Stryq 2.3 Release · June 2026

This report extends the empirical performance study Stryqbyte published in February 2026. It validates Stryq 2.3 — higher-throughput secure transfer and a redesigned Send/Receive experience — on fifteen industry-representative payloads using the same two identical Windows machines and network controls. Results are intended for technical evaluation, not absolute performance guarantees.

Fully encrypted, CMMC-oriented — high-throughput direct transfer. Stryq moves large payloads directly between authorized Windows endpoints — with measured speed wins from ~3× to 11× vs single-connection FTP on industry-representative payloads in this study — never through a Stryqbyte cloud file service. TLS 1.3 on every session; SHA-256 integrity on every file. Optional AES-256-GCM payload encryption, certificate pinning, audit logging, and a CMMC-on mode for deploy-as-documented compliance workflows.

Please note: CMMC certification applies to your organization, not to software products. Stryq provides technical controls and mapping documentation for your SSP; it is not a certification claim.

- Offline seat licensing — validated on the device without sending license checks to Stryqbyte
- Pairing-code trust before bytes leave the sender
- Full NIST SP 800-171 control mapping for SSP and assessor review

Executive summary

Stryq 2.3 is built for any organization that moves multi-megabyte and multi-gigabyte files between authorized endpoints — including engineering, inspection, and regulated teams working with CAD exports, industrial CT volumes, geospatial rasters, and similar structured datasets. Every transfer is encrypted and integrity-checked; this benchmark focuses on sizes where throughput differences are easiest to measure, while smaller files still benefit from verified delivery at FTP-comparable speeds.

This report answers one question for evaluators: **where does Stryq win, by how much, and on which payloads?** We report by file size and by the industry categories represented in the test set so you can find the row that matches your workloads. The largest and most consistent gains appear on structured files from tens of megabytes upward.

The bigger the file, the bigger the advantage

Up to 11× faster on large structured inspection volumes (250+ MB)

Four structured imaging studies (250–570 MB) transferred at 68 – 118 Mbps on Stryq vs ~11 Mbps per file on our single-connection FTP baseline (speedups 3.8× – 11×, median 8.4×). The engineering exports we tested in the 10–50 MB band showed consistent ~2.6× – 3.2× wins. On measured files ≥ 50 MB, Stryq was faster than FTP in nine of ten cases (the reference MP4 tied all protocols at ~11 Mbps).

1. Methods and test environment

Fifteen industry-representative files (~3.43 GB total), chosen to represent engineering, inspection, geospatial, and reference workloads, were transferred 540 times (12 cycles × 15 files × 3 protocols) between the same two Windows machines and network controls used in the February 2026 study. Protocol order rotated each cycle (FTP→SMB→Stryq, SMB→Stryq→FTP, ...) to avoid systematic bias. All Stryq measurements used version 2.3.

Payload: 4× structured XL DICOM/DICONDE studies and CT volume, 4× USGS GeoTIFF, one 4K reference MP4, and 5× reference STLs (NIST, JWST, SLS, etc.).

Protocols. Stryq 2.3 (direct peer-to-peer, TLS 1.3); FTP via programmatic single-connection upload to the receiver's FTP service; SMB via standard Windows file copy to a UNC share on the same receiver. These baselines reflect common scripted workflows — not multi-connection FTP clients, multithreaded copy tools, or commercial WAN accelerators. Durations were recorded from structured logs; reported statistics include median transfer times, throughput (Mbps), and per-file speedup ratios.

Statistics. Charts and tables use per-file medians with interquartile ranges where shown — robust to slow cycles flagged during review. Means on the same speedup ratios run higher when a few large structured wins dominate (e.g. ~4.9× vs ~2.9× for all files ≥10 MB). We report medians throughout so figures, tables, and prose stay consistent.

2. End-to-end cohort throughput

Across all fifteen files and every measured cycle, Stryq moved the complete mixed batch at roughly double the end-to-end rate of either baseline — 170 Mbps aggregate vs ~85 Mbps for FTP and SMB on the same endpoints and network (Figure 1). That full-batch view includes reference STLs and disk-

bound media alongside professional payloads; we report it for completeness. The size-tier charts in §4 and Table 2 show where the advantage concentrates.

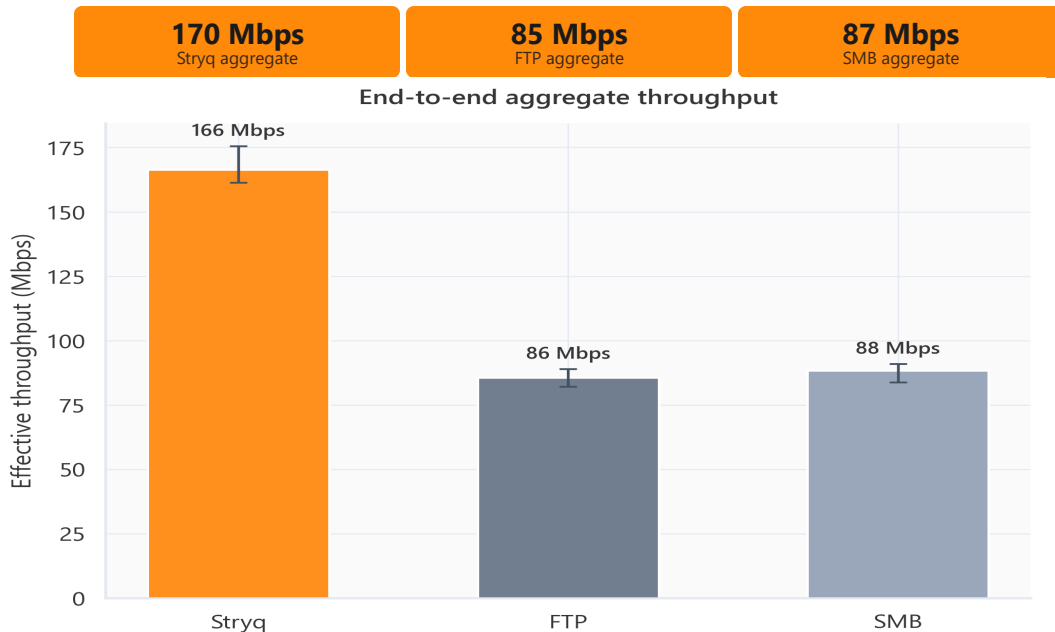


Figure 1 — End-to-end aggregate throughput (Mbps) across all measured transfers for the complete 15-file test set; whiskers show interquartile range across test cycles. Figures 2–3 break the same data down by size tier, where large-file advantages are clearest.

On professional payloads (≥ 10 MB), Stryq was faster than FTP on 11 of 12 files, with medians from $\sim 2.6\times$ on engineering exports to $3.8\times - 11\times$ on large DICOM/DICONDE volumes. Every structured XL study in the test set favored Stryq over both FTP and SMB.

Results that did not favor Stryq were limited to reference payloads and a few disk-I/O-bound transfers:

- Three reference STLs under 10 MB (NIST benchmark STL, Hubble base, JWST pieces) — sub-megabyte to low-megabyte reference files where secure session setup adds measurable wall time. Stryq still delivered verified, encrypted delivery at FTP-comparable speeds; single-connection FTP measured slightly fewer raw seconds on those sizes. Included for completeness alongside the structured workloads teams plan around.
- One 604 MB 4K reference MP4 — *bbb_sunflower_2160p_30fps_normal.mp4* (Big Buck Bunny sunflower clip, H.264) — near parity (~ 11 Mbps) across all three protocols; sequential disk read/write bound every transport equally (§5). Not an outlier — six retained runs per protocol clustered within a few seconds.

Three large USGS GeoTIFF tiles also landed near parity ($\sim 1\times$) when read/write speed on the test machines — not disk space — capped every protocol at ~ 11 Mbps during the mixed batch, while a fourth tile showed a strong Stryq win (§5). For the workloads teams plan transfers around, Stryq delivered the strongest measured results.

3. Where Stryq fits

Table 1 contrasts Stryq with common alternatives. Stryq is purpose-built for organizations moving large professional payloads on managed Windows endpoints — not consumer LAN sharing or cloud custody workflows.

Table 1 — Where Stryq fits relative to common alternatives.

Alternative	Where Stryq fits
Consumer / LAN tools	Enterprise seat licensing, certificate pinning, audit logs, and compliance documentation — built for CUI and export-controlled workflows.
Cloud sync & upload links	No third-party custody of payloads. Direct peer-to-peer with sustained throughput on large files — not HTTPS upload-download round trips.
Ad-hoc FTP/SMB scripts	Resilient secure transfer, SHA-256 verification, pairing-code trust, and a Send/Receive UI — on endpoints IT already manages.
Enterprise WAN accelerators	Windows-native deployment, offline licensing, optional self-hosted rendezvous — high throughput without a separate appliance program.

4. Size tiers at a glance

Results are grouped into four size bands for readability. Files under 10 MB are reference data only. From 10 MB upward, transfer time becomes a planning concern; in this study, the largest and most consistent Stryq advantages appeared on the biggest structured volumes we tested — industrial CT, DICOM/DICONDE inspection datasets, and similar payloads. Industry labels in Table 2 describe which payloads happened to fall in each band in our test set, not typical size ranges for those domains.

Figures 2–3 group files by size. The 250 MB+ chart tier includes DICOM/DICONDE studies and the CT volume only — not the reference MP4 or XL GeoTIFF tiles (those are reported separately in Table 2).

Per-file linear fits reinforce the pattern: Stryq adds less time per megabyte than either baseline (~0.050 s/MB vs ~0.090 s/MB for FTP and ~0.085 s/MB for SMB, plus intercept). Throughput on Stryq rises with payload size while single-connection FTP and SMB stay near ~11 Mbps per file on the largest structured studies in this test — the divergence evaluators care about when moving multi-hundred-megabyte datasets.

Table 2 — Speedup vs FTP by size tier. Category labels reflect how test files grouped in this study, not expected size ranges for those domains.

Size tier	Category in this study	Examples in test set	Speedup vs FTP
Under 10 MB <i>Reference</i>	Reference STLs	Small STLs (NIST, JWST)	0.4× median — reference only
10 – 50 MB	Engineering, manufacturing	CAD / design STLs	2.6× – 3.2× · median 2.9×
50 – 250 MB	Geospatial earth observation	USGS GeoTIFF tiles	1.1× – 15× · median 8.0×
250 MB+	NDE and inspection imaging	Four DICOM/DICONDE studies, CT volume	3.8× – 11× · median 8.4×
250 MB+	High-resolution video	4K reference MP4 (Big Buck Bunny sunflower)	~1× — disk-bound; reference only

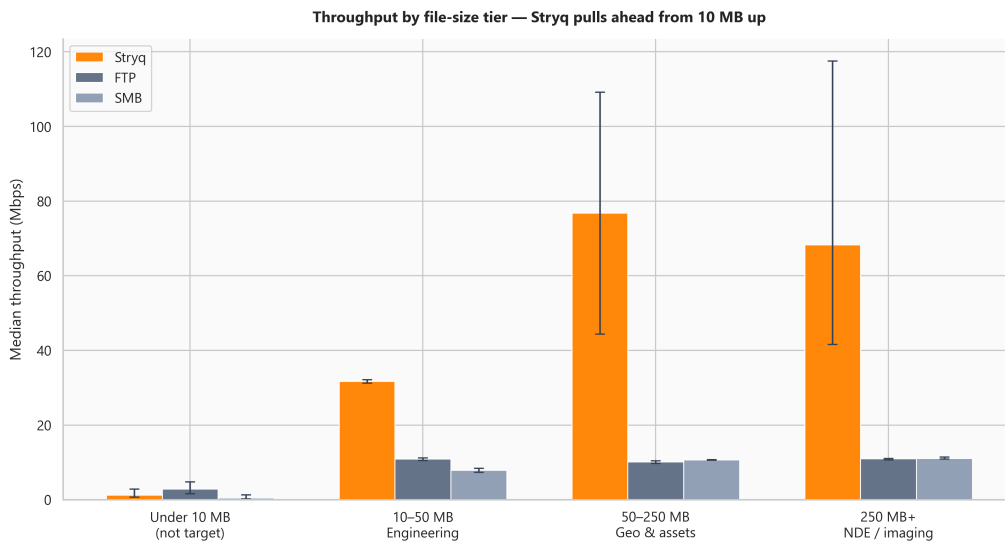


Figure 2 — Median throughput (Mbps) by size tier and protocol; whiskers show interquartile range across files in each tier. Stryq throughput rises with payload size; FTP and SMB baselines remain near ~11 Mbps per file on structured studies above 50 MB.

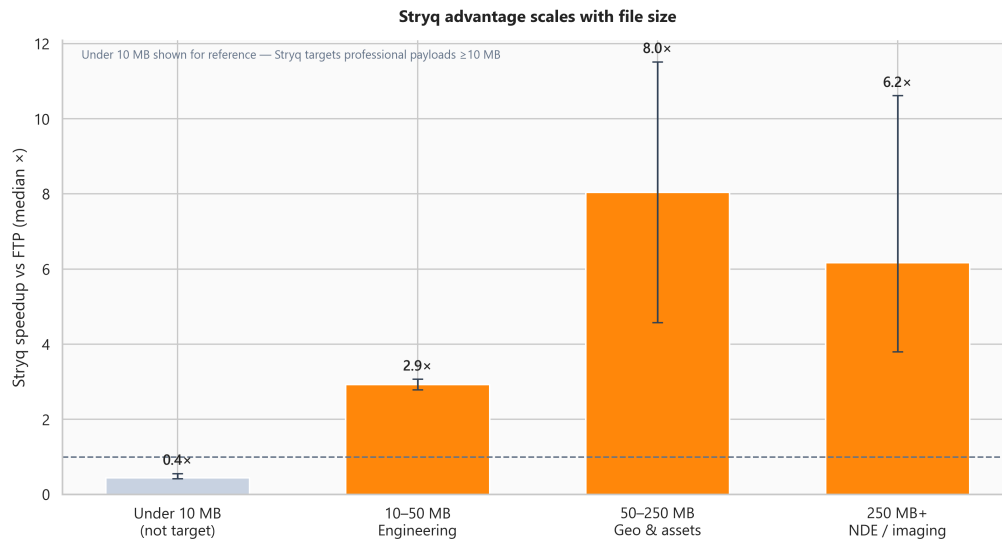


Figure 3 — Median Stryq speedup vs FTP by file-size tier; whiskers show interquartile range across files in each tier. The <10 MB reference tier is shown for completeness. The 250 MB+ bar reflects NDE/imaging payloads in this test set only (four DICOM/DICONDE studies plus CT volume); the reference MP4 is excluded from tier charts.

5. Findings by industry category

Engineering and manufacturing

The CAD and design exports in our test set — 10–50 MB in this study — showed consistent ~2.6× – 3.2× speedups vs FTP, with Stryq reaching ~32 Mbps where the single-connection FTP baseline measured ~11 Mbps. This covers everyday engineering work: simulation results, CAD releases, and fixture data between sites on the same LAN or VPN. Engineering files can be much larger in production; the size band here reflects what we had on hand, not a product limit.

Tiny reference STLs under 1 MB are included for completeness. Secure session setup adds measurable wall time at that scale; Stryq still delivered verified delivery at FTP-comparable speeds.

Nondestructive testing and inspection

The strongest measured divergence in this study appears on large structured volumes. Four studies (250–570 MB DICOM/DICONDE) transferred at 68 – 118 Mbps on Stryq vs ~11 Mbps per file on single-connection FTP and SMB — speedups from 3.8× to 11× (median 8.4× on those four files). One 512-slice study completed in roughly 3 seconds on Stryq vs 33 seconds on FTP on the same network and receiver.

Teams outsourcing NDE, running in-house industrial CT lines, or exchanging inspection datasets with partners will find these volumes the most representative of their workloads in this study.

Geospatial and earth observation

Results were mixed across the four USGS GeoTIFF tiles we tested (50–250 MB in this study). One 85 MB tile achieved roughly 15× speedup vs FTP on Stryq. Three larger tiles landed near 1× — FTP, SMB, and Stryq all clustered around ~11 Mbps. That pattern means the sender or receiver could not read or write bytes fast enough for any protocol to pull ahead; it is not a full-disk condition (plenty of space remained). The same machines and network later delivered 68–118 Mbps on DICOM/DICONDE studies in the same test run, so the geospatial parity results reflect how those particular tiles were read during the mixed batch, not a broken link. Evaluators with heavy geospatial workloads should run a short pilot on their own storage before drawing conclusions.

High-resolution video

The test set includes one licensed reference clip — Big Buck Bunny sunflower (604 MB H.264 MP4, Blender Foundation open reference) — to represent large sequential media. It is not a target workload for regulated or inspection file exchange; it is included for completeness, like the small reference STLs.

On this test path the clip showed near parity across protocols: median throughput ~11 Mbps on FTP and SMB (~55 s) and ~11 Mbps on Stryq (~59 s), for a speedup of ~0.96× vs FTP. FTP, SMB, and Stryq all clustered around the same sequential read/write rate on the sender and receiver — the same pattern seen on several large GeoTIFF tiles (§5) — so no protocol could pull ahead. Retained medians are stable across six runs per protocol after routine outlier review.

Stryq adds a modest fixed cost for secure session setup, integrity verification, and TLS-protected delivery. When wall time is dominated by reading and writing bytes from storage, that overhead can leave single-stream FTP slightly ahead on median seconds — here by roughly 3–4 s on a ~57 s transfer, well within normal run-to-run variation.

Engineering exports and structured inspection volumes showed clearer Stryq advantages across the benchmark. Teams moving large sequential media over storage-limited paths should expect similar parity unless disk or link headroom increases.

6. Summary (professional payloads ≥ 10 MB)

Table 3 summarizes headline metrics for industry-representative payloads ≥ 10 MB.

Table 3 — Summary metrics for industry-representative payloads ≥ 10 MB.

Metric	Stryq vs FTP	Notes
Files in tier	12 of 15	Excludes <10 MB reference STLs
Median speedup (all ≥ 10 MB)	2.9×	Blended professional payloads
Faster than FTP	11 / 12	4K MP4 near parity
Structured XL studies (4 files)	3.8× – 11×	DICOM/DICONDE · NDE / inspection
Files ≥ 50 MB faster than FTP	9 / 10	Excludes disk-bound reference MP4 (Table 2)
Aggregate throughput	170 vs ~85 Mbps	Complete 15-file mixed batch (Figure 1)

7. Per-study throughput (DICOM/DICONDE)

Figure 4 plots per-study throughput for the four large structured imaging files in the test set. FTP and SMB baselines cluster near 11 Mbps per file; Stryq reaches 68–118 Mbps — the difference between a half-minute wait and a transfer that finishes as the export dialog closes.

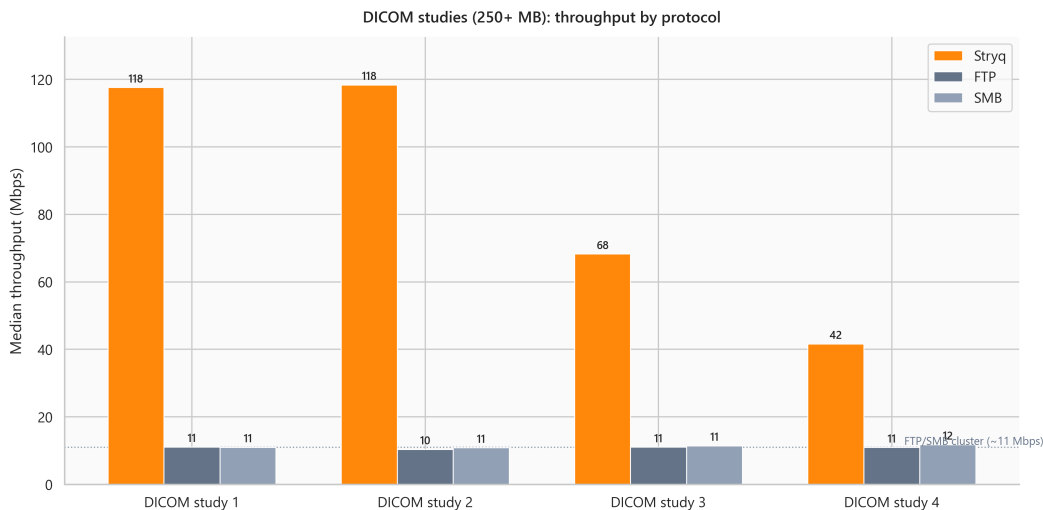


Figure 4 — Per-study median throughput for four XL DICOM/DICONDE volumes (same Mbps scale as elsewhere in this report). Values labeled on each bar; FTP and SMB cluster near ~11 Mbps (dotted reference). Speedup vs FTP: 3.8× – 11×

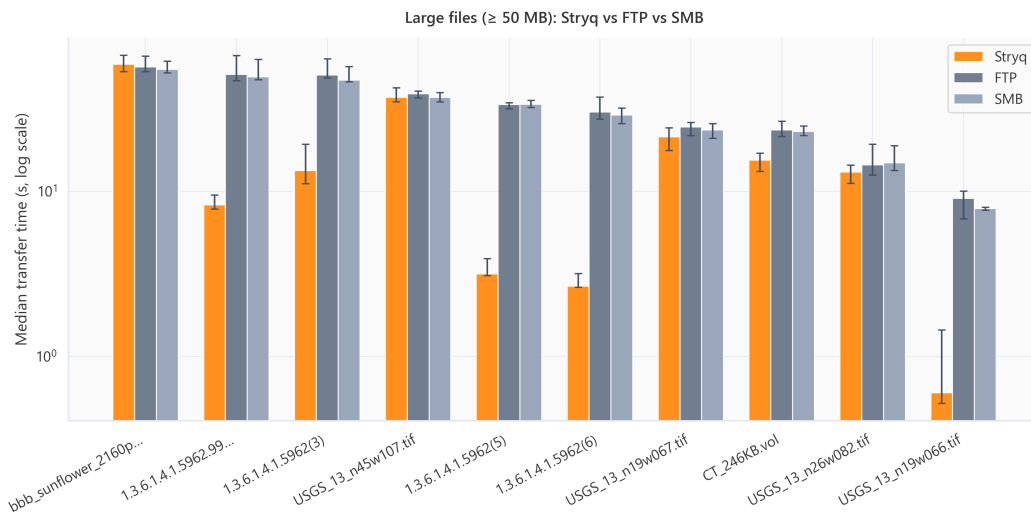


Figure 5 — Median transfer time for files ≥ 50 MB (log scale); whiskers show interquartile range across measured runs.

8. Send/Receive experience (Stryq 2.3)

Alongside the throughput results above, Stryq 2.3 ships with a redesigned Send/Receive layout. Figure 6 shows the Receive screen captured during this benchmark run — completed structured studies in the transfer log, a GeoTIFF mid-transfer, and live session counters (60 files · 7.5 GB). This is a product snapshot for context, not a benchmark metric: pairing still uses a simple code, and payloads move direct between machines rather than through a cloud file service.

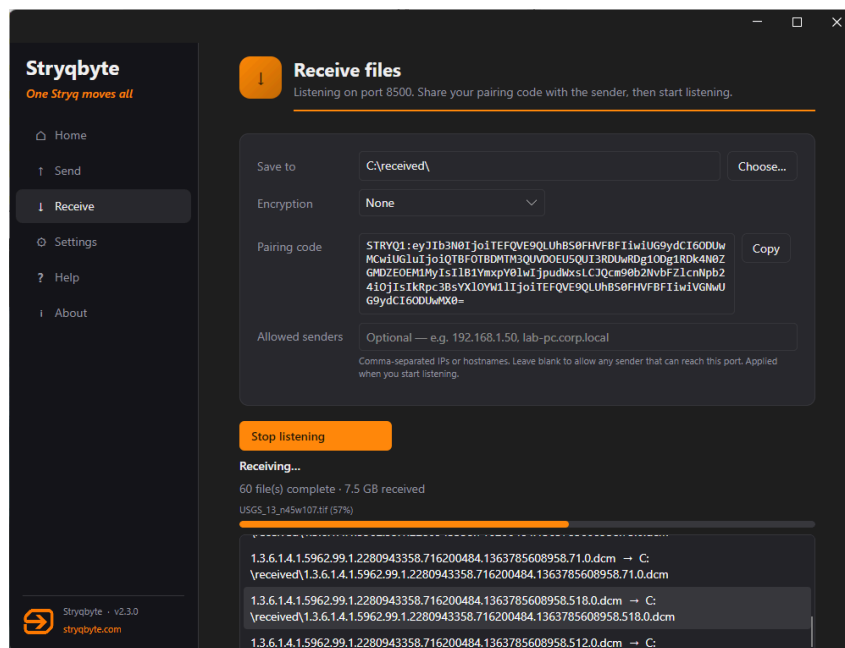


Figure 6 — Stryq 2.3 Receive during the June 2026 industry cohort study (illustrative UI; not a measured performance result).

9. Conclusions

From this study on identical Windows endpoints and a controlled wired LAN:

1. **Stryq throughput rises with payload size; single-connection FTP and SMB do not.** On large structured studies, FTP and SMB stayed near ~11 Mbps per file while Stryq reached 68–118 Mbps on the same files (Figures 2–4).
2. **The largest measured wins are on DICOM/DICONDE volumes ≥ 250 MB.** Speedups of $3.8\times$ – $11\times$ vs FTP (median $8.4\times$ on four studies); on measured files ≥ 50 MB, Stryq was faster than FTP in nine of ten cases (reference MP4 near parity).
3. **The engineering exports we tested in the 10–50 MB band showed consistent $\sim 2.6\times$ – $3.2\times$ speedups vs FTP** — meaningful for everyday CAD and simulation handoffs in this study, below the inspection volumes but well above reference payloads.
4. **End-to-end throughput on the full mixed batch roughly doubled on Stryq** (170 vs ~ 85 Mbps aggregate vs FTP or SMB; Figure 1). Per-file tier analysis shows that advantage concentrates on large structured payloads, not reference files.
5. **Sub-10 MB reference STLs and the disk-bound 4K reference MP4 are not where throughput gains concentrate in this study.** Secure session setup or sequential disk I/O dominated wall time on those files; Stryq still delivered verified, encrypted delivery at FTP-comparable speeds.

These measurements compare direct LAN transfer to single-stream FTP and SMB. They do not benchmark cloud portal or sync workflows. Over VPN or WAN, the relative advantage on large structured payloads often holds, but absolute throughput follows your link rate — validate on your network and representative file sizes before deployment.

This report should be read alongside the February 2026 empirical study, the CMMC / NIST SP 800-171 control mapping, and deployment documentation when evaluating Stryq against incumbent FTP/SMB and cloud handoff workflows.

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