NETPUMP DATA

Industry Use Cases

Powered by Pacbyte's Netpump Data Technology

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Up to 15x Faster Data Transfer	**Up to 40x** on High Latency Links	**50% Less** CPU Usage	**$0.025/GB** Progressive Pricing USD

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About Netpump Data

Netpump Data is Pacbyte's accelerated binary data transfer technology. It is a software-only solution that modifies how data moves across TCP/IP networks, enabling substantially faster file transfer speeds without requiring proprietary hardware, protocol changes on smart devices, or third-party infrastructure.

Core Technology

Standard TCP/IP uses linear data transfer through a single port, making it vulnerable to packet loss. When packets are received with an error, a retransmission is requested and transfer speed is halved — a cost that compounds with each successive error. Netpump Data solves this through nonlinear data transfer across multiple ports simultaneously.

Key Capabilities

- Up to 100% more data per second throughput on standard TCP/IP networks
- Up to 15x faster delivery on standard networks; up to 40x on high-latency links (satellite, radio)
- Up to 20 concurrent parallel threads — accesses latent network capacity
- Approximately 50% less CPU usage compared to conventional TCP/IP transfers
- 100% file delivery certainty — files arrive intact and unmodified
- Operates on any TCP/IP network: LAN, WAN, VPN, MPLS, satellite, radio, submarine cable, mobile
- Works on closed, air-gapped, and classified networks — no internet access required
- Software-only deployment — no hardware upgrades needed
- Supports all existing security protocols
- Auto-resume from last data packet after connection failure — no full retransmission
- Drag-and-drop simplicity — no end-user training required
- Progressive pricing from USD$0.025/GB — significantly cheaper than alternatives

Deployment

Netpump Data can be deployed across cloud (AWS, Azure, Google Cloud), enterprise intranets, telecommunications networks, content delivery networks (CDNs), satellite, submarine communications, and mobile devices. It is available on both the AWS Marketplace and Azure Marketplace.

Independent Verification

Netpump Data's performance has been independently tested and verified by Interactive (cloud transfer testing) and by the University of Technology, Sydney (accessUTS testing and verification program).

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01 HEALTHCARE

Industry Overview

Healthcare organisations handle massive volumes of patient data, electronic health records (EHRs), diagnostic imaging files, genomic datasets, and clinical research data that must be transferred securely and rapidly across networks. Network latency and slow data transfers can directly impact patient care outcomes. Netpump Data transforms healthcare data infrastructure by dramatically accelerating file transfers while maintaining compliance with stringent data security requirements.

Use Cases

Use Case 1: Electronic Health Record (EHR) Synchronisation

Challenge: EHR systems across multi-site hospital networks require rapid synchronisation of large patient record databases. Delays in data availability can affect clinical decision-making.

Solution: Netpump Data accelerates EHR database replication up to 15x faster between hospital sites, ensuring near real-time record availability across all locations.

Key Benefits:

- Up to 15x faster inter-site synchronisation
- Reduced clinical workflow delays
- Supports existing TCP/IP infrastructure, no hardware changes needed
- Encrypted transfer ensures HIPAA compliance

Use Case 2: Remote Patient Monitoring Data Aggregation

Challenge: IoT medical devices and remote monitoring platforms generate continuous data streams that must be reliably transmitted to centralised analysis platforms, even over high-latency connections.

Solution: Netpump Data's resilience to packet loss and multi-threaded transfer protocol ensures continuous, reliable data delivery from remote monitoring devices to central health platforms.

Key Benefits:

- Reliable transfer over satellite and rural connections
- Minimal CPU overhead (approx. 2%) preserves device battery life
- Resume-on-crash capability prevents data loss
- Works across LAN, WAN, VPN, and cellular networks

Key Technical Specifications

Specification	Detail
Technology	Netpump Data - Accelerated TCP/IP File Transfer
Speed Improvement	Up to 15x faster on standard networks; up to 40x on high latency links
CPU Overhead	Approximately 2% — negligible impact on clinical systems

Security	Supports all existing security protocols; optional 2048-bit encryption layer
Deployment	Software only — no hardware upgrades required
Network Types	LAN, WAN, VPN, satellite, mobile, fibre — any TCP/IP network

02 RADIOLOGY

Industry Overview

Radiology departments produce some of the largest digital files in medicine. A single CT scan can exceed 1GB, MRI series routinely reach several gigabytes, and 3D imaging studies can be even larger. Transferring these files between imaging centres, hospitals, specialist radiologists and reporting services is a major bottleneck. Netpump Data is ideally suited to radiology, enabling rapid DICOM file transfer that directly improves reporting turnaround and patient outcomes.

Use Cases

Use Case 1: DICOM Image Transfer Between Imaging Centres and Radiologists

Challenge: Teleradiology services depend on fast, reliable transmission of large DICOM image sets from acquisition sites to remote reporting radiologists. Standard TCP/IP struggles on high-latency or congested networks.

Solution: Netpump Data's nonlinear multi-port transfer dramatically reduces DICOM file transfer times, enabling remote radiologists to receive and report on studies faster.

Key Benefits:

- Demonstrated 3.64x speed improvement transferring 6GB files internationally
- Ideal for teleradiology and after-hours reporting services
- No change to existing PACS/DICOM workflows
- Secure transfer of sensitive patient imaging data

Use Case 2: Cloud-Based PACS Archive Replication

Challenge: Migrating or replicating large PACS archives to cloud-based storage is time-consuming and expensive when using standard TCP/IP, often taking days or weeks.

Solution: Netpump Data accelerates bulk archive migration and ongoing cloud replication, reducing migration windows and storage costs.

Key Benefits:

- Reduce archive migration time by up to 90%
- Compatible with AWS, Azure, Google Cloud
- Lowers overall cloud egress costs through faster transfers
- Progressive pricing from AUD$0.02/GB makes large migrations cost-effective

Key Technical Specifications

Specification	Detail
Primary File Types	DICOM, JPEG 2000, NIfTI, TIFF (multi-gigabyte imaging studies)
Speed Improvement	Up to 15x — 6.11GB transferred 3.64x faster internationally (demonstrated)
Cloud Compatibility	AWS, Azure, Google Cloud and smaller local clouds

Workflow Impact	Zero — operates invisibly in background, drag-and-drop simplicity
Data Integrity	100% file delivery certainty — no compression, no data loss
Pricing	Progressive from AUD$0.02/GB

03 MINING

Industry Overview

Mining operations generate vast quantities of data across geographically remote and often high-latency environments: geological survey data, LiDAR scans, equipment telemetry, seismic data, drone survey imagery, and operational databases. Moving this data between remote mine sites and centralised operations centres or cloud platforms is a persistent challenge. Netpump Data delivers its greatest performance advantages precisely in the high-latency, remote-connectivity scenarios typical of mining.

Use Cases

Use Case 1: Remote Site Geological and Survey Data Transfer

Challenge: Mining exploration teams collect large datasets — seismic surveys, LiDAR point clouds, drone imagery — at remote locations with satellite or limited radio connectivity. Transferring data to processing centres is slow and costly.

Solution: Netpump Data achieves up to 40x speed improvement on high-latency satellite and radio links, making rapid data transfer feasible even from the most remote sites.

Key Benefits:

- Up to 40x faster on high-latency satellite links
- Works on satellite, radio, VPN, and mobile connections
- Resume capability if connection drops during transfer
- Reduces satellite bandwidth costs significantly

Use Case 2: Operational Technology and SCADA Data Replication

Challenge: Continuous replication of SCADA system data, equipment telemetry, and safety monitoring data from remote sites to operational dashboards is critical for safety and efficiency.

Solution: Netpump Data's lightweight footprint (approx. 2% CPU overhead) and protocol transparency allows it to operate alongside existing SCADA and operational technology systems without disruption.

Key Benefits:

- Real-time or near real-time data availability at operations centres
- Compatible with existing IT/OT infrastructure
- Operates on closed or air-gapped networks for security
- Software-only — no mine-site hardware procurement needed

Key Technical Specifications

Specification	Detail
High Latency Performance	Up to 40x speed improvement on satellite and radio links
Network Compatibility	Satellite, radio, VPN, cellular, cable, fibre — all TCP/IP

Closed Networks	Fully operational on closed or air-gapped networks
CPU Overhead	Approximately 2% — negligible on operational technology systems
Crash Recovery	Automatic resume from last data packet — no full restart needed
Deployment	Software only — no specialised hardware required

04 CAD/CAM

Industry Overview

Computer-Aided Design and Computer-Aided Manufacturing environments work with extremely large file types: 3D models, assembly files, simulation datasets, toolpath files, and technical drawing libraries that can reach tens of gigabytes. Engineering teams distributed across offices, suppliers, and manufacturing partners depend on fast file sharing for design collaboration and manufacturing handover. Netpump Data accelerates these transfers, removing a significant productivity bottleneck.

Use Cases

Use Case 1: Multi-Site Design Collaboration and File Sharing

Challenge: Engineering teams distributed across multiple offices or countries exchange large CAD assemblies and simulation files. Slow transfers delay design iteration cycles and time-to-market.

Solution: Netpump Data enables up to 15x faster transfer of large CAD and simulation files between offices, dramatically reducing wait times for design teams.

Key Benefits:

- Up to 15x faster large file transfers between offices
- No change to existing CAD application workflows
- Secure transfer suitable for confidential IP
- Compatible with cloud storage platforms used in engineering

Use Case 2: Manufacturing Partner File Handover

Challenge: Transferring final manufacturing files (CNC toolpaths, assembly documentation, material specifications) to contract manufacturers involves multi-gigabyte packages that are slow to transmit via standard means.

Solution: Netpump Data provides fast, reliable, direct origin-to-destination transfer without requiring upload to third-party servers, preserving file security and confidentiality.

Key Benefits:

- Direct origin-to-destination transfer — no third-party server required
- No third-party access to confidential manufacturing IP
- Transfer hundreds of gigabytes in a fraction of the time
- Works via existing VPN and secure enterprise networks

Key Technical Specifications

Specification	Detail
Typical File Sizes	1GB to 50GB+ (CAD assemblies, simulations, toolpath libraries)
Speed Improvement	Up to 15x on standard networks
Transfer Method	Direct origin-to-destination — no intermediate server upload

Security	Customer-controlled authorisation codes; no third-party data access
Integration	Works with existing enterprise networks and cloud storage
File Types	Agnostic — transfers any binary file type without modification

05 ARCHITECTURE & BUILDING DESIGN

Industry Overview

Architecture, engineering, and construction (AEC) firms work with building information models (BIM), 3D renderings, point cloud surveys, photogrammetry data, and large-format drawing sets. These files are shared constantly between architects, engineers, project managers, clients, and contractors — often across geographies. Slow file transfer is a daily productivity drain on AEC workflows. Netpump Data resolves this, making collaboration faster and more reliable.

Use Cases

Use Case 1: BIM Model Distribution Across Project Teams

Challenge: Large Building Information Models (BIM) — often multiple gigabytes — must be shared regularly between architects, structural engineers, MEP consultants, and contractors. Current file sharing methods are slow and unreliable for these file sizes.

Solution: Netpump Data enables rapid transfer of large BIM files and associated project data between all stakeholders, accelerating the design coordination process.

Key Benefits:

- Faster BIM handoffs between disciplines
- Supports cloud-based BIM platforms (AWS, Azure)
- Secure transfer protects pre-planning and sensitive client data
- Progressive pricing is affordable for project-based work

Use Case 2: Construction Site Survey Data Transfer

Challenge: Drone surveys and 3D laser scanning of construction sites produce large point cloud and photogrammetry datasets that must be transferred from site to design offices for progress monitoring and clash detection.

Solution: Netpump Data accelerates the upload of site survey data to cloud platforms or offices, making near real-time progress monitoring achievable.

Key Benefits:

- Near real-time progress data available to design teams
- Works on 4G/5G site connections and satellite where needed
- Reduces bottlenecks in clash detection and quality assurance
- Simple to deploy on site with minimal IT overhead

Key Technical Specifications

Specification	Detail
Typical Files	BIM models, point clouds, photogrammetry, renderings (1GB–100GB+)
Speed Improvement	Up to 15x standard networks; up to 40x on high-latency site connections
Cloud Support	AWS, Azure, Google Cloud and private cloud deployments
Pricing Model	Progressive from AUD$0.02/GB — suitable for project-based billing

Ease of Use	Drag-and-drop interface; no end-user training required
Security	Supports all existing security and VPN protocols

06 EDUCATION

Industry Overview

Educational institutions — from K-12 schools to universities and research institutions — increasingly depend on digital content delivery, cloud-based learning management systems, and research data infrastructure. Large learning content libraries, research datasets, and e-assessment systems must be accessible reliably and quickly. Netpump Data enables educational networks to perform at their peak efficiency, improving the learning experience and research capability.

Use Cases

Use Case 1: Research Data Transfer and Collaboration

Challenge: Research universities generate and must transfer large scientific datasets — genomics, astronomy, physics simulations — between institutions, research partners, and international collaborators. Standard TCP/IP is a limiting factor for large international transfers.

Solution: Netpump Data dramatically accelerates inter-institutional research data transfers, enabling faster scientific collaboration and reducing time spent waiting for data.

Key Benefits:

- Up to 40x faster on high-latency international academic links
- Secure transfer of sensitive and embargoed research data
- Compatible with research cloud platforms
- Supports large file transfers without intermediate server uploads

Use Case 2: Learning Content Distribution to Remote and Regional Campuses

Challenge: Distributing large educational content packages — video libraries, simulation software, course materials — to remote or regional campuses with limited bandwidth is time-consuming.

Solution: Netpump Data's efficiency gains enable rapid content distribution even on lower-bandwidth regional links, ensuring equitable access to learning materials.

Key Benefits:

- Reduces content distribution time for remote campuses
- Works effectively on limited regional internet connections
- Supports educational cloud infrastructure (AWS, Azure)
- Low cost per gigabyte makes large-scale distribution affordable

Key Technical Specifications

Specification	Detail
Performance on Research Networks	Up to 40x faster on high-latency international links
Compatibility	Any TCP/IP network — campus LAN, WAN, cloud, satellite

Data Integrity	100% delivery certainty — critical for research data accuracy
Cost	Progressive from AUD$0.02/GB — budget-friendly for institutions
Security	Supports encryption; suitable for embargoed research data
Deployment	No hardware required; integrates with existing IT infrastructure

07 LEGAL

Industry Overview

Legal firms, courts, and legal technology platforms handle enormous volumes of documents, evidence files, discovery materials, and court filings. Electronic discovery (eDiscovery) in major litigation can involve millions of documents, collectively reaching terabytes. Secure, rapid, and auditable transfer of these materials is essential. Netpump Data provides the speed, security, and reliability that legal data management demands.

Use Cases

Use Case 1: eDiscovery and Large Document Production

Challenge: Major litigation requires the transfer of terabytes of discovery materials between law firms, clients, courts, and opposing parties. Standard TCP/IP transfer is prohibitively slow for large document productions.

Solution: Netpump Data accelerates bulk document transfer for eDiscovery, reducing production timelines from days to hours and enabling legal teams to meet tight court deadlines.

Key Benefits:

- Transfer terabytes of discovery documents in hours, not days
- Direct origin-to-destination — no third-party server access to confidential materials
- Customer-controlled encryption and authorisation
- Audit logging available for chain-of-custody requirements

Use Case 2: Secure Inter-Office and Client Document Sharing

Challenge: Large law firms with multiple offices share large document packages, contract databases, and due diligence materials between offices and with clients on an ongoing basis. Speed and security are both paramount.

Solution: Netpump Data enables rapid, secure file transfer directly between law firm offices and to/from clients without exposing materials to third-party infrastructure.

Key Benefits:

- No materials stored on or accessible via third-party servers
- Optional 2048-bit encryption layer for sensitive matters
- Works on existing firm VPN and private network infrastructure
- No end-user training required — drag-and-drop simplicity

Key Technical Specifications

Specification	Detail
Transfer Method	Direct origin-to-destination — no third-party server involvement
Security	2048-bit optional encryption layer; customer-controlled authorisation
Logging	Configurable audit logging from verbose to minimal

Closed Networks	Operates on closed/private networks — suitable for secure legal environments
Data Integrity	100% file delivery certainty — no algorithmic transformation of files
Speed Improvement	Up to 15x standard; up to 40x on high-latency or international transfers

08 GOVERNMENT

Industry Overview

Government agencies at local, state, and federal levels transfer vast quantities of sensitive data: census records, tax data, law enforcement records, social services data, land registry information, and inter-agency intelligence. Many government networks are constrained by legacy infrastructure, strict security requirements, and the need to operate on closed or classified networks. Netpump Data's ability to function on closed networks, support existing security protocols, and require no hardware changes makes it exceptionally well-suited to government environments.

Use Cases

Use Case 1: Inter-Agency Data Sharing and Integration

Challenge: Government agencies must share large datasets between departments — health, welfare, taxation, law enforcement — often across high-security, constrained network environments. Slow data transfer impedes policy implementation and service delivery.

Solution: Netpump Data accelerates inter-agency data transfers while remaining fully compatible with government security frameworks, closed networks, and existing network management systems.

Key Benefits:

- Operates on closed, air-gapped, and classified networks
- Compatible with MPLS, SD-WAN, and government VPN infrastructure
- No third-party infrastructure required
- Supports existing government encryption and security protocols

Use Case 2: Digital Government Services — Large File Processing

Challenge: Digital transformation initiatives require rapid processing and transfer of large files: land registry updates, planning submission documents, court records, and large-scale public data releases.

Solution: Netpump Data enables government IT infrastructure to handle large file workloads efficiently, improving service delivery timelines without capital expenditure on new hardware.

Key Benefits:

- Improved processing and availability of large government databases
- Software-only deployment — no capital expenditure on hardware
- Works on existing government network infrastructure
- Scalable progressive pricing suits government procurement models

Key Technical Specifications

Specification	Detail
Closed Network Support	Fully operational on closed, air-gapped, and classified networks

Security Compatibility	Supports all government encryption and VPN protocols
Infrastructure Impact	Software only — no hardware procurement or network redesign
Speed Improvement	Up to 15x standard; up to 40x on restricted high-latency links
Overhead	Less than 2% additional overhead on origin and destination devices
Deployment	Instalable via standard OS/service update mechanisms

09 BANKING & FINANCE

Industry Overview

Financial institutions transfer enormous volumes of data every day: transaction records, market data feeds, risk model datasets, regulatory reporting files, and inter-bank settlement data. Speed, security, and reliability are non-negotiable in financial data infrastructure. Netpump Data delivers significant performance improvements on financial networks while working seamlessly within the strict security frameworks that banking environments demand.

Use Cases

Use Case 1: End-of-Day Settlement and Reconciliation Data Transfer

Challenge: End-of-day batch processing in banking involves transferring large transaction datasets between branch systems, data centres, and clearing houses within tight time windows. Any delay has downstream operational and regulatory implications.

Solution: Netpump Data accelerates batch data transfers, providing banks with more time for processing within each batch window and reducing risk of settlement failures due to transfer delays.

Key Benefits:

- Faster batch transfers reduce end-of-day processing risk
- Operates on existing banking network infrastructure
- Compatible with all financial-grade encryption and security protocols
- No disruption to existing batch processing workflows

Use Case 2: Risk Model and Quantitative Analytics Data Distribution

Challenge: Quantitative risk teams work with large datasets and model outputs that must be distributed to trading desks, risk committees, and regulatory reporting systems rapidly. Slow internal data transfers limit the frequency and timeliness of risk reporting.

Solution: Netpump Data's multi-threaded transfer protocol enables faster distribution of large risk datasets across internal networks, improving the frequency and timeliness of risk reporting.

Key Benefits:

- More frequent, near real-time risk model distribution
- Up to 15x faster internal data distribution
- Works on closed internal banking networks
- Low CPU overhead — no performance impact on trading systems

Key Technical Specifications

Specification	Detail
Security	Supports all financial-grade encryption and security protocols
Closed Networks	Fully operational on internal banking networks without internet access
Speed Improvement	Up to 15x on standard networks; up to 40x on constrained links

CPU Overhead	Approximately 2% — negligible impact on trading and processing systems
Data Integrity	100% delivery certainty — critical for financial data accuracy
Deployment	Software only — no hardware changes to banking infrastructure

10 DEFENCE

Industry Overview

Defence and intelligence agencies operate in some of the most demanding and constrained network environments in existence: satellite uplinks, tactical radio networks, submarine cable communications, and air-gapped classified systems. The ability to transfer large volumes of intelligence data, mission files, surveillance imagery, and operational data rapidly and securely is a strategic capability. Netpump Data was specifically designed to address these challenges, with the ability to operate on closed networks and support bespoke integration with defence-specific environments.

Use Cases

Use Case 1: Tactical Intelligence and Surveillance Data Transfer

Challenge: Intelligence operations generate large surveillance datasets, drone imagery, and signals intelligence (SIGINT) data that must be transferred rapidly from collection platforms to analysis centres, often over high-latency satellite or radio links.

Solution: Netpump Data delivers up to 40x speed improvement on high-latency links, enabling faster intelligence reporting cycles and more timely decision-making.

Key Benefits:

- Up to 40x faster on satellite and radio tactical links
- Operates on closed and classified networks
- Bespoke versions available for specific defence environments
- Supports existing military encryption and authorisation frameworks

Use Case 2: Mission-Critical File Distribution

Challenge: Distributing updated mission files, navigational data, and operational intelligence to deployed units with limited connectivity is a persistent operational challenge. Transfer failures or delays can compromise mission effectiveness.

Solution: Netpump Data's resume-on-crash capability and resilience to packet loss ensures reliable file delivery even on unreliable tactical communication links.

Key Benefits:

- Resume from last packet — no full retransmission after connection drop
- Highly resilient to packet loss on tactical links
- Works on radio, satellite, VPN, and fibre connections
- Customer-controlled authorisation — no third-party access to mission data

Key Technical Specifications

Specification	Detail
Closed/Air-Gapped Networks	Fully operational — no internet connection required
Bespoke Integration	Custom versions available for specific defence environments

High Latency Performance	Up to 40x improvement on satellite and tactical radio links
Security	Customer-controlled authorisation; no third-party data access; 2048-bit encryption option
Crash Resilience	Automatic resume from last data packet — critical for tactical links
Deployment	Software only — no specialised hardware; deployable via standard update mechanisms

11 ACCOUNTING

Industry Overview

Accounting firms and finance teams transfer large volumes of data during tax season, audit engagements, and financial reporting cycles: general ledger exports, client document packages, audit evidence files, and regulatory filings. The combination of time pressure, large file volumes, and strict confidentiality requirements makes Netpump Data a valuable asset for accounting practice management.

Use Cases

Use Case 1: Year-End Audit and Tax Document Production

Challenge: During peak periods, accounting firms must exchange large document packages with clients — financial statements, supporting schedules, transaction exports — under significant time pressure. Slow transfers reduce the time available for professional work.

Solution: Netpump Data dramatically reduces the time spent waiting for large document packages to transfer, freeing up professional time during peak periods.

Key Benefits:

- Faster document exchange during peak tax and audit seasons
- Confidential client documents transferred without third-party server involvement
- Works over existing firm and client networks
- Low cost per gigabyte is suitable for billing back to clients

Use Case 2: Multi-Office Practice Data Synchronisation

Challenge: National accounting firms with multiple offices need to synchronise client databases, practice management systems, and document libraries across their network. Slow synchronisation can cause version conflicts and workflow inefficiencies.

Solution: Netpump Data accelerates inter-office data synchronisation, ensuring all offices operate with current data and reducing synchronisation windows.

Key Benefits:

- Faster inter-office database and document synchronisation
- Reduces risk of data version conflicts
- Works on existing firm WAN and VPN infrastructure
- No end-user training required

Key Technical Specifications

Specification	Detail
Transfer Method	Direct origin-to-destination — client data not exposed to third parties
Speed Improvement	Up to 15x on standard enterprise networks
Security	Supports existing firm security and VPN protocols
Cost	Progressive from AUD$0.02/GB — easy to incorporate into client billing

Ease of Deployment	Software only; installs like a standard software update
Availability	Available on AWS and Azure marketplaces

12 CLOUD & CLOUD INFRASTRUCTURE

Industry Overview

Cloud computing is fundamentally dependent on data transfer performance. Whether migrating workloads to the cloud, synchronising data between cloud regions, backing up to cloud storage, or building multi-cloud architectures, the speed of data transfer directly determines the cost and feasibility of cloud strategies. Netpump Data is available on AWS and Azure marketplaces and is purpose-built to accelerate cloud data movement at a fraction of the cost of alternatives.

Use Cases

Use Case 1: Cloud Migration Acceleration

Challenge: Migrating large on-premises databases, file servers, and application data to cloud platforms is slow using standard TCP/IP. Long migration windows increase risk and cost.

Solution: Netpump Data reduces cloud migration time by up to an order of magnitude, compressing migration projects from weeks to days or hours.

Key Benefits:

- Reduce migration windows from weeks to days
- Available directly on AWS and Azure marketplaces
- Progressive pricing from AUD$0.02/GB — far cheaper than alternatives (Aspera: $1.34/GB)

Use Case 2: Multi-Region Data Replication

Challenge: Replicating large datasets across cloud regions for disaster recovery, compliance, or performance localisation is expensive and slow when relying on native cloud transfer mechanisms.

Solution: Netpump Data's nonlinear multi-threaded approach to TCP/IP dramatically improves inter-region transfer speeds, making active-active multi-region architectures more practical and affordable.

Key Benefits:

- Up to 15x faster cross-region replication
- Dramatically reduces cloud transfer costs
- Compatible with AWS S3, Azure Blob Storage, and other cloud storage services
- Supports CDN infrastructure deployment

Key Technical Specifications

Specification	Detail
Cloud Marketplaces	Available on AWS Marketplace and Azure Marketplace
Speed vs Standard TCP/IP	Up to 100% more data per second throughput; up to 15x faster in practice
Price vs Aspera	AUD$0.02/GB (Netpump) vs $1.34/GB (Aspera) — up to 67x cheaper

CPU Efficiency	50% less CPU than conventional TCP/IP transfers
Platform Support	AWS, Azure, Google Cloud and smaller local clouds
CDN Compatibility	Works with or without content delivery networks

13 ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Industry Overview

AI and machine learning workloads involve some of the largest data transfers in modern computing: training datasets that can reach petabytes, model checkpoints of hundreds of gigabytes, inference data pipelines, and the distribution of trained models to edge or cloud inference endpoints. Slow data transfer directly increases the cost and time of AI development cycles. Netpump Data's efficiency and low CPU overhead make it an ideal infrastructure layer for AI data pipelines.

Use Cases

Use Case 1: Training Dataset Distribution and Management

Challenge: Large-scale AI training requires distributing massive datasets — image libraries, text corpora, sensor data — to training infrastructure. Standard TCP/IP data loading is often the bottleneck in training pipelines.

Solution: Netpump Data accelerates dataset distribution and loading, reducing data pipeline bottlenecks and enabling faster training iteration cycles.

Key Benefits:

- Faster dataset distribution to training clusters
- 50% less CPU overhead — more compute available for training
- Compatible with all major cloud AI training platforms
- Reduces cloud storage egress costs through faster transfers

Use Case 2: Model Distribution to Edge and Inference Endpoints

Challenge: Distributing updated AI models to large fleets of edge devices, IoT endpoints, or inference servers is time-consuming when models are hundreds of megabytes or gigabytes in size.

Solution: Netpump Data enables rapid model distribution to multiple endpoints sequentially, reducing the update window for model deployments across large infrastructure.

Key Benefits:

- Faster model rollouts to edge and inference infrastructure
- Works on diverse network types including 5G, satellite, and mobile
- Resume capability prevents full re-download on connection interruption
- Low CPU overhead on edge devices preserves inference capacity

Key Technical Specifications

Specification	Detail
Dataset Sizes Supported	Any binary file — gigabytes to petabytes
CPU Efficiency	50% less CPU than standard TCP/IP — more resources for AI workloads

Cloud Compatibility	All major AI cloud platforms (AWS, Azure, Google Cloud)
Speed Improvement	Up to 15x — faster training iteration cycles
Edge Deployment	Works on 5G, satellite, mobile — supports edge AI deployment
Data Integrity	100% delivery certainty — no corrupted training batches

14 FINANCE & CAPITAL MARKETS

Industry Overview

Capital markets firms — investment banks, fund managers, hedge funds, and financial data providers — depend on the rapid movement of large datasets: market data, tick data, trading system updates, risk reports, and regulatory submissions. Network speed is a competitive differentiator in financial markets. Netpump Data provides a software-only acceleration layer that improves internal data infrastructure performance without requiring expensive hardware upgrades.

Use Cases

Use Case 1: Market Data and Tick Data Distribution

Challenge: High-frequency and quantitative trading operations require rapid distribution of large tick data files and market data updates across internal infrastructure. Any transfer latency reduces the value of the data.

Solution: Netpump Data's multi-threaded nonlinear transfer protocol maximises the throughput of internal financial networks for large data distribution.

Key Benefits:

- Up to 15x faster internal data distribution
- Minimal CPU overhead preserves system resources for trading
- Works on closed internal financial networks
- No disruption to existing market data infrastructure

Use Case 2: Regulatory Reporting and Data Submission

Challenge: Regulatory reporting requires regular submission of large, structured datasets to regulatory bodies and central reporting platforms. Delays in submission can attract penalties.

Solution: Netpump Data ensures timely submission of regulatory data by accelerating the transfer of reporting files to regulatory platforms and central repositories.

Key Benefits:

- Timely regulatory submissions — reduces risk of penalties
- Secure and auditable data transfer for compliance purposes
- Works with existing regulatory submission platforms
- Crash-resume ensures no partial submissions

Key Technical Specifications

Specification	Detail
Internal Network Performance	Up to 100% more throughput on existing infrastructure
CPU Overhead	Approximately 2% — preserves trading system resources
Closed Network Support	Full functionality on internal private financial networks

Data Integrity	100% delivery certainty — critical for regulatory data accuracy
Speed Improvement	Up to 15x on standard networks
Security	Supports financial-grade encryption; customer-controlled authorisation

15 RETAIL & E-COMMERCE

Industry Overview

Retail and e-commerce operations are data-intensive: product catalogues, inventory databases, customer data, transaction records, promotional content, and large media assets must be distributed across store networks, distribution centres, online platforms, and cloud infrastructure. During peak periods — Black Friday, end-of-season sales — network performance is critical to business continuity. Netpump Data strengthens retail data infrastructure performance at minimal cost.

Use Cases

Use Case 1: Product Catalogue and Content Distribution

Challenge: Large retail catalogues — particularly those with high-resolution product imagery and video — must be distributed to e-commerce platforms, store systems, and distribution centres rapidly and reliably.

Solution: Netpump Data accelerates catalogue and media content distribution, ensuring product information and imagery is available across all retail channels quickly.

Key Benefits:

- Faster catalogue updates across all retail channels
- Works with existing CDN infrastructure or without CDN
- Large media file transfers completed in minutes, not hours
- Low cost per gigabyte — affordable for large catalogue updates

Use Case 2: Supply Chain and Inventory Data Synchronisation

Challenge: Synchronising inventory and supply chain data between distribution centres, stores, third-party logistics providers, and e-commerce platforms in near real-time is essential for accurate stock management.

Solution: Netpump Data enables faster, more reliable data synchronisation across the retail supply chain, reducing stock discrepancies and improving fulfilment accuracy.

Key Benefits:

- Near real-time inventory synchronisation across all locations
- Works across diverse retail network environments
- Crash-resume ensures data consistency even on unstable connections
- Compatible with both cloud and on-premises retail systems

Key Technical Specifications

Specification	Detail
Content Distribution	Works with or without CDN infrastructure
Speed Improvement	Up to 15x for catalogue and media file transfers
Cost	Progressive from AUD$0.02/GB — highly cost-effective for large catalogues

Data Integrity	100% delivery certainty — no corrupted catalogue updates
Cloud Support	AWS, Azure, Google Cloud — all major retail cloud platforms
Peak Resilience	Multi-threaded transfer accesses latent network capacity during peak load

16 TELECOMMUNICATIONS

Industry Overview

Telecommunications companies operate the backbone of global data infrastructure: broadband networks, 5G networks, satellite communications, and submarine cable systems. They must transfer enormous internal operational datasets, provision and update network management systems, and distribute software to millions of network devices. Netpump Data directly optimises TCP/IP performance, offering telcos a software-defined tool to extract more value from existing network infrastructure.

Use Cases

Use Case 1: Network Software and Firmware Distribution

Challenge: Distributing software updates, firmware packages, and configuration files to large fleets of network infrastructure devices (routers, base stations, CPE) is time-consuming and network-intensive.

Solution: Netpump Data accelerates the distribution of network software packages, reducing update windows and minimising network disruption during maintenance periods.

Key Benefits:

- Faster firmware and software distribution to network devices
- Reduces maintenance window duration
- Works on existing telco network infrastructure
- Crash-resume prevents failed updates from requiring full re-download

Use Case 2: 5G and Broadband Network Data Backhaul

Challenge: The explosion of data on 5G and broadband networks creates increasing pressure on backhaul infrastructure. More efficient use of existing backhaul capacity is economically and operationally critical.

Solution: Netpump Data's ability to access latent bandwidth capacity and improve TCP/IP efficiency delivers effective throughput improvements on backhaul links without hardware investment.

Key Benefits:

- More efficient use of existing backhaul capacity
- Software-only — no hardware investment required
- Applicable to 5G, broadband, and Starlink infrastructure
- Reduces operational cost of data movement on telco networks

Key Technical Specifications

Specification	Detail
Network Types	5G, broadband, Starlink, satellite, submarine cable — all TCP/IP
Speed Improvement	Up to 100% more data per second throughput on standard networks
CPU Efficiency	50% less CPU — reduces energy cost of data transfer operations

Latent Capacity	Automatically accesses unused bandwidth capacity on existing infrastructure
Deployment	Software only — no hardware modifications to network infrastructure
Scale	Deployable across large device fleets via standard update mechanisms

17 MEDIA & ENTERTAINMENT

Industry Overview

Media and entertainment companies work with the largest files in commercial computing: uncompressed RAW video, high-resolution masters, VFX renders, audio production files, and digital cinema packages (DCPs). Post-production workflows depend on fast file transfer between production facilities, VFX studios, post houses, and distribution platforms. Netpump Data's independently verified performance on large file transfers makes it ideally suited to professional media workflows.

Use Cases

Use Case 1: Post-Production File Transfer Between Studios

Challenge: Transferring multi-gigabyte RAW camera files, VFX renders, and project assets between production facilities and post-production studios is a daily bottleneck. Slow transfers delay edit and delivery timelines.

Solution: Netpump Data delivers dramatically faster transfers of large production files between studios, whether across town or internationally.

Key Benefits:

- 3.64x–15x faster large file transfers between production facilities
- Demonstrated on 6GB files transferred internationally
- Direct origin-to-destination — production assets stay private
- No workflow changes required — files transferred as usual, faster

Use Case 2: Digital Cinema Package (DCP) Distribution

Challenge: Distributing Digital Cinema Packages (200GB+) to cinemas and screening facilities is slow and expensive over standard internet connections. Physical delivery via hard drive is still common due to network limitations.

Solution: Netpump Data makes network DCP distribution practical, enabling cinemas to receive packages quickly and reliably without physical media delivery.

Key Benefits:

- Enables network delivery of large DCP packages
- Reduces reliance on physical hard drive delivery
- Works on standard broadband — no specialist network required
- Progressive pricing makes per-delivery cost predictable and low

Key Technical Specifications

Specification	Detail
Demonstrated Performance	6.11GB file transferred internationally in 3:59 vs 14:29 (3.64x faster)
Large File Support	Any binary file — supports 200GB+ DCP packages
Transfer Method	Direct origin-to-destination — no third-party server storage

Network Requirement	Standard TCP/IP broadband — no specialist network links
Cost	Progressive from AUD$0.02/GB — affordable for per-delivery pricing
Security	Customer-controlled; production assets not accessible by third parties

18 ENERGY & UTILITIES

Industry Overview

Energy companies — power generators, grid operators, oil & gas producers, and renewable energy developers — operate critical infrastructure across vast geographic areas with diverse connectivity. SCADA data, smart grid telemetry, seismic survey data, asset inspection data from drones and sensors, and operational databases all require reliable, fast transfer. Netpump Data is particularly well-suited to energy sector applications, where high-latency remote connectivity is the norm.

Use Cases

Use Case 1: Smart Grid and SCADA Data Management

Challenge: Smart grid operators collect continuous telemetry from millions of sensors and meters. Aggregating, transferring, and processing this data efficiently is essential for grid management and fault detection.

Solution: Netpump Data's lightweight software footprint and TCP/IP efficiency improvements enable faster telemetry aggregation and processing, supporting more responsive grid management.

Key Benefits:

- Faster telemetry data aggregation from field devices
- Works on diverse grid communication networks (fibre, radio, cellular)
- Minimal CPU overhead on field equipment
- Compatible with existing SCADA and operational technology systems

Use Case 2: Offshore and Remote Asset Data Transfer

Challenge: Offshore oil platforms, wind farms, and remote renewable energy installations depend on satellite and limited radio connectivity to transfer operational data. Slow transfers limit the frequency and timeliness of operational reporting.

Solution: Netpump Data's peak performance advantage is on high-latency satellite links, enabling remote energy assets to transfer operational data rapidly and reliably.

Key Benefits:

- Up to 40x faster on satellite and high-latency links
- Resume capability prevents data loss on unreliable offshore connections
- Supports all remote communication protocols over TCP/IP
- Software only — deployable to offshore assets without hardware shipping

Key Technical Specifications

Specification	Detail
Remote Connectivity	Up to 40x improvement on satellite and high-latency offshore links
SCADA Compatibility	Transparent to SCADA systems — operates at network level
Closed Networks	Operational on isolated and private energy OT networks

CPU Overhead	Approximately 2% — negligible on field and SCADA equipment
Crash Resilience	Auto-resume from last packet — critical for unreliable offshore links
Deployment	Software only — no hardware required at remote sites