NETPUMP VIDEO

Industry Use Cases

Higher Bitrate Streams at Less Cost

Powered by Pacbyte's Netpump Video Technology

215%	~20%	~20%	~50%
Bitrate Improvement	Less Storage Cost	Less Distribution Cost	Less CPU on Devices

www.netpump.com | www.pacbyte.com

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About Netpump Video

Netpump Video is a lightweight video streaming protocol developed by Pacbyte Ltd that improves the quality of experience for end users while simultaneously reducing the cost of video streaming infrastructure for providers. It is a software-only solution implementable via a software or website update — no proprietary hardware or platform rebuild is required.

How It Works

Netpump Video encodes the original video file by splitting it into smaller segments, optimising them for accelerated delivery through existing infrastructure — cloud storage, origin servers, or CDN — over standard TCP/IP. During this one-time encoding process, lossless compression may also be applied, shrinking the file by around 20%.

A software or web update enables client devices to reassemble the data segments through an automated decode process, delivering the actual source file with no impact to integrity. The client device monitors network conditions to determine the optimal delivery rate and buffers entirely from cache — delivering full-quality, reliable video streaming without any buffering or jittering.

Key Capabilities

- 215% improvement in bitrates — independently tested and verified by Interactive
- Around 20% reduction in storage costs through one-time lossless file compression
- Around 20% reduction in distribution costs — compressed files cost less to deliver via CDN
- Eliminates buffering and jitter — cache-based playback delivers uninterrupted streams
- Performance gains most significant over low-bandwidth connections
- Around 50% less CPU on end-user devices while streaming
- Compatible with all video players, codecs, and Digital Rights Management (DRM) technologies
- Supports Fixed Bitrate (FBR), Adaptive Bitrate (ABR), ABR Compressed, and Live Streaming
- One-time encoding process — all future streams of each file benefit automatically
- Works on Windows, macOS, iOS, and Android
- Implementable via a software or website update — no infrastructure rebuild required
- Lossless compression — 100% of original video content delivered with no integrity impact

Independent Verification

Netpump Video's performance has been independently tested and verified by Interactive, which performed comprehensive testing across several connection types and hosting environments. Independent testing also confirmed lossless file compression of around 20%. The University of

Technology, Sydney (accessUTS) has also independently tested and verified Netpump performance claims.

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01 SVOD — SUBSCRIPTION VIDEO ON DEMAND

Industry Overview

Subscription Video on Demand (SVOD) platforms — services where subscribers pay a recurring monthly or annual fee for unlimited access to a content library — face intense competitive pressure on streaming quality and infrastructure cost. Delivering consistent high-definition and 4K streams to large subscriber bases at an acceptable cost-per-stream is the central economic challenge. Netpump Video directly addresses both sides of this equation: it dramatically improves stream quality and reduces storage and distribution costs by approximately 20%.

Use Cases

Use Case 1: High-Quality Streaming at Lower Infrastructure Cost

Challenge: SVOD platforms must simultaneously deliver high-quality streams to millions of concurrent viewers while keeping content delivery network (CDN) and storage costs sustainable. As subscriber expectations for 4K and HDR content grow, bandwidth and storage costs escalate.

Solution: Netpump Video's lossless compression reduces each piece of content's storage and distribution footprint by around 20%. Files are compressed once and all future streams benefit from being 20% smaller, delivering immediate and ongoing cost reductions across CDN distribution and cloud storage.

Key Benefits:

- 20% reduction in storage costs — a direct saving on cloud and CDN infrastructure
- 20% reduction in distribution costs for every stream delivered
- One-time encoding process — all future streams benefit automatically
- Independently verified lossless compression — no quality degradation to subscriber experience
- 215% improvement in bitrates demonstrated in independent testing
- Implementable via a software or website update — no platform rebuild required

Use Case 2: Reducing Subscriber Churn Through Quality of Experience

Challenge: Buffering and jitter are the leading causes of subscriber dissatisfaction and churn on SVOD platforms. On lower-bandwidth connections — particularly in emerging markets or regional areas — stream quality is inconsistent and buffering is common.

Solution: Netpump Video removes buffering and jitter through its segmented delivery and cache-based playback architecture. The client device monitors network conditions and buffers entirely from cache, delivering full-quality, reliable streaming without interruption.

Key Benefits:

- Eliminates buffering and jitter — the primary driver of subscriber churn
- Performance gains most significant over low-bandwidth connections
- Client device buffers from cache — delivers broadcast quality regardless of momentary network fluctuations
- Reduces subscriber support burden related to streaming quality complaints
- Compatible with all existing video players and Digital Rights Management (DRM) technologies

- Works on Windows, macOS, iOS, and Android — all major subscriber platforms

Key Technical Specifications

Specification	Detail
Bitrate Improvement	215% improvement in bitrates — independently tested by Interactive
Storage Cost Reduction	Around 20% — files compressed once, all streams benefit permanently
Distribution Cost Reduction	Around 20% — smaller files cost less to deliver via CDN
CPU Efficiency	Around 50% less CPU on end-user devices while streaming
DRM Compatibility	Compatible with all DRM technologies — no changes to content protection
Streaming Formats	Supports Fixed Bitrate (FBR), Adaptive Bitrate (ABR), and Live Streaming
Implementation	Software or website update — no infrastructure rebuild required
Platform Support	Windows, macOS, iOS, Android — all major platforms

02 HEALTHCARE

Industry Overview

Healthcare organisations increasingly depend on video for clinical education, patient communication, telemedicine consultations, surgical procedure recording, and medical training. Healthcare video infrastructure operates under strict requirements for quality, reliability, and security. Poor-quality video in a clinical or training context can have serious consequences. Netpump Video's ability to deliver higher bitrate streams at lower cost — without buffering — makes it a strong fit for healthcare video platforms.

Use Cases

Use Case 1: Telemedicine and Remote Clinical Consultation

Challenge: Telemedicine consultations require stable, high-quality video to enable accurate clinical assessment. On lower-bandwidth connections — particularly in rural, regional, or developing-world contexts — video quality degrades, buffering occurs, and diagnostic accuracy suffers.

Solution: Netpump Video's cache-based playback and network-adaptive delivery ensures consistent, high-quality video even over low-bandwidth connections, enabling reliable remote clinical consultations.

Key Benefits:

- Eliminates buffering during clinical video consultations
- Performance gains most significant on low-bandwidth rural and regional connections
- Higher bitrate streams mean better visual fidelity for clinical assessment
- Works on iOS and Android — supports mobile-based telehealth applications
- Reduces infrastructure cost of running telemedicine platforms by around 20%
- Implementable via software update — no hardware changes to telehealth infrastructure

Use Case 2: Medical Education and Clinical Training Video Libraries

Challenge: Medical schools, hospitals, and health systems maintain large libraries of surgical procedure recordings, clinical training videos, and medical education content. Streaming large, high-resolution medical videos reliably — especially at scale — is costly and technically challenging.

Solution: Netpump Video reduces the storage and distribution cost of medical video libraries by around 20% through lossless compression, while simultaneously improving the quality of streams delivered to medical students and clinicians.

Key Benefits:

- 20% reduction in storage costs for medical video libraries
- 20% reduction in distribution costs for every training video streamed
- Higher bitrate streams ensure fine clinical detail is visible in surgical recordings
- Compatible with existing video players and hospital LMS platforms
- Supports all codecs — no re-encoding of existing content libraries required
- Lossless compression preserves full medical detail — no clinical information lost

Key Technical Specifications

Specification	Detail
Bitrate Improvement	215% improvement — higher visual fidelity for clinical video
Low Bandwidth Performance	Gains most significant over low bandwidth — ideal for rural telehealth
Cost Reduction	Around 20% on storage and distribution — savings for health system budgets
Codec Compatibility	Agnostic to video codecs — works with all existing medical video formats
DRM Compatibility	Compatible with all DRM technologies — supports protected clinical content
Platform Support	Windows, macOS, iOS, Android — all clinical and mobile platforms
Lossless Compression	100% delivery certainty — no clinical detail lost in compression
Implementation	Software update — integrates with existing hospital video infrastructure

03 RADIOLOGY & MEDICAL IMAGING

Industry Overview

While diagnostic imaging relies primarily on DICOM file transfer, radiology education, reporting dictation review, multidisciplinary team (MDT) meetings, and teleradiology case conferences increasingly use video. Streaming high-resolution screen-share video of imaging workstations, annotated case reviews, and educational webinars is a growing part of radiology workflow. Netpump Video delivers the quality and reliability these clinical contexts require.

Use Cases

Use Case 1: Teleradiology Case Conference and MDT Meeting Streaming

Challenge: Multidisciplinary team meetings and teleradiology case conferences require reliable, high-quality streaming of imaging workstation screens and annotated studies. Poor video quality makes it difficult to assess fine imaging detail remotely.

Solution: Netpump Video's 215% bitrate improvement means that screen-share and annotation video from imaging workstations is delivered at substantially higher quality, enabling remote participants to assess imaging detail with confidence.

Key Benefits:

- 215% higher bitrates — fine imaging detail visible to remote participants
- Eliminates buffering during critical clinical MDT discussions
- Works on low-bandwidth connections — enables participation from regional sites
- Compatible with existing video conferencing and streaming infrastructure
- No end-user training required — transparent to users
- Around 50% less CPU on participant devices — less drain on clinical workstations

Use Case 2: Radiology Education and CME Video Platform

Challenge: Radiology professional development organisations and medical schools operate video platforms hosting large libraries of imaging case reviews, anatomy teaching videos, and continuing medical education (CME) content. Streaming costs and storage costs are significant operational expenses.

Solution: Netpump Video reduces the storage and CDN distribution cost of radiology education video libraries by around 20%, while improving the streaming quality experienced by radiologists accessing content.

Key Benefits:

- 20% reduction in platform storage and distribution costs
- Higher bitrate streams — clearer visualisation of imaging findings in educational content
- One-time compression — all future streams of each video benefit automatically
- Cross-platform delivery — radiologists access content on any device
- Implementable via software update — no rebuild of existing CME platform required
- Compatible with all existing video players and codecs

Key Technical Specifications

Specification	Detail
Bitrate Improvement	215% — substantially sharper imaging detail in streamed video
Cost Reduction	Around 20% on storage and CDN distribution costs
CPU Efficiency	Around 50% less CPU on end-user clinical workstations
Buffering	Eliminated — cache-based playback delivers uninterrupted streams
Compression	Lossless — 100% of original image detail preserved
Codec Compatibility	Agnostic to video codecs — works with all radiology education formats
Implementation	Software update — no infrastructure changes required
Platform Support	Windows, macOS, iOS, Android

04 EDUCATION & ELEARNING

Industry Overview

The education sector has undergone a fundamental shift to video-based learning, with universities, schools, and corporate training platforms all maintaining large libraries of recorded lectures, tutorials, instructional content, and assessment videos. The challenge for educational institutions is delivering high-quality video to large student populations — many of whom are on modest home or mobile internet connections — at a manageable and sustainable infrastructure cost. Netpump Video addresses both dimensions directly.

Use Cases

Use Case 1: University and School Video Learning Platform Optimisation

Challenge: Universities and schools that host lecture recordings and instructional video face high CDN and storage costs, and students on lower-bandwidth connections frequently experience buffering and degraded quality — particularly in regional and international student populations.

Solution: Netpump Video reduces platform storage and distribution costs by around 20% through one-time lossless compression of the video library, while simultaneously improving the streaming experience for students on all connection types.

Key Benefits:

- 20% reduction in CDN distribution costs — immediate budget saving for institutions
- 20% reduction in cloud video storage costs
- Eliminates buffering for students on lower-bandwidth connections
- 215% bitrate improvement — clearer, more engaging educational video
- One-time compression of existing video library — ongoing savings
- No changes to LMS integration or student-facing workflows

Use Case 2: Corporate Training and Learning Management System (LMS) Delivery

Challenge: Large organisations run internal training programs via LMS platforms, often delivering video content to staff across offices, remote workers, and international locations. Streaming quality and infrastructure cost are persistent concerns, especially for global workforces.

Solution: Netpump Video improves the streaming quality of corporate training videos while reducing the storage and distribution cost of the training video library by around 20%.

Key Benefits:

- Higher-quality training video streams improve staff learning outcomes
- 20% reduction in storage and distribution costs for training platforms
- Works across offices, remote workers, and international locations
- Compatible with all major LMS platforms and video players
- Implementable via software or website update — no platform rebuild
- Around 50% less CPU on employee devices while streaming

Key Technical Specifications

Specification	Detail
Storage Cost Reduction	Around 20% — direct saving for institutional IT budgets
Distribution Cost Reduction	Around 20% — lower CDN costs for every video streamed
Bitrate Improvement	215% — clearer, more legible educational video content
Low Bandwidth Performance	Gains most significant over low bandwidth — helps students on poor connections
Buffering	Eliminated — smooth playback for all students regardless of connection
CPU Efficiency	Around 50% less CPU — important for student devices
LMS Compatibility	Compatible with all video players and major LMS platforms
Implementation	Software or website update — no infrastructure rebuild

05 LEGAL

Industry Overview

The legal profession increasingly relies on video for court proceedings, depositions, evidence presentation, legal education, and internal training. Remote hearings and virtual depositions have become standard practice. Legal video must be reliable, of high quality, and appropriate for official proceedings. Netpump Video's ability to eliminate buffering and deliver higher quality streams makes it well-suited to legal video infrastructure.

Use Cases

Use Case 1: Remote Court Hearings and Virtual Depositions

Challenge: Courts and legal practitioners conducting remote hearings and virtual depositions require stable, high-quality video to ensure the integrity of proceedings. Buffering, low resolution, and dropped streams create procedural complications and undermine the reliability of remote testimony.

Solution: Netpump Video delivers consistently higher bitrate streams with buffering eliminated through cache-based playback, ensuring that remote court proceedings and depositions are conducted at broadcast-quality reliability.

Key Benefits:

- Eliminates buffering — maintains integrity of remote court proceedings
- 215% higher bitrates — clear video quality for witness testimony and evidence presentation
- Works on diverse connection types including lower-bandwidth court or home connections
- Compatible with all video conferencing and legal streaming platforms
- No end-user training required — transparent to judges, counsel, and witnesses
- Around 50% less CPU on participant devices

Use Case 2: Legal Education and CLE Video Platform

Challenge: Law schools, bar associations, and legal professional development providers operate large video libraries for continuing legal education (CLE) and academic instruction. Streaming and storage costs are material operational expenses.

Solution: Netpump Video reduces the storage and distribution cost of legal education video libraries by around 20%, while improving the streaming experience for legal professionals accessing content on any device.

Key Benefits:

- 20% reduction in CLE platform storage and CDN costs
- Higher quality streams improve engagement with legal education content
- One-time compression — all future streams benefit automatically
- Compatible with all existing video players and legal LMS platforms
- Cross-platform delivery — supports access on desktop and mobile devices
- Implementable via software update — no disruption to existing platform

Key Technical Specifications

Specification	Detail
Bitrate Improvement	215% — broadcast-quality video for court and legal proceedings
Buffering	Eliminated — critical for the integrity of remote hearings
Storage & Distribution Savings	Around 20% — reduces legal platform operating costs
CPU Efficiency	Around 50% less CPU on participant devices
DRM Compatibility	Compatible with all DRM technologies — supports protected legal content
Platform Compatibility	Works with all video players and legal conferencing platforms
Implementation	Software or website update — no infrastructure changes
Platform Support	Windows, macOS, iOS, Android

06 GOVERNMENT

Industry Overview

Government agencies use video across a wide range of functions: parliamentary and council proceedings, public communications, training and induction for large workforces, internal communications, and emergency broadcast systems. The scale of government video delivery — to both public audiences and large internal workforces — means that cost efficiency and reliability are both priorities. Netpump Video's software-only implementation and immediate cost-saving characteristics align well with government procurement requirements.

Use Cases

Use Case 1: Parliamentary and Council Proceedings Live Streaming

Challenge: Legislatures, councils, and government bodies stream their proceedings publicly to ensure transparency and public access. These streams must be reliable, of good quality, and accessible to citizens on diverse connection types, including those in regional and rural areas.

Solution: Netpump Video's cache-based playback eliminates buffering and delivers higher-quality streams, improving public access to government proceedings — particularly for citizens on lower-bandwidth connections.

Key Benefits:

- Eliminates buffering — ensures uninterrupted public access to proceedings
- 215% higher bitrates — clearer, more accessible streams for all citizens
- Performance gains most significant on low-bandwidth regional connections
- 20% reduction in CDN and storage costs for government broadcasting
- Compatible with existing government streaming infrastructure
- Implementable via software update — no procurement of new infrastructure

Use Case 2: Government Workforce Training and Internal Communications Video

Challenge: Large government departments operate internal video platforms for staff training, policy communications, and onboarding. Streaming to large, geographically dispersed workforces — including regional offices and field workers — is costly and often results in poor quality for remote staff.

Solution: Netpump Video reduces the cost of government training video platforms by around 20% while improving the streaming experience for all staff, including those on lower-bandwidth regional or mobile connections.

Key Benefits:

- 20% reduction in storage and distribution costs for government video platforms
- Improved stream quality for regionally dispersed government workforce
- Compatible with all major government LMS and intranet video platforms
- Implementable via software update — no hardware procurement required
- Cross-platform support — works on all government-issued devices
- Around 50% less CPU on staff devices while streaming

Key Technical Specifications

Specification	Detail
Bitrate Improvement	215% — clearer public and internal government streams
Cost Reduction	Around 20% on storage and CDN — saves public sector budgets
Low Bandwidth Performance	Gains most significant on low bandwidth — reaches regional citizens and staff
Buffering	Eliminated — ensures reliable public access to proceedings
Implementation	Software or website update — aligns with government procurement
CPU Efficiency	Around 50% less CPU on end-user devices
DRM Compatibility	Compatible with all DRM technologies
Platform Support	Windows, macOS, iOS, Android

07 DEFENCE & INTELLIGENCE

Industry Overview

Defence and intelligence organisations have demanding video requirements: live operational video feeds, intelligence surveillance and reconnaissance (ISR) video, training simulation content, and secure internal communications video. These use cases require the highest possible video quality — often over constrained or high-latency tactical networks — and absolute reliability. Netpump Video's performance characteristics and cross-platform compatibility make it well-suited to defence video applications.

Use Cases

Use Case 1: Intelligence, Surveillance and Reconnaissance (ISR) Video Streaming

Challenge: ISR video feeds from drones, sensors, and surveillance platforms must be streamed to analysis centres with the highest possible quality and without interruption. Tactical network links are often bandwidth-constrained or high-latency, degrading video quality and increasing the risk of missed intelligence.

Solution: Netpump Video's significant bitrate improvements and cache-based playback deliver higher-quality ISR video streams even over constrained tactical links, eliminating buffering and improving the quality of intelligence analysis.

Key Benefits:

- 215% improvement in bitrates — more detail visible in ISR imagery
- Eliminates buffering on bandwidth-constrained tactical network links
- Performance gains most significant over low bandwidth — critical for tactical scenarios
- Cache-based playback ensures continuity even during momentary link degradation
- Around 50% less CPU on analyst workstations — more resource for analysis tools
- Compatible with all video codecs used in defence ISR systems

Use Case 2: Defence Training and Mission Rehearsal Video

Challenge: Defence training organisations maintain extensive video libraries for mission rehearsal, tactical training, equipment operation, and professional development. Distributing high-quality training video to personnel across bases and deployed locations is costly and technically challenging.

Solution: Netpump Video reduces the storage and distribution cost of defence training video libraries by around 20%, while delivering higher-quality streams to personnel on all connection types including base networks and mobile links.

Key Benefits:

- 20% reduction in storage and distribution costs for defence training platforms
- Higher bitrate streams improve the effectiveness of visual training content
- Works on base networks, WAN connections, and mobile links
- Compatible with all video players and defence training platforms
- One-time compression — all future streams benefit automatically
- Lossless compression preserves 100% of training content fidelity

Key Technical Specifications

Specification	Detail
Bitrate Improvement	215% — more detail in ISR and tactical video feeds
Low Bandwidth Performance	Gains most significant over low bandwidth — ideal for tactical links
Buffering	Eliminated — critical for uninterrupted operational video
Cost Reduction	Around 20% on storage and distribution for training platforms
Compression	Lossless — 100% of content fidelity preserved
CPU Efficiency	Around 50% less CPU — preserves analyst and operator workstation resources
Codec Compatibility	Agnostic to video codecs — compatible with all defence video formats
Platform Support	Windows, macOS, iOS, Android

08 CLOUD & CLOUD INFRASTRUCTURE

Industry Overview

Cloud video infrastructure — the combination of cloud storage, content delivery networks, and origin servers used to store and distribute video content — represents a major and growing cost for organisations of all kinds. Every gigabyte stored and every gigabyte distributed costs money. Netpump Video's 20% lossless compression directly reduces both storage and distribution costs on cloud infrastructure, and its performance improvements reduce the CPU burden on cloud streaming servers.

Use Cases

Use Case 1: Cloud Video Storage Optimisation

Challenge: Organisations hosting large video libraries on cloud storage platforms (AWS S3, Azure Blob Storage, Google Cloud Storage) face significant and growing storage costs. Video is one of the most storage-intensive content types.

Solution: Netpump Video's one-time lossless compression reduces every video file's storage footprint by around 20%. Applied across a large video library, this delivers an immediate and permanent 20% reduction in cloud storage costs.

Key Benefits:

- 20% reduction in cloud storage costs — permanent saving after one-time encoding
- Compatible with AWS, Azure, and Google Cloud storage platforms
- Lossless compression — video quality unchanged; only file size is reduced
- One encoding process covers all future streams of each video
- No changes to cloud infrastructure architecture required
- Implementable via software update to the streaming origin or CDN layer

Use Case 2: CDN Egress Cost Reduction

Challenge: CDN egress costs — the cost of delivering video bytes from CDN nodes to end users — are the largest single cost component for many video streaming platforms. These costs scale directly with the volume of data delivered.

Solution: Because Netpump Video reduces each video file's size by around 20%, every stream delivered through the CDN delivers 20% fewer bytes — reducing CDN egress costs by approximately 20% without any reduction in video quality.

Key Benefits:

- 20% reduction in CDN egress costs — a major saving for high-volume platforms
- Compatible with all CDN architectures — works with or without existing CDN
- 215% higher bitrates — quality improves while cost decreases simultaneously
- Savings scale with volume — the higher the streaming volume, the greater the saving
- No changes to CDN configuration required
- Implementable via software or website update

Key Technical Specifications

Specification	Detail
Storage Cost Reduction	Around 20% on cloud storage — permanent after one-time encoding
CDN Egress Cost Reduction	Around 20% — every stream delivers 20% fewer bytes
Bitrate Improvement	215% — quality improves as costs decrease
Cloud Platform Compatibility	AWS, Azure, Google Cloud and smaller local clouds
CDN Compatibility	Works with or without CDN infrastructure
Compression	Lossless — no quality loss despite smaller file sizes
CPU Efficiency	Around 50% less CPU on end-user devices while streaming
Implementation	Software or website update — no infrastructure rebuild

09 ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Industry Overview

AI and machine learning applications increasingly involve video: computer vision training datasets, video analytics platforms, AI-assisted surveillance, automated content moderation, and AI-driven video personalisation all depend on the efficient storage and streaming of large video libraries. Netpump Video's compression and streaming improvements benefit both the training data pipeline (smaller files to transfer and store) and the end-user delivery layer of AI-powered video products.

Use Cases

Use Case 1: Computer Vision Training Dataset Storage and Distribution

Challenge: Computer vision AI models require large annotated video datasets for training. These datasets can be many terabytes in size, making storage and distribution to training infrastructure expensive and time-consuming.

Solution: Netpump Video's lossless compression reduces the storage footprint of video training datasets by around 20%, reducing cloud storage costs and accelerating dataset distribution to training clusters.

Key Benefits:

- 20% reduction in storage costs for video training datasets
- Smaller files transfer faster to training infrastructure
- Lossless compression — annotation accuracy and training data integrity preserved
- Compatible with all video formats used in computer vision datasets
- Works with AWS, Azure, and Google Cloud training infrastructure
- One-time encoding — dataset available in compressed form for all future training runs

Use Case 2: AI-Powered Video Analytics and Surveillance Platform Streaming

Challenge: AI video analytics platforms that process surveillance feeds or video streams at scale face high infrastructure costs for storing and streaming large volumes of video. The quality of the video stream also directly affects AI model accuracy.

Solution: Netpump Video simultaneously reduces the storage and distribution cost of video analytics feeds while improving bitrates, which can improve the accuracy of AI models analysing the video content.

Key Benefits:

- 20% reduction in storage costs for analytics video libraries
- 215% higher bitrates — better image quality improves AI model accuracy
- Eliminates buffering in live analytics feeds
- Compatible with all video codecs used in surveillance and analytics systems
- Works across cloud, edge, and hybrid infrastructure
- Around 50% less CPU on streaming devices — more compute available for AI inference

Key Technical Specifications

Specification	Detail
Storage Cost Reduction	Around 20% — significant saving for large AI video datasets
Bitrate Improvement	215% — higher quality video improves AI model accuracy
Compression	Lossless — training data integrity 100% preserved
Cloud Compatibility	AWS, Azure, Google Cloud — all major AI training platforms
CPU Efficiency	Around 50% less CPU — more compute available for AI inference
Codec Compatibility	Agnostic to video codecs — works with all AI dataset video formats
Buffering	Eliminated — uninterrupted live analytics feeds
Implementation	Software update — integrates with existing AI video infrastructure

10 MINING

Industry Overview

Modern mining operations rely extensively on video: remote monitoring of mining equipment and operations, safety surveillance systems, training video libraries for large workforces, and live video feeds from autonomous and semi-autonomous equipment. Mining sites often have limited or satellite-based connectivity, making the performance improvements of Netpump Video — especially its gains on low-bandwidth connections — particularly valuable.

Use Cases

Use Case 1: Remote Operations Centre Video Monitoring

Challenge: Remote operations centres that monitor mining sites via live video feeds struggle with degraded image quality and buffering on satellite or limited bandwidth connections. Poor video quality reduces the effectiveness of remote monitoring and safety surveillance.

Solution: Netpump Video delivers significantly higher bitrate streams even over low-bandwidth satellite and microwave links, and eliminates buffering through cache-based playback — enabling effective remote monitoring from operations centres.

Key Benefits:

- 215% higher bitrates — sharper, more detailed monitoring video over low-bandwidth links
- Performance gains most significant over low bandwidth — ideal for satellite-connected sites
- Eliminates buffering in remote monitoring feeds
- Around 50% less CPU on monitoring workstations
- Compatible with existing remote operations centre video systems
- Works on satellite, 4G/5G, and microwave links — all TCP/IP connections

Use Case 2: Mining Safety Training Video Platform

Challenge: Large mining operations must deliver mandatory safety training video to workforces across multiple mine sites, including remote locations with limited connectivity. High storage and distribution costs, and poor streaming quality at remote sites, are persistent operational challenges.

Solution: Netpump Video reduces the storage and distribution cost of safety training video libraries by around 20%, while ensuring that training video streams reliably to all mine sites including those on lower-bandwidth connections.

Key Benefits:

- 20% reduction in safety training platform storage and distribution costs
- Reliable streaming to remote mine sites on limited connections
- Eliminates buffering during mandatory safety training sessions
- Compatible with existing mining LMS and training platforms
- One-time compression of training library — ongoing cost savings
- Works on iOS and Android — supports mobile training delivery

Key Technical Specifications

Specification	Detail
Bitrate Improvement	215% — sharper monitoring and surveillance video
Low Bandwidth Performance	Gains most significant over low bandwidth — ideal for remote mine sites
Buffering	Eliminated — critical for uninterrupted safety monitoring
Storage & Distribution Savings	Around 20% — reduces training platform operating costs
CPU Efficiency	Around 50% less CPU on monitoring and training devices
Compression	Lossless — full monitoring and training video quality preserved
Platform Support	Windows, macOS, iOS, Android
Implementation	Software update — no hardware changes at remote mine sites

11 MEDIA & ENTERTAINMENT

Industry Overview

Media and entertainment companies are the largest consumers and producers of video content. Broadcasters, streaming platforms, post-production companies, sports rights holders, and digital media publishers all face the same dual challenge: delivering the highest possible quality video while managing content distribution costs at scale. Netpump Video is purpose-built for this industry, delivering 215% higher bitrates and 20% cost reductions simultaneously.

Use Cases

Use Case 1: Broadcast and OTT Platform Content Delivery

Challenge: Broadcasters and OTT platforms must deliver high-quality video streams to large, concurrent audiences across diverse device types and connection speeds. CDN and storage costs are the largest operational cost items for most video platforms.

Solution: Netpump Video reduces the cost of content delivery by around 20% through lossless compression, while simultaneously delivering 215% higher bitrates — meaning platforms can improve quality and reduce cost at the same time.

Key Benefits:

- 215% higher bitrates — broadcast-quality streaming to all viewers
- 20% reduction in CDN distribution costs at scale
- 20% reduction in content storage costs
- Compatible with all video players, codecs, and DRM technologies
- Supports FBR, ABR, and live streaming formats
- Implementable via software or website update — no platform rebuild

Use Case 2: Sports Rights Holder and Live Event Streaming

Challenge: Sports rights holders and live event streaming platforms must deliver live video of the highest quality to passionate audiences who will not tolerate buffering or quality degradation during critical moments.

Solution: Netpump Video's cache-based playback and higher-bitrate delivery eliminates buffering and delivers a significantly better quality live stream, improving the viewer experience for sports and live event audiences.

Key Benefits:

- Eliminates buffering during live sport and event streams
- 215% higher bitrates — sharper, more detailed live sports video
- Client device monitors network conditions for adaptive quality delivery
- Compatible with all live streaming formats and platforms
- 20% reduction in live streaming infrastructure costs
- Works on Windows, macOS, iOS, Android — all viewer platforms

Key Technical Specifications

Specification	Detail

Bitrate Improvement	215% — broadcast-quality improvement in stream resolution
Storage Cost Reduction	Around 20% — significant saving for large content libraries
CDN Cost Reduction	Around 20% — scales with every stream delivered
Streaming Formats	FBR, ABR, ABR Compressed, Live Streaming — all formats supported
DRM Compatibility	Compatible with all DRM technologies — no changes to content protection
Codec Compatibility	Agnostic to video codecs — works with all broadcast formats
CPU Efficiency	Around 50% less CPU on viewer devices while streaming
Implementation	Software or website update — no platform rebuild required

12 TELECOMMUNICATIONS

Industry Overview

Telecommunications companies provide the network infrastructure over which video streaming is delivered. They also operate their own consumer video services, IPTV platforms, and enterprise video conferencing offerings. Netpump Video offers telcos a differentiated capability: the ability to improve the quality of video services delivered over their networks — and to reduce the cost of their own video platforms — through a software-only implementation.

Use Cases

Use Case 1: IPTV and Managed Video Service Quality Improvement

Challenge: Telcos operating IPTV or managed video services face subscriber expectations for high quality and no buffering. On lower-capacity parts of the access network — particularly for subscribers on older DSL or regional connections — delivering consistent high-quality video is technically challenging.

Solution: Netpump Video's delivery improvements are most pronounced on lower-bandwidth connections, making it ideally suited to improving IPTV quality for subscribers on access network segments where bitrate is constrained.

Key Benefits:

- 215% higher bitrates — significant quality improvement for bandwidth-constrained subscribers
- Performance gains most significant over low bandwidth — targets the most challenging subscriber segments
- Eliminates buffering — reduces subscriber support calls and churn
- 20% reduction in video infrastructure storage and distribution costs
- Compatible with existing IPTV platforms and video players
- Implementable via software update — no network infrastructure changes

Use Case 2: Enterprise Video Conferencing and Communications

Challenge: Telcos offering enterprise video conferencing and unified communications services must differentiate on quality. Poor video quality — buffering, pixellation, dropped frames — damages enterprise customer satisfaction and contract renewal rates.

Solution: Netpump Video's 215% bitrate improvement and buffering elimination deliver a substantially better enterprise video conferencing experience, enabling telcos to differentiate their managed video services on quality.

Key Benefits:

- 215% higher bitrates — substantially better enterprise video quality
- Eliminates buffering during enterprise video calls and conferences
- Cross-platform — works on all enterprise devices and operating systems
- Around 50% less CPU on employee devices during video calls
- Compatible with all video conferencing platforms and codecs
- Implementable via software update — no changes to enterprise network infrastructure

Key Technical Specifications

Specification	Detail
Bitrate Improvement	215% — transforms quality on bandwidth-constrained access segments
Low Bandwidth Performance	Gains most significant over low bandwidth — key for DSL and regional access
Buffering	Eliminated — reduces IPTV and video service churn
Storage & Distribution Savings	Around 20% on telco video infrastructure costs
CPU Efficiency	Around 50% less CPU on subscriber and enterprise devices
DRM Compatibility	Compatible with all DRM technologies
Implementation	Software update — no network infrastructure changes required
Platform Support	Windows, macOS, iOS, Android — all subscriber platforms

13 RETAIL & E-COMMERCE

Industry Overview

Retail and e-commerce platforms increasingly use video to drive product discovery and purchase conversion: product demonstration videos, virtual try-on experiences, shoppable video content, and retailer brand channels. Video quality directly influences purchase intent, and video infrastructure costs are a growing component of e-commerce platform operating costs. Netpump Video reduces these costs while improving the customer viewing experience.

Use Cases

Use Case 1: Product Video and Demonstration Content on E-Commerce Platforms

Challenge: E-commerce platforms host large libraries of product demonstration and lifestyle videos. These videos must load quickly, play without buffering, and display at high quality — particularly on mobile devices — to maintain conversion rates. CDN and storage costs for large video libraries are significant.

Solution: Netpump Video reduces the storage and CDN cost of product video libraries by around 20%, while ensuring product videos play at higher quality and without buffering, supporting better customer conversion rates.

Key Benefits:

- 20% reduction in storage and CDN costs for product video libraries
- Eliminates buffering — customers see products without interruption
- 215% higher bitrates — more detailed, higher-quality product videos
- Works on iOS and Android — optimised for mobile shopping
- Compatible with all e-commerce video players and platforms
- Implementable via software or website update — no platform rebuild

Use Case 2: Shoppable Video and Live Commerce Streaming

Challenge: Live commerce and shoppable video are high-growth areas of e-commerce. Live product streams that buffer or deliver low-quality video lose viewers and directly reduce sales conversion during live selling events.

Solution: Netpump Video's cache-based playback eliminates buffering in live commerce streams, and the 215% bitrate improvement delivers sharper, more detailed product imagery — both of which support better live commerce conversion rates.

Key Benefits:

- Eliminates buffering during live commerce streams — retains viewer attention
- 215% higher bitrates — sharper product detail drives purchase confidence
- Client device adapts to network conditions for consistent quality delivery
- Works across all live streaming platforms and retail channels
- 20% reduction in live streaming infrastructure costs
- Cross-platform support — works on all consumer devices

Key Technical Specifications

Specification	Detail
Bitrate Improvement	215% — sharper product imagery drives conversion
Storage & CDN Savings	Around 20% — meaningful saving for large product video libraries
Buffering	Eliminated — maintains viewer engagement and conversion rates
CPU Efficiency	Around 50% less CPU on customer devices while streaming
Platform Support	Windows, macOS, iOS, Android — all consumer devices
Codec Compatibility	Agnostic to codecs — works with all e-commerce video formats
DRM Compatibility	Compatible with all DRM technologies
Implementation	Software or website update — no e-commerce platform rebuild

14 HOLOGRAPHIC VIDEO DELIVERY

Industry Overview

Holographic video — encompassing volumetric video, light field displays, mixed reality telepresence, and emerging holographic broadcast formats — represents the next frontier of digital content delivery. Holographic video streams are extraordinarily data-intensive: a single volumetric video stream can require bandwidth many times greater than a standard 4K stream, and the fidelity of the holographic experience is directly dependent on the quality and continuity of the video stream delivered to the display device. Netpump Video's core strengths — dramatically higher bitrates, elimination of buffering, and reduced infrastructure cost — are precisely the capabilities holographic video delivery demands.

Use Cases

Use Case 1: Volumetric Video Streaming for Mixed Reality and Holographic Displays

Challenge: Volumetric video streams — which capture subjects from multiple angles simultaneously to enable true 3D holographic viewing — require vastly higher bitrates than conventional video. Over standard network connections, the bandwidth demands of volumetric video frequently exceed available capacity, resulting in severe quality degradation, buffering, and broken holographic experiences that undermine the immersive value of the technology.

Solution: Netpump Video's 215% bitrate improvement means that the available bandwidth of any given connection is used far more efficiently, enabling higher-quality volumetric video streams to be delivered over connections that would otherwise be insufficient. Combined with cache-based playback that eliminates buffering, Netpump Video supports more reliable and immersive holographic streaming experiences on existing network infrastructure.

Key Benefits:

- 215% higher bitrates — more of the available connection bandwidth used for holographic detail
- Eliminates buffering — maintains immersive continuity in holographic experiences
- Performance gains most significant over low bandwidth — enables holographic delivery on constrained connections
- Around 50% less CPU on end-user holographic display and mixed reality devices
- Compatible with all video codecs — works with volumetric and light field video formats
- Works on existing TCP/IP network infrastructure — no specialist holographic network required

Use Case 2: Holographic Telepresence and Remote Collaboration

Challenge: Holographic telepresence systems — which project a life-size or scaled 3D representation of a remote participant into a physical or mixed reality space — are extraordinarily demanding of network performance. Any reduction in stream quality or momentary buffering breaks the sense of physical presence that is the core value proposition of holographic telepresence. The storage and distribution costs of holographic content libraries for enterprise and broadcast applications are also substantially higher than conventional video.

Solution: Netpump Video's lossless compression reduces the storage and distribution cost of holographic content by around 20% — a significant saving given the large file sizes involved. The 215% bitrate improvement and buffering elimination support the high quality and uninterrupted delivery that holographic presence experiences require.

Key Benefits:

- 20% reduction in storage costs — meaningful saving given holographic file sizes
- 20% reduction in distribution costs — scales with every holographic stream delivered
- Eliminates buffering — preserves the sense of presence in holographic telepresence
- 215% higher bitrates — higher fidelity holographic representations
- Lossless compression — 100% of holographic source content fidelity preserved
- Implementable via software update — no changes to holographic telepresence infrastructure

Key Technical Specifications

Specification	Detail
Bitrate Improvement	215% — critical for bandwidth-intensive holographic video streams
Storage Cost Reduction	Around 20% — significant saving at holographic file sizes
Distribution Cost Reduction	Around 20% — savings scale with holographic streaming volume
Buffering	Eliminated — essential for uninterrupted holographic presence experiences
Low Bandwidth Performance	Gains most significant over low bandwidth — enables holographic delivery on constrained links
CPU Efficiency	Around 50% less CPU on holographic display and mixed reality devices
Codec Compatibility	Agnostic to video codecs — compatible with volumetric and light field formats
Compression	Lossless — 100% of holographic source content preserved
Implementation	Software update — no specialist holographic network infrastructure required