Interactive®

Netpump Data

Independent Testing Report

April 2021

1. Document Control

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Prepared by:	Interactive Pty Ltd Tower B, 39 Herbert St, St Leonards, NSW 2065
Prepared for:	Pacbyte Limited 2/30 Roma St, North Epping, NSW 2121

Document Control

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Document Authors / Reviewers

	Name	Position
Written by	Jason Smith	Enterprise Architect
Written by	Paul Ferry	Principal Consultant
Reviewed by	Brad Wells	Director of Enterprise Sales

For further information, please contact:

Brad Wells
Director of Enterprise Sales
Interactive Pty Ltd
Phone: 02 9431 8000
Email: bwells@interactive.com.au

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2. Purpose

The purpose of this document is to provide an independent technical opinion of Netpump Data Software and examine ease of use and potential use cases.

3. Context

Netpump Data is a product sold as a software only tool that moves data at accelerated speeds to devices over standard network links and internet connections. The software needs to be installed on the computers of interest be they servers, PC's or laptops.

Netpump Data as a service addon allows customers to utilise network links more efficiently and has a place in sending and receiving data to and from cloud services as well as for remote workers transferring data to and from remote systems.

4. Testing Methodology and Test Descriptions

4.1. Testing Methodology

Testing was executed between two Windows PCs with all latest patches and updates available installed. The PCs were separated by 996kms with one located in Sydney and the other in Brisbane.

Network connectivity was via the internet with each PC being able to establish IPv4 connections between themselves. Network Link technologies utilised. HFC, 4G, Fibre and vDSL with upload speeds rate shaped to 5mb and variable latency/jitter.

Test methodology: Testing comprised of a single large file and a directory of small files being transferred between the two computers used in test. Each test was repeated 3 times so averages could be determined, and anomalies identified. Wireshark was used to capture data on each test.

4.2. Test Descriptions

4.2.1. Single File Tests

Test No.	Number of Files	Amount of Data	Transfer Copy Method	Test Description
1	1	593MB	SMB	A single video file of 593MB transferred with the SMB protocol. Copy originated on the PC located in Sydney
2	1	593MB	Netpump Service (3 threads, 1MB chunk size)	A single video file of 593MB transferred and Netpump Service enabled with default thread count of 3 and 1MB chunk size. Copy originated on the PC located in Sydney.
3	1	593MB	Netpump Service (8 threads, 1MB chunk size)	A single video file of 593MB transferred and Netpump Service enabled with thread count of 8 and 1MB chunk size. Copy originated on the PC located in Sydney.

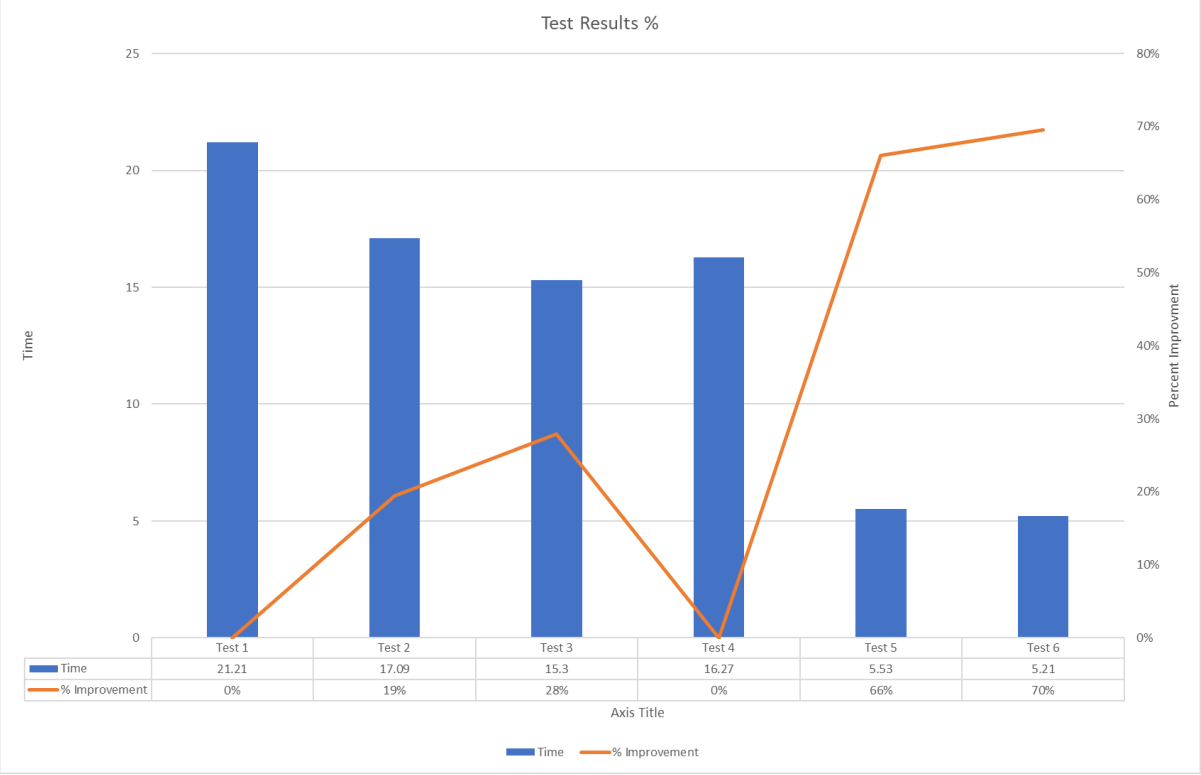
4.2.2. Multi File Tests

Test No.	Number of Files	Amount of Data	Transfer Copy Method	Test Description
4	129	196MB	SMB	129 files in 2 directories totalling 196MB transferred with the SMB protocol. Copy originated on the PC located in Sydney
5	129	196MB	Netpump Service (3 threads, 1MB chunk size)	129 files in 2 directories totalling 196MB transferred and Netpump Service enabled with default thread count of 3 and 1MB chunk size. Copy originated on the PC located in Sydney
6	129	196MB	Netpump Service (8 threads, 1MB chunk size)	129 files in 2 directories totalling 196MB transferred and Netpump Service enabled with thread count of 8 and 1MB chunk size. Copy originated on the PC located in Sydney

5. Testing Results Summary

Our testing of Netpump Data shows performance increases from 28% to 70% in the time it takes to transfer files from one location to another. By reducing the amount of time needed to transfer large files, or the size of network links resulting in direct cost savings. Netpump Data achieves this through its own patented process and utilises standard network protocols which do not interfere with or manipulate any other traffic on the network.

The following results show that Netpump Data outperformed standard file transfer methods between two computers with an increase in performance of more than 66%.



	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6
Time	21.21	17.09	15.3	16.27	5.53	5.21
% Improvement	0%	19%	28%	0%	66%	70%

5.1. Testing Results

5.1.1. Test 1 Results

A single video file of 593MB transferred with the SMB protocol.

Interface	Dropped packets	Capture filter	Link type	Packet size limit
Local Area Connection	0(0.0%)	host 101.180.85.123	Ethernet	2622144 bytes
Statistics				
Measurement	**Captured**	**Displayed**	**Marked**	
Packets	332755	332755 (100%)	-	
Time span, s	1272.5	1272.5	-	
Average pps	261.6	261.6	-	
Average packet size, B	2065	2065	-	
Bytes	687139240	687139240 (100%)		
Average bytes/s	540k		-	
Average bits/s	4320k		-	

5.1.2. Test 2 Results

A single video file of 593MB transferred and Netpump Service enabled with the default 3 threads and 1MB chunk size.

Interface	Dropped packets	Capture filter	Link type	Packet size limit
Local Area Connection	0(0.0%)	host 101.180.85.123	Ethernet	2622144 bytes
Statistics				
Measurement	**Captured**	**Displayed**	**Marked**	
Packets	497265	497265 (100%)	-	
Time span, s	1025.3	1025.3	-	
Average pps	485.1	485.1	-	
Average packet size, B	1355	1355	-	
Bytes	673793871	673793871 (100%)		
Average bytes/s	657k		-	
Average bits/s	5258k		-	

5.1.3. Test 3 Results

A single video file of 593MB transferred and Netpump Service configured with 8 threads.

Interface	Dropped packets	Capture filter	Link type	Packet size limit
Local Area Connection	0(0.0%)	host 101.180.85.123	Ethernet	2622144 bytes
Statistics				
Measurement	**Captured**	**Displayed**	**Marked**	
Packets	539363	539363 (100%)	-	
Time span, s	915.6	915.554	-	
Average pps	589.1	589.1	-	
Average packet size, B	1238	1238	-	
Bytes	667504152	667504152 (100%)		
Average bytes/s	729k	729k	-	
Average bits/s	5832k	5832k	-	

5.1.4. Test 4 Results

129 files in 2 directories totalling 196MB transferred with the SMB protocol.

Interface	Dropped packets	Capture filter	Link type	Packet size limit
Local Area Connection	0(0.0%)	host 101.180.85.123	Ethernet	2622144 bytes
Statistics				
Measurement	**Captured**	**Displayed**	**Marked**	
Packets	113908	113908 (100%)	-	
Time span, s	912.09	912.09	-	
Average pps	124.9	124.9	-	
Average packet size, B	2221	2221	-	
Bytes	253010386	253010386 (100%)		
Average bytes/s	277k	277k	-	
Average bits/s	2219k	2219k	-	

5.1.5. Test 5 Results

129 files in 2 directories totalling 196MB transferred and Netpump Service enabled with the default 3 threads and 1MB chunk size.

Interface	Dropped packets	Capture filter	Link type	Packet size limit
Local Area Connection	0(0.0%)	host 101.180.85.123	Ethernet	2622144 bytes
Statistics				
Measurement	**Captured**	**Displayed**	**Marked**	
Packets	165952	165952 (100%)	-	
Time span, s	437.15	437.15	-	
Average pps	379.6	379.6	-	
Average packet size, B	1325	1325	-	
Bytes	219941753	219941753 (100%)		
Average bytes/s	503k	503k	-	
Average bits/s	4025k	4025k	-	

5.1.6. Test 6 Results

129 files in 2 directories totalling 196MB transferred and Netpump Service configured with 8 threads.

Interface	Dropped packets	Capture filter	Link type	Packet size limit
Local Area Connection	0(0.0%)	host 101.180.85.123	Ethernet	2622144 bytes
Statistics				
Measurement	**Captured**	**Displayed**	**Marked**	
Packets	173727	173727 (100%)	-	
Time span, s	315.8	315.8	-	
Average pps	550.2	550.2	-	
Average packet size, B	1268	1268	-	
Bytes	220340584	220340584 (100%)		
Average bytes/s	697k	697k	-	
Average bits/s	5582k	5582k	-	

6. Key Observations

1. Netpump Data outperformed standard file transfer methods between two computers with an increase in performance of more than 66%.
2. Netpump Data requires some tuning out of the box for best results dependent on the type and speed of the network connections.
3. Configuration is done through editing product configuration files.
4. Full scripting is available for automating the Netpump service.

7. Summary

Netpump Data has several competitors in the marketplace from hardware-based devices to other software-based solutions.

Netpump Data has a clear advantage over its hardware-based competitors as operational and management costs for hardware-based solutions add substantially to solution costs.

When compared with competitors, Netpump Data shows a clear lead in performance and cost advantages.