

NUUO Crystal NFS Storage Server

Performance Test Report

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1. Introduction

This document contains results of NUUO Crystal NFS Storage Server performance test. It should help NUUO customers to design the project and compare the actual performance with their requirement.

2. Testing Environment

2.1 Hardware

2.1.1 Recording Server:

CT-8000R x 2
Firmware version: v3.0.0

2.1.2 Storage Server

CT-8000R x 1
Firmware version: v3.0.0

2.1.3 Client Server for playback

test environment	Nuclient Playback 1	Nuclient Playback 2
Machine	PC	PC
OS	Win7-64bit	Win7-64bit
IE	IE-11	IE-11
CPU	I5 -4440 3.00GHz	I5 -4460 3.20GHz
Mainboard	ASUS H87	ASUS B85-A
VGA	ASUS EAH5450	ASUS EAH5450

Table 1- client server spec

2.2 Software

NUUO Crystal Nuclient v.3.0.0 on Client Server.

2.3 Test Scenario

2.3.1 Video Source:

Due to the great amount of video is required, this test is conducted using NUUO's proprietary fake video source, which is simulated as H.264 IP camera. Each video is sourced from a pre-recorded file whose bit-rate and resolution is set to be full-HD with a constant bit rate at 4Mbps.

2.3.2 Recording Setting

Each recording server:
Recording Mode: Always record
Video source x 64 (2M 30fps with 4 Mbps each video source)
Total bitrate: 250 mbps

2.3.3 Storage Setting

NUUO NFS storage server contains total 8 HDDs; create two RAID 5 volume; each volume 4 HDDs.

2.3.4 Testing Criteria

Recording stability testing – 7 days
When recycle process starts, client remotely request 16ch playback streaming to each recording server – 24 hours

2.3.5 Pass Criteria

No recording drop-frame under test scenario listed in this document.

2.3.6 Testing Architecture

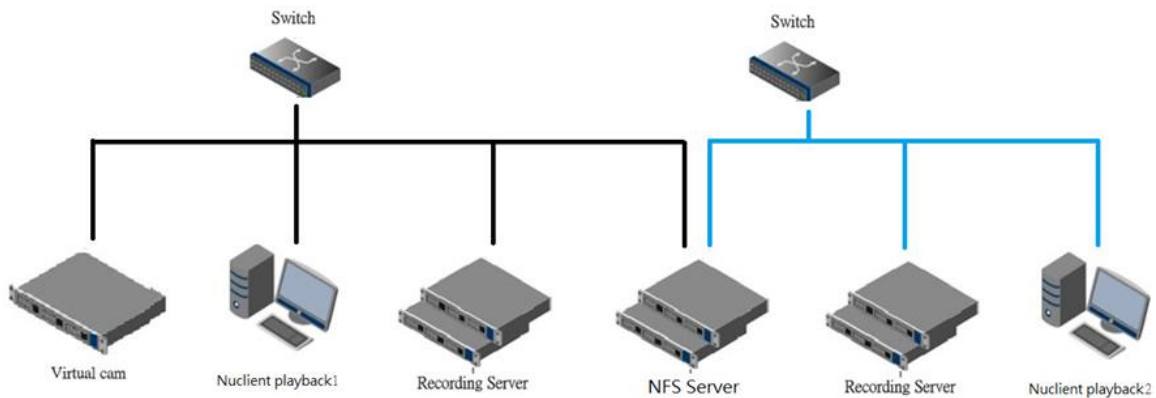


Figure 1: testing architecture



3. Test Result

3.1 Recording Stability (7 days) – no recycling, pure recording

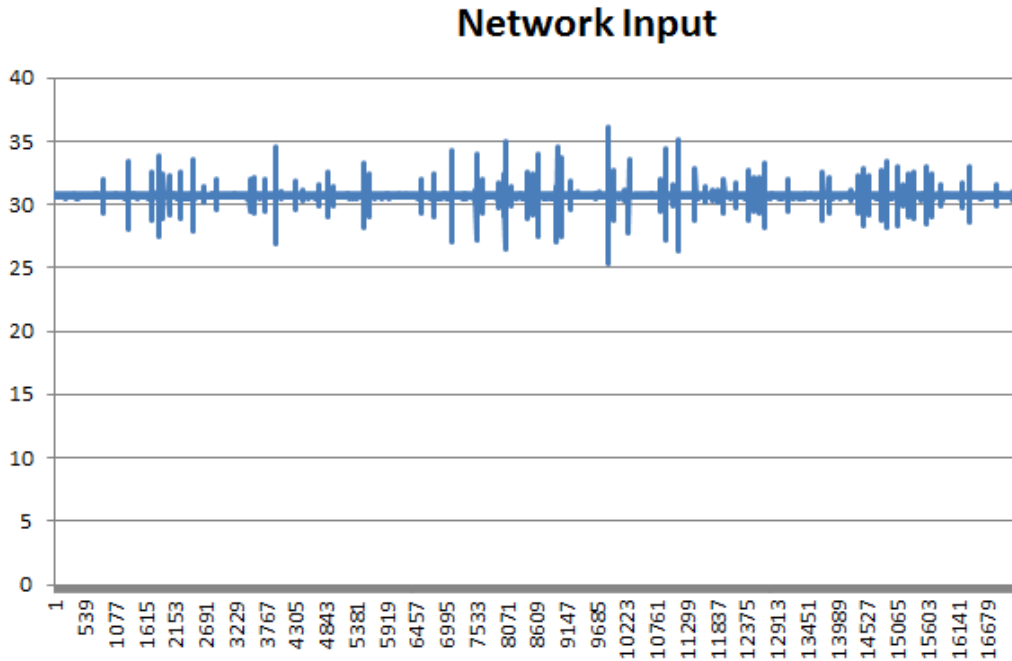


Figure 2 – Network Input

The 7 days HDD IO data as below:

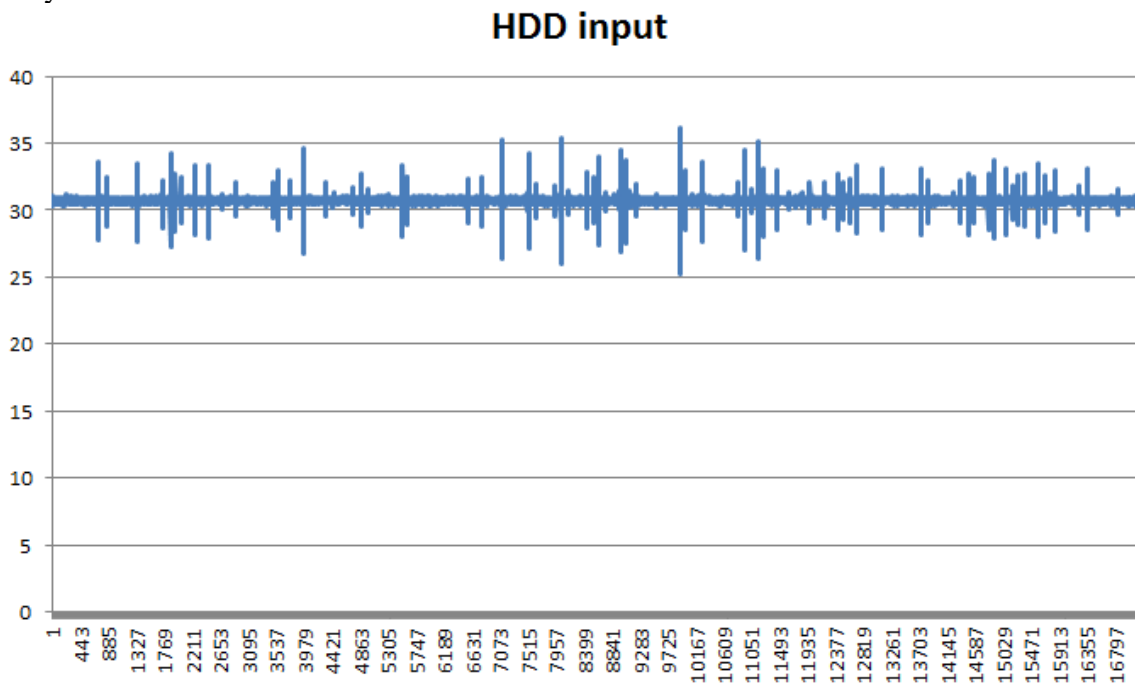


Figure 3 – HDD input

3.2 Performance test result when recycling/playback

The NUUO NFS storage server operates pretty well even recycle procedure was processing and there were two remote clients each requesting 16ch archive video streaming at the same time. The Network Input of NUUO NFS storage server is pretty stable as below figure

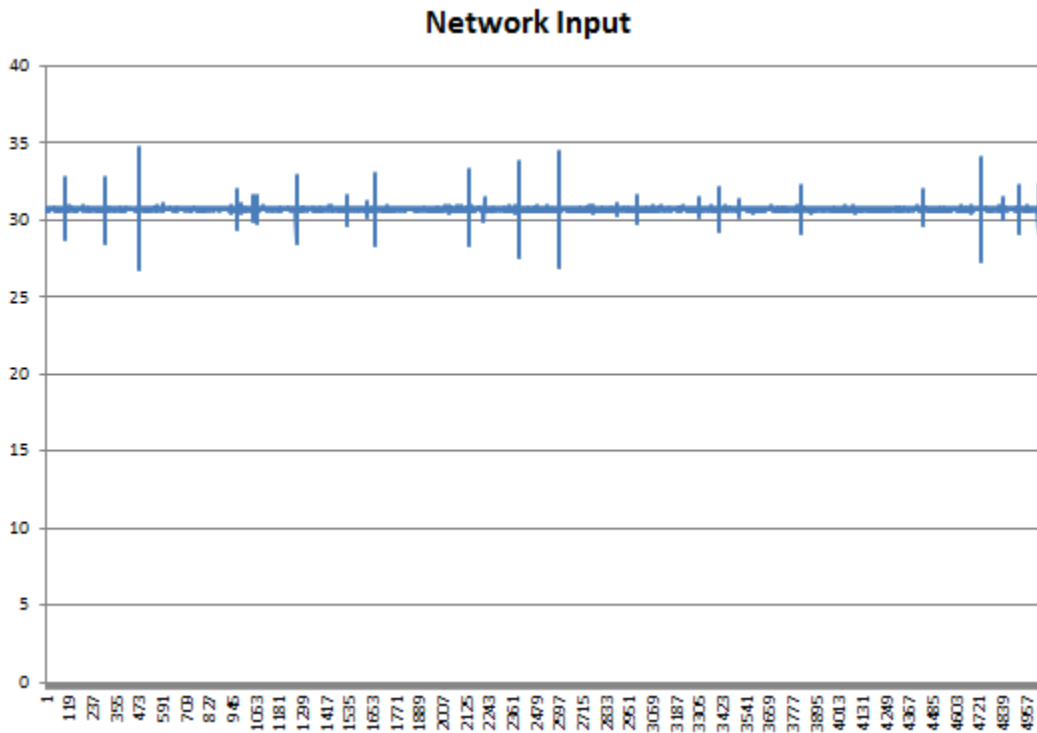


Figure 4 – Network input when recycling/playback

The I/O of HDD is stable as below figure

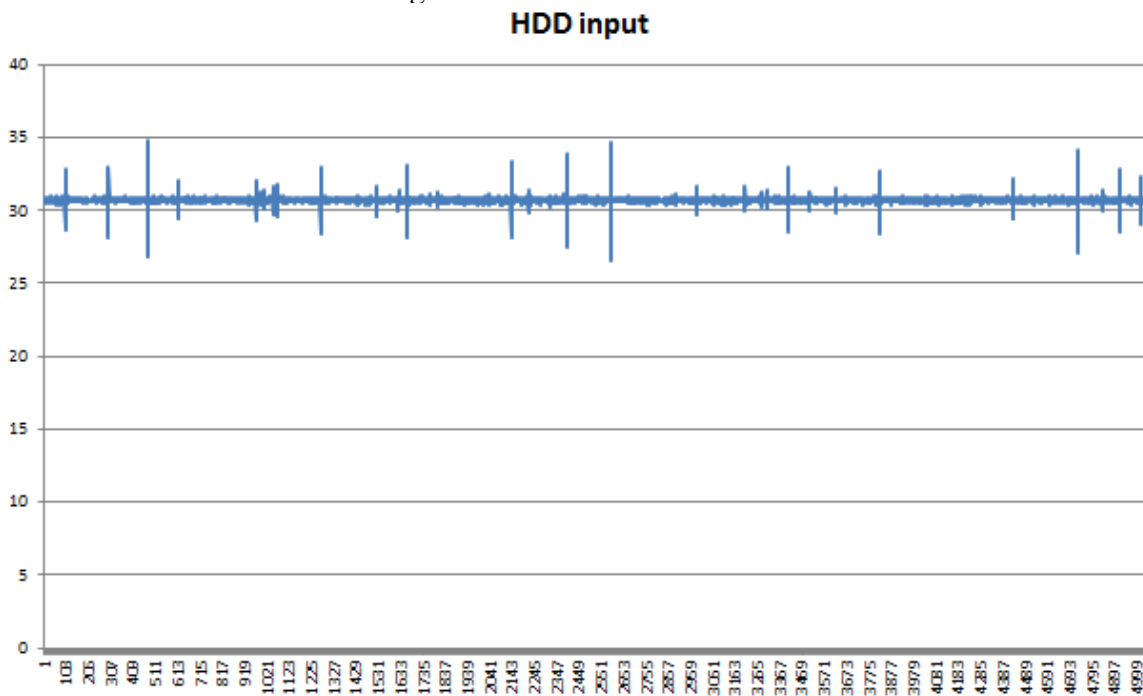


Figure 5 – HDD input when recycling/playback

