*Release Note NAS 7280*

*Software Development Kit 1.10.00.00*

*August 2010*

***NAS 7820 Software Development Kit version 1.10.00.00***

**13th August 2010**

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# Scope of delivery

This release contains sources and binary code for software development of a Network-Attached-Storage system.

The code has been released to provide a kernel and an example rootfs for customer development and PLX recommends close working with PLX Applications Group / Field Support Engineers during initial development.

The software contains the following:

* SMP Linux version 2.6.31 (i.e. running a dual core system)
* Full drivers for SATA, Ethernet MAC, USB
* TCP / IP Client with CIFS / Samba
* DHCP client for automatic installation, zero configuration and static IP selection
* WEB server for User Configuration, with a range of pages
  + Network configuration
  + Date / time / time zone
  + Admin username and password
  + Share management
  + User management
* Journaling File system – the current version is XFS

# Major Changes

This is the first Software Development Kit release and contains sources, build scripts, instructions and binaries.

Note: Building of the software requires a PC running Fedora 11 – 13 (earlier versions are likely to fail to build)

The release contains two installation scripts; install-7820.sh which creates 4 partitions and install-7820-fast.sh that will create an additional partition of 160GB that can be used to create fast shares

The installation script install-7820.sh will create a standard SDK rootfs layout consisting of 4 partitions, the last of which holds user shares.

The system will be created with a single share:

PUBLIC – standard share (standard performance)

Additional standard shares can be created using the WEB pages

The installation script install-7820-fast.sh will create an additional partition of 160GB that can be used to create fast shares.

The system will be created with a single share:

PUBLIC – standard share (standard performance)

If this installation script is used to build the NAS disk then there are two additional scripts that can be used to create fast shares:

1. Boot the 7820 system
2. Login to the console
   1. Username: root
   2. Password: root
3. Run the script to create a fast share (two scripts are available):
   1. For share called FAST - type:

/etc/create\_fast\_share.sh

This creates a share named FAST mounted at /shares/fast on the NAS,

* 1. For share with user defined name - type:

/etc/create\_fast\_share\_example.sh <name>

<name> is the name of the share to be created and creates a directory for the share under /shares/fast/ on the NAS.

NOTE: the FAST share must be created before a user named share can be created

/etc/create\_fast\_share\_example.sh can be used as an example of the configuration changes needed to support a fast share.

# Release Status

A range of tests have been run against the system

Board test coverage:

* Tested
  + 750MHz dual core
  + DDR memory test
  + USB Host Port
  + Linux booting from 1st Gigabit port
  + Samba transfers between Ethernet and SATA HDD
  + Samba transfers between Ethernet and USB mass storage device
  + Single PCIe port – tested with basic PCIe transfers
* Functions not in the this release (but available via PLX Applications Group)
  + USB device port
  + NAND flash
  + 2nd PCIe port

# Contents of release:

1. Documentation:-

DS-0067 NAS 7820 and NAS 7821 Data Sheet

GS-0094 Getting Started with the NAS 782x Evaluation Board

GS-0078 Getting Started with the NAS Manager

SG-0025 NAS 7820, NAS 7821 Software Overview

GS-0100 782x PCB Design Guidelines

AN-0120 Building NAS 7820 Software

1. Software sources for Stage1loader, uboot, kernel, rootfs and boot-tools
2. Software binaries for Stage1loader, uboot, kernel and rootfsDisk Programming Script

1. Release Note (this document)

# Known Bugs

Limitation - Under heavy load with multiple clients and some 100Mbit switches occasional connection errors occur on 100Mbit

RDK boards at hardware versions less than v1.2 cannot run PCIe and Ethernet simultaneously.

If you require this functionality please contact PLX for details of the board update instruction or for an exchange board.

# Bugs fixed in this release

Occasional problem related to broadcasting of TLB operations between CPUs.

Potential race condition between CPUs during page table entry setup.

Potential instruction/data cache coherency issue