



QDK makes self-developed apps run smoothly on a NAS

An in-depth guide for application developers



QNAP Development Platform

The QNAP development platform is designed for use by professional software developers, network and system integrators, and independent software developers to construct complete hardware and software integration platforms and develop applications. We welcome all passionate professionals to join our development team and help create a win-win future for QNAP and you.



QNAP Development Platform

Rich and built-in features to save you effort and time on application development

QNAP Turbo NAS is a feature-rich, private cloud system. With storage as the core theme, the QNAP Turbo NAS offers an array of practical and value-added features, including user and privilege management, backup, multimedia and entertainment, and IP security surveillance. As a development platform, QNAP Turbo NAS is a total solution that dramatically reduces your development effort, and through the influential brand image of QNAP, your success can be easily achieved.



QNAP Development Platform



If you are a professional software vendor or system integrator seeking a great hardware platform to integrate your valuable software applications into a solution for your clients, the QNAP Turbo NAS is definitely your top choice.



If you are an independent software programmer with brilliant ideas to share with the world, then the QNAP Turbo NAS is the ideal platform for you to shine.

Virtual Machine (VM) Integration

Integration through a virtual machine (VM) allows any operating system or third-party software to run on our NAS without the need for modification, ensuring an easy and efficient integration.



Virtual Machine (VM) Integration

Virtual Machine (VM) technology enables third-party software that was originally developed for the Windows or Linux platforms to run on QNAP NAS without the need for modification.

Advantages :

No need to re-develop application; the existing one can directly be used.

No need to invest in additional hardware.

Have a familiar and user-friendly UI.



QNAP Development Kits

Developers can use the QNAP development kits (QDK) provided by QNAP to design software running on QNAP NAS, personal computer or smartphone.



QDK Type

PC / Mobile QDK

- For computer or mobile application
- The application will be able to access and manage files on NAS.

NAS QDK

- For QTS App
- NAS is a platform; third-parties can develop their own creative.



PC / Mobile QDK - Supported Clients

Mobile App



Android Phone

- Sample Code
- Read Me



iOS Phone

- Install QDK
- Read Me



Windows Phone

- Install QDK
- Read Me

Computer Applications



Windows

- Install QDK
- Read Me



Mac

- Install QDK
- Read Me



Windows Store (Metro)

- Install QDK
- Read Me

NAS QDK - QPKG

**NAS apps are also known as QPKG,
short for QNAP Package.**

**Install on-demand apps to expand NAS
functionality.**

**A QPKG makes it easy for anyone to
install and remove apps on QNAP NAS.**



Steps of developing NAS apps

STEP

01

**Prepare a QNAP
NAS or vQTS**

STEP

02

**Set Up NAS QDK
environment**

STEP

03

**Create a QPKG
project**

STEP

04

**Develop your
QPKG**

STEP

05

**Build your
QPKG**

STEP

06

Test your QPKG

A Demo of Setting Up NAS QDK



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Test your QPKG

A Demo of Developing a NAS App



QPKG Configuration Settings

QPKG_NAME	Name of the packaged application.
QPKG_DISPLAY_NAME	Displayed name of the packaged application.
QPKG_VER	Version of the packaged application.
QPKG_AUTHOR	Author or maintainer of the package.
QPKG_WEBUI	Relative path to web interface. (ex: /HelloWorld)
QPKG_WEB_PORT	Port number for the web interface.
QPKG_WEB_SSL_PORT	Port number for the SSL web interface.

QPKG Configuration Settings

QPKG_USE_PROXY	The QPKG may have its own HTTP service port. 1: QTS HTTP server will act as a proxy. Clients connect via QTS HTTP port. Other: Do not use proxy.
QPKG_DESKTOP_APP	1: Open QPKG as a QTS desktop window Other: Open QPKG as a new browser tab
QPKG_DESKTOP_APP_WIN_WIDTH	Desktop Application Window default inner width
QPKG_DESKTOP_APP_WIN_HEIGHT	Desktop Application Window default inner height
QTS_MINI_VERSION	Minimum QTS version requirement.
QTS_MAX_VERSION	Maximum QTS version requirement.

QPKG Configuration Settings

QPKG_VOLUME_SELECT

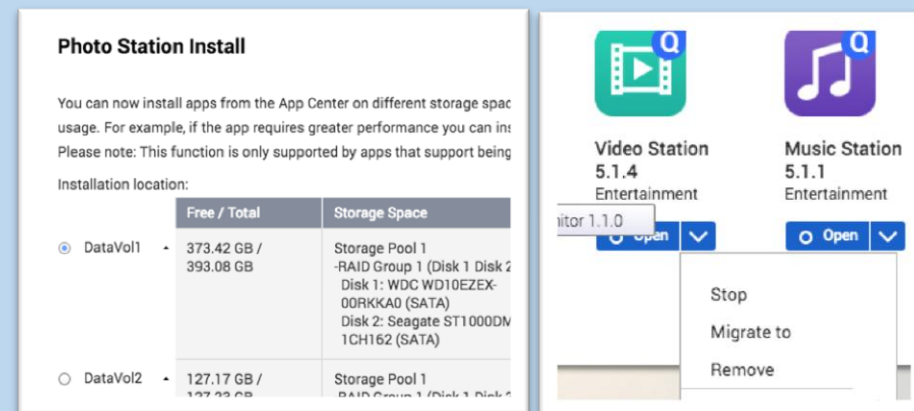
Can user select volume for installation or migration?

0: Not Supported

1: Support installation

2: Support migration

3: (1+2) support both installation and migration



QPKG_VISIBLE

Who can see the QPKG?

1(default): administrators

2: all NAS users.

QDK_DATA_DIR_ICONS

Location of icons for the packaged application.

NAS App vs. Linux App

	NAS App	General Linux Application
Package Format	Uniform Format QPKG	Many Formats yum, rpm, apt, dpkg
Toolchain	Uniform Standard QNAP Provided	Many Formats Platform Vendor Provides
SDK	Additional Option (QNAP SDKs) Linux Libraries and QNAP HTTP APIs	Linux Standard Library Linux Libraries
UI / UX	Additional Option (QTS Integration) QTS Integration or User Design	User Design Developer Design

NAS App vs. Linux App

	NAS App	General Linux Application
Software Store	Unified Store QNAP App Center	Many Stores Package Management
Storage Integration	Powerful QTS Storage Graphical User Interface, RAID Management, Snapshot..	Linux Built-in LVM, RAID
Built-in Feature	Many Built-in Features Linux Built-in Features and QNAP Built-in Features (Web Server, File Station, ..)	Linux Built-in Compression, Transcoding..
Technical Support	QNAP Support + Forum Helpdesk, QNAP/Linux Forums	Forum Linux Forums

QNAP SDK - Others

Toolchain

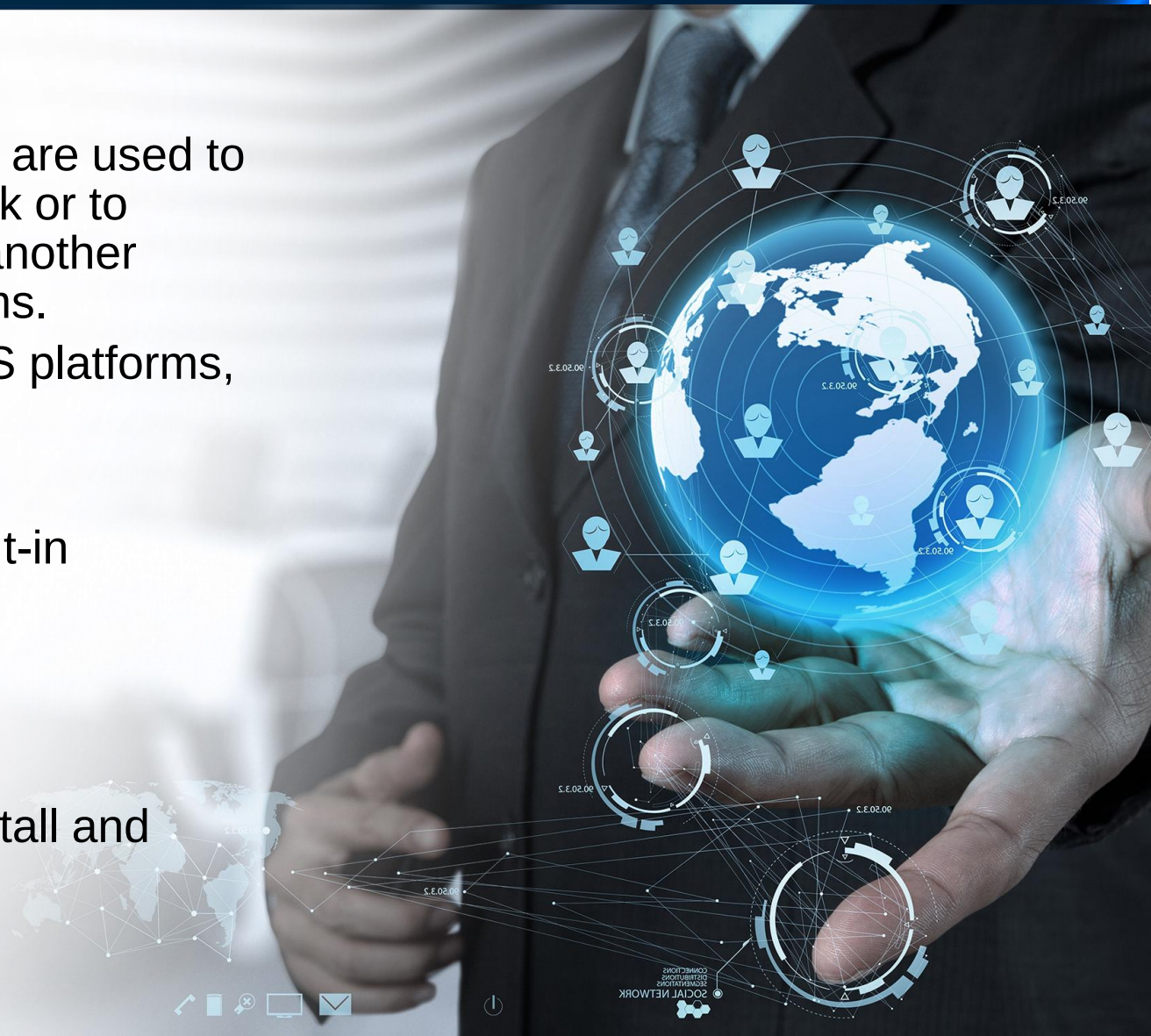
- A toolchain is a set of programming tools that are used to perform a complex software development task or to create a software product, which is typically another computer program or a set of related programs.
- You can develop a native app on several NAS platforms, such as x86/ARM platforms.

QNAP HTTP APIs

- QNAP HTTP APIs help you access those built-in features, such as file management, account management, storage management, etc.

Submit QPKG to QNAP App Center

- Let the world see your App: everyone can install and enjoy your App.



QNAP HTTP APIs

Authentication

Backup & Restore

File Management

Multimedia Management

Music Station

Photo Station

Shared Folders

Storage Management

System Status

Users and User Groups

...



Submit apps to QNAP App Center

You: Develop your QPKG

You: Install Helpdesk app on NAS

You: Send QPKG and mandatory information via Helpdesk app

QNAP: Review / test your QPKG

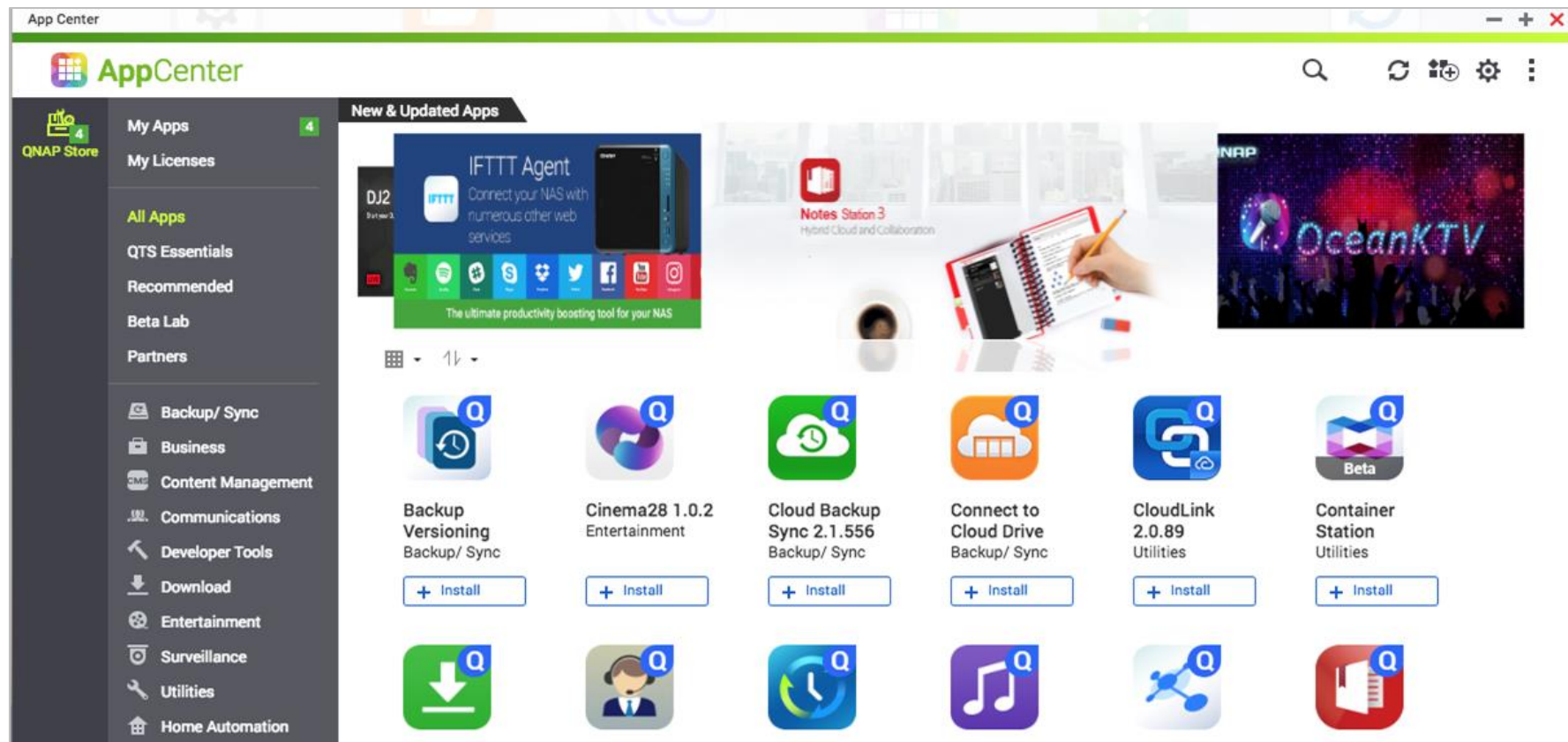
QNAP: Upload your NAS app to QNAP App Center

All QNAP NAS Users: Discover, install and enjoy your NAS app



Shine in QNAP App Center

After you complete the development of your app, you can contact us to display the app in QNAP App Center. Many QNAP NAS users will see your app.



QNAP App Center on QNAP Website

Navigation: All Apps | QTS Essentials | Recommended | Beta Lab | Partners

Search:

Category	App Name	Category	Version
Left Sidebar	Backup/Sync	Acronis True Image	1.0.1
	Business	AlarmClock	1.09
	Content Management	aMule	2.3.3
	Communications	Archiware P5	5.5.3
	Developer Tools	開眼電影網 for Movie	1.0.1
	Download	Azure Storage	1.2.420
Bottom Row	Education	Backup Versioning	1.0.0428
	Entertainment	Browser Station	1.0.504
		Camera Package	1.1.0

QDK Partner Success Stories

There are already a number of success stories on partnership/cooperation with QNAP; have a look to see how easy it is to develop apps on QNAP NAS.



Jarey Mobile
GPS system
[To Learn More](#)



Taipei Tokyo Image &
Information Co., Ltd.
e-book system
[To Learn More](#)



IEIMobile
RFID/Barcode Warehouse Management
System
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Ragic, Inc.
Cloud database for businesses
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Sun Group &
LeuSys Technologies Inc.
Multimedia Digital Signage
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RemoteSpark
webcam video seminar and webcam
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iNDS
Signage Station Digital Signage
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Kinghood Technology
Cloud multimedia system
[To Learn More](#)



BlissCould Holdings Group
EZPhone customer service system
[To Learn More](#)



BitTorrent Sync
Sync and share anything, anywhere with
QNAP and BitTorrent Sync
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Tonido
Turn QNAP NAS into your Personal
Cloud
[To Learn More](#)



Microsoft
Application: Cloud data storage and
backup
[To Learn More](#)



RemoteSpark Intelligent
Technology
Web virtualization application
[To Learn More](#)



Chunghwa Telecom
Realize remote archive based on cloud
service
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JUST MY QRcode Co., Ltd.
Marketing Application
[To Learn More](#)



VirtualHere Pty. Ltd.
TShare USB devices over the network
using the QNAP NAS.
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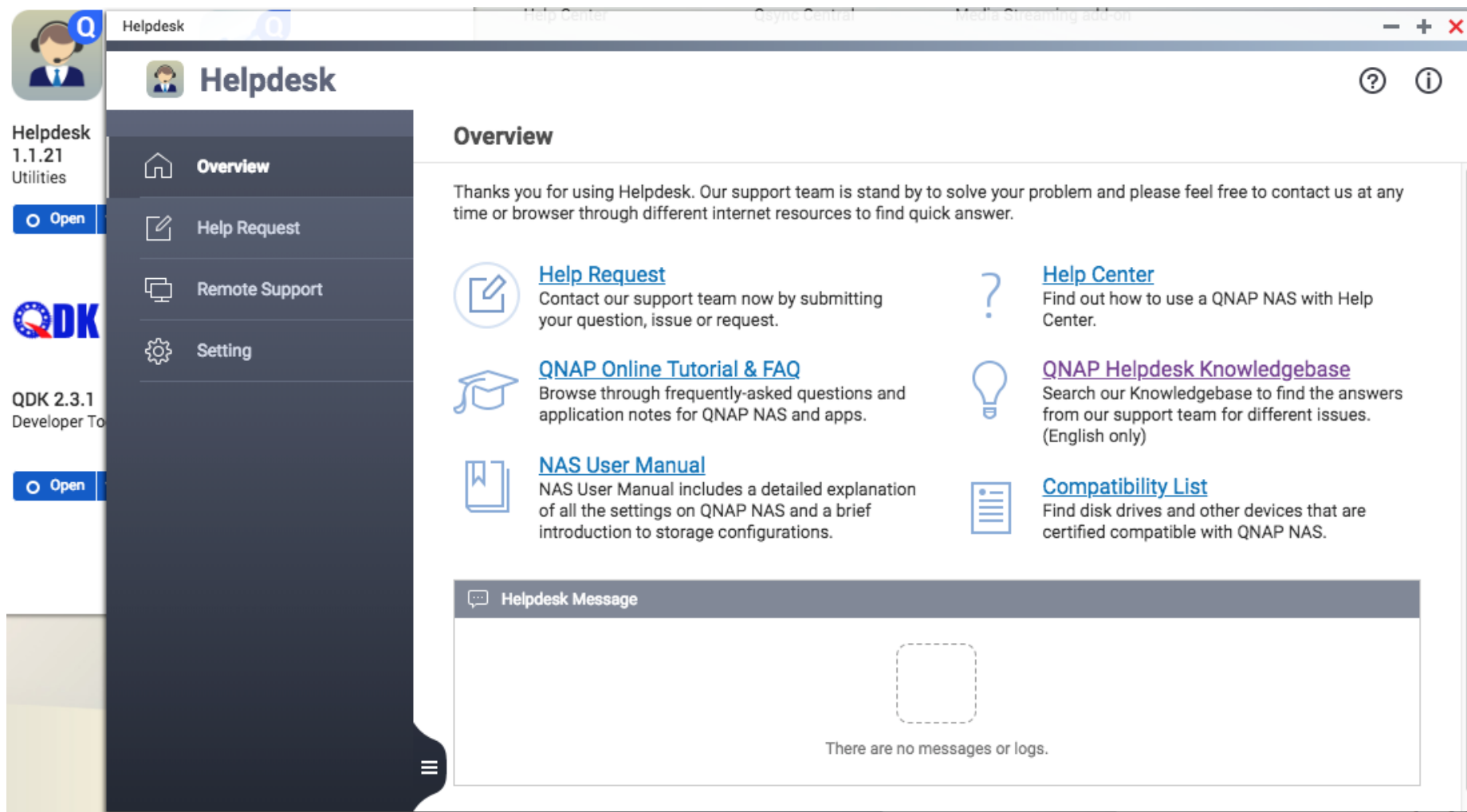


Highway Information System
File Security. Protect intellectual
property.
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IDrive
Secure all the files on your NAS device
to your cloud account via the IDrive app
for QNAP
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If you have technical difficulties, please...





Develop with QNAP

Your best choice!



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