DEXING

NDS3508F — IPTV Gateway

HTTP/UDP/RTP/RTSP/HLS → **HTTP/ UDP/ HLS/RTMP**

Outline

Dexin NDS3508F (NDS3508F-M) IPTV Gateway is a device which is used for the protocol conversion scenarios and streaming media distribution scenarios. It can convert the broadcast network IP stream over HTTP, UDP, RTP, RTSP and HLS and TS file into HTTP, UDP, HLS and RTMP protocol. The system can achieve the integration by receiving a variety of commercial streaming media services. Also, the system can provide streaming media services directly.

Key Features

- **8 Data ports:**

  First Data port: IP out over HTTP, UDP (SPTS), HLS and RTMP

 **Data CH1-7 ports: IP in over HTTP, UDP (SPTS), RTP (SPTS), RTSP and HLS**

IP out over HTTP, HLS and RTMP (Unicast)

● **Support TS files uploading through Web management**

● **Support IP anti- jitter function**

● **Support adding scrolling caption, welcome words, boot image and boot video (this function is only applicable to IP out application and the STB/Android TV must be installed Dexin IPTV APK)**

● **Support downloading Dexin IPTV APK directly from this device**

● **Support about 80 HD/SD programs (Bitrate:2Mbps) When HTTP/RTP/RTSP/HLS is converted into UDP (Multicast),the actual application shall prevail, and suggest maximum 80% CPU utilization**

● **Support program playing with APK downloaded android STB and TV, maximum 150 terminals**

● **Control via web-based NMS management through DATA port**

IP Protocol Conversion
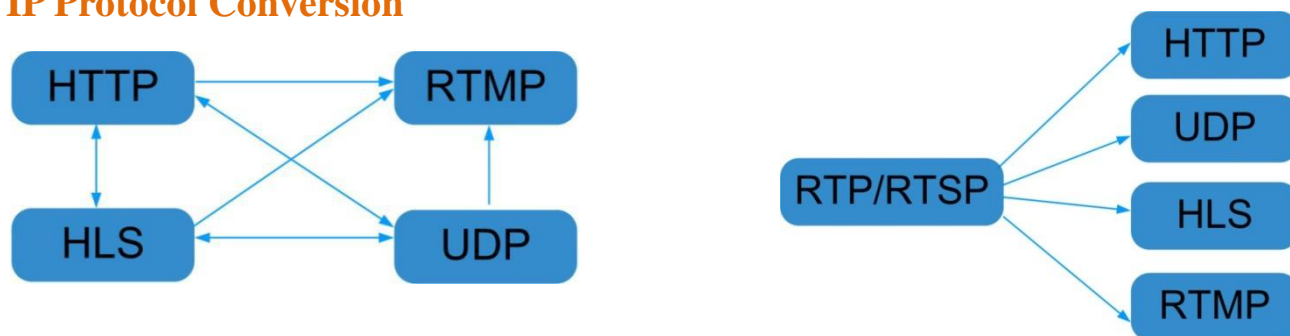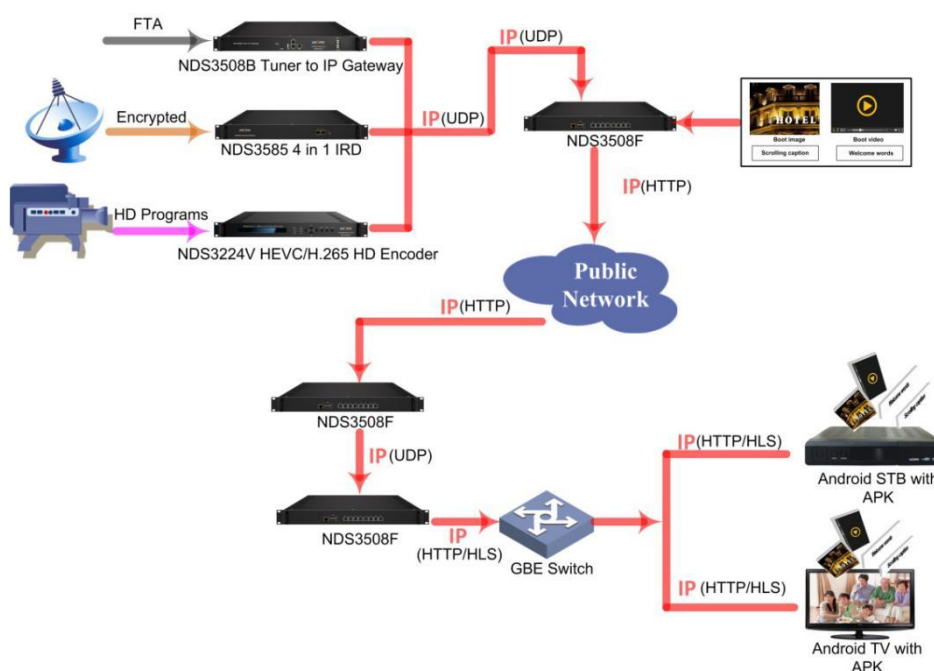

General Principle Chart

Scrolling caption/welcome words/boot image/boot video is only applicable to IP out application and the STB/Android TV must be installed Dexin IPTV APK

Specifications

Input	IP input thru CH 1-7(1000M) over HTTP, UDP(SPTS), RTP(SPTS), RTSP (over UDP, payload: mpeg TS) and HLS
	TS files uploading through Web management
IP output	IP out thru Data port (1000M) over HTTP (Unicast), UDP(SPTS, Multicast) HLS and RTMP (Program source should be H.264 and AAC encoding) IP out thru CH 1-7(1000M) over HTTP/ HLS/RTMP (Unicast)
System	CPU: NDS3508F(1037)/NDS3508F-M(I7) Memory: 4G
	Solid-State Disk (SSD): 16G (60G optional)
	Channel switching time with DEXIN' STB: HTTP (1-3s), HLS (0.4-0.7s)
	Support adding scrolling caption, welcome words, boot image and boot video (this function is only applicable to IP out application and the STB/Android TV must be installed Dexin IPTV APK)
	Play programs with APK downloaded android STB and TV, maximum 150 terminals(See details in below Test data for reference)
	Support about 80 HD/SD programs (Bitrate: 2Mbps) When HTTP/RTP/RTSP/HLS is converted into UDP (Multicast), the actual application shall prevail, and suggest maximum 80% CPU utilization
	web-based NMS management thru DATA port
General	Demission	482mm×324mm×44mm (WxLxH)
	Temperature	0~45℃(operation), -20~80℃(storage)
	Power Supply	AC 100V±10%, 50/60Hz or AC 220V±10%, 50/60Hz

Application:

Maximum 200 Terminals solution

Head-end devices:

Data Source	Function	Mark
NDS3508B Tuner to IP Gateway	Receiving FTA Programs	Input: 16 tuner, 2ASI Output: IP (16 MPTS or 512 SPTS)
NDS3585 4 in 1 IRD	Decrypting programs	Input:4 RF, 1ASI, 4IP Output: IP (48 SPTS and 4 MPTS), 4ASI Support descramble programs through 4 CAMs/CIs
NDS3224V H.265/H.264 HD Encoder	HDMI HD Programs	Input: 4/8/12×HDMI/SDI Output: IP (1 MPTS and 4/8/12 SPTS) Support H.265/HEVC, H.264/AVC Encoding
NDS3508F IPTV Gateway	Converting protocol	Input: 7 channels IP over UDP Output: 1channel IP over HTTP

Receiving devices:

Data Source	Function	Mark
NDS3508F IPTV Gateway	As a receiver to receive programs from public Network	Input IP protocol: HTTP Output IP protocol: UDP Support about 80 HD/SD programs (Bitrate: 2Mbps), suggest maximum 80% CPU utilization
NDS3508F IPTV Gateway	As a server	Input IP protocol: UDP Output IP protocol: HTTP/HLS maximum 250 terminals

Terminal devices:

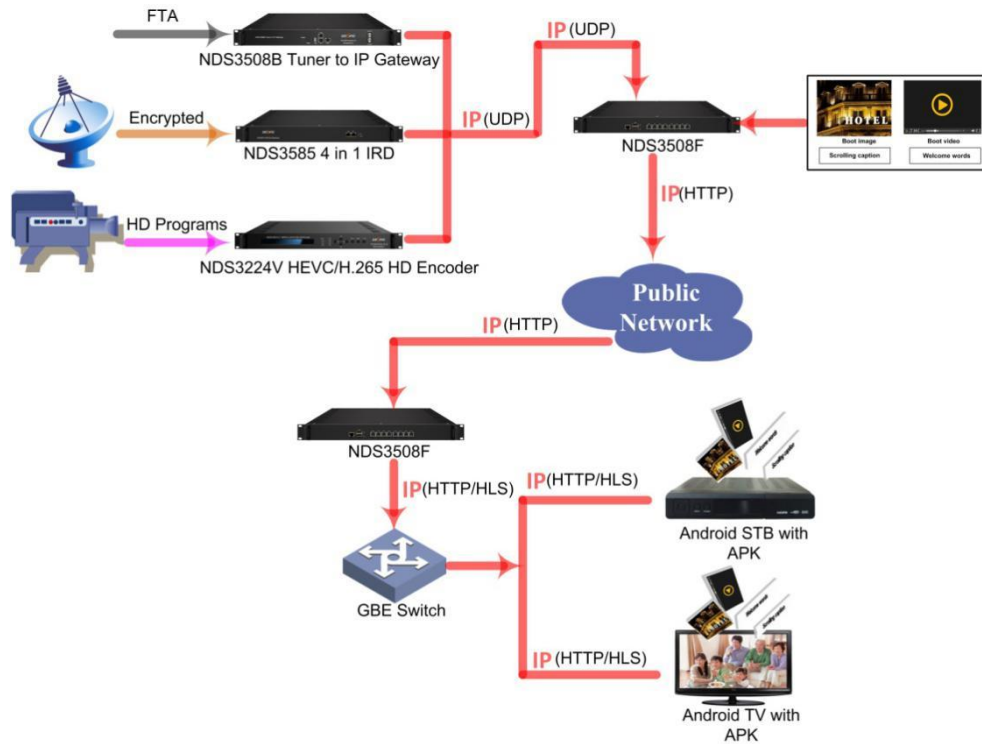| Terminal Type	Mark
Android STB with APK	Support HTTP&HLS protocol Support Dexin APK configuration
Android TVs with APK	Support HTTP&HLS protocol Support Dexin APK configuration Support self-start Dexin APK when TV is on

Total device number:

Head-end device	Device	Number
Head-end device	NDS3508B Tuner to IP Gateway	1
	NDS3585 4 in 1 IRD	1
	NDS3224V HEVC/H.265 HD Encoder	1
	NDS3508F IPTV Gateway	1
Receiving device	NDS3508F IPTV Gateway	2
Terminal device	Android STB with APK/ Android TVs with APK	maximum 250

A small number of programs and terminals solution

Head-end devices:

Data Source	Function	Mark
NDS3508B Tuner to IP Gateway	Receiving FTA Programs	Input: 16 tuner, 2ASI Output: IP (16 MPTS or 512 SPTS)
NDS3585 4 in 1 IRD	Decrypting programs	Input:4 RF, 1ASI, 4IP Output: IP (48 SPTS and 4 MPTS), 4ASI Support descramble programs through 4 CAMs/CIs
NDS3224V H.265/H.264 HD Encoder	HDMI HD Programs	Input: 4/8/12×HDMI/SDI Output: IP (1 MPTS and 4/8/12 SPTS) Support H.265/HEVC, H.264/AVC Encoding
NDS3508F IPTV Gateway	Converting protocol	Input: 7 channels IP over UDP Output: 1channel IP over HTTP

Receiving devices:

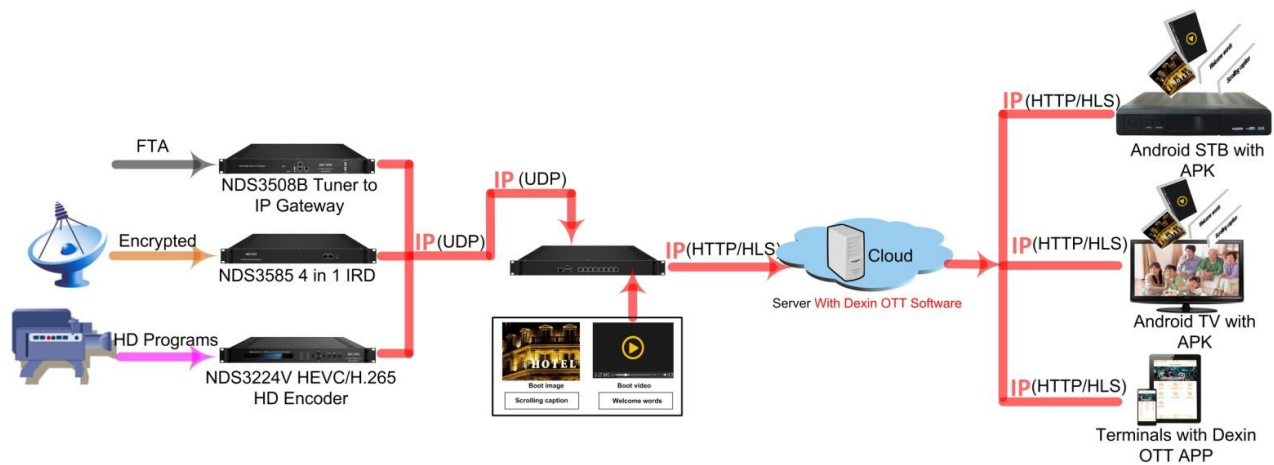| Data Source	Function				Mark
NDS3508F IPTV Gateway	As a receiver and a server, please view the following data for reference.				Input IP protocol: HTTP Output IP protocol: HTTP/HLS
	Protocol conversion	Programs	Bitrate	Terminals	
	HTTP to HTTP	30	2Mbps	150	
		50	2Mbps	80	
	HTTP to HLS	50	2Mbps	200	

Terminal devices:

Terminal Type	Mark
Android STB with APK	Support HTTP&HLS protocol Support Dexin APK configuration

Android TVs with APK	Support HTTP&HLS protocol
	Support Dexin APK configuration
	Support self-start Dexin APK when TV is on

Total device number:

	Device	Number
Head-end device	NDS3508B Tuner to IP Gateway	1
	NDS3585 4 in 1 IRD	1
	NDS3224V HEVC/H.265 HD Encoder	1
	NDS3508F IPTV Gateway	1
Receiving device	NDS3508F IPTV Gateway	1
Terminal device	Android STB with APK/ Android TV with APK	According to NDS3508F's CPU utilization after receiving programs.

The number of terminals according to the cloud server

Head-end devices:

Data Source	Function	Mark
NDS3508B Tuner to IP Gateway	Receiving FTA Programs	Input: 16 tuner, 2ASI Output: IP(16 MPTS or 512 SPTS)
NDS3585 4 in 1 IRD	Decrypting programs	Input:4 RF, 1ASI, 4IP Output: IP (48 SPTS and 4 MPTS), 4ASI Support descramble programs through 4 CAMs/CIs
NDS3224V H.265/H.264 HD Encoder	HDMI HD Programs	Input: 4/8/12×HDMI/SDI Output: IP (1 MPTS and 4/8/12 SPTS) Support H.265/HEVC, H.264/AVC Encoding
NDS3508F IPTV Gateway	Converting protocol	Input: 7 channels IP over UDP Output: 1channel IP over HTTP and HLS

Receiving devices:

Data Source	Function	Mark
Cloud Server	Receiving and store programs and as a server	Input IP protocol: HTTP/HLS Output IP protocol: HTTP/HLS Support Dexin OTT software configuration

Terminal devices:

Terminal Type	Mark
Android STB with APK	Support HTTP&HLS protocol
	Support Dexin APK configuration
Android TV with APK	Support HTTP&HLS protocol
	Support Dexin APK configuration
	Support self-start Dexin APK when TV is on
Mobile Phone or Tablet PC	Installing Dexin OTT APP

Total device number:

	Device	Number
Head-end device	NDS3508B Tuner to IP Gateway	1
	NDS3585 4 in 1 IRD	1
	NDS3224V HEVC/H.265 HD Encoder	1
	NDS3508F IPTV Gateway	1
Receiving device	Cloud Server	1
Terminal device	Android STB with APK/ Android TV with APK/ Mobile Phone or Tablet PC with Dexin OTT APP	The number of terminals according to the cloud server

Test data for reference:

Protocol conversion	Programs	Bitrate	Terminals		CPU utilization
---			NDS3508F	NDS3508F-M	---
HTTP/RTP/RTSP/HLS to UDP	80	2M	---	---	55%
HTTP to HTTP	30	2M	150	300	80%
	50	2M	80	160	80%
HTTP to HLS	50	2M	200	400	46%
UDP to HLS	50	2M	200	400	50%
	80	2M	150	300	72%
UDP to HTTP	50	2M	120	240	50%

Order Guide:

	Feature	Memory	CPU	Solid-State Disk(SSD)	Mechanical Hard Disk
NDS3508F	Gateway	4G	1037	16G (60G optional)	✕
NDS3508F-M	Gateway	4G	i7	16G (60G optional)	✕