IPC SDK Programming User Manual

(version 1.0.0.0)

1 Overview

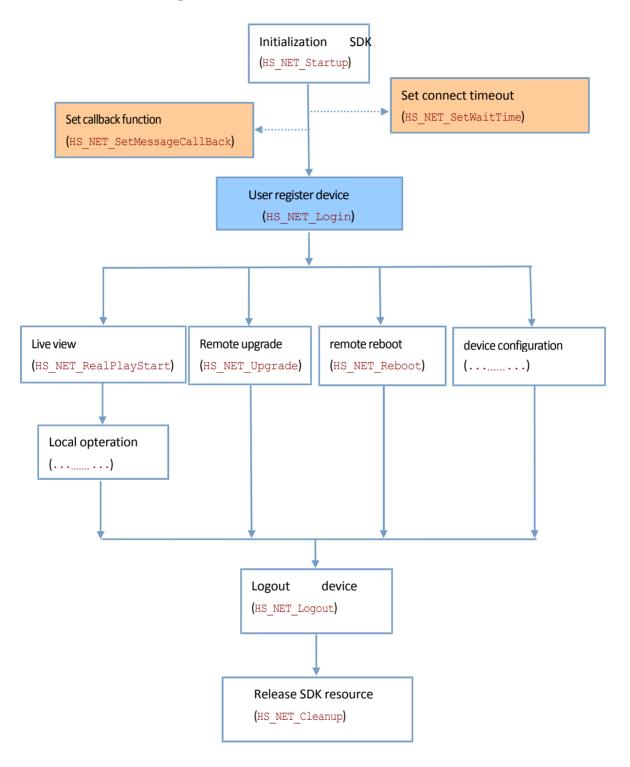
The device network SDK is developed based on private network communication protocol, and it is designed for the remote connection and configuration of IPC.

The functions supported by the SDK

- 1. Live view, Local operation, log query, decoding call back,etc.
- 2. Remote upgrade, remotely reboot, remotely shut down, and device configuration (system configuration, alarm configuration, users configuration), etc.

The SDK is used as client. The client connects to the device actively, and then does operation about the device, live view, device configuration and so on.

2 API Calling Procedure



3 API Description

[in] pChaninfo

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Remarks: This API is used to initialize SDK. Please call this API before calling any
         other API.
Parameters: None
Return: Return 0 on success, -1 on failure. int
HS NET Startup();
Remarks: This API is used to release SDK resource. Please calling it before closing the
         program.
Parameters: None
Return: Return 0 on success, -1 on failure. void
HS NET Cleanup();
Remarks: Default timeout of SDK to establish a connection is 3 seconds.
Parameters:
[in] nWaitTime
    Timeout, unit: ms, value range: [500,50000], the
    actual max timeout time is different with
    different system connecting timeout
 [in] nTryNum
    Connecting attempt times
[in] nTryInterval
    The time interval of each connection
Return: Return 0 on success, -1 on failure.
void HS NET SetWaitTime(int nWaitTime, int nTryNum, int nTryInterval);
Remarks: cbMessageCallBack can't be set to NULL, or it will not receive message.
Parameters:
[in] cbMessageCallBack
    Callback function to receive message
[in] pUser
    User data
Return: None
typedef void(CALLBACK *fNetMessageCallBack) (int nLoginId, long msgType, void *pMsgData, void
void HS NET SetMessageCallBack(fNetMessageCallBack cbMessageCallBack, void *pUser);
Remarks: supports 128 users login at the same time
Parameters:
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```
User name, password and so on.
Return: Return ID on success. -1 on failure.
int HS NET Login(HS CLIENTINFO *pChaninfo);
Remarks: It is suggested to call this API to logout.
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
Return: Return 0 on success, -1 on failure. int
HS NET Logout(int nLoginId);
Remarks: The callback function of this API can be set to NULL, and it will not callback,
        if you want to play by yourself, please set this callback fun, and decode h264
        to play.
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
    Live view parameter, channel is 0, main stream or sub stream, play handle [in]
dataFun
    H264 data callback function
[in] pUser
    User data
Return: Return ID on success, -1 on failure.
typedef void (CALLBACK* fNetAVDataCallBack) (int nRealPlayId, char* pBuf, long nSize,
HS STREAM INFO* pBufInfo, void *pUser);
int HS NET RealPlayStart(int nLoginId, HS CLIENTINFO *pChaninfo, fNetAVDataCallBack
dataFun, void *pUser);
Remarks: This API is used to stop live view.
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart.
Return: Return 0 on success, -1 on failure.
int HS NET RealPlayStop(int nRealPlayId);
Remarks: This API is used to set playing handle or to change playing handle
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart. [in]
hWnd
    Windows handle
Return: Return 0 on success, -1 on failure.
int HS NET ClientSetWnd(int nRealPlayId, HWND hWnd);
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```
Remarks: This API is used to fresh window
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart.
Return: Return 0 on success, -1 on failure.
int HS NET ClientRefreshWnd(int nRealPlayId);
Remarks: This API is used to get stream info.
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart. [out]
pBitRate
    Bit rate
[out] pFrameRate
    Frame rate
[out] pWidth
    Width of video
[out] pHeight
    Height of video
Return: Return 0 on success, -1 on failure.
int HS NET ClientGetStreamInfo(int nRealPlayId, unsigned long *pBitRate, unsigned long
*pFrameRate, unsigned long *pWidth, unsigned long *pHeight);
Remarks: This API is used to open sound under exclusive sound card mode.
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart.
Return: Return 0 on success, -1 on failure.
int HS NET ClientPlayAudioStart(int nRealPlayId);
Remarks: This API is used to close sound on monopolistic sound card mode.
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart.
Return: Return 0 on success, -1 on failure.
int HS NET ClientPlayAudioStop(int nRealPlayId);
Remarks: This API is used to capture a frame and save to JPEG file.
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart. [in]
filename
    URL of JPEG file
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[in] type
    Only surpport : HS NET CAPTURE JPEG
Return: Return 0 on success, -1 on failure.
int HS NET ClientCapturePicture(int nRealPlayId, const char* filename, HsNetCaptureType type
= HS NET CAPTURE JPEG);
Remarks: This API is used to start the manual record. If dwDurationSeconds vale is
    none-zero, will callback MSG RECORD PACKET FINISH by endle of recording; or must to
    use HS NET ClientStopRecord to stop recording.
Parameters:
[in] nRealPlavId
    Live view handle, the return value of HS NET RealPlayStart. [in]
filename
    URL of record file
[in] dwDurationSeconds
    Record time, 0 is to keep recording, or recording the this time, unit:second, default
Return: Return 0 on success, -1 on failure.
int HS NET ClientStartRecord(int nRealPlayId, const char* filename, DWORD
dwDurationSeconds=0);
Remarks: This API is used to stop recording.
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart.
Return: Return 0 on success, -1 on failure.
int HS NET ClientStopRecord(int nRealPlayId);
Remarks: This API is used to start another record. If dwDurationSeconds vale is
    none-zero, will callback MSG RECORD PACKET FINISH by endle of recording; or must to use
    HS NET ClientStopRecord Another to stop recording.
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart. [in]
filename
    URL of record file
[in] dwDurationSeconds
    Record time, 0 is to keep recording, or recording the this time, unit:second, default
    is 0.
Return: Return 0 on success, -1 on failure.
int HS NET ClientStartRecord Another(int nRealPlayId, const char* filename, DWORD
dwDurationSeconds=0);
```

Remarks: This API is used to stop another recording.

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Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart.
Return: Return 0 on success, -1 on failure.
int HS NET ClientStopRecord Another(int nRealPlayId);
Remarks: This API is used to overlay characters or image on preview DC
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart. [in]
dawFun
    Draw callback function.
[in] pUser
    User data.
Return: Return 0 on success, -1 on failure.
typedef void (CALLBACK* fNetDrawCallback) (int nRealPlayId, HDC hDC, void *pUser);
int HS NET ClientSetDrawCallback(int nRealPlayId, fNetDrawCallback dawFun, void *pUser);
Remarks: This API is used to callback yuv420 data
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart. [in]
decfun
    Decode data callback function.
[in] pUser
    User data.
Return: Return 0 on success, -1 on failure.
typedef void (CALLBACK* fNetDecodeCallBack) (int nRealPlayId, char *py, char *pu, char *pv,
int ystride, int uvstride, HS FRAME INFO *pFrameInfo, void *pUser);
int HS NET ClientSetDecodeCallBack( int nRealPlayId, fNetDecodeCallBack decfun, void
*pUser);
Remarks: This API is used to cache frames. Default is 0.
Parameters:
[in] nRealPlayId
    Live view handle, the return value of HS NET RealPlayStart. [in]
frame
    Cache frames
Return: Return 0 on success, -1 on failure.
int HS NET ClientSetRestoreFrame(int nRealPlayId, UINT frame);
Remarks: This API is used to digital larger image.
Parameters:
[in] nRealPlayId
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Live view handle, the return value of HS NET RealPlayStart. [in]
pRect
    The actual image of the designated area.
Return: Return 0 on success, -1 on failure.
int HS NET ClientShowRect(int nRealPlayId, RECT *pRect);
Remarks: This API is used to get video display parameters.
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] imageprty
    video display parameters. (User specified memory, the following interfaces are the same) Retum:
Return 0 on success, -1 on failure.
int HS NET GetImageProperty(int nLoginId, HS IMAGE PROPERTY *imageprty);
Remarks: This API is used to set video display parameters.
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
pImageprty
    video display parameters. (No changes to the parameters to obtain the return value, he following
    interfaces are the same)
Return: Return 0 on success, -1 on failure.
int HS NET SetImageProperty(int nLoginId, HS IMAGE PROPERTY *pImageprty);
Remarks: This API is used to configure user information.
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
pUserInfo
    User information.
[in] configType
    The type of configure.
Return: Return 0 on success, -1 on failure.
int HS NET UserConfig(int nLoginId, HS USER INFOR *pUserInfo, HS USER CONFIG TYPE
configType);
Remarks: This API is used to guery information of users; (when userInfo is NULL and
         bufNum is 0, the return vale is user numbers. Using this vale to malloc memory and
         call this API again. The following interfaces are the same)
Parameters:
[in] nLoginId
    User ID, the return value of HS_NET_Login
[in/out] userInfo
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A pointer that number of HS USER INFOR memory to receive [in]
bufNum
    The number of HS USER INFOR to receive
[in/out] nCount
    actual number of HS USER INFOR is returned, when a query is greater than the number of bufNum,
    only to return bufNum
Return: Return 0 on success, -1 on failure.
int HS NET GetUserInfo(int nLoqinId, HS USER INFOR userInfo[], int bufNum, int *nCount);
Remarks: This API is used to get the configuration parameters of motion detection.
        (currently only supports HS_AREA_DELIMIT_22_18 block mode; if data structures
        has channel fields, being filled 0. The following interfaces are the same)
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] pMDInfo
    parameters of motion detection.
Return: Return 0 on success, -1 on failure.
int HS NET GetMDInfo(int nLoginId, HS MOTIONDETECTION EX PROPERTY* pMDInfo);
Remarks: This API is used to get the configuration parameters of motion detection.
    (Note: when motion detection enballed, Only with alarm setting interface
    configuration enabled, will can be receive alarm messages. Alarm setting interface is
    the master switch)
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
pMDInfo
    parameters of motion detection.
Return: Return 0 on success, -1 on failure.
int HS NET SetMDInfo(int nLoginId, HS MOTIONDETECTION EX PROPERTY* pMDInfo);
Remarks: This API is used to get parameters of video cover.(currently only supports up
        to three area)
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] pVCInfo
    parameters of video cover.
Return: Return 0 on success, -1 on failure.
int HS NET GetVideoCover(int nRealPlayId, HS VIDEOCOVER PROPERTY* pVCInfo);
Remarks: This API is used to set parameters of video cover.
Parameters:
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[in] nLoginId
    User ID, the return value of HS NET Login [in]
pVCInfo
    parameters of video cover.
Return: Return 0 on success, -1 on failure.
int HS NET SetVideoCover(int nRealPlayId, HS VIDEOCOVER PROPERTY* pVCInfo);
Remarks: This API is used to get coding range of video .('@' Separator single stream
        and dual-stream ';' delimiter current stream encoding type and resolution ','
        separator main stream and sub stream)
              H264:1920x1080:H264:1280x960:H264:1280x720:H264:720x576
        @H264:1920x1080,H264:720x576;H264:1920x1080,H264:720x480;
        H264:1280x720,H264:720x576;H264:1280x720,H264:352x288
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] encscope
    coding range of video.
Return: Return 0 on success, -1 on failure.
int HS NET GetEncodingScope (int nLoginId, HS ENCODING SCOPE *encscope);
Remarks: This API is used to set encoding parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
clientParam
    A pointer that number of HS ENCODING PROPERTY memory to receive [in]
    The number of HS ENCODING PROPERTY to set
Return: Return 0 on success, -1 on failure.
int HS NET SetEncodingProperty(int nLoginId, HS ENCODING PROPERTY clientParam[], int
bufNum);
Remarks: This API is used to get encoding parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
nStreamType
    Stream type, filled with one of enum HS STREAM TYPE [in/out]
clientParam
    A pointer that number of HS ENCODING PROPERTY memory to receive [in]
bufNum
    The number of HS ENCODING PROPERTY to receive
[in/out] nCount
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actual number of HS ENCODING PROPERTY is returned , when a query is greater than the number
    of bufNum, nly to return bufNum
Return: Return 0 on success, -1 on failure.
int HS NET GetEncodingProperty(int nLoginId, int nStreamType, HS ENCODING PROPERTY
clientParam[], int bufNum, int *nCount);
Remarks: This API is used to set network parameter
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
pNetInfo
    Network parameter
Return: Return 0 on success, -1 on failure.
int HS NET SetNetParam(int nLoginId, HS NET PROPERTY *pNetInfo);
Remarks: This API is used to get network parameter
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] pNetInfo
    Network parameter
Return: Return 0 on success, -1 on failure.
int HS NET GetNetParam(int nLoginId, HS NET PROPERTY *pNetInfo);
Remarks: This API is used to set time parameter
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
timeInfo
    Time parameter
Return: Return 0 on success, -1 on failure.
int HS NET SetTimeParam(int nLoginId, HS TIME INFO *timeInfo);
Remarks: This API is used to get time parameter
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] timeInfo
    Time parameter
Return: Return 0 on success, -1 on failure.
int HS_NET_GetTimeParam(int nLoginId, HS_TIME_INFO *timeInfo);
Remarks: This API is used to device upgrades. (The progress and status messages via
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callback function)

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Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
    Url of file
Return: Return 0 on success. -1 on failure.
int HS NET Upgrade(int nLoginId, const char* filename);
Remarks: This API is used to reboot the device.
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
Return: Return 0 on success, -1 on failure. int
HS NET Reboot(int nLoginId);
Remarks: This API is used to reset the device.
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
Return: Return 0 on success, -1 on failure. int
HS NET Reset(int nLoginId);
Remarks: This API is used to get log information.(only time filtering support, there
        must be time interval)
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
loggrepinfo
    Time filtering
[in/out] logeventinfo
    A pointer that number of HS LOG EVENT INFO memory to receive [in]
bufNum
    Number of HS LOG EVENT INFO to receive
[in/out] nCount
    actual number of HS LOG EVENT INFO is returned , when a query is greater than the number of bufNum,
    only to return bufNum
Return: Return 0 on success, -1 on failure.
int HS NET GetLogFile(int nLoginId, HS LOG GREP INFO *loggrepinfo, HS LOG EVENT INFO
logeventinfo[], int bufNum, int *nCount);
Remarks: This API is used to get SMTP parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
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[in/out] smtpprty
    SMTP parameters
Return: Return 0 on success, -1 on failure.
int HS NET GetSmtp(int nLoginId, HS SMTP PROPERTY *smtpprty);
Remarks: This API is used to set SMTP parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
smtpprty
    SMTP parameters
Return: Return 0 on success, -1 on failure.
int HS NET SetSmtp(int nLoginId, HS SMTP PROPERTY *smtpprty);
Remarks: This API is used to get FTP parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] ftpprty
    FTP parameters
Return: Return 0 on success, -1 on failure.
int HS NET GetFtp(int nLoginId, HS FTP PROPERTY *ftpprty);
Remarks: This API is used to set FTP parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
ftpprty
    FTP parameters
Return: Return 0 on success, -1 on failure.
int HS NET SetFtp(int nLoginId, HS FTP PROPERTY *ftpprty);
Remarks: This API is used to get DDNS parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] ddnsprty
    DDNS parameters
Return: Return 0 on success, -1 on failure.
int HS NET GetDDNS (int nLoginId, HS DDNSSERVER PROPERTY *ddnsprty);
Remarks: This API is used to set DDNS parameters
Parameters:
[in] nLoginId
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User ID, the return value of HS NET Login [in]
ddnsprty
    DDNS parameters
Return: Return 0 on success, -1 on failure.
int HS NET SetDDNS (int nLoginId, HS DDNSSERVER PROPERTY *ddnsprty);
Remarks: This API is used to get P2P parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] p2pprty
    P2P parameters
Return: Return 0 on success, -1 on failure.
int HS NET GetP2P(int nLoginId, HS P2P PROPERTY *p2pprty);
Remarks: This API is used to P2P parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
p2pprty
    P2P parameters
Return: Return 0 on success, -1 on failure.
int HS NET SetP2P(int nLoginId, HS P2P PROPERTY *p2pprty);
Remarks: This API is used to get P2P connecting status
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] p2pinfo
    P2P connecting status parameter
Return: Return 0 on success, -1 on failure.
int HS NET GetP2PInfo(int nLoginId, HS P2P INFO *p2pinfo);
Remarks: This API is used to get OSD parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] displayprty
    OSD parameter
Return: Return 0 on success, -1 on failure.
int HS NET GetOSD (int nLoginId, HS DISPLAY PROPERTY *displayprty);
Remarks: This API is used to set OSD parameters
```

Parameters:

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[in] nLoginId
    User ID, the return value of HS NET Login [in]
displayprty
    OSD parameters
Return: Return 0 on success, -1 on failure.
int HS NET SetOSD (int nLoginId, HS DISPLAY PROPERTY *displayprty);
Remarks: This API is used to get audio parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] adprty
    Audio parameters
Return: Return 0 on success, -1 on failure.
int HS NET GetAudio(int nLoginId, HS AUDIO PROPERTY *adprty);
Remarks: This API is used to set audio parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
    Audio parameters
Return: Return 0 on success, -1 on failure.
int HS NET SetAudio(int nLoginId, HS AUDIO PROPERTY *adprty);
Remarks: This API is used to get device information.
Parameters:
[in] nLoginId
    User ID, the return value of HS_NET_Login
[in/out] devinfo
    Device information
Return: Return 0 on success, -1 on failure.
int HS NET GetDeviceInfo(int nLoginId, HS DEV INFO *devinfo);
Remarks: This API is used to alter device name
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
devinfo
    Only can alter name field
Return: Return 0 on success, -1 on failure.
int HS NET SetDeviceInfo(int nLoginId, HS DEV INFO *devinfo);
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Remarks: This API is used to get the scheduled reboot parameters

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Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login
[in/out] sysreboot
    Scheduled reboot parameters
Return: Return 0 on success, -1 on failure.
int HS NET GetTimeReboot(int nLoginId, HS SYSREBOOT PROPERTY *sysreboot);
Remarks: This API is used to set the scheduled reboot parameters
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
sysreboot
    Scheduled reboot parameters
Return: Return 0 on success. -1 on failure.
int HS NET SetTimeReboot(int nLoginId, HS SYSREBOOT PROPERTY *sysreboot);
Remarks: This API is used to get protocol parameters.( currently only supports onvif
        whether to open authentication and HTTP port settings )
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
agrType
    Protocol type, one of enum HS AGREEMENT TYPE
[in/out] agreementPrty
    A pointer that number of HS AGREEMENT PROPERTY memory to receive [in]
bufNum
    Number of HS AGREEMENT PROPERTY to receive
[in/out] nCount
    actual number of HS AGREEMENT PROPERTY is returned , when a query is greater than the
number of bufNum,
                    only to return bufNum
Return: Return 0 on success, -1 on failure.
int HS NET GetAgreementProperty(int nLoginId, int agrType, HS AGREEMENT PROPERTY
agreementPrty[], int bufNum, int *nCount);
Remarks: This API is used to set protocol parameters.
Parameters:
[in] nLoginId
    User ID, the return value of HS NET Login [in]
agreementPrty
    Protocol parameter
[in] bufNum
    Number of HS AGREEMENT PROPERTY to set
Return: Return 0 on success, -1 on failure.
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int HS NET SetAgreementProperty(int nLoginId, HS AGREEMENT PROPERTY agreementPrty[], int
bufNum);
Remarks: This API is used to get support alarm range
Parameters:
[in] nLoginId
     User ID, the return value of HS NET Login
[in/out] pAlarmScope
     Alram range
Return: Return 0 on success, -1 on failure.
int HS NET GetAlarmScopeV2(int nLoginId, HS ALARM SCOPE V2 *pAlarmScope);
Remarks: This API is used to get alarm parameters.
Parameters:
[in] nLoginId
     User ID, the return value of HS NET Login
[in/out] pAlarmPrty
    Alarm parameters.
Return: Return 0 on success, -1 on failure.
int HS NET GetAlarmPropertyV2(int nLoginId, HS ALARM PROPERTY V2 *pAlarmPrty);
Remarks: This API is used to set alarm parameters.
Parameters:
[in] nLoginId
     User ID, the return value of HS NET Login [in]
pAlarmPrty
     Alarm parameters.
Return: Return 0 on success, -1 on failure.
int HS NET SetAlarmPropertyV2(int nLoginId, HS ALARM PROPERTY V2 *pAlarmPrty);
Remarks: This API is used to start get search device.
Parameters:
[in] SearchDeviceCallback -- Callback param
                           -- this pointer
Return: Return 0 on success, -1 on failure.
typedef void (CALLBACK* fSearchDeviceCallback) (long msgType/*HS SEARCH TYPE*/, void
*pMsgData/*HS STREAM INFO*/, void *pUser);
int HS NET StartSearchDevice(fSearchDeviceCallback SearchDeviceCallback, void *pUser);
Remarks: This API is used to stop get search device.
Return: Return 0 on success, -1 on failure.
int HS NET StopSearchDevice();
```