Beyonwiz Document

Title	WizPnP Protocol description
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Document History

Date	Release	Author	Change
2008.03.10	V 0.9 R1	Kang, In-kyu	First distribution for test
2008.03.18	V 1.0 R1	Kang, In-kyu	First official release

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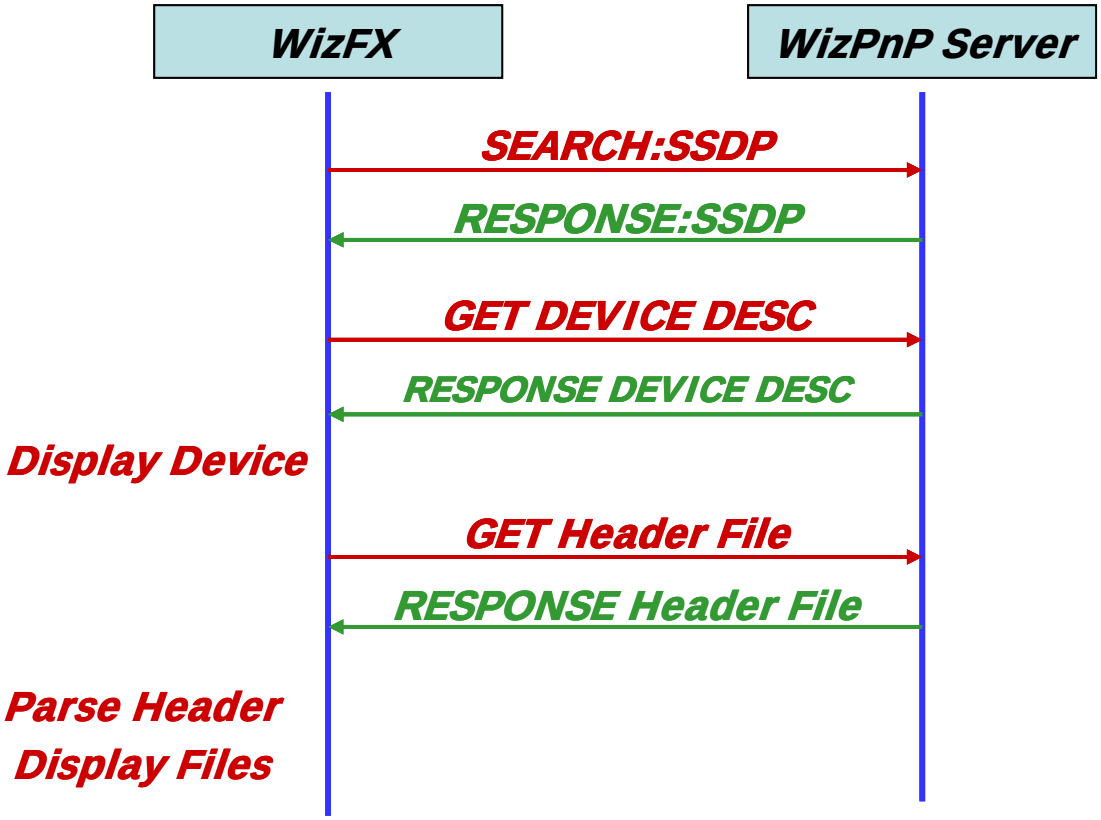
1. Display Device



1.1. Search

HTTPMU(HTTP Multicast UDP), Port 1900.

```
M-SEARCH * HTTP/1.1
MX: 3
ST: urn:wizpnp-upnp-org:device:pvrtvdevice:1
HOST: 239.255.255.250:1900
MAN: "ssdp:discover"
```

Response

```
HTTP/1.1 200 OK
CACHE-CONTROL: max-age=100
DATE: 2007-12-02 08:11:38 GMT
EXT:
LOCATION: http://192.168.0.209:49152/tvdevicedesc.xml
SERVER: BeyonWiz uClinux system v1.0, wizpnp 1.0
X-User-Agent: wizpnp
ST: wizpnp-upnp-org:device:pvrtvdevice:1
NICKNAME: innovation
USN: uuid:wizpnp_streamer_1EFE0070::urn:wizpnp-upnp-org:device:pvrtvdevice:1
```

1.2. Device DESC

HTTP

```
HTTP Get http://192.168.0.209:49152/tvdevicedesc.xml
```

Response

```
<?xml version="1.0" ?>
- <root xmlns="urn:schemas-upnp-org:device-1-0">
- <specVersion>
<major>1</major>
<minor>0</minor>
</specVersion>
- <device>
<deviceType>urn:wizpnp-upnp-org:device:pvrtvdevice:1</deviceType>
<friendlyName>innovation</friendlyName>
<manufacturer>Beyonwiz</manufacturer>
<manufacturerURL>http://www.beyonwiz.com</manufacturerURL>
<modelDescription>Beyonwiz PVR HTTP Streaming Device 0.9</modelDescription>
<modelName>PVR_Streaming</modelName>
<modelNumber>1.0</modelNumber>
<modelURL>http://www.beyonwiz.com/</modelURL>
<serialNumber>123456789002</serialNumber>
<UDN>uuid:wizpnp-PVR_Streaming-1_0-1234567890002</UDN>
<UPC>123456788</UPC>
```

```
- <serviceList>
- <service>
  <serviceType>urn:wizpnp-upnp-org:service:http_streaming:1</serviceType>
  <serviceId>urn:upnp-org:serviceId:tvpicture1</serviceId>
  <controlURL>/upnp/control/tvpicture1</controlURL>
  <eventSubURL>/upnp/event/tvpicture1</eventSubURL>
  <SCPDURL>/tvpictureSCPD.xml</SCPDURL>
  </service>
  </serviceList>
  <presentationURL>/index.html</presentationURL>
  </device>
  </root>
```

1.3. Header File

HTTP

HTTP Get http://192.168.0.209:49152/index.txt

Response

TEN_HD_Nov.29.2007_20.51|idehdd/recording/TEN_HD_Nov.29.2007_20.51+54433.75060.tvwiz/TEN_HD_Nov.29.2007_20.51.tvwizts
TEN_HD_Nov.29.2007_20.55|idehdd/recording/TEN_HD_Nov.29.2007_20.55+54433.75300.tvwiz/TEN_HD_Nov.29.2007_20.55.tvwizts
TEN_HD_Nov.29.2007_21.11|idehdd/recording/TEN_HD_Nov.29.2007_21.11+54433.76260.tvwiz/TEN_HD_Nov.29.2007_21.11.tvwizts

1.4. Parse Header

Get Header File

HTTP Get
EncodeURL(http://192.168.0.209:49152/idehdd/recording/TEN_HD_Nov.29.2007_20.51+54433.75060.tvwiz/TEN_HD_Nov.29.2007_20.51.tvwizts/header.tvwiz)

Response

0	TWizFileHeader = packed record hidden: array [0 .. 5] of Word; lock: ByteBool; full: ByteBool; inRec: ByteBool; Unused: ByteBool; end;
	Move Position to 1024

1024	TWizTSPoint = record
	svcName: array [0 .. 255] of Char;
	evtName: array [0 .. 255] of Char;
	
	mjd : Word;
	start: LongWord;
	last : Word;
	sec : Word; //last * 10 + sec = playtime
	Offset : TOffSet;
	end;

1.5. PSEUDO Code

FileName = Trim(TWizTSPoint.evtName) <> nil ? TWizTSPoint.evtName : TWizTSPoint.svcName;

PlayTime = TWizTSPoint.last * 10 + TWizTSPoint.sec;

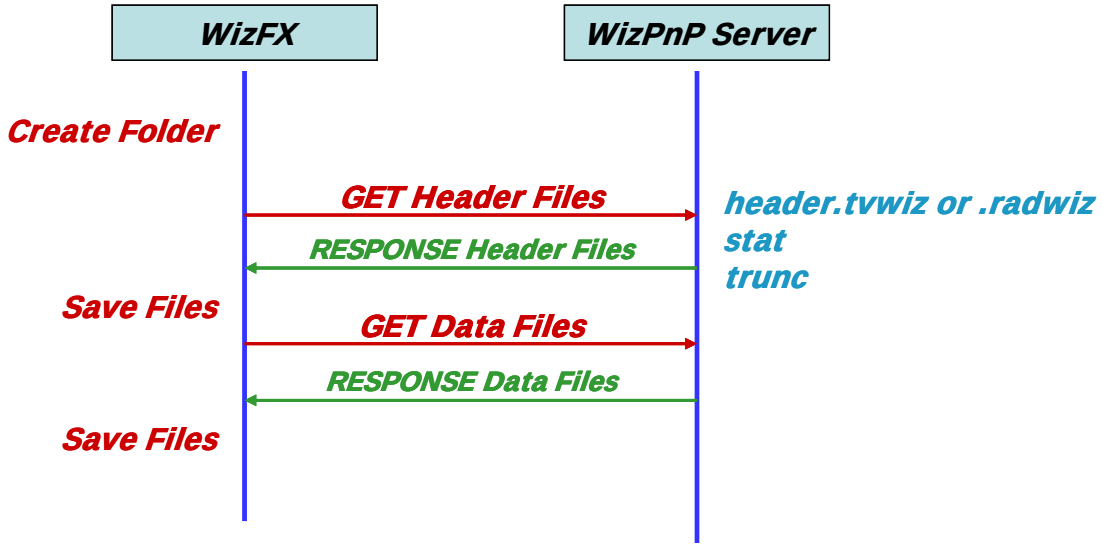
FileSize = TWizTSPoint.lastOff - (TWizTSPoint. fileOff[0] - 262144);

LastModifiedDate

= IncSecond(ModifiedJulianDateToDateTime(TWizTSPoint.mjd), TWizTSPoint.start);

IsRec = TWizFileHeader.inRec;

2. Download Wiz File



2.1. Get Header Files

HTTP Get EncodeURL(http://192.168.0.209:49152/idehdd/recording/TEN_HD_Nov.29.2007_20.51+54433.75060.tvwiz/TEN_HD_Nov.29.2007_20.51.tvwizts/header.tvwiz)
HTTP Get EncodeURL(http://192.168.0.209:49152/idehdd/recording/TEN_HD_Nov.29.2007_20.51+54433.75060.tvwiz/TEN_HD_Nov.29.2007_20.51.tvwizts/stat)
HTTP Get EncodeURL(http://192.168.0.209:49152/idehdd/recording/TEN_HD_Nov.29.2007_20.51+54433.75060.tvwiz/TEN_HD_Nov.29.2007_20.51.tvwizts/trunc)

2.2. Get Data Files

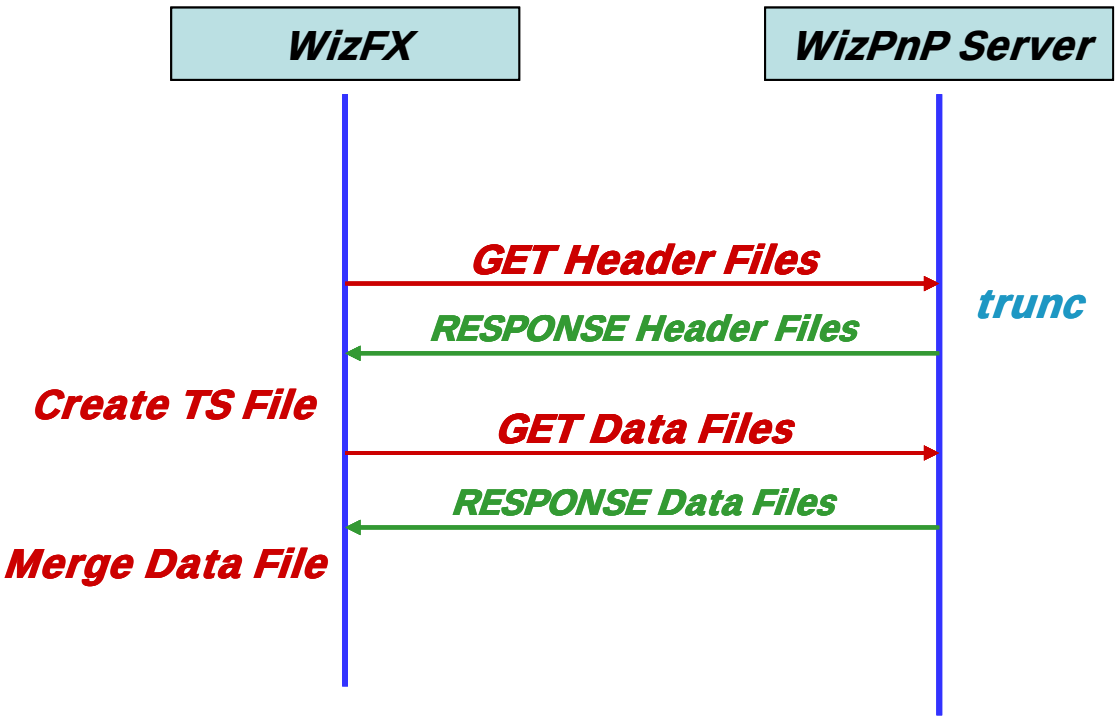
HTTP Get

EncodeURL(http://192.168.0.209:49152/idehdd/recording/TEN_HD_Nov.29.2007_20.51+54433.75060.tvwiz/TEN_HD_Nov.29.2007_20.51.tvwizts/XXXX)

2.3. PSEUDO Code

```
DownloadFile("header.tvwiz");
DownloadFile("stat");
DownloadFile("trunc");
int fileNum = -1;
for (i = 0; i < GetTurncFileSize() / SizeOf(TwizOffsetFileSection); i++)
{
        TwizOffsetFileSection = ReadFile("trunc", SizeOf(TwizOffsetFileSection));
        if (TwizOffsetFileSection.fileNum == fileNum) continue;
        DowwloadFile(TwizOffsetFileSection.fileNum);
        fileNum = TwizOffsetFileSection.fileNum;
}
```

3. Download TS File



3.1. Get Header Files

HTTP Get EncodeURL(http://192.168.0.209:49152/idehdd/recording/TEN_HD_Nov.29.2007_20.51+54433.75060.tvwiz/TEN_HD_Nov.29.2007_20.51.tvwizts/trunc)

3.2. Get Data Files

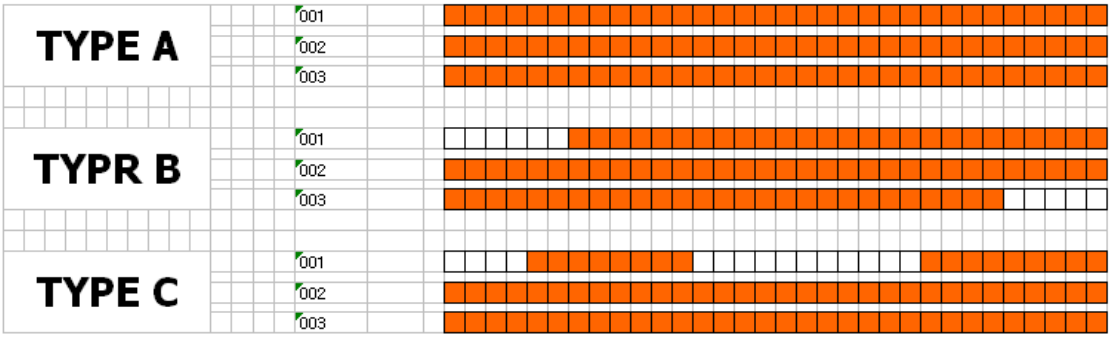
HTTP Get EncodeURL(http://192.168.0.209:49152/idehdd/recording/TEN_HD_Nov.29.2007_20.51+54433.75060.tvwiz/TEN_HD_Nov.29.2007_20.51.tvwizts/XXXX)

3.3. PSEUDO Code

```
DownloadFile(“trunc”);
CreateTSFile(“FileName”)
for (i = 0; i < GetTurncFileSize() / SizeOf(TwizOffsetFileSection); i++)
{
        TwizOffsetFileSection = ReadFile(“trunc”, SizeOf(TwizOffsetFileSection));

        StartPoint = TwizOffsetFileSection.off_t;
        Size = TwizOffsetFileSection.size_t;
        DownloadAndMergeFile(“TSFileName”,  TwizOffsetFileSection.fileNum,  StartPoint,
Size);
}
```

3.4. Example



procedure DownloadAndMergeFile(Filename: String; DataFile: String;
  StartPoint: Integer; ReadSize: Integer);

TYPE A

DownloadAndMergeFile(“TSFileName”, ‘001’, 0, 32 * 1024 * 1024);

DownloadAndMergeFile(“TSFileName”, ‘002’, 0, 32 * 1024 * 1024);

DownloadAndMergeFile(“TSFileName”, ‘003’, 0, 32 * 1024 * 1024);

TYPE B

DownloadAndMergeFile(“TSFileName”, ‘001’, 6 * 1024 * 1024, 32 * 1024 * 1024);

DownloadAndMergeFile(“TSFileName”, ‘002’, 0, 32 * 1024 * 1024);

DownloadAndMergeFile(“TSFileName”, ‘003’, 0, 27 * 1024 * 1024);

TYPE C

DownloadAndMergeFile(“TSFileName”, ‘001’, 4 * 1024 * 1024, 8 * 1024 * 1024);

DownloadAndMergeFile(“TSFileName”, ‘001’, 23 * 1024 * 1024, 9 * 1024 * 1024);

DownloadAndMergeFile(“TSFileName”, ‘002’, 0, 32 * 1024 * 1024);

DownloadAndMergeFile(“TSFileName”, ‘003’, 0, 32 * 1024 * 1024);