Integration SDK (HTTP API)

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General agreements

HTTP server NGP responds to method calls in the form of JSON.

> **Note**
> Configuring the web server.
>
> The Web-server port on default is **8000**, prefix is **/asip-api**.

> **Note**
> GET is not in use when request opening in the browser

Infrastructure

Get unique identifier

(UUID) is generated for every GET request to http://IP-Address:8000/asip-api/uuid.

Unique identifier is used to get in last frame info from archive video or to control archived stream.

Response sample:

"f03c6ccf-b181-4844-b09c-9a19e6920fd3"

Get server list

On page:
• List of domain servers • Server info

List of domain servers

GET http://IP-Address:8000/asip-api/hosts/ - gets the list of all domain hosts.

Sample response:
["SERVER1", "SERVER2"]

Server info

GET http://IP-Address:8000/asip-api/hosts/HOSTNAME - gets host info.

Sample response:

```
{
   "hostname" : "SERVER2",
   "domainInfo" :
   {
      "domainName" : "DomainName",
    "domainFriendlyName" : "Custom domain name, if available"
},
"platformInfo" :
   {
"machine" : "ARM9",
"os" : "Linux"
   },
   "licenseStatus" : "Expired",
"timeZone" : "+180" // GMT+3
}
```

Get list of video sources (cameras)

On page:
• Get all available sources • Get all available original sources of server • Get source info • Get all sources info

Get all available sources

GET http://IP-Address:8000/asip-api/video-origins/ - gets all available original sources (cameras). The requested identifiers will have the format as follows "HOSTNAME/ObjectType.Id/Endpoint.Name". Friendly name and other related meta data will be received.

Sample response:


```
{
   "SERVER1/DeviceIpint.3/SourceEndpoint.video:0:0" :
   {
      "origin" : "SERVER1/DeviceIpint.3/SourceEndpoint.video:0:0",

      "state" : "connected",
      "friendlyNameLong" : "Camera 3",
      "friendlyNameShort" : "3"
},
   "SERVER2/DeviceIpint.5/SourceEndpoint.video:0:0" :
   {
      "origin" : "SERVER2/DeviceIpint.5/SourceEndpoint.video:0:0",

      "state" : "disconnected",
      "friendlyNameLong" : "Camera 5",
      "friendlyNameShort" : "5"
   }
}
```


Get all available original sources of server

GET http://IP-Address:8000/asip-api/video-origins/HOSTNAME/ gets all available original sources (cameras) of the specified server.

Get source info

GET http://IP-Address:8000/asip-api/video-origins/VIDEOSOURCEID - gets source information. VIDEOSOURCEID – identifier of endpoint source consisting of 3 components (HOSTNAME/ObjectType.Id/Endpoint.Name).

Sample request:

GET http://IP-Address:8000/asip-api/video-origins/SERVER1

Sample response:


```
{
   "SERVER1/DeviceIpint.3/SourceEndpoint.video:0:0" :
   {
      "origin" : "SERVER1/DeviceIpint.3/SourceEndpoint.video:0:0",

      "state" : "none",
      "friendlyNameLong" : "Camera 3",
      "friendlyNameShort" : "3"
}
}
```


Get all sources info

GET http://IP-Address:8000/asip-api/video-sources/* - gets the list of all available sources not limited by original ones.

Sample request:

GET http://IP-Address:8000/asip-api/video-sources/SERVER2

Sample response:


```
{
   "SERVER2/DeviceIpint.5/SourceEndpoint.video:0:0" :
   {
      "origin" : "SERVER2/DeviceIpint.5/SourceEndpoint.video:0:0",

      "state" : "none",
      "friendlyNameLong" : " Camera 5",
      "friendlyNameShort" : "5"
   },
   "SERVER2/VideoDecoder.0/VideoSource" :
   {
      "origin" : "SERVER2/DeviceIpint.5/SourceEndpoint.video:0:0",
```

```
      "state" : "connected",
      "friendlyNameLong" : "SERVER2/Videodecoder 0",
      "friendlyNameShort" : "Videodecoder 0"
}
}
```


The "state" field display the source state. Available values:

– "connected";

– "disconnected";

– "signal_restored";

– "signal_lost";

– "authorization_failed";

– "rebooted";

– "network_failure";

– "ipint_internal_failure";

– "none".

Get camera live stream

GET http://IP-Address:8000/asip-api/live/media/VIDEOSOURCEID?parameters.

Now video can be received only in MJPEG format. If the original viideo is in another format, the server recompresses it in MJPEG format.

Support of video receiving in other formats is planned later, what for the format parameter reserved.

Parameters:

w – frame width**.**

h – frame height.

> **Note.**
> If **h** and **w** values more than size of original vodeo, the video will be received with original size.

> **Note.**
> Zooming out of width and height is available only discretely - in 2, 4, 8 times, etc. If specified sizes are not corresponding to 1/2, 1/4 etc. of original video size, the video will be received with size divisible by the original video size close to specified values.

Sample request:

GET http://IP-Address:8000/asip-api/live/media/HOSTNAME/DeviceIpint.23/SourceEndpoint.video:0:0?w=640&h=480

Get camera screenshot

GET http://IP-Address:8000/asip-api/live/media/snapshot/VIDEOSOURCEID?parameters.

Parameters:

w – frame width**.**

h – frame height.

Sample request:

GET http://IP-Address:8000/asip-api/live/media/snapshot/HOSTNAME/DeviceIpint.23/SourceEndpoint.video:0:0

GET http://IP-Address:8000/asip-api/live/media/snapshot/HOSTNAME/DeviceIpint.23/SourceEndpoint.video:0:0?w=640&h=480

Get archive stream

GET http://IP-Address:8000/asip-api/archive/media/VIDEOSOURCEID/STARTTIME?parameters,

where STARTTIME – time in ISO format.

Parameters:

speed – playback speed, can be negative.

format - parameter values are "mjpeg", "webm" or "h264". The native format is selected by server to prevent additional encoding in case no format is specified or recognized. If a native format is not supported by client, server selects WebM.

If both parameters are not specified, the speed is equal to 0, JPEG format is selected and the request is handled as a request to review video footage by frames.

id – unique identifier of archive stream (optional). Used to get stream info or control the stream.

w – frame width**.**

h – frame height.

Sample request:

GET http://IP-Address:8000/asip-api/archive/media/HOSTNAME/DeviceIpint.23/SourceEndpoint.video:0:0/20110608T060141.375?speed=1&w=640&h=480

Get archive stream info

GET http://IP-Address:8000/asip-api/archive/media/rendered-info/UUID -gets info of the frame last displayed,

where UUID is a unique identifier of the requested archive stream.

The following frame info is available:

timestamp – frame time token.

Sample request:

GET http://IP-Address:8000/asip-api/archive/media/rendered-info/%22996cea31-91c4-9a46-9269-48b998fd2f29%22

Sample response:

```
{
  "timestamp": "20110408T103627.048"
}
```

Control archive stream

GET http://IP-Address:8000/asip-api/archive/media/stop/UUID - stops archive stream that has the specified UUID.

When completed, the last frame info is received.

Review video footage by frame

On page:

- Get frame by timestamp
- Get frame registration time

Get frame by timestamp

GET http://IP-Address:8000/asip-api/archive/media/VIDEOSOURCEID/STARTTIME - gets frame by its STARTTIME. Frame is returned in JPEG format.

Get frame registration time

GET http://IP-Address:8000/asip-api/archive/contents/frames/VIDEOSOURCEID/ENDTIME/BEGINTIME?limit=COUNT – gets the time of frame registration in MM archive. Parameter semantics is described in section Get MM archive contents*.* Th e default value of *limit* parameter is 250. This parameter is optional for server and it can return fewer search results.

The **frames** property will contain an array of frame timestamps returned as json object.

The returned json response will contain the **more** Boolean property, which is used to specify if complete time interval is selected (false) or some frames were not returned because their timestamps maxed out.

Sample request:

GET http://IP-Address:8000/asip-api/archive/contents/frames/SERVER1/DeviceIpint.2/SourceEndpoint.video:0:0/20101230T103943.000/20101230T103952.000?limit=3

Sample response:

```
{
"frames" :
[ "20101230T103951.800", "20101230T103951.760", "20101230T103951.720" ],
"more" : false
}
```

Get MM archive contents

GET http://IP-Address:8000/asip-api/archive/contents/intervals/VIDEOSOURCEID/ENDTIME/BEGINTIME?limit=COUNT&scale=SIZE - gets archive contents starting from BEGINTIME and ending up with ENDTIME.

If BEGINTIME is not specified, infinite future is considered. If ENDTIME is not specified, infinite past is considered. Words "past" and "future" can be used to set infinite past and infinite future as well.

Optional *limit* parameter is used to specify the limit of frames. The default value is **100**.

Optional *scale* parameter is used to specify the minimum time interval between the frames when they are treated as separate ones (not combined). The default value is **0**.

Interval sequence corresponds to the ratio between specified BEGINTIME and ENDTIME (in ascending order if BEGINTIME<ENDTIME, and in descending order if ENDTIME<BEGINTIME). Start and end points of interval are returned in its common order, i.e.the interval start time is less than the interval end time or equal to it.

The **intervals** property contains array of frame intervals returned as json object.

The returned json response contains the Boolean **more** property which is used to specify if complete time interval is selected (false) or some frames were not returned because their timestamps maxed out (true).

Sample request:

GET http://IP-Address:8000/asip-api/archive/contents/intervals/SERVER1/DeviceIpint.2/SourceEndpoint.video:0:0/20101230T103904.000/20101230T103959.000?limit=3

Sample response:

```
{
   "intervals" :
   [
      { begin: "20101230T103950.000", end: "20101230T103955.230" },
      { begin: "20101230T103923.110", end: "20101230T103941.870" }
   ],
   "more" : true
}
```

Get info about triggering of detection tools and alarms

Get list of alarms

GET http://IP-Address:8000/asip-api/archive/events/alerts/VIDEOSOURCEID/ENDTIME/BEGINTIME?limit=COUNT&offset=COUNT – gets the list of alarms. If *limit* is not specified, it is equal to 100. Field **raisedAt** is not unique so passing of previously received alarms starting from the search interval can be requested.

Sample response:

```
{
   "events" :
   [
     {
         "type": "alert",
         "id": "42D43A79-90D6-4ba7-BD23-1714996A2F88",
         "raisedAt": "20101230T103950.000",
         "zone": "SERVER1/DeviceIpint.3/SourceEndpoint.video:0:0",
         "reasons": ["ruleAlert", "videoDetector"],
         "initiator": "4359EC93-EF31-4de0-9EDE-AA5C5803D6F8",
         "reaction":
         {
            "user": "root",
            "reactedAt": "20101230T103958.000",
            "severity": "alarm"
         }
      },
      ...
   ],
   "more": true
}
```

Possible values of **reasons** array: armed, disarmed, userAlert, ruleAlert, videoDetector, audioDetector, ray.

Possible values of field **severity**: unclassified, false, notice, warning, alarm.

Get list of detection tools events

GET http://IP-Address:8000/asip-api/archive/events/detectors/VIDEOSOURCEID/ENDTIME/BEGINTIME?limit=COUNT&offset=COUNT – gets the list of detection tool events. If *limit* is not specified, it is equal to 100. Field **timestamp** is not unique so passing of previously received alarms starting from the search interval can be requested.

Sample response:


```
{
"events":
[
{
"id": "433d45ec-0b7f-aa43-8491-c8acb7d0ac56"
,"source": "hosts/SERVER1/SituationDetector.0"
,"origin": "hosts/SERVER1/DeviceIpint.0/SourceEndpoint.video:0:0"
,"detectorId": "1"
,"type": "CrossOneLine"
,"alertState": "ended"
,"timestamp": "20120314T121512.597"
,"rectangles":
[
{
"index": "1"
,"left": "0.622086710929871"
,"top": "0.68798337459564196"
,"right": "0.65736908435821495"
,"bottom": "0.79889315128326399"
}
]
},
...
],
"more": true
}
```


In thhis response the VIDEOSOURCEID can be:

– as usual, consisting of three components, e.g. - "HOST/DeviceIpint.2/EventSupplier.ray0:0";

– host name to receive events from it;

– empty, i.e. be missing to receive all domain events.

Sample response:

http://IP-Address:8000/asip-api/archive/events/detectors/**HOST/DeviceIpint.2/EventSupplier.ray0:0**/past/future?limit=10&offset=0 - gets sensor events sorted descending. Maximum number is 10.

http://IP-Address:8000/asip-api/archive/events/detectors/**HOST**/past/future?limit=5&offset=0 - gets events of all detection tools created on the HOST machine. Maximum number by every detection is 5.

http://IP-Address:8000/asip-api/archive/events/detectors/**HOST**/past/future?limit=5&offset=0&**type=Ray** - gets events of all sensors created on the HOST machine. Maximum number by every sensor is 5.

http://IP-Address:8000/asip-api/archive/events/detectors/past/future?limit=1&**type=Ray** - gets the current state of all domain sensors.

Available values of type parameter:

- SceneChange;

- QualityDegraded;

- Disconnected;

- MotionDetected;

- AudioNull;

- AudioNoise;

- AudioSignal;

- Ray;

- CrossOneLine;

- ComeInZone;

- LostObject;

- OutOfZone;

- LongInZone;

- MoveInZone;

- StopInZone.

Telemetry control

Get list of telemetry devices for specified video source

GET http:/IP-Address:8000/asip-api/control/telemetry/list/OBJECTID - Gets the list of telemetry devices for video sources where OBJECTID is object identifier based on 2 components (HOSTNAME/ObjectType.Id).

Sample response:

[
"SERVER1/DeviceIpint.2/TelemetryControl.0"
]

TELEMETRYCONTROLID template will be used to define telemetry devices of the HOSTNAME/ObjectType.Id/TelemetryContol.n type hereinafter.

Control degrees of freedom

On page:

- Get info of degrees of freedom
- Edit tilt and pan
- Edit degree of freedom
- Capture screen point
- Zoom image area
- Auto focus and iris

Get info of degrees of freedom

GET http://IP-Address:8000/asip-api/control/telemetry/info/TELEMETRYCONTROLID - Gets info about supported controllable degrees of freedom and the ways of controlling them (continuous, relative, discrete) and their max values.

Sample response:

{
"degrees":
{
"tilt":
{
"relative": {"min": "-45", "max": "45"},
"continuous": {"min": "-10", "max": "10"}
},
"pan":
{
"absolute": {"min": "-170", "max": "170"},
"continuous": {"min": "-10", "max": "10"}
},
"zoom":
{
"absolute": {"min": "0", "max": "20"}
}
},
"feature": ["autoFocus", "areaZoom", "pointMove"]
}

degrees – information about degrees of freedom. (tilt, pan, zoom, focus, iris). Every degree of freedom contains the list of supported ways of control (absolute, relative, continuous).

feature – list of supported functions (autoFocus, autoIris, areaZoom, pointMove).

Edit tilt and pan

GET http://IP-Address:8000/asip-api/control/telemetry/move/TELEMETRYCONTROLID?parameters – changes tilt, pan.

Parameters:

mode – way of control (absolute, relative, continuous);

pan, **tilt** – values for corresponding degrees of freedom.

Sample request: GET http://IP-Address:8000/asip-api/control/telemetry/move/HOSTNAME/DeviceIpint.25/TelemetryControl.0?mode=absolute&pan=-99&tilt=10

Edit degree of freedom

GET http://IP-Address:8000/asip-api/control/telemetry/**{degree}**/TELEMETRYCONTROLID?parameters – changes one of degrees (zoom, focus, iris).

Parameters:

{degree} – degree of freedom to be updated (zoom, focus, iris);

mode – way of control (absolute, relative, continuous);

value - value.

Sample request:

GET http://IP-Address:8000/asip-api/control/telemetry/zoom/HOSTNAME/DeviceIpint.25/TelemetryControl.0?mode=absolute&value=6 - zoom change;

GET http://IP-Address:8000/asip-api/control/telemetry/focus/HOSTNAME/DeviceIpint.25/TelemetryControl.0?mode=relative&value=3 - focus change;

GET http://IP-Address:8000/asip-api/control/telemetry/iris/HOSTNAME/DeviceIpint.25/TelemetryControl.0?mode=continuous&value=1 - iris change.

Capture screen point

GET http://IP-Address:8000/asip-api/control/telemetry/move/point/TELEMETRYCONTROLID?parameters – captures the screen point.

Parameter:

x,y – values of vertical and horizontal coordinates, specified in relation to image size;

Sample request: GET http://IP-Address:8000/asip-api/control/telemetry/move/point/HOSTNAME/DeviceIpint.23/TelemetryControl.0?x=0.14&y=0.32

Zoom image area

GET http://IP-Address:8000/asip-api/control/telemetry/zoom/area/TELEMETRYCONTROLID?parameters – zooms selected image area.

Parameters:

x,y – left upper corner of selected area;

w,h – width and height of area.

Coordinates and dimensions are specified in relation to image size.

Sample request:

GET http://IP-Address:8000/asip-api/control/telemetry/zoom/area/HOSTNAME/DeviceIpint.24/TelemetryControl.0?x=0.23&y=0.089&w=0.25&h=0.25

Auto focus and iris

GET http://IP-Address:8000/asip-api/control/telemetry/auto/TELEMETRYCONTROLID?parameters – auto focus/iris.

Parameters:

degree – is focus or iris.

Sample request:

GET http://IP-Address:8000/asip-api/control/telemetry/auto/HOSTNAME/DeviceIpint.24/TelemetryControl.0?degree=iris

Preset control

On page:

- Get list of presets
- Create and edit preset
- Go to preset and delete preset

Get list of presets

GET http://IP-Address:8000/asip-api/control/telemetry/preset/info/TELEMETRYCONTROLID- gets the list of existing presets.

Sample request:

GET http://IP-Address:8000/asip-api/control/telemetry/preset/info/HOSTNAME/DeviceIpint.23/TelemetryControl.0

Sample response:

{
"0": "Corridor",
"1": "Entrance",
"4": "Hole in fence"
}

Create and edit preset

GET http://IP-Address:8000/asip-api/control/telemetry/preset/set/TELEMETRYCONTROLID?parameters - create/edit preset.

Parameters:

pos - position;

label – preset name.

If a preset with specified position already exists, its label will be deleted.

Sample request:

GET http://IP-Address:8000/asip-api/control/telemetry/preset/set/HOSTNAME/DeviceIpint.23/TelemetryControl.0?pos=0&label=Exit

Go to preset and delete preset

GET http://IP-Address:8000/asip-api/control/telemetry/preset/**{action}**/TELEMETRYCONTROLID?parameters- go to preset or delete it.

Parameters:

{action} – can be **go** or **remove** and is used to go to preset or delete it;

pos – preset position.

Sample request:

Going to preset with pos 1:

GET http://IP-Address:8000/asip-api/control/telemetry/preset/go/HOSTNAME/DeviceIpint.23/TelemetryControl.0?pos=1

Deleting of preset with position 2:

GET http://IP-Address:8000/asip-api/control/telemetry/preset/remove/HOSTNAME/DeviceIpint.23/TelemetryControl.0?pos=2

Get statistics

GET http://IP-Address:8000/asip-api/statistics/VIDEOSOURCEID - gets statistics for the specified video source.

GET http://IP-Address:8000/asip-api/statistics/webserver - gets statistics for server.