# TECHNICAL REFERENCE

Version 1.0 – August 2013



# IPWeb.





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# 1. Introduction

# 1.1 About IPWeb

IPWeb is the Web version of IPBrowse. The interface and the functionalities are as close to IPBrowse as possible. It is a production interface, not a web site.

The IPWeb client is an MS silverlight client, compatible with Windows AND Mac OS.

The infrastructure needed to support an IPWeb system is always included in a typical EVS installation, in general a medium to large EVS studio facility.

This facility usually includes a number of ingest servers and a central storage. File ingest stations can also be part of the system. It is also required to have XSquare installed in order to work with IPWeb.

IPWeb provides Remote browsing and searching of the IPDirector DB.

The first release of IPWeb is based on the use of MS Smooth streaming files. These files are specific to IPWeb and not readable by IPDirector. The smooth streaming files are stored on a web storage, separate from IPDirector NL.

It is XTAccess that generates the web formats, from IPDirector production LoRes.

# 1.2 IPWeb Backend

The basic principle behind a web application is that no software is needed on the client side. In order to make this possible, a web application needs to be hosted centrally on a web server. In our case, there are also additional backend software components that are installed on what we have called the workflow server.

This manual describes the installation and configuration of all the backend software needed to run IPWeb.

# **1.3 IPWeb Infrastructure**

## 1.3.1 Schematics



## 1.3.2 Prerequisite: EVS Software

IPWeb is an add-on on an existing EVS IPDirector installation.

Before installing IPWeb, you must have the following EVS Software installed somewhere:

- IPDirector : you will need the address of the IPD WS API
- EVS DB hardware: you will need the address of the DB Server
- XSquare: you will need the address of XSquare Server
- XTA farm for transcoding to web formats: please have XSquare and the linked XTAs configured for web transcoding.

## 1.3.3 IPWeb Building Blocks

IPWeb requires the following hardware:

- Workflow server: one or two if redundancy is needed
- Web Server: one or more if redundancy is needed or depending on the number of input streams and web clients
- Web Storage: dimensioning depends on redundancy, number of feeds, clients and quantity of storage needed



### **1.3.4 Network Connections**

IPWeb can be used in a studio environment, where all clients are on the same LAN. In this case, no particular network configuration is required.

If remote access is to be provided, then the Web Servers and the Web Storage must be on a DMZ. The drawing below details the ports that need to be opened in the firewall between the LAN and the DMZ.

In addition, the use of a reverse proxy is highly advised in front of the web server. This reverse proxy could be or not integrated in the firewall. In this configuration, access to the web server is restricted to the only IP of the reverse proxy, protecting the web server for internet attacks. Further information about remote proxy can be found on <a href="http://en.wikipedia.org/wiki/Reverse\_proxy">http://en.wikipedia.org/wiki/Reverse\_proxy</a>.



# 2. XSecure Management

# 2.1 Introduction

IPWeb requires XSecure codes to run.

The IP Engine code must be installed on the IPWeb DB server hardware. If a pair of redundant DB servers is used, the code must be present on both machines. This allows the IPWeb backend to run.

In order to run the IP Web Clients, you need IPWeb client licenses. These licenses are IPDirector floating licenses and must be installed on the IPDirector DB hardware (beware this might not be the same hardware as the IPWeb DB hardware). If a pair of IP databases is used, the codes must be installed on both servers.

Please refer to the XSecure user manual to:

- Start XSecure Manager.
- Collect information about your device.
- Request a license key from the EVS support.
- Import new license keys.

## 2.2 List of Codes

In application 30 - IPDirector

- Module 12 IPWeb Engine
- Module 91 IPWeb Browse Client License



# 3. Installation

# 3.1 Types of Installation

The IPWeb modules are installed through a simple wizard.

There are three types of installation:

- Workflow server: installs only the workflow server components.
- Web Server: installs only the web server components
- Full Installation: this installs all the IPWeb modules on a single machine. Use this option if you are installing a small demo setup when there is no need to have the web server in a DMZ.

## 3.2 Workflow Server Installation

The installation of IPWeb is based on an installer and a set of prerequisites in sub folders:

Prerequisite Softwares
IPWebBrowser\_Setup\_1.0.00.00.exe

To install a Workflow server, proceed as follows:

- 1. Copy the package (with the prerequisites sub directory) to a temporary directory.
- 2. Run the installer and follow the steps in the wizard:



Workflow server	<b>•</b>
Full Installation	
Workflow server	mig)
IP WEDDrowser	Install IP webbrowser webApp on IIS
Administration	Install Administration WebApp on IIS
✓ Workflow	Install Workflow WebApp on IIS
🔤 🔤 DatabaseDataAccess	Install DatabaseDataAccess windows service
🗹 Gateway	Install Gateway windows service
Thumbnail	Install Thumbnail windows service
Live	Install Live WebApp on IIS
Archive	Install Live WebApp on IIS
Managment	Install Managment WebApp on IIS
,	
ller v1.99	< Back Next > Canc

4. Choose Workflow Server then click Next



🚏 Setup - IPWebBrowser Suite Version 📃 🖂 🗙				
Setup SQL Server config		€∳S		
O Use Existing SQL Server Inst	ance			
C Install Local SQL Server Expr	ress			
SQL Server IP Address	172.22.90.32			
SQL Server Login	sa			
SQL Server Password	•••			
DB IPWebBrowser Name	IPWebBrowser			
DB Workflow Name	WorkflowPersistance			
Installer v1.98	< Back Next >	Cancel		

5. Except in the case of managing an all-in-one installation (for demo), choose **Use Existing SQL Server Instance** and type the address of the SQL DB hardware in the **SQL Server IP Address** field. Click **Next.** 

😽 Setup - IPWet	j🖥 Setup - IPWebBrowser Suite Version 📃 🗖 🗙				
Setup SQL Se	rver config	EŲS			
O Lise Exist	Warning X				
O Install L	A database with same name already exists!				
SQI	Choose action to perform:				
57	• Use this Database				
,co	🔿 Clear Database				
DB IF					
	OK Cancel				
Installer v1.98	< Back Next >	Cancel			

6. If an IPWeb DB already exists on the server, a popup will appear. Choose the relevant option the click **OK**.

🕞 Setup - IPWeb Setup config	Browser Suite Ve	ersion			E∳S
	Workflow Server	172.31.25	51.101	•	
Installer v2.15			< Back	Next >	Cancel

7. In the **Workflow Server** field, enter the address of the local workflow server then click **Next**.

🖶 Setup - IPWebBrowser Suite Version			_ 🗆 🗙
Checking installation prerequisites			EŲS
Following softwares need to be install befo } IIS Media Services 4.1 - Enable Network Load Balancing feature	re, Click Next but	ton to install them	
			Y
Installer v1.98	< Back	Next >	Cancel

8. If some prerequisites need to be installed, they will show. Click **Next** to install them.



🚏 Setup - IPWebBrowser Suite Version	
Select Destination Location Where should IPWebBrowser Suite Version be install	ed? EVS
Setup will install IPWebBrowser Suite Versio	on into the following folder.
To continue, click Next. If you would like to select a	different folder, click Browse.
C:\Program Files (x86)\EVS Broadcast Equipment\IP	WebBrowser Browse
At least 1.5 MB of free disk space is required.	
Installer v1.98	ack Next > Cancel

9. Choose the path to install the IPWeb suite. Click Next.

📅 Setup - IPWebBrowser Suite Version		_ 🗆 X
Ready to Install Setup is now ready to begin installing IPWe computer.	'ebBrowser Suite Version on your	EŲS
Click Install to continue with the installation change any settings.	n, or click Back if you want to review or	
Destination location: C:\Program Files (x86)\EVS Broadcast	t Equipment\IPWebBrowser	
T	<u>•</u>	
Installer v1.98	< Back Install (	Iancel

10. Click **Install** to proceed with the installation.



#### 11. Click Finish.



# 3.3 Web Server Installation

The installation of the web server is very similar to that of a workflow server except:

1. At step 3 above, choose Web Server then click Next.

🚰 Setup - IPWebBrowser Suite Version 📃 🗖 🔀					
Setup config					EŴS
	Workflow Server	172.31.25	51.105		
Installer v2.15			< Back	Next >	Cancel

2. In the **Workflow Server** field, enter the address of the workflow server. If working with redundant workflow servers, this is the virtual IP Address. Click **Next**.

🚏 Setup - IPWebBrowser Suite Version		
Checking installation prerequisites		EŲS
Following softwares need to be install befor Enable IIS Web Server features - IIS Media Services 4.1 - Microsoft SQL Server 2005 Backward Cor - Silverlight 5 End-User Runtime for Windo - Enable Network Load Balancing feature	re, Click Next button to install them: mpatibility Components ws	A
Installer v1.99	< Back Next >	Cancel

3. If some prerequisites need to be installed, they will show. Click **Next** to install them.

🚏 Setup - IPWebBrowser Suite Version	_ 🗆 🗙
Select Destination Location Where should IPWebBrowser Suite Version	be installed?
Setup will install IPWebBrowser Su	ite Version into the following folder.
To continue, click Next. If you would like to	select a different folder, click Browse.
C:\Program Files (x86)\EVS Broadcast Equi	pment\IPWebBrowser Browse
At least 1.5 MB of free disk space is require	d.
Installer v1.98	< Back Next > Cancel

4. Choose the path to install the IPWeb suite. Click Next.

🚰 Setup - IPWebBrowser Suite Version	
Ready to Install Setup is now ready to begin installing IPWebBr computer.	rowser Suite Version on your
Click Install to continue with the installation, or change any settings.	r click Back if you want to review or
Destination location: C:\Program Files (x86)\EVS Broadcast Equ	uipment\IPWebBrowser
<u> </u>	<b>▼</b> ▶
Installer v1.98	< Back Install Cancel

5. Click **Install** to proceed with the installation.





6. Click Finish.

# 4. Installing Load Balancing and Redundancy

# 4.1 General Principles

The load balancing/redundancy of web servers and workflow servers are achieved through MS Network Load Balancing.

MS NLB works with a virtual IP Address that is shared between the servers.

This can be installed together with teaming BUT

- Teaming must be configured first (follow normal teaming installation procedure)
- NLB must be configured with multicast (see below).

# 4.2 Workflow Server Redundancy

## 4.2.1 Configuring NLB on NODE 1

Network Load Balanced clusters are built using the Network Load Balancing Manager.

 Start MS NLB by double-clicking on the NLB icon on the desktop or through the Start menu: Start -> All Programs -> Administrative Tools -> Network Load Balancing Manager

÷ g	New	Justers	Clust	er configuration fo	or all known NLB clusters		
	Connect to Existin	9	Clust	ername	Cluster IP address	Cluster IP subnet mask	Cluster mod
	Add Host Delete						
	Properties						
	Refresh						
	Remove From View	<i>v</i>					
	Control Hosts Control Ports	•					
Log Er	ntry Date	Time	Cluster	Host	Description		
00	01 4/30/2009	9:38:26 PM			NLB Manager session started		
•							

2. Select New from the Cluster menu.



Lluster : Lonnect				
Connect to one host th	nat is to be part of the	new cluster and	d select the clu	uster interface
Host: XTAA184	620			Connect
Connection status				
nterfaces available fo	r configuring a new c	luster		
Interface name		Later (and ID)		
interface fiame		Interface IP		
Intellace hame		Interrace IP		
Intenace hame		Interrace IP		
		Interface IP		
		Interface IP		

3. Enter the first node in the cluster then click **Connect**.

		onnect
Connection status		
Connected		
terfaces available for configuring	a new cluster	
nterface name	Interface IP	
Local Area Connection 2	169.254.79.214	
local Area Connection	172.31.251.101	
3be2 (JUMBO Frame Capable)		
Gbe1 (JUMBO Frame Capable)		
Inboard Right		
Onboard Left		

- 4. You will have the option to choose which network adapter you want to use, the NIC should be on the same subnet as the other servers in the NLB cluster.
- 5. Click Next.

New Cluster : Host Param	eters		×
Priority (unique host identif	iier): 1		
Dedicated IP addresses			
IP address		Subnet mask	
172.31.251.101		255.255.255.0	
	Add	Edit Remov	/e
Initial host state			
Default state:	Started		
Retain suspended s	state after computer restarts	:	
	< Back Next >	Cancel	Help

- 6. Enter the Priority ID as 1 (each node in the NLB cluster should have a UNIQUE ID) The workflow server with the lowest priority will be the main server.
- 7. Make sure the correct adapter was selected under Dedicated IP Address.
- 8. Select **Started** in the **Default State** field (this tells NLB whether you want this node to participate in the cluster at startup).
- 9. Click Next.



New Cluster : C	luster IP Addresses	X
	Add IP Address 🛛 🗙	
The cluster I The first IP a heartbeats.	IPv4 address:           IPv4 address:           172 . 31 . 251 . 105	
Cluster IP ac	Subnet mask: 255 . 255 . 255 . 0	
IP address	Add IPv6 address:     IPv6 address:	
	Add Edit Remove	
	<back next=""> Cancel Help</back>	

- 10. You can add multiple IP Addresses for the cluster, enter as many as you want.
- 11. Click Add to enter the Virtual IP Address of the cluster.
- 12. Enter the Cluster IP and Subnet mask.
- 13. Click **OK**.

New Cluster : Cluster IP The cluster IP addresse The first IP address liste heartbeats.	Addresses s are shared by every member d is considered the primary clu	r of the cluster for load balancing. Ister IP address and used for cluster	X
Cluster IP addresses:			
IP address		Subnet mask	Ĩ
172.31.251.105		255.255.255.0	
	Add.	Edit Remove	1
			1
	< Back Next >	Cancel Help	

14. Make sure the Cluster IP addresses are correct.

#### 15. Click Next.

Subnet mask:	255.255.255.0
Full Internet name:	IPWBWorkflow.evs.tv
Network address:	03-bf-ac-1f-fb-69
Cluster operation mode	
O Unicast	
Multicast	
C IGMP multicast	

- 16. Select the IP Address for this cluster.
- 17. Enter the NLB address.
- 18. Select MultiCast in the Cluster Operation Mode.group box.
- 19. Click Next.

All	0 0	End 65535	Prot Both	Mode Multiple	Priority	Load 	Affinity Single
			Bour	manple			onigio
•							
				Add	Edi	t	Remove
Port rule description	on						
TCP and UDP tra 65535 is balanced	ffic direct 1 across r	ed to any nultiple ma	cluster IF embers o	<sup>o</sup> address tl f the cluste	hat arrives r accordin	on ports g to the k	0 through bad weigh
of each member.0	lient IP a	ddresses	are used	to assign o	lient conn	ections to	o a specifi
ciuster nost.							



- 20. Select the IP Address for this cluster.
- 21. Click Edit.

Add/Edit Port Rule
Cluster IP address
IIA 🔽 ro 🔽
Port range From: 0 🔹 To: 65535 🔹
Protocols C TCP C UDP   Both
Filtering mode         O Multiple host       Affinity:       O None       Single       O Network         Image: Timeout(in minutes):       Timeout(in minut
Single host
C Disable this port range
OK Cancel

- 22. In the Filtering Mange group box, select **Single Host**. This makes sure the servers will work as main/backup rather than in load balancing.
- 23. Click **OK**.

	Idress   Start 0	End 65535	Prot	Mode Single	Priority L	.oad Affi	inity
<u> </u>		00000	Dom	Jingle	1078		
•							D
				Add	Edit	Rem	iove
- Port rule des	cription						
TCP and UI 65535 is had	) P traffic dire	cted to any active clust	cluster IF er host wi	<sup>o</sup> address t ith the sma	hat arrives or llest handling	n ports 0 throu priority for thi	ugh is
port rule.	10.00 by 11.0		0111000111		noor na na na ng	phony for an	

24. Click Finish.

🤳 Networ	🙎 Network Load Balancing Manager 📃 💷 🗙									
File Clust	er Host Opl	ions Help								
E g Nel	twork Load Bal	ancing Clusters	н	Host configuration information for hosts in cluster IPWBWorkflow.evs.tv (172.31.251.105)						
- 🔁	IPWBWorkflow	w.evs.tv (172.3	1.251.105) H	Host (Interface) Status Dedicated IP Dedicated I Host priority Initial host state						Initial host state
	🔛 XTAA1846	520(Local Area (	Ionnection)	XTAA184620(Lo	cal Area Connection)	Converged	172.31.251.101	255.255.255.0	1	started
			I							•
Log Entry	Date	Time	Cluster	Host	Description					
0001	3/Jan/2013	2:47:13 PM			NLB Manager sessi	on started				
0002	3/Jan/2013	2:57:00 PM	172.31.251	XTAA184620	Begin configuration	change				
0003	3/Jan/2013	2:57:00 PM	172.31.251	XTAA184620	Waiting for pending	operation 4				
0004	3/Jan/2013	2:57:17 PM	172.31.251	XTAA184620	Update 4 succeede	d [double clic	k for details]			
0005	3/Jan/2013	2:57:17 PM	172.31.251	XTAA184620	End configuration o	hange				
4										Þ

- 25. Make sure the node's status changes to Converged.
- 26. Make sure you see a **Succeeded** message in the log window.

## 4.2.2 Configuring NLB for NODE 2

We will configure Node 2 from Node 1. If we wanted to configure this from Node 2, then we would need to connect to the Virtual IP cluster first then add the host to the cluster.

🥵 Network Load Balancing Manager	
File Cluster Host Options Help	
Network Load Balancing Clusters IPWBWorkflow.evs.tv (172.31.251.105) XTAA184620(Local Area Connection)	Host configuration information         Add Host To Cluster         Delete Cluster         Cluster Properties         Refresh         Remove From View         Control Hosts         Control Ports

1. Right-click the cluster you have just created and select Add Host to Cluster.



Connect to the ho	ost that is to be added	d to the existi	ng cluster	Connect
Host: JXTA	A18380Q			Lonnect
Connection stat	us			
nterfaces availab	le for configuring the	cluster	( 10	
Interface name		Inter	tace IP	

Enter IP Address or name of Node 2 and click Connect.
 A list of Network adapters will show up:

Add Host to Cluster : Co	nnect				×
Connect to the host that	is to be added to th	e existing cluste	er		
Host: XTAA18380	10			Connect	
Connection status					
Connected					
Interfaces available for c	onfiguring the cluste	er			
Interface name		Interface IP			
Local Area Connection		172.31.251.1	102		
Gbe2 (JUMBO Frame C	Capable)				
Onboard Bight	,apablej	169 254 45 1	178		
Onboard Left		169.254.108	.198		
				,	5
	< Back	Next>	Cancel	Help	

- 3. You will have the option to choose which network adapter you want to use, the NIC should be on the same subnet as the other servers in the NLB cluster.
- 4. Click Next.



Dedicated IP addresse	aner). <u> 2</u> es				
IP address			Sub	net mask	
172.31.251.102			255.	255.255.0	
		Add	1	Edit	Remove
Initial host state					
Default state:	Start	ed	•		
🔲 Retain suspended	l state after com	nputer restarts			

- 5. Enter the Priority ID as 2 (each node in the NLB cluster should have a UNIQUE ID)
- 6. Make sure the correct adapter was selected under Dedicated IP Address.
- 7. Select **Started** in the **Default State** field (this tells NLB whether you want this node to participate in the cluster at startup).
- 8. Click Next.

Add Host to Cluster :	Port Ru	les						×
Defined port rules:								
Cluster IP address	Start	End	Prot	Mode	Priority	Load	Affinity	I
Al	0	65535	Both	Multiple	-	Equal	Single	
				Add	Edi	t	Remove	
Port rule description	ı —							1
TCP and UDP traffi 65535 is balanced	c directe equally a	d to any cross all	cluster IP members	address th of the clus	nat arrives ter.Client	on ports IP addres	0 through ses are	
used to assign clier	nt connec	ctions to a	a specific	cluster ho	st.			
	<	Back	Fi	nish	Cano	el	Help	1

- 9. You should see a couple of things in the NLB Manager, this will let us know that both nodes successfully converged on our new NLB Cluster.
- 10. Click Finish.
- 11. Make sure that both node's status changes to **Converged**.
- 12. Make sure each node has a unique host priority ID.
- 13. Make sure each node is started under Initial Host State.
- 14. Make sure you see a **Succeeded** message in the log window for the second node.

🥵 Networ	k Load Balan	icing Manage	۲						_ 🗆 🗵			
File Cluste	er Host Opl	tions Help										
🖃 🧝 Net	By Network Load Balancing Clusters     By IPWBWorkflow.evs.tv (172.31.251.105)     XTAA184620(Local Area Connection)			Host configuration information for hosts in cluster IPWBWorkflow.evs.tv (172.31.251.105)								
- 🔁				Host (Interface)		Status	Dedicated IP address	Dedicated IP subnet mask	Host priorit			
				ATAA184620(Lo	ocal Area Con	Converged	172.31.251.101	255.255.255.0	1			
	XTAA1838	SUU(LOCAI Area	Lonnection)	🔜 XTAA183800(Lo	ocal Area Con	Converged	172.31.251.102	255.255.255.0	2			
I												
				.1								
<u> </u>				•					<u></u>			
Log Entry	Date	Time	Cluster	Host	Description				<u>▲</u>			
0005	3/Jan/2013	2:57:17 PM	172.31.251	. XTAA184620	End configura	ition change						
0006	3/Jan/2013	3:06:00 PM	172.31.251	. XTAA183800	Begin configu	ration change						
0007	3/Jan/2013	3:06:00 PM	172.31.251	. XTAA183800	Waiting for pe	ending operation	14					
0008	3/Jan/2013	3:06:26 PM	172.31.251	. XTAA183800	Update 4 suc	ceeded [double	click for details]					
0009	3/Jan/2013	3:06:26 PM	172.31.251	. XTAA183800	End configura	tion change			-			
•												

# 4.3 Web servers load balancing

The web servers will work in load balancing rather than in main/backup. This means that all the servers in the cluster will be active. This will achieve N + 1 redundancy: when a server is lost, service is retained but a lesser quality of service is achieved.

The NLB is configured in exactly the same way as for workflow servers EXCEPT at the Edit port rules stage:

Add/Edit Port Rule 🛛 🛛 🗙
Cluster IP address
Port range From: 0 🔹 To: 65535 🔹
Protocols O TCP O UDP O Both
Filtering mode • Multiple host Affinity: O None • Single O Network
C Single host
C Disable this port range
OK Cancel

- In the Filtering Mode group box, select Multiple Host.
   This makes sure the servers will work in load balancing
- Click OK.

2.22.90.30) Prope	r <b>ties</b> Cluster F	<sup>o</sup> arameter	rs Port I	Rules			
Defined port rules:							
Cluster IP address	Start	End	Prot	Mode	Priority	Load	Affinity
All	0	65535	Both	Multiple		Equal	Single
•							
•				Add	E di		Bemove
•				Add	Edi	t	Remove
Port rule description	1			Add	Edi	t	Remove
<ul> <li>Port rule description</li> <li>TCP and UDP traff</li> <li>65535 is balanced</li> </ul>	n ic directe equally a	ed to any	cluster IP members	Add	Edil	on ports	Remove
■ Port rule description TCP and UDP traff 65535 is balanced used to assign clien	n ic directe equally a nt conner	d to any icross all ctions to a	cluster IP members a specific	Add address th of the clust cluster hos	Edil nat arrives ter.Client I st.	on ports IP addres	Remove 0 through sses are
Port rule description     TCP and UDP traff     65535 is balanced     used to assign clien	n ic directe equally a nt connec	d to any cross all ctions to a	cluster IP members a specific	Add <sup>2</sup> address th of the clust cluster hos	et arrives ter.Client l	on ports P addres	Remove 0 through cses are
■ Port rule description TCP and UDP traff 65535 is balanced used to assign clien	n ic directe equally a nt connec	d to any cross all ctions to a	cluster IP members a specific	Add ' address th of the clust : cluster hos	at arrives ter.Client l	on ports P addres	Remove 0 through sses are

• Continue configuring NLB in the same way as for workflow servers.

# 4.4 DB Redundancy/Maintenance

There are two databases used by IPWeb:

- IPWebBrowser: this is the main IPWeb DB. It holds all the IPWeb data.
- WorkflowPersistence: this is an internal worker DB for the workflow engine.

Both databases need to be accessed through the same IP Address.

Maintenance jobs can be setup for both DBs using the standard EVS tools.

Redundancy is also setup for both DBs using the mirroring tool (with witness).

Since both DBs need to be accessed with the same IP Address, only one virtual IP is setup, for IPWebBrowser DB.

WorkflowPersistence must be master on the same server as IPWebBrowser.

Make sure, when doing a manual fail-over, to fail over both DBs so that they are both reachable through the virtual IP address linked to IPWebBrowser DB.



# 5. Configuration

# 5.1 Starting IPWeb Admin web site

## 5.1.1 Admin Web Site Address

The Admin Web site can be launched by double-clicking on the icon on the desktop of the workflow server or by typing the address of the site in a browser:

http://WorkflowServerIP:8000

where WorkflowServerIP is the address of your workflow server.

### 5.1.2 Login

← → C ⋒ 172.22.90.32:8000/#/Login			S. 0.			☆ =
ARBH 2028 BBC NEWS 🤮 Google Maps 🌆 Lalibre	10 Google Calendar 🔝 Le Soir	Lalibre.be - Sports	imatsports	O HOCKEYWEBTV	Group4   Trello	Other bookmarks
IP. WebBrow	/ser					
Setup Monitoring Media Monitoring Config						
	Login					
	licorazmo					
	Password			Login		

For a first configuration, type the hardcoded login and password:

- Login: EVSAdministrator
- Password: 3V\$P4\$\$W0RD

Once IPDirector Web Service is configured, log in with an IPDirector Administrator account. Please note that the web password must be minimum 3 characters long and contain a number. If these criteria are not met, you will be asked to change your password.

## 5.1.3 Possible Errors at Login

#### **No XSecure**



If not valid XSecure License (Application30: Module 12-IPWeb Engine) exists on the IPWeb DB, the login attempt will fail:

#### **No Endpoint Listening**

Login		
Username	EVSadministrator	Login
Password	•••••	

When IPD API is not defined yet, you will get this error when trying to connect with another login than the default login.

When IPD API is defined, you will get this error message when the API cannot be reached.

#### **Possible Causes**

- The IPD API is not started or cannot be reached at the IP Address mentioned in the message
- If the IP Address is 0.0.0.0, it means no IP API is configured

In order to change IP API configuration, log in with the default user mentioned above.

If API address is right:

• Restart all IPWeb services



• Check that IP API is started. If Address is the address of the proxy, check that at least one server is started.

## 5.1.4 First Page After Login

The first page to be displayed is the Setup Monitoring page:

IP•W	Welcome EVSAdministrator					
Setup Monitoring	Media Monitoring	Configurations				
Streaming Server	IIS Status: Running Publie: 172.22.90.31 Private: 172.22.90.31 IIS Status: Running Publie: 172.22.90.32 Private: 172.22.90.32	Name EVSWebDatabaseDataAccess EVSWebGateways EVSWebThumbnails	Status Running Running	Server 172,22.90.32 172,22.90.32 172,22.90.32	Actions	
						Refresh All

Click the **Configuration** button to go to the configuration pages:

			_		<u> </u>	Velcome EVSAdministrator	
		UVVSEI				Logout 🗇	
Setup Monitoring	Media Monitoring	Configurations					
Home							
Client							
Filters							
Database							
IPDirector							
XSquare							
Thumbnail							
Workflow							
Streaming							

Each page is described in detail below. Follow the order for configuration PDirector config

# 5.2 IPDirector

Click the IPDirector Button on the left:

Home	IPDirector confi	iguration			
Client	API Endpoint				
Filters	API Address	172.22.90.11			
	API Port				
Database	IPD Login				
IPDirector	IPD Password				
XSquare		Connect			
Thumbnail					
Workflow					
Streaming					
			Save	Cancel	

Enter the IPD API Address (use the API Proxy if defined), IPD Login and password. The connection can be tested by clicking the **Connect** Button:

API Endpoint			
API Address			
API Port			
IPD Login			
IPD Password	Try connect to IPDirector	x	
	Connection OK		
	ок		

Once the connection is OK, click the **Save** button at the bottom right of the screen. You will receive a confirmation message:



IPDirector Configuration	
	x
Configuration saved	
This configuration will be applied after services restart.	
ОК	

Now that IPDirector access is configured, logout from the admin web site and log back in with an IPDirector account.

After Changing IPDirector configuration, you must restart the Gateways and Thumbnail services.

# 5.3 XSquare

Click the XSquare button on the left:

Home			Advanced M	ode
	XSquare configuration			
Client	YSquare Server address	172 22 90 20		
Filters				
Databasa	XSquare Username	Administrator		°.
Database	XSquare Password			
IPDirector		Connect		
XSquare	Selected TranscodeProfile			0
Thumhnail	UseSANPostFix			
monionali				
Workflow				
Streaming				
			Save	Cancel

Enter XSquare server address, username and password, then click the **Connect** button.

XSquare configuration					
XSquare Server address	172.22.90.20				
XSquare Username	Administrator				
XSquare Password	•••				
	Connect				
Selected TranscodeProfile	IIS Web H264 (3 destinations)				
UseSANPostFix	To High Res file + To Low Res files To MXF OPAtom file				
	To High Res file + To EVS Server dip				
	To XDCAM HD422 50 MXF OP1A file				
	To VC-3 100Mbps MXF OPAtom file [+ Interplay Ref]				
	RF - To EVSMXF file with transcode for rendering				
	To EVSMXF file				
	To QuickTime Ref file [+ FCP Ref]				
	To H264 EVS Proxy @800kbps				
	IIS Web H264 (4 destinations)				
	To VC-3 100Mbps MXF OPAtom file [+ AAF Ref]				
	To EVS Server clip (Same Codec as target)				
	To MXF OPAtom file [+ Interplay Ref]				

Upon successful connection, the transcode Profile combo will populate. If not selected, chose the IIS Web H264 (3 destinations) profile.

SAN postfix should be used if reading from an EVS SAN but please confirm with an EVS project manager.

Click the **Save** button at the bottom right of the screen. You will receive a confirmation message:

IPDirector Configuration X	۲
Configuration saved	
This configuration will be applied after services restart.	
ОК	

After Changing XSquare configuration, you must restart the Gateways service.

## 5.4 Thumbnails

If you want to show thumbnails in IPWeb, then you need to configure them here. If there are no thumbnails, you do not need to set this up.

Click the Thumbnail button on the left:



Home						Advanced I	Mode
	Thumbnail configura	tion					
Client					Add		
Filters			Login	Password	Pamova		
Database							
IPDirector	IPD Thumbnail paths						
XSquare							
Thumbnail							
Workflow							
Streaming							

Click Add.

Thumbnail configura	tion			
	Thumbnail Path	Login	Password	Add
	\\172.22.90.11\Thumbnail	dvb	********	Remove
IPD Thumbnail paths				

Enter the path to the thumbnails as defined inside the IPDirector configuration. If thumbnails for clips and logs are on different servers, enter two lines in the configuration

Click the **Save** button at the bottom right of the screen. You will receive a confirmation message:

IPDirector Configuration	×
Configuration saved	
ок	

After Changing Thumbnails configuration, you must restart the Thumbnail service.

# 5.5 Workflow

Click the Workflow button on the left:

Home					Advance	d Mode			
Client	Workflow Configurations								
Filters	Workflow Endpoint Address								
	Master Workflow Server Address	172.22.90.32	.72.22.90.32						
Database	Worldow Servero	Server Address	Master			Add			
IPDirector	WORNIOW SELVERS	172.22.90.32	0			Remove			
XSquare									
Thumbnail									
Workflow									
Streaming									

Master Workflow Address: this is the virtual IP Address if using redundant servers. It is just the IP Address of your workflow server if using just one server.

Click Add to enter a line for each workflow server

Click the **Save** button at the bottom right of the screen. You will receive a confirmation message:



IPDirector Configuration X
Configuration saved
This configuration will be applied after services restart.
ок

After Changing IPDirector configuration, you must restart the Gateways and Thumbnail services.



If the master Workflow address is changed in the Admin configuration site (for example when adding redundancy to the system), you MUST run the installer again on all your web servers and enter the new workflow address.

# 5.6 Streaming

Click the Streaming button on the left:

Home					Advanced M	Mode
	Streaming Configurations					
Client	Master Streaming Server Address	172 22 90 31				
Filters						
Databaco	Streaming Servers	Private IP Address	Public IP Address	Public IP Port	DDA	
Database		172.22.90.31	172.22.90.31		Remove	
IPDirector	Archive Path	\\172.22.90.20\WebSt	orage			
XSquare	Archive Username					
<b>Thurson barry 3</b>	Archive Password	*****				
Inumbhail	Scrubbing mode					
Workflow						
Streaming						

Enter the master Streaming server address. If using one server, this is the public IP Address of the web site. If using more than one server, please see explanations below.

Add a line for each Web Server in your setup. Each server has its own private AND public IP Address. If only one server is used, the public IP Address is the same as the Master Streaming Address. If more than one server is used, please see explanations below.

Enter the Archive path. This is the path to where the medias are going to be stored on the web storage. This path must exist and be shared before configuration.

Enter the Archive credentials: username and password. Avoid using dvb with a blank password for a best practice in security reasons.

NoteThe credentials used must exist on both the Web Server and Web Storage.

Click the **Save** button at the bottom right of the screen. You will receive a confirmation message:

IPDirector Configuration	٢
Configuration saved	
ок	

After Changing Streaming configuration, you must restart the Gateways and Thumbnail services.



#### Warning

Please note that when the streaming configuration is changed, the web server IIS is restarted so that

- Any client would be disconnected
- Any ongoing streams would also be disconnected and would fail in XTA/X<sup>2</sup>.

#### Web Site access and Streaming Server Addresses Configuration

The Remote client accesses the web site through a public IP Address and a port. This address is translated by the firewall to the private IP Address of the Web server on port 80. If more than one server, this is translated to the Virtual IP Address for the web servers.

The medias are also accessed through the web server. Each time a media is loaded on the client, it is loaded through its address on the web servers.



When a media is being ingested, only the server that does the ingest can stream the media. This means the individual IP Address of each server must be reached. Usually, only one Public IP Address is allocated to the web application but different ports can be used. For example, port 4041 can be routed to the first web server and port 4042 to the second.

When a media has finished being ingested, it can be reached through any server so the Virtual IP Address can be used. Since this virtual IP is already linked to the public IP Address for general web site access, the master server streaming address is set to the Public IP Address of the web site.

#### **Example of Redundant Servers Configuration**

 Master Streaming Server Address
 91.238.115.13

 Private
 Public

 Streaming Servers
 172.22.90.31

 91.238.115.13:4042
 172.22.90.32

Configuration in IPWeb Admin web site:

Let's say the Virtual IP Address for the servers is 172.22.90.30.

The mapping on the firewall will be:

Public Address	Private Address
91.238.115.13 port 80	172.22.90.30 port 80
91.238.115.13 port 4041	172.22.90.31 port 80
91.238.115.13 port 4042	172.22.90.32 port 80

#### **Default Scrubbing Mode**

The scrubbing mode determines how many images per second the player tries to display with scrubbing with the browse bar.

Depending on the average connection type for the user, set it to one of the values in the combo:

- Disabled: image is refreshed when the user releases the mouse
- Low: one image every xx ms
- Normal (default value) : one image every xx ms
- Aggressive: as many as possible

#### Adding/re-installing a Streaming Server

When you add a new streaming server to your existing pool OR if you re-ghost, uninstall then re-install a streaming server, you MUST come to the streaming page, update the details if needed and click **Save**. This will re-apply all the configurations to the all the servers in the pool.

# 5.7 Database

The database address should be correctly configured at installation.

If you need to change the DB address or name, please make sure it points to the same DB as before but on a different address (for example, virtual IP Address).

If pointing to a different DB with different configuration, you need to go through all the tabs and re-save the configuration.

If you need to change the Database address, proceed as follows:

Click the Database button on the left:

Database config	uration
Address	172.22.90.32
Database Name	IPWebBrowser
Username	
Password	

Enter the new DB address and Name

Click the **Save** button at the bottom right of the screen. You will receive a confirmation message:

code	IPDirector Configuration	x
	Configuration saved	
	ОК	

After changing the DB address, you must:

Restart all the services, including DataBaseDataAccess

Logout, then log back in to ensure you have valid credentials

If pointing to a different DB with different configuration, you need to go through all the tabs and re-save the configuration.



# 5.8 Client

This is the configuration of the IPWeb client. It is very similar to IPBrowse Configuration. Click the **Client** button on the left:

Home	Clip Log					
	Select columns for clips:					
Client	02 combo		Thumbnail			
Filtore	02 Date	U	Name			
riiteis	02 memo		Level			
Database	02 number		Creation Date			
	02 TC		TC In			
IPDirector	02 text		TC In Date			
	1545464446454646546545464445464646464654546546	54654646544465465	TC Out			
XSquare			Duration			
Thumbnail	Access		Keywords			
inditional.	Access Rights		Participants			
Workflow	Ad Sensitivity		Source Name			
	Aired		sds test combo			
Streaming	Archive Date					
	Archive Group					
	Archive LTO					
	Fields for list view					
	Line 1 Name	Line 2 Keywords		Line 3 Source Name		
	Line x Hume	Line 2 noymords				
	Default search:	Auto logout time out:		Show thumbnails into Bins		
	Clip log	10000 min.		Colorentia de la coloridad de la colorencia de la coloren		
				M Show thumbhails into List Vie	W	
					Save	Cancel

#### Choose

Select columns for clips: which columns are to be shown --> for clips and logs.

Thumbnails will be displayed in grid view if the thumbnail column is chosen

Fields for list view --> for clips and logs

**Default search**: this is the default node in the tree that will be selected when logging in to IPWeb

Auto logout time-out. If licenses are shared between a large number of potential users, the time out ensures the license is released when the user does not use IPWeb.

Choose whether or not to display thumbnails:

Show thumbnails into Bins

Show thumbnails into List View

Click the **Save** button at the bottom right of the screen. You will receive a confirmation message:

IPDirector Configuration	×
Configuration saved	
This configuration will be applied after services restart.	
ок	

There is no need to restart services after changing the client configuration. This will be applied at each user's next login.

## 5.9 Filters

The IPWeb Workflow Server only transcodes and displays clips that satisfy the filter conditions defined in the configuration.

This allows an administrator to determine exactly which media are to be made available to IPWeb.

Also, the filter should be set so that only one clip element from each asset to be published will satisfy the filter conditions. This ensures the correct clip element is transcoded and prevents duplicate display of clips.

For example, if an asset has elements on a server (HiRes), HiRes and LoRes on the same Nearline, the filter could be:

StorageName = NearLineName

Mode = Lo

This is how to configure filters:

Click the Filters button on the left:



elect Filters							
elect Filter							
						Save	Cancel
	lect Filter	lect Filter v	led Filter	led Filtr •	led Filter	led Filter	led Filter •

Select a filter in the drop down, the column will be displayed

select Filters	
Select Filter	
Storagename	×
IPDA NL	
	Select Filters Select Filter Storagename IPDA NL

Just enter the filter criteria. Please note that filter syntax is the same as for advanced filters.

Add more filter criteria if needed:

Select Filters	
Select Filter	
Storagename	×
IPDA NL	
Mode	×
	•
Level	×

This example includes all LoRes elements on IPDA NL with a 3 star rating.

A filter can be removed by clicking the white cross on the right

Click the **Save** button at the bottom right of the screen. You will receive a confirmation message:

IPDirector Configuration	x
Configuration saved	
This configuration will be applied after services restart.	
ок	

There is no need to restart services after changing the filters configuration. This will be applied on-the-fly.

# 5.10 Setup Monitoring

The setup monitoring shows the state of all your workflow servers and streaming servers. Just click the **Setup Monitoring** button.

Setup Monitoring	Media Monito	oring Co	onfigurations							
Setup Monitoring Streaming Server Workflow Server	Media Monito IIS Status: Rumin Public: 172.22 Private: 172.22 IIS Status: Conf Public: Private: 172.22 €	2.90.31 2.90.32 2.90.32 2.90.32	Name EVSWebDatabaseDataAccess EVSWebGateways EVSWebThumbnails	Status Running Running Running	Server 172.22.90.32 172.22.90.32 172.22.90.32	Type	Actions			
									Ref	resh All

The services can be restarted from this interface when configuration is finished.

If thumbnails are not used, the EVSWebThumbnails service does not need to be started.



# 5.11 Media Monitoring

This page shows all the clips that satisfy the Filters and their transcode status. Just click the **Media Monitoring** button:

Setup Monitoring Media Monitoring	Configurations								
In Progress Failed Successful Name		Search Clip:	All	*					Clear filters
Id 🔺	Name	IsMasterAsset	Media Creation Date	Limit In Date		Media status	Completion		Video URL
0966a50b-b59b-4e6a-bbeb-6fb71076af85									i
Oceb5ea5-0492-491d-92e9-dc24819b559b									0ceb5ea6-0492-491d-92e9-dc24
0e8f7e1d-6b8a-4094-b1e1-b87ff1e59bfb						Transcoded			
1c430dad-aa2e-4c8d-ab74-917d33706ec6									
1ec30d2a-af39-4b3f-a2c4-9f6f5a2744e3						Transcoded			1ec30d2a-af39-4b3f-a2c4-9f6f5a
1f9f4093-25ea-4437-b846-871923d9a21f									
247cd623-23d7-456e-a67d-abf59e933ff0	sdsweb 2					Transcoded			
3e8ee79a-c2b5-49bc-b2cb-864eecf527ed									3e8ee79a-c2b5-49bc-b2cb-864ei
3fb2a397-5016-4b83-8d56-8ac4ca16aa98									
57686f16-99a1-43dd-be63-2c578f51e18c									
6019081b-e408-4225-8100-d015ef78d662									6019081b-e408-4225-8100-d015
7b8e5dae-497b-4ccc-bd25-bc928becb5dd									7b8e5dae-497b-4ccc-bd25-bc928
819ed868-a209-47df-8c1d-d61ec4321dd6									819ed868-a209-47df-8c1d-d61er
97143c2a-a867-41a5-bab5-dd6dc538fb8e									
9e4e2b1b-4505-44d5-b269-dbf5c5969423									
KK.									
									3obs matching current filter: 29
Refresh							Purge medias	Delete p	ublishing points Retranscode media

The operations that can be done on this page are:

- 1. Filter clips
- 2. Re-transcode clips
- 3. Delete publishing points
- 4. Purge medias
- 5. View transcode history

#### 5.11.1 Filter Clips

The Clips can be filtered according to

Status: In Progress, Failed, Successful. These are toggle buttons

Name: type the name then click Search (Enter does NOT validate the search)

Clip type: All, Master or sub clips.

Sub clips are shown on this page but they don't actually need transcoding since the A/V material is already available. They reference the material from their master asset. Their status will be transcode, PP type unknown and video URL empty. It is useful to sort on clip = only Master Clips in order to have a view of transcode status.

## 5.11.2 Re-transcode Clips

If one or more clips have not been transcoded properly, select the clip(s) and click the **Retranscode Media** button.

This will re-send a transcode request to Xsquare.

Note

- A transcode request will be sent even if the clip was marked as transcoded. This is a "force re-transcode" option.
- When retranscoding sub clips, the system will look to see if a parent is transcoded properly (or in the process of being transcoded). If yes, a reference to the parent is made. If not, a transcode request is sent to Xsquare.

## **5.11.3 Delete Publishing Points**

Once a clip is fully ingested, its publishing point goes from live to archive. However, the live publishing point is not deleted straight away since this would disconnect any client browsing the media. Instead, there is a script that runs every hour to delete stopped live publishing points on the server.

The 'Delete Publishing Points' option forces a purge of the stopped publishing points.

## 5.11.4 Purge Medias

In normal mode, a clip that gets deleted from IPDirector automatically gets deleted from IPWeb. However, it can happen that clips get deleted from IPD but stay in the web DB.

The Purge Media button allows to remove them from the IPWeb DB.

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