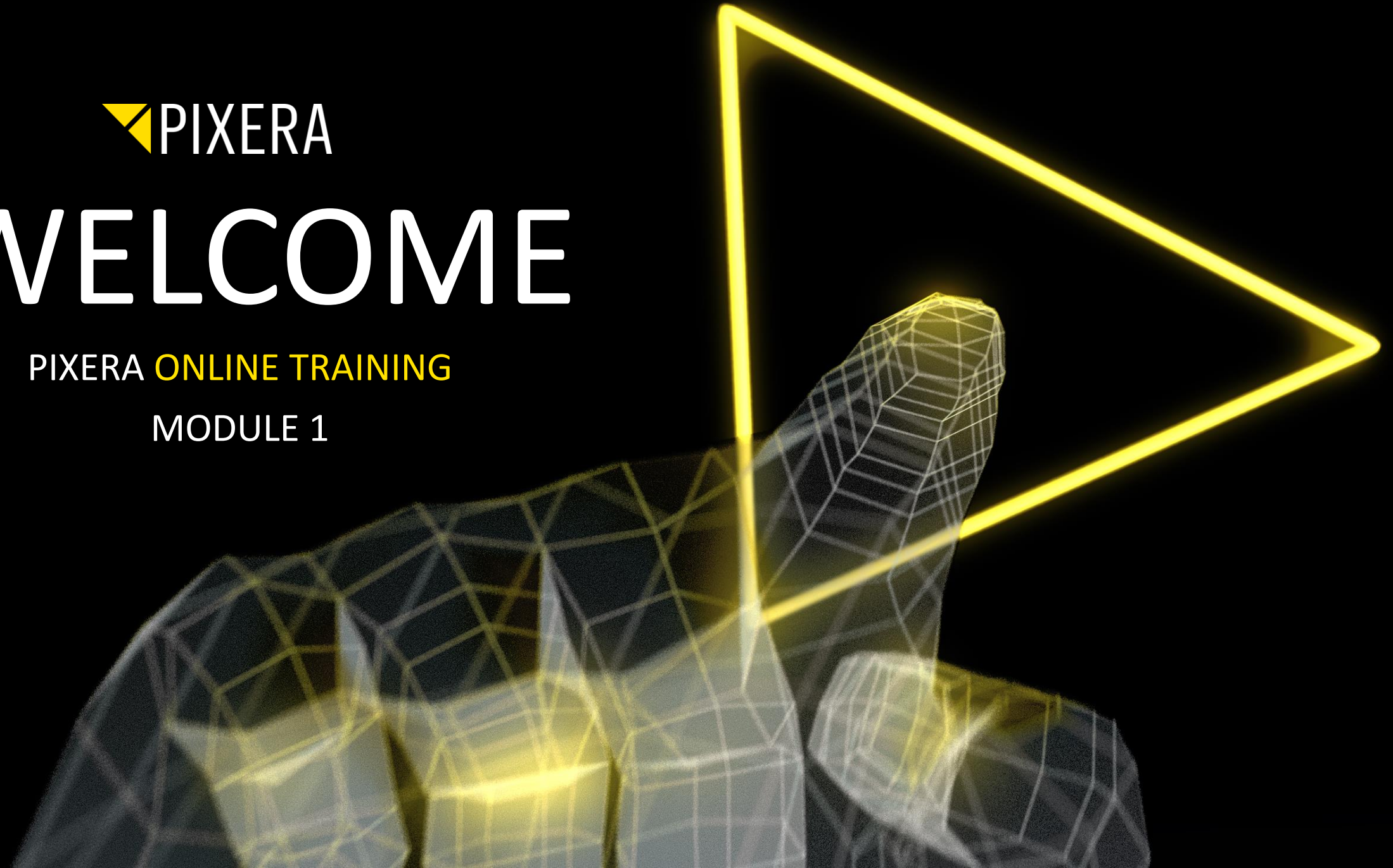
PIXERA

WELCOME

PIXERA ONLINE TRAINING

MODULE 1



PIXERA ONLINE TRAINING

- The online training is divided into three webinar sessions and a QnA session at the end
- Each session consists different modules
- After each session, there is time to practice on your own – therefore we prepared tasks, handouts, tutorials and videos explaining the tasks
- At the beginning of the second and third session, there will be time for questions
- Participants will be added to a Microsoft Teams Group where all training content can be found

SESSION 1

Module 1

- Licensing
- Technical information
- AV Stumpfl operating system
- Pixera Hub

Module 2

- Pixera introduction
- Workspace usability
- Basics of show setup
- Timeline basics

SESSION 2

Module 3

- Content scaling
- Layer offset
- Keyframing workflows
- Effects

Module 4

- Playback modes
- Transport controls
- Cues

Module 5

- Audio
- Multi-timeline handling

SESSION 3

Module 6

- LED workflow
- Video mapping
- Screengroups

Module 7

- Projector workflow

PIXERA


stumpfl®

THE BEGINNING...

AV Stumpfl 1975:

Started as a hobby

stumpfl®

Who is AV Stumpfl?

One of the leading development and manufacturing companies
of the global Audio Visual industry.
Family owned and operated since 1970.

AV STUMPFL HEADQUARTERS AUSTRIA

Software, hardware and mechanical development

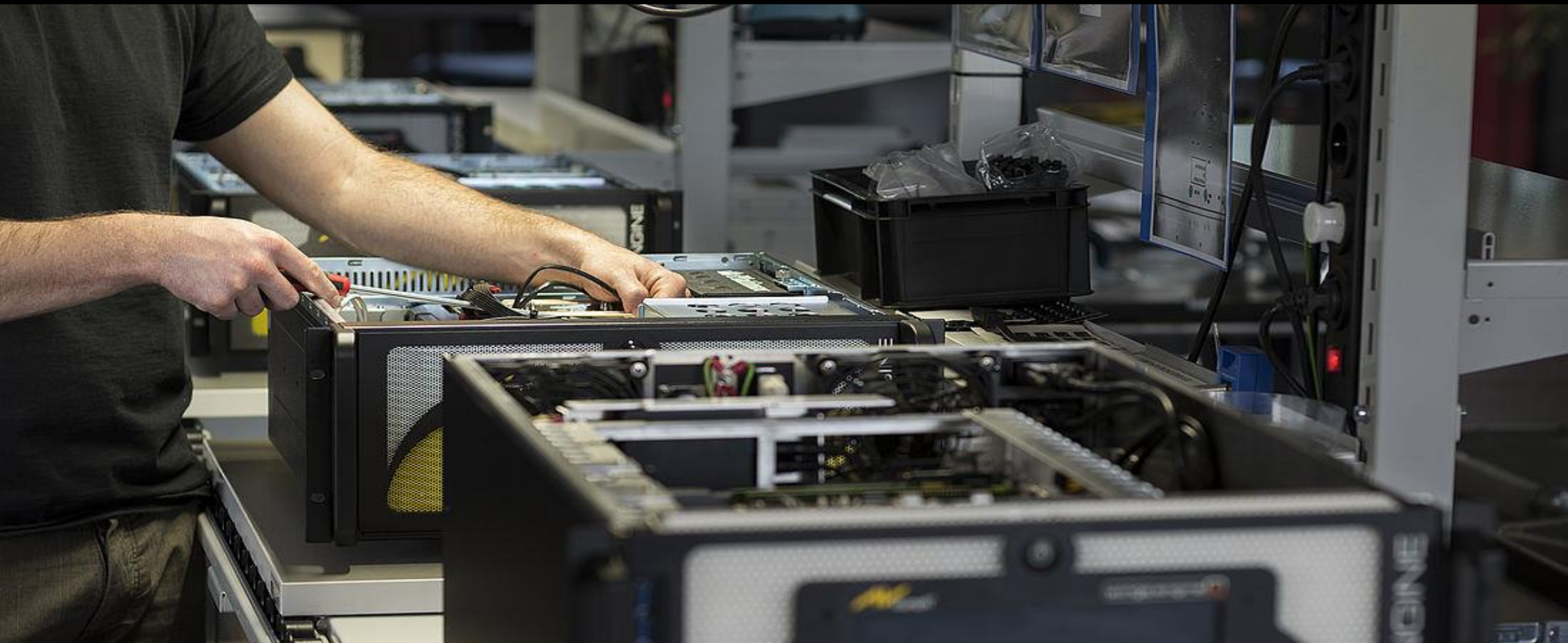
HIGH PRECISION MANUFACTURING

in Austria, Europe

stumpfl®

AV Stumpfl Headquarters Austria

High precision manufacturing in Austria, Europe



PIXERA

LICENSING

SOFTWARE LICENSE STRUCTURE

What PIXERA licenses are available?

PIXERA **Demo**

PIXERA **Director**

PIXERA **Player**

PIXERA **Server**

SOFTWARE LICENSE

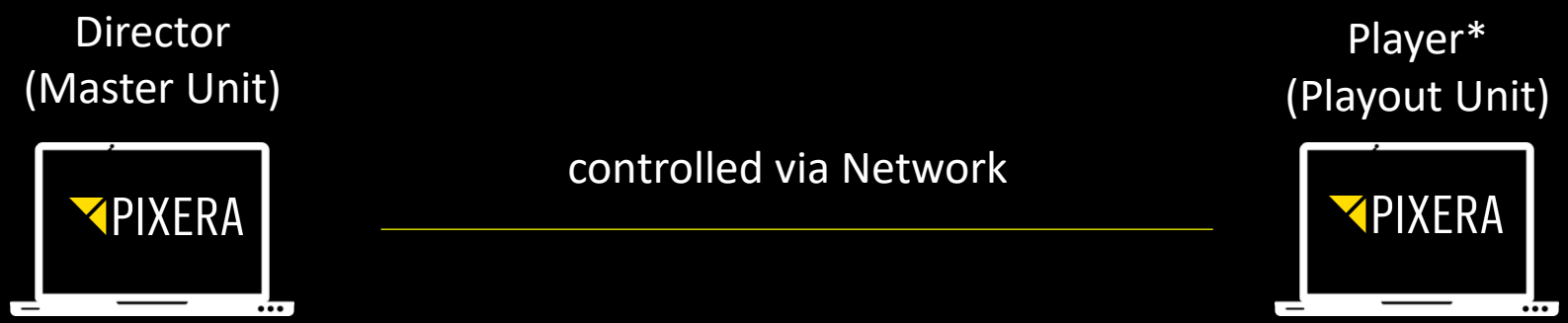
licence comparison

Feature	PIXERA demo	PIXERA director	PIXERA player	PIXERA server
	To evaluate PIXERA	For Preproduction and to control a set of player/server licenses and/or PIXERA servers	For your own Hardware	For your own Hardware
Playback outputs	Watermarked	Watermarked	Number depending on licence (1-8)	Number depending on licence (1-8)
Number of timelines	Unlimited	Unlimited	2 (Director or Server licence as Master required for unlimited)	Unlimited
Master/Network ability	No	YES	YES (Director or seperate GUI Card recommended)	YES (Director or seperate GUI Card recommended)
Marker calibration	YES	YES	YES	YES
Content transcoding	YES (Watermarked)	YES	NO	YES
Timeline export	YES (Watermarked)	YES	NO	YES
Parts list export	YES (Watermarked)	YES	NO	YES
Live preview editing	YES	YES	NO	YES
Blend to cue	YES	YES	NO	YES
Playback of picture sequences	YES	NO	NO	YES
Avío	Avio Basic	Avio Basic	Avio Basic	Avio Basic
Vioso Camera Calibration	YES (Watermarked)	NO	OPTIONAL	OPTIONAL

DIRECTOR + PLAYER

By combining a Director License with a Player license over the network, the Player license gets access to all functions of the Director

(Director acting as Master, Player acting as Client)



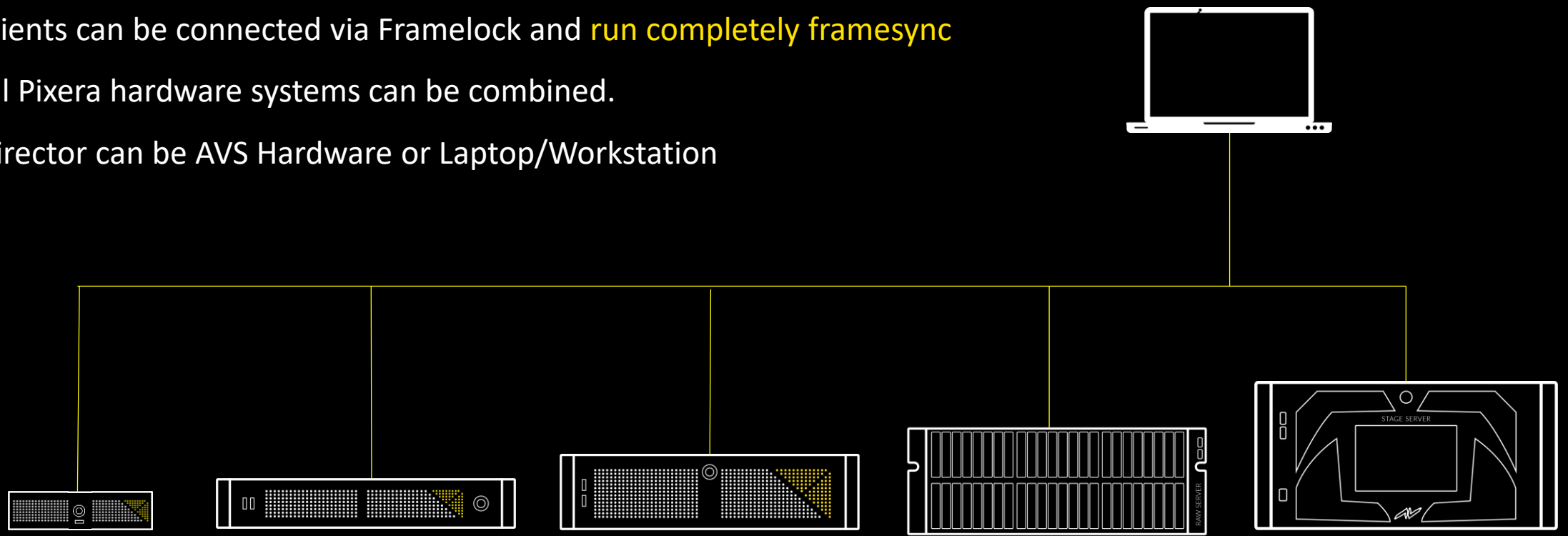
Director unlocks:
- unlimited Timelines
- Multihead feature (blend to cue, Preview editing)
- Content Transcoding

*As standalone, the Player licence offers only two Timelines

TECHNICAL INFORMATION

MULTICLIENT CAPABILITY

- As many clients as needed can be connected and set up via network
- Clients can be connected via Framelock and run completely framesync
- All Pixera hardware systems can be combined.
- Director can be AVS Hardware or Laptop/Workstation



| PIXERA mini | PIXERA one | PIXERA two | RAW SERVER | STAGE SERVER

PIXERA

SUPPORTED FILE FORMATS

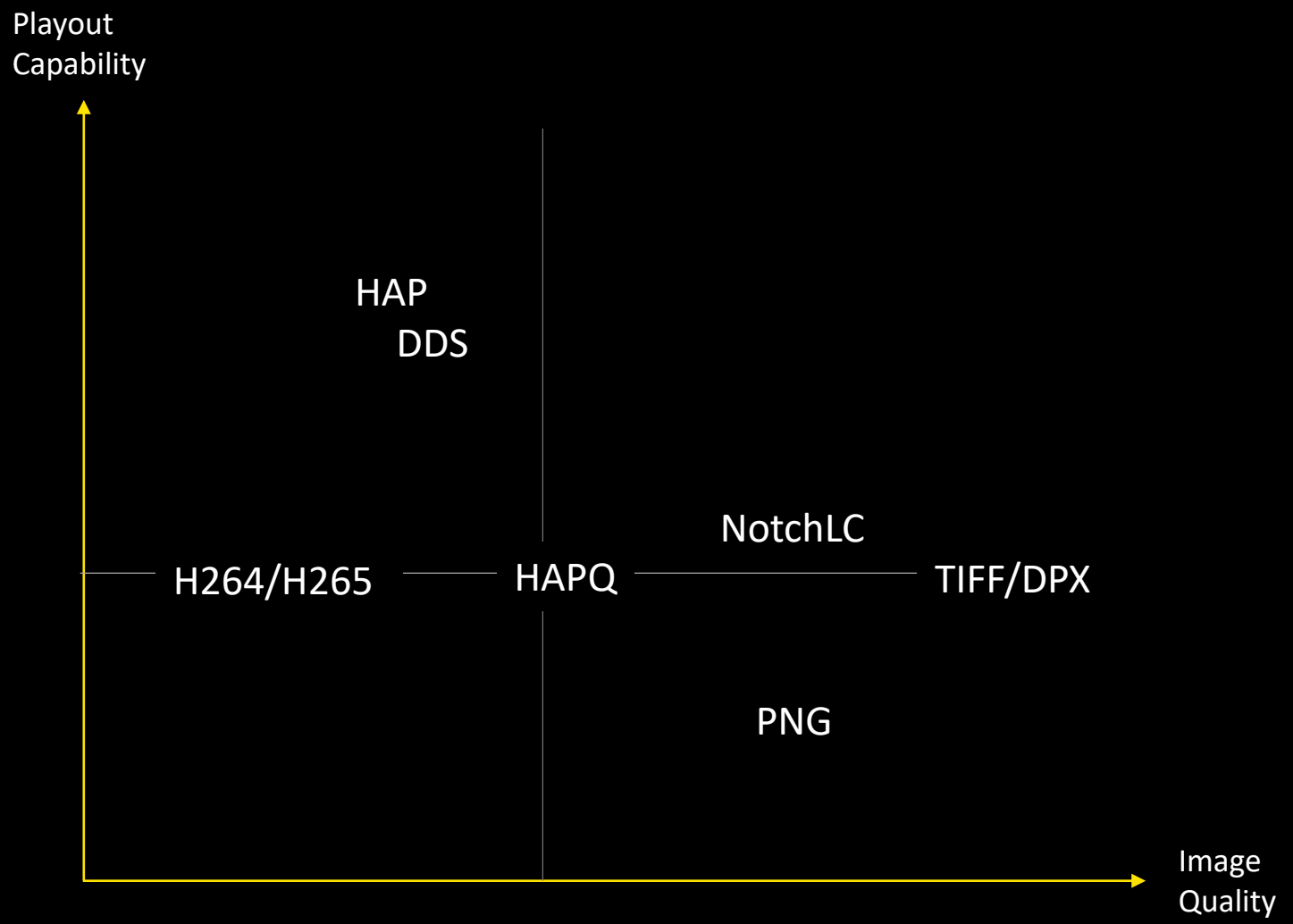
Single file formats Playback:

- H264 / H265 (Render Engine not optimised; hardware acceleration availableon GPU)
- Hap (high-performance output capabilities) / HapQ / Hap + Alpha
- ProRes 4:2:0; 4:2:2; 4:4:4
- AVI (AVI uncompressed)
- VP9
- NotchLC (1.6)

Picture Sequence Playback:

- Uncompressed: TIFF (8Bit & 16Bit), TGA, DPX (8Bit & 10Bit), PNG (very CPU dependant)
- LZW TIFF NOT SUPPORTED
- Compressed: DDS (very high performance), JPEG (not recommended)

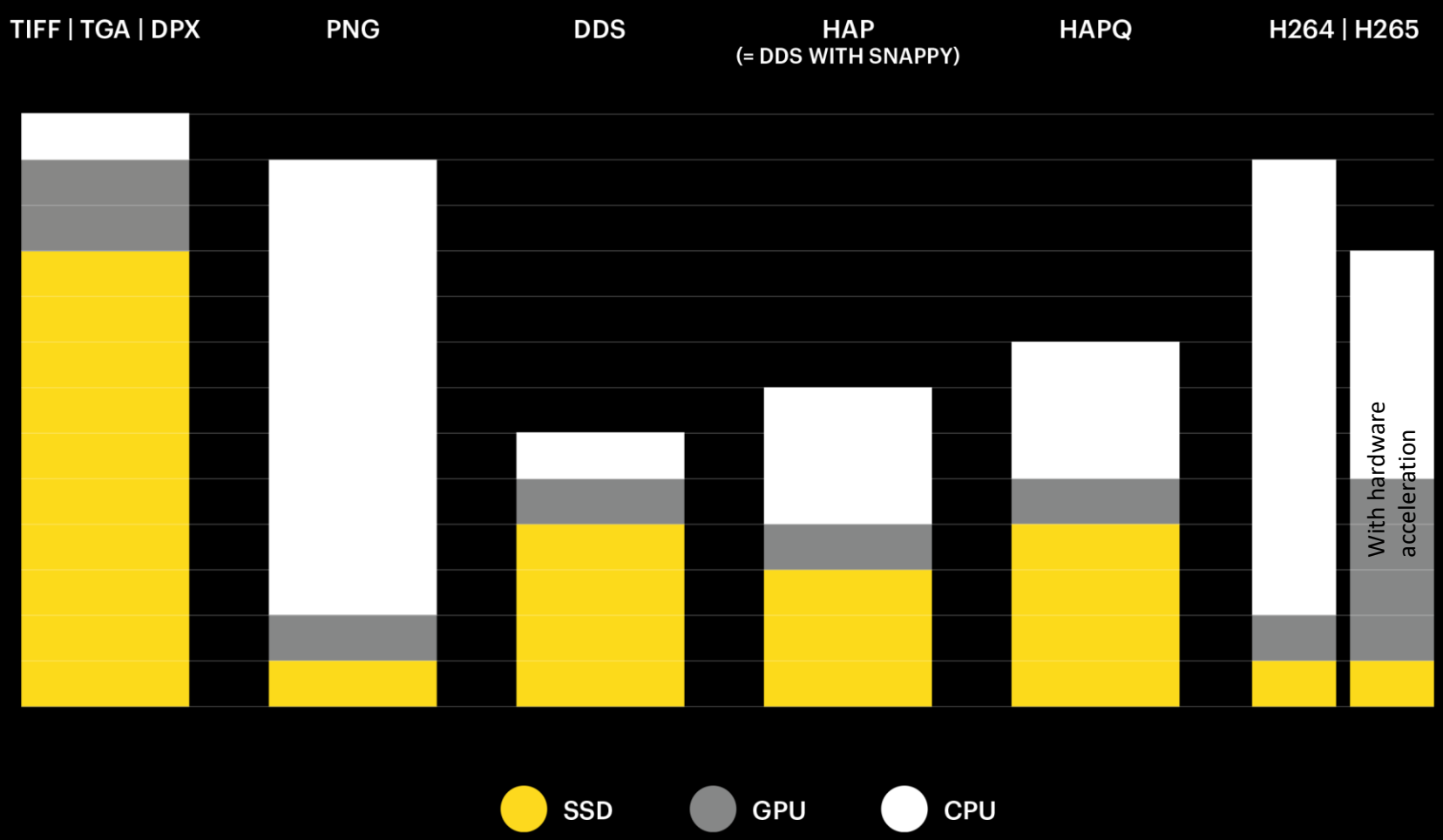
SUPPORTED FILE FORMATS



*no absolute values – just to give an idea

CODEC PERFORMANCE

PIXERA



THINGS TO WATCH OUT FOR / TIPS

- TIFF/DPX:
  - LZW compression for TFF is not supported
  - Little endian for DPX/Tiff
- HAP
  - Chunks size never bigger than CPU cores available (ffmpeg is able to encode in chunks)
  - The resolution must be divisible by 8
  - Adding slight noise to HAP/HAPQ can reduce banding

PERFORMANCE CHARTS

PIXERA mini

	MINI	
	NVMe	NVMe OS
DDS		
4K @ 60fps	7	
FHD @ 60 fps	19	
H264		
4K @ 60fps	0	
FHD @ 60 fps	3	
H265		
4K @ 60fps	0	
FHD @ 60 fps	4	
HAPQ		
4K @ 60fps	2	
FHD @ 60 fps	9	
HAP		
4K @ 60fps	3	
FHD @ 60 fps	17	
PNG		
4K @ 60fps	0	
FHD @ 60 fps	1	
TIF		
4K @ 60fps	1	
FHD @ 60 fps	6	

PIXERA one

XEON 13			XEON 22			XEON 31		
SSD	1x NVMe	2x NVMe	SSD	1x NVMe	2x NVMe	SSD	1x NVMe	2x NVMe
2	10	10	2	10	11	2	10	11
8	18	18	8	19	18	8	19	19
0	0	0	2	2	2	4	4	4
3	3	3	9	9	9	12	12	12
0	0	0	1	1	1	2	2	2
3	3	3	9	9	9	12	12	12
1	3	3	3	4	5	4	5	6
6	11	14	14	14	14	15	15	15
2	5	5	6	8	9	8	9	9
11	18	18	18	18	18	19	19	19
0	0	0	0	1	1	0	1	1
1	1	1	2	4	4	2	6	7
0	1	2	0	1	3	0	1	3
1	7	10	1	7	13	1	7	14

PIXERA two

XEON 13			XEON 22			XEON 31		
SSD	1x NVMe	2x NVMe	SSD	1x NVMe	2x NVMe	SSD	1x NVMe	2x NVMe
2	10	14	2	10	11	2	10	16
8	39	38	8	41	18	8	41	38
0	0	0	2	2	2	4	4	4
3	3	3	9	9	9	14	14	14
0	0	0	1	1	1	2	2	2
3	3	3	9	9	9	14	14	14
1	3	3	3	4	6	4	5	6
6	13	14	15	20	21	18	18	16
2	5	5	6	8	9	8	9	8
11	35	35	35	35	35	35	35	35
0	0	0	0	1	1	0	1	1
1	1	1	2	4	4	2	6	7
0	1	2	0	1	3	0	1	3
1	7	9	1	7	13	1	7	14

All videos had a frame rate of 60 fps and the displays had a refresh rate of 60 Hz.
One UHD GUI-Monitor was used. Pixera Workspace Rendering was disabled.
The videos were distributed evenly across all displays with an alpha value of 50%
Please note that the kind of content used may influence the performance of individual video codecs. The test results are approximate values.
Performance results will differ when using VIOSO or FRAMEBLENDING.

PIXERA

SYSTEM REQUIREMENTS

- Intel Core or Intel Xeon CPU, clock frequency and number of cores depend on the application (i5 or better recommended)
- Minimum 16 GB RAM
- Nvidia Quadro graphics card with sync board, OpenGL 4.5 (Nvidia Quadro P4000 or better with Quadro Sync II recommended to use all functions)
- Separate SSDs for data and operating system recommended
- SSD in RAID or NVMe recommended for higher data rates (e.g. uncompressed playback)
- LAN port (LAN port 10Gbps recommended for applications with large files, e.g. uncompressed playback)
- Sound interface (high-quality sound interface RME HDSPe series recommended)
- Windows 7 64Bit or Windows 10 64Bit
- If live video inputs are required: Pixera supports video input devices with DirectShow drivers

VIDEO STANDARDS

Displayport 1.4 available on all Pixera Engines

Displayport 1.2 on Wings Engine Pro/Lite/Stage V1 and Wings Player

Passive Adapter

Up to WUXGA 1920x1200Px @60Hz

Active Adapter

higher than WUXGA 1920x1200Px @60Hz

Recommended manufacturer → Club3D

! Be careful with HDMI active and passive adapters, because they look very similar !

AUDIO - PIXERA

- MP3, FLAC, WAV, M4A, AAC supported at the moment
- Dynamic resampling
- micropitching to meet sync requirements (for audio & video)
- Embedded Audio not supported at the moment (demux not yet available in Pixera)
- Maximum Output at the moment at 128

In future

- Multiclient audio playout (at the moment audio playout only from Master)
- Diverse input – output routing (similar to mix desk)
- Audio input, audio effects, VST input
- Multichannel audio file rerouting
- Support of multiple audio interfaces

AUDIO - PIXERA

Audio Interfaces supported via:

- ASIO
- WDM
- WASAPI

Theoretically every brand supported. Only RME and Dante recommended.

HARDWARE OVERVIEW

| PIXERA mini

| PIXERA one

| PIXERA two

| PIXERA two RT

PIXERA mini

- Pixera Server Licence
- Output dual/quad
- Super compact - 1U ½ 19“
- Playback up to 8xHD or 2x4K60

- Prolight 2019
- Can also be used as PIXERA Master

  (with PIXERA Director).

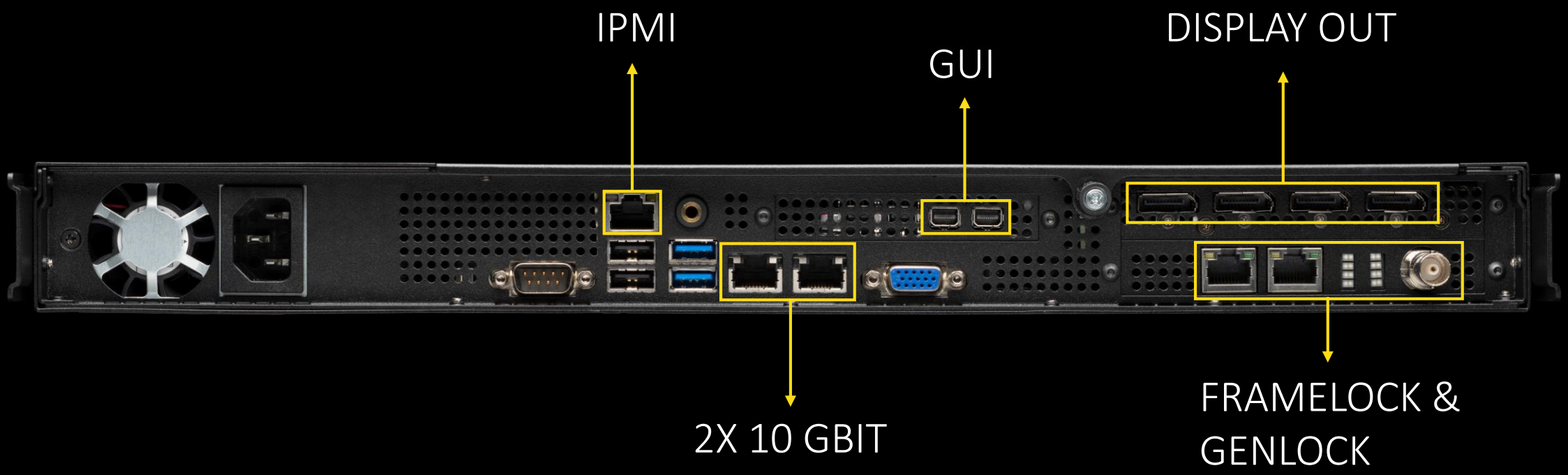
PIXERA one

- Comes with Pixera Server Licence
- 1U hight
- 2-4 Outputs
- PIXERA Server License without VIOSO!
- Hardware configurable (Frame lock, GUI, NVME, Audio, Input)

  Attention: Limited upgrade possibilities due to limited number of slots!
- 2x 10GB network
- Can also be used as PIXERA Master

PIXERA

PIXERA one



PIXERA

PIXERA two

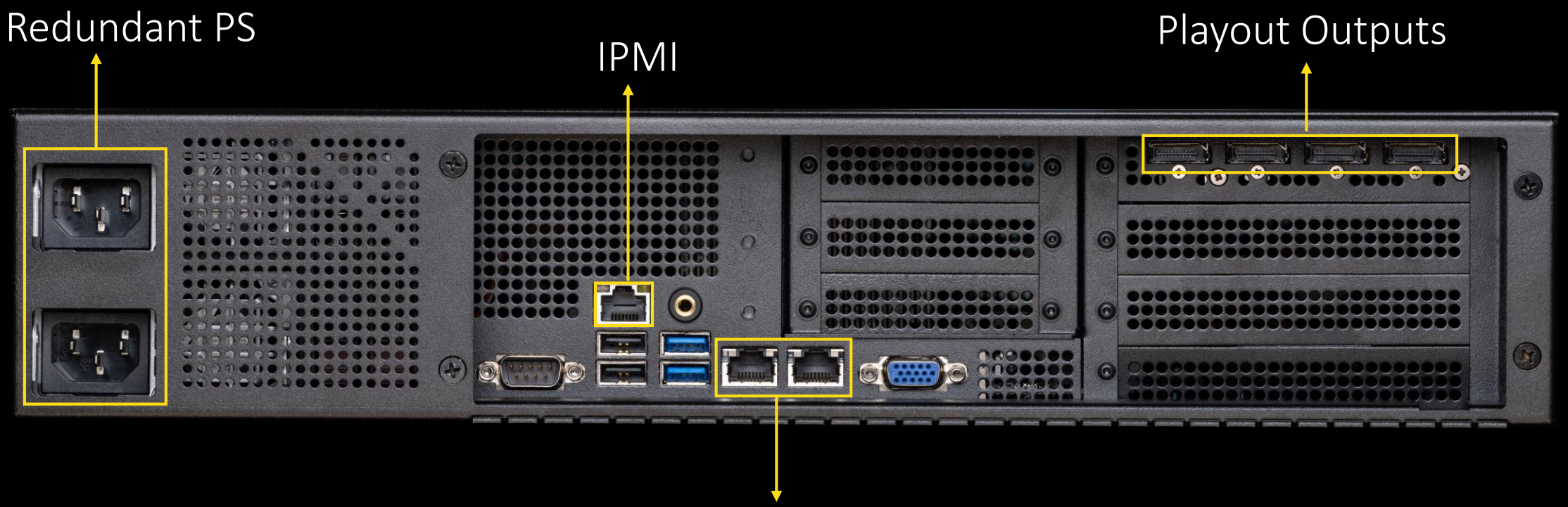
- Comes with Pixera Server Licence
- 2U hight
- 2-8 Outputs
- PIXERA Server license without VIOSO!
- up to 24 TB of storage

- Hardware configurable

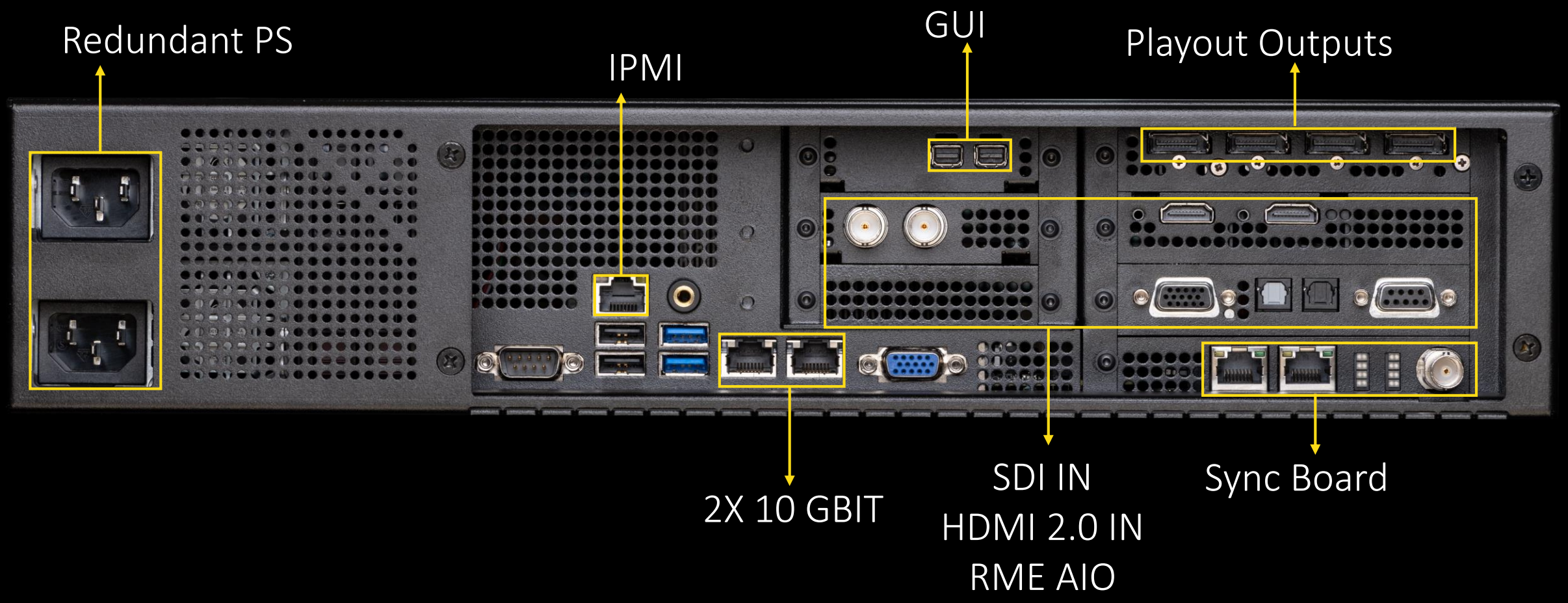
  (Frame lock, GUI, NVME, Audio, Input)

  More flexibility than PIXERA one due to more slots!
- 2x 10GB network
- Redundant Power supply unit
- Can also be used as PIXERA Master

PIXERA two – minimum config

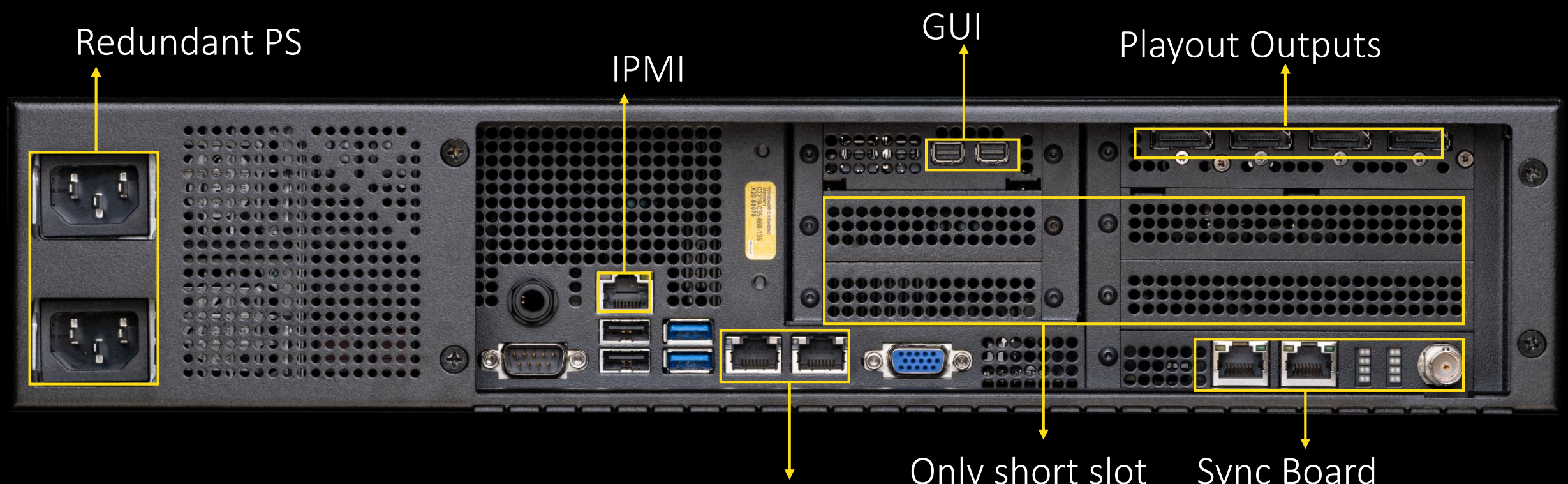


PIXERA two – maxed out



PIXERA

PIXERA two – max playout performance



PIXERA

PIXERA two RT - for your realtime experience

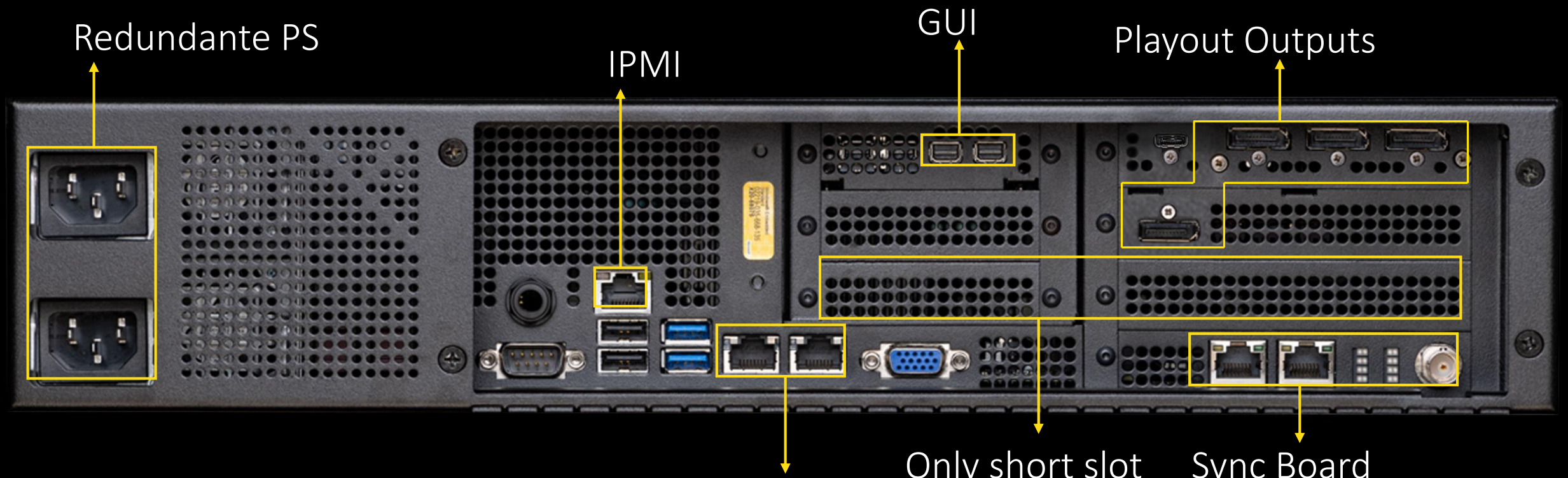
- Comes with Pixera Server Licence
- 2U hight
- 2 - 4 Outputs
- PIXERA Server license without VIOSO!
- up to 10GB/s data read Rate
- up to 16TB of storage

- Hardware configurable

  (Frame lock, GUI, NVME, Audio, Input)

  More flexibility than PIXERA one, due to more slots!
- 2x 10GB network
- Redundant Power supply unit
- Can also be used as PIXERA Master

PIXERA two RT



PIXERA

THANK YOU!

PIXERA ONLINE TRAINING

MODULE 1