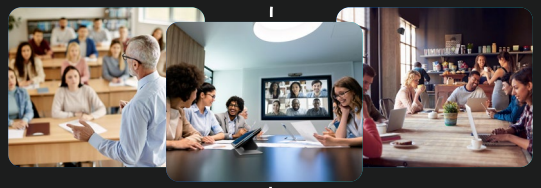
Q-SYS Processing

Choosing the right Core for your application

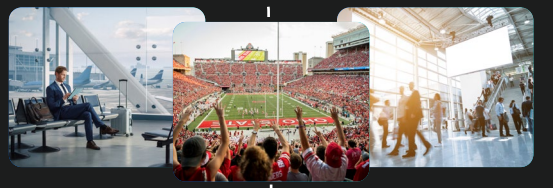
Q-SYS Core processors are driven by the Q-SYS Full Stack AV Platform which delivers a fully integrated audio, video and control solution that offers simpler integration and software-based scalability. This decision tree doesn't provide a definitive list of applications for each Core, but is intended to help you select the best AV&C processor based on the scale and I/O requirements of your unique installation.

What is the scale of your application?



Small
(e.g. meeting room, classroom, hospitality)

Medium
(e.g. lecture hall, multi-purpose room, ballroom)



Large
(e.g. campus, stadium, airport, convention center)

- Server Core X20r
- Server Core X50r

Do you need onboard I/O for local endpoints?

- No → Core Nano
- No → Server Core X10
- Yes → Do you need a processor with HDMI for collaboration spaces?
  - No → NV-32-H (Core Capable)
  - Yes → Onboard audio I/O channels less than or equal to 8 → Core 8 Flex
  - Yes → Onboard audio I/O channels between 8 and 24 → Core 24f

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Core Processor Comparison Matrix

	Core Nano	Core 8 Flex	NV-32-H (Core Capable)	Core 24f	Server Core X10	Server Core X20r	Server Core X50r
General DSP processing power (relative to Core Nano)	1x	1x	1x	4x	12x	24x	60x
Total network I/O channels	64 × 64	64 × 64	64 × 32	160 × 160	256 × 256	384 × 384	4096 × 4096[2]
Onboard I/O	-	8 flex	HDMI x3 (8-ch per port) Stereo 3.5 mm (2 × 2)	8x in, 8x out, 8x flex	-	-	-
Dante channels	8 × 8 included (licensable up to 32 × 32)	8 × 8 included (licensable up to 32 × 32)	None included (licensable up to 32 × 32)	8 × 8 included (licensable up to 64×64)	8 × 8 included (licensable up to 128 × 128)	8 × 8 included (licensable up to 256 × 256)	8 × 8 included (licensable up to 512 × 512)
Media/WAN channel capacity	12 × 12	12 × 12	12 × 12	36 × 36	64 × 64	96 × 96	256 × 256
AEC channels (200ms)	8	8	8	24	64	128	256
VoIP softphones	2	2	1	8	32	64	96
USB audio channels	8 × 8	8 × 8	3 × 3	16 × 16	-	-	-
Local HDMI switching or network video streaming (license required)	-	-	✓	-	-	-	-
Integrated USB audio/video bridging	✓	✓	✓	✓	-	-	-
Onboard GPIO	-	✓	✓	✓	-	-	-
Onboard RS-232	✓	✓	✓	✓	✓	✓	-
Peripheral count[1]	32	32	32	96	256+	256+	256+
Media drive capacity	16 GB	16 GB	-	128 GB	256 GB	480 GB	960 GB
Size	1/2 rack, 1RU	1/2 rack, 1RU	1/2 rack, 1RU	1RU	1RU	1RU	2RU

1. Refer to Q-SYS Designer Help file for more details on peripheral limits
2. With 10 Gbps network connection only—512 × 512 channels @ 1 Gbps

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Q-SYS

SCALING LICENSE

Expand select feature sets at the software level with Q-SYS Scaling licenses. Whether choosing features before installation or as business needs change, Q-SYS feature licenses let you easily add functionality without the need for additional hardware.

	Core Nano & Core 8 Flex base configuration	+ Capacity Scaling license
Q-LAN/AES67 network channels	64 × 64	128 × 128
DSP processing power	1x	Approx. 2x
Softphones	2	4
AEC channels @ 200 ms	8	16*
NM-T1 capacity	3	6*
Media/WAN network channels	12 × 12	24 × 24
Q-SYS peripherals	32	48

* NM Series NM-T1 microphones and third-party microphone AEC processing share similar processing resources. When using both in the same Q-SYS design, the maximum number of AEC resources for NM-T1 and third-party microphones works on a sliding scale.

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