

# Q-SYS™ FOR MEETING ROOMS



**QSC**

# “ imagine if ...

... I could **standardize** on a single audio, video and control (AV&C) ecosystem.

Provide consistent support and user experience across our global organization

... we could easily **manage** our AV&C ecosystem.

Remote management, technical support and effortless upgrades without hardware workarounds and special knowledge

... our AV&C ecosystem could seamlessly leverage **our existing network.**

A&VC solutions that work with standard network switches, cabling, protocols, etc.

... users could start meetings **without the hassle.**

The same positive experience in every meeting room in your organization completely transparent to the user

... our AV&C ecosystem **could integrate** easily.

Interoperable with web conferencing applications, laptops and tablets with customized control from the same touch screen

... adding more capabilities didn't require  
adding more **hardware.**

Instead of bolting on yet another hardware box to an already convoluted system, additional capabilities come with simple software updates

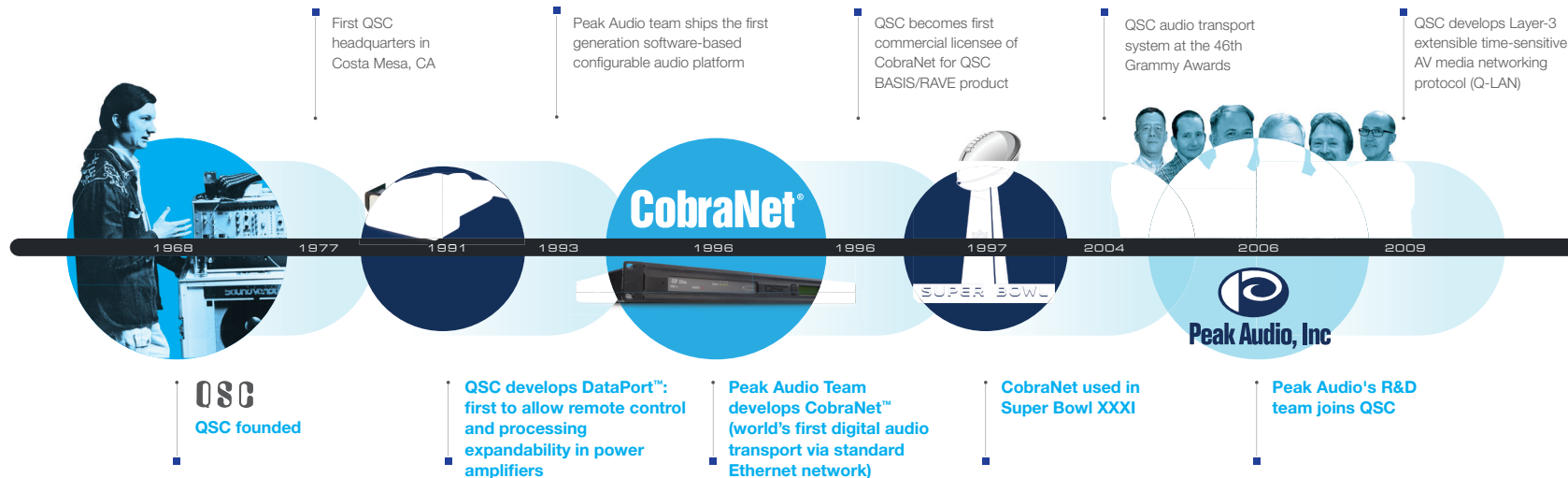
... our AV&C provider were an industry pioneer and **partner.**

A systems provider known for having customer experience as their best offering

”

... our AV&C ecosystem worked like  
the rest of my IT infrastructure.

# our history in systems solutions



QSC is a place where past achievements and future possibilities converge to inspire inventive and practical solutions. It is the place where industry legends work alongside top engineering talent, where software platform developers work in lockstep with hardware developers at all parts of your audio, video and control (AV&C) ecosystem, from the processors and peripherals, to amplifiers, loudspeakers and more.

Since 1968, the engineers at QSC have pioneered audio processing and distribution technologies including digital signal processing and transport, power amplification and loudspeakers, digital mixer engineering, and time-sensitive media networking for corporate venues, entertainment

professionals, and cinema customers worldwide. As the world's first licensee of CobraNet™ in 1996, QSC created DSP-based audio processing products that enabled new capabilities in commercial sound reinforcement systems.

In 2006, the QSC team was joined by the original innovators of configurable DSP technology: the members of the Peak Audio team that developed the first software-based configurable audio platform and ubiquitous networked audio protocol. QSC's powerhouse software and hardware engineering team quickly set their sights on a singular goal: to build **the most powerful and scalable audio, video and control ecosystem ever.**





To do so, they would need to defy the prevailing AV&C paradigm (based on old proprietary DSP chipset technology) and build an entirely new platform paradigm from the ground up. They would do so by embracing mainstream technologies from Intel™, Linux™ and standards-based networking concepts.

QSC would also need to maintain a laser focus on building a platform with an outlook towards software applications rather than relying on building "bolt-on workaround" hardware pieces to address the issues that might arise.

And since the platform would be software-based, QSC had the opportunity to design a system that could be extensible into other branches of the AV&C application space, like third-party device integration, audio/video bridging for soft codec video conferencing applications, system wide control and more.

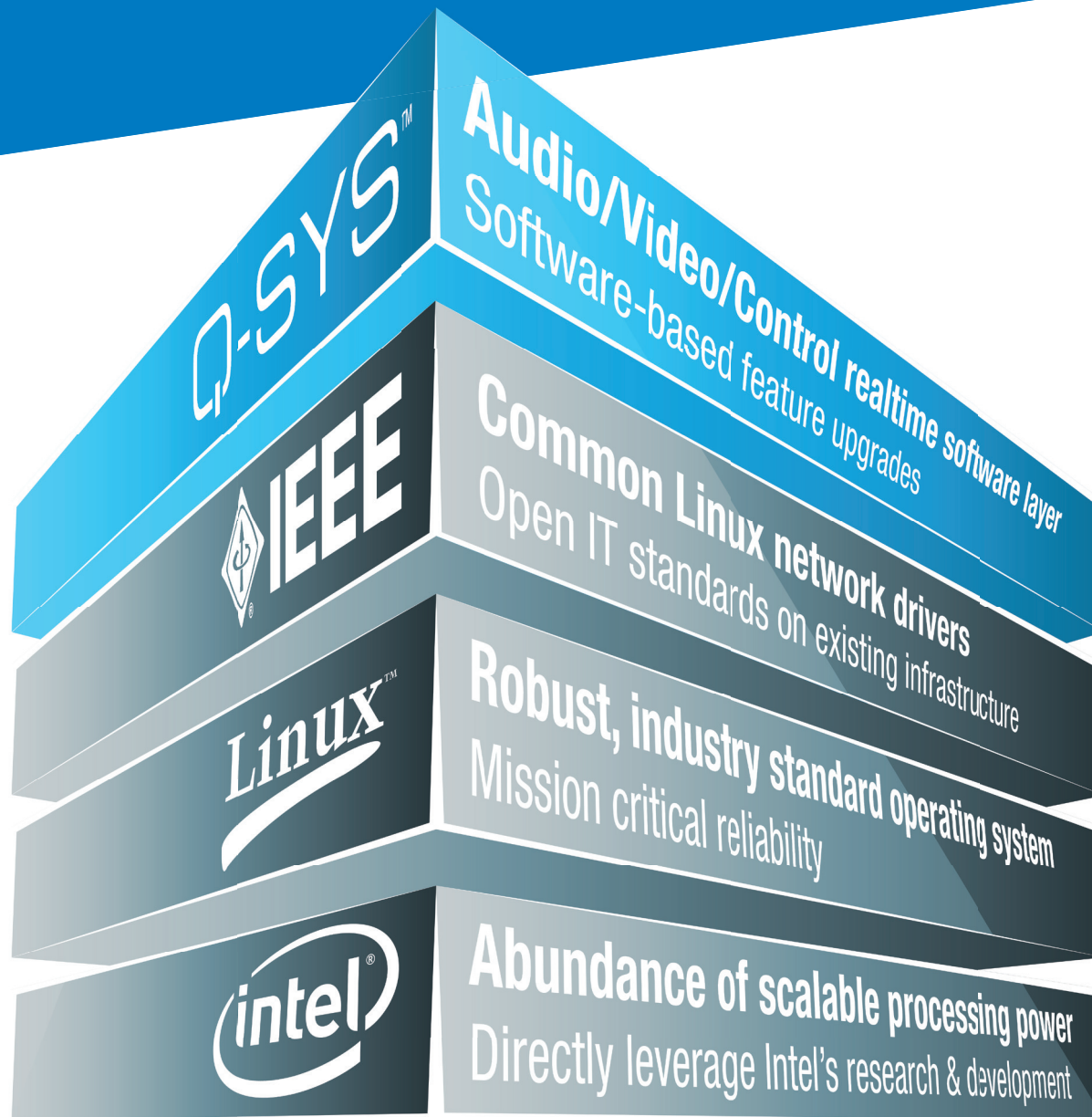
The result of these efforts is the **Q-SYS Ecosystem**.



**when you add it all up,  
Q-SYS just knocks everything else off the charts.**



Rod Sintow | Pro Sound & Video - Florida & California



# in a nutshell ...

Q-SYS has no equal as a scalable audio, video, and control (AV&C) ecosystem. It uniquely leverages the power of Intel™ processing, the robustness and mission-critical reliability of a Linux™ realtime operating system, and the interoperability of IEEE networking standards to deliver an open and IT-friendly ecosystem. The capabilities of Q-SYS software-based processing and control transcends the limitations found in single purpose hardware-based products.

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## **Q-SYS AV&C realtime operating system**

All the operations within Q-SYS function at the software layer, providing a highly scalable platform that can grow to fit future needs with a simple firmware update rather than the traditional "rip-and-replace" approach often experienced with hardware-based AV products. For meeting room applications, these software-based operations include AV connectivity via USB to support web conferencing applications such as Google Meet™, Zoom™, Skype for Business™ and Cisco WebEx™, VoIP functionality with LDAP and IPBX registration, multi-channel acoustic echo cancellation (AEC), SNMP real-time status monitoring and much more.

## **Linux kernel**

With a custom, streamlined Linux kernel, Q-SYS is a realtime audio, video, and control operating system that can be applied to any AV system requirement. Building on computer industry standard technology, Q-SYS is the most modern AV solution available today with the unique ability to develop and expand to suit customer requirements all at the software layer.

## **IEEE standard networking protocols**

Q-SYS leverages IEEE standards for networking to provide complete control and monitoring of all components in the system as well as high-performance, deterministic, low latency audio over a standard Layer 3 infrastructure. Q-SYS co-exists with all other services on your network using standard IT gigabit switches and administration techniques. Furthermore, the Q-SYS architecture also supports comprehensive system redundancy, which is essential for mission-critical installations requiring high system availability.

## **Intel chipsets**

The entire range of Q-SYS Core processors and family of Q-SYS peripherals builds on the server-client philosophy, and leverages Intel's massive research and development efforts by enlisting Intel chipsets rather than proprietary DSP chipsets. The hardware meets a variety of installation and configuration requirements from small meeting rooms to large corporate venues.

# Q-SYS connected meeting room



## Optimized network video distribution

Stream meeting room content or full motion video anywhere on your Q-SYS network. Q-SYS NV Series network video endpoints deliver the right balance of quality, latency and network efficiency for the needs of the enterprise meeting space.



## Soft codec integration

Q-SYS bridging devices allow the user to connect under the table (via I/O USB Bridge), or in the rack (via Q-SYS Core processor). This networked solution also allows you to use as many Q-SYS conferencing cameras and as many USB endpoints as you like, all without a video matrix or additional USB switches. Best of all, Q-SYS bridging peripherals are all PoE.



## Transport & connectivity done right

Connect your Q-SYS processor and peripherals to the network switch using inexpensive CAT-5/6 cable, and then use standard USB 2.0 connection points between Q-SYS bridging devices to the host PCs. This eliminates cable length limitations and the costly mix of USB extenders and matrix switchers commonly associated with traditional systems.



## Many-to-any flexibility

Q-SYS provides control without dedicated control processors. An integrated scripting engine and agile, modern programming tools allow you to integrate and control all in-room third-party devices, and control the entire system with Q-SYS native touch screen devices and customized graphical interfaces for a seamless end-user experience.



## Single ecosystem for audio, video & control

QSC offers a fully integrated audio, video & control ecosystem along with networked amplifiers and loudspeakers that serve the smallest meeting room to the largest enterprise. No need to piecemeal hardware or software from different manufacturers, which greatly reduces design commissioning time and cost. With Q-SYS, there is only one platform to learn for design and support needs.



- 1. Q-SYS Core processor (with USB for rackmount AV bridging):** Integrated audio, video and control in a single processor includes driverless PC connectivity for access to Q-SYS audio and conference camera feeds from soft-codec applications, reducing the need for additional hardware.
- 2. Q-SYS I/O devices:** Enable remote and local analog audio deployment to a Q-SYS system with a single ethernet cable.
- 3. Q-SYS touch screen controllers:** Simple drag-and-drop control elements let you quickly deploy custom UCI's without any programming experience necessary.

- 4. Q-SYS NV Series network video endpoints:** Multi-stream, software-defined HDMI encoder/decoder delivers the right balance of high quality, low latency and network-efficient video over a standard gigabit infrastructure.
- 5. Q-SYS I/O-USB Bridge (with USB for tablemount/rackmount bridging):** Plug-and-play access to a room's audio and video camera streams on a connected PC for simple integration of cloud-based soft-codec applications, such as Zoom™, Skype for Business™ and Cisco WebEx™.
- 6. Q-SYS PTZ-IP conferencing cameras:** High-quality conference video with motorized pan, tilt and zoom (PTZ) for complete room coverage.



# Q-SYS NV Series network video endpoints

The Q-SYS NV Series is a network video endpoint native to the Q-SYS Ecosystem, serving as a multi-stream, software-defined HDMI encoder/decoder that enables network-based video distribution across a standard gigabit infrastructure.



## **Streamlined video streaming integration for the Q-SYS Ecosystem:**

The Q-SYS NV Series enables native HDMI video and audio distribution for the Q-SYS Ecosystem without additional control processors, bridges or complicated programming.



## **Optimized for the connected meeting space:**

The Q-SYS NV Series delivers the right balance of high-quality (supporting resolutions up to 4K60 4:4:4), low latency, and network efficiency for meeting room video applications, and offers the scalability to fit the needs of your enterprise.



## **Unique flexibility and interoperability in a single device:**

The NV Series is software-configurable as either an encoder or decoder within Q-SYS Designer Software, and offers I/O capabilities that provide maximum design flexibility with less hardware.





# benefits

**Network optimized compression scheme:** Q-SYS Shift™ video compression codec dynamically adjusts network bandwidth consumption based on video content, affording massive network savings for common meeting room content.

**Native integration and control:** Q-SYS software-based control allows you to add native Q-SYS peripherals, like the NV Series, to your system design and route them anywhere on the network with simple drag-and-drop components. This simplifies setup, programming and firmware management.

**Enterprise scalability without hardware:** Because the NV Series is a true network device, large enterprise systems allow for unlimited Q-SYS video endpoints on a single Q-SYS system.

**Q-SYS web conference integration:** The NV Series features built-in Q-SYS web conference integration, allowing for driverless USB connectivity to a PC for plug-and-play access to Q-SYS audio and conference camera feeds from soft codec application.

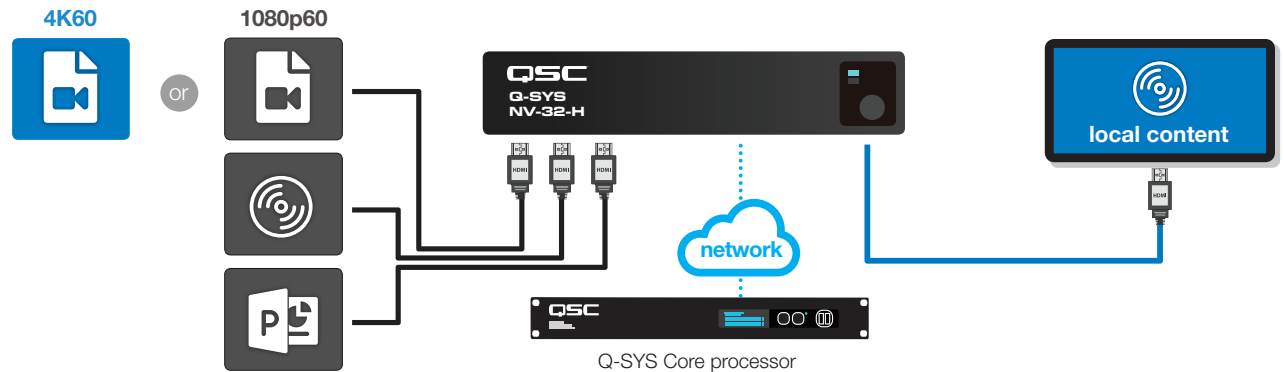


# unique flexibility and interoperability

in a single device

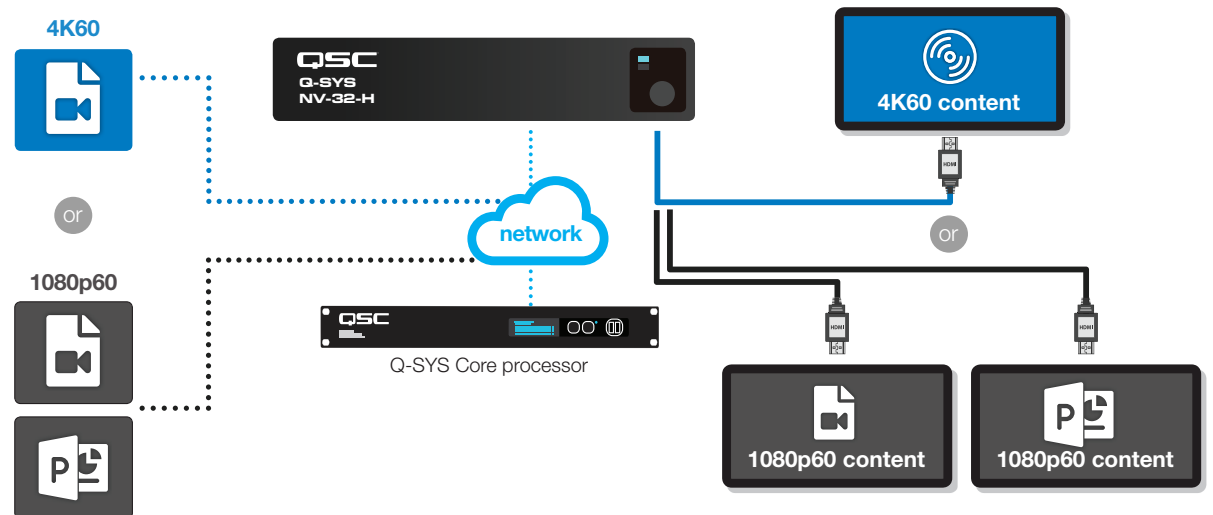
## NV-32-H set as encoder

Encode one 4K60 HDMI video stream or up to three 1080p HDMI video streams for distribution across a standard gigabit infrastructure. Ability to use one of the HDMI outputs as a courtesy monitor, displaying any of the locally connected HDMI sources at resolutions up to 4K60



## NV-32-H set as decoder

Decode one 4K60 stream or two 1080p streams (for dual-display rooms) at resolutions up to 4K60 on a connected display.

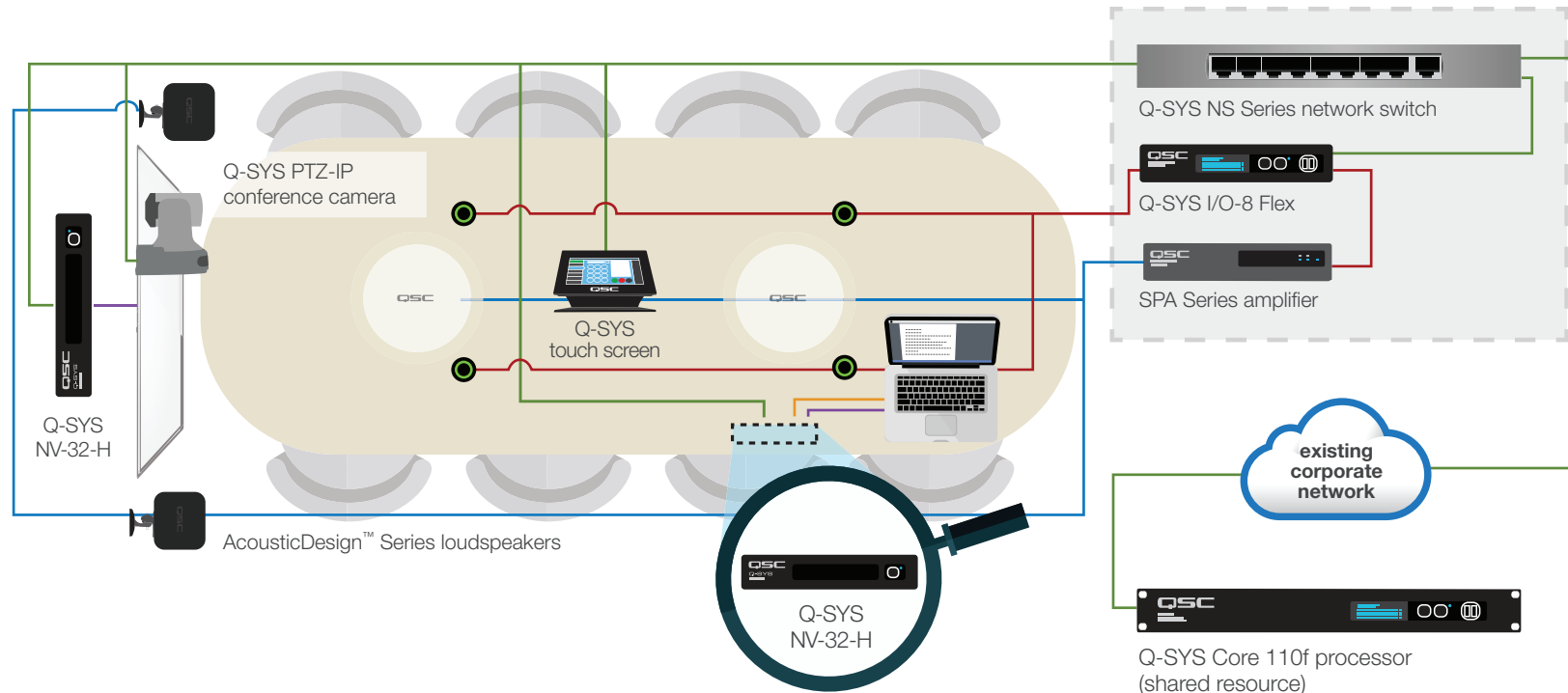
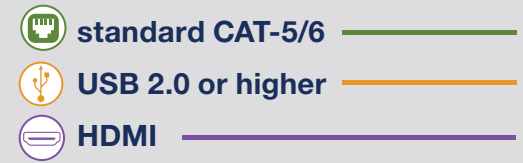




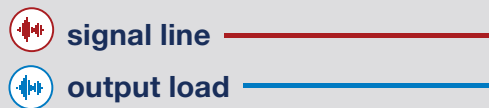


# small meeting room

6-8 people (with shared Core processor)

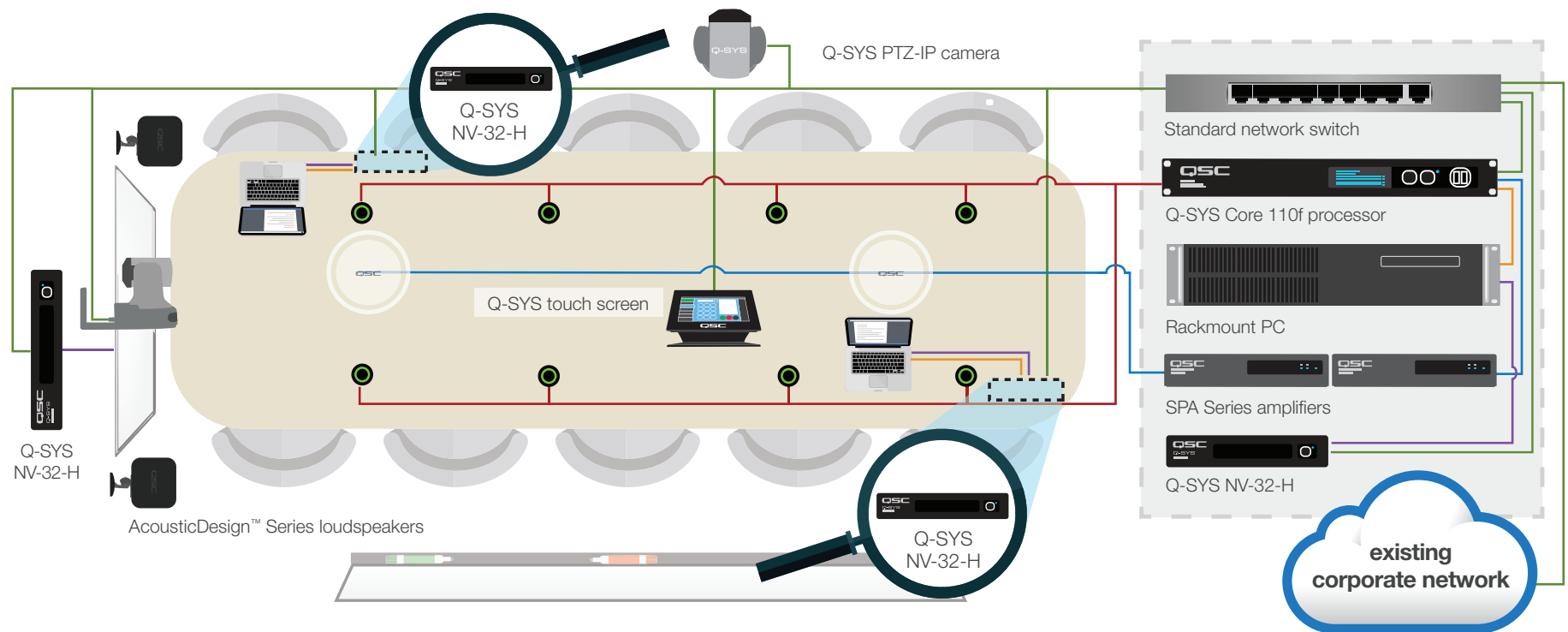


- Bring-your-own-device (BYOD) support for PC-based video conferencing
- Class-leading audio and cameras bridged to the PC via USB for web conferencing applications like Skype for Business™, Zoom™, etc.
- Fully integrated network video streaming without the need for additional control processors or complicated programming
- Simple deployment for trouble-free campus expansion
- The Core 110f has enough I/O and processing power to run multiple small meeting rooms



# medium meeting room

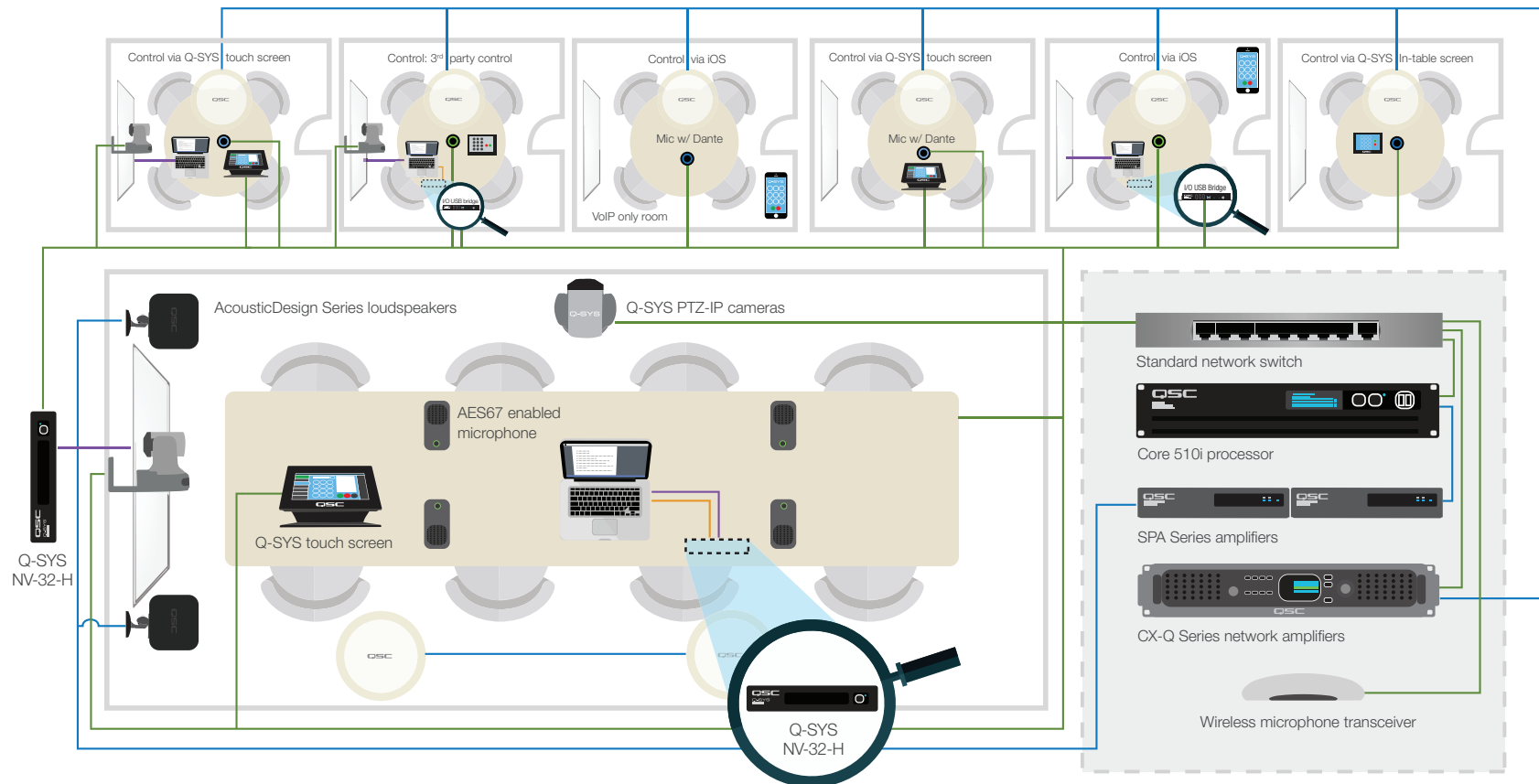
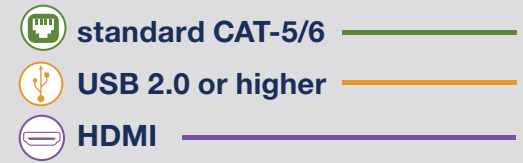
6-8 people (with stand-alone Core processor)



- Web conferencing integration via Q-SYS NV Series
- Fully integrated network video streaming without the need for additional control processors or complicated programming
- Multiple PTZ conferencing cameras without the need for a dedicated video switcher
- Enterprise connectivity for fault monitoring and usage analytics
- Standards-based networking for IT-friendly deployment

# med. boardroom + huddle rooms

7+ meeting rooms



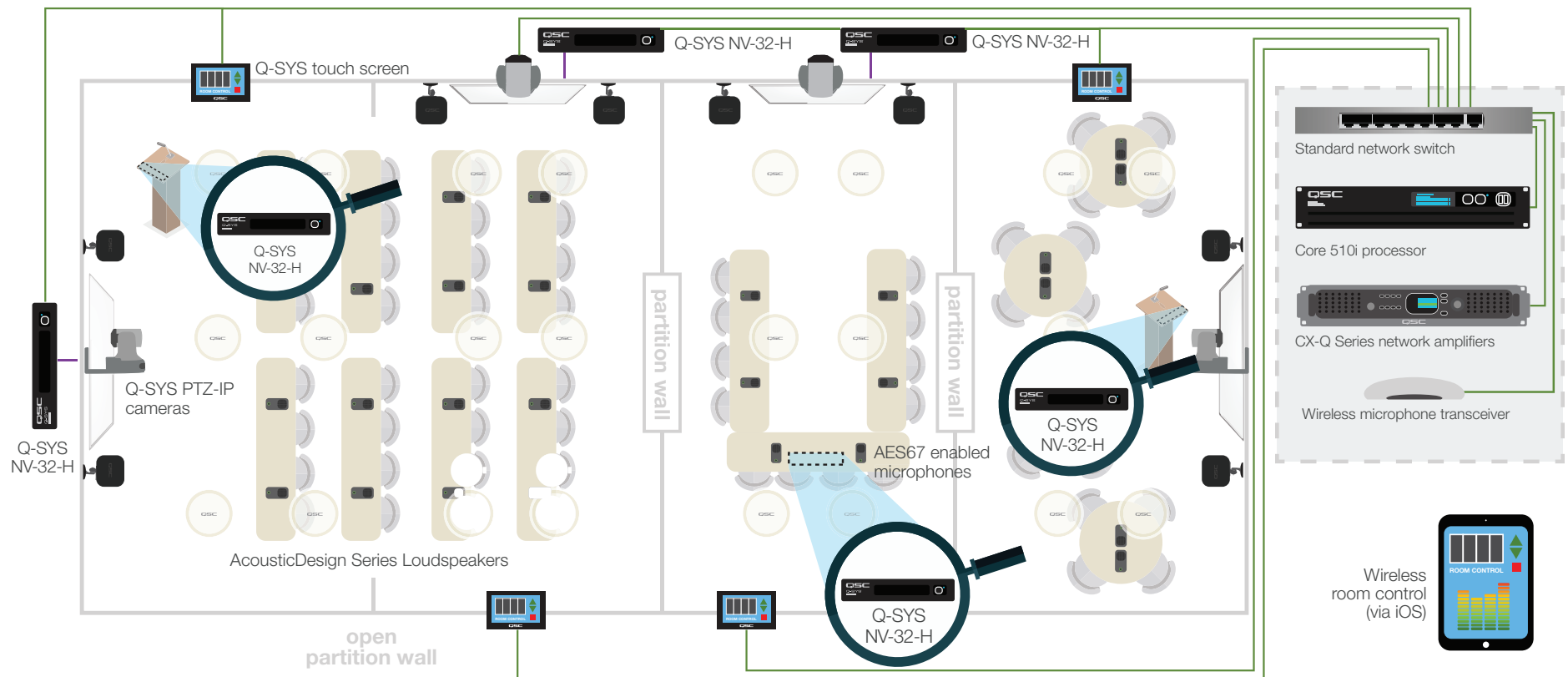
- Microsoft® Exchange server integration for corporate phone directory on touch screen dialer
- BYOD support for PC-based conferencing in all huddle rooms via USB
- Network video streaming and web conference integration via Q-SYS NV Series
- Touch screen dialer for VoIP audio conferencing in all huddle rooms
- Scalable processing available for simple campus expansion





# multipurpose room

reconfigured for up to 4 large meeting rooms



- Reconfigurable microphone pickup pattern based on room configuration
- Multiple HD cameras without the need for dedicated video switching equipment
- Fully integrated network video streaming without the need for additional control processors or complicated programming

- Lecture recording and simultaneous video conferencing from multiple PC locations
- Wall-mounted touch screen controllers for simple room setup changes

introducing next-generation

# Q-SYS<sup>™</sup> ENTERPRISE CORES

utilizing standard **Dell server hardware**  
& the realtime **Q-SYS operating system**



## processing in the data center

- Centralized resources: Take advantage of the corporate infrastructure and place your Q-SYS Core alongside other building-wide IT services.
- Reliability: Redundancy options for power supplies, networking, storage, and processing.
- Flexibility: More effectively support centralized, distributed, or hybrid system configurations.

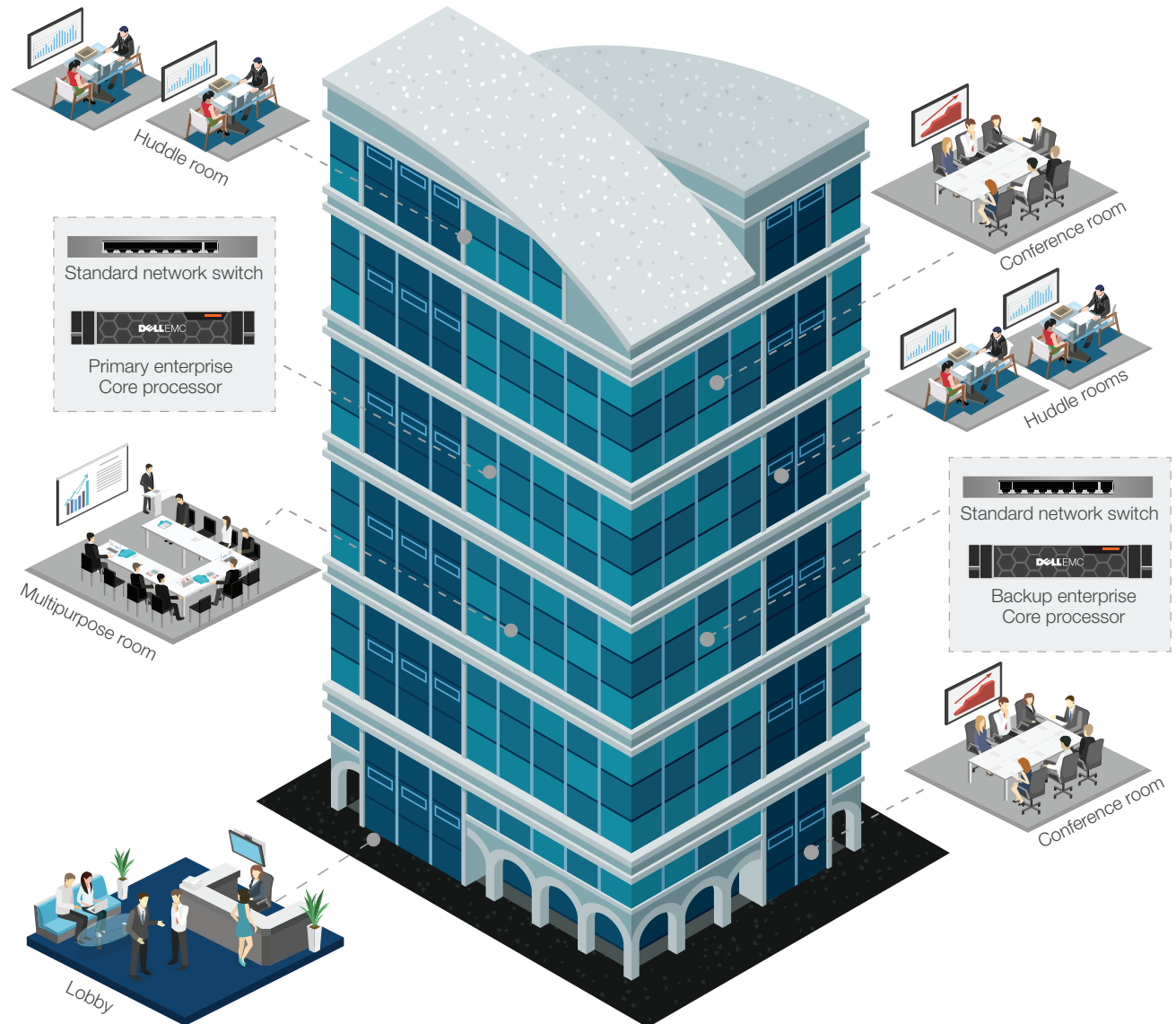
## inputs/outputs in the meeting room

- Networked Q-SYS peripherals: Utilize a portfolio of cost-effective Q-SYS networked I/O peripherals designed to supply necessary endpoint functionality.
- 3rd Party integration: Leverage a wide variety of networking solutions to integrate with a broad range of networked peripherals from 3rd party manufacturers.

# scalable enterprise solutions

in-room i/O + centralized processing and monitoring

- Take advantage of standardizing room types throughout your organization.
- The entire building is processed by a single Enterprise Core processor in the data center (redundancy is available on all Q-SYS Cores and peripherals).
- I/O-8 Flex peripherals can be used as analog I/O devices for huddle rooms and smaller meeting rooms.
- For rooms with larger I/O requirements, smaller Core processors can be used as I/O devices on the same system.
- All rooms can be powered by network CX-Q Series amplifiers or smaller in-room analog SPA Series amplifiers.



# Q-SYS™ ECOSYSTEM

[www.qsc.com/meetingrooms](http://www.qsc.com/meetingrooms)



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