

JIM AUSTIN

Innuos ZENith Next-Gen

STREAMER-SERVER



The Innuos ZENith Next-Gen (\$20,700 as equipped) does what streamer-servers do: store music files, read them into memory, and send them on to a D/A converter to make music. In Innuos's complex (yet logical) lineup of streamers and streamer-servers, the ZENith Next-Gen sits just below the flagship Statement and above the ZENith Mk.3.¹ The ZENith Mk.3 remains in the Innuos lineup for now but will be replaced at AXPONA shortly after this issue hits mailboxes and newsstands.

Though similar in many respects, with a very similar appearance, these two products—the ZENith Next-Gen and the ZENith Mk.3—are very different beasts. There is one rather obvious difference: a CD slot on the Mk.3 (with, of course, a CD drive inside), which makes it easy to rip CDs to the server's internal memory. This feature is absent from the more purist ZENith Next-Gen.

But with the Next-Gen you can have your cake and eat it: Attach any USB CD ripper to one of the USB ports, and it will work just the same as the built-in ripper on the Mk.3. The other differences between the Mk.3 and the Next-Gen are less obvious, but those differences go much deeper; see the Details section, below.

If you want to, you can leave off the internal storage in the ZENith Next-Gen and use it as a pure streamer. In addition to the network connection intended to send data to a streaming DAC, there's another you can connect directly to a network switch, providing access to streaming services and music data stored on your local network.

All this is tied together by Innuos Sense. Currently on revision

¹ Another legitimate comparison would be with the ZEN Next-Gen, which has less processing power but shares many of the ZENith's Next-Gen's purist/perfectionist features.

SPECIFICATIONS

Description Single-chassis server/streamer with 2TB "pSLC" SSD, 1 Intel i7 processor with eight physical cores, 16GB DDR4 "industrial grade" RAM; "NGaN" gallium nitride-regulated power supply. Outputs: 3 USB 3.2 Gen2 capable of PCM up to 32/768, DSD up to DSD 256 by DoP, DSD 512 native. Optional output modules: PhoenixUSB Lite, PhoenixI2S Lite, S/PDIF (plus AES3, TosLink). Two

RJ45 (Ethernet) inputs/outputs (one for LAN connection, the other for connection to a streamer or streaming DAC). USB output can also be used to connect a CD ripper, which rips to WAV or Level-0 FLAC. Controlled by Innuos Sense app v.3.2 (iOS, Android, or web app via common browsers). Supports multiroom, Sonos, DNLA/UPnP devices. Qobuz, Tidal, and Deezer streaming services;

HighResAudio downloads, internet radio, and podcasts. Supplied accessories: AC cable, 2m Ethernet cable, and Quick-Start guide.

Dimensions 16.5" (420mm) × 4.1" (105mm) × 14.4" (365mm). Weight: 31.5lb (14.3kg).

Finishes Black, Silver.

Serial number of unit reviewed 2407000051415. Designed and manufactured in Portugal.

Price \$20,700 as equipped. Number of US dealers: 50+. Warranty: Three years parts and labor.

Manufacturer

Innuos
Lote 1D
Zona Industrial Vale da Venda
8005-412 Faro Portugal
Email: sales@innuos.com.
Web: innuos.com.

¹ One of the two SSDs are pSLC.

3.2, this is Innuos’s proprietary app, which manages music-data access as well as (via the associated player) music playback. Sense is a downloadable app that runs on iOS and Android tablets and phones; it’s also built in to the ZENith so that you can use it with a web browser by typing in an IP address or my.innuos.com. During my audition, I used Sense on an M4 iPad Pro, but most often I accessed it, with perfect reliability, on my laptop.

Using the Sense app, you can stream music from Deezer, Idagio, Qobuz, and Tidal. Also built into Sense is access, without a subscription, to a large number of internet radio stations (which despite the severe lossy compression employed by most, I’ve come to enjoy and value). You can also use Tidal Connect to play music directly from the Tidal app; you’ll soon be able to do the same thing with Qobuz Connect.²

What’s more, if you prefer Roon’s information-rich environment to Innuos Sense, the ZENith Next-Gen can serve that up, too. To make this as plain as possible: You have your choice of Roon (with a subscription) and Innuos Sense. You can use either or both or a combination; more on this below.

Details

The following comes from Innuos founder and R&D Director Nuno Vittorino, with whom I’ve had past conversations about digital audio and sonics, at hi-fi shows, by internet, and in my New York City apartment. “As you know, we’ve been investigating for years factors within a digital source that affect various aspects of sound, such as PRaT, soundstage width and depth, as well as detail and realism of instruments and voices. There were three technical variables that we’ve been investigating in the past years: Processing latency, power supply impedance (AC stage) and resistance (DC stage),” and “further minimizing electrical noise beyond the power supplies.” To reduce latency, the research and design team works to shorten processing times at various stages and to shorten the signal path; Innuos has found that such changes can improve sonics. Reducing PS impedance/resistance determines “how fast the power supply can provide current in a clean way, helping again with lowering processing latency.” And then there’s the issue of electronic noise—EMI—which, Innuos has found, is one of the chief contributors to sonic degradation prior to D/A conversion.

How does this translate into hardware and software? Vittorino was remarkably forthcoming. “Starting with the aim of reducing processing latency,” Vittorino said, “we developed the following technologies:

“**REAL-TIME OPERATING SYSTEM.** We adapted our own SenseOS to use a Linux Real-time kernel,³ which allows much better control over process latency.” The Linux real-time kernel was developed to allow Linux to handle time-critical operations. Linux has been around forever, but the real-time kernel was finished only in late 2024. At least one other server/streamer manufacturer is utilizing it.⁴

“**AUDIOCORE.** Using the new Real-Time kernel now allows us to control processes so that we can dedicate specific processor cores to specific audio tasks, from USB/Ethernet interrupt requests to audio decoding. This minimizes interruptions to the sound-processing chain. For a real-world analogy, think of crossing New York in a car. We’d ensure you’d get green lights at every intersection.”

“**MORE PROCESSOR CORES.** “In order to make the most out of this technology, we needed new processors with more cores, but we needed to retain low power consumption. ... [T]he ZENith Next-Gen uses eight real cores.”

“**THE POWER SUPPLY.** For as long as I’ve known about the company, Innuos has focused on the quality of its power supplies. The power supply on the Next-Gen is totally different from the one on the ZENith Mk.3. It starts with a 300VA toroidal transformer. “We had started with the Statement Next-Gen to work with active rectification,” Vittorino said, “which is a much more efficient and fast way to convert AC to DC. ... We used the same active rectification technology”—they call it ARC⁵—on the NEXith Next-Gen as the Statement Next-Gen. “This is all isolated in a dedicated, EMI-shielded enclosure to prevent both noise transmission and absorption.

“Given the requirements on the new processors, we developed a dual-rail regulator based on gallium nitride MOSFETs that we call NGaN.” The photo of the ZENith’s insides shows the separate NGaN module. “The advantage of this method is that the regulator works at a much faster switching frequency, which can be precisely adjusted without loss.” Plus, the higher frequency makes filtering the resulting noise easier. “NGaN is extremely efficient in speed whilst also running very cool, with no heatsink requirement,” Vittorino continued. When paired with the toroidal transformer, “this greatly reduces electrical impedance, resulting in more rapid power distribution, which helps to give a more precise sound. Win-win.”

“**THE MAINBOARD.** “For the purpose of minimizing electrical noise, we focused on the mainboard. Developed together with our motherboard manufacturer, the PreciseAudio mainboard is a highly customized motherboard that goes well beyond anything we have done before.” “PreciseAudio” is an Innuos trade name. “Not only did we remove unnecessary, EMI-prone components, ... we have customized the switching regulators with the manufacturer for further noise reduction. Additionally, we have for the first time been provided access to low-level control of the mainboard, so we can customize power aspects for the processor, the RAM, clocks,

2 In February, Qobuz was beta-testing Qobuz Connect, which allows you to deliver music directly to your UPnP-enabled device, as with Tidal Connect. Innuos confirms that its products will be ready when Qobuz Connect is available

3 Real-Time Linux was first included in Linux kernel v6.12, which was released on November 17, 2024.

4 See stereophile.com/content/ideon-absolute-stream-meta-2024-serverstreamer.

5 A couple of years ago at High End Munich, I first witnessed an Innuos demonstration of the improvement a better power supply can make in the music resulting from an all-digital server. I can’t explain it, but I heard what I heard.



and many other areas. We can now tune every aspect of I/O, from memory to processors to the PCIe bus, in order to optimize it for lower latency, power noise, and EMI.”

All that mainboard customization, in turn, allows the use of “more precise power supplies with faster CPUs that would normally require a noisier power source.” The result is “even faster performance with an even lower noise floor.” Faster CPUs can be used while producing less heat. It’s a virtuous circle. In conjunction with real-time Linux, which allows the unmodified operating

system to respond promptly to time-sensitive commands, system latency is “dramatically” reduced, Vitorino said. “The ZENith Next-Gen is the first Innuos system that incorporates all these technologies in one system,” he wrote in an email. In this respect, not even the Statement can match it.

FLEXIBILITY. “We decided to make it a more flexible product,” Vitorino told me. You can now buy the ZENith Next-Gen with *no* internal storage, which makes it a pure streamer. Or “storage can be factory-fitted or user-fitted via a M.2 SSD, resulting in up to 16TB storage.” That’s two separate SSDs, one factory-installed, one acces-



(a third of a watt), producing less noise and heat.

Actually there’s a third SSD, the one used to store and run the operating system—the specialized Linux and the rest of the Innuos software. For this SSD, Innuos uses the SSD in a mode known as “pSLC SSD,” short for “pseudo single-level cell,” which means that only every second or third bit is used for storage—just one bit per storage cell. In a normal SSD, each cell holds up to four bits, depending on the SSD type. pSLC makes storage more expensive (though less expensive than “true” SLC, which has one bit per cell natively), faster, and less prone to failure. It’s an approach used

sible to the user. The factory-fitted SSD is connected directly to the mainboard, reducing latency and the EMI that can result from a wired connection. But the storage modules don’t act like they’re separate. “Our software team developed the Expandable Storage Management System (XSM) in order to add storage seamlessly as one single pool with storage 100% usable, yet ensuring that in the case one SSD fails, only what’s contained on that SSD is affected and not the whole storage.” The SSD that runs the OS has its own separate power supply and runs at very low power

MAINTAINING A MUSIC LIBRARY

It has long been apparent that for some music consumers—those who lack at least modest proficiency with computers—maintaining a digital music library can be a daunting chore. If your library consists only of paid commercial downloads, you may not have a problem, because usually paid downloads have their metadata well-sorted: They should work fine in any system, with tracks collected together in an album and album art displayed. (If they don’t, complain to the download service, though they’ll probably blame it on the record label.)

But if, like me, you combine commercial downloads with private recordings, CD rips, and prerelease files sent by record companies (sometimes great, sometimes a mess in metadata terms), you need skills to keep things shiny. Facility with a metadata editor—I use Mp3tag, but there are other perfectly good ones out there—is, I think, a minimum requirement, unless you have a friend (or a dealer) who’s willing to spend time maintaining your music library for you. At a minimum, you need to be able to locate and save cover images when they’re missing and convert track numbers and titles from filenames to metadata fields. Sound like Greek? It’s okay; you can learn.

But you need to know what works—what

manipulations will assure that all the tracks on an album stay together and that your album art displays. Fortunately, the rules are much the same for every music-library platform I’ve ever used.

I maintain a library of several thousand albums. For years, I dumped music into it without much thought or planning. Usually it worked, but something like one of every five albums was a mess, split into multiple parts, individual tracks masquerading as albums, and missing cover art. Then a few weeks after my recent surgery, I decided to repair the damage. I went through the whole library—it was a major undertaking, but it kept me off the streets—and fixed everything. This followed a similar experience years ago when I ripped my whole CD collection into my music library.

As a result of these two experiences, I’ve gained reasonable facility with Mp3tag, and I’ve learned a lot about what works and what doesn’t.

To make things work, you want to dump everything relating to an album—files for the tracks, cover art, pdf booklets—in the same folder. As a rule of thumb, everything you want associated with a particular cover image should be in the same folder. For multialbum box sets—say, Wagner’s complete *Ring Cycle*, where each separate

opera has its own cover—use a subfolder for each separate album, the cover art (and everything else) in the subfolder. The biggest challenge I’ve found—the worst case for any server software—is ripping those budget boxed sets where, say, 10 original albums are combined onto seven CDs. I finally got those to work. I don’t remember how.

The metadata tag Album Artist must be the same for every track on an album. The Album field, which contains the name of the album, must also be precisely consistent across all tracks. If the cover image is embedded in the track metadata—it doesn’t necessarily have to be embedded if it’s in the folder and properly named—then the same image must be embedded in all tracks. The cover image file must also have the right filename—cover.jpg and folder.jpg are safest, which is to say, they work well across different systems. If there’s a pdf liner-notes insert, dump that in the same folder, too. Innuos handles inserts nicely.

I don’t mean to discourage anyone considering starting a digital music library (eg, by ripping a CD collection). None of this stuff is hard, but it’s stuff you need to learn. To me, the work is relaxing and enjoyable, but if you’re sure it’s not your cup of tea, you may want to stick to streaming and physical media.—Jim Austin

in cost-constrained mission-critical applications like data centers.

As previously mentioned, “the ZENith Next-Gen also includes replaceable Digital Output modules.” Current choices are the PhoenixUSB Lite reclocker module—a modular version of the freestanding Innuos PhoenixUSB—a similar module for I²S, and a module combining S/PDIF on RCA, AES3, and TosLink. “Other modules are planned in the future, including dedicated output modules to specific DAC protocols.”

A final difference between the Next-Gen and the Mk.3: The Next-Gen’s chassis is more advanced than the one wrapping the Mk.3, with a “10mm-thick CNC-machined, bead-blasted and anodized” aluminum enclosure and a new vibration-dampened platform that “helps to isolate the toroidal transformer.” On the EMI front, the Next-Gen has a chassis-ground connection so that you can ground the Next-Gen chassis as you would that of a phono preamp.

So, while the Mk.3 was the starting point for the Next-Gen, the Next-Gen is a much finer-tuned, more sophisticated machine. Mercedes fans might think of it as the AMG version of the Innuos ZENith.

Innuos Sense

Jason Victor Serinus’s auditions of Innuos servers have documented well the development of the Innuos control app, starting in 2020.⁶ In 2020, Jason found the software “frustrating,” as he wrote in his review of the first version of the Innuos Statement. Some things just didn’t work. Innuos was not alone in this; server makers were struggling with becoming software companies. Innuos started out as a server company, but it takes time to build a flexible, user-friendly music-management app.

I’ve been using Innuos Sense for close to two years,⁷ during which time the software has auto-updated many times; I’m using version 3.2.1. It isn’t perfect—some needed features are missing, and usability is not quite optimized—but outright errors are rare. Consequently, I’m ready now to call Innuos Sense mature.

Sense (together with the hardware) accomplishes its core mis-



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sion—keeping track of, serving up, and playing back music—very well. On my M4 iPad Pro in particular it is instantly responsive. The design is logical, elegant, and in some respects (on the iPad’s gorgeous Retina display) visually stunning.

Setup

The setup part of the software is nothing special, but it’s utilitarian and easy to use. It’s logical. Once I added the ZENith to my system, connected it, and turned it on, the software found the ZENith right away. I selected it. DACs on the same network are detected automati-

cally. There are only a few key settings, which largely depend on the D/A converter in use. You must tell the ZENith how your DAC handles DSD—no support, via DoP (DSD over PCM), or native—and whether to enable MQA software decoding or allow MQA to pass through to be decoded by hardware. Another choice: which USB latency mode should you use, Normal or Low. Normal is the more error-free option, it is said, but assuming it works, Low sounds better. I can confirm: It’s a small difference, but it’s real. If you need guidance with setup, there’s an excellent knowledge base and a community of supportive users.⁸

I have several terabytes of music stored on a Synology NAS. Connecting to my NAS proved trivial—simpler than with Roon. With Roon, you have to get the path exactly right, and every time I enter it, I find I’ve forgotten how. Sense guides you through the process, helping to locate your NAS. It works.

You can use the ZENith Next-Gen as a standalone device with the Sense app managing your library and playing your music. Or the ZENith can serve as an endpoint—which is to say, as a streamer controlled by another device; you could then use a separate Roon server, for example, while realizing many of the technical/sonic advantages of the Innuos. Or you can choose to run the ZENith as a standalone device but with Roon managing the library and playing your music. Experimentally—this is not yet a core feature—you can have Roon manage your library but leave music playback to

⁶ See stereophile.com/content/innuos-statement-music-server. I recommend reading this review for more insight into how Innuos fights noise and other issues that can affect digital sound.

⁷ I first started using Innuos Sense with the Innuos Statement, which has been in my system since mid-2023.

⁸ See innuos.com/support and community.innuos.com.



the Innuos Music Player, which is part of Sense. Finally, you can replace the Innuos Music Player with HQ Player, the well-respected upsampling music player, as Sense manages the library. That's flexibility.

One key difference between Innuos Sense and other common server programs I've used going back to iTunes is that Sense makes less use of online metadata repositories. In Roon, for example, an album is either "Identified"—the normal state—or "Unidentified," which is aberrant. "Unidentified" means that when the album was added to the library, Roon was unable to find it in those metadata repositories. In the Roon world, this makes it a sort of orphan, without the rich information Roon typically provides.

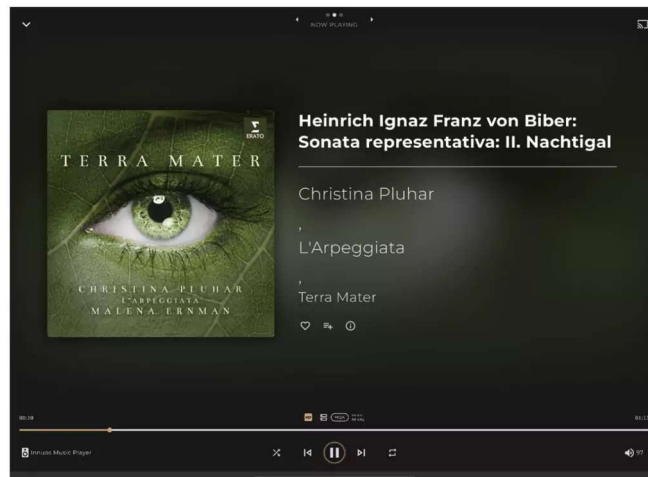
Innuos Sense makes much less use of these metadata repositories. "Contrary to some software, we don't automatically fetch metadata online for the files," Vitorio wrote in an email. Why? "Some of our users have meticulously organized their metadata with country-correct covers and their own genres, for example, and they don't want the software to change or overwrite any of it. What we are considering (but have not implemented yet) is to get *missing* metadata automatically such as a missing cover, release year, or genre if the track files contain none of that." (Roon has that covered; you can choose album by album which metadata to trust.) You can force Sense to look up metadata for an album; just click on the three dots at the upper right, choose "Edit Album," then click on the button that says "Search Online." Sense lets you play around with the Album Title and Album Artist in order to make a match. Often, though, my result was "Album Not Found" even for albums that are pretty mainstream. Once an album was located, the metadata wasn't always correct or complete.

The main Music page in the Sense app is totally flexible. You can display the choices (Albums, Artists, Tracks, New Music, Playlists, and so on) in any order, and you can choose which to display or not. You can drag Streaming Services to the top of the page, above "My Library"; that's what I did. Below that are links to Albums, Artists, and Genres and Tags; after that, Tracks, New Music, and Playlists. Change the order to suit.

The Streaming Services section includes, in addition to the services you subscribe to, (internet) Radio and Podcasts; you don't need a separate streaming subscription to gain access to those. Internet radio stations are browsable by several criteria, including High Quality, the lower limit of which seems to be 320bps MP3, which, though not lossless, is very good quality.⁹

On any library page, there are two separate magnifying glasses, corresponding to separate search functions. The one upper right is local; it will, for example, allow you to find works in your library when the library is displayed. The one at the bottom is global—it returns results from library albums and tracks as well as tracks, albums, artists, and playlists, including connected streaming services and even internet radio stations. The ability to search across all music sources is a key usability feature, in my opinion. Innuos Sense has it.

Two niggles, though, about search: If I pause while typing, Sense



It's hard to imagine the music being any crisper, any clearer—until you hear it crisper and clearer.

returns results based on the letters I've typed. For example, if I pause for a second or so after typing "Br" (aiming to search for music by Johannes Brahms), I see an album by Yefim Bronfman, another called *Ital Breakfast* by Dub Syndicate, many others. Now, before I can continue typing, I must reselect the Search box. I'm a lousy touchscreen typist, so on phone or tablet, this can be frustrating. A solution would be to offer users the option to turn off this feature entirely or extend the length of the pause before the search function does its thing.

The second niggle is that when you use the global search (bottom right), even after you click on the search button, you still have to click on the search box to select it. What's more—I consider this the same niggle,

not a separate niggle—if you scrolled down to read through the search results and the search box scrolled off the top of the screen, when you click on search again, you must now scroll up to see and select it. (On the other hand, one nice search-related feature was just added, with the 3.2.2 update: Listening to internet radio and heard a track you like? Click on the magnifying glass on the Now Playing page to bring up the track that's playing on the streaming service(s) you subscribe to. The accuracy of the selection seems to depend on the metadata embedded in the stream.)

As an alternative to search, you can browse—for example, click on the option to sort the library by date added and browse your most recent library additions to find that album you just downloaded. You can filter by genre to see, for example, the most recent jazz additions to your library. Or you can filter on many options including Attributes (currently compilation or not), Source (local storage, NAS, or Qobuz in my case), and Quality (Lossy-compressed, CD, DSD, or high-rez). I was surprised to find that I had a dozen or so albums marked as lossy-compressed.

An aspect of Sense I especially enjoy is the Now Playing page. It's appropriately simple in its layout, and lovely. In lieu of a written description, I'll include an image. (See image above.) This is what you see when you click on the album title at the bottom left in any Library view (Album, Artist, etc.). That's the track in bold, followed by a list of artists, then the name of the album, the cover art at left. Much information is conveyed via smaller text or by clicking on the "info" icon: source, format, bit depth, sample rate, whether you've selected it as a favorite. There's also a button to add the track to a playlist.

This is cool, if not unique: From this page, swipe right to view the past—your playback history. Swipe left to view the future, the playback Queue.

I had one rather serious disappointment with Sense, though it's in the process of being fixed: It is not yet optimized for classical music. Sense seems to have no awareness of the concept of multipart "Works." If music is sourced from a streaming service, you may see the Work first followed by the Movements—though it doesn't always display this way. If you add a work to the library

⁹ Based on my informal survey, the standard seems to be a woeful 128kbps. At that bitrate, sonic degradation is more or less obvious (depending on the music type), though even at that rate, music can still be enjoyable.

yourself (from a ripped CD or even a paid download), you just see a series of tracks—no separation into Works. What’s more, the name of the composer may not display unless it’s stored in the track title or album title.

The upside of this relative paucity of metadata is that if you’re doing the work yourself—entering your own metadata—there’s less work to do, less data to enter. Anyway, it’s only a matter of time until Innuos adds a classical-layout option.

Innuos Sense lacks fancy features like lyrics display, scrolling or otherwise—though it does a good job of displaying pdf booklets, showing them inside Sense instead of passing them off (as Roon does) to the device’s default pdf viewer. Beyond that, Sense will display whatever information you’ve entered or that the streaming service provides, or whatever information was found when (and if) metadata was retrieved from a repository.

Innuos Sense works very well, but compared to the information-rich environment provided by, say, Roon or Apple Music, it can seem a bit austere.

Which is all fine when you consider that, as I wrote earlier, you use Roon instead of Sense, and experimentally at least, use Roon to manage the music and the part of Innuos Sense called the Innuos Music Player to play it.

The Sense-ory experience

Some people still find it strange to attribute sonic character to a purely digital device; its only job, after all, is to send packets of bytes and bits over a wire. I’ll admit—assert, actually—that I don’t understand in any serious way how the purely digital stage can affect how music sounds, though the plausibility arguments are, well, plausible. For me it comes back to the notion of jitter—that in the real world, bits aren’t bits but rather features of a waveform transmitted over a wire, with imperfections. True, outright reading errors are rare and usually corrected—but the leading edges of bits can be misidentified in the presence of noise and timing imperfection.

If you want to get an idea of what people working on these devices are thinking about what matters, give a careful read to the technical description of the Innuos ZENith Next-Gen, above.

Technical arguments over the plausibility of digital-only impact on the sound become moot once you hear it—and you *will* hear it if the system you’re listening on is sufficiently revealing.

What I describe below is easy to hear in any music, though I found most of it easiest in simpler music. This is an implicit comparison between the ZENith Next-Gen and the Roon Nucleus One, Roon’s least-expensive server, although it might be easier to hear if a computer running Roon is the data source. In all listening tests, the Innuos streamer-server was running its native software.

As Sam Tellig’s friend Lars (RIP) used to say, it’s as though “a whale has lifted.” No matter how awesome your system sounds—even if you’re unaware of flaws—it can get better. You didn’t know “the whale” was there until you heard it. It’s hard to imagine the music being any crisper, any clearer—until you hear it crisper and clearer. Silences are more silent. Spaces between and among the aural images are blacker. Outlines are sharper. The music is resolved deeper



ASSOCIATED EQUIPMENT

Digital sources CH Precision C10 D/A converter, D1.5 transport; Innuos Statement streamer-server, Roon Nucleus One server.

Preamplification Line: Pass Laboratories XP-32. Phono: Pass Labs XP-27, Sutherland Big Loco.

Power amplifiers Pass Laboratories XA60.8 monoblocks.

Loudspeakers Wilson Audio Specialties Alexx V.

Cables Digital: AudioQuest Carbon USB; CAD USB; Wireworld Platinum Starlight 8 Ethernet. Interconnect: AudioQuest ThunderBird (XLR and RCA), Nordost Valhalla 2 XLR. Speaker: AudioQuest ThunderBird ZERO. Power: AudioQuest Tornado High-Current C13, NRG-X3, and Monsoon. Nordost Valhalla II, Nordost QBase 8 v.3 power strip with 20A Nordost Valhalla power cord.

Accessories Innuos PhoenixNET Ethernet switch; Reike Audio SuperSwitch PRO with PRO linear power supply; Butcher Block Acoustics Rigidrack, IsoAcoustics and Magico footers.—Jim Austin

into the soundstage. These are not big changes, but they are definite improvements, and they can be important.

I also had on hand the Innuos Statement, Innuos’s two-box flagship player. I compared them. I bet no one will be surprised when I say the sound was very similar, but their virtues were slightly shifted. The Statement majors in liquidity and perhaps has a dash of extra soundstage depth. With the ZENith, I heard a bit more transient emphasis—a bit more leading edge to percussive notes.

Summing up

This review has been a bit different from most *Stereophile* reviews, with relatively more emphasis on technical features and usability, less on sound. This is deliberate, since in my view, usability is a server’s main function—and it’s an area where proprietary software has struggled. There’s more work to do, but progress has been made. The ZENith with Innuos Sense just works, it’s a pleasure to use, and there’s every expectation that it will only get better.

The thing about usability, though, is that it’s more or less the same at vastly different prices. Innuos Sense will run on a ZENmini, which, equipped with 2TB of SSD storage, costs \$2649. (A more direct comparison is the ZENith Mk.3, which with 2TB of storage costs \$6699.) So why would you pay \$20,700 for the ZENith Next-Gen equipped with 2TB of SSD storage and the PhoenixLite USB output module—which is to say, as the review sample was equipped?

There are several possible answers. The first is to note that the ZENith has more processing power than any of those other choices, so its performance should be snappier. Another answer is because it fits your budget and you want Innuos’s best effort in a one-box streamer-server.

But the ZENith Next-Gen will give you better sound. The best answer—indeed, the only answer I endorse, for this or any other high-dollar item—is that you auditioned it and decided it was worth the asking price. Contact your dealer—there are more than 50 in the US—for an audition. ■