The 432 EVO music servers are well dimensioned and capable of running many audiophile software distributions, both linux and windows based.

432 EVO does not use standard or OEM software

The problem with standard and OEM software is the fact that it will not sound optimal out of the box, as it has not been tweaked for your specific hardware. Out of the box software has been designed to run stable on as many hardware configurations as possible. An example is windows + jriver, or most of the audiophile linux distributions. These are general purpose programs/software distributions that are supposed to work on as many platforms as possible without crashing.

The problem with OEM software

When you use OEM software, you outsource the OS image and installer to a third party. You pay for the changes, a startup fee and a fee per installed node.

This third party can never tune the OS to the hardware of your music server with your ears and your system. You could send your bare metal server to them, but still, it does create a feedback loop.

The first problem is that most of these software companies are just software companies. Some of these companies sell hardware boards with software feature sets that tick several boxes. One of them in Munich 2017 confessed to us they don't design for sound quality, all they care about

are the software features. They leave the sound quality up to the hardware in which the OEM board is embedded. Unfortunately, it does not work this way, as sound quality is largely software defined.

One of the 100k € sets that are used to test new software parameters, which are pushed via VPN, so remote testing & validation is possible.

Most developers and software OEM's are coders without expert audiophile knowledge

A nice example is MPD, a free and open source general purpose music server. A well known user of MPD is Aurender. When the MPD team changed MPD 0.18 to 0.19, it sounded much better. When we asked on the mailing list why this is possible, no developer could answer that question. The opposite could also be the case.

The OEM loop

While there is no company behind MPD, there are several companies that use MPD or Logitech Media Server and bundle it in their own distribution. Furthermore, these companies often do not allow you to tune the software yourself, even if the software is based on open source, which is a contradiction.

This creates a complex feedback loop: as an OEM customer, you have to try to describe the sound signature or sound improvement you want to the developer, the developer has to guess what change would create this improvement, and then create a patch, which you as a customer can test. This is a very slow and time consuming process as the developer cannot do live tuning.

The importance of live software tuning

In the 432 EVO, there are tons of parameters that change/affect the sound. Changing a buffer in the 432 Hz code makes a large impact on the sound, changing a kernel parameter can do a lot of positive influence, or ruin the sound. A parameter can improve the sound on motherboard from brand A and break the sound on brand B. For windows, there are paid optimizers, but these contain a general set of improvements that may work on your config, but may not on others.

So the optimal workflow is to live tune a software or kernel parameter for known hardware, and then validate the sound signature on a high-end set, and if this tweak has been validated by multiple listeners, we can validate if the tweak does not break the sound in many of the other magic sounding sets we have access to those sets via VPN.

Typically it involves having a laptop around to live change the code and it's configuration, and test the impact of the sound. This is impossible with OEM software and that's why OEM software can never sound as good, as software which has been tuned for the exact hardware that 432 EVO uses, where modifcation of a parameter can be tested almost in realtime.

The solution

432 EVO does not use standard software like some of our competitors, but has created it's own software image with a lot of modifications not available in free/commercial/OEM solutions**:**

- VPN support
- dual 32 bit and 64 bit userspaces, with a compact footprint to 64 bit programs such as Roon
- a very easy to use webinterface with added shortcuts to many typical tasks, including factory reset and easy configuration of the 432 Hz plugin and it's output settings
- enterprise grade installer which can install the software unattended
- customers update from our own update server with patches and improvements that have been tested and tuned with our own products
- software jitter tuning of the underlying OS, not available in any other linux product
- RT kernel
- [SQi: custom resampling recipes]() , including linear phase, minimum phase and intermediate phase

We named our distribution VortexMOD, as it is based on the GPLv3 based vortexbox. 432

EVO has no affiliation with vortexbox, as their current OEM version (Vortexbox Nova based on sonicorbiter) does not allow for customers to change the OS, so tuning is impossible.

VortexMOD includes many improvements which **are tuned to the exact hardware** in your 432 EVO, this includes tweaks specific for the chipsets we have selected. This is why 432 EVO is the leading music server manufacturer in the Benelux and beyond, and recognized as the source in a best of show room in Munich 2017
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