

Turn it down

If you have to work in the same room as your servers, you need some way to keep them cool, quiet and secure

BY THOMAS LEE, WINDOWS EDITOR

Your average server might be wonderful in terms of the business applications you can run on it, but as an item of office furniture it leaves a lot to be desired. The noise level starts at 'hair dryer' and passes seamlessly through 'vacuum cleaner' all the way up to 'jumbo jet'. No-one wants a desk near the servers.

Unfortunately, it isn't always practical to install state-of-the-art server rooms well away from any workers. If you're working in a branch office, you may well need to share office space with the beasts. In which case you need some way to reduce the noise levels.

As well as the unpleasant physical effects of having servers running in the same office, there's the problem of security. If you have a rack room with a thick door and a big lock, you dramatically reduce the risk of servers disappearing out of the front door in someone's rucksack. If a server is on open view, that's a lot of expensive hardware packed into a relatively small space. Thieves who know which bits to steal can quite quickly strip out the high value elements and you're left with a very expensive bit of scrap metal. A compromise is needed between an isolated computer room and servers with 'steal me' written on the side.

Cabinet meeting

Kell Systems specialises in cabinets that are rack enclosures designed to look like normal office furniture. From the outside, you'd think you were looking at a high-quality cupboard for stationery supplies or a large filing cabinet. Inside, however, they have the fittings to enable you to place standard 19in rack-mounted servers and peripherals. That way you can keep the noise of the servers inside the cabinet, while maintaining the right environment for them in terms of temperature and power. Not only that, but the cabinets are a more secure way to run your servers in an open office, as they are lockable.

The best way to think of the cabinets is as a portable server room. Kell Systems describes its range of cabinets as portable server environments. In addition to the benefits of noise reduction, if you decide to move

office, you can take the cabinets with you. This means you don't lose the investment you would otherwise have made in building a purpose-built server room. You could also argue that using the cabinets is a more environmentally friendly option; if you install a server room, you'll also have to install air conditioning to maintain a suitable ambient temperature. Kell Systems cabinets achieve the correct temperature using blown air from the office surroundings, so avoid this need for additional air conditioning.

Kell cabinets are available in a wide range of styles and finishes. To minimise costs, you can choose finishes in coloured or wood-effect laminates. If the cabinet needs to match more up-market office furniture, you can choose from real wood or brushed aluminium finishes, with wood choices including Canadian maple, white oak, walnut, cherry, beech and sycamore. You can also choose door handles and extra finishing details so the cabinets blend in with their surroundings. The overall effect is much more attractive than the average server rack.

Moving day

Getting the kit into your office is made as easy as it could be. Kell cabinets are delivered fully assembled, and all the cabinets are designed to fit through a standard UK office door. In most cases, you should be able to avoid major structural disruption. Should you have a more complex office layout, you can have the cabinets built on-site by Kell Systems personnel.

You can choose from several sizes of cabinet depending on the number and type of devices you want to use. Individual cabinets come in 12U, 18U, 24U or 38U sizes. For those of you unfamiliar with rack units, 1U (unit) is 1.75in high, so a 12U cabinet has an internal height of 12x1.75, or 21in. A 38U rack is a tad over 6ft tall. The cabinets are also available in multiple bays, so you can put two or three together in double- and triple-bayed combinations. As with the individual cabinets, the bayed cabinet building blocks are designed to fit through a standard UK office door.

The main reason to consider the cabinets is the noise reduction they offer. Kell Systems claims that their soundproofing eliminates up to 96 per cent of computer noise, so that the overall noise is reduced to the level of 'normal' office background noise. The figure of 96 per cent noise reduction comes from independent laboratory measurements conducted by the Institute of Sound and Vibration Research at the University of Southampton. Although we didn't measure the noise reduction, I had a very clear demonstration of how well the cabinets work.

While I was being shown the cabinets and how they reduce noise, I received a call on my mobile phone. At this point, the cabinet doors were open and the servers inside were making the usual server racket. Consequently, I couldn't hear a word the caller was saying. When the doors were closed, I could hear the call clearly. It would certainly be possible to work in an office where the cabinets were in use, whereas sharing an office with normal servers is unrealistic.

Keep cool

To prevent the servers from overheating, the cabinets are designed to change the air in the cabinet approximately four times a minute, so each cabinet can be used to house up to six or seven servers or their thermal unit equivalent. The noise reduction comes partly from the acoustic insulation and partly from a very efficient fan cooling system that uses high-quality quiet fans to expel the air through baffles, so you get the airflow but minimum noise from the fans. Noise levels are further reduced by the use of special soundproof cable entry and exit ports that support up to 400 CAT 5 cables per rack.

The cabinets don't achieve total silence, of course, because when hot air is being removed, some noise inevitably escapes. The design of the cabinet minimises this, however. The total noise output from the fan systems is quoted at about 42dBA, the level of a whisper. By my estimate, the cabinets reduce the level of noise to that of the ambient noise of a quiet office, confirming Kell's claims.

Another worry about putting computers in cabinets is access for maintenance. Kell cabinets have rear sides and back panels that are easy to remove without special tools. You can gain access all the way around quickly and easily. There's also a 150mm void in front of the rack so you can carry out front-frame patching. The cabinets have heavy-duty locking castor wheels, so you can also wheel them out to a more convenient position to gain

access to your servers. You aren't limited to putting servers inside your cabinets. The units are plug-and-play compatible with all commonly available rack-mount servers, switches, VoIP systems and peripherals from Dell, HP, Compaq, IBM, Cisco, and Foundry, as well as most tower servers. If you're putting legacy systems inside the cabinet, the layout has been designed to enable you to install the system without removing any existing patches, so you won't be faced with the task of resoldering to get your kit back up and running.

The cabling options within the cabinets are equally well thought out. You get built-in power distribution for seven, 10 or 13 outlets depending on which cabinet model you've chosen, and the power is arranged vertically to IEC 320 standards. You also get full-height vertical cable trays to the rear and sides of the rack, and have the option of adding vertical cable-management ladder cages to either side of the front frame to provide support for up to 400 CAT 5 cables per 38U rack.

The cabinets are all manufactured in the UK, and are mainly made to order, so average delivery time is around four to six weeks. Prices range from £1,290 for a 12U model in the wood-effect finish. A 12U model in a premium wood finish would cost £1,775, and a 38U model in the premium wood finish would cost £3,740, dropping to £2,750 for the 38U model in a wood-effect finish.

Overall, the cabinets look good, reduce server noise to acceptable levels and are cost effective. <

UK supplier

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Price

Contact Kell for details.
Examples given in the review.

Bottom line

Pros A smart-looking, affordable way to reduce server noise.
Cons None that I could find

