INTEROPERABILITY OF DIGITAL TEC SYSTEMS

TSA Response to ALL IP Webinar February 2021







The interoperability of technology from different suppliers has been a challenge in most industrial sectors, with varying degrees of progress towards standardisation, whether this be through formal or de facto standards.

We saw a major step forward on interoperability in the Technology Enabled Care sector on 4th February this year, when all the major and current suppliers to the sector committed to interoperability for digital TEC systems. If you missed the <u>TSA webinar</u> you can catch-up with the content <u>here.</u>

We have already received questions asking for clarification, so before we talk about the specifics of the webinar commitment, let's quickly summarise the background to the issues.



What is Interoperability?

Systems and devices that are fully interoperable can exchange data, interpret that shared data in the same way and present the resulting information in a way that can be understood and acted upon by the intended users. This is sometimes referred to as **semantic interoperability**.

True interoperability is often cited as offering significant benefits to commissioners, service providers and users of TEC services, by:

- enabling integration and coordination of services, to deliver improved outcomes for vulnerable clients.
- allowing freedom of choice for users and clients when selecting technologies, to best match individual needs and preferences.
- supporting business continuity through access to multiple supply chains for systems and services.
- offering competition and hence best value procurement.



In practice we may have encountered obstacles to true interoperability, such as the difficulties of working with legacy systems or managing the divergent commercial interests of technology suppliers, both of which may present challenges to the interoperability of different technologies. These issues can result in a total failure to interoperate, or they may present restrictions, perhaps where one system or device sends data to another, but which then doesn't interpret the data in quite the same way, or it doesn't actively use the data to provoke the response that we would have hoped for.

Digital connectivity of telecare alarms

Interoperability, and other lesser forms of integration, are usually exposed at the points of connectivity between different systems or products. We are focusing for the moment on 'digital' systems, given the context of the webinar cited above. So, let us look at a picture of a digitally-enabled 'telecare' environment:



We can immediately see that there are multiple points of connectivity here, each of which presents questions around interoperability. We can explore each of these in turn and make clear where interoperability is being supported (or not).



Digital Alarm Hubs

...need to connect to Alarm Receiving Centres, to allow alarms to be raised. This is the aspect of connectivity where we have seen most concerns raised to date by TEC services. IT IS HERE THAT ALL OF SUPPLIERS REPRESENTED AT THE 4TH FEBRUARY WEBINAR HAVE COMMITTED TO INTEROPERABILITY. Specifically, the suppliers have stated that they are implementing the "TS50134-9" digital communication protocol in both their Alarm Hub and ARC products, to enable interworking between supplier technologies. The suppliers represented at the webinar were:

- Appello
- Chubb
- Doro
- Enovation
- Legrand
- Skyresponse
- Tunstall

There are several key points to note here:

- The commitment to the provision of an open standard interface DOES NOT mean that suppliers will stop offering their own preferred and nonstandardised communication methods. Some suppliers may for example claim benefits in using a form of communication that is optimised between products from the same supplier. HOWEVER, all of the suppliers have agreed that the interoperable interface standard will always be provided as an alternative form of connection.
- The standard for the link between digital alarm devices and a receiving centre is sometimes referred to as the 'SCAIP protocol', which is an earlier specification that evolved into the published TS50134-9 standard.
- The TS50134-9 standard supports different implementation options, so it is still important to confirm interoperability through inter-product testing by the relevant suppliers.

Sensors

...are employed in the home or around the person who requires support from monitoring services. The sensors connect can sometimes use wired connections to 'alarm hub' products, but more usually employ short-range (<50 metre) wireless technology. In our daily lives we already see commitments to multiple supplier interoperability through for example Bluetooth and WiFi connectivity of devices to smartphones. However, European standards have historically pushed the TEC sector towards other radio technology, either at 869MHz or 169MHz, which is not yet digital (does not use IP – internet protocol data), and where multiple manufacturers have created their individual implementations with little or no interoperability. This means that when users or services change suppliers or types of alarm hubs it can result in a need to replace sensors too.



Interoperability of sensors WAS NOT part of the commitment made at the 4th February webinar. Perhaps we need to wait for open standard devices using digital technologies such as Bluetooth, Zigbee and WiFi?

Device Management Platforms

...have emerged as new components of the digital TEC landscape. These "DMPs" are needed to support for example remote software upgrades of digital devices, reconfiguration of devices' internal parameters or perhaps health monitoring of hub devices and their batteries. Unfortunately, it is common for DMPs to be peculiar to the devices and hence individual suppliers. We are not aware of any interoperability commitments in relation to DMPs. This means that a service provider would need access to multiple DMPs if and when they source devices from multiple suppliers. It also means that services need to check how their staff can then reprogramme or check remote equipment without needing to use multiple system interfaces.

Care Systems

...could extract information from the Alarm Receiving Centres (ARCs) within TEC services, but here too there is no current agreement for common interface definitions or open application interfaces to support this fuller integration of the care environment. We will hopefully see progress on this in the coming months.

Next Steps...

Hopefully, I have covered most of your questions around digital interoperability.

Many of you will need to go to greater detail, as you explore compatibility between devices and what it all means to your service operations. TSA will soon be publishing further information on digital devices, ARCs and their interoperability testing.

I have focused on digital device interoperability here, and we will also return to analogue alarm technologies in the coming weeks, and how their use of telephone line communication for alarm data and voice is impacted in a digital world.

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