



SENTINEL
ALL-IP COMMUNICATIONS

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Sentinel is a suite of products which are used to create an All-IP solution for tactical area voice and data communications.

It can be used to create a complete Wide Area System (WAS), with as many Local Area Networks (LANs) as needed to meet a user's requirement for a modern tactical communications network. Additionally, Sentinel products can be deployed as an "add on" Local Area System (LAS) to an existing military network as a low-cost enhancement.

All Sentinel equipment is engineered to be robust and operate in harsh environmental and climatic conditions, including strong vibrations, extreme temperatures and dust.

KEY BENEFITS

- The Sentinel All-IP communication system offers the following benefits:
- High capacity, robust communications
- Simple, plug-and-play connection
- Comprehensive military features
- Integration with legacy equipments
- Future proof technology based on COTS developments
- Distributed LAN, minimising cabling requirements
- Separate or converged voice and data communications.

SENTINEL LAN

The Sentinel LAN uses a cost-effective Ethernet infrastructure to provide high-speed data and voice access. The LAN uses fibre optic cabling between Ethernet switches, which are self organising and therefore fast to deploy. Up to 300 voice/data terminals can be added anywhere in the LAN with immediate communication available to the users.

This simple 'plug-and-play' operation minimises set-up time, resources and training. Data and Command & Control terminals benefit from the 1Gbps LAN and the overall design provides a true multi-media capability. The network provides converged voice and data capabilities, but this is separable if required.



SENTINEL IP SOFTWARE

The Sentinel IP Software provides a network with a comprehensive suite of applications to support voice, video and data communications. It provides both civil and military features with its software applications, which can be hosted on Sentinel equipment platforms or commercial/military data terminals and servers.

The core applications include the Call Manager (Soft Switch). This provides local call management within a network. The Soft Conference Bridge provides audio mixing and distribution for multi-party calls.

These applications can be hosted on the processor platform within the Sentinel Desk Access Unit (DAU+) or integrated into other platform types.

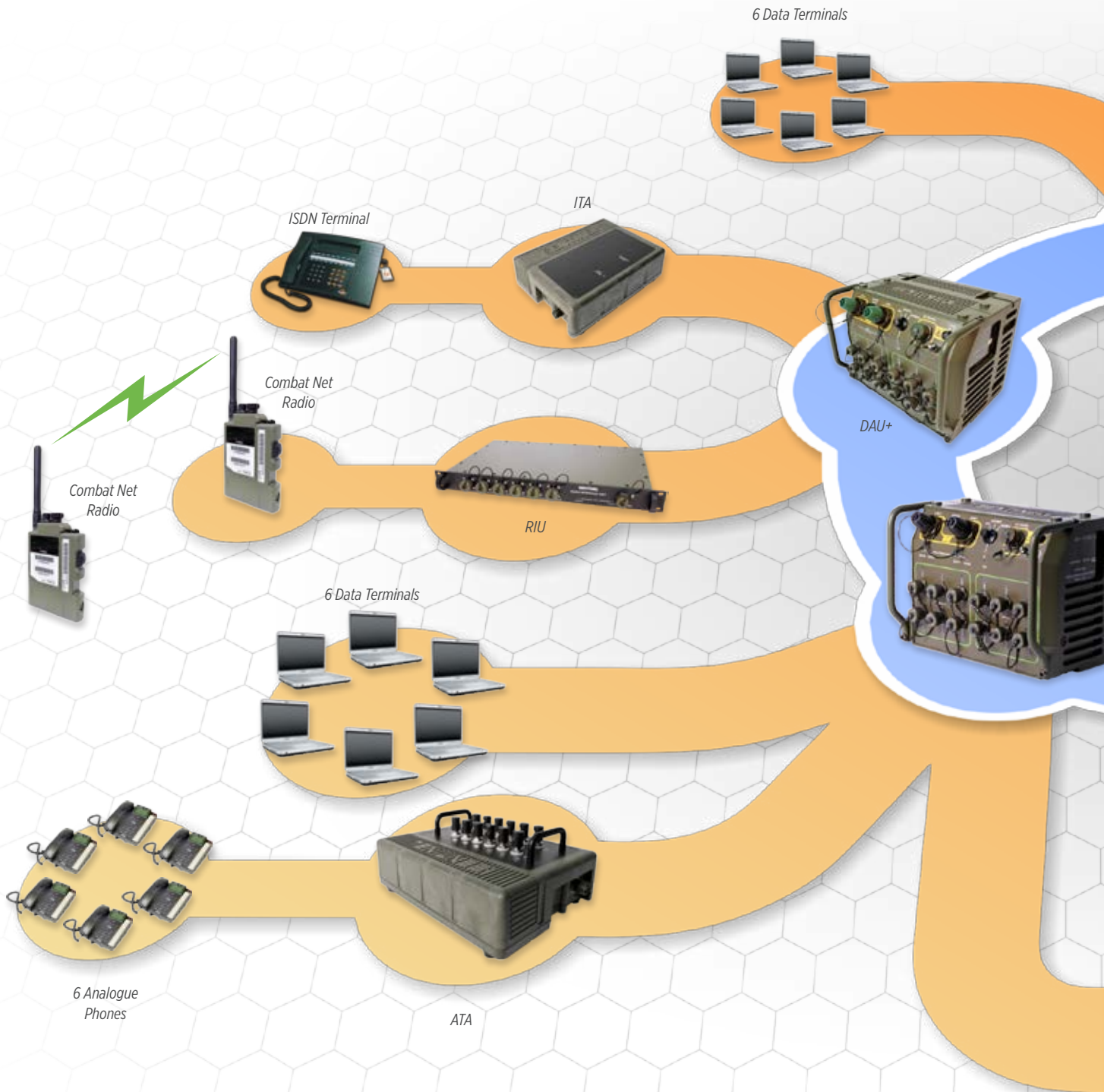


SENTINEL VOIP PHONE

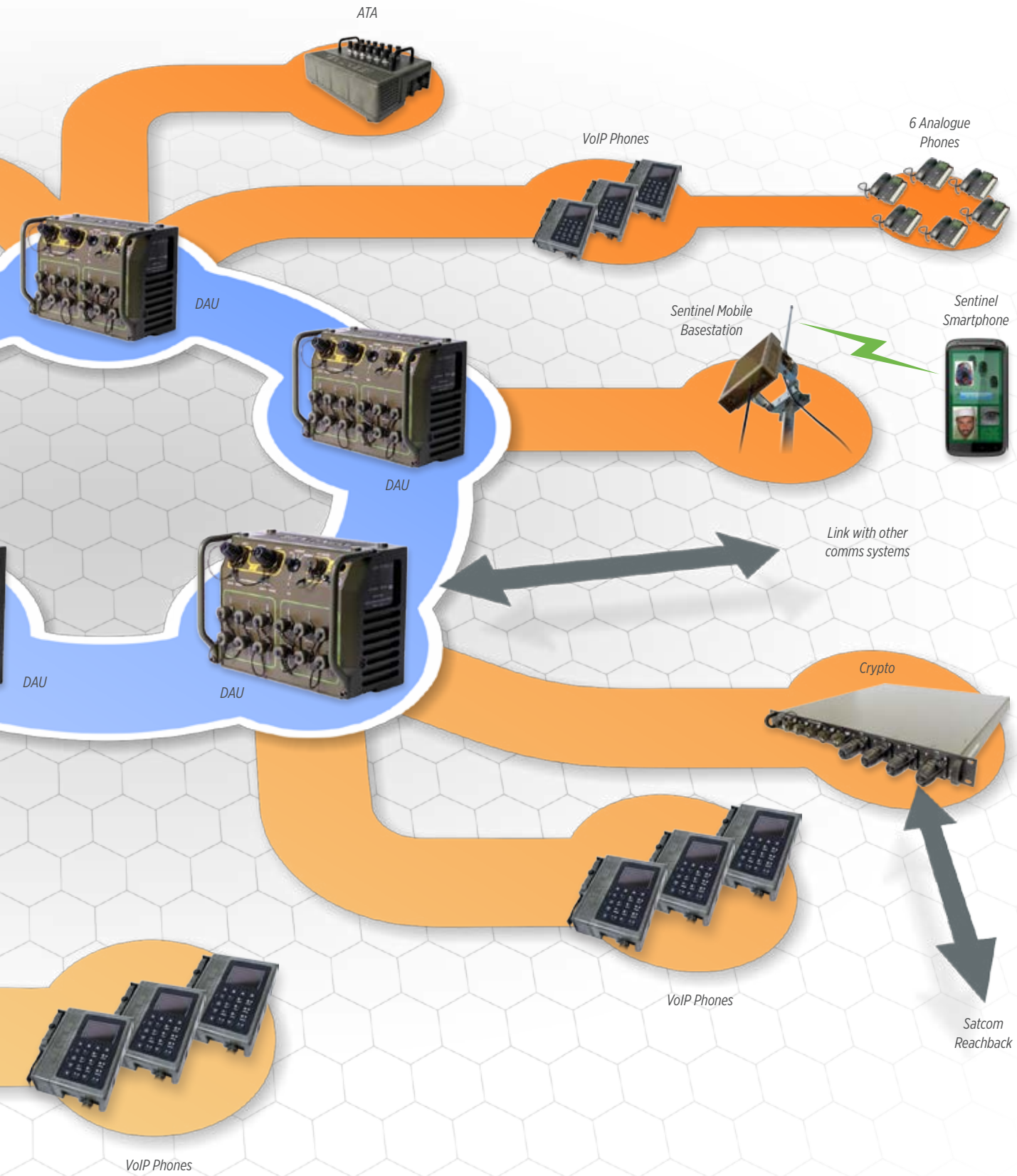
Voice communication can be provided by the Sentinel Voice over IP (VoIP) phone. The phone, which has full military features, has an intuitive colour graphical user interface. The same voice functionality can be installed as a software application to add this capability to data terminals.

A key feature of the Sentinel VoIP Phone is its ability to allow any known user to affiliate to the phone using a PIN number and then have access to a range of facilities, uniquely tailored to that user's needs. The IP Phone can also be configured as an intercom. It allows the selection of different Codecs and provides Quality of Service (QoS) monitoring. The phone fully supports Precedence and Pre-emption, and is supplied by Power over Ethernet (PoE).





MILITARY NETWORKS



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SENTINEL DESK ACCESS UNIT

The Sentinel Desk Access Unit (DAU) uses best-of-breed COTS Ethernet switching technologies. The Sentinel DAU exploits robust COTS Ethernet switches to provide 10/100Mbps Ethernet connections for IP data and VoIP devices, and up to 1Gbps for interconnectivity. These user devices can be connected to a free port and will readily function without any pre-planning.

A DAU can support six PoE devices, such as the Sentinel VoIP phones and Terminal Adapters. This allows quick deployment and avoids the overhead of separate power distribution. There are also six additional non-powered ports for other devices. The system is self-organising and will adapt to any routing topology to automatically exploit redundancy and resilience, especially if deployed in a ring configuration.

When using single mode fibre optic cable, LANs within a node can be connected at distances of up to 120km, with a backbone capacity of 1Gbps.



SENTINEL DESK ACCESS UNIT+

The DAU+, similar in design to the DAU, is an extension to it that includes a microprocessor board capable of hosting the Sentinel Software server applications. The DAU+, when hosting the Sentinel Call Management Suite, is therefore the only network control element needed to support voice and data communications in a small command post.

When a Sentinel DAU+ hosting Soft Switch is deployed along with DAUs, then a larger LAN handling up to 300 voice terminals can be formed. When a DAU+ hosts the Sentinel Soft Conference Bridge Software, it can host up to 90 simultaneous conference connections. The DAU+ has onboard flash memory and operates with the Linux operating system to allow quick start up. There are USB and VGA connectors to allow direct access for pre-configuration and maintenance.



TERMINAL ADAPTERS

To provide access for legacy phones, Sentinel equipment includes the Sentinel ISDN Terminal Adapter (TA) and the Sentinel Analogue TA. The ISDN TA can support one ISDN phone; and the Analogue TA six Analogue phones or Fax machines. Both units are supplied by PoE.



SENTINEL LAN DISTRIBUTION SYSTEM (LDS101)

The LAN Distribution System (LDS101) is a Layer 2 Ethernet switch similar in capability to the DAU. It is a 19" 1U Rack Mountable unit powered by a DC supply.

This makes the unit highly suitable for fitting in fixed or portable racks, or within vehicles. The standard model of the LDS101 provides the same configuration of ports as the DAU but this capability can be customised in different editions of the unit.



SENTINEL RADIO INTERFACE UNIT (RIU)

The Sentinel Radio Interface Unit (RIU) provides six interfaces for connecting radio nets to VoIP network phone users. Radio net access is available to both users equipped with IP Phones and those supported by Analogue Terminal Adapters.

The RIU can support a wide range of HF, VHF and UHF radios through connection to the analogue Audio Ancillary headset interface. Each interface is individually configurable using the local Sentinel Management System terminal to match the required radio type. The RIU is a 1U 19 inch rack mounting equipment designed for use in military environments. It is supplied by PoE through its interface connection to the LAN.



SENTINEL MOBILE BROADBAND BASESTATION

The Sentinel Mobile Broadband Basestation exploits contemporary 3G mobile telephony to provide military and paramilitary users with self-contained, secure, easily deployed data communications within an area of operations to-and-from connected secure IP infrastructure.

Potential uses include secure two-way transfer of imagery (still or video), Situational Awareness information (maps, reports etc), biometric data analysis and secure voice calls. The Mobile Broadband Basestation can be deployed on a mast, within a vehicle or in a dump bag.





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LNDE MM07938 1-17

