CASSIDIAN
AN EADS COMPANY

Claricor®

Claricor®

Smart communication network

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How smaller networks benefit from big network technology

Cost-effective radio communications are vital for many organisations. Essential in emergencies, digital communications networks are becoming increasingly important in daily operations, allowing staff to share information easily and work more effectively.

Yet, an advanced capable radio system does not require a massive investment to gain all these benefits.

From one site to many

Claricor® is Cassidian' TETRA solution for small and medium sized networks. Just right for the requirements of transport companies, industry and utilities, Claricor networks are based on Cassidian' TETRA products, whose capabilities are widely proven across many networks serving everything from small localities to large nations.

Claricor offers the many advanced functions of larger networks, including secure voice and data services, individual calls, group calls and dispatcher functionalities. Claricor can also easily be expanded as your business needs grow, starting from a small core of users served by a single site, to a fully-fledged network serving up to 5,000 subscribers.

Quick and easy to install

Claricor can be installed quickly and easily. A functioning network can be running in a matter of days, as there is no need to connect external equipment like antennas. Speed of installation is also aided by the lack of dedicated connections for sites, while system upgrades can be performed remotely.

Costs are kept low by the use of compact parts and commercial -off-the-shelf server hardware. Many advanced features, such as base station fallback mode, guarantee reliable radio coverage. In addition to this, smart applications such as wireless dispatching can be used over the air. Even if a problem occurs at one site, the rest of the network will continue to work normally.

Reliable at all times

Ease of use extends to connections to other networks or dispatcher workstations. These can be achieved through the digital switch, DXT3p in the network.

Claricor also makes use of Internet Protocol (IP), a flexible technology well matched to smaller networks. Although IP is widely promoted as a core component of telecom solutions, it is much more suited to smaller, rather than large or complex networks.

Fewer base stations means lower costs

Claricor uses Cassidian TB3 base stations which have the power to provide services to more users over a wider area. This saves significant procurement and operational costs by enabling fewer base stations to be deployed. TB3 base stations also eliminate blackspots. Users enjoy excellent service, getting a connection wherever they are within the network boundaries, even when using lower power handsets.

Using TB3 base stations makes it cost-effective to expand a Claricor network into a nationwide DXTip-based solution at a later date if needed.

Terminals as easy to use as phones

Cassidian terminals for TETRA solutions look and feel very much like normal commercial cellular phones, but with extra features that bring added benefits for users in the transport, commerce and industry segments. A robust build and an easy to use two sided design featuring a radio on one side and a phone on the other make Cassidian TETRA terminals popular with users.

Claricor® brings major benefits:

- Grow as you go: scalability from single site up to tens of sites
- Shortest time to operation, easy to install and integrate
- Seamless connectivity to other systems
- Coverage, capacity and quality of service with TB3 radio access
- Easiest to use - Cassidian terminals look and feel like normal mobile phones

Advanced architecture for small networks

Claricor® is structured for small networks, ranging from a single stand-alone site to multi-site system.

Cassidian has made a digital switch that is ideal for smaller size network users. The switch is compact in size, but powerful in features. Compact size DXT3p switch means also cost effective solution. Voice and data is distributed either via the switch or in stand-alone solution. The voice is distributed via the base station.

A complete Claricor network comprises radio sites, workstations, gateways, applications and IP backbone equipment.

Every radio site has an antenna system, a base station, a Claricor power equipment.

The workstations are based on standard PCs and are used for dispatching, managing the network and for different applications, such as tracking users and voice recording and playback. A number of advanced applications offer enhanced functionality and services.

Claricor gateways provide connectivity to external voice and data networks such as corporate PABXs, PSTN, intranets and the Internet. Data can be retrieved from the Internet and calls from public networks can be put through to terminals.

High capacity DXT3p

Adjustable to the needs of small sized networks, providing:

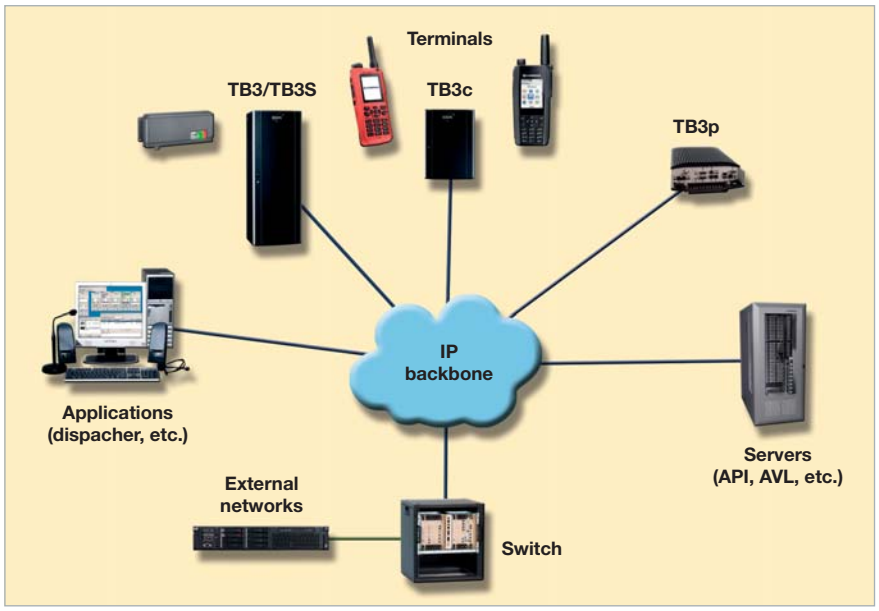
- Digital switching
- Seamless voice and data services throughout the network coverage
- Turns to speak assigned according to priorities
- Database services
- Signalling, resource management, numbering, and charging services
- Statistics
- Connections to PSTN/PABX
- Authentication

… and many other services.

Clever, easy-to-use terminals

Cassidian' terminals offer the most advanced communications for the end user. Yet they are easiest to use and have voice feedback and a user interface in more than 20 languages.

The radios benefit from technologies including XTHML, WAP 2.0 and Java™, allowing positioning, database queries, picture messaging, task allocation and reporting, Internet access and voice communication and messaging. The range covers every need, offering three hand portables, one mobile radio and one data radio. This gives users the flexibility to choose the radio they need, whether it is a radio for field workers, a vehicle mounted set, or one optimised for sending and receiving data.



Claricor radio access

Base stations

- TB3 indoor base station with enhanced coverage for up to eight carriers
- TB3c compact base station with enhanced coverage, 1 - 2 carriers
- TB3S - Multi carrier base station that can be equipped with the DXT3p
- TB3p - Cassidian' smallest TETRA base station, excellent for indoor coverage and mobile networks

Claricor gateways

- PSTN/PABX gateway based on CISCO hardware and SIP protocol
- Enhanced Packet Data Gateway for high speed data such as TEDS
- API server for application integration allowing voice and data transmission
- Gateway for mobile data, such as AVL
- Claricor recorder for voice and data recording with replay and storage

Claricor Applications

- Claricor Dispatcher Workstation offering voice and data communication
- Claricor network element monitoring tool
- Claricor Management Workstation offering provisioning and network element monitoring
- Claricor Monitor - Graphical alarm monitor

Basic services

Voice services

- Group and individual calls
- Dynamic groups (DGNA)
- Broadcast calls
- Call transfer
- Pre-emptive group calls
- Static and dynamic group coverage Immediate entry

Data services

- Short Data Service (SDS)
- SDS priorities
- DDCH - Dedicated Data Channel
- Packet Data service

Security

- Air interface encryption
- End-to-end encryption
- Key management
- Over-the-air re-keying (OTAR)
- Temporary / permanent disabling of terminals
- Discreet listening
- Ambience listening

Other features

- Base station service details
- MSISDN numbering
- Secondary Control Channel (depending on base station)

Making industry more secure and efficient

Many industries, such as energy and nuclear plants, oil and gas production, chemical plants and energy transport, form part of the infrastructure that underpins our complex society. One of the most critical functions in controlling and managing these industries is communications. In a fire, for example, workers in the area need to get instant instructions on what action to take. A reliable, secure and fully available communication system is key and not something that can be supplied by commercial service providers.

Yet safety, though critical, is not the only issue. A communication system also needs to support other functions. Even the most basic feature in Claricor®, group call, can make an organization where many people need to communicate with each other. Confidential information can be shared safely, because the radio traffic can't be intercepted by unauthorized snoopers.

New talk groups can be created as tasks arise and sent to chosen subscribers over the air, helping people to do their jobs more efficiently and more safely.

Telemetry applications can also be used in remote control, field reporting and monitoring of remote assets such as meters and gates. Automated Vehicle or Person Location can help security guards by retrieving their route from a database to improve operations after a burglary. Status messages help manage personnel, giving the dispatcher up-to-date information on whether a worker is on the way, at their destination or at base. It is also possible to connect to the public phone network, cutting the need for an additional system.

Gain more control over transportation

Today, there is a far greater number of people traveling and an ever increasing volume of goods on the move. Customers expect on time, accurate deliveries of freight and a high degree of safety for both passengers and cargo. Major transport centres such as airports, harbours and railway stations are facing new challenges that demand efficient communication solutions.

Claricor's group call and data service can bring major benefits for transport operators. The features allow groups of workers to communicate efficiently and transfer data over the network. Work orders and other relatively light data can be sent directly from a database to a user's TETRA terminal. Automated Vehicle Location (AVL) makes it possible to track vehicles and people covered by the network, allowing automatic warnings to be sent if they stray into a dangerous area. AVL also makes it easier to allocate resources when the exact locations of people and vehicles are known.

Telemetry information is a further innovative benefit. The telemetry features of the TDR880i data radio can be used, for example, for monitoring containers and traffic display panels.

Safety and efficiency is also promoted when handling inflammable substances, as the THR880i Ex terminal is ATEX certified.

The Claricor digital radio network is the ideal introduction to advanced digital radio technology for the utility, transport or manufacturing customer. Growing as your needs develop, offering superb quality, coverage and capacity combined with ease of use and a network designed to be up and running very quickly, Claricor brings big network performance in a compact package.

With Claricor, the industrial or transport user gets strong performance in a scalable package, delivered quickly and efficiently.

Claricor®

Power of TETRA to smaller networks

Claricor® brings major benefits:

- Grow as you go: scalability from single site up to tens of sites
- Shortest time to operation, easy to install and integrate
- Seamless connectivity to other systems
- Coverage, capacity and quality of service with TB3 radio access
- Reliable: TETRA is designed for reliability
- Security: Enhanced security features
- Quality: Claricor comes with quality especially in extreme situations
- Power of digital switching

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