



wireless - voice and data

Internet Access Point (IAP)

WiFi Mesh Solutions

GTC Satlink

DiTEX: Effective Telecommunication for Remote Access

LiMAX: Long Range IP Microwave Access

Management Software



” *GTC provides full service telecom consulting solutions for clients across Middle East and North Africa who are looking to achieve greater cost efficiencies and improved performance for all of their telecom needs and projects: wireless - voice and data. GTC is focused on new and economical radio network solutions for telecom providers: Wireless Local Loop, wireless internet access, WiFi Mesh Network, SatLink. These solutions and products comprise many years of experience and innovative technologies, so that our customers are able to benefit directly, comprehensively and sustainably from technological progress.* ”



Internet Access Point (IAP)

IAP is an optimized synchronous WCDMA system for suburban and rural fixed wireless local loop (WLL) applications.

The product is a technology leader in terms of coverage, quality and service integration. Up to 2000 residential and corporate subscribers can be served simultaneously with telephone and data services.

The system coverage is approved up to 50 km and uses very robust air interface technology. For best overall spectral efficiency compression for voice (acc. G.729) and data is used. No reduced coverage caused by cell breathing of the air interface depending on system load. Easy integration to existing telecommunication networks by using standardized E1/V.5.2 interfaces. Subscriber terminals (TS) support 1 to 4 telephone lines and Ethernet connectivity.



WiFi Mesh Solutions

The GTC WiFi-Mesh Solutions are engineered to deliver significant business benefits to operators and users in diverse environments and enables subscribers to wirelessly access broadband applications anywhere, at anytime - even in a moving vehicle.

GTC's WiFi-Mesh solutions leading 802.11a/b/g/n performance supports up to 300Mbps physical data rates and up to 200Mbps of actual user throughput on both the uplink and downlink.

802.11n standard provides higher efficiency for everyday activities such as local network file transfers, Internet browsing, and media streaming.



Management Software e.g. WAM

The Wireless Access Manager (WAM) is a network management system that administrates all services and network elements and provides all necessary workflows to manage subscriber services and the attached network hardware.

All common tasks of network operators like fault management, inventory and configuration management are covered by WAM. The application is a web-browser based Client Server solution, which allows the system to be used without additional software. WAM uses the Simple Network Management Protocol (SNMP) standard to communicate with the connected base stations (BS). WAM provides a cost-effective solution for running a service provider infrastructure. There is no need to expensively integrate the wireless infrastructure into an existing network management system.

”

GTC's experienced team will support you in all phases of planning, installation, commissioning and maintenance of optimized networks.

”



DiTEX: Effective Telecommunication for Remote Areas

DiTEX is a radio system solution – the alternative to wire – which is able to provide remote estates and settlements, located outside of the coverage of mobile phone networks, with an economical option for telephone and Internet.

By means of this solution, providers have a system technology at their disposal, which allows for rapid network extension, that can be specifically installed for access by selected user groups and which is extremely economical, even for a limited number of subscribers. In contrast to cable-laying, radio solutions usually go hand in hand with significantly lower installation costs, regardless of distance (maximum 50- 100 km, depending on the topology of the terrain).



LiMAX: Long Range IP Microwave Access

LiMAX is a radio transmission system for point-to-point or point-to-multi-point applications. It is used for cable-free transmission of broadband data over long distances. Computers, routers and /or modems of any kind can be connected to the Ethernet interface made available by the LiMAX terminal.

Due to its low power requirements LiMAX can also be operated by means of alternative power supplies such as wind and solar energy or fuel cells. The LiMAX system is available for operation in the ISM frequency band at 2.4 GHz. In many countries a special operational approval (frequency license) is not required for this frequency range. The data rate is configurable up to approx. 500 kbs, whereby a good compromise can be established between interference resistance, range and the required data rate.



GTC - SatLink

GTC offers its customers worldwide complete satellite communication solutions to their often complex remote telecommunication requirements, providing cost effective data, voice and image transfer, fax, mail, Internet access, GSM and wireless IP solutions. This helps when conventional telecommunications are unreliable or nonexistent, or can simply not be economically envisaged.

Our solutions are quick to deploy, highly reliable, easy to expand, low maintenance and frequently offer the most cost-efficient and scalable solution for geographically dispersed users.

Parameter		IAP	WiFi Mesh	DiTEX256	DiTEXab	DiTEX/E1	LIMAX	SatLink
Services	single line telephony	yes	no	yes	yes	no	no	no
	double/quad line telephony	yes	no	yes	yes	no	no	no
	fractional/full E1 telephony	no	no	no	no	yes	no	yes
	narrowband IP data (64kbit/s)	yes	yes	yes	yes	yes	yes	yes
	wideband IP data (256kbit/s)	yes	yes	yes	no	yes	yes	yes
	wideband IP data (512kbit/s)	Roadmap	yes	no	no	yes	yes	yes
	broadband IP data (>1Mbit/s)	no	yes	no	no	yes	Roadmap	yes
	SIP protocol / VoIP	Roadmap	yes	Roadmap	no	n/a	n/a	yes
Interfaces	base station	E1/V5.2		E1/V5.2	tip/ring	E1		E1/V5.2
		Ethernet	Ethernet	Ethernet	Ethernet	Ethernet	Ethernet	Ethernet
	terminal station	tip/ring		tip/ring	tip/ring	E1		E1
		Ethernet	Ethernet	Ethernet	Ethernet	Ethernet	Ethernet	Ethernet
Capacities (per BS sector)	maximum # of subscribers	4.000	1200	254	4	1(bundled)	256	n/a
	typical # of subscribers	1.000	600	100	4	1(bundled)	50	n/a
	Maximum telephony capacity (achieved at 1% blocking per BS)	160	n/a	9	4	30x64kbps non-block. trunk	n/a	n/a
Range	maximum range	50 km	20 km	100 km	100 km	>50 km	50 km	n/a
	typical range	20 km	10 km	20 km	50 km	30 km	20 km	n/a
	point-to-point application	no	yes	no	yes	yes	yes	yes
	point-to-multipoint application	yes	yes	yes	yes	no	yes	yes
Frequencies	RF band 400 MHz	no	no	yes	yes	yes	no	no
	RF band 900 MHz	Roadmap	no	no	no	no	no	no
	RF band 1900 MHz	yes	no	no	no	no	yes	no
	RF band 2400 MHz (ISM)	no	yes	no	no	no	yes	no
	RF band 3500 MHz	yes	no	no	no	no	yes	no
	RF band 5 GHz	no	yes	no	no	no	no	no
	Ku or C-band	no	no	no	no	no	no	yes
RF Parameter	RF Bandwidth	1x5 MHz	1x20MHz2 x20MHz	2x100kHz	2x25 kHz	2x500 kHz	1x5 MHz	f. 64kbps to 45Mbps
	multiple access	TDD (FDD)	CSMA/CA	FDD	FDD	FDD	TDD	FDD

Feasibility studies · Network planning · Project planning · Project management

Operational support · Electronic Manufacturing Service · System integration

Commissioning · Installation · Staff training · Maintenance

