

# Cellular Modem vs. Digi Cellular Gateways

**White Paper**



## *What Are the Differences Between Cellular Modems and Digi Connect® Cellular Products?*

Although the Digi Connect® WAN family products are able to perform most functions of a cellular modem, they actually do much more. Digi Connect WAN family products are intelligent gateways with a full TCP/IP stack and embedded Real Time Operating System (RTOS) which allow remote devices and networks to be natively integrated with IP devices and applications across high-speed digital cellular networks.

Cellular modems operate in the voice channel. This means throughput is slow and airtime is expensive. In addition, cellular modems typically require a one-to-one connection to an analog (POTS) modem connection at the opposite end of the connection. Multiple connections require modem banks to which remote sites dial in.

Digi Connect WAN family products operate as true TCP/IP devices. They connect seamlessly to the cellular provider's IP network where only one WAN access point is required to connect thousands of devices.

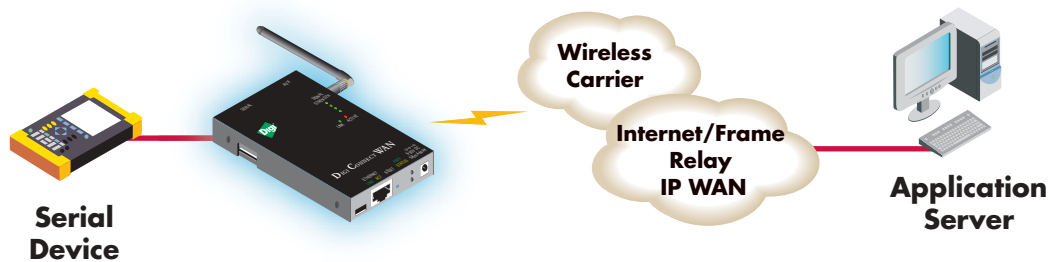
One of the key differences is that applications can natively connect to remote devices using TCP/IP without having to use a standard analog modem at both ends.

<b>Features</b>	<b>Cellular Modems</b>	<b>Digi Connect WAN Family</b>
What does it do?	Dial in/out to other analog (POTS) modems	Ethernet-to-IP cellular gateway/router
Network architecture	Circuit Switched	Packet switched
Air interface	CDPD (analog) GSM (voice circuit) CDMA (Circuit Switched)	GPRS/EDGE/UMTS/HSDPA CDMA/EV-DO
Bandwidth	Low-speed (14.4 max)	High-speed (up to 230 Kbps)
Connection	Dial in/out	Always on
Carrier charge	Per minute (expensive voice plan)	Per packet (inexpensive data plan)
TCP/IP stack	No	Yes
Local intelligence/memory	No	8 MB RAM/2 MB Flash
Requires analog (POTS) modem at opposite end	Yes (except CDMA QNC)	No
Supported applications	Low bandwidth SCADA	High bandwidth SCADA & remote network bridging
Network bridging	No (except via serial PPP)	Yes
Special features	Can dial in to RAS server for low speed IP connection	Digi SureLink™ persistent connection  Routing/firewall features  Integration with Digi Connectware® Manager enterprise software  RealPort® COM port redirection  Modem emulation

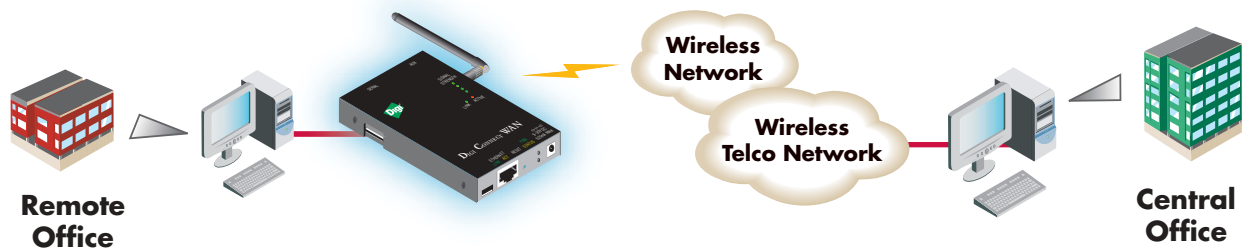
## Serial device connection using standard cellular modem (modem required at each end)



## Serial device connection over IP network using Digi Connect WAN



## Remote LAN network connected across wireless WAN to central office using Digi Connect WAN



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Digi International, the leader in device networking for business, develops reliable products and technologies to connect and securely manage local or remote electronic devices over the network or via the web. With over 20 million ports shipped worldwide since 1985, Digi offers the highest levels of performance, flexibility and quality.

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