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ConnectPort® X5 Family User's Guide

ConnectPort X5 R
ConnectPort X5 Kit
ConnectPort X5 R CDMA
ConnectPort X5 R CDMA Kit
ConnectPort X5 R Iridium®
ConnectPort X5 R Iridium Kit
ConnectPort X5 Fleet

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Contents

About this guide

Purpose

This guide describes and shows how to install, provision, configure, monitor, and administer Digi devices.

Audience

This guide is intended for those responsible for setting up Digi devices. It assumes some familiarity with networking concepts and protocols.

Scope

This guide focuses on configuration, monitoring, and administration of Digi devices. It does not cover hardware details beyond a certain level, application development, or customization of Digi devices.

Where to find more information

In addition to this guide, find additional product and feature information in the these documents:

- Online help and tutorials in the web interface for the Digi device
- Quick Start Guides
- RealPort® Installation Guide
- Cellular 101 Tutorial
- Digi Connect Family Customization and Integration Guide
- Device Cloud® tutorials and user's guides
- Release Notes
- Cabling Guides
- Product information available on the Digi website, **www.digi.com**, and Digi's support site at **www.digi.com/support**, including, Support Forums, Knowledge Base, Data sheets/product briefs, application/solution guides, and carrier-specific documents
- Digi Wiki for Developers

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Introduction

C H A P T E R 1

This chapter introduces Digi devices and their product families, types of connections and data paths in which Digi devices can be used, and the interface options available for configuring, monitoring, and administering Digi devices.

Important Safety Information

To avoid contact with electrical current:

- Never install electrical wiring during an electrical storm.
- Never install an Ethernet connection in wet locations unless that connector is specifically designed for wet locations.
- Use caution when installing or modifying lines.
- Use a screwdriver and other tools with insulated handles.
- Wear safety glasses or goggles.
- Do not place Ethernet wiring or connections in any conduit, outlet or junction box containing electrical wiring.
- Installation of inside wire may bring you close to electrical wire, conduit, terminals and other electrical facilities. Extreme caution must be used to avoid electrical shock from such facilities. Avoid contact with all such facilities.
- Ethernet wiring must be at least 6 feet from bare power wiring or lightning rods and associated wires, and at least 6 inches from other wire (antenna wires, doorbell wires, wires from transformers to neon signs), steam or hot water pipes, and heating ducts.
- Do not place an Ethernet connection where it would allow a person to use an Ethernet device while in a bathtub, shower, swimming pool, or similar hazardous location.
- Protectors and grounding wire placed by the service provider must not be connected to, removed, or modified by the customer.
- Do not touch uninsulated Ethernet wiring if lightning is likely!
- External Wiring: Any *external* communications wiring installed needs to be constructed to all relevant electrical codes. In the United States this is the National Electrical Code Article 800. Contact a licensed electrician for details.

ConnectPort® X5 Family products

The ConnectPort X5 Family offers compact, ruggedized telematics gateways for cost-effective fleet management and asset tracking solutions. These gateways provide remote connectivity to mobile assets to monitor operating health, performance, location and driver/operator behavior, as well as to enable automated event reporting. They aggregate wireless vehicle Personal Area Network (VPAN) traffic, such as ZigBee and 802.15.4 point-to-multipoint, for IP connectivity over a secure cellular, Wi-Fi, or satellite connection in harsh environments.

Gateways in the ConnectPort X5 family include the ConnectPort X5 R, ConnectPort X5 Kit, and ConnectPort X5 Fleet. The ConnectPort X5 Kit was designed as a development kit to be used for testing and evaluation prior to deployment of the ConnectPort X5 R or ConnectPort X5 Fleet. The ConnectPort X5 Kit comes with a development cable, antennas, and, for GSM versions, has an opening in the enclosure to allow users to insert their own SIM card. As such, the ConnectPort X5 Kit should be used for testing and evaluation only. Customers will be responsible for procuring antennas and cabling for their specific ConnectPort X5 R and ConnectPort X5 Fleet installations.

These gateways support vehicle personal area networks with Digi's industry-leading XBee radio technology. Vehicle personal area networks (VPANs) allow users to deploy low-power sensor networks within and around the vehicle or mobile asset to monitor additional asset points, for example, tires, reefer units, door latch, temperature sensors, cargo sensors, RFID readers, etc.

The ConnectPort X5 family provides flexible wide-area networking connectivity supporting cellular, Wi-Fi, and satellite communications. Cellular connectivity provides instant, always-on communications, while Wi-Fi provides a cost-effective way to transfer large files, firmware, or logs across low-cost private Wi-Fi networks. The ConnectPort X5 Wi-Fi feature can also be used to network in-vehicle or near-vehicle Wi-Fi-enabled devices, such as vehicle displays and handheld mobile devices.

Features and benefits of the ConnectPort X5 gateway family include:

- For units without external SIM card access, factory-sealed IP67 enclosure, ensuring protection from dust and total water immersion to 1 meter
- For units with external SIM card access, factory-sealed IP67 enclosure, ensuring protection from dust and immersion.
- J1708 protocol support, offering serial connectivity to a large installed base of heavy duty vehicle fleets
- Controller Area Network (CAN) interface support for connection to J1939 or proprietary vehicle bus
- Internal temperature sensor and accelerometer
- Advanced power management, including sensitivity to ignition status
- Location tracking and geofencing with on-board GPS
- Global cellular coverage over GSM/GPRS or CDMA networks
- Optional satellite on selected ConnectPort X5 R and ConnectPort X5 Fleet models
- Programmable for application development through the Python® programming language, Device Cloud Device Integration Application (DIA) framework and the Device Cloud services platform
- Automated event reporting: the gateway can continuously transmit vehicle status at user-defined intervals
- Device Manager™ for management and monitoring

Features

This is an overview of key features in Digi devices. Firmware features are covered in more detail in the next three chapters. Hardware specifications are covered in Chapter 7, "Specifications and certifications"

User interfaces

There are several user interfaces for configuring and monitoring Digi devices, including the following.

- Device Manager™
- A web-based interface for configuring, monitoring, and administering Digi devices. Plugging the ConnectPort X5 device into a switch or network to which a laptop computer is connected allows direct access to the web interface for configuration.
- A command-line interface available via local serial port, telnet or SSH.
- Simple Network Management Protocol (SNMP).

Configurable network services

Access to network services can be enabled and disabled. This means that a device's use of network services can be restricted to those strictly needed by the device. To improve device security, non-secure services can be disabled. Network services that can be enabled or disabled include:

- Advanced Digi Discovery Protocol (ADDP): can enable or disable ADDP, but cannot change its network port number.
- RealPort
- Encrypted RealPort
- HTTP/HTTPS
- Remote Login (rlogin)
- Remote Shell (rsh)
- Simple Network Management Protocol (SNMP)
- Telnet

In the web interface, access to network services is enabled and disabled on the Network Services page of Network Configuration. For more information, see "Network services settings" on page 78. In the command-line interface, network services are enabled and disabled through the **set service** command. See the *Digi Connect Family Command Reference* for the **set service** command description.

IP protocol support

All Digi devices include a Robust on-board TCP/IP stack with a built-in web server. Supported protocols include, unless otherwise noted:

- Transmission Control Protocol (TCP)
- User Datagram Protocol (UDP)
- Dynamic Host Configuration Protocol (DHCP)
- Simple Network Management Protocol (SNMP)
- Secure Sockets Layer (SSL)/Transport Layer Security (TLS)
- Telnet Com Port Control Option (Telnet) including support of RFC 2217 (ability to control serial port through Telnet). See "Serial data communication over TCP and UDP" on page 14 for additional information.
- Remote Login (rlogin)
- Line Printer Daemon (LPD)
- HyperText Transfer Protocol (HTTP)/HyperText Transfer Protocol over Secure Socket Layer (HTTPS)
- Simple Mail Transfer Protocol (SMTP)
- Internet Control Message Protocol (ICMP)
- Internet Group Management Protocol (IGMP)
- Address Resolution Protocol (ARP)
- Advanced Digi Discovery Protocol (ADDP)
- Point to Point Protocol (PPP)
- Network Address Translation (NAT)/Port Forwarding
- Secure Shell (SSHv2)
- Generic Routing Encapsulation (GRE) Passthrough
- IPSec Encapsulating Security Payload (ESP) on most models
- ESP Passthrough

Following is an overview of some of the services provided by these protocols.

Serial data communication over TCP and UDP

Digi devices support serial data communication over TCP and UDP. Key features include:

- Serial data communication over TCP, also known as autoconnect and tcpserial can automatically perform the following functions:
  - Establish bidirectional TCP connections, known as autoconnections, between the serial device and a server or other network device. Autoconnections can be made based on data and or serial hardware signals.
  - Control forwarding characteristics based on size, time, and pattern
  - Allow incoming raw, Telnet, and SSL/TLS (secure-socket) connections
  - Support RFC 2217, an extension of the Telnet protocol
- Serial data communication over UDP, also known as udpserial, can automatically perform the following functions:
  - Digi Connect products can automatically send serial data to one or more devices or systems on the network using UDP sockets. Options for sending data include whether specific data is on the serial line, a specific time period has elapsed, or after the specified number of bytes has been received on the serial port.
  - Control forwarding characteristics based on size, time, and patterns.
  - Support incoming datagrams from multiple destinations.
  - Support outgoing datagrams sent to multiple destinations.
- TCP/UDP forwarding characteristics.
- Extended communication control on TCP/UDP data paths.
  - Timeout
  - Hangup
  - User-configurable Socket ID string (text string identifier on autoconnect only)

Dynamic Host Configuration Protocol (DHCP)

Dynamic Host Configuration Protocol (DHCP) can be used to automatically assign IP addresses, deliver TCP/IP stack configuration parameters such as the subnet mask and default router, and provide other configuration information. For further details, see "Configure an IP address using DHCP" on page 58.

Auto-IP

Auto-IP is a protocol that will automatically assign an IP address from a reserved pool of standard Auto-IP addresses to the computer on which it is installed. For Digi devices are set to obtain its IP address automatically from a DHCP server and the DHCP server is unavailable or nonexistent, Auto-IP will assign the device an IP address. For further details, see "Configure an IP address using Auto-IP" on page 59.

Simple Network Management Protocol (SNMP)

Simple Network Management Protocol (SNMP) is a protocol for managing and monitoring network devices. SNMP architecture enables a network administrator to manage nodes--servers, workstations, routers, switches, hubs, etc.--on an IP network; manage network performance, find and solve network problems, and plan for network growth. Digi devices support SNMP Versions 1 and 2. For more information on SNMP as a device-management interface, see "Simple Network Management Protocol (SNMP)" on page 33. For a list SNMP-related of supported Request for Comments (RFCs) and Management Information Bases (MIBs), see page 168.

Secure Sockets Layer (SSL)/Transport Layer Security (TLS)

Secure Sockets Layer (SSL)/Transport Layer Security (TLS) are used to provide authentication and encryption for Digi devices. For more information, see "Security features in Digi devices" on page 20.

Telnet

Digi devices support the following types of Telnet connections:

- Telnet Client
- Telnet Server
- Reverse Telnet, often used for console management or device management
- Telnet Autoconnect
- RFC 2217, Telnet Com Port Control Option, an extension of the Telnet protocol

For more information on these connections, see "Supported connections and data paths in Digi devices" on page 22. Access to Telnet network services can be enabled or disabled.

Remote Login (rlogin)

Users can perform logins to remote systems (rlogin). Access to rlogin service can be enabled or disabled.

HyperText Transfer Protocol (HTTP)
HyperText Transfer Protocol over Secure Socket Layer (HTTPS)

Digi devices provide web pages for configuration that can be secured by requiring a user login.

Internet Control Message Protocol (ICMP)

ICMP statistics can be displayed, including the number of messages received, bad messages received, and destination unreachable messages received.

Point-to-Point Protocol (PPP)

The Point-to-Point Protocol (PPP) transports multi-protocol packets over point-to-point links. PPP encapsulates the data packet, allows the server to inform the dial-up client of its IP address (or client to request the IP address), authenticates the exchange, negotiates multiple protocols, and reassembles the data packet for network communication. ConnectPort X5 Family devices support PPP as the connection protocol from the Digi device to the cellular IP network with NAT (Network Address Technology).

Network Address Translation (NAT)/Port Forwarding

Network Address Translation (NAT) reduces the need for a large amount of publicly known IP addresses by creating a separation between publicly known and privately known IP addresses.

Advanced Digi Discovery Protocol (ADDP)

The Advanced Digi Discovery Protocol (ADDP) runs on any operating system capable of sending multicast IP packets on a network. ADDP allows the system to identify all ADDP-enabled Digi devices attached to a network by sending out a multicast packet. The Digi devices respond to the multicast packet and identify themselves to the client sending the multicast.

ADDP communicates with the TCP/IP stack using UDP. The TCP/IP stack should be able to receive multicast packets and transmit datagrams on a network.

Not all Digi devices support ADDP. Access to ADDP service can be enabled or disabled, but the network port number for ADDP cannot be changed from its default.

Generic Routing Encapsulation (GRE) Passthrough
Encapsulating Security Payload (ESP)
ESP Passthrough

Generic Routing Encapsulation (GRE) and Encapsulating Security Payload (ESP) are routing protocols that are used to route (tunnel) various types of information between networks.

GRE applies to the encapsulation of IP datagrams tunnelled through the internet. The encapsulation includes security, typically in the form of IPSec (IP security), and is most commonly found in VPN (Virtual Private Network) implementation. RFC (Request For Comment) 1701 and 1702 define these standards.Similarly, ESP is used in conjunction with IPsec as a possible way of carrying IP packets for a Virtual Private Network (VPN) setup. ESP is defined in RFC 2406.

In ESP Passthrough and GRE Passthrough, inbound IPsec ESP or GSP protocol traffic is forwarded from to a VPN device connected to the Digi device's Ethernet port.

Note: If an Auto-key Internet Key Exchange (IKE)-based VPN is used, UDP port 500 must also be forwarded.

Mobile/Cellular features and protocol support

Key cellular features in cellular-enabled Digi devices include:

- GSM: GPRS, EDGE, SMS
- CDMA: 1xRTT, Ev-DO (Revs 0 and A)
- IPSec ESP / IKE
- IP Pass-through, also known as bridge mode
- 3-5 Volt SIM card
- Signal-strength LEDs

Provisioning wizard

For Digi devices equipped with a Code-Division Multiple Access (CDMA)-based cellular modem, the Mobile Device Provisioning Wizard is available in the web interface to properly configure the Digi device with the required configuration used to access the mobile network. The wizard allows for both automatic and manual provisioning for a variety of mobile service providers.

Digi SureLink™

Digi Connect Family, Digi Cellular Family, and ConnectPort X Family products support the Digi SureLink™ feature. Digi SureLink provides an “always-on” mobile network connection to ensure that a Digi device is in a state where it can connect to the network. It does this through hardware reset thresholds and periodic tests of the connection.

Mobile/Cellular protocols

Mobile/cellular protocols supported include, unless otherwise noted:

- Global System for Mobile communication (GSM)
- General Packet Radio Service (GPRS)
- Enhanced Data Rates for GSM Evolution (EDGE)
- Universal Mobile Telecommunications Service (UMTS)
- High Speed Packet Access (HSPA)
- Code-Division Multiple Access (CDMA)
- Evolution-Data Optimized (EV-DO, EVDO, or 1xEV-DO)
- Short Message Service (SMS), currently for GSM cellular products only. Digi cellular gateways implement an SMS-based protocol that allows managing devices by sending SMS commands from anywhere SMS messages can be sent. See "Short Message Service (SMS) settings" on page 126.
- Wi-MAX

RealPort software

Digi devices use the patented RealPort COM/TTY port redirection for Microsoft Windows. RealPort software provides a virtual connection to serial devices, no matter where they reside on the network. The software is installed directly on the host PC and allows applications to talk to devices across a network as though the devices were directly attached to the host. Actually, the devices are connected to a Digi device somewhere on the network. RealPort is unique among COM port re-directors because it is the only implementation that allows multiple connections to multiple ports over a single TCP/IP connection. Other implementations require a separate TCP/IP connection for each serial port. Unique features also include full hardware and software flow control, as well as tunable latency and throughput. Access to RealPort services can be enabled or disabled.

Encrypted RealPort

Digi devices also support RealPort software with encryption. Encrypted RealPort offers a secure Ethernet connection between the COM or TTY port and a device server or terminal server. Encryption prevents internal and external snooping of data across the network by encapsulating the TCP/IP packets in a Secure Sockets Layer (SSL) connection and encrypting the data using Advanced Encryption Standard (AES), one of the latest, most efficient security algorithms. Access to Encrypted RealPort services can be enabled or disabled. Digi's RealPort with encryption driver has earned Microsoft's Windows Hardware Quality Lab (WHQL) certification. Drivers are available for a wide range of operating systems, including Microsoft Windows Server 2003, Windows XP, Windows 2000, Windows NT, Windows 98, Windows ME; SCO Open Server; Linux; AIX; Sun Solaris SPARC; Intel; and HP-UX. It is ideal for financial, retail/point-of-sale, government or any application requiring enhanced security to protect sensitive information.

Alarms

Digi devices can be configured to issue alarms, in the form of email message or SNMP traps, when certain device events occur. These events include changes in GPIO signals, certain data patterns being detected in the data stream, and cellular alarms for signal strength and amount of cellular traffic for a given period of time. Receiving alarms about these conditions provides the advantage of notifications being issued when events occur, rather than having to monitor the device on an ongoing basis to determine whether these events have occurred. Alarms can also be forwarded to Device Manager for display and management in that platform. For more information on configuring alarms, see "Alarms" on page 160.

Modem emulation

Digi devices include a configuration profile that allows the device to emulate a modem. Modem emulation sends and receives modem responses to a serial device over TCP/IP (including Ethernet and Cellular) instead of Public Switched Telephone Network (PSTN). The modem emulation profile allows maintaining a current software application but using it over the less expensive Ethernet network. In addition, Telnet processing can be enabled or disabled on the incoming and outgoing modem-emulation connections.The modem-emulation commands supported in Digi devices are documented in the *Digi Connect Family Command Reference*.

Security features in Digi devices

Secure access and authentication

- One password, one permission level.
- Passwords can be issued to device users.
- Selective enabling/disabling network services such as ADDP, RealPort, Encrypted RealPort, HTTP/HTTPS, LPD, Remote Login, Remote Shell, SNMP, and Telnet.
- Can control access to inbound ports.
- Can control access to specific devices, IP addresses, or networks through IP filtering.
- Secure sites for configuration: HTML pages for configuration have appropriate security.

Encryption

- Encrypted RealPort offers encryption for the Ethernet connection between the COM/TTY port and the Digi device. Encryption prevents internal and external snooping of data across the network by encapsulating the TCP/IP packets in a Secure Sockets Layer (SSL) connection and encrypting the data using the Advanced Encryption Standard (AES) security algorithm.
- Strong Secure Sockets Layer (SSL) V3.0/ Transport Layer Security (TLS) V1.0-based encryption: DES (64-bit), 3DES (192-bit), AES (128-/192-/256-bit), IPsec ESP: DES, 3DES, AES.
- Wireless Digi Connect products provide Wi-Fi Protected Access (WPA/WPA2/802.11i) and Wired Equivalent Privacy (WEP) encryption (64-/128-bit). Supported WPA/WPA2/802.11i authentication methods are:

Supported WPA authentication methods		
EAP-TLS	**PEAP**	**EAP/TTLS**
LEAP (WEP only)	EAP-PEAP/MSCHAPv2 (both PEAPv0 and PEAPv1) EAP-PEAP/TLS (both PEAPv0 and PEAPv1) EAP-PEAP/GTC (both PEAPv0 and PEAPv1) EAP-PEAP/OTP (both PEAPv0 and PEAPv1) EAP-PEAP/MD5-Challenge (both PEAPv0 and PEAPv1)	EAP-TTLS/EAP-MD5-Challenge
		EAP-TTLS/EAP-GTC
		EAP-TTLS/EAP-OTP
		EAP-TTLS/EAP-MSCHAPv2
		EAP-TTLS/EAP-TLS
		EAP-TTLS/MSCHAPv2
		EAP-TTLS/MSCHAP
		EAP-TTLS/PAP
		EAP-TTLS/CHAP

SNMP security

SNMP “set” commands can be disabled to make use of SNMP read-only. Changing public and private community names is recommended to prevent unauthorized access to the device.

Configuration management

Once a Digi device is configured and running, configuration-management tasks need to be periodically performed, such as:

- Upgrading firmware
- Copying configurations to and from a remote host
- Software and factory resets
- Rebooting the device
- Memory management
- File management

For more information on these configuration-management tasks, see Chapter 5, "Device administration".

Customization capabilities

Several aspects of using Digi devices can be customized. For example:

- The look-and-feel of the device interface can be customized, to use a different company logo or screen colors.
- Custom applications written in Python can be executed.
- Custom factory defaults to which devices can be reverted can be defined.

The *Digi Connect Family Customization and Integration Guide* (Part Number 90000734; available with the Digi Connect Integration Kit) describes customization and integration tools and processes. Contact Digi International for more information on the Digi Connect Integration Kit customization tools and resources and for assistance with customization efforts.

Supported connections and data paths in Digi devices

Digi devices allow for several kinds of connections and paths for data flow between the Digi device and other entities. These connections can be grouped into two main categories:

- **Network services**, in which a remote entity initiates a connection to a Digi device.
- **Network/serial clients**, in which a Digi device initiates a network connection or opens a serial port for communication.

This discussion of connections and data paths may be helpful in understanding the effects of enabling certain features and choosing certain settings when configuring Digi products.

Network services

A network service connection is one in which a remote entity initiates a connection to a Digi device. There are several categories of network services:

- Network services associated with specific serial ports
- Network services associated with serial ports in general
- Network services associated with the command-line interface (CLI)

Network services associated with specific serial ports

- **Reverse Telnet**: A telnet connection is made to a Digi device, in which data is passed transparently between the telnet connection and a named serial port.
- **Reverse raw socket**: A raw TCP socket connection is made to a Digi device, in which data is passed transparently between the socket and a named serial port.
- **Reverse TLS socket**: An encrypted raw TCP socket is made to a Digi device, in which data is passed transparently to and from a named serial port.
- **Modem emulation**, also known as **Pseudo-modem (pmodem):** A TCP connection is made to a named serial port, and the connection will be “interpreted” as an incoming call to the pseudo-modem.

Network services associated with serial ports in general

- **RealPort:** A single TCP connection manages (potentially) multiple serial ports.
- **Modem emulation**, also known as **pseudo-modem (pool)**: A TCP connection to the "pool" port is interpreted as an incoming call to an available pseudo-modem in the "pool" of available port numbers.
- **rsh**: Digi devices support a limited implementation of the Remote shell (rsh) protocol, in that a single service listens to connections and allows a command to be executed. Only one class of commands is allowed: a single integer that specifies which serial port to connect to. Otherwise, the resulting connection is somewhat similar to a reverse telnet or reverse socket connection.
- **DialServ:** Connecting a DialServ device to the serial port. DialServ simulates a public switched telephone network (PSTN) to a modem and forwards the data to the serial port. The Digi device sends and receives the data over an IP network.

Network services associated with the command-line interface

- **Telnet**: A user can Telnet directly to a Digi device's command-line interface.
- **rlogin**: A user can perform a remote login (rlogin) to a Digi device's command-line interface.

Network/serial clients

A network/serial client connection is one in which a Digi device initiates a network connection or opens a serial port for communication. There are several categories of network/serial client connections:

- Autoconnect behavior client connections
- Command-line interface (CLI)-based clients
- Modem emulation (pseudo-modem) client connections

Autoconnect behavior client connections

In client connections that involve autoconnect behaviors, a Digi device initiates a network connection based on timing, serial activity, or serial modem signals. Autoconnect-related client connections include:

- **Raw TCP connection**: The Digi device initiates a raw TCP socket connection to a remote entity.
- **Telnet connection**: The Digi device initiates a TCP connection using the Telnet protocol to a remote entity.
- **Raw TLS encrypted connection**: The Digi device initiates an encrypted raw TCP socket connection to a remote entity.
- **Rlogin connection**: The Digi device initiates a TCP connection using the rlogin protocol to a remote entity.

Command-line interface (CLI)-based client connections

Command-line interface based client connections are available for use once a user has established a session with the Digi device's CLI. CLI-based client connections include:

- **telnet**: A connection is made to a remote entity using the Telnet protocol.
- **rlogin**: A connection is made to a remote entity using the Rlogin protocol.
- **connect**: Begin communicating with a local serial port.

Modem emulation (pseudo-modem) client connections

When a port is in the modem-emulation or pseudo-modem mode, it can initiate network connections based on AT command strings received on the serial port.The AT commands for modem emulation are documented in the *Digi Connect Family Command Reference*.

Interfaces for configuring, monitoring, and administering Digi devices

There are several interfaces for configuring, monitoring, and administering Digi devices. These interfaces are covered in more detail later in this guide.

Configuration capabilities

Device configuration involves setting values and enabling features for such areas as:

- Network configuration: Specifying the device's IP address settings, network-service settings, and advanced network settings.
- Mobile (cellular) configuration: Specifying the mobile service provider and mobile connection settings for the device.
- Alarms: Defining whether alarms should be issued, the conditions that trigger alarms, and how the alarms should be delivered.
- Security/Users configuration: Configuring security features, such as whether password authentication is required for device users.
- System configuration: Specifying system-identifying information, such as a device description, contact person, and physical location.