

Maintain persistent connections over unpredictable networks

Overview

Digi SureLink creates reliable persistent connections for devices on often unpredictable networks for optimized uptime and performance. Digi SureLink enables Digi Connect® WAN and Digi Connect® Remote Gateway (RG) users to better control their connections for rapid on-demand communications.

About Digi SureLink

The nature of wireless connections relative to wired connections is that they operate in a more intermittent environment. This intermittence is due to a number of factors, including RF signal loss, which is caused by fading, interference, and moving obstructions. Additional connection loss is due to the wireless carriers' practice of terminating inactive user/data sessions. Typically, the wireless device is not notified when a connection is terminated due to data inactivity.

Maintaining persistent mobile connections is important for multiple reasons. In host initiated (mobile terminated) applications, if the host tries to communicate with a remote device and the mobile link is down, the connection attempt will fail. The Digi SureLink "keep-alive" function ensures the connection will be there when needed.

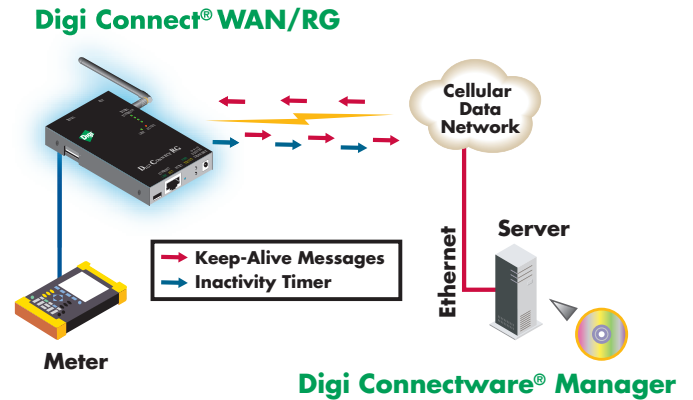
With mobile originated (remote device initiated) applications, an inactive mobile link may not appear to be as critical since a new link would be initiated when data is ready to be sent. However, the time needed to re-initiate the mobile PPP connection can take several seconds. A persistent connection means that data will be sent immediately.

Digi Connect® devices use the unique Digi SureLink capabilities for providing an "always-on" connection that helps mitigate these types of connection losses. A programmable "inactivity timer" and a pro-active link integrity function are available on both the Digi Connect WAN/RG devices.

The Digi Connectware Manager platform, which is used to manage many Digi Connect WAN/RG devices, adds enhanced keep-alive capabilities between the Digi Connect WAN/RG and the Digi Connectware Manager server. Digi Connectware Manager sends TCP keep-alive packets, at a configurable interval, to the remote Digi Connect device in order to maintain a persistent connection.

Digi Connect devices can also be configured to launch keep-alive packets from the remote device side to the network in order to ensure the connection stays open and available for instant communications. Keep-alive messages from the Digi Connect WAN/RG also serve to inform the Digi Connectware Manager of the connection status of the device, as well as to facilitate stale connection cleanup. Additionally, Digi Connect devices can be configured to expect keep-alive messages from Digi Connectware Manager and are able to reestablish a connection if the messages have not arrived for a specified period of time.

Digi SureLink Solution



Features/Benefits

Always-on connections	<ul style="list-style-type: none"> • Rapid on demand communications • Maximizes uptime across unpredictable networks • User configurable control for optimum performance
Inactivity timer	<ul style="list-style-type: none"> • Ensures PPP connection is always available when needed • Generally not chargeable on many wireless networks • Device initiated
Keep-alive messages	<ul style="list-style-type: none"> • Very small device initiated or Digi Connectware Manager initiated packets that allow connection to stay up



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