



PowerNet OpenAir:

The server for your wireless network

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Executive Abstract

The PowerNet OpenAir server for wireless networks has software and hardware products to meet all of the needs of the wireless Automatic Identification (Auto ID) market.

PowerNet OpenAir provides terminal emulation with speed and reliability. Patented event processing software enables PowerNet OpenAir solutions to serve small to large numbers of wireless terminals in a real-time environment without special hardware or a customized operating system. PowerNet Twin Client terminal software supports server-less or server based architecture with the industry's best migration path over the entire price performance range.

Connect OpenAir products supply a comprehensive and cost efficient suite of integration tools that provides integrators and value added resellers the ability to easily tailor system operations to suit the unique needs of handheld and truck mounted terminal operators. Screen formatting, scanner input editing, session automation scripting, and keyboard remapping are among the features.

Connectivity is a major feature of PowerNet OpenAir. Connect supports all of the common legacy terminal emulations including VT100, VT220, HP700/92, 5250, and 3270.

Fault resilience is another advantage offered by PowerNet OpenAir software. All connect systems can be configured for full redundancy providing control for multiple wireless networks and host connections with automatic cutover.

PowerNet OpenAir provides Multi-Vendor Support. Connect pioneered supporting all the leading terminal manufacturers so the user can concentrate on the integration task at hand and let Connect deal with all the important terminal services.

PowerNet OpenAir provides the user with a fully-integrated hardware Box with PowerNet IX software already integrated and installed, ready to plug in and use.

The message routing and switching software on the Open Air server is patented, with an event-driven architecture that uses processing resources efficiently.

The migration path of PowerNet OpenAir allows for flexibility with your network expansion. Our client architecture is the perfect solution for all server-less requirements and even better if you ever need to add a server because the software stays the same.



PowerNet OpenAir Architecture

Our client architecture provides a migration path from thick to thin.

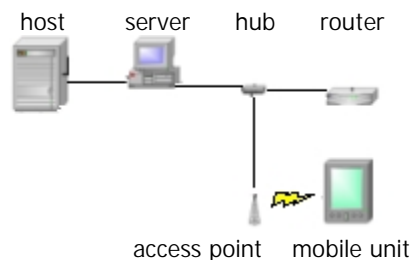
Thick client mode (also referred to as *telnet client* mode) provides a telnet connection directly to host computers and their applications.

Thin client mode communicates directly with a PowerNet OpenAir server, which in turn provides the connection to host computers and their applications.

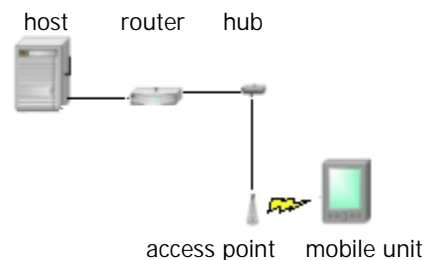
The primary difference between the two modes is in processing load distribution: In thick mode, all application protocol processing is performed on the terminal, while in thin mode all of the processing takes place on an intermediate OpenAir server. Another important difference is optimization: In thin mode, the OpenAir server introduces display optimization, data compression, and several other techniques that can dramatically reduce wireless network traffic. These optimizations are not possible in thick mode.

All of the user interface features, functions, and capabilities remain the same, regardless of the mode of operation.

The following are representations of both thick and thin mode topology.



Thin Mode Topology



Thick Mode Topology



Features and Benefits of PowerNet OpenAir

A PowerNet OpenAir server supplies you and your wireless network with these crucial features: centralized control, remote diagnostics, support, performance, insurance, growth potential, multiple applications, host availability, and extension of RF applications.

Centralized control: Most system configuration changes can be made on the OpenAir server and are transparent to the terminal operator. Examples range from host IP address changes to the many terminal configuration options, such as keyboard mapping, scripting, etc. This is even more important to customers where the changes occur only rarely: When a change is finally needed three years later, the change only has to be made in one place, rather than on each of 1000 terminals by hundreds of operators who may or may not know how to implement the change.

Remote diagnostics: The real tough problems that inevitably occur when application changes are made, and when new applications are added, usually require resolution by trained technicians or engineers. A server allows trained technicians and engineers to get the necessary tracing information and troubleshoot the problem immediately. A customer who has had the system for over a year with no problems illustrates the value of this feature: The infrequency of problems prevents their own IT department from becoming proficient at troubleshooting this part of the system. However, the OpenAir server makes it easy for Connect technicians, who perform this function every day, to quickly and efficiently resolve even the most complex problems.

Support: In addition to resolving RF network issues, support insures proper and premium network performance. An annual telephone support (Silver) contract <http://www.connectrf.com/pbro.htm> offers you the peace of mind that only a service with one call total support, one stop multi-vendor support, and 2-hour phone response time can provide.

Performance: The server makes possible optimizations that can't be done any other way. The terminal only receives the absolute minimum amount of information it needs. For networks populated with large numbers of terminals, this reduction in message size can be significant. We've witnessed applications that generate individual screen updates of 10,000 bytes that were reduced to a few dozen bytes. This may be a trivial matter at 2Mbps data rates with a few terminals, but it is a catastrophe avoided with hundreds of terminals and/or high transaction rates.

Insurance: One rarely knows what new system requirements will be imposed in years ahead. The OpenAir server, via centralized control, remote diagnostics, and performance optimization is the best insurance for the future.



Growth potential: Our client architecture provides a migration path from thick to thin. We can insure peak performance as wireless systems grow. For the cost of a server, a system using our client can add a server whenever response time becomes unacceptable.

Multiple applications: With a server in place, companies can implement RF application on dissimilar host systems and hot key between them for multiple applications that would not be otherwise possible.

Host availability: Running an RF system in thick mode has its place. However, these systems are dependent on host availability. When the host is not available, i.e. during times of system backup, maintenance, etc., the effect is the same as a power outage. A server allows for continued data collection even when the host isn't available.

Extension of RF applications: Use of our Windows server product enables the customer to add AirLinc and design custom applications in addition to terminal emulation applications. This makes the extension of RF applications possible for uses well beyond legacy applications.

System Requirements

PowerNet OpenAir runs on Linux, UNIX, HPUNIX, AIX, SCO, and Windows NT/2000, and requires the following minimum system resources:

System Resource	Requirement
System Memory	1,500 Kbytes
System Memory, additional per terminal session	300 Kbytes
Hard Disk Space	10 Mbytes
Hard Disk Space, additional per terminal session	100 Kbytes