



# QUICKLY REDUCE THE PAIN OF INTERFERENCE AND PIM IN WIRELESS NETWORKS WHILE YOU FIND THE ROOT CAUSE

## NEW TOOL FROM ISCO COMPLETES THE INTERFERENCE HUNTING PROCESS BY QUICKLY RESTORING NETWORK CAPACITY AND PERFORMANCE

As wireless networks continue to evolve and more spectrum comes into service, the incidence of interference and PIM is growing. Sometimes these problems are easy to find, but typically it takes time and experienced individuals using sophisticated test equipment to identify and locate the source, and only then can a permanent solution be implemented to restore the network to its intended performance.

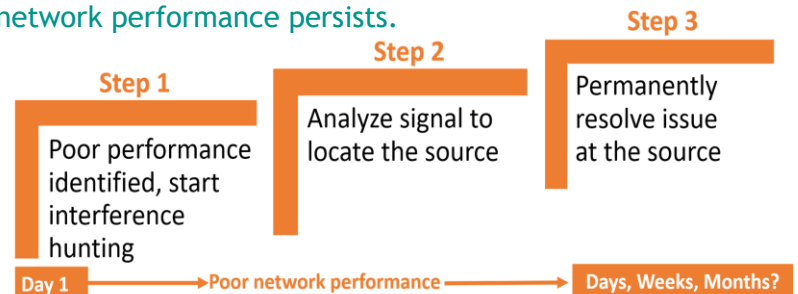
With ISCO's ProteusCPRI™ Portable Solution now available to restore the network quickly, subscriber pain can be eliminated while the permanent solution is being implemented. ISCO's PurePass® and c-ONE PIM Canceler® software is easy to install and will immediately and automatically remove network impairments so performance and capacity can be restored WHILE the interference hunting process goes on.

## CUSTOMER PAIN IS REAL DURING PIM AND INTERFERENCE HUNTING UNTIL PERMANENTLY RESOLVED

When PIM and interference occur, wireless users immediately feel the pain. Reduced accessibility, dropped calls, lower data rates are all negative effects that drive Mobile Network Operators to begin the interference hunting process. By including ISCO's ProteusCPRI™ Portable as part of the resolution process, you can restore coverage and performance immediately while you are initiating activities to permanently remove the interferers and PIM.

### SPEEDS NETWORK PERFORMANCE RESOLUTION

Finding the interferer and a permanent solution takes time. Throughout the steps in that process, the harmful impact on network performance persists.



*ISCO's Portable solution can be integrated at any of the steps depending on the criticality of the site and the estimated time to resolve*

### EASILY FITS IN THE INTERFERENCE HUNTING PROCESS

**While using your test equipment to find the interference or PIM to permanently resolve, connect ISCO's ProteusCPRI to immediately restore the network performance**

- Connect ProteusCPRI™ Portable on the CPRI link between the BBU and the RRU
- ISCO's proven PurePass® and c-ONE PIM Canceler® software automatically identifies, mitigates interference, and cancels PIM to restore network coverage and performance
- Using the included ISCO Spectrum Insight ProTools™ software, additional value can be realized from the graphical displays of interference and PIM



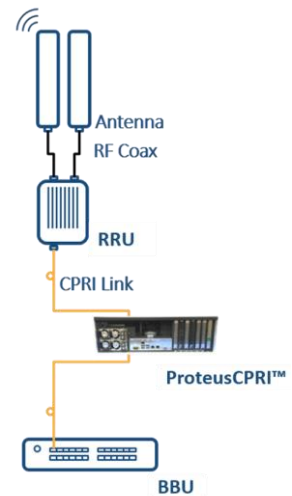
## ProteusCPRI™ Portable



The ProteusCPRI conditioning server can be easily integrated at sites when PIM cancellation or interference mitigation are needed to restore network performance and capacity. Designed for quick set-up between the BBU and the RRU, all the connections to the server are easily accessible from the front. It is packaged in a rugged enclosure for quick and easy deployment as needed, where needed.

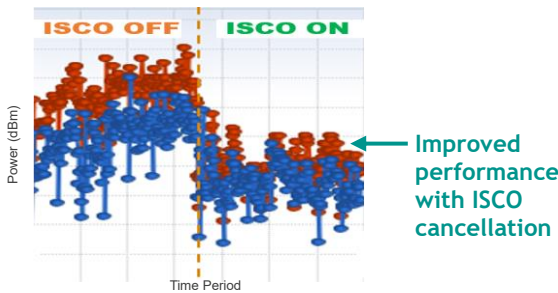


Both AC and DC power options are available to enable rapid deployment



The solution also includes a wireless modem for remote access and monitoring using ISCO ProTools analysis tools

## c-ONE PIM Canceler®



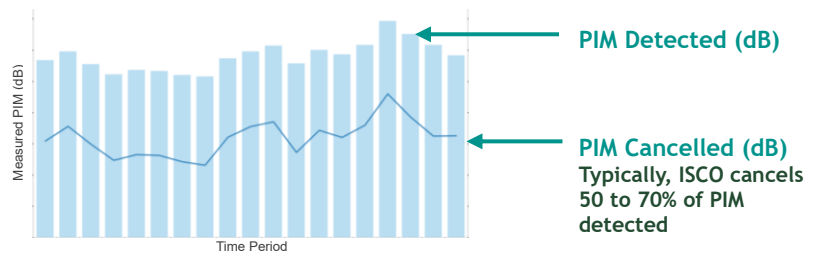
PIM can be created different ways: Environmental challenges from obstructions causing non-linearities and band combinations mixing with adjacent mobile operators or recent carrier adds. These can be as simple as loose connectors or rusty bolts, but they can also be complex and take weeks to isolate. ISCO's c-ONE PIM Canceler® automatically detects and cancels internal and external PIM on the uplink using its patented DSP algorithms dramatically reducing its negative effects. ISCO's single box solution is easy and quick to install; no tuning required and no need to connect to the downlink.

## ProTools PIM Analytics



ISCO's ProTools with Spectrum Monitor software displays the interference and PIM before ISCO conditioning is applied and after the PIM or interference is removed. The PIM and interference can be displayed hourly, daily, or weekly along with cancellation per sector and other statistics. The performance improvement delivered can be easily measured and correlated to changes in KPIs.

### ISCO PIM ANALYTICS



### ISCO INTERFERENCE MITIGATION

