

# MARCO ISLAND POLICE DEPARTMENT

## CASE STUDY



POLICE OFFICERS STAY  
CONNECTED TO CRITICAL  
DATA WHILE 'ON THE GO'



Police in the City of Marco Island, Florida, have deployed NovaRoam® Mobile Routers from Nova Engineering, Inc. to improve the efficiency of the city's officers, maintain network integrity and security, and ensure the safety of the local community.

The result? Marco Island Police Department projects that NovaRoam will save—in productivity gains alone—an amount of time equivalent to 7-8 full-time officers.

## PROTECTING THE MASSES

Situated on the edge of the Gulf of Mexico, and located in Collier County, Florida, Marco Island features six miles of beach and over 100 miles of waterways. The largest Barrier Island within Southwest Florida's Ten Thousand Islands area, Marco Island is home to over 15,000 year-round residents and 35,000 seasonal residents.

To "protect and serve" those residents, the Marco Island Police Department (MIPD) has a very distinct mission: to safeguard all persons and property, preserve public peace and order, and enforce the laws of the City of Marco Island and the State of Florida.

Comprised of 30 officers, with up to seven active units on any given shift (including marine units), each member of the Marco Island Police Department consistently seeks and finds ways to affirmatively promote, preserve, and deliver a feeling of security, safety, and quality services to all persons within the City of Marco Island.

To improve operations, MIPD sought the added capability to view reports, photos, etc. from each of their 13 cruisers in the field.

"We needed a solution that advanced our existing communication capabilities and provided remote data capabilities via wireless laptops in our cruisers," said Officer Paul Keys, network administrator for MIPD. "We wanted to enable calls, data, and images—like photos—so we could easily transport this critical data remotely. This is important both to improve our own productivity, as well as ensuring the safety of the Marco Island community by being as responsive as possible to their needs."

After initiating a request for proposal (RFP), they selected NovaRoam Mobile Routers from Nova Engineering, Inc. of Cincinnati, Ohio. The NovaRoam next-generation wireless data network met MIPD's stringent requirements by delivering fast, secure, reliable and widespread access to its officers.

"NovaRoam was the ideal solution because of its extensive data throughput, coverage area, robust security measures, and mobile ad hoc networking technology," said Officer Keys. "Additionally, the product fully met our budgetary constraints, which is always a consideration, particularly in public safety environments."


## MONEY ALWAYS AN OBJECT

Several years ago, MIPD was awarded a federal technology grant from the Department of Justice to upgrade its network infrastructure, which included deploying laptops into each of its vehicles. But even with this grant, MIPD was still experiencing budget constraints. Yet, it needed a data communications solution that enabled its officers to transmit sizeable files (including photos) to and from vehicles over its network.

In search of the right solution, Lieutenant Dave Baer, who spearheaded the project within MIPD, together with Officer Keys, who would deploy the technology, toured Florida and the country to research "live" applications within various police departments. After researching several options, they chose the license-free 900 MHz NovaRoam solution.

But before MIPD committed to full deployment, they wanted to perform a beta test. Eric Lefebvre, sales and support coordinator for Nova Engineering, was instrumental in helping with the initial product testing.

"We coached MIPD throughout the demo phase," explained Lefebvre. "They set up one tower as a repeater and Officer Keys drove around the Island in his cruiser to see how transmission worked at various points. We then worked with MIPD to tweak their configuration before full product deployment."



*"NovaRoam provided the kind of bandwidth we needed at a very affordable cost. This factor alone swayed us to take a serious look at the product; but as we delved further into its capabilities, we realized that it offered much more than just a sizeable pipeline."*

—Officer Paul Keys  
Network Administrator, MIPD

Ultimately, MIPD purchased 18 NovaRoam units to create their wireless mesh network. The product is mounted into each of the 13 police vehicles, along with four fixed antenna sites that are deployed on towers located at each quadrant of Marco Island, and a central antenna site within the police station.

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## VALUE OF NOVAROAM

According to MIPD, the deciding factors for their choosing NovaRoam centered around four key criteria:

- **Speed of network:** The throughput of the NovaRoam Mobile Routers provides burst data rates up to 1 Mbps, far exceeding CDPD’s standard 19.2 Kbps rate, to deliver fast and widespread access to remote users.
- **Range and mobility of the wireless routers:** Unlike most wireless data solutions, NovaRoam offers a communication coverage area that can span several miles, not just meters. Additionally, NovaRoam is able to maintain robust data communication links in mobile environments with its state-of-the-art Mobile Ad hoc Network (MANET) technology. The result is a highly adaptive and far-reaching network that unlocks the potential of a variety of mobile and fixed applications.
- **Ability for a fast return on investment (ROI):** With Nova Engineering’s pricing structure, customers do not experience recurring costs. Once the customer purchases the NovaRoam product, they own it outright and can control it entirely on their own. The result is an immediate ROI.
- **Product used in military-type applications:** NovaRoam technology was borne out of some of the most demanding military wireless networking applications in the world, making the product perfectly suited to address similar, public safety applications.

NovaRoam’s IP-based solution also allows interoperability with existing applications—such as CAD and records management software—as well as networked state and federal databases.

“NovaRoam essentially provides MIPD with our own, secure radio infrastructure,” explained Keys. “The federal government requires that police departments meet a level of encryption at 128-bit AES (advanced encryption standard). Broad spectrum enables our radios to transmit at a particular frequency while staying ‘under the noise floor,’ so an outsider can’t see frequency spikes. With this feature, NovaRoam provides a form of security in and of itself—and also ensures that we’re in compliance with new federal mandates.”

## A TRUE PARTNERSHIP

Throughout deployment, MIPD had several typical service and support inquiries, but Nova Engineering was responsive to their needs.

One such example occurred with the report software MIPD uses. MIPD began experiencing software timeouts during transmissions. After researching the root of the problem, Nova Engineering recommended that MIPD install NetMotion software, which provided a buffer to the data and stopped the timeouts from occurring.

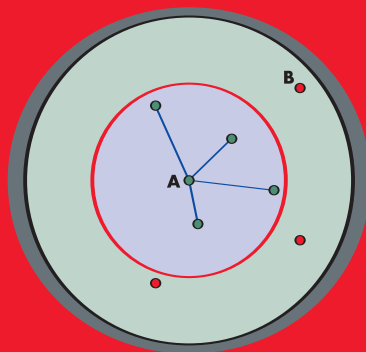
“Nova Engineering is great to work with,” said Officer Keys. “Eric continuously bends over backwards to meet our needs. Throughout the process, I would send our configurations to Eric and he helped to work through the various issues in a very timely and responsive manner. My calls were returned within an hour or two, and certainly within a business day at most.”

*“The bottom line is that our officers are more productive, we’re making more informed decisions in the field, and we’re more responsive to our community’s safety. Our officers are on the streets—visible to residents—instead of being back at their desks filling out reports.”*

*—Officer Paul Keys*

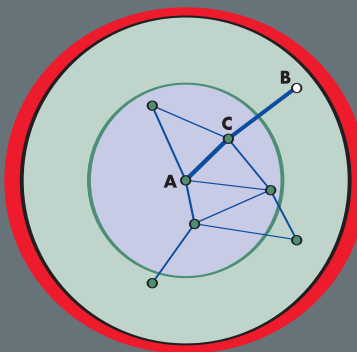


## TYPICAL WIRELESS NETWORK

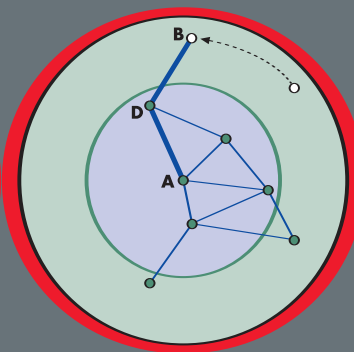


A cannot establish communications with B because B is out of A's direct communication range.

## NOVAROAM® MOBILE AD HOC NETWORK



A establishes communications with B using C as an intermediate repeater within the mesh network.



As B moves out of range of C, communications are automatically re-routed through D to maintain connectivity with A.

*With NovaRoam mesh networks, field assets in motion remain connected while each node helps strengthen and expand the network.*

### NovaRoam Enterprise Series Family



NovaRoam ED900 Mobile Router



NovaRoam EH900 Mobile Router

### RESULTS IN MOTION

MIPD's full deployment of NovaRoam was complete and activated on January 1, 2004. Ever since, the product has provided mission-critical information at the officers' fingertips. "When one of our officers have someone pulled over, they can now look up their record, including photos and fingerprints, and can conduct lineups on the fly," said Officer Keys. "This not only helps the victim—who can identify a suspect immediately—but it also helps our officers. They now have comprehensive data that they can access from their vehicles in real-time. And that helps ensure their safety as well."

In addition to enhanced safety, officer productivity gains within MIPD have been substantial.

"We project that the NovaRoam technology has saved an amount of time equivalent to 7-8 full-time officers," said Officer Keys. "With these types of results, it's hard to imagine functioning without this product. The bottom line is that our officers are more productive, we're making more informed decisions in the field, and we're more responsive to our community's safety. Our officers are on the streets—visible to residents—instead of being back at their desks filling out reports."

With full implementation underway, MIPD is already starting to look ahead for future expansion of the NovaRoam technology. "For our vehicles, our next step is to enable live connectivity to state and federal computers so we can view 'wants and warrants,' said Officer Keys. "We're also planning to incorporate live digital video feeds in high-resolution format from our cruisers. Beyond the vehicles, we're working on expanding the product to our marine units, and eventually, to our motorcycle fleet."


With NovaRoam, MIPD's opportunities "to protect and serve" its community are virtually endless.



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	ED900	EH900
High Speed	••	•
Long Range	•	••
Secure	•	•
Mobile Mesh	•	•
Infrastructure Dependent		
IP-based Interoperability	•	•
Rapid Deployment	•	•
Cost Effective	•	•