



October 2, 2009 – VIA ELECTRONIC SUBMISSION

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

RE: Ex Parte Communication, PS Docket 07-114

Dear Ms. Dortch –

Pursuant to Section 1.1206 of the Federal Communications Commission's Rules, this letter serves to provide notice in the above proceeding that on September 30, 2009, Jon Metzler of Rosum Corporation Strategies met with Thomas Beers, Jeffrey Cohen, Eric Ehrenreich and William Lane of Public Safety and Homeland Security Bureau for discussion of Rosum's TV+GPS multi-mode positioning and timing solution, including applications in the femtocell market. Presentation material left with the above parties is appended to this filing.

Any questions regarding this notice may be directed to the undersigned.

Sincerely,

/s/

Jon Metzler
Strategic Initiatives Director
Rosum Corporation
E: jmetzler@rosum.com

cc: Thomas Beers
Jeffrey Cohen
Eric Ehrenreich
William Lane



In-Building Positioning & Timing Using TV-GPS

September 2009





About Rosum

- Founded by original GPS architects to deliver always-on location awareness where GPS fails – indoors and in urban canyons
- First company to harness over-the-air broadcast TV for position location
- Provider of location, timing and frequency calibration solutions for Home Telecommunications and Mobile TV device markets
 - Home Telecommunications: femtocells for the home, and E911 (E112) for Wireless and VoIP subscribers
 - Mobile TV Devices: cellphones, notebook PCs, and PND/PMPs equipped with TV tuners
- Provide TV-based, TV+GPS, and other multi-mode hybrid location solutions
- Have developed and proven technology for domestic and global broadcast TV standards





TV Timing and Location Advantage

TV provides a 50dB power margin advantage over GPS.



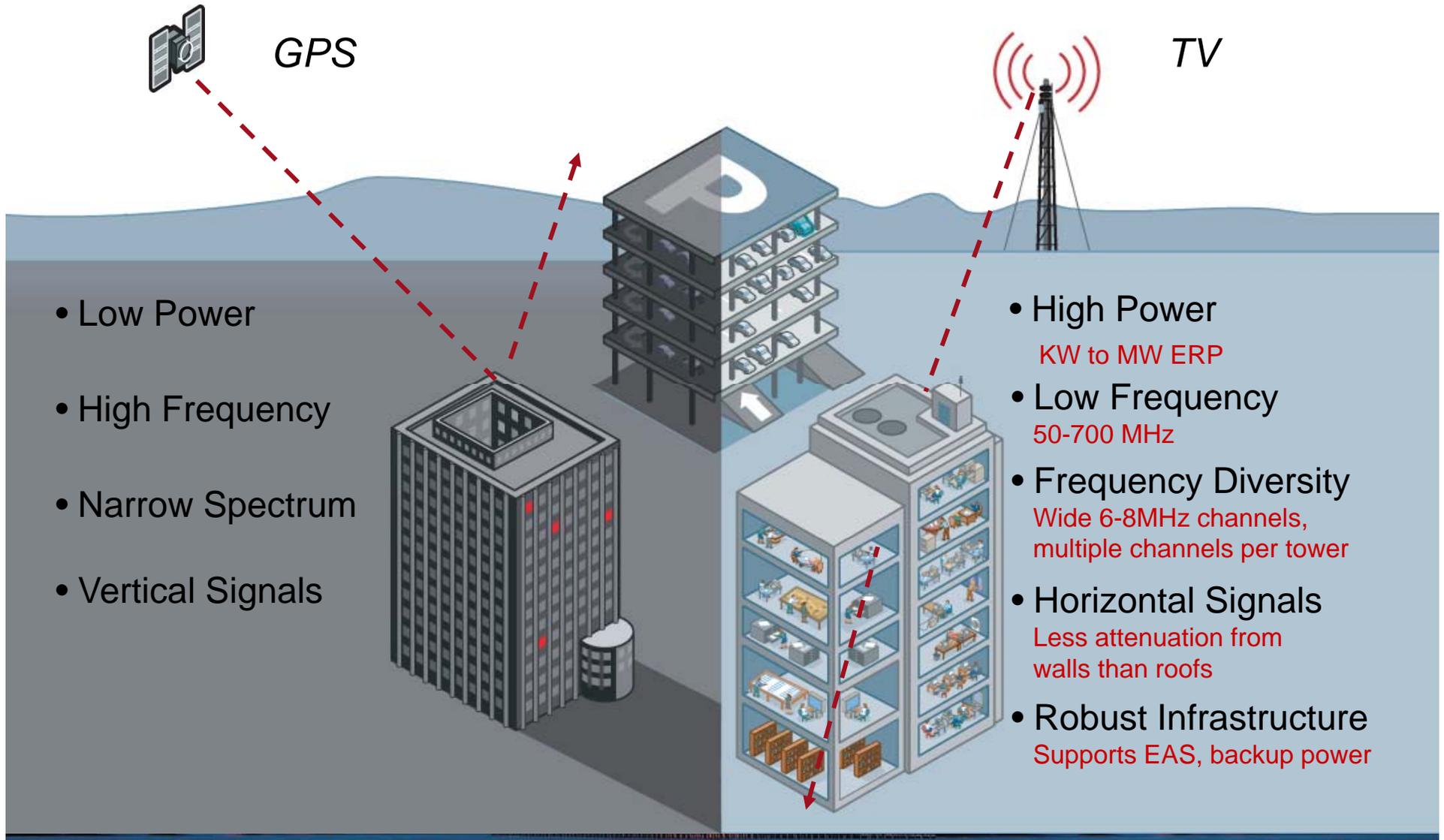
GPS



TV

- Low Power
- High Frequency
- Narrow Spectrum
- Vertical Signals

- High Power
KW to MW ERP
- Low Frequency
50-700 MHz
- Frequency Diversity
Wide 6-8MHz channels,
multiple channels per tower
- Horizontal Signals
Less attenuation from
walls than roofs
- Robust Infrastructure
Supports EAS, backup power





Using Digital, Mobile, and Analog TV ...

Rosum provides Location, Timing, Frequency Calibration and Signal Detection indoors, outdoors, and in urban environments.

Capability	Femto cells	VoIP	Mobile TV	White Space
E911-compliant location (indoor, outdoor, urban)	✓	✓	✓	✓
Ranging for use in TV-only and hybrid positioning	✓	✓		✓
Absolute timing to 1usec	✓			
Frequency stability to 10ppb	✓			
ATSC signal detection to -128dBm	✓	✓		✓





Testing Where GPS Fails: San Francisco



**San Francisco Public Library
35m, Basement Level 1 of Five-Story Building**



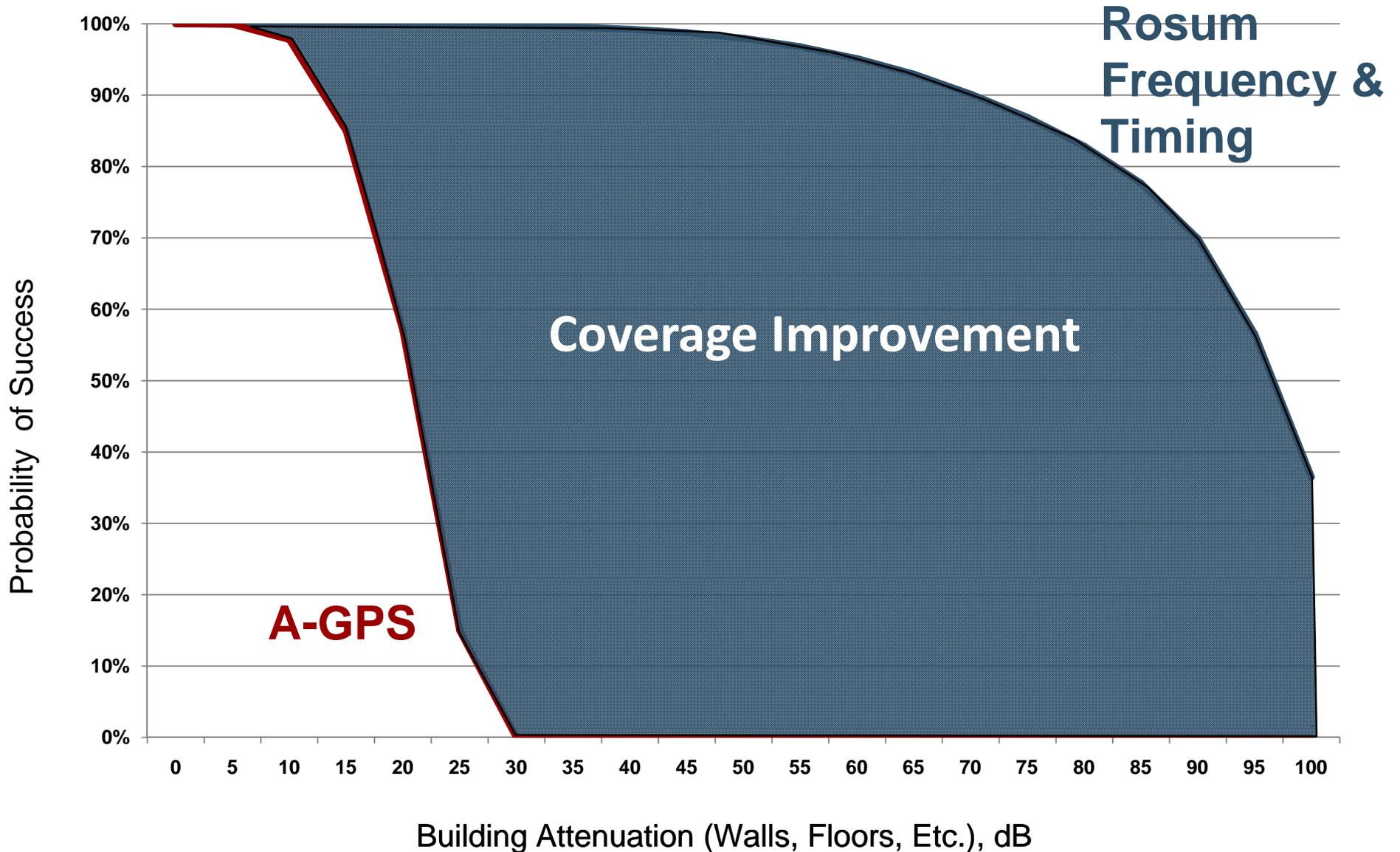
Testing Where GPS Fails: Washington DC



25m, Washington DC federal office building

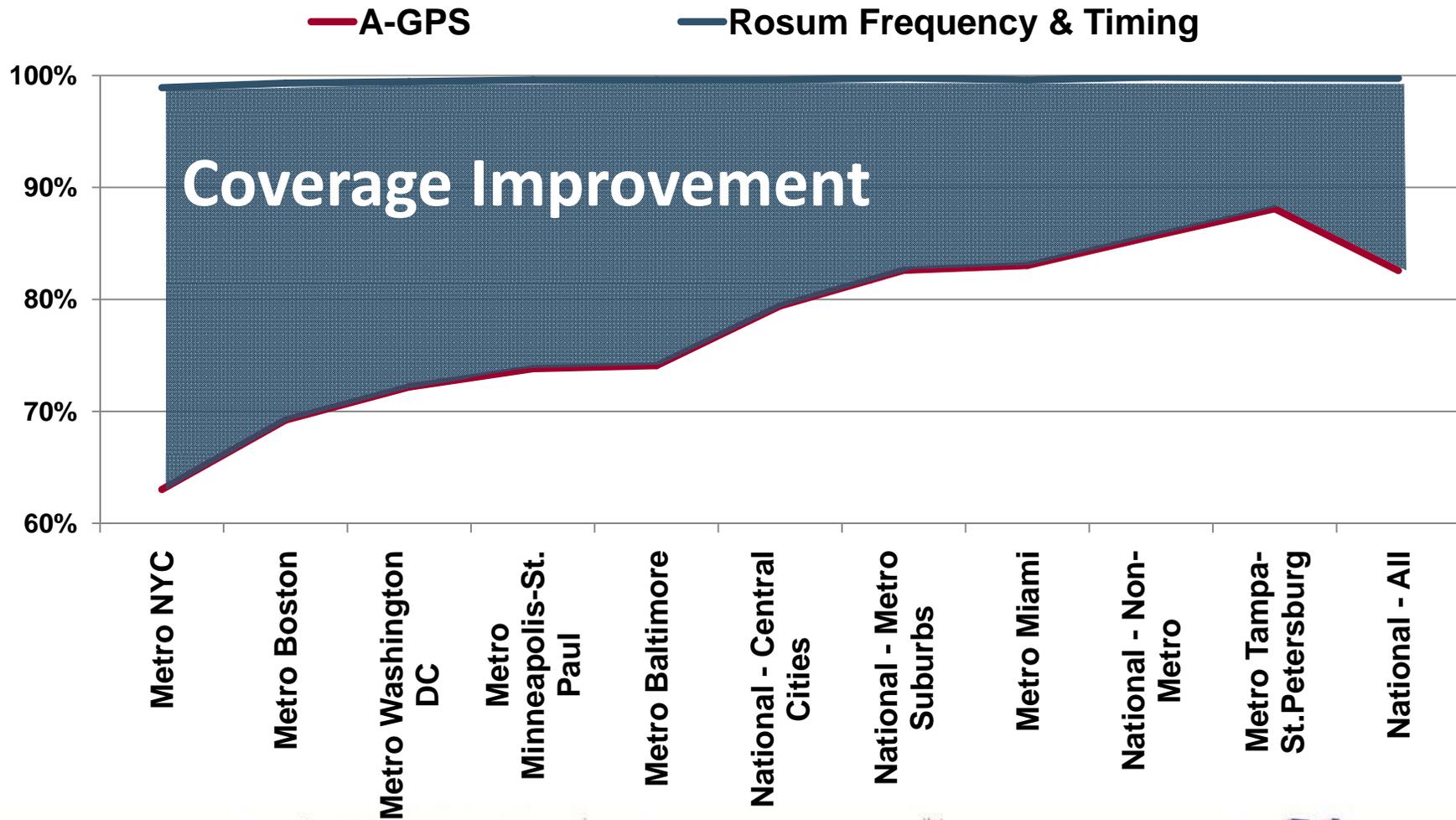


Coverage Comparison by dB Fading





Coverage Comparison by Metro Area





Timing Technology Overview

Component Technology	Strengths	Weaknesses
A-GPS	Global Footprint	Weak signal with poor building penetration, satellites move, window location needed.
TV	Very strong signal, power margin is 50dB > GPS, penetrates buildings well	Coverage maps with population; fewer towers in sparsely populated areas
IEEE 1588	Wireline solution	Requires control over internet infrastructure + expensive crystal to mitigate poor stability
MacroCell Sniffing	Provides rough location, enables frequency management by Carrier	Pushes femtocells toward the window, mis-aligned with poor cell coverage





Reliable Location & Timing for Femtocells

The Problem:

- No single technology works everywhere
- Single-technology solutions add constraints
- Need out-of-the-box performance at a low cost
- Must be plug-and play

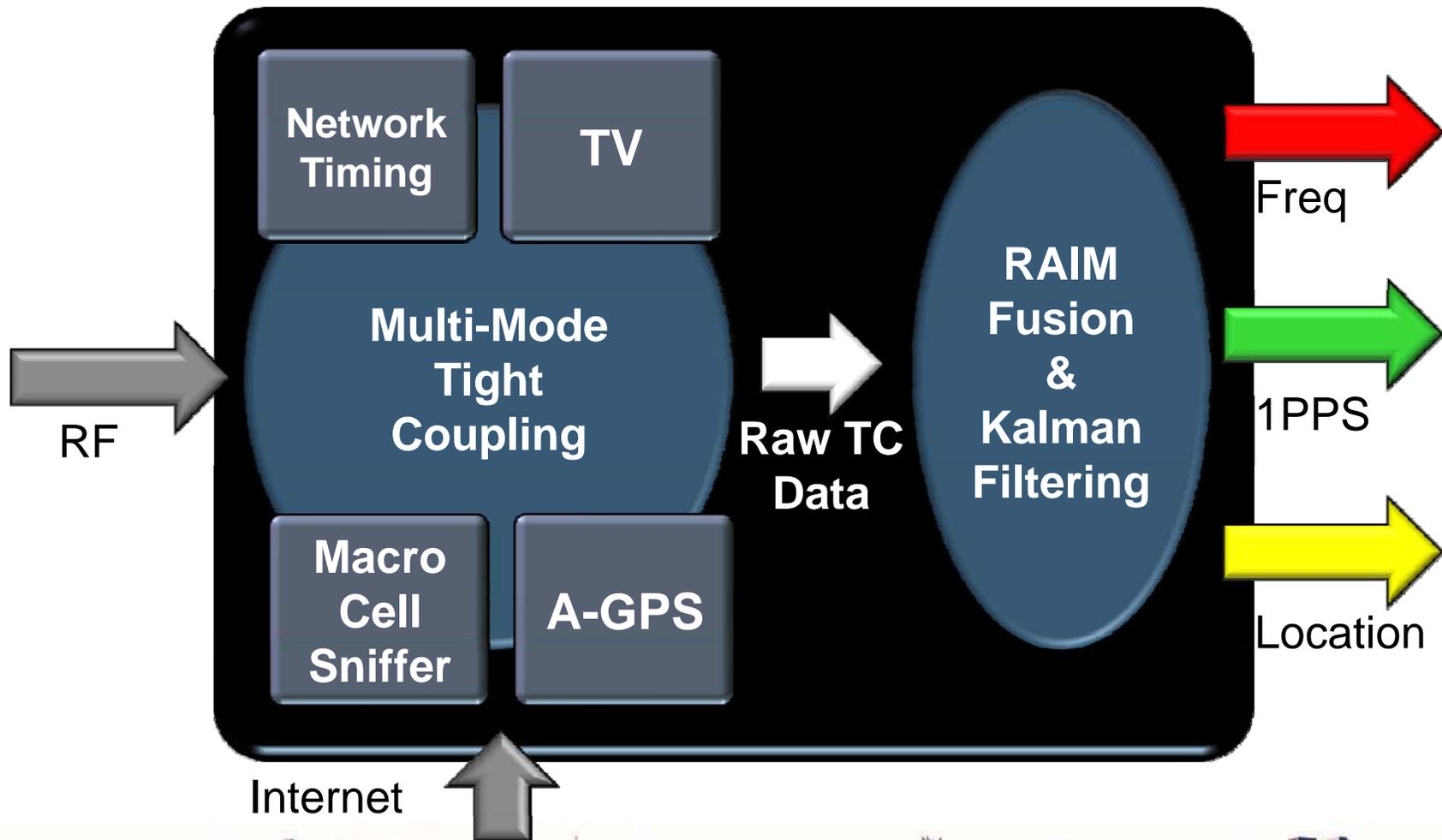
The Solution:

- Leverage multiple technologies to ensure success across all environments
- Tightly couple technologies to further improve robustness and eliminate holdover constraints
- Funnel the highly over-determined raw measurements into **RAIM Fusion and Kalman Filtering** functions





Tightly Coupled Multimode Solution: *Alloy* with *TC-Fusion*TM





Thank You

for more information visit www.rosum.com

