Solving the digital divide
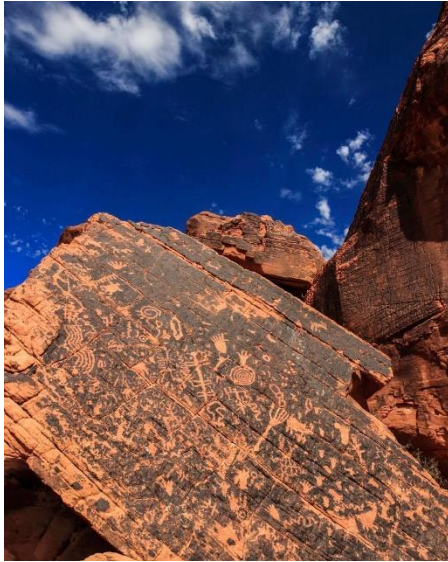
WiFi in the Park Story

Kathy and Danny Bax, married 46 years, business owners, hikers

NV Site Stewards

Pictures:
NV Valley of Fire State Park

We have been in telecom & broadband for over 37 years

We have learned how and with which company we can:

Deliver wireless high-speed broadband and managed WiFi in such a way as to solve the Digital Divide across the country, provide voice & 911 calling, mobile vehicle internet, rapid deployment solutions; plus how to extend Land Mobile Radios with nationwide coverage and stream videos from handheld walkie-talkies that can be stretched out for miles.

All parks & counties have unserved or underserved areas, need 911 and improved public safety.

Proof of Concept at Cathedral Gorge
State Park in Nevada

How to Solve the Digital Divide

ViaSat

Satellite Internet Service Provider (ISP) where needed and Bring Your Own Bandwidth (BYOB) ISP where possible

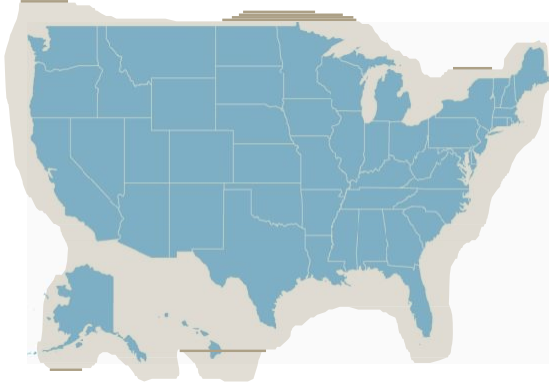## Build a Managed Cost-Efficient Network

- Satellite dish or terrestrial ISP services
- Managed WiFi Access Points
- Wireless ISP (WISP) model for communities
  - 1+ AC Powered Ingest
  - Point-to-Multi-Point narrow beam radios
  - AC or Solar Powered

Broadband everywhere 25-100mbps Terabit speeds coming soon

ViaSat 1 – our first generation high-throughput satellite covers U.S. and parts of Canada and Mexico

ViaSat 2 – our next generation satellite available Q1 2018 will cover North America, Latin America, Caribbean, Atlantic Ocean and Western Europe
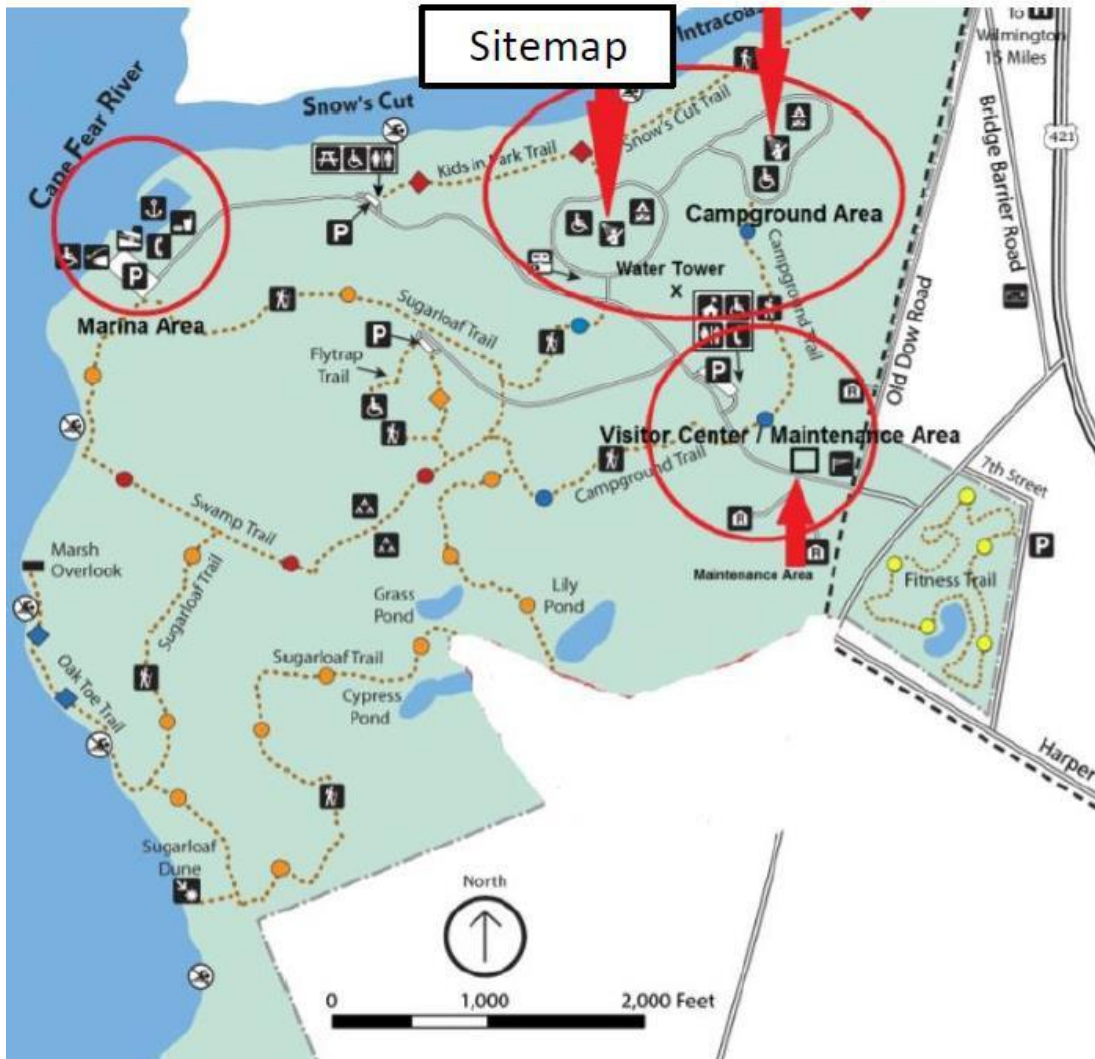
ViaSat 3 – by 2021, ViaSat will have three satellites launched, capable of terabit speeds, covering most of the planet

VS-2 Launch

VS-2 In Service

VS-3 Americas Launch

VS-3 EMEA Launch

2015	2016	2017	2018	2019	2020	2021	2022

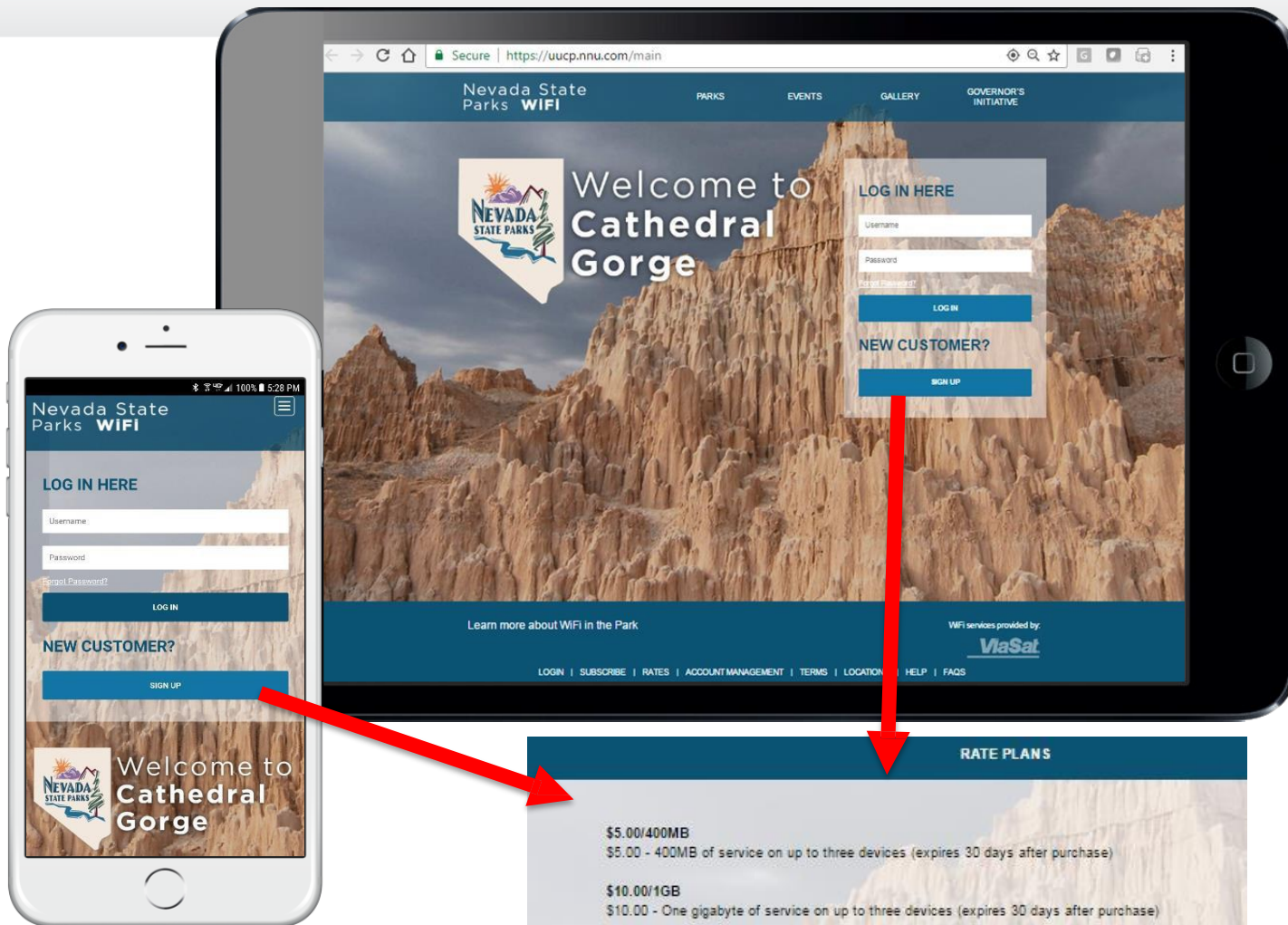**And more bandwidth than anyone else in the satellite industry…**

Determine Desired Coverage Areas

Aerial map of park discussed with department officials to determine desired coverage areas and to prepare preliminary rough design with rough-order bill of materials and costing.

Final design typically requires site walk.

Engineer a Cost Efficient Wireless Enterprise Level WiFi, ISP, 911 & eCommerce Network

Legend
- 🟩 Satellite Terminal
- 🟨 Outdoor AP (2.4/5GHz)
- 🟦 PTP AP
- 🟥 Indoor AP

Campgrounds

Bathhouses

Intracoastal Waterway

Campground Area

Water Tower X

Visitor Center / Maintenance Area

Maintenance Area

Lily Pond

Fitness Trail

Old Dow Road

No LOS between locations, or could be constructed if feasible

Based on trees and foliage, Wi-Fi coverage will be best-effort but additional trenching could expand AP locations

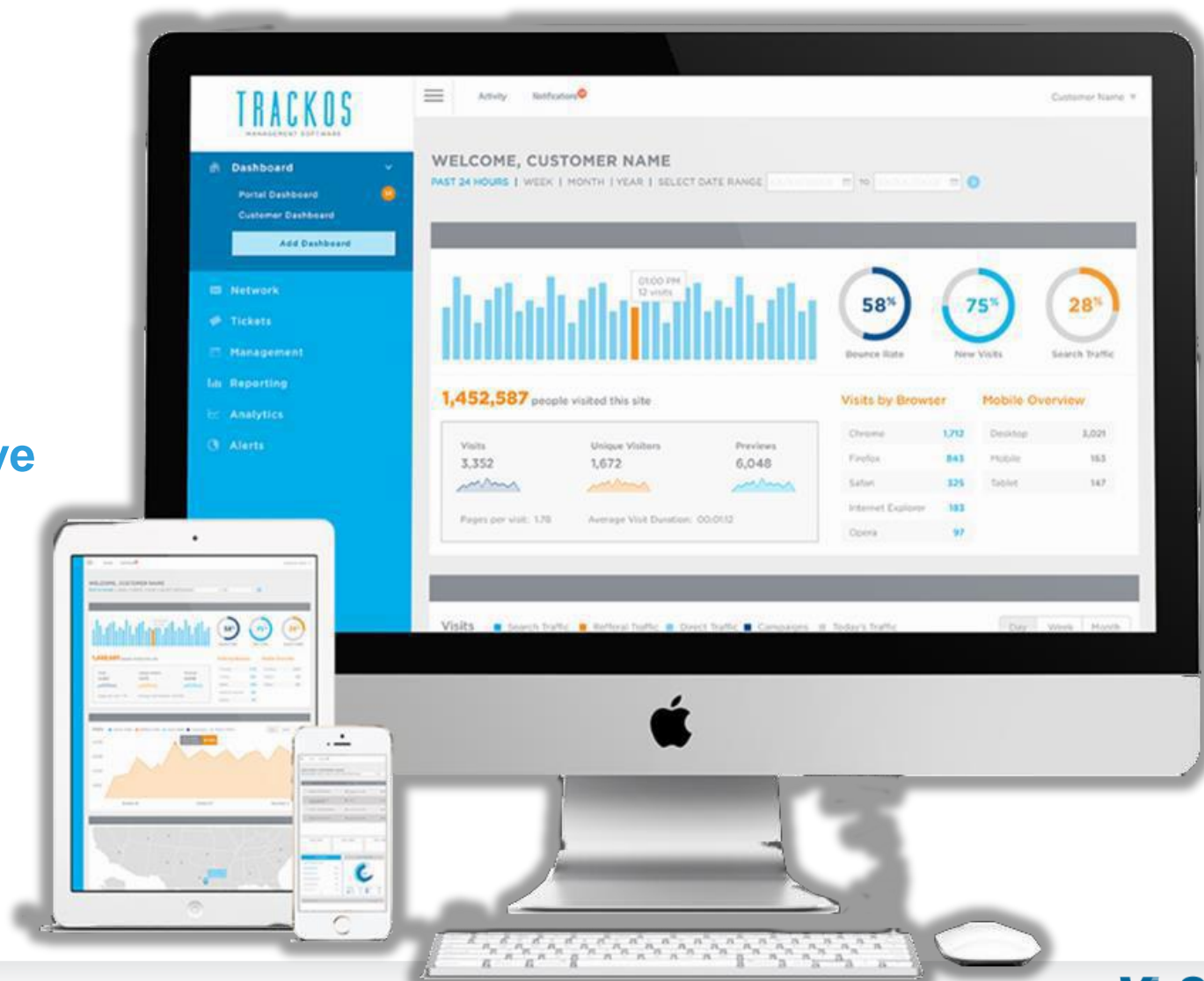# Create Custom Multi-Function User Experiences

Users sign up for data-based plans

Need to Provide Complete End-to-End Management

ViaSat's
proprietary
management
platform

- **Comprehensive**
- **Intuitive.**
- **Feature rich.**

Custom Design Each Solution & Network

End User Account Management

» Once the rate plan and captive portal is configured in TRACKOS™, End User can self manage their account via the captive portal on site

Portal Customization

» Change image, texts, colors, button, links, advertising and more with just a few clicks
» Immediately published into production.

Advertising Integration

» Easily configure banner and interstitial ads to your portals
» Ad revenue is shared and applied against the monthly invoice for the managed Wi-Fi services

Loyalty / SMS Integration

» Leverage the Wi-Fi to build an opt-in list
» Provide Wi-Fi Access in Exchange for Mobile Number and/or Email Address

Roaming, Wi-Fi calling, Cell Offload

» Enable roaming from several international carriers and aggregators
» Roaming revenue shared and applied against the monthly invoice for managed Wi-Fi services

Content Filtering

» Category-Based Filtering
» Whitelists & Blacklists
» Blockpage Bypass
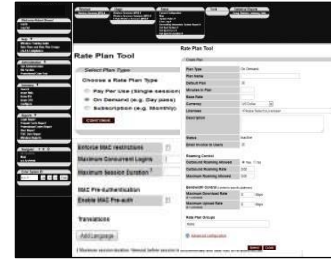» Phishing, Malware and Botnet protection and containment

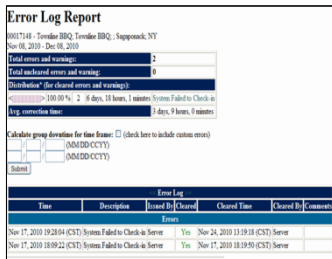# Need to Monetize Each Solution as Needed

Revenue and Usage Reports

» Highly customizable reporting engine

» Monitor revenue monetization and usage across wide range of parameters in real-time

Network Health Monitoring
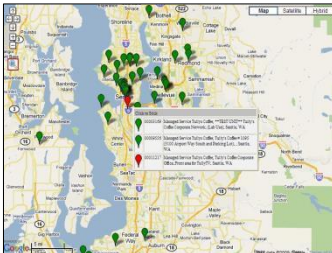

» Remotely monitor device status, signal quality and Internet connectivity

» Pro-active alerts and error reports capture incidents for real-time resolution

Network Configuration

» Easily configure large scale Wi-Fi deployments

» Seamlessly manage and observe Wi-Fi networks with ease

Rate Plans

» Flexible rate planning tool

» Supports configuration of wide array of plans

» Configure custom roaming or bandwidth controls

Promotion Codes

» Easily configure promotion codes for Wi-Fi access

» Supports individual, group, and unlimited use codes

Retail Analytics

» Will provide analysis tools to understand consumer behavior in retail Wi-Fi deployments

Unparalleled Experience in Managed WiFi

» Carrier Class NOCs –redundant ISP feeds from diverse carriers, multiple storage backup, servers and generators.

» Strong Core Competencies in Wi-Fi Management.

» Design, install, manage, monitor and support networks worldwide.

» **Currently supporting more than 15 million WiFi networks** (carrier, enterprise, gov't, small business, residential, outdoor/municipal, stadiums and in-flight.

» Wi-Fi management platform is most comprehensive tool available for end-to-end management, reporting and monetization.

» TRACKOS™ is hardware agnostic (works with any major OEM)

Some of our largest customers include:
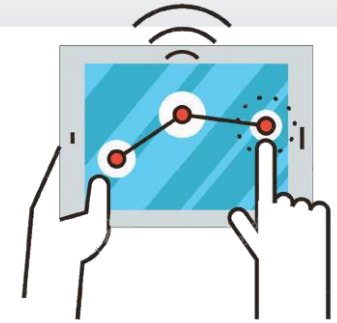
Deliver Multiple Services

911, voice, surveillance, VPNs and WiFi…

on & off-the-grid, and on the trails!

Solutions for Every Need

» ## Professional Design/ Install/ Break-fix/ ISP procurement

› Leave the heavy-lifting to our team! We install all type complex networks – schools, airports, arenas, hotels, military bases, parks, trains, ferries, restaurants, oil & gas, etc…

» ## Plug-n-play solutions

› **No professional installation required!** Perfect for Bring Your Own Broadband. Order pages, shipping box, captive portal/splash page all with your brand!

» ## Custom Network Solutions

(i.e. solar-powered, satellite-fed networks)

› Deploy Wi-Fi in campsites, RV parks, national/state parks, remote areas and in other un-served/underserved parts of the world.

Advanced Satellite & Radio Solutions

Nationwide Push-to-Talk

» Connect Land Mobile Radio's to both cellular and satellite networks

Walkie Talkies for Enforcement, Search & Rescue, Firefighting

» Non Line of Site Radios / Repeaters that can stretch out for miles with high data rates able to send streaming video

Mobile Internet Solutions

» Proprietary Satellite / Vehicle Solutions

Rapid Deployment

ViaSat

Why Partner with ViaSat

- **Ubiquitous, and FAST Satellite Internet**— 25Mbps-100Mbps available!

- **Proven experience** – currently managing 15 Million networks globally

- **Quick deployments** (typically 3-5 days for single terminal locations)

- **Dedicated project management** to ensure turn-ups done on time

- **Vertically Integrated** – ViaSat manufactures the chip sets, modems, satellites, ground stations, software and manages the network

- **End-to End Solutions** – In-house engineering & installation teams

- **Proprietary WiFi Management Software –**WiFi hardware agnostic

- **Enterprise-grade network designs, monitoring and management**

- **24-hour In-house call center** – for employees and park visitors

- **Fully compliant** with CALEA/SAFE Act, PCI, HIPPA and other regulations

U.S.-based Call Centers

» **In-House Call Center**
  › All call managed in-house at our call center in Texas
  › No-outsourced calls

» **Scope of Support and Responsibility**
  › Supports end user issues through telephone and email communication
  › Provides customer support for billing, membership, and informational support
  › Provides first layer troubleshooting support to Customers, General Managers, and Venue Owners

» **Agent Metrics – *Call Center agents are measured on the following metrics:***
  › Average Handle Time
  › Calls Handled
  › Average Hold Time,
  › After Call Troubleshooting

» **Property Support – *Agents act as vital point of escalation for property related issues like:***
  › Down network elements
  › Coupon requests

» **Training**
  › Supervisors responsible for conducting agent trainings and the data integrity of the agent knowledge base
  › Intensive new hire training, along with highly developed continuing education and professional development
  › Refresh trainings are provided to employees throughout their tenure
  › 100% of calls are recorded (for training and auditing purposes)

» **Quality Average**
  › Target is 80% of calls answered in 20 seconds or less
  › 5.5 minute average handle time.

ViaSat.

ViaSat is a Department of Defense Contractor

ViaSat

Currently providing WiFi networks on U.S. Navy Base worldwide

Wants to Put WiFi/911 in all parks, public and recreational spaces, *AND* Solve the Digital Divide NATIONWIDE

Preparation for Worldwide Deployment w/ Terabit Satellite launch 2021

About ViaSat, Highest Capacity Satellites

31 years in business

$3.8B market cap

$1.6B in revenues **(FY16)**

4000+ employees

3 satellites
(growing to 6 over next 5 years)

700,000+ subscribers

15M+ WiFi sites

Global Mobile Broadband

Command & Control / Situational Awareness

Secure Network Systems

Tactical Data Links

Tactical Satellite Networks

Managed Wi-Fi

Broadband Infrastructure

Broadband Enterprise Services

Microwave Products
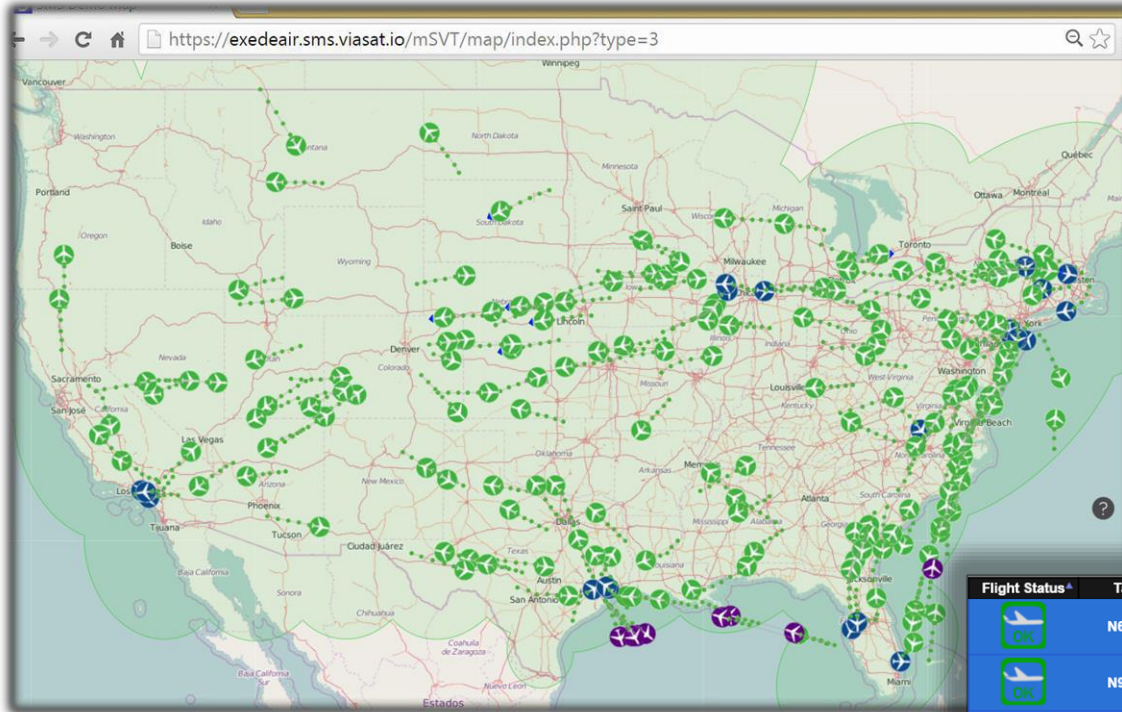
Antenna Products

Satcom

Earth Observation & Surveillance

ViaSat

ViaSat serves Air Force One, Marine One and other official executive branch aircraft

ViaSat provides Internet for crew, passenger Wi-Fi an in-flight entertainment on major airlines

- Wi-Fi access supporting **12Mbps per passenger**
- Real-time NMS dashboards
- Usage analytics
- Support for in-flight entertainment

National Digital Divide Solution, Seamless Network As-a-Service

DOI

DOT

DOC

USDA

ED

HUD

HHS

VA

DHS / FEMA

50 States

Counties, Municipalities & Indian Communities

One Seamless Managed Nationwide Smart-Network ISP and Public WiFi-as-a-Service

Enabling 911 & Smart City, Smart State, Smart Country, Smart Globe Networks

ONLY Requires Know-How, Capabilities, Political Will, Permission, Leadership AND
 A Sole Source Agreement • That is the Challenge • FUNDING IS EASY!

Funding the Digital Divide Solution

Pay WiFi Can Fund Much of the Digital Divide Infrastructure Nationwide

Wireless infrastructure <u>cost pennies on the dollar</u> and lasts as lifetime

Generous FREE DATA USAGE & potential REVENUE SHARE for the Host

ViaSat Investment
Pay WiFi Plans
Individual ISP Plans
3rd party funding
Advertising
Sponsorships
Grants
E-Rate
Friends of Groups
Donations
Existing appropriations

**<u>The Nationwide Parks & Digital Divide/911 Problem Can Be Solve
In a Revenue Neutral Fashion</u>**

The Digital Divide Network

THE PLUMBING aka ISP & WiFi-as-a-Service & Other Connections
w/Consistent Solution Engineering & Self-Funding Mechanisms

RESULTS IN

➢ Connectivity everywhere needed

➢ **At the Lowest Cost Per Connection (Greatest Cost Efficiency)**

➢ Fastest Deployment **(Greatest Time Efficiency)**

➢ Least Amount of Serving

➢ Most Functionality

➢ Highest Reliability

➢ Simplest Approach

➢ Least Up Front Cost

➢ GREATEST UPSIDE for ALL

Thank you.

ViaSat

Thank you
Danny & Kathy Bax
WiFi in the Park LLC
702-845-1765