Flow Mobile
Public Safety Plan

Bringing Next Generation Networks
to Rural Communities

Flow Mobile Overview

- Current Operations:
  - $2.5 million funding for Phase I
  - Anticipate a $10-$15 million series A round
  - $1 million annual revenue base
  - Approximately 1,100 customers in ND
  - Deployed in 5 rural communities in ND, OK, and AZ
- Focus: Be a "First Mover" to provide 4G mobile broadband services to rural communities
- Phase I Deployment: Covering 1 million pops in 300 towns in ND, SD, MT, MN, WY, NB, AZ, NM, & OK (unlicensed spectrum)
- Phase II Deployment: State-wide 700 MHz overlay in 11 rural states
- Main Differentiator:
  - Ability to carry high speed multiple forms of traffic in mobile environment
  - Low-cost technology with easy migration path between unlicensed to licensed
  - Open standards approach

Flow Mobile Team

- **Bill Owens,** Flow Mobile Co-Founder/Chairman
  - Chairman of the Board of Embarq, Polycom, Intelius
  - Board Member of Wipro and Daimler Chrysler
  - Former CEO of Nortel, SAIC, & Teledesic
  - Former Vice-chairman of the Joint Chiefs of Staff
- **Naveen Jain,** Flow Mobile Board Member
  - Founder of Infospace and Intelius a successful entrepreneur
- **Rich Karlgaard**, Flow Mobile Board Member
  - Publisher of Forbes Magazine
  - Founder of garage.com
- **Gregory L. Rohde**, Flow Mobile Board Member
  - Founder of e-Copernicus & E9-1-1 Institute
  - Former Administrator of the National Telecommunications and Information Administration (NTIA)
- **Steve McCormick,** Flow Mobile Board Member
  - Entrepreneur and a major business leader in ND
- **Sree Tangella,** Flow Mobile President & CEO
  - Silicon Valley Entrepreneur, over 16 years of experience
  - Co-founder of wireless system company Altai
- **Dr. Yick Chan,** Flow Mobile COO
  - Silicon Valley Entrepreneur, over 25 years of experience in startups and established companies
  - Co-founder of Altai

The Business Plan Summary

- Flow Mobile can deploy a 11-state joint use network for $431 million
  - Covers 130,000 public safety users
  - Covers 30 million in population
  - Creates 1000s of jobs
  - Cost per person covered: $15.00
- Only a 3-5% residential penetration needed to break even with public safety customers
- The joint use plan is not only viable, but it is the only concrete plan to close the digital divide for public safety and consumers in rural states

Low Infrastructure Costs

- BTS standard protocol approach
- BTS costs:
  - Unlicensed <$2,000 per BTS
  - 700 MHz licensed <$6,000 per BTS
- Consolidated backhaul setup – scalable NOC
- Poles vs. Towers
  - BTS installed on 70-80' poles rather than on Towers
  - The State will help with the following
    - Power to the location
    - Land use for installing the pole or just mounting equipment on the pole

Open Standards

- Cost of end user terminals is low
- Easy for anyone to integrate into this technology
- No cost of technology to amortize hence BTS and the terminals are both inexpensive
- Secure Infrastructure
- All IP-based, hence terminals are both computers and phones from the beginning
- Lots of development in the space and for the first time a public safety network can utilize the benefits of developments in the rest of the world at the same pace

Public Safety Proposal

- State-wide 4G mobile broadband (IP) coverage
- Public safety users as anchor customer
- No change in handsets or computers – user driven applications
- Commercial broadband service available throughout the state on the same network
- Flow Mobile raises the capital, including federal financing and other sources
- State agrees to:
  - Public safety user contract for services
  - Allow access to light poles

Public Safety Benefits

- First network of its kind in the country with broadband speeds and jump starts rural states for 700 MHz migration
- Provides a platform for high speed data and video applications not currently available
- Costs effective solution – no capital investment required by the state – only operational costs
- Better coverage than EVDO service and lower cost
- Fosters migration towards next generation 9-1-1 services
- Makes interoperability a reality

The “Win-Win” Solution

- A 4G mobile broadband Public Safety Network is economically viable in rural areas only if it is joint use
  - The Private Company takes the capital risk
  - Public safety only pays use costs
  - Public safety “de-risks” the business, making affordable service offering possible for both public safety and commercial customers
- Viable business plan (for rural areas) elements include:
  - Innovative low-cost technology approach
  - Government financing
  - Affordable spectrum
- Standard protocol selection allows for future standard compatibility

Auction 73 vs. NPRM

Auction 73 Build Out Maps: One Nationwide D Block License

Year 4	Year 7	Year 10
75% Pops 6% Area	***95% Pops 24% Area***	***99.3% Pops 45% Area***

Public Safety Regions at 90%, 94% or 98% Pops in Yr 15

Year 4	Year 10	Year 15
40% Pops 2% Area	***75% Pops 9% Area***	***93.4% Pops 25% Area***

Filling the “VOID”

- PSST seeking winning coalition and rural states pose greatest challenge
- Flow Mobile can make the business case for rural states by combining:
  - Low-cost equipment and
  - Government financing
- Flow Mobile has proposed (for D-Block):
  - Support for joint use concept & regional licenses
  - Combinatorial bidding for a rural state block
  - Bidding credits for early build out
  - Technology standard flexibility

The Needs of Rural States

- Wireless coverage remains major issue in rural states
- Few choices for broadband providers
- Incumbent providers not innovative
- Next generation Public Safety networks are not economical to build in rural states to only serve public safety
- National carriers won’t build out rural states for many years

Solving the Rural Riddle

- First mover with low-cost infrastructure
- Technology Advantages
  - Open protocols
  - Low-cost Architecture
  - IP platform
- Innovative Approach
  - Micro-cellular/Macro Architecture
  - Unlicensed/licensed hybrid system
  - Joint use for public safety and commercial users
- Government Financing advantages

Rural States: First in Nation

- Flow Mobile wants to make rural states the national leader in 700 MHz
  - Unlicensed spectrum options viable to initiate service
  - Hybrid with 700 MHz license overlay maximizes spectrum efficiency
  - First 700 MHz base stations (5) can be deployed June 09
- Dual-use network model is perfect for rural states
  - Priority access for public safety: no problem
  - Affordable commercial access made possible

North Dakota Interest

- ND Governor Hoven Letter of support:
  - Demonstrates ND interest and commitment as the public safety customer for Flow Mobile
- ND-SD NENA/APCO Endorsed Concept

FCC Action Required

- Finalize D-Block auction rules
  - Link D-Block with PSST license to create a national joint-use network
  - Require aggressive build out
    - per state, not nation-wide
    - include bidding credits for rapid deployment
  - State-wide licenses with combinatorial bidding
- Allow for experimental use of PSST license for innovative solutions supported by governor and state public safety agencies