Space Data Corporation

Air-To-Ground Proceeding
WT Docket No. 03-103

Gerald Knoblach
Chairman and CEO

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ATG Licensing Proposals

- **Two exclusive licenses produce the best competitive results.**
  - 2.5-3.0 MHz license can support CDMA technology.
  - 1.0 MHz license can provide voice and SMS service that is competitive with larger ATG licensee.
  - Stratospheric platforms are ideally suited for providing ATG services.
    - Adaptable to market demand – total coverage from fewer sites scaling to many sites as market grows.
    - No near-far interference eliminates need for guard bands.
  - Incumbent's operations can be protected during the transition to the new licensing scheme.

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ATG Licensing Proposals (Cont.)

- Exclusive 4 MHz license retains non-competitive ATG market.
  - Satellite providers are not viable intermodal competitors.
    - Not generally available on U.S. domestic flights.
    - Cost of deploying and using satellite services prohibitively expensive.
  - The FCC cannot assume that licensees in new flexible use allocation may provide competitive ATG services.
- Promotes inefficient use of scarce ATG spectrum -- 3 MHz of spectrum at most is needed to provide wideband ATG services.
- Even if service rules allow the exclusive licensee to partition, disaggregate, or lease 1 MHz of its 4 MHz allocation, it is unlikely to do so because it has no incentive to provide a competitor with access to the ATG market.
- Multiple representatives from the airline industry have urged the FCC to ensure competitive ATG services so the airlines can satisfy consumer demand for low-cost services.

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ATG Licensing Proposals (Cont.)

- AirCell's and Boeing's proposal to assign two overlapping 3 MHz licenses by adding 125 kHz guard band does nothing to solve technical and regulatory obstacles associated with overlapping licenses.
  - Significant technical risk
  - Inflexible design
    - Rigid fixed site locations
    - Significant, ongoing technical coordination between licensees will make it difficult for licensees to react to changes in market demands and technologies
  - Requires the FCC to promulgate detailed base station location, sharing, and interference requirements
    - Requirements become even more complicated to craft if each licensee uses different technologies / protocols.

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Guard Band Allocation May Leave Valuable Spectrum Fallow

- Commenters advocate an additional 125 kHz guard band for each ATG band segment.
- Existing cellular channelization plan suggests that narrower guard bands are adequate.
  - Near-far interference more constrained for ATG than cellular.
  - Guard band use in adjacent bands should be analyzed.
- CDMA ATG network can operate adjacent to Cellular B Block, much of which is CDMA technology, without interference (within cellular band, carriers stack CDMA channels next to each other with no guard band).

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Combinatorial Bidding Offers Viable Market-Based Compromise

- Exclusive license allocations would best serve the development of the ATG market and the public interest. Space Data suggests a compromise that takes into account other licensing proposals.
- The ATG auction can be designed so that bidders determine whether exclusive or overlapping licenses are assigned, and thus the best use of the four MHz of ATG spectrum.
- The ATG spectrum can be divided into auctionable frequency blocks, which can be combined.

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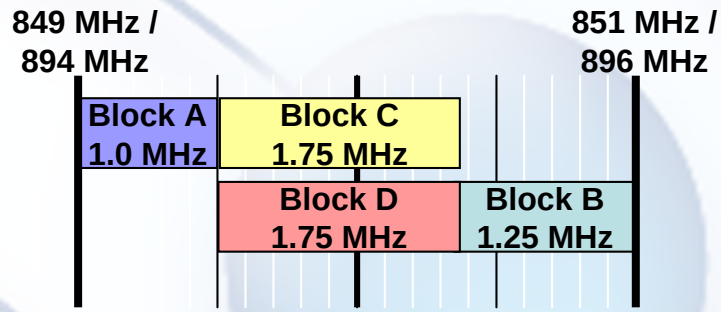
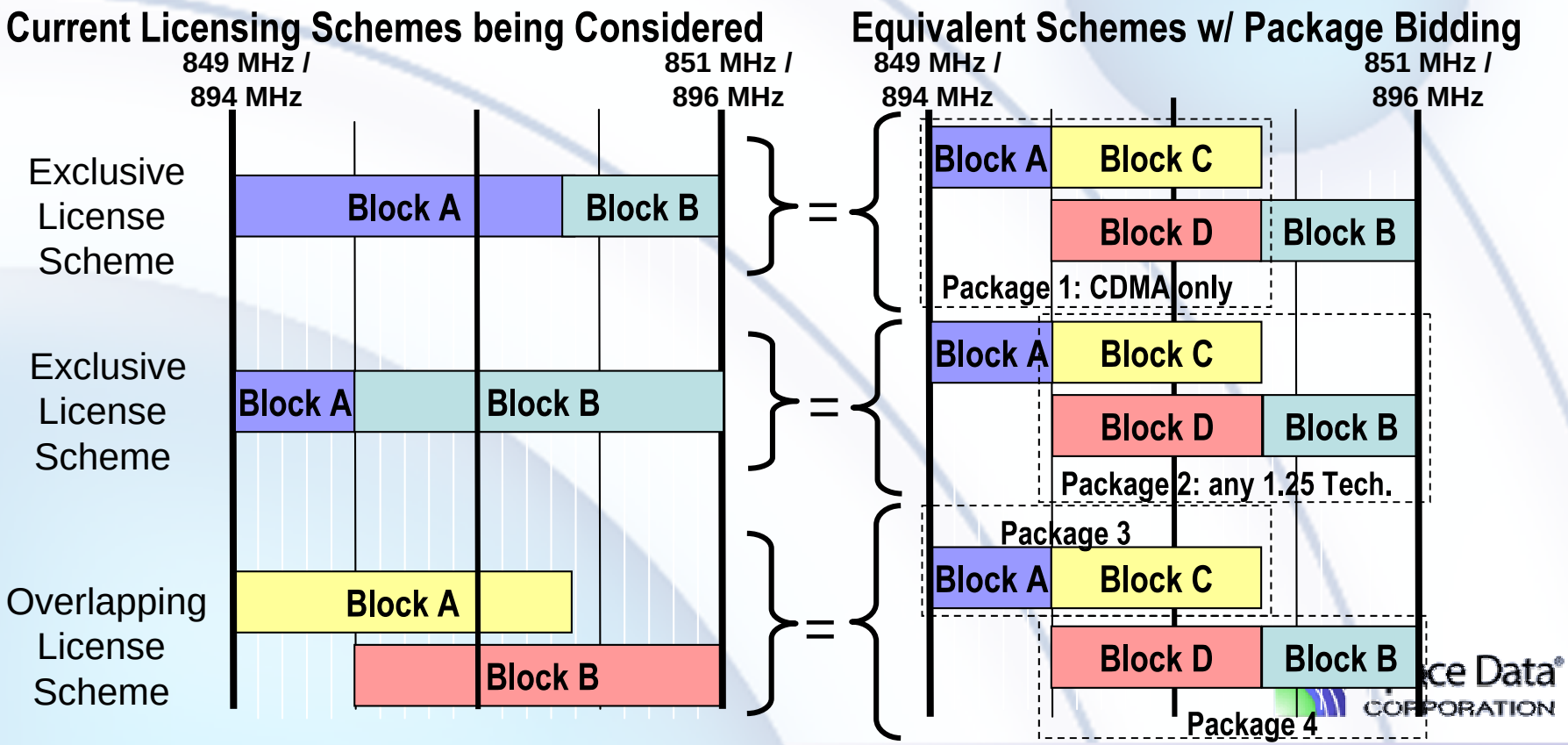
Alternative Bidding Package With Guard Band Allocation*

Proposed scheme with package bidding:
- A Block: exclusive use 1.00 MHz
- B Block: exclusive use 1.25 MHz with initial period of sharing with legacy ATG
- C Block: shared use of 1.75 MHz
- D Block: shared use of 1.75 MHz





*License assignment can vary depending upon amount of guard band.

Competitive Benefits Of Combinatorial Bidding Are Meaningless Unless Auction Yields At Least Two Licenses

- The Communications Act requires the Commission to promote competition "by avoiding excessive concentration of licenses and disseminating licenses among a wide variety of applicants."
- Although ATG spectrum is limited, the record demonstrates that at least two licensees can operate successfully in the ATG band. A bidding scheme that allows a single bidder to win all 4 MHz of ATG spectrum ensures that a competitive ATG market cannot develop and defeats the primary objective of the proceeding to give consumers choice and lower prices.
- The Commission routinely restricts one entity from holding multiple licenses in a market in order to ensure competition.
  - The Commission has imposed cross-ownership restrictions in the CMRS, PCS, SDARS, 700 MHz and LMS markets.
  - Less than a month ago the FCC placed ownership restrictions on DBS licenses in upcoming auction.

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Solution to ATG Allocation

- The Commission can ensure a competitive ATG market if it:
  - Implements combinatorial bidding at auction that ensures multiple winning bidders. The ATG spectrum can be divided into auctionable frequency blocks, which can be combined based upon the needs of the bidders.
  - Assigns two-exclusive licenses. It is realistic and feasible to implement from a technical and policy perspective.
- These proposals encourage a competitive market in which market participants decide the best use of the ATG spectrum.

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