



Space-Based Range Safety Technical Interchange Meeting (TIM)



Technical Options & Issues Talking Points

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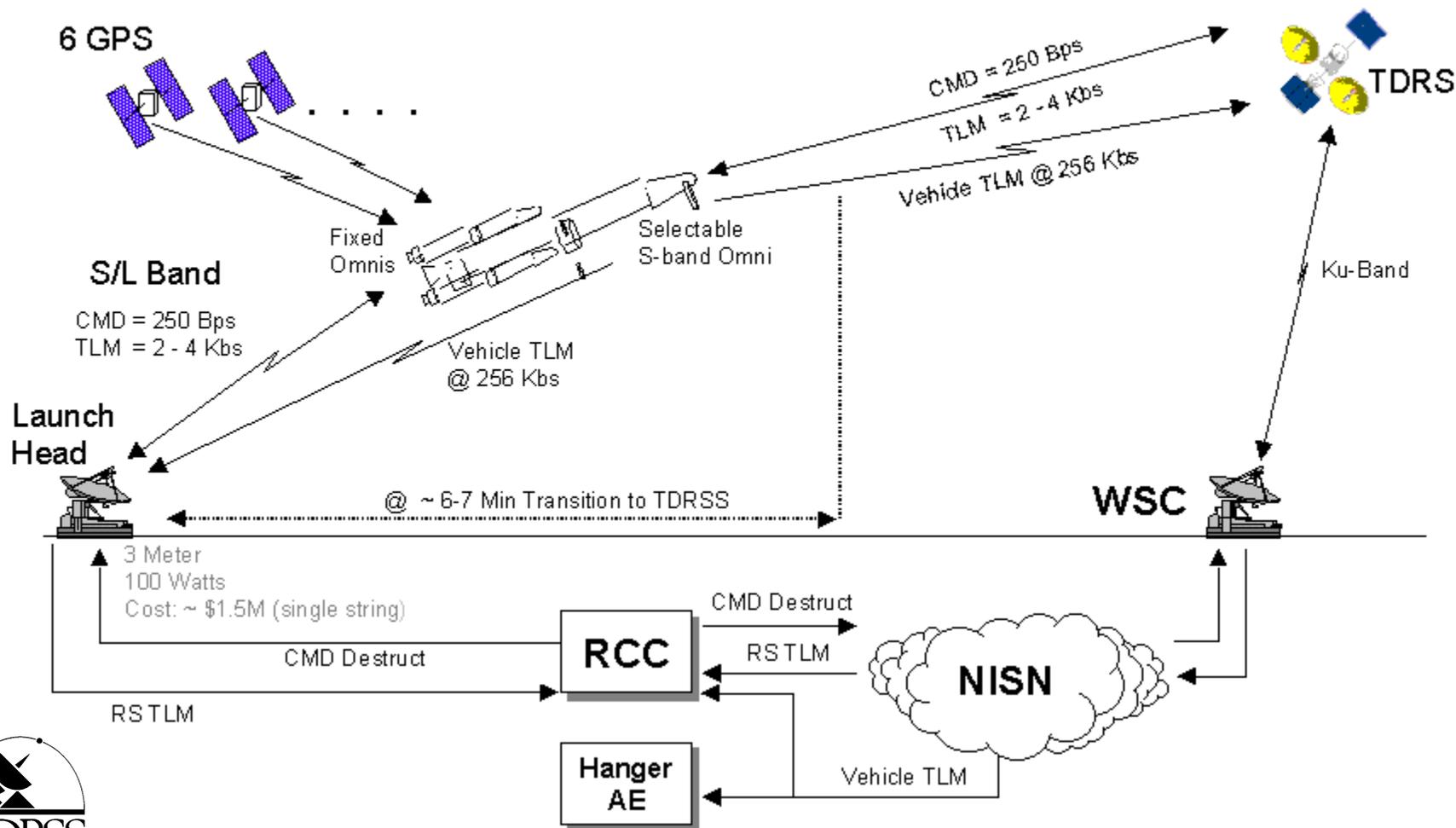
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Potential Architecture for Range Safety Through TDRSS





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Link Margin Summary

	Command @ 250 Bps	Range Safety Telemetry @ 2.4 Kbs	Vehicle Telemetry @ 256 Kbs
Launch Head (@ 2000 km Max Range)	> 20 dB	> 20 dB	> 10 dB
TDRS (With 95% Coverage Sphere)	> 10 dB	> 7 dB	> 2 dB



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Options/Questions

1. Spreading (Security)
 Yes → Fast Acquisition Rx
 No → Non-Spread BPSK with Encryption

2. Is GPS Required During Tumble
 Yes → Fast Acquisition
 No → Use Current Acquisition Techniques

3. Our Desired Approach is one TDRS, one SA. Is this acceptable?
Scheduling two TDRSS Services would be a large, maybe unacceptable burden on Network resources.

- Two services would not radiate at the same time.
- May Interfere with each other





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Options/Questions - Continued

4. Launch Head to TDRS Transition

- Expect Momentary Drop in Coverage
- STS Currently Transitions @ 6 Minutes
- For Range Safety, is this acceptable

5. Latency

- Expect < 2 sec through TDRS. Is this acceptable?

6. S-band Fixed Omni Margins @ 95% Coverage. Deeper Nulls are Likely, Particularly during tumble. Is this acceptable?

