AIS payload

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AIS (Automatic Identification System)

• How trust worthy are AIS messages?

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- In short, Not at all (not my words)

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- CRC corrections using the current polynomial bit flips are not that accurate
- We get about a few thousand of wrong mmsi's every day

• 0 - No alterations to the message or CRC

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- 1 One bit fliped

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- These are done in the satellites, why?
- Cause we don't enough bandwidth to download all the messages
- This way we reduce the size

• Message 1, 2, 3: Position Report Class A

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- Message 1, 2, 3: Position Report Class A
- Message 5: Static and Voyage Related Data (messages whose data is entered by hand)

- Message 1, 2, 3: Position Report Class A
- Message 5: Static and Voyage Related Data (messages whose data is entered by hand)
- Message 8: Binary Broadcast Message (unspecified)

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- Message 1, 2, 3: Position Report Class A
- Message 5: Static and Voyage Related Data (messages whose data is entered by hand)
- Message 8: Binary Broadcast Message (unspecified)
- Message 9: Standard Search and Rescue Aircraft Position Report

- Message 1, 2, 3: Position Report Class A
- Message 5: Static and Voyage Related Data (messages whose data is entered by hand)
- Message 8: Binary Broadcast Message (unspecified)
- Message 9: Standard Search and Rescue Aircraft Position Report
- Message 18, 19: Static info about the ship

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Other Corrections

message-type checks in satellites

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Other Corrections

- message-type checks in satellites
- Dropping unknown mmsi id's in our pipelines

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Deconflicting

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Deconflicting

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- But a satellite could pick up multiple signals in the range
- So we do multiplex based on strong signals and pick them up sequentially

• What is QubeAIS



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- Message size is limited, type 5 and 8 are handled differently

Spire AIS ADSB Machines



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- Spire AIS ADSB Machines
- Better hardware, more CPU power

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- Better hardware, more CPU power
- Supports messages with variable size
- Can do more complex CRC corrections
- Filename + Sequence-number will be unique for a message
- Will be enabling late november

AIS



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- AIS
- Old 4 satellites and no one cares

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- AIS
- Old 4 satellites and no one cares
- T-AIS



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Arun AIS payload May 27, 2019

- AIS
- Old 4 satellites and no one cares
- T-AIS
- Jakota

Arun AIS payload May 27, 2019 10/1

- AIS
- Old 4 satellites and no one cares
- T-AIS
- Jakota
- Lots errors and invalid messages

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File Types

Static file

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File Types

- Static file
- Priority file

File Types

- Static file
- Priority file
- Surplus file

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