

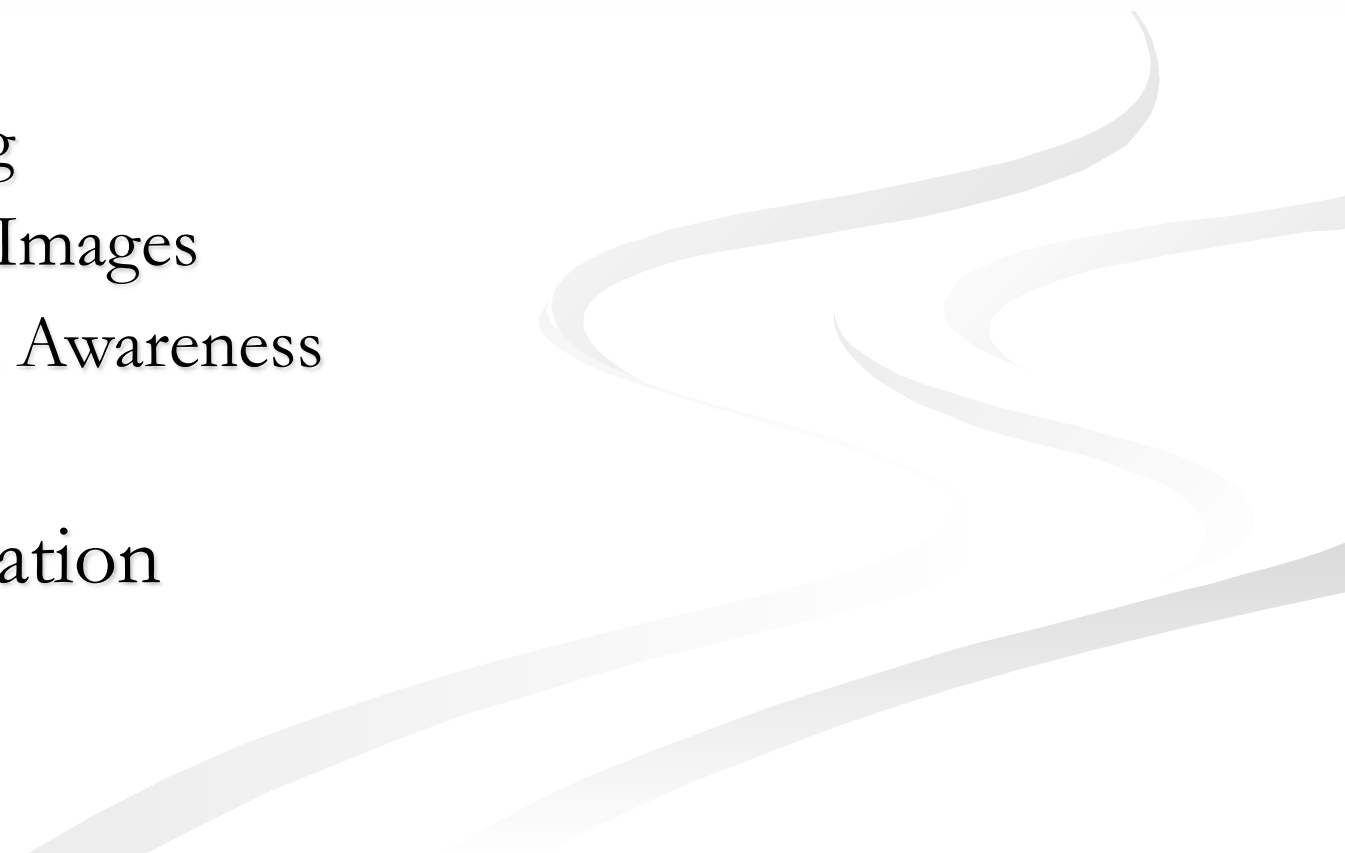
# MicroHAMS Digital Conference 2009

## **D-RATS**

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# Outline

- What is D-STAR?
- What is D-RATS?
  - Goal
  - Messaging
  - Files and Images
  - Positional Awareness
  - Future
- Implementation



# What is D-STAR?

- Purely digital mode
- Simultaneous voice and data
- High-speed (DD) and Low-speed (DV)
- Repeater and gateway infrastructure
- All DV radios can do ~950bps data
  - No modem required
  - Just a serial port (no framing, ECC, etc)
  - Not 8-bit safe

# What is D-RATS

(Goal)

- All-in-one tool for D-STAR data ops
- Provide real uses for data channel
- Oriented at EmComm
- No dependence on infrastructure
  - Originally targeted for simplex
  - All network interaction at endpoints

# What is D-RATS?

(Messaging)

- Free-form multicast chat messages
  - Checksum-protected
  - No ACK/NAK from remote stations (yet)
- Structured messages
  - Use XML to convey structure and content
  - XSL at the endpoints for presentation
- Email gateway
  - Crafted headers for reply and forward

# What is D-RATS?

(Files and Images)

- Arbitrary file transfers with sliding window, compression, and resume
- “File server” for remote retrieval
- Integrated image resize/resample

# What is D-RATS?

(Positional Awareness)

- Captures and sends ICOM GPS strings
- Distance and direction calculation
- Integrated map display
- External GPS to multiplex the port
- Moving stations updated in real-time

# What is D-RATS?

(Future)

- Move to more BBS-centric behavior
  - Email-client-like messaging interface
  - FTP-client-like file transfer interface
  - Better event capture and logging
- Mapping improvements
  - Modules for display of various POIs
  - Performance
  - Usability



# Implementation

- Written in Python/GTK
- Runs on Linux, Mac, and others.
- Full session stack protocol
- OpenStreetMap.org for free maps

# References

- D-RATS Website
  - <http://www.d-rats.com>
- D-RATS Mailing List
  - <http://lists.danplanet.com>

