

**BRANDMEISTER**

**DREILÄNDERECK-SYSOP-TREFFEN 2023**

Artem DL5ABM



# CHANGES DUE TO POLITICAL STATE

- BrandMeister Hub:
  - Stores persistent data of user configurations and registrations
  - Collects registration updates
  - Distributes persistent data between master servers
- Deployed second master-data hub in EU-west
- Master-master data replication between hubs
- Full event message mirroring between hubs



# NEW FEATURES FOR END-USERS

- VW mode to all Fusion connectors (IMRS, WIRES-X, YSF)
- Hytera HR106x Repeater support
- Kirisun Repeater support
- Hytera PDC760 firmware 2.6+ RoIP
- Motorola ARS and LRRP over Data CSBK
- Talker Alias on Motorola terminals
- Native support of Mumble and Zello bridges
- TextCapture (SMS store and forward)
- Removed reflectors and XTG
- Graceful server restart with seamless connect



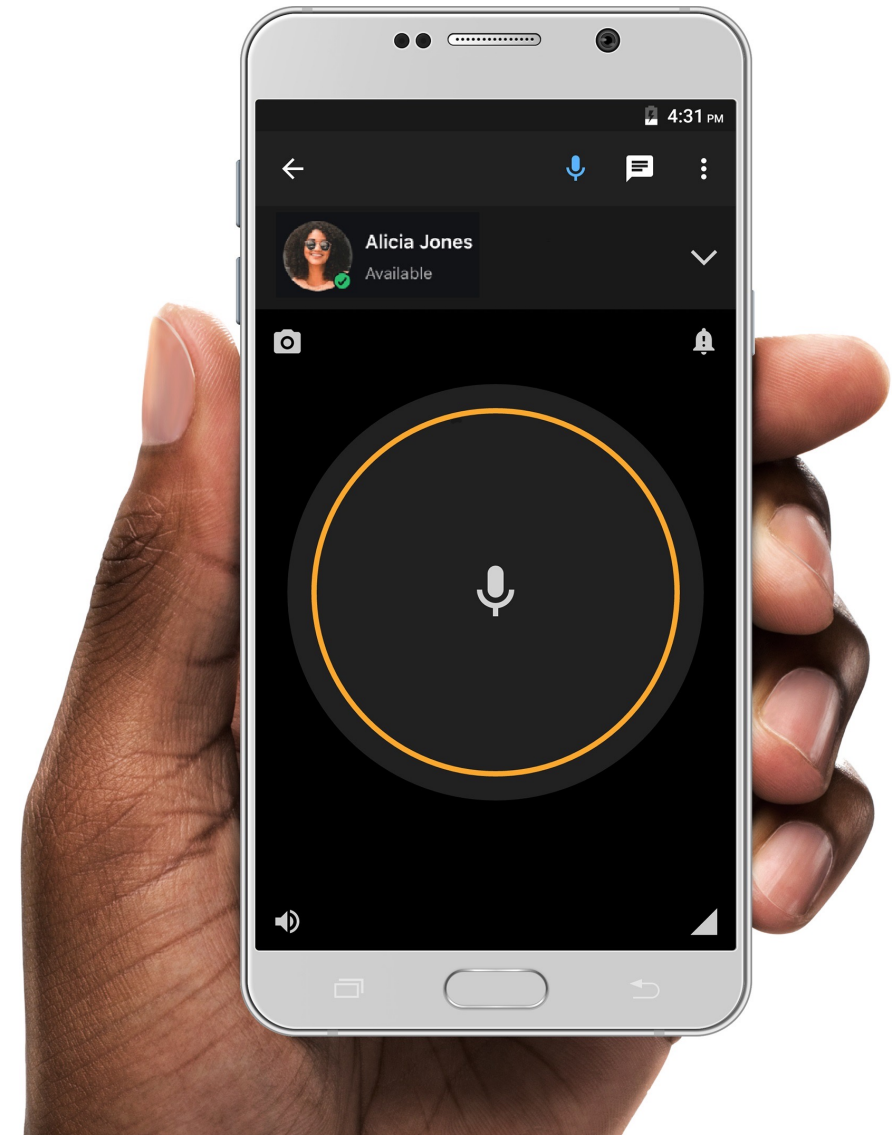
# NEW FEATURES FOR SERVER ADMINS

- WIRES-X directory server support
- Optimized UDP stack with many options how to run (multi-thread, XDP, DPDK, MMAP, verbs, Ixy)
- DNS rotation to AMBE Server
- DNS rotation to APRS Gate
- Shared-memory communications
- FastForward 2.0 via TLS and shared memory
- Direct logging to Elastic stack (Elastic Search – Logstash – Kibana)
- Improved diagnostics via system.php
- DMRA AIS for network bridging
- Graceful restart, upgrade and FAULT
- Significantly decreased restart time
- Debian 11, x86-64 and ARM64
- New fast LastHeard backend



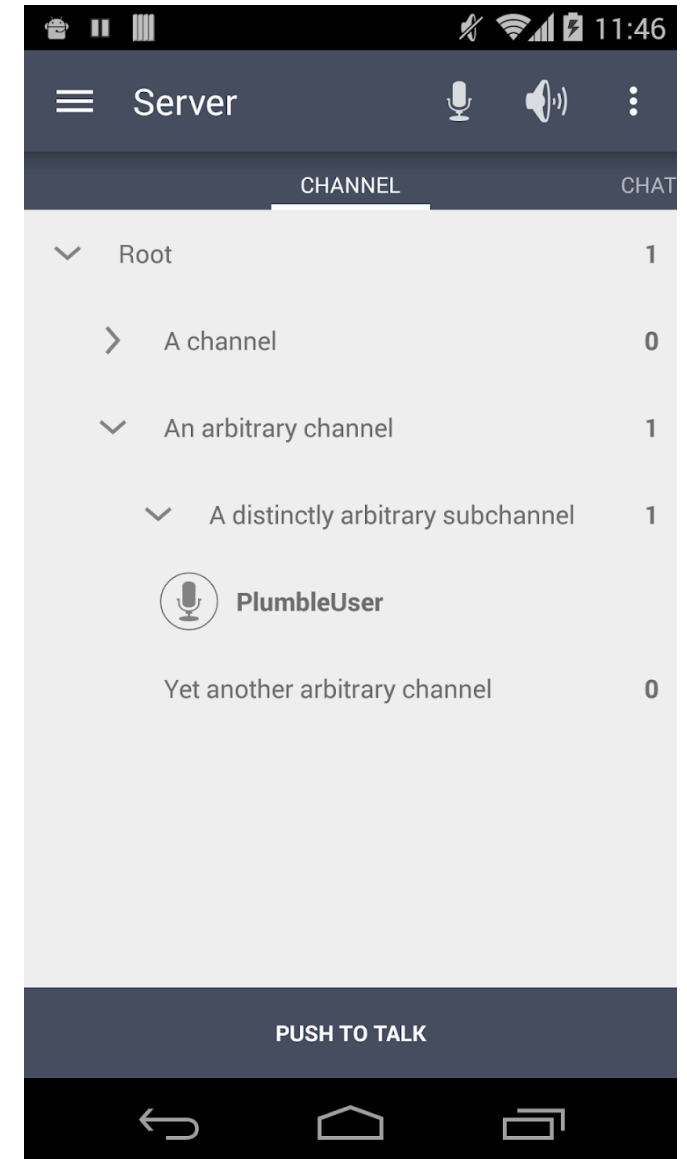
# ZELLO IP PTT

- Uses official Zello Channel API
- Consumer Zello, Zello@Work, Zello Enterprise Server
- Bidirectional Zello Channel  $\leftarrow \rightarrow$  DMR TG
- Taker Alias and Caller ID  $\rightarrow$  Chat message
- Zello user  $\langle \text{CALL} \rangle - \langle \text{DMR ID} \rangle \rightarrow \text{DMR ID}$
- Strictly recommended to use channels with restricted TX access
- \* requires AMBE dongle on the master side



# MUMBLE IP PTT

- Open-source IP PTT
- Clients for PC, iOS, Android
- Uses native Mumble protocol
- Supports Channel Tokens
- Plugin to authenticate over BrandMeister
- Bidirectional Mumble Channel  $\leftarrow \rightarrow$  DMR TG
- Taker Alias and Caller ID  $\rightarrow$  Chat message
- Mumble user  $\langle \text{CALL} \rangle - \langle \text{DMR ID} \rangle \rightarrow \text{DMR ID}$
- \* requires AMBE dongle on the master side

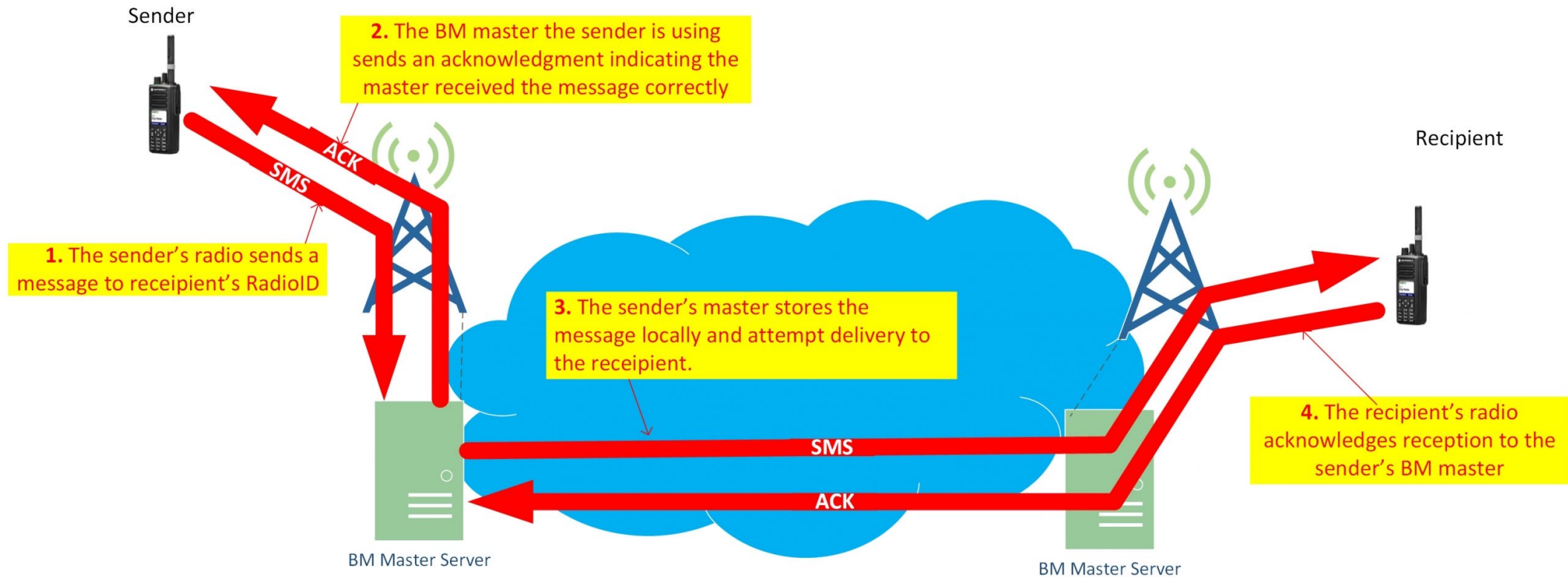


# TEXT CAPTURE

- Capture-Store-Forward service that works like a SMSC of your cellular operator
  - Captures and stores SMS in the database on master server
  - Deliveries SMS when a receiving party online
  - Messages are stored on the server for a week
- Receiving party has to subscribe to the service via SelfCare
- Subscriber has to have HT with well-implemented delivery reports
  - Hytera
  - Motorola



## Text Capture turned ON



5. If no acknowledgment is received, the master will keep trying sending the message. If an acknowledgment is received, the master will erase the local copy





# GREACEFUL RESTART & DIRECT LOGGING

- Restore connections on daemon restart WITHOUT reconnections
  - Reconfiguration, upgrade and FAULTS
  - All clients including repeaters, hotspots, terminals and browsers (UDP/TCP/WS)
  - Only calls in progress will be interrupted
  - Restart time is around 1-2 seconds with thousands of connections (f.e. master 3102)
  - Use SYSTEMCTL RELOAD to reload BM daemon WITHOUT reconnections
- Direct centralized logging
  - Elastic stack (ELK) as a cetralized log gathering and analysis solution
  - No extra software is required for BrandMeister Core
  - Write-Ahead Logging to prevent event misses (in case of restarts and FAULTS)
  - Helped a lot to improve Core stability



# Questions?

