

Android Cast — alpha priorities (2026-06-08 renumber)

Master alpha priority plan — 2026-06-08 renumber

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Source: 20260608_ALPHA_PRIORITIES.md — section links work in PDF viewers that support internal anchors.

Bottom line (agent rules)

Before and during alpha implementation:

Rule	Action
Docs	All specs in docs/ — classic TOC template; PDF via scripts/build-all-docs-pdf.sh
Alpha must-have	RSSH (4.x), auth (2.5 + 3.x), backend validation (5.x) — see ALPHA.md
UI/UX	Reuse crashes console app.css, hub styles, EN/RU i18n — no new design system
Licenses	Update app/.../licenses/combined.html + THIRD_PARTY_LICENSES.md when adding libs/tools
Tests	Unit tests for pure logic; simulate network/SSH where E2E needs no device; run ./gradlew :app:testDebugUnitTest + PHP scripts
Build	./gradlew assembleDebug after native/Gradle changes
Dev input	Blocked items → brief list in tmp/YYYYMMDD_help_request.md + PDF; remind at end of session
Git on next	Alpha sprint may commit directly on next; atomic commits per feature for easy git revert — GIT_FLOW.md §4.1

Priority overview

Tier	IDs	Owner split	Alpha blocker?
P0 debug	0.1	Agent impl; enables 6.5/6.6	No
P1	1.x	Agent	No
P2	2.1–2.4 dev, 2.5+3.x agent	Mixed	Yes (auth path)
P3	4.x	Agent (+ deploy assist)	Yes (RSSH)
P4	5.x	50/50 OTA/URLs; rest agent	Yes
P5	6.x	~99% dev	LAN alpha
P9	9.x landing	Agent when idle	No

Effective order (agent): 0.1 (parallel) → 4.x + 2.5/3.x + 5.3–5.5 → 1.x → 9.x when bandwidth allows.

0.x Emergency debug (not alpha blocker)

0.1 FR — Stream dump while casting

Priority: High emergency debug. **Cyclic with 6.6** (same capability; 6.6 references 0.1 for audio lag / lifecycle analysis).
Goal: While audio or video cast is active, optionally record what flows through the encode/send (or receive/decode) path for offline analysis.

Sub	Mode	Deliverable
0.1.1	Structured	YYYYMMDD_HHMMSS_sess_record.zip containing meta.json + streams
0.1.2	Raw quick	Same archive layout; uncompressed elementary streams only
0.1.3	Tooling	Update session stats / graphs ingest to read meta.json schema

Archive layout (both 0.1.1 and 0.1.2):
20260608_120422_sess_record.zip
■■■ meta.json
■■■ 20260608_audio_stream.raw # or .aac / .opus per meta
■■■ 20260608_video_stream.raw # or .h264 / annex-b per meta

meta.json (sketch):

```
{
  "schema_version": 1,
  "session_id": "20260608_120422",
  "role": "sender",
  "record_mode": "raw_elementary",
  "started_at_epoch_ms": 0,
  "ended_at_epoch_ms": 0,
  "video": {
    "mime": "video/avc",
    "width": 1280,
    "height": 720,
    "frame_count": 1200,
    "file": "20260608_video_stream.raw",
    "format": "length_prefixed_avc",
    "csd0_hex": "...",
    "csd1_hex": "..."
  }
}
```

```

},
"audio": {
  "mime": "audio/mp4a-latm",
  "sample_rate": 44100,
  "channels": 2,
  "frame_count": 800,
  "file": "20260608_audio_stream.raw",
  "format": "length_prefixed_aac"
},
"cast_settings_snapshot": { "transport": "udp", "protection": "NONE" }
}

```

Implementation hooks (prep):

Tap point	File	Notes
Sender video frames	ScreenCastService / CastSendPump	After onEncodedFrame, before UDP wrap
Sender audio frames	AudioEncoderSink.Callback.onEncodedFrame	Same
Receiver (optional phase 2)	ReceiverCastService / AudioDecoder	Inbound before decode

Dev gate: Developer settings → **Record stream dump** (off by default); cap size/duration; write under files/stream_dumps/.

Spec detail: 20260608_STREAM_DUMP_DEBUG.md

1.x Graphs console

ID	Task	Owner
1	Graphs dashboard — parent	Agent
1.1	All pending fixes (5.1 brick drill-down, perf, permalinks, etc.)	Agent
1.2	All pending FRs (5.2 columns 1/2/4, full-width grid)	Agent

Depends on BE deploy (soft). Not alpha blocker.

2.x Email → SMTP → 2FA → RBAC

ID	Task	Owner	Notes
2.1	DNS: MX + SPF for mail — use apex f0xx.org if apps.f0xx.org is CNAME (cannot add MX)	Developer	tmp/20260608_help_request.md
2.2	Register forward addresses (info@, admin@, root@ → Gmail)	Developer	Cloudflare Email Routing or ImprovMX
2.3	Inbound forward verification	Developer	Send test mail
2.4	Gmail filters / reply-as (optional)	Developer	
2.5	Outbound SMTP from BE (noreply@, verification mail)	Agent	Symfony Mailer; config.php
3.x	Registration + verify + TOTP + mobile UI + migration 008	Agent	See 20260607-2FA-email-mobile-auth-flow.md
→ RBAC	Finish admin UI after pages stable	Agent	Former task 7

Chain: 2.1 → 2.2 → 2.3 (dev) ■ 2.5 (agent after 2.1 DNS) → 3.x → RBAC.

3.x Auth implementation (agent)

All items from 20260607-2FA-email-mobile-auth-flow.md §10.7:

- P1 Register + verify + ALTCHA
- P2 TOTP enroll + login challenge
- P3 Admin lockout clear + audit
- P4 WebAuthn (optional alpha)
- P5 Android Custom Tab entry (optional)

Tests: PHP API smoke scripts; unit tests for token hash / TOTP verify helpers.

4.x Reverse SSH alpha

Replace WireGuard as alpha deliverable — WG stays for lab (REMOTE_ACCESS_IMPL.md).

ID	Task	Owner
4.1	BE: opt_in_mode: rssh, bastion user, authorized_keys / -R port map	Agent
4.2	BE: nginx stream or SSH on 443 per 20260602_REVERSE_SSH_proposals_summary.md	Agent + deploy

4.3	Android: RemoteAccessMode.RSSH selectable, no VpnService	Agent
4.4	Android: outbound SSH client (libssh2 / dropbear JNI — TBD) + FG service	Agent
4.5	E2E: whitelist → open session → operator shell/SFTP on bastion	Agent + QA
4.wg	WireGuard fixes only if lab broken	Agent as needed

Depends on: BE deploy (5.x). Blocks 5.3.

5.x Alpha backend validation

ID	Task	Owner split
5.1	OTA channel + artifacts on apps.f0xx.org	50% dev / 50% agent
5.2	Crash + OTA URLs on device (settings.json, dev settings)	50% dev / 50% agent
5.3	RSSH BE validation	Agent (deploy assist dev) — depends 4.x
5.4	auth-2fa validation (G2–G6)	Agent
5.5	RBAC validation	Agent

6.x Alpha app LAN

ID	Task	Owner	Deps
6.1	Opus/Speex E2E	Dev + agent JNI	native .a
6.2	LAN soak A/B/C	Dev	—
6.3	App lifecycle (notifications, recents)	Dev	
6.4	Rotation + preview crash	Dev	↔ 6.3 cyclic
6.5	Audio lag — buffers, handshake, graphs	Dev	0.1 helps
6.6	Debug stream analysis	Dev	= 0.1

Agent: fixes / urgent FRs only (~1%).

9.x Landing (lowest)

Renumbered from former 6.x landing track:

ID	Task
9	Landing hub parent
9.1	Hub cards (graphs, builder, RA)
9.2	Globe / earth animations
9.3	Mobile chrome validation (LOW)

Dependency graph

```

flowchart TB
    subgraph P0["P0 debug"]
        S01["0.1 stream dump"]
    end

    subgraph P2["P2 auth – dev"]
        D21["2.1 DNS"]
        D22["2.2 forward"]
        D23["2.3 verify inbound"]
    end

    subgraph P2a["P2 auth – agent"]
        A25["2.5 SMTP"]
        A3["3.x 2FA"]
        RBAC["RBAC"]
    end

    subgraph P3["P3 RSSH"]
        R4["4.x reverse SSH"]
    end

    subgraph P4["P4 backend alpha"]
        B51["5.1 OTA"]
        B52["5.2 URLs"]
        B53["5.3 RSSH validate"]
        B54["5.4 auth validate"]
    end

```

```
subgraph P5["P5 app LAN - dev"]
  A61["6.1 Opus"]
  A62["6.2 soak"]
  A63["6.3 lifecycle"]
  A64["6.4 rotation"]
  A65["6.5 audio lag"]
end

subgraph P9["P9 landing"]
  L9["9.x"]
end

ALPHA["FULL_ALPHA"]

S01 -. -> A65
S01 -. -> A64

D21 --> D22 --> D23
D21 --> A25 --> A3 --> RBAC --> B54
A3 --> ALPHA

R4 --> B53 --> ALPHA
B51 --> ALPHA
B52 --> ALPHA

A62 --> ALPHA
A63 -. -> A64
A64 -. -> A63

L9 -. -> RBAC
```

Licenses & tests checklist

When adding...	Update
libssh2 / dropbear / Symfony Mailer	combined.html, THIRD_PARTY_LICENSES.md
Stream dump (no new deps if pure Java)	—
RSSH BE scripts	BE licenses doc
Area	Test command
Android unit	./gradlew :app:testDebugUnitTest
RSSH API	BASE=... ./scripts/ra_e2e_cli.sh (extend for RSSH)
Auth API	scripts/test_rbac_api.sh + new test_auth_api.sh (TBD)
Stream dump	Unit test StreamDumpWriter framing + meta.json schema

Developer help (blocked on you)

Email/DNS (2.1–2.4): hands-on checklist with record examples:
→ tmp/20260608_help_request.md (PDF: tmp/20260608_help_request.pdf)
Please complete 2.1–2.3 before agent enables production verification mail (2.5).

Source linkage

Doc	Topic
20260608_STREAM_DUMP_DEBUG.md	0.1 implementation spec
20260607-2FA-email-mobile-auth-flow.md	2.x / 3.x
OPEN_TASKS_GRAPH.md	Ticket-level graph
20260602_REVERSE_SSH_proposals_summary.md	4.x
ALPHA.md	Sign-off F/G