Integration Architecture and Operational Notes

This document describes the end-to-end integration between Ameyo and TopS.II (FastHelp) via this PHP relay, including data flows, decision logic, state handling, and practical debugging steps.

System overview

The relay receives GET callbacks from Ameyo, immediately returns a small JSON acknowledgment, and then asynchronously forwards the appropriate payload to TopS.II Web APIs.

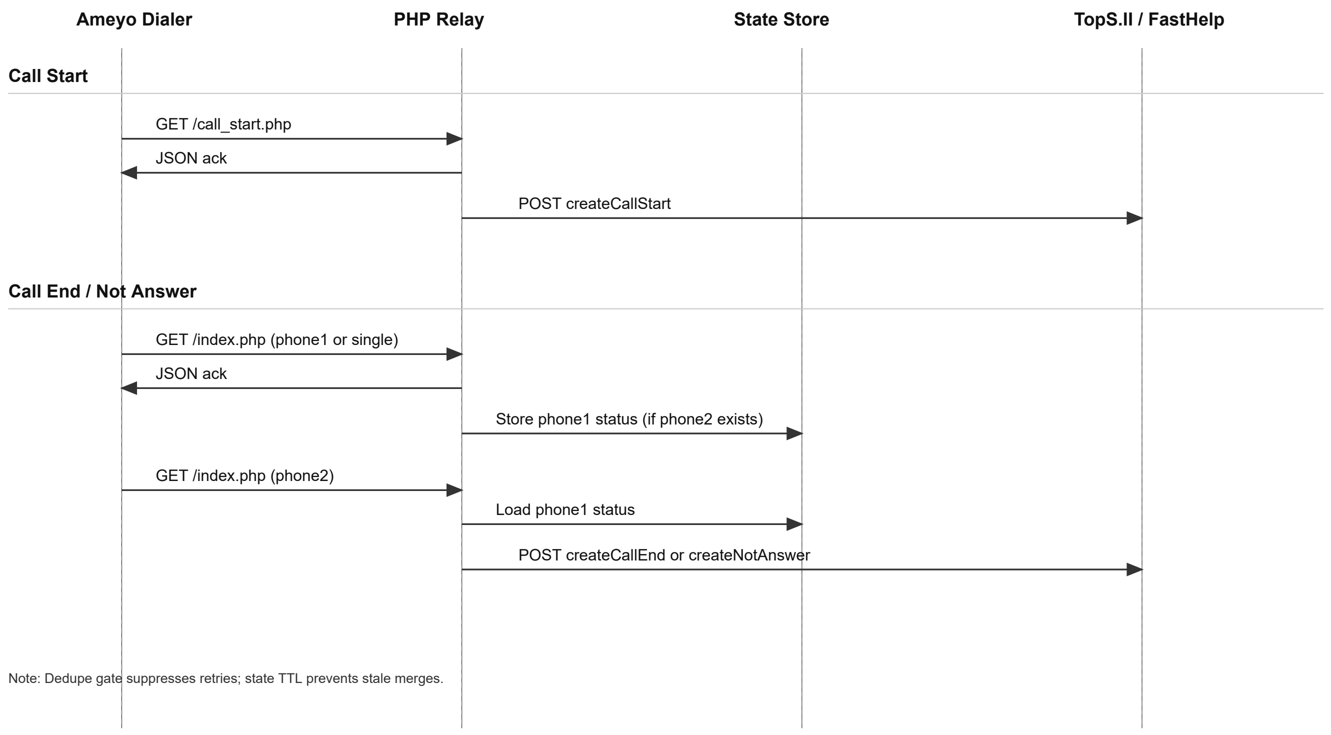
Key integrations:

- Ameyo Dialer (callback source)
- This PHP relay (routing, state, dedupe, logging)
- TopS.II / FastHelp Web APIs (createCallStart / createCallEnd / createNotAnswer)

Architecture diagram (Mermaid)

```
flowchart LR
    A[Ameyo Dialer] -->|GET callbacks| B[PHP Relay: index.php / call_start.php]
    B -->|Immediate ACK| A
    B --> C[State files: logs/state]
    B --> D[Logs: logs/*.log]
    B -->|POST form json| E[TopS.II / FastHelp APIs]
```

Sequence diagram (image)


Ameyo Dialer
PHP Relay
State Store
TopS.II / FastHelp
Call Start
GET /call_start.php
JSON ack
POST createCallStart
Call End / Not Answer
GET /index.php (phone1 or single)
JSON ack
Store phone1 status (if phone2 exists)
GET /index.php (phone2)
Load phone1 status
POST createCallEnd or createNotAnswer
Note: Dedupe gate suppresses retries; state TTL prevents stale merges.

Sequence diagram (Mermaid source)

```
sequenceDiagram
    participant A as Ameyo Dialer
    participant B as PHP Relay
    participant C as State Store
    participant D as TopS.II / FastHelp

    rect rgb(245,245,245)
    note over A,B: Call Start
    A->>B: GET /call_start.php
    B-->>A: JSON ack
    B->>D: POST createCallStart
    end

    rect rgb(245,245,245)
    note over A,B: Call End / Not Answer
    A->>B: GET /index.php (phone1 or single)
    B-->>A: JSON ack
    B->>C: Store phone1 status (if phone2 exists)
    A->>B: GET /index.php (phone2)
    B->>C: Load phone1 status
    B->>D: POST createCallEnd or createNotAnswer
    end
```

Main components

- Ameyo Dialer
    - Sends GET callbacks per call attempt and call events.
    - Provides parameters like `unique_id`, `customerCRTId`, `shareablePhonesDialIndex`, `phoneList`, `systemDisposition`.
- PHP Relay
    - `index.php` -> `handle_index_request()` (Call End / Not Answer routing)
    - `call_start.php` -> `handle_call_start_request()` (Call Start)
    - Dedupe gate prevents duplicate upstream calls.
    - Phone1 state storage used to combine phone1+phone2 in two-phone flows.
- TopS.II / FastHelp API endpoints
    - `createCallStart.json`
    - `createCallEnd.json`
    - `createNotAnswer.json`

Primary flows

Call Start (`call_start.php`)

- Trigger: Ameyo sends call-start callback.
- Mapping:
  - `callId` from `callId` or `cs_unique_id` or `crm_push_generated_time` or `sessionId`
  - `predictiveStaffId` from `userId`
  - `targetTel` from `phone` or `displayPhone` or `dialledPhone` or `dstPhone`
- Action: Send `createCallStart` to TopS.II.

Call End / Not Answer (`index.php`)

Decision inputs:

- `systemDisposition` and `dispositionCode`
- `shareablePhonesDialIndex`
- `phoneList` (JSON)
- `customerCRTId` (required for Call End)

Routing rules:

- Phone1 connected (`systemDisposition=CONNECTED` and `shareablePhonesDialIndex=0`):
  - Send `createCallEnd` with `subCtiHistoryId = customerCRTId`.
- Phone2 connected (`systemDisposition=CONNECTED` and `shareablePhonesDialIndex>=1`):
  - Send `createCallEnd` with phone1 errorInfo (from state) and `subCtiHistoryId = customerCRTId`.
- Not connected:
  - Single phone: send `createNotAnswer` immediately with `errorInfo1 = current status`.
  - Two phones:
    - Phone1 callback (dialIndex=0): store phone1 status and wait.
    - Phone2 callback (dialIndex>=1): combine stored phone1 status + current phone2 status and send `createNotAnswer`.

State handling (two-phone flow)

Purpose: Avoid DB timing issues by keeping phone1 status locally until phone2 arrives.

- State file stored under `logs/state/phone1_<hash>.json`
- Key: `customerId + callId`
- Fields: `customerId`, `callId`, `callTime`, `phone1Status`
- TTL: `PHONE1_STATE_TTL_SECONDS` (default 600s)
- Cleared after sending phone2-based upstream request

Dedupe gate

Purpose: Prevent multiple upstream calls for the same callback retry.

- Key: `crtObjectId + customerId + callId`
- Status:
  - `processing`: rejects duplicates for a short window
  - `processed`: rejects duplicates for a longer window
- TTL:

    - `REQUEST_PROCESSING_TTL_SECONDS` (default 30s)
    - `REQUEST_DEDUPE_TTL_SECONDS` (default 300s)

Configuration (env)

- `TEST_BASE_URL` / `PROD_BASE_URL`
- `TEST_API_KEY` / `PROD_API_KEY`
- `INDEX_ENV` (`TEST` or `PROD`)
- `ENABLE_REAL_SEND` (`true` to send upstream)
- `PHONE1_STATE_TTL_SECONDS`
- `REQUEST_PROCESSING_TTL_SECONDS`
- `REQUEST_DEDUPE_TTL_SECONDS`

Logging

Log files (daily):

- `logs/call_start-YYYY-MM-DD.log`
- `logs/call_end-YYYY-MM-DD.log`
- `logs/not_answer-YYYY-MM-DD.log`
- `logs/general-YYYY-MM-DD.log`

Each entry contains:

- `request_id` for correlation
- `query` payload from Ameyo
- `decision` with chosen flow and errorInfo values
- `upstream_request` / `http_client` / `upstream_response`
- `dedupe` if a retry was skipped
- `state` when phone1 is stored

Debugging checklist (CRM-side first)

1. Verify Ameyo callback inputs:
    - `unique_id`, `customerId`, `customerCRTId`, `shareablePhonesDialIndex`, `phoneList`
    - Confirm `systemDisposition` and `dispositionCode` values
2. Confirm relay received the request:
    - Check `logs/not_answer-YYYY-MM-DD.log` or `logs/call_end-YYYY-MM-DD.log`
    - Use `request_id` to track a single flow
3. Check dedupe behavior:
    - Look for `dedupe | Skipped duplicate request`
4. Check phone1 state behavior (two-phone flow):
    - `state | Stored phone1 status; waiting for phone2`
    - On phone2 callback, confirm `phone1_state_used=true` in decision log
5. Check upstream send:
    - `upstream_request` contains payload and URL
    - `http_client` shows `http_code` and `error` if any
6. If upstream returns errors:
    - Confirm `customerCRTId` exists in CRM

  - Validate `callId`, `callTime`, `predictiveStaffId`, `targetTel`

Known edge cases and handling

- Duplicate callbacks from Ameyo:
  - Handled by dedupe gate; only first request is sent upstream.
- Phone2 arrives before phone1:
  - `errorInfo1` will be `UNKNOWN` (no phone1 state available).
- Phone2 never arrives:
  - Phone1 state expires after `PHONE1_STATE_TTL_SECONDS`.
- Missing `customerCRTId` on Call End:
  - Request is rejected with a clear error.

Change management notes

- Database lookups are intentionally removed to avoid timing inconsistencies.
- Phone1 status is sourced only from the phone1 callback and stored locally.
- NotAnswer does not include `subCtiHistoryId`.