CXP-PULSE DOCUMENTATION

CXP-Pulse is an internal web application designed to surface operational, customer, and performance metrics through three complementary modules: a **Dashboard Module** for chart-based analysis, a **Maps Module** for geospatial and real-time insights, and a **Transcript Analysis Module** for exploring call patterns and emotional trends across customer interactions. The platform enables teams to customize views, compare historical and current data, and monitor live activity.

I] DASHBOARD MODULE

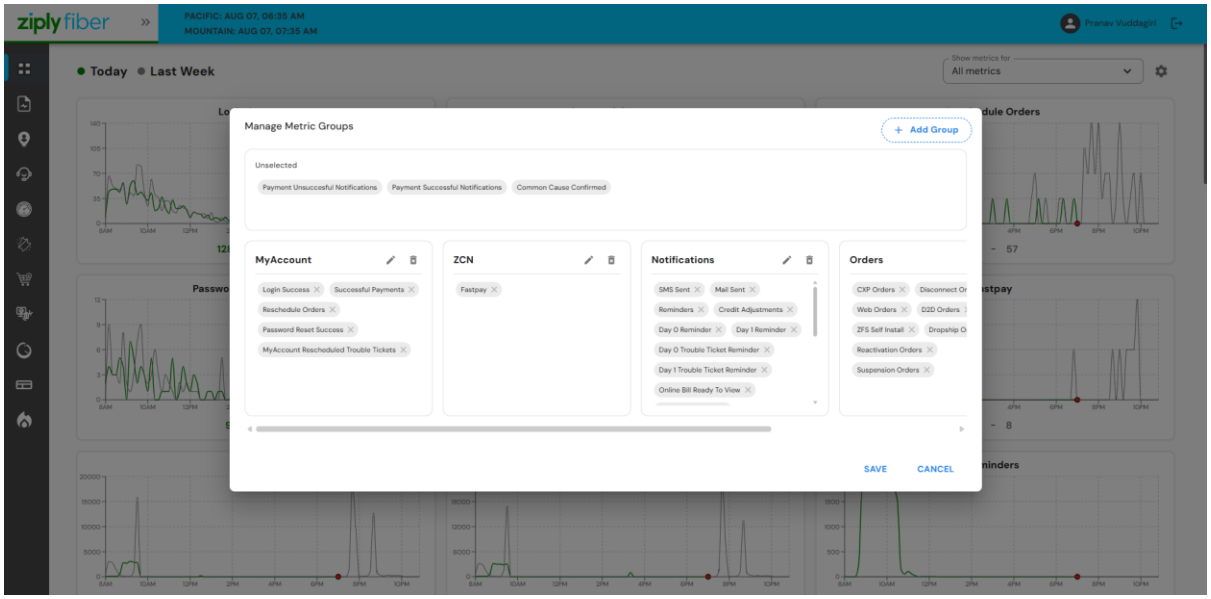
The Dashboard Module provides a centralized interface for viewing and organizing key performance metrics across business functions. It supports user-configured groupings, interactive comparisons, and a focused view for failure metrics.

1.1 Metric Group Selector

The Metric Group Selector is a dynamic interface component that empowers users to create and adjust their own chart groupings on the fly. By organizing metrics into meaningful collections, teams can streamline their views and focus on the data that matters most.

Key features include:

- Drag-and-drop chips to organize charts into custom groups.
- **Default groups:** MyAccount, ZCN, Notifications, Orders, TSO.
- Options to add, rename, or delete groups.
- Persisted in browser local storage.
- Reflected in the dropdown filter for quick group switching.



1.2 Chart Layout and Hover Behavior

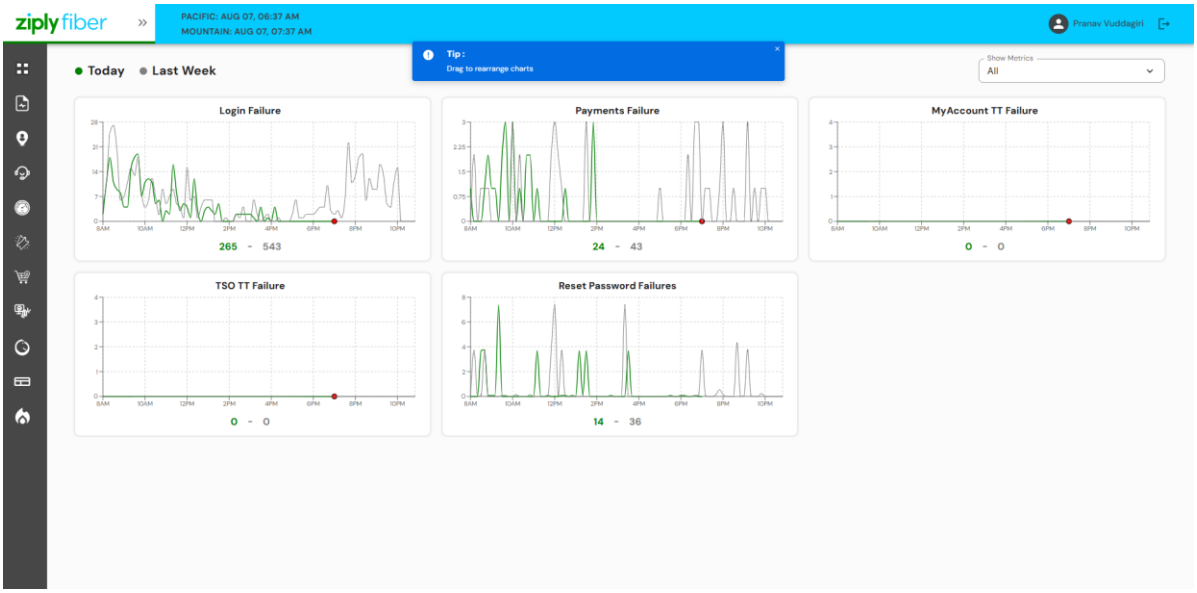
Charts are displayed as draggable cards and support overlay of current and historical data for easy comparison.

Each chart provides:

- Today's data (green line) overlaid with last week's data (gray line).
- Hover support at 10-minute intervals displaying both data points for precise trend analysis.

1.3 Failure Dashboard

The dedicated **Failure View** presents only error and issue-related metrics for rapid triage. Users can select specific failure charts via a dropdown



1.4 Default Chart Groups and Metrics

The following default groups categorize available charts by operational domain. Each metric includes a brief description.

MyAccount

- **Login Success:** Tracks successful user logins.
- **Successful Payments:** Completed payment transactions.
- **Reschedule Orders:** Orders rescheduled by users.
- **Password Reset Success:** Successful password reset events.
- **MyAccount Rescheduled Trouble Tickets:** Trouble tickets rescheduled via MyAccount.

ZCN

- **Fastpay:** Tracks successful fast payment transactions under ZCN.

Notifications

- **SMS Sent:** Number of SMS messages sent.
- **Mail Sent:** Number of emails dispatched.
- **Reminders:** Delivery of reminder notifications.
- **Credit Adjustments:** Credits applied to accounts.
- **Day 0 Reminder:** Event-day reminders.
- **Day 1 Reminder:** Post-event reminders.
- **Day 0 Trouble Ticket Reminder:** Same-day trouble ticket reminders.
- **Day 1 Trouble Ticket Reminder:** Prior-day trouble ticket reminders.
- **Online Bill Ready To View:** Alerts when bills are available.
- **Past Due 7 Notice:** Notices for bills overdue by 7 days.
- **Final Warning Notifications:** Last warnings before escalation.
- **Auto Pay Payment:** Automated payment transactions.
- **Past Due Notice:** General past due reminders.
- **Disconnect Non-Pay:** Disconnection notices for non-payment.
- **Update Notifications:** Account update alerts.
- **Restored Notifications:** Service restoration alerts.
- **Common Cause Confirmed:** Area-wide issue confirmations.
- **Payment Successful Notifications:** Alerts for successful payments.
- **Payment Unsuccessful Notifications:** Alerts for failed payments.

Orders

- **CXP Orders:** Orders placed via the portal.
- **Disconnect Orders:** Service termination orders.
- **Web Orders:** Website-submitted orders.
- **D2D Orders:** Door-to-door sales orders.
- **ZFS Self Install:** Zero-footprint self-install orders.
- **Dropship Orders:** Direct shipment orders.
- **Reactivation Orders:** Service reactivation requests.
- **Suspension Orders:** Temporary service suspension requests.

TSO

- **TSO Rescheduled Trouble Tickets:** Trouble tickets rescheduled by TSO agents.

II] MAPS MODULE

CXP-Pulse offers a suite of interactive map modules that visualize Ziply's service availability, network performance, customer activity, and real-time operational insights. All maps are built using **MapLibre GL**, an **open-source WebGL-based mapping library**, rendered over **OpenStreetMap** tiles.

Data loading behavior varies by module. The **Serviceable Locations** and **Speed Test** maps load data dynamically based on zoom level and viewport, while the other maps—**Customer Calls (CARE & TSO)**, **Trouble Tickets**, **Customer Orders**, **Customer Logins**, **Rescheduled Orders**, **Payment Requests**, and **Outages**—receive live updates every **15 seconds** via WebSocket connections.

2.1 Common Map Features

All maps share these foundational capabilities:
Before interacting with any map, users can rely on consistent theming, controls, and filtering options:

- **Rendering engine**: MapLibre GL over OpenStreetMap
- **Themes**: Light, Dark, Earth

Controls: Zoom In/Out, Reset View, Fullscreen toggle, Theme switcher

- **Hub Filter Panel**:
  - Search hubs by **Hub ID** or **Office CLLI8 code**
  - Sort by any per-100 metric (calls, orders, etc.)
  - Paginate through large hub lists
  - **Fly-to & Pop-up**: clicking a hub entry flies to its location and opens its pop-up
- **Viewport Fetch** (zoom-based maps): panning or zooming sends updated bounds to the server and refreshes data; a quick-overview indicator shows fetch status
- **Live Updates** (live maps): data refreshes every 15 seconds via WebSocket; **marker size** is dynamically scaled according to the selected metric

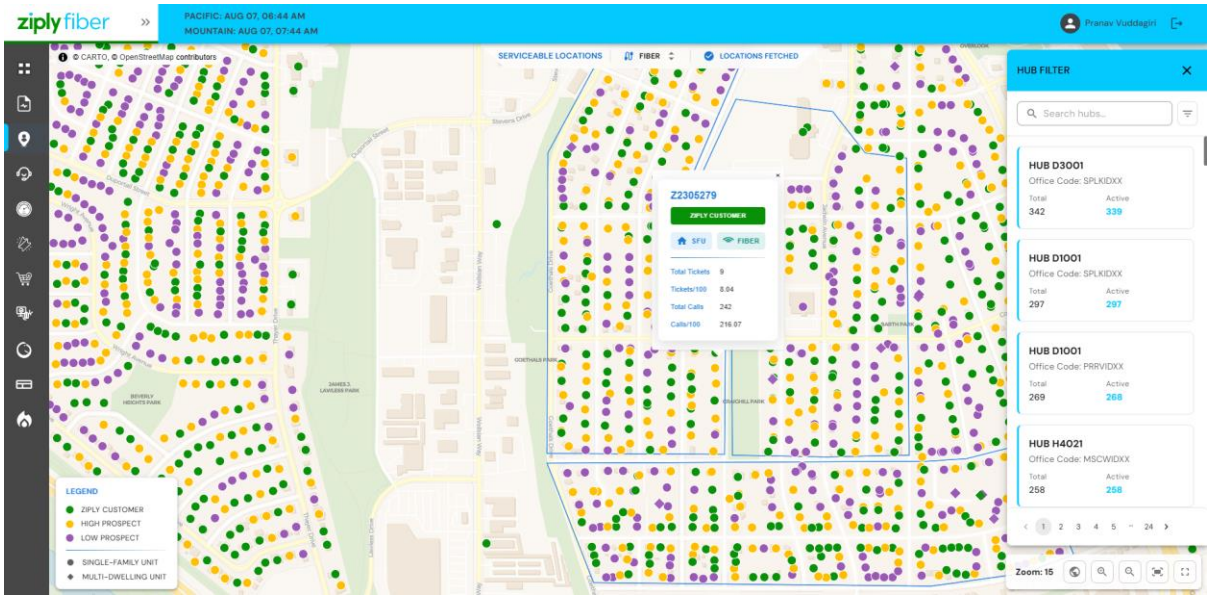
2.2 Zoom-Based Contextual Maps

CXP-Pulse utilizes **zoom-aware rendering** to balance performance and contextual detail across large geospatial datasets. At lower zoom levels, users view **hub boundaries as polygons**, giving a broad overview of regional coverage. Once zoomed in beyond level 15, the map dynamically fetches and displays **individual locations** within the current viewport, ensuring relevance and scalability. This architecture supports **on-demand data loading**,

keeping interactions responsive while delivering precise, location-specific insights only when needed.

2.2.1 Serviceable Locations

Built on the zoom-based architecture, the Serviceable Locations map visualizes **customer and prospect density** within each hub. It distinguishes **Simply Customers, High Prospects, and Low Prospects** using distinct colors, and represents **Single Family Units** and **Multi-Dwelling Units** with unique markers. The map fetches only visible address data at high zoom levels, with **real-time location fetch indicators** shown on the interface. Popups reveal address-specific metadata, and additional tools like **fiber/copper filters**, **hub search and sorting**, and **multi-address resolution** enhance usability. The module supports a scale of over **2.4 billion total locations**, optimized for clarity and control.



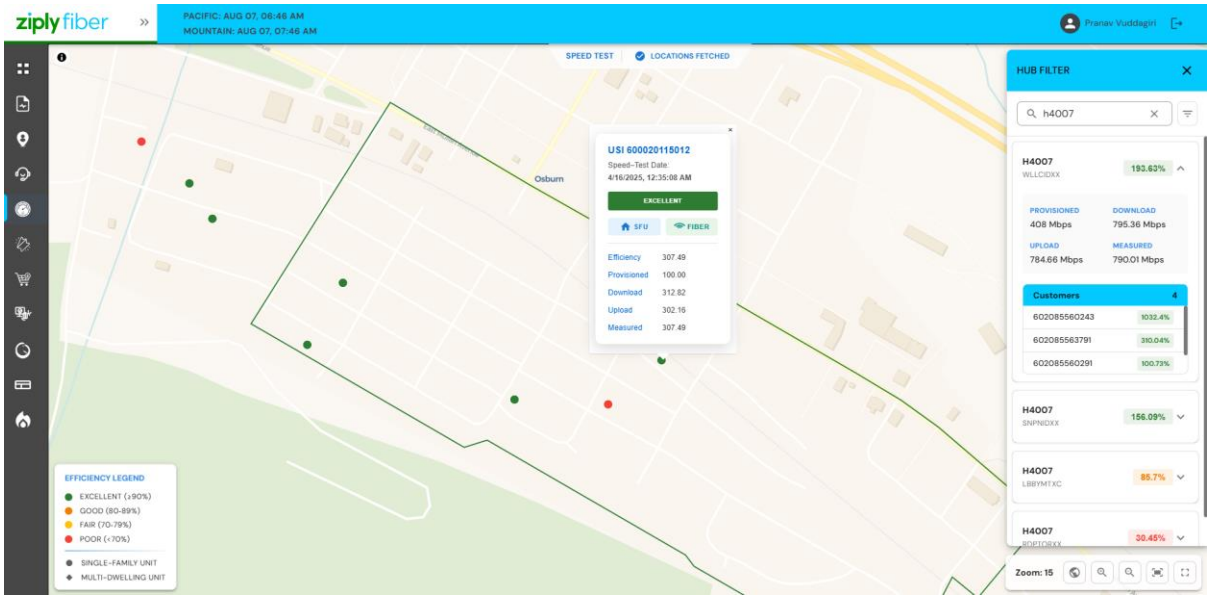
Key behaviors include:

- Multi-polygon hub areas rendered on initial load.
- Individual address points appear at zoom level >15.
- Point categories: Customer (Green), High Prospect (Yellow), Low Prospect (Muted Violet).
- Dwelling types: SFU (circle), MDU (diamond).
- API-triggered pop-ups with detailed metrics: Hub-T100, Calls for 100, and more.
- Hub pop-ups show total and current Ziply customers.
- Fiber/Copper toggle filters points by media type.
- Fetch indicator in quick overview during data loads.
- Hub filter panel supports search, sort, and fly-to pop-up.

2.2.2 Speed Test

The Speed Test map overlays **performance metrics** onto the hub view, showing how each region is performing based on aggregated speed test results. Polygons are **color-coded** across four categories: **Excellent, Good, Fair, and Poor**. Beyond zoom level 15, **customer-level test locations** appear, with markers and badges reflecting the same performance color scheme. Popups expose precise metrics

like **provisioned speed**, **measured speed**, **upload/download rates**, and **performance percentage**. This dual-layered structure helps users correlate network health across both **macro (hub)** and **micro (address)** levels, enabling quick detection of regional bottlenecks and anomalies.



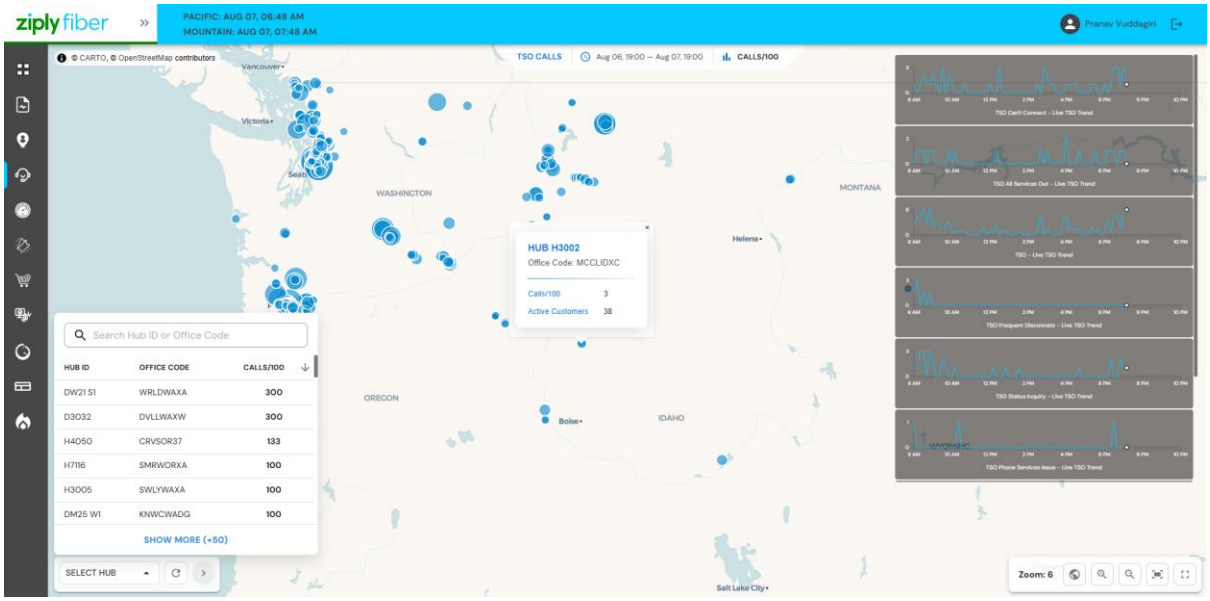
Key behaviors include:

- Hub polygons color-coded by performance: Excellent (Green), Good (Orange), Fair (Yellow), Poor (Light Red).
- Customer markers appear at zoom level >15, using the same color scheme.
- Hub pop-ups display aggregated speed metrics and test counts.
- Customer pop-ups show timestamp, address/media type, performance badge, and individual speeds.
- Filter panel supports flying to both hub polygons and customer markers.

2.3 Live Activity Maps

The live activity maps update in **real-time every 15 seconds** using **socket connections**, displaying **24-hour rolling data** across operational metrics. Circular hub markers are **sized based on the selected metric** (e.g., **Calls per 100**, **Success per 100**), providing instant visual prioritization. **Hub search and sort** features allow filtering by **Hub ID and Office CLLI8 Code**, and popups provide both **active customer count** and **metric-specific totals**.

An interactive **time slider** allows users to define custom hour intervals within a 24-hour window. It supports **draggable resizing** to zoom into specific time blocks for granular analysis. **Sparkline charts** display metric trends per hub (e.g., “TSO Slow Speeds”, “Live Care Offline”), with **hoverable 10-minute buckets** for quick temporal comparisons. Several maps include **metric-switching options** (e.g., Success vs. Fail), which automatically adjust the **marker size** based on the selected metric. Combined with **Earth, Light, and Dark themes** and standard map controls like zoom, reset view, and fullscreen, these maps offer **real-time, geographically contextualized insights** across operational dimensions.



Customer Calls (CARE & TSO)

The following describes the live Customer Calls (CARE & TSO) map:

- Metric: Calls per 100.
- Markers sized by call volume per 100.
- Sparkline charts for relevant topics with hoverable time buckets:
- **CARE:** Live Care Trend, CARE Offline Theme, CARE Nice
- **TSO:** Status Inquiry, Frequent Disconnects, All Services Out, No Sync, Can't Connect, DSLAM, Slow Speeds
- Pop-ups show Calls per 100 and Active Customers.

Trouble Tickets

The following describes the live Trouble Tickets map:

- Metric: Trouble Tickets per 100.
- Markers sized by ticket volume per 100.
- Pop-ups show ticket counts, per 100 metric, and active customers.

Customer Orders

The following describes the live Customer Orders map:

- Metric: Orders per 100.
- Markers sized by order volume per 100.
- Pop-ups show order counts, per 100 metric, and active customers.

Customer Logins

The following describes the live Customer Logins map:

- Metrics: Success per 100 and Fail per 100 (toggleable).
- Markers sized by selected login metric per 100.
- Toggle available via Quick Overview and Hub Filter.
- Pop-ups show login counts, per 100 values, and active customers.

Rescheduled Orders

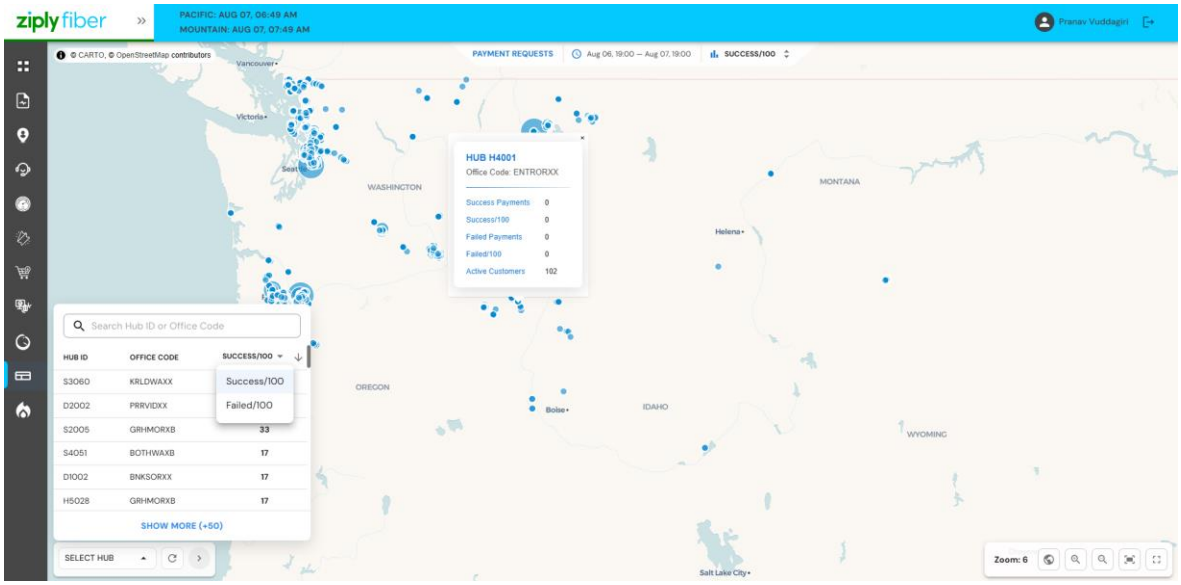
The following describes the live Rescheduled Orders map:

- Metrics: Success per 100 and Fail per 100 (toggleable).
- Markers sized by selected reschedule metric per 100.
- Pop-ups show reschedule counts, per 100 metric, and active customers.

Payment Requests

The following describes the live Payment Requests map:

- Metrics: Success per 100 and Fail per 100 (toggleable).
- Markers sized by selected payment metric per 100.
- Pop-ups show payment counts, per 100 metric, and active customers.



Outages

The following describes the live Outages map:

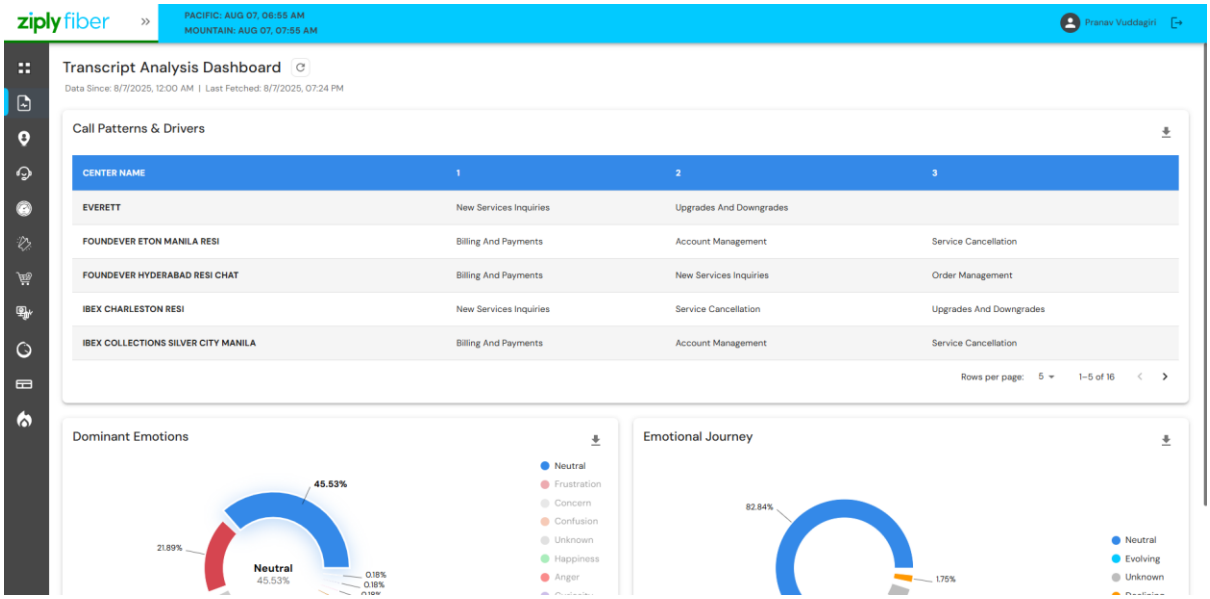
- Metric: Outages per 100.
- Markers sized by outage rate per 100.
- Pop-ups show affected customers, outage rate, and active customers.

III] TRANSCRIPT ANALYSIS

The Transcript Analysis dashboard provides insights into customer call content and emotional patterns across support centers. It combines structured intent recognition with sentiment tracking to help teams monitor behavioral trends and key drivers of contact volume. This module refreshes daily and includes interactive visualization and download capabilities.

- Displays **Call Patterns and Drivers** table with center-wise top three intents.
- Includes two interactive pie charts: **Dominant Emotions** and **Emotional Journey**.

- Charts are hoverable—segments and legends highlight the selected category.
- Data refreshes daily from **12:00 AM** and can be manually refetched using the Refresh button.
- **Call Patterns and Drivers Table** can be downloaded as **CSV** and **PDF**, both including timestamps in headers and footers.
- **Charts** can be downloaded as **PNG** with contextual headers and footers.



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