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## SaaS Metrics Dashboard

**Version:** 4.18.3

**Last Updated:** 2024-12-28

### Overview

The SaaS Metrics Dashboard provides comprehensive visibility into key business metrics including revenue, costs, customer health, and model profitability. It integrates data from the Revenue Analytics system and Cost Analytics to present a unified view of business performance.

### Admin Dashboard Location

**Path:** Admin Dashboard → SaaS Metrics

**URL:** /saas-metrics

## Key Metrics

### Revenue Metrics

Metric	Description	Formula
<b>MRR</b>	Monthly Recurring Revenue	Sum of all monthly subscription fees
<b>ARR</b>	Annual Recurring Revenue	$MRR \times 12$
<b>Total Revenue</b>	All revenue in period	Subscriptions + Credits + AI Markup + Storage
<b>ARPU</b>	Average Revenue Per User	Total Revenue / Active Customers
<b>LTV</b>	Lifetime Value	$ARPU \times \text{Average Customer Lifespan}$

### Cost Metrics

Metric	Description	Source
<b>Total COGS</b>	Cost of Goods Sold	AWS + External AI + Platform Fees
<b>Gross Profit</b>	Revenue - COGS	Calculated
<b>Gross Margin</b>	(Gross Profit / Revenue) × 100	Percentage
<b>CAC</b>	Customer Acquisition Cost	Marketing + Sales / New Customers

### Customer Metrics

Metric	Description
<b>Total Customers</b>	Active paying tenants
<b>New Customers</b>	Customers acquired in period
<b>Churned Customers</b>	Customers lost in period
<b>Churn Rate</b>	(Churned / Total) × 100
<b>Net Revenue Retention</b>	(Starting MRR + Expansion - Churn) / Starting MRR

### Unit Economics

Metric	Healthy Range	Description
<b>LTV:CAC Ratio</b>	> 3:1	Lifetime value vs acquisition cost
<b>Payback Period</b>	< 12 months	Time to recover CAC
<b>Gross Margin</b>	> 50%	COGS efficiency

## Dashboard Tabs

### Overview Tab

- Revenue, Cost & Profit trend chart (daily)
- Revenue by Source pie chart
- Revenue by Tier bar chart
- Cost breakdown with progress bars
- Top 5 tenants by revenue table

### Revenue Tab

- MRR movement chart (New, Expansion, Churned)
- Revenue by Product breakdown
- ARPU and LTV metrics
- Revenue growth trends

### Costs Tab

- Cost distribution pie chart
- Cost breakdown table by category
- Gross margin trends
- CAC metrics

### Customers Tab

- Customer growth trend chart
- New vs Churned visualization
- Usage metrics (requests, active users)
- Churn rate tracking

### Models Tab

- Model performance table (requests, revenue, cost, profit, margin)
  - Model revenue vs cost horizontal bar chart
  - Self-hosted vs External identification
- 

## Charts & Visualizations

### Chart Types Used

Chart	Purpose
<b>Area Chart</b>	Revenue and cost trends over time
<b>Composed Chart</b>	Multi-metric comparisons
<b>Bar Chart</b>	Revenue by tier, model comparisons
<b>Pie Chart</b>	Revenue/cost distribution
<b>Line Chart</b>	Usage trends

## Color Palette

```
const CHART_COLORS = {  
  primary: '#3b82f6',      // Blue - Revenue  
  secondary: '#8b5cf6',    // Purple - Secondary metrics  
  success: '#22c55e',      // Green - Profit, positive  
  warning: '#f59e0b',       // Amber - Warnings  
  danger: '#ef4444',        // Red - Costs, negative  
  info: '#06b6d4',         // Cyan - Info  
};
```

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## Export Functionality

### Available Formats

Format	Extension	Use Case
Excel (CSV)	.csv	Spreadsheet analysis, Excel/Google Sheets
JSON	.json	Custom integrations, data processing

### Export Contents

The export includes all metrics organized in sections:

1. **Report Header:** Period, generation timestamp
2. **Revenue Summary:** MRR, ARR, Total Revenue, Gross Profit, Margin
3. **Cost Breakdown:** By category with amounts and percentages
4. **Customer Metrics:** Totals, new, churned, churn rate
5. **Unit Economics:** ARPU, LTV, CAC, LTV:CAC ratio
6. **Revenue by Source:** Subscriptions, Credits, AI Markup, etc.
7. **Revenue by Tier:** Enterprise, Business, Pro, Starter
8. **Top Tenants:** Name, revenue, users, requests, tier
9. **Model Performance:** Per-model revenue, cost, profit, margin
10. **Daily Revenue Trend:** Date, revenue, cost, profit

### Export Example (CSV)

```
RADIANT SaaS Metrics Report  
Period: 30d  
Generated: 2024-12-28T22:57:00Z
```

```
==== REVENUE SUMMARY ====  
Metric,Value,Growth  
MRR,$89500.00,12.5%  
ARR,$1074000.00,15.2%  
Total Revenue,$89500.00,18.3%  
Gross Profit,$47500.00,  
Gross Margin,53.1%,
```

```

==== COST BREAKDOWN ====
Category,Amount,Percentage
External AI Providers,$18500.00,44.0%
AWS Compute,$12800.00,30.5%
...
Model,Requests,Revenue,Cost,Profit,Margin
GPT-4o,425000,$12750.00,$8500.00,$4250.00,33.3%
Claude 3.5 Sonnet,312000,$9360.00,$6240.00,$3120.00,33.3%

```

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## Period Selection

Period	Description	Data Points
7d	Last 7 days	Daily granularity
30d	Last 30 days	Daily granularity
90d	Last 90 days	Daily granularity
12m	Last 12 months	Monthly granularity

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## API Integration

### Data Sources

The SaaS Metrics dashboard aggregates data from:

1. **Revenue Analytics** (</api/admin/revenue/dashboard>)
  - Revenue entries
  - Daily aggregates
  - Revenue by source
2. **Cost Analytics** (</api/admin/cost/summary>)
  - Cost entries
  - AWS costs
  - External AI costs
3. **Billing System** (</api/admin/billing>)
  - Subscriptions
  - Credit transactions
  - Tier information
4. **Analytics** (</api/admin/analytics>)
  - Usage metrics
  - Model performance
  - Request counts

### API Endpoint

GET </api/admin/saas-metrics?period={7d|30d|90d|12m}>

## Response:

```
{  
    "mrr": 89500,  
    "mrrGrowth": 12.5,  
    "arr": 1074000,  
    "totalRevenue": 89500,  
    "totalCost": 42000,  
    "grossProfit": 47500,  
    "grossMargin": 53.1,  
    "totalCustomers": 342,  
    "churnRate": 2.3,  
    "arpu": 261.70,  
    "ltv": 3140.40,  
    "cac": 450,  
    "ltvCacRatio": 6.98,  
    "revenueBySource": [...],  
    "costByCategory": [...],  
    "revenueTrend": [...],  
    "topTenants": [...],  
    "modelMetrics": [...]  
}
```

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## Permissions

The SaaS Metrics Dashboard requires:

- **Admin** role or higher
- Access to billing data
- Access to usage analytics

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## Related Documentation

- [Revenue Analytics](#)
- [Cost Analytics](#)
- [Billing & Credits](#)
- [Admin Guide - Revenue Analytics](#)