

BUSINESS REQUIREMENTS DOCUMENT

Support Ticketing Module

Customer Support & Service Desk for the ERP Platform

Document version 1.0 · Status: Draft for review

Prepared for: Product & Engineering, Customer Service and Executive Management

Design basis: greenfield design (no predecessor module) aligned to standard ERP conventions

16 August 2026

Document Control

Version history

Version	Date	Author	Summary of change
1.0	16 Aug 2026	Business Analysis	Initial issue. Full functional scope for the Support Ticketing module, covering the external customer portal and the internal agent console.

Reviewers and approvers

Name	Role	Responsibility	Sign-off date
	Head of Customer Service	Owner / approver	
	Product Manager	Scope approver	
	Engineering Lead	Feasibility review	
	QA Lead	Testability review	
	Managing Director	Final approval	

Note on visuals

Important: this module does not yet exist. Every screen image in this document is a design mock-up produced for this BRD, not a screenshot of a working system. Mock-ups are labelled "*(representative view)*" and are intended to make the written requirements easier to review — they are indicative of layout and field content, not a committed visual design. Flow diagrams describe intended process, not implemented behaviour. Field lists, status values, priority definitions and SLA figures shown in the mock-ups are proposals that require business confirmation at sign-off.

Table of Contents

Document Control	2
1. Introduction	4
2. Business Objectives and Success Metrics	6
3. Stakeholders	7
4. Module Overview	8
5. Key Business Processes	10
5.1 Ticket lifecycle	10
5.2 SLA measurement and escalation	12
5.3 Customer self-service journey	12
5.4 Position within the ERP landscape	13
6. Functional Requirements	14
6.1 Ticket intake and channels	14
6.2 Ticket record and classification	14
6.3 Queue, assignment and workload	15
6.4 Conversation, collaboration and resolution	16
6.5 SLA management and escalation	17
6.6 Knowledge base and deflection	18
6.7 Customer self-service portal	19
6.8 Time, effort and billing	20
6.9 Notifications and templates	20
6.10 Reporting, dashboards and KPIs	20
6.11 Administration and configuration	21
7. Data Model and Key Entities	22
8. Integration Requirements	25
9. Roles and Permissions	26
10. Non-Functional Requirements	27
11. Phased Delivery Plan	29
12. Risks and Mitigations	31
13. Assumptions, Dependencies and Constraints	32
14. Out of Scope	33
15. Acceptance Criteria and Sign-off	34

1. Introduction

1.1 Purpose

This document defines the business requirements for a Support Ticketing module to be built inside the ERP platform. It states what the module must do, who uses it, how a support request travels from the moment a customer raises it to the moment it is closed and measured, and what must be true for the module to be accepted. It is written to serve two audiences at once: sections 1 to 5 and 9 to 15 are readable by business stakeholders approving the investment, while sections 6, 7 and 8 carry the field-level and integration detail the development team needs to build from.

The module replaces the current practice of receiving support requests by email, telephone and messaging apps, tracking them in spreadsheets and personal inboxes, and reporting on them by recollection. That practice gives no reliable answer to three questions the business is repeatedly asked: how many requests are open, which of them are late, and whether the service level promised in the customer contract is being met.

1.2 Scope

In scope

- A customer-facing self-service portal for raising, tracking, replying to and closing support tickets, with visibility of contractual entitlement.
- An internal agent console for triage, assignment, investigation, collaboration and resolution of tickets.
- Multi-channel intake: portal submission, email-to-ticket, and manual logging of telephone or walk-in requests by an agent.
- A configurable SLA engine with business-hours calendars, response and resolution targets, pause conditions and automatic escalation.
- A knowledge base with article authoring, publishing, search and automatic suggestion at the point of ticket creation.
- Effort logging against tickets, with entitlement consumption and identification of billable support.
- Notification and template management for email and in-application alerts.
- Operational dashboards, standard reports and customer satisfaction (CSAT) capture.
- Administration screens for categories, priorities, queues, teams, SLA policies, escalation matrices, holidays and templates.
- Integration with existing ERP masters: Customer, Contact, Contract/AMC, Product/Item, Employee, and the Sales Invoice document for billable support.

Out of scope for this release

Section 14 lists exclusions in full. In summary: live chat and chatbot channels, telephony/PBX call-recording integration, field-service scheduling and dispatch, asset and configuration management (CMDB), a public community forum, and any change to the ERP modules the ticketing module reads from.

1.3 Intended audience

- Executive management — sections 2, 11, 12 and 15 for objectives, cost/phasing, risk and acceptance.
- Customer service management — sections 3 to 6 and 9 to 10 for process, capability and control.
- Product and engineering — sections 5 to 8 and 10 for behaviour, data and interfaces.
- Quality assurance — sections 6 and 15 for testable requirements and acceptance criteria.

1.4 Definitions

Term	Definition
Ticket	A single recorded request for support from a customer, uniquely numbered and tracked from creation to closure.
Requester	The customer contact who raised the ticket, or on whose behalf it was raised.
Agent	An internal employee who works tickets. Levels L1 (front line), L2 (specialist) and L3 (engineering).
Queue	A named holding area to which unassigned tickets are routed, usually by product, module or team.
SLA	Service Level Agreement — the contractually promised response and resolution times for a ticket, by priority.
First response	The first substantive reply from an agent that is visible to the customer. Automatic acknowledgements do not count.
Resolution	The point at which the agent records a fix or answer and moves the ticket to RESOLVED, pending customer confirmation.
Breach	Failure to meet a response or resolution target within the SLA clock for the ticket.
Deflection	A prospective ticket that the requester abandons because a suggested knowledge-base article answered the question.
FCR	First Contact Resolution — the share of tickets resolved by the first agent without reassignment or escalation.
CSAT	Customer Satisfaction — a rating (1 to 5) given by the requester after closure.
AMC	Annual Maintenance Contract — the support contract that determines a customer's entitlement and SLA tier.
Entitlement	The support the customer has paid for: contract tier, covered products, support hours and coverage window.
Business hours	The working calendar against which SLA time is counted, excluding weekends and configured holidays.

2. Business Objectives and Success Metrics

The module is justified by five business objectives. Each carries a measurable target so that success can be assessed after go-live rather than argued about. Baseline figures are to be established during the first month of parallel running; the targets below are proposed and require confirmation at sign-off.

Ref	Objective	Measure	Target (12 months)
BO-1	Make every support request visible and traceable, so that nothing is lost between an inbox and a spreadsheet.	Share of support requests recorded as tickets	100% of requests; zero untracked channels
BO-2	Meet the service levels sold in customer contracts, and know immediately when one is at risk.	SLA compliance — first response and resolution	≥ 95% first response; ≥ 90% resolution
BO-3	Reduce the effort spent answering questions that have already been answered.	Deflection rate and First Contact Resolution	≥ 15% deflection; FCR ≥ 55%
BO-4	Give customers a self-service route so they are not dependent on reaching a person by phone.	Share of tickets raised through the portal	≥ 70% of ticket volume
BO-5	Recover revenue for support work that falls outside contractual entitlement.	Billable support hours identified and invoiced	≥ 80% of out-of-entitlement effort invoiced
BO-6	Provide management with a factual basis for staffing, training and product-quality decisions.	Availability of monthly service report without manual compilation	Report produced from the system within 1 working day of month end

2.1 Problems the module addresses

- **No single record of demand.** Requests arrive by email, phone and messaging apps, and are worked from personal inboxes. Volume, backlog and ageing cannot be stated with confidence.
- **Unmanaged commitments.** Contracts promise response and resolution times, but there is no mechanism that measures them or warns before they are missed.
- **Loss of context on handover.** When a request moves between people, history lives in forwarded email chains and is frequently incomplete.
- **Repeated answers.** The same questions are answered repeatedly, with no accumulating body of published knowledge.
- **Unrecovered effort.** Work outside contractual entitlement is performed but rarely measured, so it is rarely billed.
- **No product feedback loop.** Recurring defects are handled individually rather than being counted and fed back into the product backlog.

3. Stakeholders

Stakeholder	Interest in the module	Key requirement
Customer contact (external)	Wants a problem solved, and wants to know it is being worked on.	Raise a ticket in under two minutes, see status without telephoning, receive a reply within the promised time.
L1 Support Agent	Handles first-line triage and the majority of ticket volume.	A prioritised personal queue, full context on one screen, canned responses and knowledge-base insertion.
L2 / L3 Specialist	Handles escalated and technical tickets.	Complete history on escalation, internal notes invisible to the customer, ability to raise a linked defect.
Support Team Lead	Balances workload and prevents breaches.	Visibility of unassigned and at-risk tickets, reassignment, warnings before targets expire.
Head of Customer Service	Owns service performance and the customer relationship.	SLA compliance, backlog trend, CSAT and escalation reporting without manual compilation.
Account Manager / Sales	Owns the commercial relationship and renewals.	Notification of escalated or breached tickets for their accounts; entitlement consumption ahead of renewal.
Product / Engineering	Receives defects and change requests arising from support.	Ticket-to-defect linkage with reproduction detail; counts of recurring issues by module.
Finance	Invoices support that falls outside entitlement.	Reliable effort records, marked billable or non-billable, ready to convert to an invoice.
System Administrator	Configures and maintains the module.	Configuration of categories, queues, SLA policies, escalation levels, templates and roles without code changes.
Managing Director	Approves the investment.	Evidence that service commitments are being met and that support cost per customer is understood.

4. Module Overview

The module is organised into six functional areas, reached from a dedicated Support Desk menu inside the ERP for internal users, and from a separate, restricted Customer Portal for external users. The two front ends operate on the same ticket record; what differs is which fields and which conversation entries each audience may see.

4.1 Functional map

Menu area	Screen	Purpose
Support Dashboard	Dashboard	Operational overview: open volume, breaches, at-risk tickets, resolved counts, CSAT, queue and category distribution.
Ticket Management	All Tickets	Master list of every ticket with filtering, sorting, saved views and bulk actions.
	My Queue	Tickets assigned to the logged-in agent, ordered by SLA urgency.
	Unassigned	Tickets awaiting triage and assignment.
	Escalated	Tickets currently at escalation level 1 or above.
	Ticket Detail	The working screen: conversation thread, classification, SLA position, effort, attachments, audit trail and linked records.
Knowledge Base	Article List / Editor	Author, review, publish, version and retire knowledge articles.
	Categories	Article taxonomy and visibility (internal only or customer-visible).
SLA & Escalation	SLA Policy	Response and resolution targets by contract tier and priority, with clock rules.
	Business Calendar	Working days and hours used for SLA counting.
	Escalation Matrix	Escalation levels, triggers, notification recipients and required actions.
	Holiday List	Non-working days excluded from SLA counting.
Configuration	Categories & Sub-categories	Ticket taxonomy driving routing and reporting.
	Priority & Severity	Priority definitions, severity scale and the default priority matrix.
	Queues & Teams	Queue definitions, team membership, skills and routing rules.
	Templates	Email templates, canned responses and notification rules.
	Portal Settings	Portal branding, visible fields, self-registration and attachment policy.
Reports	Report catalogue	SLA compliance, ageing, agent productivity, category analysis, CSAT, entitlement consumption, breach register.

4.2 Support dashboard

The dashboard is the first screen an agent or team lead sees. It is designed to answer one question before any other: what needs attention right now. The at-risk and breached counts are the primary call to action; volume and satisfaction figures provide the trend context.

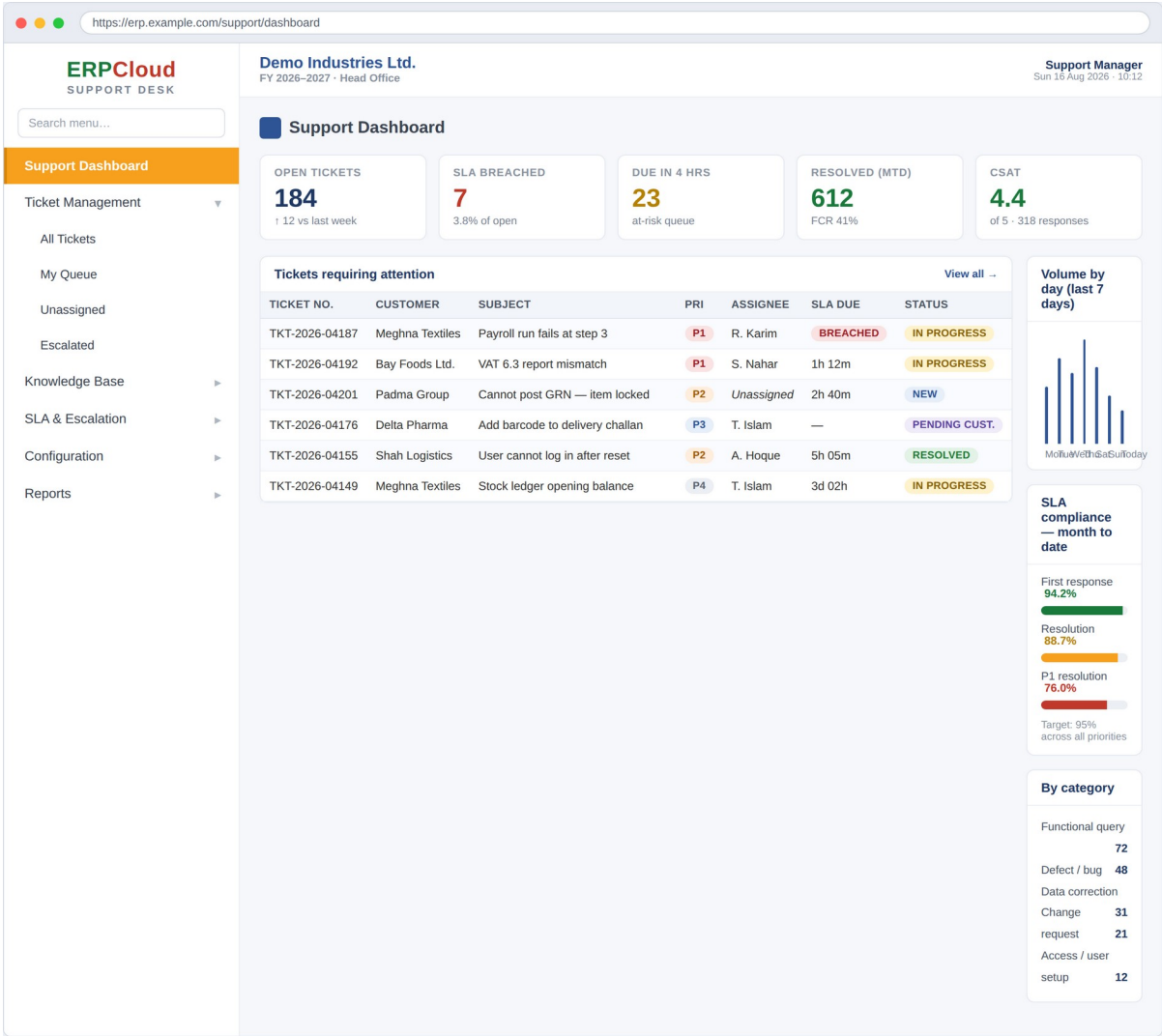


Figure 1: Support Dashboard — operational overview (representative view)

5. Key Business Processes

5.1 Ticket lifecycle

A ticket has a single, controlled lifecycle regardless of the channel it arrived through. Intake normalises every request into one numbered record. Triage validates entitlement and classifies the request, which is the point at which the SLA clock starts. Resolution is iterative — the ticket may wait on the customer, or be escalated to a specialist — and each of those transitions has a defined effect on the SLA clock. Closure is deliberately separated from resolution: an agent proposes a resolution, the customer accepts it, and only then is the ticket closed and measured.

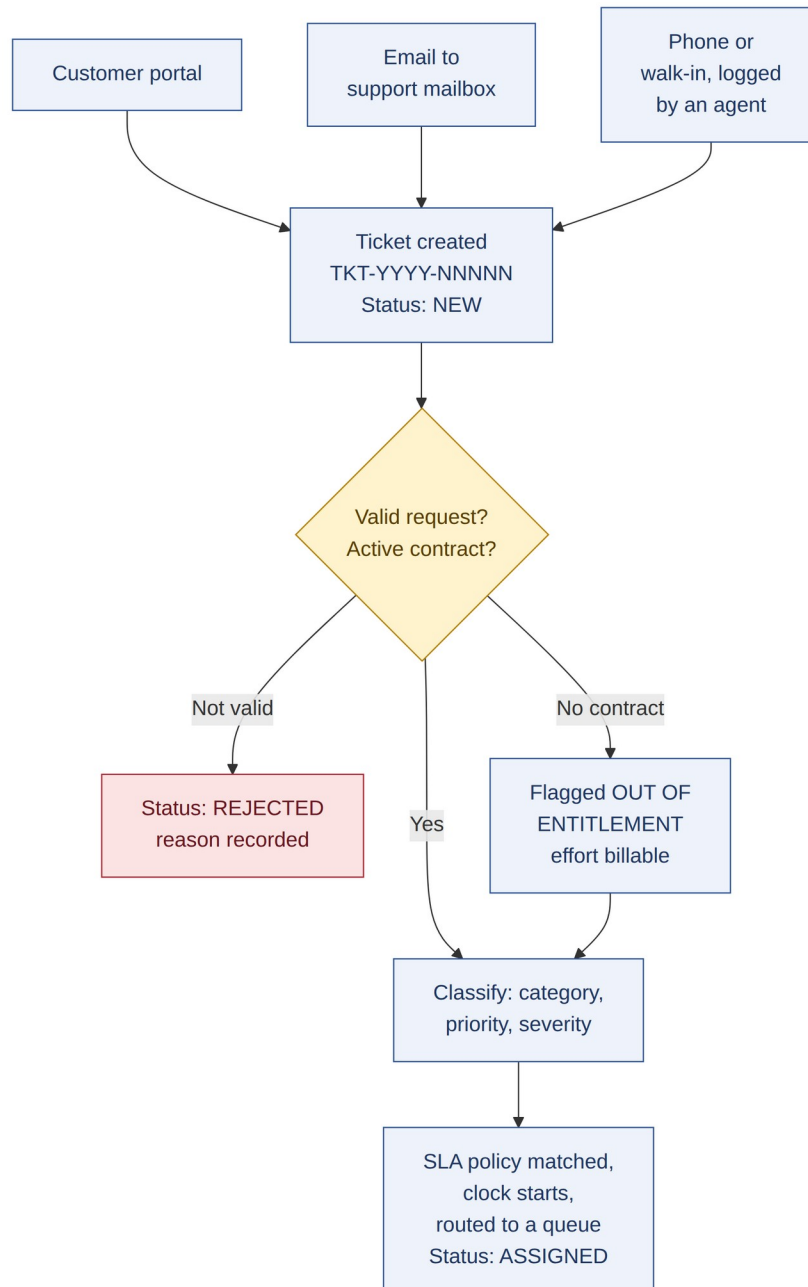


Figure 2: Intake and triage — every channel converges on one numbered record

Status values are fixed by the system and are not user-configurable, because SLA arithmetic and reporting depend on them. The permitted values are NEW, ASSIGNED, IN PROGRESS, PENDING CUSTOMER, PENDING THIRD PARTY, ESCALATED, RESOLVED, CLOSED, REOPENED and REJECTED. Sub-status, by contrast, is configurable and exists so that teams can record local detail without disturbing reporting.

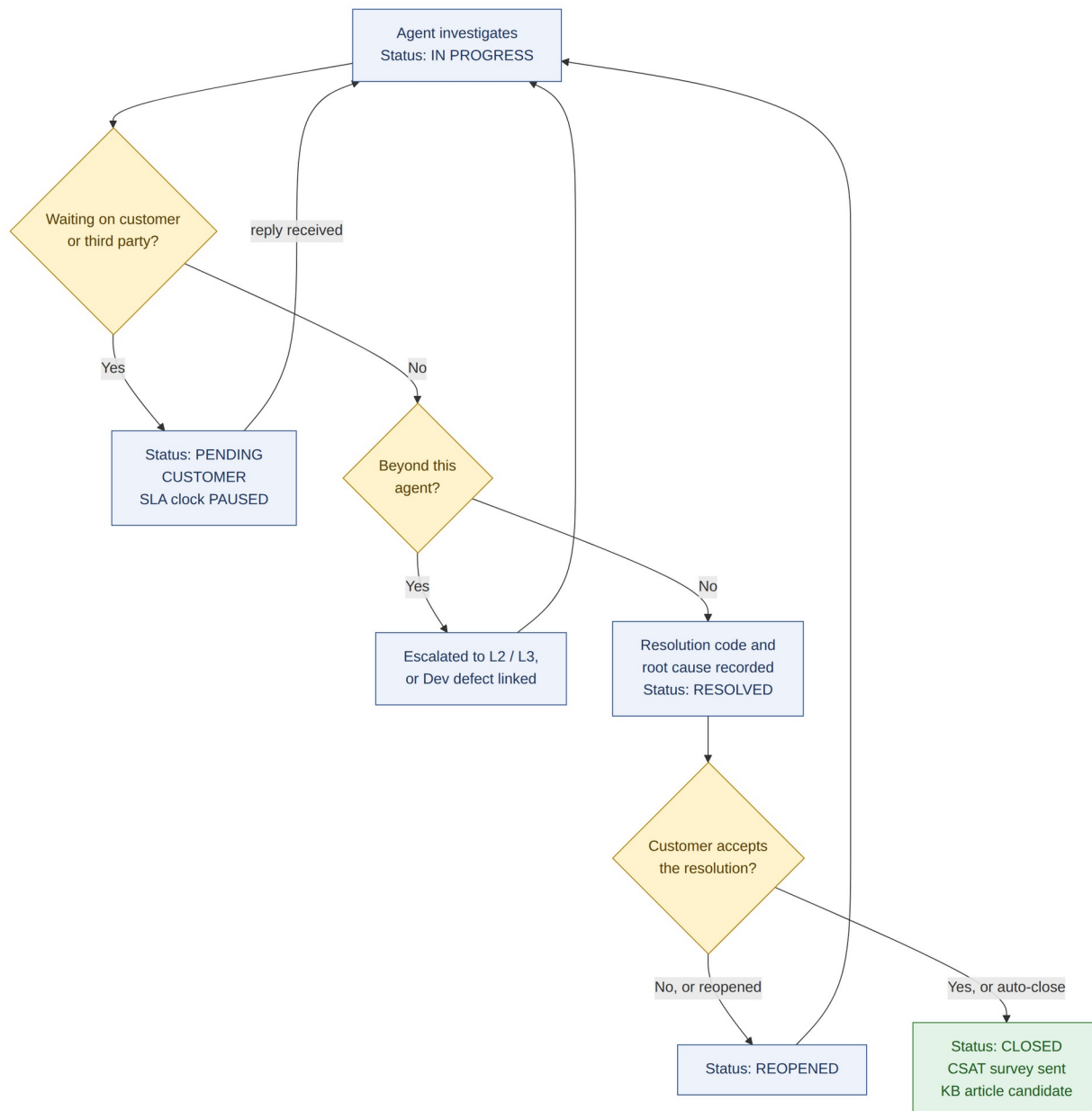


Figure 3: Resolution and closure — the iterative working loop and the acceptance gate

Two transitions in this loop deserve emphasis because they are frequently mishandled in manual processes. **PENDING CUSTOMER** is not a parking space: it pauses the SLA clock, and the system therefore requires the agent to have asked the customer something. And **RESOLVED** is not **CLOSED**: the agent proposes, the customer disposes, and a ticket that is auto-closed after silence is reported separately from one the customer explicitly accepted.

5.2 SLA measurement and escalation

The SLA engine is the control mechanism that turns a contractual promise into an operational warning. When a ticket is classified, the engine selects the policy that matches the customer's contract tier and the ticket's priority, and computes a first-response due time and a resolution due time against a business-hours calendar. From that point the engine watches the elapsed proportion of each target and acts at defined thresholds — warning the assignee, then the team lead, then escalating formally. Escalation is an event recorded on the ticket, not merely a notification, so that escalation frequency is itself reportable.

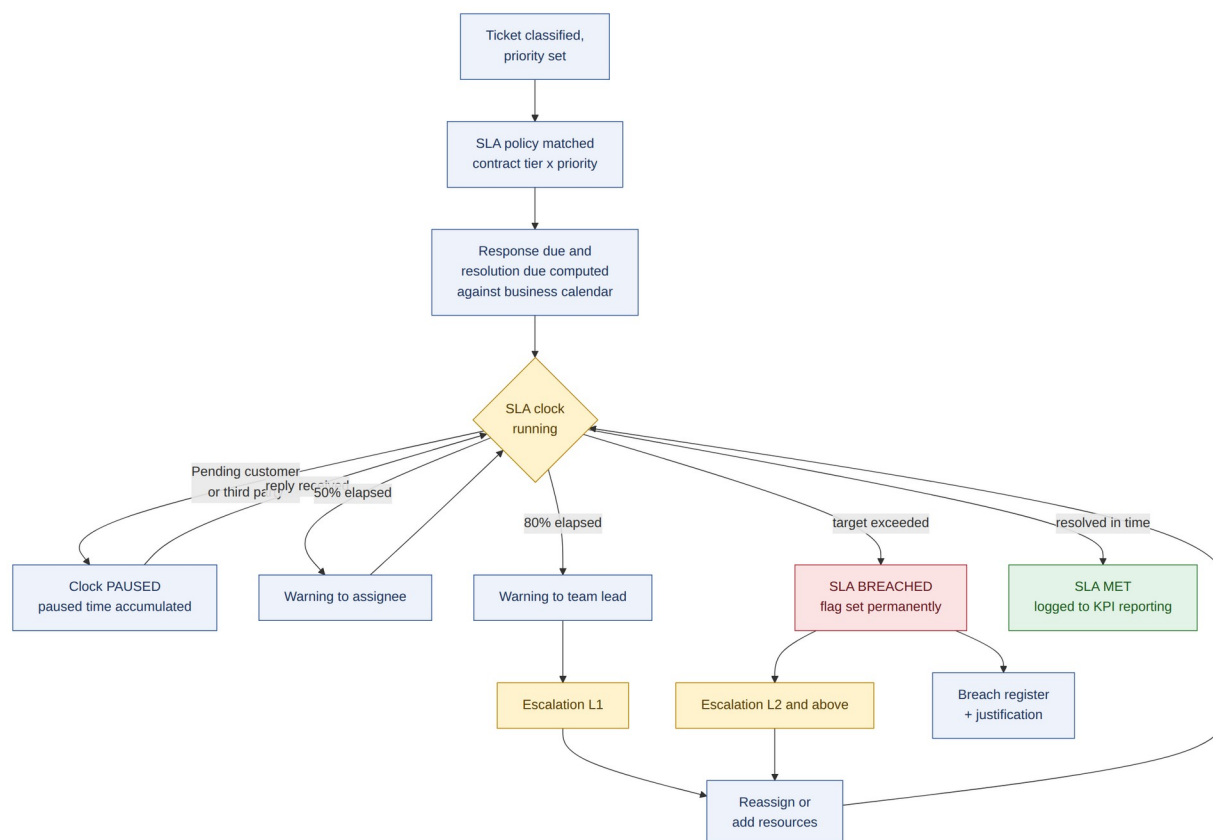


Figure 4: SLA clock, warning thresholds and automatic escalation

Two rules prevent the engine from producing unfair results. First, the clock pauses whenever the ticket is genuinely waiting on someone outside the support team — statuses PENDING CUSTOMER and PENDING THIRD PARTY — and resumes when a reply is received. Second, time outside the business calendar is not counted, except for policies explicitly configured as 24x7. Both behaviours must be visible on the ticket so that a customer challenging a breach can be shown exactly how the elapsed time was calculated.

5.3 Customer self-service journey

The portal journey is designed around deflection first and submission second. When a requester types a subject, the system searches published, customer-visible knowledge articles and offers the closest matches before the form is completed. A requester who resolves their own problem this way is recorded as a deflection — a measurable saving. Everyone else proceeds to a short form, and from that point sees a single tracked thread rather than a chain of forwarded emails.

The agent console mirrors this thread but adds what the customer must not see: internal notes, effort records, root-cause classification and links to defects. The distinction between a public reply and an internal note is the single most important interaction rule in the module and is treated as a critical requirement in section 6.4. The portal submission screen, including the deflection prompt, is shown at Figure 8 in section 6.7.

5.4 Position within the ERP landscape

The module is not standalone. It consumes master data that already exists in the ERP and it produces records that other modules act on. Reusing the Customer, Contact, Contract and Item masters is what allows entitlement to be checked automatically at triage rather than looked up by hand.

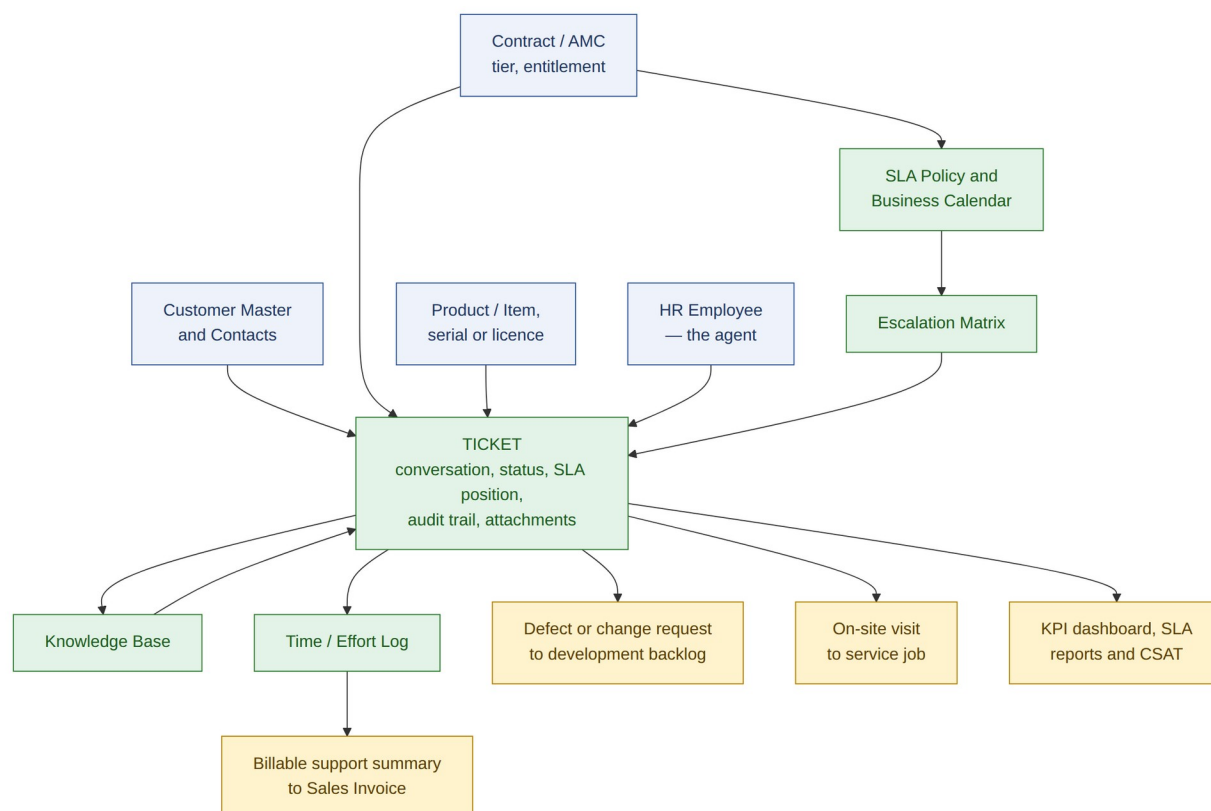


Figure 5: Data relationships between the Support module and the wider ERP — blue: existing ERP masters consumed; green: entities introduced by this module; amber: records produced for other modules

6. Functional Requirements

Requirements are grouped by functional area and numbered FR-SUP-*nnn*. Numbering is stable: requirements added in later versions are appended or given letter suffixes rather than renumbering the set. Priority follows MoSCoW — Must (required for go-live), Should (required within the first release cycle after go-live), Could (desirable, scheduled by capacity). Requirements are stated as capabilities the system must provide, not as descriptions of a particular screen layout.

6.1 Ticket intake and channels

Req ID	Requirement	Priority
FR-SUP-001	The system shall allow an authenticated customer contact to create a support ticket through the customer portal.	Must
FR-SUP-002	The system shall create a ticket automatically from an email received at a configured support mailbox, taking the sender as requester, the subject as ticket subject and the body as the initial description.	Must
FR-SUP-003	The system shall match an inbound email to an existing ticket when the ticket number is present in the subject or in a reference header, and shall append the message to that ticket rather than creating a duplicate.	Must
FR-SUP-004	The system shall allow an agent to create a ticket on behalf of a customer, recording the channel as Telephone, Walk-in, Email or Internal.	Must
FR-SUP-005	The system shall assign each ticket a unique, human-readable number in a configurable format (default TKT-YYYY-NNNNN) that cannot be edited after creation.	Must
FR-SUP-006	The system shall reject an inbound email whose sender is not a registered contact of an active customer, and shall route it to a configurable quarantine list for manual review rather than discarding it.	Must
FR-SUP-007	The system shall accept file attachments at creation, subject to a configurable maximum file size and permitted file-type list.	Must
FR-SUP-008	The system shall detect a probable duplicate at creation — the same requester, category and a similar subject within a configurable window — and shall warn the agent with a link to the candidate ticket.	Should
FR-SUP-009	The system shall support creation of a ticket by an authenticated external API call, so that a customer's own systems can raise tickets.	Could

6.2 Ticket record and classification

Req ID	Requirement	Priority
FR-SUP-010	The system shall record on every ticket: customer, requester contact, subject, description, product/module, category, sub-category, priority, severity, channel, status, assignee, queue and creation timestamp.	Must
FR-SUP-011	The system shall derive the customer, contract and entitlement automatically from the requester contact, without the requester selecting them.	Must
FR-SUP-012	The system shall validate at triage that the customer holds an active contract covering the selected product, and shall flag the ticket as out-of-entitlement when it does not.	Must
FR-SUP-013	The system shall support a configurable priority scale (default P1 Critical, P2 High,	Must

Req ID	Requirement	Priority
	P3 Medium, P4 Low) with a written definition against each level, shown to the requester at the point of selection.	
FR-SUP-014	The system shall allow an agent to override a priority set by a requester, and shall require a reason that is recorded in the audit trail.	Must
FR-SUP-015	The system shall derive a default priority from a configurable matrix of business impact against urgency, which the agent may then override.	Should
FR-SUP-016	The system shall restrict status transitions to a defined transition map and shall prevent any transition not permitted from the current status.	Must
FR-SUP-017	The system shall require a resolution code and a root-cause classification before a ticket may be moved to RESOLVED.	Must
FR-SUP-018	The system shall maintain an immutable audit trail of every field change, status change, assignment and communication, recording user, timestamp, old value and new value.	Must
FR-SUP-019	The system shall support merging two tickets, moving the conversation of the merged ticket into the survivor and leaving a permanent cross-reference on both.	Should
FR-SUP-020	The system shall support splitting a ticket that contains two unrelated issues into a parent and a child ticket, preserving the link between them.	Should
FR-SUP-021	The system shall allow configurable custom fields per category, so that a category can capture information specific to it without a code change.	Could

6.3 Queue, assignment and workload

Req ID	Requirement	Priority
FR-SUP-022	The system shall route a new ticket to a queue automatically using configurable rules based on product, module, category, customer or contract tier.	Must
FR-SUP-023	The system shall allow a team lead to assign or reassign a ticket to any agent who is a member of the relevant queue.	Must
FR-SUP-024	The system shall allow an agent to claim an unassigned ticket from a queue they belong to.	Must
FR-SUP-025	The system shall present each agent with a personal queue ordered by SLA urgency, showing time remaining against the resolution target.	Must
FR-SUP-026	The system shall record every reassignment with the reason and shall count reassignments per ticket for reporting on first-contact resolution.	Must
FR-SUP-027	The system shall support round-robin and least-loaded automatic assignment within a queue, configurable per queue and disabled by default.	Should
FR-SUP-028	The system shall allow an agent to set an out-of-office period, during which automatic assignment skips them and their open tickets are surfaced to the team lead.	Should
FR-SUP-029	The system shall support bulk reassignment of selected tickets from a list view.	Should
FR-SUP-030	The system shall allow skills to be recorded against agents and used as a factor in automatic routing.	Could

6.4 Conversation, collaboration and resolution

The ticket detail screen is where agents spend most of their working day. The critical design rule is the visual and behavioural separation of customer-visible replies from internal notes; a note leaking to a customer is the highest-consequence failure this module can produce.

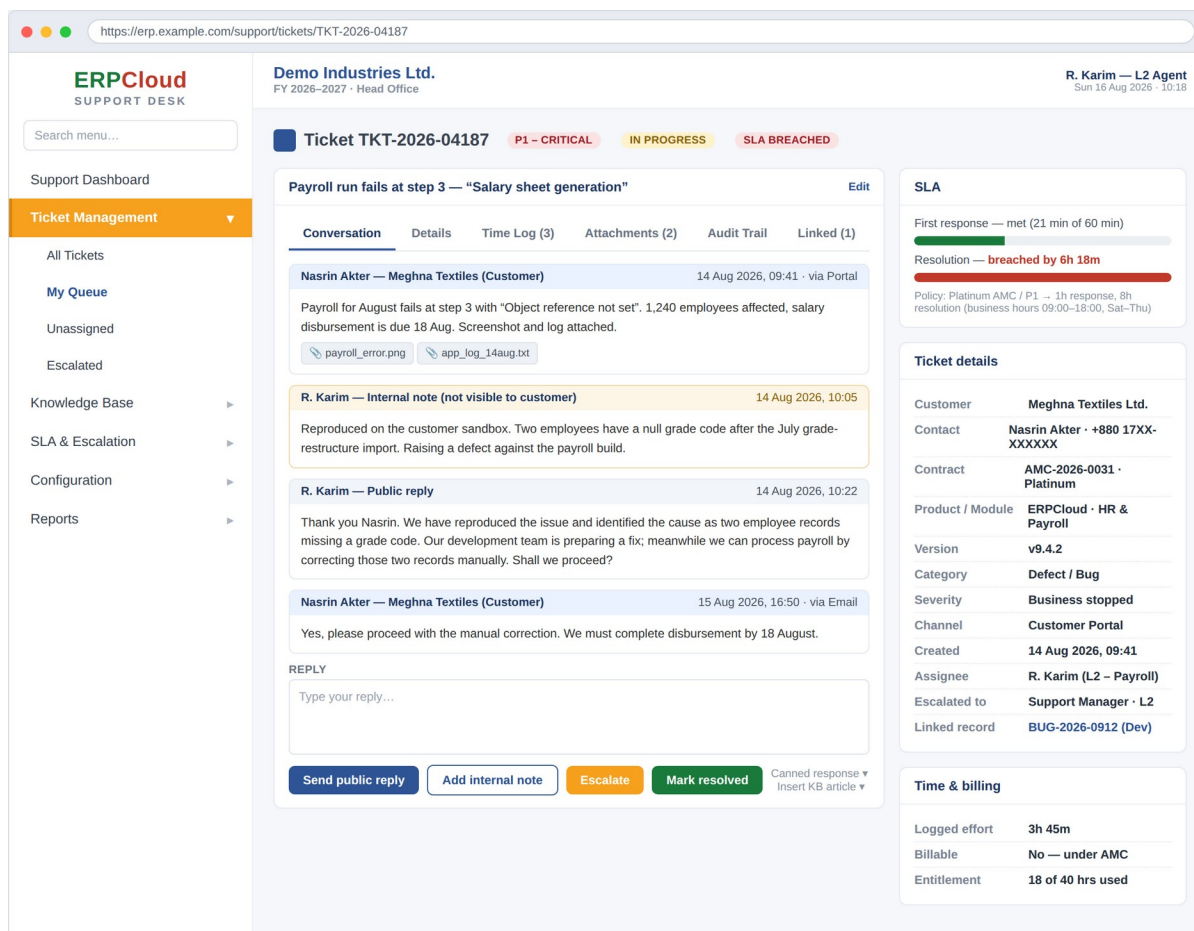


Figure 6: Agent console — ticket detail with conversation thread, SLA panel and entitlement (representative view)

Req ID	Requirement	Priority
FR-SUP-031	The system shall present all communication on a ticket as a single chronological thread, including portal messages, inbound and outbound email, and agent notes.	Must
FR-SUP-032	The system shall distinguish a public reply from an internal note, shall render them differently, and shall never expose an internal note through the portal, an email notification or a customer-facing report.	Must
FR-SUP-033	The system shall require explicit confirmation before sending the first public reply on a ticket that has any internal note, as a guard against misdirected notes.	Should
FR-SUP-034	The system shall allow an agent to insert a canned response, with placeholder substitution for ticket number, customer name, contact name and agent name.	Must
FR-SUP-035	The system shall allow an agent to attach a knowledge-base article to a reply, and shall record that the article was used for deflection reporting.	Must
FR-SUP-036	The system shall allow an agent to add a colleague as a watcher on a ticket, and to mention a colleague in an internal note, generating a notification to that colleague.	Should

Req ID	Requirement	Priority
FR-SUP-037	The system shall allow an agent to escalate a ticket manually to a defined escalation level, requiring a reason, and shall record the escalation as an event on the ticket.	Must
FR-SUP-038	The system shall allow an agent to link a ticket to a development defect or change request, and shall display the linked record's status on the ticket.	Must
FR-SUP-039	The system shall move a ticket to PENDING CUSTOMER when an agent requests information from the requester, and shall return it to IN PROGRESS automatically when the requester replies.	Must
FR-SUP-040	The system shall allow attachments to be added at any point in the conversation by either party, subject to the configured size and type limits.	Must
FR-SUP-041	The system shall retain a full version history of the ticket description when it is edited, and shall show who edited it and when.	Should

6.5 SLA management and escalation

The screenshot displays the 'SLA Policy — SLA-PLT-01 “Platinum AMC”' configuration page in the ERP Cloud Support Desk. The interface includes a sidebar with navigation links such as 'Support Dashboard', 'Ticket Management', 'Knowledge Base', 'SLA & Escalation', 'SLA Policy', 'Business Calendar', 'Escalation Matrix', 'Holiday List', 'Configuration', and 'Reports'. The main content area shows the policy details: Status (ACTIVE), Applies to (Contract tier = Platinum), Calendar (Sat-Thu 09:00-18:00), Effective from (01 Jan 2026), and Version (2). Below this, there are three sections: 'Response & resolution targets' with a table of priorities (P1 Critical to P4 Low) and their respective response and resolution times; 'Escalation matrix' with a table of levels (L1 to L4) and their triggers, notify actions, and escalation actions; and 'Clock rules' with a table of rules (Pause on, Resume on, Auto-close, Reopen window, Holidays) and their respective actions. The interface also includes a search bar, a system administrator login, and a 'Save policy' button.

Figure 7: SLA policy configuration — targets, escalation matrix and clock rules (representative view)

Req ID	Requirement	Priority
FR-SUP-042	The system shall support multiple SLA policies, each applicable to a contract tier, customer group or product, with a defined effective-from date and version history.	Must
FR-SUP-043	The system shall define, per priority within a policy, a first-response target, a resolution target, an update frequency and warning thresholds.	Must
FR-SUP-044	The system shall compute response and resolution due times against a configurable business calendar, excluding non-working days from a maintained holiday list.	Must
FR-SUP-045	The system shall support 24x7 SLA policies that ignore the business calendar, selectable per priority.	Must

Req ID	Requirement	Priority
FR-SUP-046	The system shall pause the SLA clock while a ticket is in PENDING CUSTOMER or PENDING THIRD PARTY, and shall resume it on the next customer or third-party response.	Must
FR-SUP-047	The system shall display on every ticket the elapsed time, the time remaining and the breach state for both the response and the resolution target.	Must
FR-SUP-048	The system shall generate warning notifications at the configured thresholds (default 50% and 80% of the resolution target) to the assignee and the team lead.	Must
FR-SUP-049	The system shall escalate a ticket automatically according to the configured escalation matrix when a threshold or a breach occurs, and shall notify the defined recipients at each level.	Must
FR-SUP-050	The system shall flag a ticket permanently as breached once a target is exceeded, and shall retain the breach flag after resolution for reporting.	Must
FR-SUP-051	The system shall recompute SLA targets when a ticket's priority changes, applying the new target from the original creation time and recording the recalculation in the audit trail.	Must
FR-SUP-052	The system shall allow a supervisor to record a justification against a breach (for example, customer-caused delay), which is reported separately from unexplained breaches.	Should
FR-SUP-053	The system shall provide a simulation facility that shows the response and resolution due times a policy would produce for a given creation time, without saving a ticket.	Could

6.6 Knowledge base and deflection

Req ID	Requirement	Priority
FR-SUP-054	The system shall allow authoring of knowledge articles with a title, body, category, product/module, keywords and a visibility setting of Internal or Customer-visible.	Must
FR-SUP-055	The system shall support a draft, review, published and retired workflow for articles, with only published articles visible to customers.	Must
FR-SUP-056	The system shall suggest matching published, customer-visible articles as the requester types a subject on the portal ticket form.	Must
FR-SUP-057	The system shall record a deflection when a requester abandons ticket creation after opening a suggested article, and shall report deflection counts by article.	Must
FR-SUP-058	The system shall allow an agent to create a knowledge article directly from a resolved ticket, pre-populating the problem and resolution text.	Must
FR-SUP-059	The system shall record article views, helpfulness ratings and the number of tickets on which an article was used.	Should
FR-SUP-060	The system shall maintain article version history and allow reversion to a previous version.	Should
FR-SUP-061	The system shall flag articles that have not been reviewed within a configurable period so that stale content is identified.	Could

6.7 Customer self-service portal

The screenshot shows the ERPCloud Customer Portal interface. The main heading is 'Raise a Support Ticket'. The form includes the following sections:

- Search help...** (input field)
- My Dashboard** (link)
- Raise a Ticket** (active link)
- My Tickets** (6 items)
- Knowledge Base** (link)
- Downloads** (link)
- My Contract** (link)
- Contact Support** (link)

Customer Information: Meghna Textiles Ltd., Platinum AMC - valid to 31 Dec 2026, Nasrin Akter (Customer contact - Sun 16 Aug 2026)

Raise a Support Ticket Form:

- SUBJECT ***: Payroll run fails at step 3
- Before you submit** — 3 articles may already answer this:
 - KB-0142 · "Object reference not set" during salary sheet generation
 - KB-0087 · Employees missing grade code after a bulk import
 - KB-0203 · Payroll pre-run checklist (all versions)
- This solved my problem** — closes without creating a ticket
- PRODUCT / MODULE ***: HR & Payroll
- CATEGORY ***: Defect / Bug
- PRIORITY ***: P1 - Critical
- BUSINESS IMPACT ***: Business stopped
- DESCRIPTION ***: Payroll for August fails at step 3 with "Object reference not set". 1,240 employees affected. Salary disbursement is due 18 Aug. Steps to reproduce: HR → Payroll → Process Payroll → select Aug-2026 → Run.
- ATTACHMENTS**: Drag files here or browse — max 10 MB per file. Attached: payroll_error.png (214 KB), app_log_14aug.txt (88 KB).
- Buttons**: Submit ticket, Save draft. Your Platinum SLA: first response within 1 hour.

My open tickets (View all →)

TICKET	SUBJECT	STATUS
TKT-2026-04187	Payroll run fails at step 3	IN PROGRESS
TKT-2026-04149	Stock ledger opening balance	IN PROGRESS
TKT-2026-04101	Add signature block to PO print	PENDING CUST.
TKT-2026-04066	New user access — accounts team	RESOLVED

My entitlement

Contract	AMC-2026-0031
Plan	Platinum · 24x6
Support hours	18 of 40 used
Expires	31 Dec 2026

Popular articles

- KB-0203 · Payroll pre-run checklist
- KB-0055 · Resetting a locked user account
- KB-0118 · VAT 6.3 return — common mismatches
- KB-0091 · Closing a period in Inventory

Figure 8: Customer portal — ticket submission with knowledge-base deflection and entitlement panel (representative view)

Req ID	Requirement	Priority
FR-SUP-062	The system shall authenticate portal users as contacts belonging to a customer, and shall restrict every portal user to tickets of their own customer.	Must
FR-SUP-063	The system shall allow a designated primary contact to see all tickets of their organisation, while other contacts see only their own, configurable per customer.	Must
FR-SUP-064	The system shall present the requester with a ticket list showing number, subject, status, priority, last update and the promised response time.	Must
FR-SUP-065	The system shall allow a requester to reply to a ticket, add attachments and view the full public conversation.	Must
FR-SUP-066	The system shall allow a requester to accept a proposed resolution, closing the ticket, or to reopen it within a configurable window with a reason.	Must
FR-SUP-067	The system shall display the customer's contract, coverage window, entitlement consumed and contract expiry date on the portal.	Must
FR-SUP-068	The system shall request a CSAT rating of 1 to 5 with an optional comment when a ticket is closed.	Must
FR-SUP-069	The system shall provide a searchable knowledge base to portal users, restricted to published, customer-visible articles.	Must
FR-SUP-070	The system shall never display internal notes, internal assignee names beyond a configured display name, effort records, cost data or root-cause classifications to portal users.	Must
FR-SUP-071	The system shall support portal branding — logo, colours and support contact details — configurable by the administrator.	Should

Req ID	Requirement	Priority
FR-SUP-072	The system shall allow a requester to nominate additional contacts to be copied on ticket correspondence.	Should

6.8 Time, effort and billing

Req ID	Requirement	Priority
FR-SUP-073	The system shall allow an agent to log effort against a ticket with a date, duration, activity type and description.	Must
FR-SUP-074	The system shall mark each effort record as billable or non-billable, defaulting from the customer's entitlement and overridable with a reason.	Must
FR-SUP-075	The system shall accumulate effort against the contract entitlement and shall display consumed and remaining hours on the ticket and on the portal.	Must
FR-SUP-076	The system shall warn the agent and the account manager when entitlement consumption crosses a configurable threshold (default 80%).	Must
FR-SUP-077	The system shall produce a billable-support summary per customer per period, in a form that can be converted into a Sales Invoice in the ERP.	Must
FR-SUP-078	The system shall prevent modification of an effort record once it has been included in a billing summary that has been posted.	Should
FR-SUP-079	The system shall support an optional timer that records elapsed working time on a ticket, which the agent confirms before it becomes an effort record.	Could

6.9 Notifications and templates

Req ID	Requirement	Priority
FR-SUP-080	The system shall send an acknowledgement to the requester on ticket creation, containing the ticket number and the applicable response target.	Must
FR-SUP-081	The system shall notify the requester on every public reply, status change and closure.	Must
FR-SUP-082	The system shall notify the assignee on assignment, on customer reply and on SLA warning; and the team lead on escalation and breach.	Must
FR-SUP-083	The system shall allow every notification to be defined by an editable template with placeholder substitution, per language where configured.	Must
FR-SUP-084	The system shall allow each notification event to be enabled or disabled by an administrator, and shall allow agents to control their own in-application alerts.	Must
FR-SUP-085	The system shall record every notification sent against the ticket, including recipient, channel, template and delivery outcome.	Must
FR-SUP-086	The system shall retry a failed email notification according to a configurable retry policy and shall raise an administrator alert after final failure.	Should
FR-SUP-087	The system shall support SMS notification for P1 tickets and for breach events.	Could

6.10 Reporting, dashboards and KPIs

Req ID	Requirement	Priority
FR-SUP-088	The system shall provide a role-appropriate dashboard: personal workload for	Must

Req ID	Requirement	Priority
	agents, team position for leads, service performance for management.	
FR-SUP-089	The system shall provide an SLA compliance report by period, customer, contract tier, priority and team, distinguishing response from resolution compliance.	Must
FR-SUP-090	The system shall provide a breach register listing every breached ticket with the elapsed time, the responsible queue and any recorded justification.	Must
FR-SUP-091	The system shall provide a ticket ageing report banded by open duration and priority.	Must
FR-SUP-092	The system shall provide an agent productivity report covering tickets handled, resolved, reassigned, average handling time and CSAT.	Must
FR-SUP-093	The system shall provide a category and root-cause analysis report identifying recurring issues by product and module.	Must
FR-SUP-094	The system shall provide a CSAT report with distribution, trend and the text of low-scoring feedback.	Must
FR-SUP-095	The system shall provide an entitlement consumption report by customer, with contracts approaching exhaustion or expiry.	Must
FR-SUP-096	The system shall allow every report to be exported to Excel and PDF, and to be scheduled for periodic email delivery.	Must
FR-SUP-097	The system shall allow users to define, save and share filtered list views.	Should
FR-SUP-098	The system shall provide a first-contact-resolution measure derived from tickets resolved without reassignment or escalation.	Should

6.11 Administration and configuration

Req ID	Requirement	Priority
FR-SUP-099	The system shall allow an administrator to maintain categories and sub-categories, including activation and deactivation without deletion of historical data.	Must
FR-SUP-100	The system shall allow an administrator to maintain queues, teams and team membership.	Must
FR-SUP-101	The system shall allow an administrator to maintain business calendars and holiday lists per country or entity.	Must
FR-SUP-102	The system shall allow an administrator to maintain SLA policies and escalation matrices, with changes applying to new tickets only and existing tickets retaining the policy version in force at their creation.	Must
FR-SUP-103	The system shall allow an administrator to maintain notification templates and canned responses.	Must
FR-SUP-104	The system shall allow an administrator to maintain roles and permissions, including which fields are visible in the portal.	Must
FR-SUP-105	The system shall record every configuration change in an administrative audit log.	Must
FR-SUP-106	The system shall allow bulk import of customer contacts to be granted portal access.	Should

7. Data Model and Key Entities

This section is written for the development team. It states the entities the module introduces, the key attributes of the central ticket record, and the relationships that must be enforced. Physical design — indexing, partitioning, naming conventions — remains with engineering; what follows is the logical requirement.

7.1 Entities introduced by the module

Entity	Purpose	Key relationships
Ticket	The central record of a support request.	Customer (n:1), Contact (n:1), Contract (n:1), Product/Item (n:1), Employee/Assignee (n:1), Queue (n:1)
Ticket Message	One entry in the conversation thread; public reply, internal note or inbound message.	Ticket (n:1), User (n:1)
Ticket Attachment	A file attached to a ticket or a message.	Ticket (n:1), Ticket Message (n:1, optional)
Ticket Status History	Immutable record of every status transition with timestamps.	Ticket (n:1)
Ticket Audit Log	Immutable record of every field change on a ticket.	Ticket (n:1), User (n:1)
SLA Policy	A named set of targets applicable to a tier or product.	Business Calendar (n:1)
SLA Target	The response, update and resolution targets for one priority within a policy.	SLA Policy (n:1)
SLA Event	A computed clock event: start, pause, resume, warning, breach.	Ticket (n:1)
Escalation Level	A level in the escalation matrix with trigger, recipients and required action.	SLA Policy (n:1)
Escalation Event	A recorded escalation of a specific ticket to a specific level.	Ticket (n:1), Escalation Level (n:1)
Business Calendar	Working days and hours used for SLA counting.	Holiday (1:n)
Queue	A routing destination with a team and routing rules.	Team (n:1)
Team / Team Member	A group of agents and their membership, with optional skills.	Employee (n:1)
KB Article	A knowledge-base article with visibility and publication state.	KB Category (n:1)
KB Article Usage	A record that an article was suggested, viewed, or used to deflect or resolve.	KB Article (n:1), Ticket (n:1, optional)
Time Log	An effort record against a ticket, billable or not.	Ticket (n:1), Employee (n:1)

Entity	Purpose	Key relationships
CSAT Response	A rating and comment from a requester after closure.	Ticket (1:1)
Notification Template	An editable message template per event and language.	—
Notification Log	A record of each notification dispatch and its outcome.	Ticket (n:1)
Portal User Access	The mapping of a customer contact to portal credentials and visibility scope.	Contact (1:1), Customer (n:1)

7.2 Ticket — principal attributes

Field	Type	Req.	Notes
ticket_no	String(20)	Yes	System generated, unique, immutable. Format configurable, default TKT-YYYY-NNNNN.
customer_id	FK Customer	Yes	Derived from the requester contact; not selectable by the requester.
contact_id	FK Contact	Yes	The requester.
contract_id	FK Contract	No	Active contract at creation time. Null means out of entitlement.
product_id	FK Item	Yes	Product or module the request relates to.
version	String(20)	No	Product version in use, for defect reproduction.
subject	String(200)	Yes	Short description; used for duplicate detection and KB matching.
description	Text	Yes	Full statement of the problem. Version history retained on edit.
category_id / sub_category_id	FK	Yes	Drives routing and reporting.
priority	Enum	Yes	P1–P4. Change triggers SLA recomputation.
severity	Enum	Yes	Business impact scale, independent of priority.
channel	Enum	Yes	Portal, Email, Telephone, Walk-in, Internal, API.
status	Enum	Yes	System-controlled; transitions restricted by the transition map.
sub_status	FK	No	Configurable detail within a status.
queue_id	FK Queue	Yes	Set by routing rules at creation.
assignee_id	FK Employee	No	Null while unassigned.
sla_policy_version_id	FK	Yes	The policy version in force at creation; retained even if the policy later changes.
response_due_at / resolution_due_at	DateTime	Yes	Computed against the business calendar.
first_response_at /	DateTime	No	Set once by the corresponding event.

Field	Type	Req.	Notes
resolved_at / closed_at			
sla_paused_seconds	Integer	Yes	Accumulated pause duration; required to justify a breach calculation.
is_response_breached / is_resolution_breached	Boolean	Yes	Set once, never cleared.
escalation_level	Integer	Yes	Current level; 0 when not escalated.
resolution_code / root_cause	FK	On resolve	Mandatory before RESOLVED.
is_billable	Boolean	Yes	Defaulted from entitlement, overridable with a reason.
linked_record_type / linked_record_id	Polymorphic FK	No	Defect, change request or service job.
parent_ticket_id	FK Ticket	No	Set when a ticket is split or merged.
created_by / created_at / updated_by / updated_at	Audit stamps	Yes	Standard ERP audit columns.

7.3 Data rules

- A ticket must never be hard-deleted. Cancellation is represented by the REJECTED status with a mandatory reason.
- Status history, audit log, SLA events and notification log are append-only; no update or delete path may exist for any user role.
- The SLA policy version is stamped onto the ticket at creation. Editing a policy must not retrospectively change the targets of tickets already open.
- Effort records included in a posted billing summary are locked against modification.
- Attachments are stored outside the transactional tables, with the ticket holding a reference; the retention period is set by the ERP-wide document retention policy.
- Internal notes must be distinguishable at the data layer, not only in the interface, so that any future export or API cannot expose them by omission.

8. Integration Requirements

The module depends on data already held elsewhere in the ERP, and produces records that other modules consume. Each interface below is stated as a requirement because failure of any one of them degrades the module in a way that is visible to customers.

Req ID	Requirement	Priority
FR-SUP-107	The system shall read Customer and Contact master data from the ERP in real time; contacts shall not be duplicated inside the support module.	Must
FR-SUP-108	The system shall read Contract/AMC data — tier, covered products, coverage window, entitlement hours and expiry — to determine SLA policy and billability.	Must
FR-SUP-109	The system shall read the Product/Item master, including serial or licence records where they exist, to identify the subject of a ticket.	Must
FR-SUP-110	The system shall read the HR Employee master to define agents, and shall inherit the ERP user authentication and role framework for internal users.	Must
FR-SUP-111	The system shall write a billable-support summary that the Sales module can convert into a Sales Invoice without re-keying.	Must
FR-SUP-112	The system shall create a linked defect or change-request record in the development backlog from a ticket, carrying the ticket number, description, version and attachments.	Must
FR-SUP-113	The system shall connect to a configured mail server for inbound polling and outbound sending, supporting authenticated SMTP and IMAP over TLS.	Must
FR-SUP-114	The system shall expose an authenticated REST API for ticket creation, status query and comment addition, for use by customer systems.	Should
FR-SUP-115	The system shall raise a Service Job in the field-service process when a ticket requires an on-site visit, where that process exists.	Should
FR-SUP-116	The system shall continue to accept and store tickets when a downstream integration is unavailable, queueing the outbound action for retry rather than failing the ticket.	Must

9. Roles and Permissions

The matrix below is indicative and must be confirmed at sign-off. C = create, V = view, E = edit, A = approve or administer, — = no access. Portal users are external and are governed by FR-SUP-062, FR-SUP-063 and FR-SUP-070 in addition to this matrix.

Function	Portal user	L1 agent	L2/L3	Team lead	Service head	Finance	Admin
Create ticket	C	C	C	C	C	—	C
View own organisation tickets	V	—	—	—	—	—	V
View all tickets	—	V	V	V	V	V	V
Edit ticket classification	—	E	E	E	E	—	E
Public reply	C	C	C	C	C	—	—
Internal note	—	C	C	C	C	V	V
Assign / reassign	—	—	—	A	A	—	A
Escalate	—	C	C	C	C	—	—
Resolve / close	A	E	E	E	E	—	—
Reopen	C	C	C	C	C	—	—
Log effort	—	C	C	C	V	V	—
Mark billable / override	—	—	—	A	A	A	—
Publish KB article	—	C	C	A	A	—	A
Justify a breach	—	—	—	A	A	—	—
Configure SLA / escalation	—	—	—	—	A	—	A
Configure categories, queues, templates	—	—	—	—	V	—	A
Manage portal access	—	—	—	A	A	—	A
View service reports	V*	V	V	V	V	V	V
View cost / billing data	—	—	—	V	V	A	—

* Portal users see only reports scoped to their own organisation, and never see agent-level productivity or cost data.

10. Non-Functional Requirements

Volumetrics below are planning assumptions and must be confirmed against actual customer numbers before performance testing is designed.

10.1 Performance and capacity

Req ID	Requirement	Priority
NFR-01	The ticket list and ticket detail screens shall render within 2 seconds at the 95th percentile with 250,000 tickets in the database.	Must
NFR-02	The system shall support 150 concurrent internal agents and 1,000 concurrent portal users without degradation beyond the stated response times.	Must
NFR-03	Inbound email shall be converted to a ticket within 2 minutes of arrival at the support mailbox.	Must
NFR-04	SLA warning and escalation evaluation shall run at least every 5 minutes.	Must
NFR-05	Reports covering up to 12 months shall return within 15 seconds, or shall be generated asynchronously with notification on completion.	Should

10.2 Availability and continuity

Req ID	Requirement	Priority
NFR-06	The customer portal shall be available 99.5% measured monthly, excluding announced maintenance windows.	Must
NFR-07	Announced maintenance shall occur outside the business hours of the most restrictive supported calendar, with 48 hours notice on the portal.	Must
NFR-08	The system shall meet the ERP-wide backup policy, with a recovery point objective of 24 hours and a recovery time objective of 4 hours.	Must
NFR-09	Loss of the mail integration shall not prevent portal submission, and queued outbound notifications shall be delivered on restoration.	Must

10.3 Security, privacy and audit

Req ID	Requirement	Priority
NFR-10	Internal users shall authenticate through the existing ERP authentication mechanism; portal users shall authenticate separately with enforced password complexity and logout.	Must
NFR-11	All portal and API traffic shall be encrypted in transit using TLS 1.2 or above.	Must
NFR-12	Attachments shall be scanned for malware before being made available for download.	Must
NFR-13	Every read of a ticket by an internal user shall be recorded where the ticket is flagged as containing sensitive customer data.	Should
NFR-14	Portal sessions shall expire after a configurable period of inactivity, default 30 minutes.	Must
NFR-15	Personal data held on tickets shall be exportable and erasable on request in line with the organisation's data-protection policy, without breaking the audit trail of the ticket itself.	Should

10.4 Usability, accessibility and localisation

Req ID	Requirement	Priority
NFR-16	An agent shall be able to complete triage of a new ticket — classify, prioritise and assign — from a single screen without navigation.	Must
NFR-17	A customer shall be able to raise a ticket in no more than four interactions after login.	Must
NFR-18	The portal shall be usable on a mobile browser at 360 px width.	Must
NFR-19	The interface shall support English and Bangla, with the language selectable per user, and notification templates maintainable per language.	Should
NFR-20	The portal shall meet WCAG 2.1 level AA for colour contrast, keyboard navigation and form labelling.	Should
NFR-21	All timestamps shall be stored in UTC and displayed in the user's configured time zone.	Must

10.5 Maintainability

Req ID	Requirement	Priority
NFR-22	Categories, priorities, queues, SLA policies, escalation levels, calendars, holidays and templates shall be configurable by an administrator without a code deployment.	Must
NFR-23	The module shall follow the existing ERP technology stack, coding standards and deployment pipeline.	Must
NFR-24	The module shall expose health and queue-depth metrics to the existing monitoring facility.	Should

11. Phased Delivery Plan

Delivery is proposed in three phases so that a usable service exists early and later capability is added against evidence from real use. Durations are indicative for a team of one business analyst, one designer, three developers and one QA engineer, and require confirmation by the engineering lead. Each phase ends with a working, deployable release — not a document.

Phase	Theme	Contents	Indicative duration
1	Minimum viable service desk	Ticket record and lifecycle, portal submission and tracking, email-to-ticket, manual logging, queues and assignment, conversation thread with internal notes, basic SLA targets with warnings, core notifications, ticket list and dashboard, essential reports (ageing, SLA compliance), administration of categories, queues and templates. Requirements: FR-SUP-001 to 007, 010 to 018, 022 to 026, 031 to 035, 039, 040, 042 to 048, 062 to 066, 070, 080 to 085, 088 to 091, 099 to 105, 107 to 110, 113.	10–12 weeks
2	Control and self-service depth	Full escalation matrix and breach handling, knowledge base with deflection, entitlement checking and effort logging, CSAT capture, merge and split, duplicate detection, saved views, expanded report set, billable-support summary and invoice hand-off. Requirements: FR-SUP-008, 019, 020, 027 to 029, 036 to 038, 049 to 052, 054 to 061, 067 to 069, 071, 073 to 078, 086, 092 to 098, 106, 111, 112.	8–10 weeks
3	Optimisation and openness	REST API for external ticket creation, skills-based routing, SLA simulation, SMS for P1 and breaches, custom fields per category, article staleness review, timer-based effort capture, service-job hand-off. Requirements: FR-SUP-009, 021, 030, 053, 072, 079, 087, 114, 115.	6–8 weeks

11.1 Activities within each phase

- Requirements confirmation and detailed screen design, reviewed with two agents and two customers before build starts.
- Build, with automated unit and integration tests written alongside the code, not after it.
- System testing against the acceptance criteria in section 15, executed by QA against a populated test dataset.
- User acceptance testing by nominated agents and at least three pilot customers, using real historical requests replayed through the system.
- Data migration of open requests from the current spreadsheets and mailboxes, and of any knowledge already written down.
- Training: agents and team leads before go-live; a short written guide and a portal walkthrough for customers.
- Parallel running for one full month, during which existing channels remain open and every request is also recorded as a ticket, to establish baselines and expose gaps.

- Cut-over, after which the support mailbox routes only into the module and the old channels are formally closed.

11.2 Go-live readiness

Cut-over is conditional on all of the following being true, and the decision rests with the Head of Customer Service: every acceptance criterion in section 15 is met; the parallel-run month shows no ticket lost or duplicated; SLA calculations have been verified by hand against at least twenty sample tickets including pauses and holidays; every agent has completed training; at least three customers have raised, tracked and closed a real ticket through the portal; and a documented rollback exists that returns intake to the support mailbox within one hour.

12. Risks and Mitigations

Ref	Risk	Likelihood	Impact	Mitigation
R-1	Customers continue to telephone and email agents directly, leaving the module partly empty and the metrics meaningless.	High	High	Close the informal channels at cut-over; require agents to log every telephone request as a ticket before working it; make ticket volume by channel a reported metric from week one; brief customers before go-live.
R-2	Agents record internal notes as public replies, exposing internal commentary to customers.	Medium	High	Strong visual separation, a confirmation prompt (FR-SUP-033), a note in training, and a monthly audit of the first fifty public replies after go-live.
R-3	SLA targets are set at levels the team cannot meet, producing a permanent breach report that everyone learns to ignore.	Medium	High	Set the initial targets from measured performance during the parallel month, not from aspiration; review after one quarter.
R-4	Contract and entitlement data in the ERP is incomplete, so entitlement checking produces wrong answers.	High	Medium	Audit and clean contract data before phase 2; allow tickets to proceed with an out-of-entitlement flag rather than blocking them.
R-5	The knowledge base is never populated, so deflection never materialises.	High	Medium	Make article creation from a resolved ticket a one-click action; set a team target of articles published per month; review the top twenty repeated subjects each month.
R-6	Email-to-ticket produces duplicates and loops, especially with auto-responders.	Medium	Medium	Reference-header matching (FR-SUP-003), auto-reply detection, a quarantine list, and a rate limit per sender.
R-7	Portal adoption stalls because customers find registration or navigation difficult.	Medium	Medium	Bulk-provision contacts (FR-SUP-106), keep the form to a single screen, test with three pilot customers before general release.
R-8	Scope grows during build, particularly around reporting and custom fields.	High	Medium	The phase boundaries in section 11 are the change-control line; additions go to a backlog and are scheduled into a later phase.
R-9	Performance degrades as ticket volume accumulates over several years.	Medium	Medium	Test against a seeded 250,000-ticket dataset (NFR-01) before go-live; agree an archival policy for closed tickets older than a defined period.
R-10	Support staff perceive productivity reporting as surveillance and resist adoption.	Medium	Medium	Introduce the metrics as team measures first; involve agents in defining what is measured; make dashboards visible to the team, not only to management.

13. Assumptions, Dependencies and Constraints

13.1 Assumptions

- Customer, Contact, Contract/AMC, Item and Employee masters exist in the ERP, are maintained, and are sufficiently accurate to drive entitlement checking after the data audit noted in risk R-4.
- Every customer contact who will use the portal has a valid, unique email address recorded against the contact record.
- Support is delivered from a single organisation with one primary business calendar, plus a 24×7 policy for the highest contract tier.
- Contract tiers and their commercial service levels are already defined and will not change during the build.
- A mail server is available that supports authenticated IMAP and SMTP over TLS, and a dedicated support mailbox can be created.
- Volumes assumed for planning: up to 3,000 tickets per month at go-live, growing to 8,000 within three years, across up to 500 customer organisations.

13.2 Dependencies

- Availability of the Customer, Contract, Item and Employee masters through a supported interface; any change to those masters is outside this module's scope and must be requested separately.
- Availability of the Sales module to accept the billable-support summary and raise an invoice.
- Availability of a development backlog system that can accept a linked defect or change request.
- The existing ERP authentication and role framework for internal users.
- Business sign-off on SLA targets, priority definitions and the escalation matrix before phase 1 build begins — these drive the SLA engine and cannot be deferred.
- Nomination of pilot customers for user acceptance testing at least four weeks before the phase 1 release.

13.3 Constraints

- The module must use the existing ERP technology stack, deployment pipeline and hosting; no new platform may be introduced for this module alone.
- The module must not modify the behaviour of the ERP modules it reads from; it consumes their data and does not extend them.
- Ticket status values are fixed by the system because SLA arithmetic and reporting depend on them; only sub-status is configurable.
- An SLA policy change applies to new tickets only; tickets already open retain the policy version in force at their creation.
- Tickets cannot be deleted; cancellation is represented by the REJECTED status with a recorded reason.

14. Out of Scope

The following are explicitly excluded from this release. Each may be a candidate for a later phase, but none is included in the estimates, the acceptance criteria or the delivery plan in this document.

- Live chat and chatbot channels, including any AI-generated response capability.
- Telephony and PBX integration: automatic call logging, call recording, screen-pop on inbound call, IVR routing.
- Field-service scheduling, engineer despatch, route planning and mobile field applications. The module hands over to a service job (FR-SUP-115) but does not schedule it.
- Asset and configuration management (CMDB), software licence tracking and infrastructure discovery.
- A public community forum, customer-to-customer answers, or an unauthenticated public knowledge base.
- Problem and change management as formal ITIL processes, beyond the defect and change-request linkage described in FR-SUP-038 and FR-SUP-112.
- Spare-parts inventory, warranty claim processing and repair/return (RMA) handling.
- Any modification to the Customer, Contract, Item, Employee or Sales modules; this module reads from them and writes only the billable-support summary.
- Migration of historical closed requests. Only requests open at cut-over are migrated.
- Automated language translation of ticket content.

15. Acceptance Criteria and Sign-off

The module is accepted when every criterion below is demonstrated on the release candidate, in the presence of the Head of Customer Service. Each criterion is written to be observed rather than argued about.

Ref	Acceptance criterion	Verified by
AC-01	A customer contact logs into the portal, is offered knowledge articles as they type a subject, submits a ticket with two attachments, and receives an acknowledgement containing the ticket number and the promised response time.	Demonstration + email evidence
AC-02	An email sent to the support mailbox creates a ticket within two minutes, with the sender correctly matched to a customer contact; a reply to that email appends to the same ticket rather than creating a second one.	Demonstration
AC-03	A ticket raised by a contact of a customer with no active contract is created and visibly flagged as out of entitlement, and is not silently rejected.	Demonstration
AC-04	An agent triages a new ticket — classify, prioritise, assign — from one screen, and the SLA due times are computed correctly against the business calendar including a configured holiday.	Demonstration + manual calculation
AC-05	Moving a ticket to PENDING CUSTOMER pauses the SLA clock; a customer reply resumes it; the ticket shows total paused time, and the resolution due time has shifted by exactly that amount.	Demonstration + manual calculation
AC-06	Warning notifications reach the assignee and the team lead at the configured thresholds, and a breach escalates automatically to the next level with the configured recipients notified.	Demonstration + notification log
AC-07	An internal note is not visible in the portal, not present in any customer notification email, and not present in any customer-facing report or export.	Demonstration + inspection of portal, email and export
AC-08	A ticket cannot be moved to RESOLVED without a resolution code and root cause; the requester can accept the resolution to close it, or reopen it within the configured window.	Demonstration
AC-09	Effort logged against a ticket decrements the contract entitlement, the portal reflects the new consumed figure, and crossing 80% raises the configured warning.	Demonstration
AC-10	A billable-support summary for a period produces figures that reconcile exactly with the underlying effort records, and can be converted into a Sales Invoice without re-keying.	Demonstration + reconciliation
AC-11	Every field change, status change, assignment and communication on a sample ticket appears in the audit trail with user, timestamp and old and new values; no user role can alter or delete an audit entry.	Inspection + attempted edit under each role
AC-12	The permission matrix in section 9 is enforced: each role is tested against at least three functions it must not be able to perform, and is denied in each case.	Test execution
AC-13	SLA compliance, ageing, breach register, agent productivity, category analysis, CSAT and entitlement reports each return	Test execution + reconciliation

Ref	Acceptance criterion	Verified by
	correct figures against a known test dataset, and export to Excel and PDF.	
AC-14	Ticket list and ticket detail render within two seconds at the 95th percentile with 250,000 seeded tickets and 150 simulated concurrent agents.	Performance test report
AC-15	The portal is operable on a 360 px mobile browser, and a full ticket can be raised and tracked on it.	Demonstration
AC-16	An administrator adds a category, a queue, an SLA policy and a notification template, and changes a holiday list, without a code deployment; a ticket already open retains its original SLA targets.	Demonstration
AC-17	A one-month parallel run completes with every request recorded in both the old channel and the module, and reconciliation shows no request lost or duplicated.	Reconciliation report
AC-18	Rollback is demonstrated: intake is returned to the support mailbox and normal working resumes within one hour.	Rehearsal

15.1 Sign-off

By signing below, each approver confirms that the requirements in this document represent the intended scope of the Support Ticketing module, and that the acceptance criteria above are the basis on which the delivered module will be judged.

Name	Role	Signature	Date
	Head of Customer Service (Owner)		
	Product Manager		
	Engineering Lead		
	QA Lead		
	Finance Representative		
	Managing Director		