

**发票管理过程**

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过程概述Process Overview

过程目标Process Objective

Ticket管理过程旨在说明如何处理和解决用户报告的不同类型的产品支持或者客户服务的Ticket。Ticket可以分为服务请求、变更请求、数据和代码相关问题、热修等。

The objective of ticket management process is to explain the activities needed for handling and resolving different types of product support/customer service tickets reported by the users. Tickets can comprise of service requests, change requests, data and code related issues, hot fixes etc.

适用范围Scope

本过程适用于SunGard中国所有产品支持或者客户服务项目。

This process is applicable to all Product support/customer service projects executed at SunGard China.

角色和职责Role and Responsibility

| 角色  Role | 职责  Responsibility |
| --- | --- |
| 第1级支持团队  L1 Support Team | 该团队负责记录Ticket、给用户提供基本支持以及跟踪问题。如果Ticket无法解决，他们把Ticket分配到第2级或者第3级支持团队。  Team responsible for recording tickets, providing initial support to the users and monitoring queues. Assign the tickets to L2/L3 support teams, if tickets are not resolved. |
| 第2级支持团队  L2 Support Team | 该团队负责分析影响力、解决问题并提供应急措施和处理客户请求。  Team responsible for impact analysis, resolution and providing workarounds. They also handle service requests. |
| 第3级支持团队  L3 Support Team | 该团队负责修复代码（缺陷和变更请求。）  Team responsible for fixing code (defects and change requests.) |

目标读者Intended Audience

本文档旨在为产品支持或者客服项目的相关人员提供参考。

This document is meant to be reference document for the personnel involved in the execution of product support/customer service projects

参考文献References

以下是在执行Ticket管理过程中可以参考的相关过程或工作产品 ：

Following are the related process and/or artifacts that can be referred while implementing the ticket management process

| 文档名称  Document Name | 文档类型  Document Type |
| --- | --- |
| 服务管理过程  Service management process | 过程  Process |
| 服务管理计划  Service management plan | 模板  Template |
| 服务等级协议  Service Level Agreement | 模板  Template |
| 服务准备和交互过程  Service set up and transition process | 过程  Process |
| 金仕达服务手册  Kingstar service manual | 指南  Guideline |

缩写和定义Acronyms and Definitions

| 缩写或术语  Acronym/Term | 定义  Definition |
| --- | --- |
| 变更请求  CR | 变更请求  Change Request |
| 热修  Hot Fix | 在已经计划的构建范围之外的，需要紧急处理并发布的代码修复。（如，为解决一个重大的问题或者安装一个安全补丁）  An immediate code fix that is introduced into Production as soon as possible, outside of scheduled builds (for example, to resolve a major issue or implement a security patch) |
| 已知错误数据库  KeDB | 已知错误数据库  Known Error Database  包含所有已知错误或者问题记录的数据库。该数据库用来识别针对反复出现的问题的应急措施或解决方案，需定期更新。  A database containing all Known Error/Problem records. This database is used to identify workarounds/resolutions to recurring issues and is periodically updated. |
| 服务请求  Service Request | 来自客户的对于额外服务、信息、建议或者某一标准变更的请求（比如说，重启一个密码、给新用户提供标准的IT服务或者创建一个特殊报告等）。  A request from a user for additional services, information, advice, or for a standard change (for example, to reset a password, to provide standard IT services for a new user, or to create an ad hoc report). |
| 服务等级协议  SLA | 服务等级协议  Service Level Agreement |
| 工作说明书  SOW | 工作说明书  Statement of Work |
| 应急措施  Workaround | 当缺乏某一完整的解决方案时，为降低或者消除某一个事件或者问题的影响。  Reducing or eliminating the impact of an incident or problem for which a full resolution is not yet available |

过程描述Process Description

Ticket管理过程重点关注接受客户提交的Ticket。当收到Ticket时，第1级支持团队应该诊断问题，提供可以提供的一手支持，或者将Ticket分配到下一级的支持团队，即第2级和第3级。关于过程的更多详情，请参考第2.4章节。

Ticket management process primarily focuses on receiving the product support/customer service tickets reported by the users of the product or service. On receiving the tickets L1 support team would diagnose the problem and provide first hand support if available, else would route the tickets to the next level of support i.e. L2 and L3. For further details about the process please refer to section 2.4

过程工作流Process Workflow

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*欲了解每个子过程的过程流，请参考2.4章节内容。*

*For process flow for each sub process please refer to section 2.4*

输入Input

欲了解此过程的输入，请参考2.4章节内容。

For sub process wise inputs please refer to section 2.4

入口准则Entry Criteria

欲了解此过程的入口准则，请参考2.4章节。

For sub process wise entry criteria please refer to section 2.4

过程活动Process Activities

记录Ticket并提供初级支持（L1）Log Ticket and Provide Initial Support (L1)

* + - 1. **过程流图Process Flow**

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* + - 1. **输入Inputs**

“记录Ticket并提供初级支持过程（L1）”的输入如下，任何一个或者多个此类输入都视为启动了该过程：

Inputs for Log Ticket and Provide Initial Support Process (L1) process are as follows and any one or more of these inputs shall be considered to initiate this process:

1. 用户提交了产品支持或者客服Ticket

Product support/customer service ticket raised by users

* + - 1. **入口准则Entry Criteria**

1. 产品支持或者客服Ticket已经进行了登记Product support/customer service ticket logged
   * + 1. **任务Tasks**

| 编号  # | 时间  When | 任务  Task | 输出  Output | 角色  Role |
| --- | --- | --- | --- | --- |
|  | On completion of service setup and transition服务准备和交互完成之后 | 如果有客户提交Ticket，则需要在工具进行记录。  Product support/customer service tickets reported by users shall be logged in the ticket management tool, if available  *注：用户可以通过电邮、电话和工具提交*Ticket*。如果是通过电邮或电话提交*Ticket*，那么第1级团队成员应该负责记录*Ticket*。*  *Note: users of product/service may raise tickets through e-mail, phone, and tool. If the tickets are raised through e-mail or phone, L1 team member will be responsible for logging the ticket.* | 用Ticket管理工具记录Ticket  Ticket logged in ticket management tool | 第1级团队成员  L1 team member |
|  | During tickets are logged  Ticket被记录之后 | 对已记录的Ticket进行优先级排序  Prioritize the logged tickets | 已进行优先级排序的Ticket  Tickets prioritized | 第1级团队成员  L1 team member |
|  | During tickets are logged  Ticket被记录之后 | 参考已知错误数据库、产品支持指南或者相关基础知识，提供初级支持  Provide initial support by referring to the known error database/product support guide/knowledge base | Ticket解决方案  Tickets resolution | 第1级团队成员  L1 team member |
|  | On receipt of the ticket收到Ticket并记录之后 | 根据Ticket类型（服务请求、数据问题、代码问题和变更请求）分配给相关团队（L2或L3团队）以进行深入的调查并提出解决方案  Assign ticket to relevant group (L2/L3 team) based on ticket type (service request, data issue, code issue and change request) for further investigation and resolution  *注：如果L1团队成员无法解决*Ticket*，适用于该步骤。*  *Note: This step is applicable if L1 team member is not able to resolve the ticket* | 被分配给L2或者L3团队的Ticket  Ticket assigned to L2/L3 team | 第1级团队成员  L1 team member |
|  | On allocation of ticket to L2 or L3 team  Ticket被分配给L2或者L3团队之后 | 监督和跟踪相关团队以了解Ticket的状态和解决方案  Monitor and follow-up with concerned groups for status and resolution of the ticket | - | 第1级团队成员  L1 team member |
|  | On receipt of the ticket status  接收到Ticket的状态之后 | 在以下情况下，将Ticket的当前状态告知用户：  Inform user about the current status of the ticket, in the event of:   1. 延迟解决Delay in the resolution 2. 与用户就解决方案状态的更新达成特殊协议Special agreement with users for updates on status of resolution 3. 优先级高的（第1级或者第2级）的Ticket   High priority (P1/P2) tickets   1. 当Ticket已经被解决或者关闭时When ticket has been resolved and closed | 与用户沟通Ticket状态Status communication to user | 第1级团队成员  L1 team member |
|  | On resolution of the ticket  Ticket有解决方案时 | 将Ticket的解决方案和用户沟通，并收到对于解决方案的肯定或否定意见Communicate resolution to the user of the ticket and receive confirmation or rejection of the ticket resolution | 用户对Ticket解决方案的确认意见  Confirmation of ticket resolution from the user | 第1级团队成员  L1 team member |
|  | On resolution of the ticket  Ticket有解决方案时 | 出现如下现象时，更新Ticket管理工具：  Update Ticket Management Tool for the following:   1. 当解决方案获得用户认可时   When the resolution is accepted by user   1. 当产品支持指南/知识基础/已知错误数据库的解决方案被认可时   Resolution details in Product Support Guide/Knowledge Base/Known Error Database, as appropriate | Ticket管理工具的更新状态  Updated status in ticket management tool | 第1级团队成员  L1 team member |
|  | On rejection of the resolved ticket  Ticket解决方案被拒绝时 | 如果解决方案被拒绝，重新分配/打开Ticket并更新Ticket管理工具中的原因说明Reassign/reopen ticket if resolution is rejected and update Ticket Management Tool with reasons for the same.  注：按照上述第1-8步骤进行。  *Note: Follow steps 1-8 described above.* | 重新分配/打开的Ticket  Reassigned/Reopened Ticket | 第1级团队成员  L1 team member |
|  | On ticket cancellation/deferred  Ticket被取消或者延误 | 更新取消或者延误Ticket的状态和原因（如果Ticket被取消或者延误的话）Update ticket status with reasons of cancellation/deferred （if ticket is cancelled or deferred.） | Ticket管理工具的状态Status in Ticket Management Tool | 第1级团队成员  L1 team member |
|  | On return of ticket  Ticket被打回时 | 如果Ticket不在支持团队的职责范围之内，重新分配或者打回Ticket，并更新Ticket管理工具的状态和打回理由  Return ticket to user if ticket is not within the scope of support team and update Ticket Management Tool for ticket status and reason for returning the ticket. | Ticket管理工具的状态Status in Ticket Management Tool | 第1级团队成员  L1 team member |

* + - 1. **输出Outputs**

1. Ticket管理工具中已更新的问题详情Updated Issue/ problem details in the ticket management tool
2. 已更新的产品支持指南/知识基础/已知的错误数据库Updated Product Support Guide/ Knowledge Base/ Known Error Database
   * + 1. **出口准则Exit Criteria**
3. Ticket解决方案被用户接受并且Ticket已关闭Ticket resolution is accepted by user and ticket is closed
4. Ticket被取消、推延或者打回给用户Ticket is cancelled/ deferred/ returned to user
5. Ticket管理工中Ticket的状态被正确的更新Appropriate ticket status is updated in ticket management tool

Ticket归类和解决（L2和L3）工作流图Ticket Classification and Resolution (L2 & L3) Flow

* + - 1. **过程流图Process Flow**

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* + - 1. **输入Inputs**

1. 分配给L2或L3处理的Ticket。Tickets assigned for L2 and/or L3 support
   * + 1. **入口准则Entry Criteria**
2. Ticket被诊断为需L2或L3支持

Product support/customer service ticket diagnosed as L2 and/or L3 support ticket

* + - 1. **任务Tasks**

| 编号  # | 时间  When | 任务  Task | 输出  Output | 角色  Role |
| --- | --- | --- | --- | --- |
|  | On ticket allocation by L1 team member  L1团队分配Ticket给L2或者L3时 | 评审L1团队分配的Ticket的优先级并解决优先级高的冲突问题（如果有）  Review the priority of the ticket assigned by L1 team and determine and resolve conflicts vis-à-vis priority, if any | - | L2或L3团队成员  L2 or L3 team member |
|  | On ticket allocation by L1 team member  L1团队分配Ticket给L2或者L3时 | 确认Ticket是属于服务请求、数据修复、还是代码修复（缺陷、CR 和改进点）Determine whether the ticket is service request/ data fix /code fix(defect, CR, Enhancement) | - | L2或L3团队成员  L2 or L3 team member |
|  | On ticket allocation by L1 team member  L1团队分配Ticket给L2或者L3时 | 服务请求和数据修复的Ticket应由L2团队处理  Service request and data fix tickets shall be handled by L2 team | - | L2 团队成员  L2 team member |
|  | On ticket allocation by L1 team member  L1团队分配Ticket给L2或者L3时 | 根据知识基础、已知错误数据库或者金士达服务手册处理服务请求问题，如配置变更和制定报告等。  Handle service requests as per Knowledge base/Known error database/Kingstar service manual e.g. Configuration changes, report generation and so on. | - | L2 团队成员  L2 team member |
|  | On ticket allocation by L1 team member  L1团队分配Ticket给L2或者L3时 | 调查并处理数据问题。如果存在重大影响，请与相关的L3团队和其他干系人进行咨询。  Investigate data issues and fix the same. In case of major impact consult with L3 team and other stakeholders, as appropriate | - | L2 团队成员  L2 team member |
|  | Before communicating to the L1 team  在反馈给L1团队之前 | 关于小的数据修复的解决方案，先进行测试然后把该解决方案反馈给L1团队。  On resolution of the minor data fixes, test the same prior to communicating it to the L1 team | - | L2 团队成员  L2 team member |
|  | On ticket allocation by L1 team member  L1团队分配Ticket给L2或者L3时 | 代码修复（缺陷、热修、变更请求、改进点）应由L3团队处理  Code fix(defect, hot fix, CR, Enhancement) shall be handled by L3 team  *注：关于缺陷、CR和改进点，请参考项目计划过程，以了解更多详情。*  *Note: for details about defect, CR, enhancement please refer to project planning process* | - | L3 团队成员  L3 team member |
|  | On ticket allocation by L1 team member  L1团队分配Ticket给L2或者L3时 | 如果Ticket不在L2和L3团队的职责范围之内，重新将Ticket分配给L1团队。Reassign ticket to L1 team, if the ticket is not in the scope of L2 and L3 team | - | L2或者L3团队成员  L2 or L3 team member |
|  | On ticket allocation by L1 team member  L1团队分配Ticket给L2或者L3时 | 如果无法在已定义的SLA内处理该Ticket，请将Ticket升级到相应的干系人  If any of the tickets cannot be fixed within defined SLA, escalate the same to the appropriate stakeholders | - | L2或者L3团队成员  L2 or L3 team member |
|  | On resolution of the ticket  Ticket有解决方案时 | 就解决方案详情和Ticket状态与L1团队进行沟通  Communicate resolution details and ticket status to L1 team | 发票状态  Status of ticket | L2或者L3团队成员  L2 or L3 team member |

* + - 1. **输出Outputs**

1. 已解决的Ticket

Resolved ticket

1. 数据修复脚本Data fix scripts
2. 数据修复脚本的测试日志Test log for data fix scripts
3. 更新产品支持指南、知识基础或已知错误数据库Updated Product Support Guide/ Knowledge Base/ Known Error Database
   * + 1. **出口准则Exit Criteria**
4. 用户接受了Ticket解决方案，Ticket已关闭Ticket resolution is accepted by user and ticket is closed
5. Ticket管理工具的Ticket状态已经更新Ticket status is updated in ticket management tool

输出Output

关于此过程的输出，请参考2.4章节。For sub process wise outputs refer to section 2.4

出口准则Exit Criteria

关于此过程的出口准则，请参考2.4章节。For sub process wise exit criteria refer to section 2.4

过程验证Process Verification

如下所示，请进行定期的过程验证，以验证是否符合过程定义并识别不符合项（如果有）。

Periodic process verification, as mentioned below shall be carried out to evaluate the adherence to this process and address noncompliance, if any.

1. 高层在里程碑评审时评审Ticket管理活动的状态。Senior management reviews the status of ticket management activities during milestone reviews
2. SQA 评审或审计Ticket管理活动以及相关工作产品SQA reviews and/or audits, ticket management activities and related work products

过程度量Process Measurements

以下是本过程的推荐度量项。根据项目干系人的请求，可决定是否增加更多的过程度量项。

Following are the suggested measurements for this process. Additional process measurements shall be decided based on project stakeholder requirements.

1. 平均响应时间Average response time
2. 平均解决时间Average resolution time
3. 从严重性和优先级角度统计的每周平均发票量Severity and Priority wise average ticket volume per week

附录A-发票分类指南Appendix A-Ticket Classification Guidelines

严重性和优先级定义Severity and Priority Definition

<本章节应定义与客户达成一致意见的Ticket或者缺陷的严重程度和优先级。>

<This section shall define Ticket/ Defect severity and priority as agreed with Customer.>

举例如下：

Following is an example:

严重程度Severity

| 严重程度Severity | 描述  Description |
| --- | --- |
| 严重程度1（崩溃的）Severity 1 (Critical) | * 严重影响或者导致无法运行整个软件的应用程序Renders an entire software application severely impacted or inoperable * 用户进行正常的业务运行受到严重的影响或者阻碍。没有合适的应急措施。Customer’s ability to conduct normal business operations is critically impacted or halted. No reasonable workaround is available. * 关键功能无法运行。当用户急需使用这样的功能以连续准确地进行正常的业务运行时，该功能无法运行。Renders a particular functionality inoperable at a time when Customer has an immediate need to use such functionality in order to continue to perform normal business operations without interruption or delay. * 执行正常的业务运行所需的数据崩溃或者丢失。Causes corruption or loss of data needed to perform normal business operations * 重大故障实例如下：Some examples of critical failure are: * 出现死循环或者产品的一个关键业务函数崩溃An endless loop occurs or the product crashes in a critical business function. * 用户无法输入关键业务过程的数据A user cannot enter data for a critical business process. * 影响用户在生产环境完成正常业务的错误。Errors received at a customer location that prevents the customer from completing a business cycle in a Production environment or errors that would prevent a customer from going into Production.   \* 严重程度1的问题要求公司应该提供24小时的主要联系人，给用户提供问题解决方案。  Priority 1 issues require that the Business Unit provide a primary contact that is available around the clock to provide issue resolution to the customer. |
| 严重程度2（高）Severity 2  (High) | * 当用户在正常的时间内无法使用某一功能，但是不中断或者延误正常的业务运行。Renders a particular functionality inoperable at a time when Customer has the ability to interrupt or delay the use of such functionality for a reasonable time without otherwise interrupting or delaying normal business operations. * 关键应用组件受到明显地影响。用户进行正常的业务运行的能力受到重大的影响，但是仍然在有限的基础上进行操作。Key application components are significantly impacted. Customer’s ability to conduct normal business operations is substantially impacted but can proceed on a restricted basis. * 没有应急措施或者应急措施的使用有困难。Either there is no workaround available, or the workaround is cumbersome to use. * 产品产出错误的结果，会影响商业决策。A product is writing incorrect results to the database or calculating/ reporting incorrect values needed for business decisions. |
| 严重程度3（中）Severity 3  (Medium) | * 对应用程序的操作或者特定的功能进行降级，可保持其可操作性。降低用户加工数据和进行正常的业务运行的能力，但是不会中断。Degrades the operation of the application or particular functionality without rendering it completely inoperable, in such a way that Customer’s ability to process its data and perform normal business operations may be slowed but not halted. * 所支持的应用组件受到影响，但是这个问题需要单独处理。用户进行正常的业务操作的能力不会受到影响，或者可以通过现有的应急措施降低影响。Supported application components are impacted but the issue is isolated. Customer’s ability to conduct normal business operation is not impacted, or any impact can be mitigated via an available workaround. |
| 严重性4（低）Severity 4  (Low) | * 除了严重程度1/2/3之外的任何错误Any error other than Severity 1/2/3 * 与软件相关的，但是不会影响业务运行的非关键性问题。包括那些微小的或者显示性的问题，如排版上和语法上的错误。Non-critical issues related to the software that does not impact business operations. This includes problems, which are minor or cosmetic, such as typos and grammatical mistakes. |

优先级Priority

| 优先级Priority | 描述  Description |
| --- | --- |
| 优先级1  Priority 1 | 立即解决  Resolve Immediately |
| 优先级2  Priority 2 | 高度注意  High Attention |
| 优先级3  Priority 3 | 中  Medium |
| 优先级4  Priority 4 | 低  Low |

文档控制

Document Control

|  |  |  |  |
| --- | --- | --- | --- |
| 文档名称  Title | 发票管理过程 | | |
| 标识符  ID | TMP\_过程 | | |
| 版本号  Version No. |  | 有效日期  Effective Date | 2010-08-02 |

文档修订历史

Document History

<该表格包含了对该过程文档作的修订历史。>

<This table contains a history of the revisions made to this process document.>

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 版本号Version No. | 日期  Date | 变更原因  Reason for change | 作者  Author | 审核人Reviewed by | 批准人Approved by |
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