

## Quick Guide to Red Hat Technical Support

for customer IT decision makers

Linux and related open source technologies provide companies with more capability and higher performance for substantially less money than legacy proprietary alternatives. It is no surprise that IT executives, who depend on reliable and secure IT infrastructures, are increasingly adopting Red Hat Enterprise Linux.

One of the major reasons why customers choose Red Hat is the quality of our support. Red Hat's technical depth provides an unmatched capability to respond quickly to complex issues. Red Hat is the Linux market leader and has established alliances with all the major IHVs and ISVs.

### Red Hat Global Support Services:

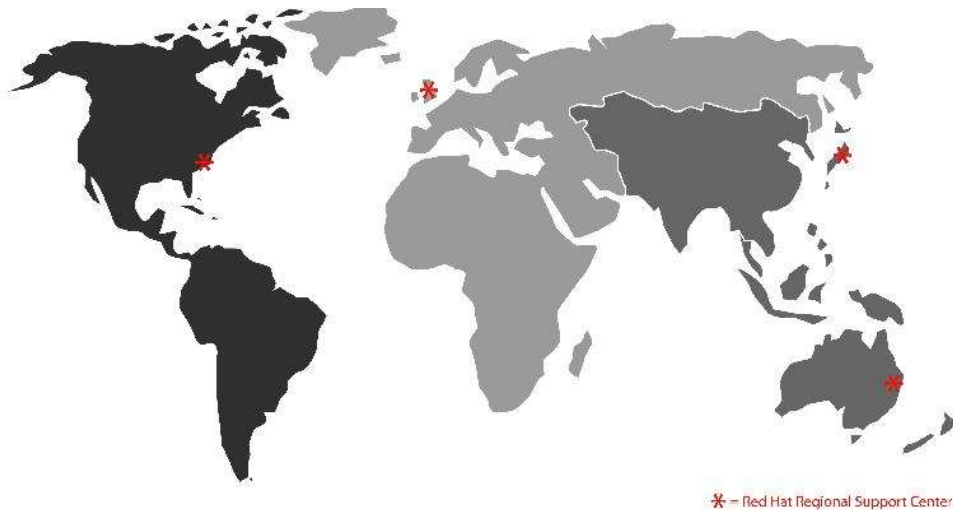
- Has resolved more than 500,000 issues
- Has more than 1.2 million systems managed via Red Hat Network
- Supports 8 of the top 10 global financial institutions

Red Hat's experience base and technical depth benefits customers as they seek to maximize their return on a Linux investment. Red Hat contributes and maintains more Linux code than any other Linux provider or hardware OEM by a wide margin. Red Hat engineers are the primary maintainers for much of the complex functionality of the kernel, the compilers, the libraries, and other important subsystems.

### Red Hat provides enterprise support across the globe

Global Support Services (GSS) is deployed around the world to enable a true 24x7 support infrastructure. We support more than 7,000 enterprise customers in more than 80 countries. There are four regional support centers serving North and South America, Asia-Pacific, Japan, and EMEA (Europe, Middle East, and Africa). We also have local support centers in India and Korea.

Support issues can be initiated via hotline, email, or [www.redhat.com](http://www.redhat.com). Additionally, customers have the ability to access our Knowledgebase for self-service support, and Red Hat Network (RHN) for software maintenance, provisioning, and system monitoring.



Red Hat's technical support team is staffed with Red Hat Certified Engineers (RHCE). There are currently 70+ RHCE-certified support personnel servicing Red Hat customers worldwide. No team is more qualified to meet your diverse implementation and migration needs.

Red Hat has rigorous escalation procedures for issues that need extra attention. In these scenarios the support organization works with kernel, application, and tool chain engineers to diagnose and solve the problem. For an urgent issue-- defined as Severity One--a team of Red Hat Support Engineers will work around the clock to solve the problem (or reduce the severity) and will maintain regular contact with the customer to provide visibility of the problem status and resolution progress. In addition, Red Hat has joint support and escalation agreements with major IHV and ISV partners.

## Support Concepts

Accessing support. Support requests are handled through:

- Telephone
- E-mail
- Web tickets
- Self-service via our online Knowledgebase

Types of support. Red Hat offers three types of production support: Basic, Standard, and Premium:

	Basic	Standard	Premium
Hours	30 Day Support: 9 a.m. to 9 p.m. Mon-Fri (North America)  9 a.m. to 5 p.m. Mon-Fri (APAC, EMEA)	9 a.m. to 9 p.m. Mon-Fri (North America)  9 a.m. to 5 p.m. Mon-Fri (APAC, EMEA)	24x7
Response Time	Next Day	4 business hours	1 hour continuous effort on Severity 1 (urgent) issues
Scope of coverage (more info below)	Installation and basic configuration	Common applications and tasks an IT datacenter would manage with Red Hat Enterprise Linux (see our SLA)	Maximum coverage possible

Scope of coverage. The Red Hat Enterprise Linux product line includes four separate products: AS, ES, WS, and Desktop. Each of these includes technology specific to the workloads for which the product was designed. The product technology and the designated workloads determine the scope of coverage for technical support. For example, AS includes technology for large-scale symmetrical multiprocessor servers. Customers seeking support for deployments of SMP technology should purchase the AS product instead of the WS product. For a more thorough explanation of the product line and related technical scope of coverage, as well as our Service Level Agreements, visit:

- [www.redhat.com/software/rhel/](http://www.redhat.com/software/rhel/)
- [www.redhat.com/support/service/sla](http://www.redhat.com/support/service/sla)

Entitled system. Red Hat uses this term to indicate that a customer's machine has a valid Red Hat subscription and has been registered with Red Hat.

Designated Customer Contact. The customer contacts that are eligible to receive support services from Red Hat are defined as Designated Customer Contacts. These individuals must have the authority to access the systems, execute commands, and provide system logs and files to Red Hat staff (i.e. they must have root privileges).

Access Control List. This list, commonly referred to as ACL, identifies the designated customer contacts and provides detailed contact information. For security reasons, Red Hat will release system administration information only to these designated individuals. This list also assures continuity of support services in the event that contact information is miscommunicated in an email or voicemail message.

Severity level. The severity level of an issue determines the response priority. Severity levels are defined according to customer impact as follows:

**Severity 1 (Urgent)**

A severity 1 issue is a catastrophic production problem that may severely impact the client's production systems, or in which client's production systems are down or not functioning; loss of production data and no procedural work-around exists.

**Severity 2 (High)**

A severity 2 issue is a problem where the client's system is functioning but in a severely reduced capacity. The situation is causing significant impact to portions of the client's business operations and productivity. The system is exposed to potential loss or interruption of service.

**Severity 3 (Normal)**

A severity 3 issue is a medium-to-low impact problem that involves partial non-critical functionality loss. One that impairs some operations but allows the client to continue to function. This may be a minor issue with limited loss or no loss of functionality or impact to the client's operation and issues in which there is an easy circumvention or avoidance by the end user. This includes documentation errors.

**Severity 4 (Low)**

A severity 4 issue is for a general usage question or recommendation for a future product enhancement or modification. There is no impact on the quality, performance or functionality of the product.

## Support Systems

Red Hat uses several technologies to fulfill the needs of our customer and our support infrastructure. Each technology allows us to leverage its capability in a unique way but has been integrated so that issue resolution process is seamless.

Knowledgebase. In order to facilitate self-support and provide a forum for designated RHCEs to contribute their knowledge to the community, Red Hat provides access to our support information Knowledgebase. It is easy to use and has powerful search capabilities to find the answers to your questions.

Issue Tracker. Red Hat uses an incident management system called Issue Tracker. Issue Tracker is Web-based and provides an online mechanism for issue logging, escalation, interaction, and responses between Red Hat support engineers and customers. Issue Tracker allows customers interact with Red Hat and see their problems through to resolution. The same system is used to track interoperability issues with our major IHV and ISV partners. Issue Tracker provides:

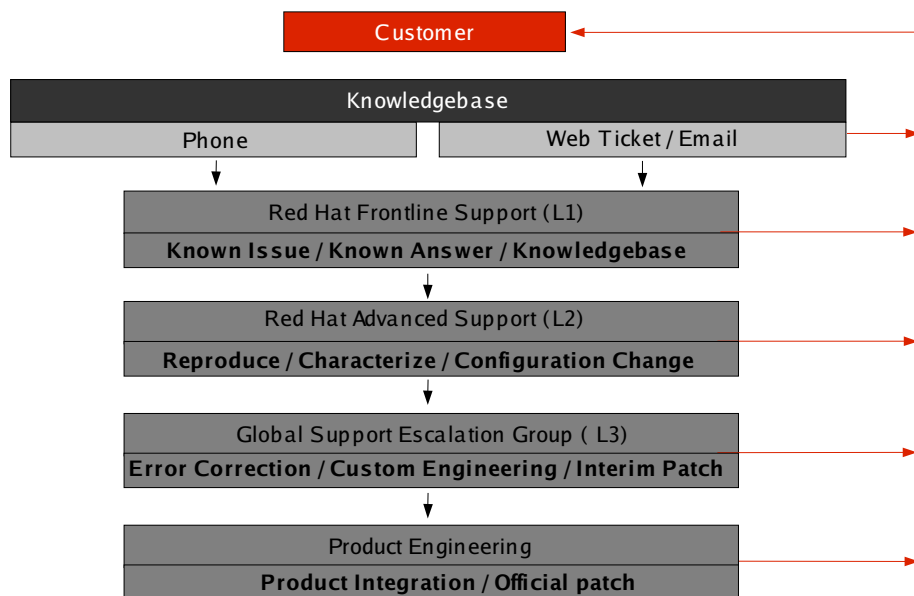
- Direct customer input into request system
- Direct customer review of their requests
- Frequently asked questions (FAQs)
- Remote monitoring/support tools
- Text retrieval/online documentation
- Web input of customer requests
- Web review by customers of their requests

Bugzilla--Red Hat uses a database called Bugzilla to track the resolution of bugs. This is a tool that is used frequently internally; however, external customers can obtain a Bugzilla account as well. For example, prior to a release, beta code is available for free download

and customers are encouraged to try out the code and submit any bug reports to Bugzilla.

## Support workflows

Red Hat has four levels of escalation based upon the nature of the issue and the expertise required to resolve the issue in a satisfactory and sustainable manner. The first three levels of escalation, Level 1 to Level 3, are contained within the technical support organization. Level 4 is contained within the product engineering group. The diagram below provides a graphical representation of the escalation process and responsibilities.



Level 1 consists of Red Hat Certified Technicians who respond to customers based upon their general knowledge and the information documented in the Knowledgebase. Issues resolved by Level 1 escalation can be characterized as “known issue/known answer” problems.

Level 2 consists of Red Hat Certified Engineers. Issues that are not resolved by Level 1 (i.e. there is no known answer) escalate to this group. The group's responsibility is to reproduce the problem, characterize it, and, if possible, resolve it via a configuration change. Problems that are resolved in this manner are then added to the Knowledgebase once the customer who initiated the issue is satisfied. If the Level 2 group is unable to resolve the problem with a configuration change, or if they reasonably determine that a code correction is required to correct an error condition, the issue is escalated to Level 3, the Support Escalation Group.

The Level 3 Support Escalation Group consists of support engineers whose sole responsibility is to respond to customer issues. They receive the characterization from the Level 2 group and begin the process of isolating the error condition. If the condition does indeed require a code change to correct the error, these engineers write that code, validate the correction, regression test against the customer configuration (usually with help from the customer), and if needed, issue a interim patch to the customer.

Whether resolved by Level 3 or further escalated to Level 4, product engineering eventually becomes involved in all issues that require new code for error corrections. Ideally, the customer already has a patch or configuration work-around to reduce the impact of the issue. Product engineering then integrates the changed functionality into the product, tests against the standard product criteria, modifies as necessary, and issues an official product errata (patch) via Red Hat Network.

Throughout this process, Red Hat maintains communication with the customer via updates to Issue Tracker and regularly scheduled phone conversations (as agreed between the customer and the support staff, and consistent with the contractual Service Level Agreement).

The customer is expected to assist in the process by providing ongoing information and validating potential fixes against a replica of the actual production environment.

### **Third-party software and partner relationships**

Red Hat has ISV partnerships with Oracle, IBM Software Group, VERITAS, CA, BMC, Borland, Legato, Novell, EMC, Rogue Wave, and TIBCO, to name a few.

Red Hat is fully committed to a positive interaction with third-party Independent Software Vendors and the open source community. Partners receive early access to alpha and beta code for Red Hat Enterprise Linux and package updates to help ensure compatibility. Open source bug fixes, patches, and applications built by Red Hat are licensed under the GPL and returned to the community. Bugs discovered and fixed by Red Hat in open source applications are reported to the open source project team, where appropriate (e.g. [bugzilla.gnome.org](http://bugzilla.gnome.org)).

Red Hat's IHV partnerships include Dell, IBM, HP, Sun, Hitachi, Fujitsu, and NEC. Each of these relationships have engineering, marketing, and support components. Generally, Red Hat and its partners work together to support customers when issues arise, through either a joint support agreement or through an escalation path through the partnership managers. Specifically, the IBM, Oracle, Dell, HP and VERITAS relationships have joint support agreements for addressing customer issues. Customer issues with other partners are handled on a case-by-case basis today through the partnership managers.

## Quick facts about Red Hat's Technical Support

- Red Hat is the sole provider and maintainer of Red Hat Enterprise Linux, and as such, knows it better than any other company. This means we can provide faster, more complete, and more sustainable resolution to any issue that may arise.
- Red Hat GSS staffs only support engineers with extensive experience in Linux and a Red Hat certification. Support engineers are required to conduct a minimum of 6 weeks of initial training and target more than 20 days a year of continuing education thereafter. Formal training is required in all technologies and systems covered by Red Hat support subscriptions.
- Red Hat experiences its highest call volumes between 1p.m. to 4p.m. Eastern time, Monday through Friday.
- Approximately 75% of service requests taken by electronic means are resolved on first contact.
- Red Hat typically receives 6,250 service requests per month via all communication channels: 60% via phone, 30% via customer incident logging, and 10% via voicemail.
- 80% of incidents are resolved by Level 1 and 2 service engineers. Only 20% are escalated to Level 3 engineering .
- Customer satisfaction surveys are used on 100% of closed calls and on monthly and quarterly intervals for enterprise customers.
- Red Hat tracks the following telephone system metrics:
  - Call wrap-up time
  - Incoming call duration
  - Number of calls terminated before/after initial prompt or message
  - Number of incoming/outgoing calls
  - Outgoing call duration
  - Percentage of calls abandoned
  - Time available
  - Time on-hold

## Additional Global Support Services Programs

In addition to Standard and Premium support for Red Hat Enterprise Linux, we provide additional support offerings:

- Technical Account Management (TAM)
- Developer Support

### Technical Account Management (TAM)

The Technical Account Management service is intended for customers who desire the deepest technical relationship with Red Hat in order to maximize their return on a significant investment in Red Hat technology. The service provides a consistent primary technical contact at Red Hat who will work with you to understand your ongoing technology requirements. This individual will proactively address issues with your production and mission critical systems. By leveraging the collective technical experience of Red Hat through this service your technical staff will be more productive – better able to deliver the performance, reliability and security you require.

With Technical Account Management services your organization will benefit from:

- Early identification of issues when deploying on Red Hat Enterprise Linux (beta testing, bug/feature escalation/resolution)
- Exposure and access to Red Hat's latest technology and development plans
- An advocate into Red Hat product engineering and the open source community
- Subscription to Red Hat's Technical Account Management monthly newsletter
- Two on-site technical review visits per year
- Personalized management of your Red Hat technical support from someone who is familiar with your technical infrastructure – the goal is a continual dialog in order to anticipate and avoid issues

### Developer Support

Developer Support services are used by customers developing or porting applications to Red Hat Enterprise Linux and are looking to Red Hat for expert support as they develop and test their application. With Developer Support your organization will benefit from:

- Development and porting assistance with Red Hat Enterprise Linux
- Assistance with GNU-based development tools on Red Hat Enterprise Linux

Developer Support services are designed to give you:

- Faster time to project completion
- Optimal performance via tuning and configuration assistance
- Higher developer productivity due to quicker resolution of application bugs
- Expanded development and support capabilities at a fraction of the cost of additional staffing
- Quick access to the broadest range of Linux development skills and knowledge in the industry

## What Red Hat can offer your company:

Making effective use of Linux and related open source technologies in a high demand, high tolerance modern production environment requires knowledge, skill, and experience. Red Hat, as the Linux market leader, is perfectly positioned to provide the expertise necessary to keep critical deployments running smoothly.

More details about our support coverage can be found on the Red Hat support site:  
[http://www.redhat.com/support/techsupport/production/RHEL\\_main.html](http://www.redhat.com/support/techsupport/production/RHEL_main.html)