



Pure Storage Customer Support Guide

Version 3.0

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Introduction

Welcome to Pure Storage Support! Our mission is to help our customers to succeed and get the most value from our products. This Pure Storage Customer Support Guide (Guide) describes the technical support and maintenance services to be provided by or on behalf of Pure Storage, Inc. (Pure Storage) and familiarizes customers with our team, best practices, tools and methodologies.

Contact Pure Storage Support

- Via the web: <http://www.purestorage.com/support>
- Via e-mail: support@purestorage.com
- Via phone (US): +1 (866) 244-7121
- Via phone (International): International numbers are available at <http://www.purestorage.com/support/> or in the Appendix to this Guide

Customers may contact Pure Storage Support at support@purestorage.com to request login credentials.

Support Services

Services Offered

Pure Storage Support offers both hardware and software support for licensed FlashArray systems via phone, email, and the web. Our mission is to provide our customers with services that will allow them to quickly identify and remedy any issues with their FlashArray systems.

Supported customers of licensed FlashArray systems can get help with:

- **Product usage:**
Assistance with day-to-day administration and implementation of Pure Storage best practices
- **Problem diagnosis:**
Analysis of Pure Storage product error messages, identification and isolation of root causes, and tracking the status of existing problems
- **Problem resolution:**
Solutions and workarounds for problems with Pure Storage products, as well as methods of avoiding problems without compromising system performance or reliability
- **Monitoring of Customer's FlashArrays via CloudAssist:**
Pure Storage Support will proactively monitor FlashArrays that are under "Premium" or "Advanced" maintenance plans and that have enabled CloudAssist. Please see the section Monitoring via CloudAssist on page 16 for details.

Maintenance and Support Packages

The table below outlines Pure Storage Support's maintenance and support packages:

| | Advanced | Premium |
|---|-------------------|----------------|
| Hotline | 365x24x7 | 365x24x7 |
| Initial Response Time for Severity 1 | 30 min | 15 min |
| Knowledgebase & User Community access | Yes | Yes |
| Online Training | Yes | Yes |
| Proactive Monitoring | Yes | Yes |
| SLA for hardware replacement* | Next business day | 4h ** |
| Forever Flash Eligible | Yes | Yes |
| Remote software upgrade included | Once per quarter | Unlimited |
| Optional Designated Support Engineer (DSE) | No | Yes |

* Response times for hardware replacement are measured from the time of hardware diagnosis and dispatch, not from the time the ticket was opened.

** This response time applies for Severity 1 cases.

Severity Levels

Severity Levels

Pure Storage Support will assign a severity level to each case, using a formal ranking system based on potential impact. This allows us to ensure:

- Appropriate speed of response
- Appropriate resources are made available
- Appropriate escalation is applied as required

Criteria

The criteria below define the severity of a case. When opening a new case, the customer and the Technical Support Engineer (TSE) will consult the ranking system to apply the correct severity level. While a case is open, its severity may be adjusted to reflect its business impact. For example: If a minor problem becomes more urgent, its severity can be increased; likewise, if a suitable workaround is implemented, the severity of a case may be downgraded. Setting the initial severity level and any adjustments to the severity level are mutually determined by the customer and Pure Storage Support based on the criteria below.

Severity 1 - Emergency

- Product fails to function or crashes
- Data unavailable or loss of data
- Product functionality or performance is degraded such that customer's application(s) are unusable

Severity 2 - Critical

- Product is operable but with material degradation in functionality or performance that substantially impairs customer's application(s)
- Problems with installations or upgrades of Purity software

Severity 3 - Serious

- Product is operable but with some degradation in functionality or performance
- Problems that are inconvenient, but product is still generally operating in accordance to documentation

Severity 4 - Minor

- Product or documentation has problems that do not materially degrade functionality or performance
- Product feature enhancement requests

Response Times (SLA)

The table below outlines Pure Storage Support's response times relevant to severity level:

| Severity | Initial Support Response Time | Hardware Replacement Response Time | Update Interval |
|-----------------------|--|---|-----------------------|
| 1 Emergency | <ul style="list-style-type: none"> Premium: 15 min Advanced: 30 min Engineer dedicated full time to work on problem until workaround that lowers case's severity level is delivered to customer | Targeted Onsite Response: <ul style="list-style-type: none"> Premium: 4h Advanced: next business day | At least once a day |
| 2 Critical | <ul style="list-style-type: none"> Premium: 30 min Advanced: 1h Engineer dedicated full time to work on problem until workaround that lowers case's severity level is delivered to customer | Targeted onsite response: <ul style="list-style-type: none"> Premium: next business day Advanced: next business day | At least once a day |
| 3 Serious | <ul style="list-style-type: none"> Premium: 1 business hour Advanced: 2 business hours Workaround that lowers case's severity level or patch delivered as soon as practicable | Targeted onsite response: <ul style="list-style-type: none"> Premium: 3 business days Advanced: 3 business days | At least twice a week |
| 4 Minor | <ul style="list-style-type: none"> Premium: 1 business hour Advanced: 2 business hours Typically resolved as part of next major software release | Targeted onsite response: <ul style="list-style-type: none"> Premium: 5 business days Advanced: 5 business days | As appropriate |

- SLAs apply to systems in production. For issues in non-production systems (test, development, sandbox), Pure Storage Support will review the business impact with the customer and apply a reasonable severity level and response time.
- Only *Severity 1 and 2* problems are real time; *Severity 3 and 4* problems are business time.
- Above response times apply only if e-mail communication is via the alias support@purestorage.com or phone communication is via the official published hotline numbers (see the section *Contact Pure Storage Support* on page 4).
- If Pure Storage Support confirms that a problem is fixed in a released patch or a higher version, Pure Storage Support may require the customer to apply this patch before commencing troubleshooting.
- Response times for hardware replacements are measured from the time of hardware diagnosis and dispatch, not from the time the ticket was opened.
- NBD SLAs are applicable to a 3PM local cutoff time from the point of dispatch.
- Should a spare be deemed a customer replaceable unit, Pure reserves the right to not dispatch a field engineer for installation.

Support Tools / Technologies

The Purity Operating Environment (Purity) has several built in features that allow for quick and effective troubleshooting.

CloudAssist

CloudAssist is an essential part of Pure Storage's overall strategy for providing first class technical support. It allows our technical support team to proactively identify potential problems and troubleshoot issues.

The CloudAssist feature operates via a user-configured, secure direct link between the FlashArray and Pure Storage Support. Log contents are transmitted every 30 seconds and stored on a secure server. This enables detection of FlashArray performance and error rate trends. Alerts are reported immediately as they occur, so that timely action can be taken. When diagnosis or remedial action is required, a complete history of recent FlashArray performance and significant events are available to Pure Storage Support.

Important: CloudAssist only transmits diagnostic data. It never accesses any customer data!

Pure Storage Support strongly recommends enabling the CloudAssist feature on the FlashArray. Disabling or blocking CloudAssist may significantly delay reporting and resolution of cases.

Remote Assist (RA)

In some instances, the most efficient way to diagnose a problem and service a FlashArray is direct intervention by a Technical Support Engineer (TSE). Purity's administrator-controlled RemoteAssist feature enables a TSE to communicate directly with the FlashArray via a secure link, effectively establishing an additional administrative session for the duration of the diagnosis and service.

Important: RA sessions must be explicitly enabled (opened) by the customer's FlashArray administrators and expire either after several hours, or immediately when terminated by either the customer or the TSE.

Typically, RA sessions also include simultaneous voice communication between the TSE and the FlashArray administrator. Once started, an RA session runs in the background of Purity. Only one RA session can be active on a FlashArray at a time.

Pure Support Portal

Pure Storage operates a state-of-the-art customer support portal at: <http://www.purestorage.com/support>.

Customers may contact Pure Storage Support at support@purestorage.com to request login credentials (see the section *Contact Pure Storage Support* on page 4).

The support portal provides access to:

- Release notes
- Knowledgebase articles
- Community Forums
- Publications such as user guides and installation guides

Other capabilities of the support portal include:

- Opening and updating support tickets
- Viewing ticket updates from Pure Storage Support
- Reviewing ticket history

New Release Notifications

We strongly recommend that customers subscribe to automatic Purity release notifications.

To do this, visit the [Community section for Release Notes](#). You can browse here by going to <http://community.purestorage.com> -> Pure Customer Knowledge Base -> Release Notes (Label on the right menu in the KB). Once here you will want to click *subscribe* to make sure you are getting the latest notifications.

Showing articles with label **Release Notes**. [Subscribe](#) to this label. [Show all articles](#)

We also recommend that you visit the [community introduction post](#).

Pure Storage Support Process

Customer should designate its support contacts before the first case gets opened.

Authorized callers

A customer can designate up to five individuals as “authorized callers” for each site. Customer may request portal accounts for them via email to Pure Storage Support (see the section *Contact Pure Storage Support* on page 4). Only these designated contacts can call and receive assistance from Pure Storage Support. This is designed for the customer’s security. This process ensures that all information provided by our TSEs is received and implemented by the authorized personnel within the customer’s organization. Designated contacts also ensure a clear and manageable communication channel on both sides.

If a customer wishes to change any information relating to its contacts, the customer should email the relevant information to Pure Storage Support (e.g. names, telephone numbers, etc.).

Primary contact

The primary contact is the authorized person selected by the customer to provide support for the Pure Storage FlashArray within its organization (a.k.a. “the Pure Storage FlashArray Administrator”). This person will be the customer’s resident Pure Storage FlashArray expert, responsible for assisting customer’s users and operations staff.

The expectation is that over time, the primary contact will become knowledgeable about a wide range of product usage issues and will be able to determine whether a particular problem can be solved locally or needs referral to Pure Storage Support. The primary contact should be accessible to all FlashArray users at the customer’s site and should be staffed in a manner that allows for timely responses.

Backup contact(s)

The backup contact(s) should be co-located with the primary contact. In the primary contact’s absence, the backup contact should be able to perform all the necessary duties relating to the FlashArray, including contacting Pure Storage Support and opening RA sessions, if needed.

Communication Channels

In order to maintain a consistent level of customer service, it is extremely important that all support related communication is channeled through Pure Storage Support. This enables tracking, assignment and resolution of cases in a timely, controlled manner.

Pure Storage Support has built-in mechanisms to mitigate the “human-factor” of support management (e.g. illness, unforeseen absences, TSE workload, etc.). Directly calling or e-mailing individuals in Pure’s support organization rather than going through the support e-mail or the hotline number may seem convenient; however, when a customer contacts a support person directly (rather than using the official channels) they run the risk of increased response time. It is always best to contact Pure Storage Support via the contact information found in the section *Contact Pure Storage Support* on page 4.

Opening a new case

When opening a new case, we may request the following information:

- Error message or advisory messages from the FlashArray
- Log files (if applicable)
- A reproducible test case by answering the following:
 - What were you trying to do?
 - What happened instead?
 - How exactly did the error occur?
- Severity level of problem as determined by customer
- Business justification for Severity 1 or 2 problems

Open a new case via the support portal

Customer should open a new case via the support portal if possible. This is our preferred method. An authorized caller can logon to the support portal via: <http://www.purestorage.com/support>. This method also allows customer to quickly specify the following information:

- Description of the problem
- Priority/Severity
- Product category
- Purity Version
- Operating System
- Initiator O/S version

Customer can also attach documents via the support portal, such as screen shots. This method allows Pure Storage Support immediate access to pertinent information. The customer will immediately receive the case number, followed up by a confirmation e-mail.

Open a new case via e-mail

Another efficient manner of requesting support is to open a new case via e-mail. We recommend emailing the request, together with any additional screen shots and related information, to Pure Storage Support.

Upon receipt of the email, the details will be entered into Pure Storage's case tracking system, and one of our TSEs will notify the customer with the case reference number (confirming the severity level) and provide an initial prognosis or solution, if available. This method of logging a new case is particularly useful for non-urgent queries.

Open a new case via phone

When contacting Pure Storage Support via phone, the first contact will be with a dispatching agent*. This agent will take several pieces of information:

- Existing ticket number, if this is a previously reported problem
- Exact error or advisory messages (if more than two, please report via email)
- A description of customer problem
- Severity of the problem as determined by customer

The dispatcher will then assign the case to a TSE who will promptly contact the customer.

*During hours of the day with historically low call volume, Pure Storage Support may use an answering service. Should a call be received during one of these periods, a customer will speak to a person who will only take the caller's contact information, and a TSE will promptly call the customer back at the provided contact information.

Acknowledging the case

Once the customer opens a case, it will be reviewed and dispatched through our case tracking system. It will then be assigned to the appropriate TSE.

Upon being logged into the system, the customer will receive an acknowledgement of the case, via email, including the case number.

Hardware Replacements

Pure Storage Support & Maintenance not only provides our customers with access to the support hotline but also includes provisions for replacing malfunctioning FlashArray hardware.

When it is determined by a Pure TSE during the troubleshooting process that a hardware component of a customer's Pure FlashArray has failed and will need to be replaced, the TSE will initiate the shipping of the replacement part and will also dispatch the Field Technician (FT) to perform the actual part replacement (unless the part is customer replaceable). This will be the moment in time from which the guaranteed SLA for hardware replacement is measured. The part will arrive prior to the FT.

To avoid delays, customer will, in addition to the address of the datacenter where the FlashArray is located, provide localized information so the FT can locate the FlashArray in the data center (grid coordinates for the FlashArray). Customer will also need to provide specifics for site security.

Case escalation by the customer

In most cases, escalation is initiated by the TSE in an effort to prioritize according to severity level. However, a customer can trigger an escalation if the solution of a technical problem leads to a non-satisfactory result. A customer can also escalate a case if they are dissatisfied with a given response, or with the quality of service received.

To escalate a support case, the customer should call the Pure Storage Support hotline number and ask to speak with a Support Manager. The customer must provide the open case number as a reference. The Support Manager will then get the customer's input, discuss the problem with the customer, and will address the problem internally as required. The Support Manager will be included on all further communication on this case until the case gets resolved.

Once the customer is satisfied that the problem is resolved, or the situation no longer requires escalation, the escalation will be closed.

Designated Support Engineer (DSE) Program

A Designated Support Engineer (DSE) is an experienced Pure Technical Support Engineer (TSE) who provides Pure customers with a named engineer during the term of the DSE contract. The DSE delivers a combination of remote services, support and technical account management functions. Over the course of the term, the DSE will become familiar with the customer's environments, procedures and configuration for the Pure FlashArray installed at the customer's site (i.e. customer datacenter(s) in a metro area). The services of the DSE are delivered off-site (remotely), with the exception of an on-site visit on site every 6 to 12 months as mutually agreed. The DSE service is a billable add-on option available only for an existing Premium maintenance plan.

DSE Program Highlights

- Single point of contact for the customer's management of technical support tickets
- Intimate understanding of customer's environment by dedicated Pure resource
- Proactive support, maintenance and troubleshooting assistance
- Quarterly health checks of the customer's FlashArray
- Knowledge transfer and technical assistance for customer's staff
- The length of the DSE engagement is either 6 or 12 months
- Up to two onsite visits during a 12 month term of the DSE contract, or one onsite visit during a 6 month term

DSE Specialized Program Features and Benefits

Personalized Point of Contact:

The customer has direct access to an experienced support engineer who understands the customer's IT environment as it relates to the FlashArray.

Weekly Updates:

The DSE participates in a weekly status call and provides ongoing status reports that summarize outstanding issues and the health and performance of the FlashArray.

Proactive Support:

- The DSE will advise the customer about new Purity releases to the extent relevant to customer's environment.
- The DSE will assist in remote software upgrades when required.
- The DSE will advise on and help implement best practices with respect to configuration and operation of the FlashArray.
- The DSE will review the performance of the FlashArray and will suggest fine-tuning of the FlashArray where/when appropriate.

Quarterly Health Checks and Reviews:

The customer will receive quarterly reviews that outline the health and performance and capacity growth of the FlashArray.

Onsite Services:

During the scheduled onsite visit(s), the DSE will work with the customer and evaluate the efficiency of the installed FlashArray.

Customer Responsibilities

The customer must meet the following requirements prior to engaging the DSE:

- Designate a single primary point of contact for the DSE. The point of contact is the only approved person to assign tasks (other than support tickets) to the DSE; and
- Enable PhoneHome and RemoteAssist for all customer FlashArrays.

DSE Terms

- The number of hours spent by the DSE on non-ticket related activities will not exceed more than 10 hours / week. Unused time will not carry over.
- A DSE is a shared resource. Pure Storage will always use reasonable efforts to make the DSE available to take customer calls. If the DSE is not readily available, Pure Storage will either offer to connect the customer with a different TSE or with the DSE as soon as the DSE becomes available.
- Communication with the DSE is done either by e-mail using the alias support@purestorage.com or via phone through the published hotline numbers (see the section Contact Pure Storage Support on page 4).
- Pure Storage will assign a primary DSE and a secondary DSE to act as a replacement DSE, in the event the primary DSE is unavailable for an extended time period.
- A DSE is designated to a customer site, where site is defined as a customer's datacenter(s) in one metro area, unless otherwise approved by Pure Storage in writing.
- The works hours for the DSE will be 8AM to 5PM local time at the DSE's location. Pure Storage will attempt to align the DSE's work hours with the customer's site.
- Scheduled meetings, conference calls or direct interaction with the DSE shall be between 8AM and 5PM, Monday through Friday, normal business hours (DSE local time).
- The term of the DSE contract is either 6 months or 12 months.

Monitoring via CloudAssist

Pure Storage Support will proactively monitor FlashArrays that are under “Premium” or “Advanced” maintenance plans and have CloudAssist enabled.

Monitoring methodology

- Each array has a real-time monitoring process that monitors capacity, performance and health diagnostics (see the section *CloudAssist* on page 8)
- Failures / alerts are sent immediately to Pure Storage Support

Alerts monitored

- Pure Storage Support monitors all alerts that indicate:
 - Product failure to function
 - Data unavailable or loss of data
 - Product functionality or performance is degraded to the point that customer’s application(s) are unusable
 - Visible change in state on the UI or CLI

Examples of alerts

- SSD lost and low on space – or – this is the 2nd SSD loss
- 2nd NVRAM lost (for a total of 4) – or – any NVRAM lost (for a total of 2)
- Controller or component fault
- PSU fault
- Temperature or fan fault
- SAS Cabling fault
- Path to drive loss (SAS interposer)
- Throttling start and stop alerts
- Capacity limit alert
- Purity startup

These alerts are reported to Pure Storage Support in real time. Pure Storage Support will start analyzing the nature of the problem immediately using the diagnostic information that was sent along with the alert.

After the initial analysis has been completed, Pure Storage Support will contact the customer 7x24x365 for all **critical** alerts (unless the customer specifically instructs Pure Storage in writing not to do so). Please note that there might be a delay between the original alert and the initial contact by Pure Storage Support due to the time needed for initial analysis.

For any non-critical alerts, Pure Storage Support will contact the customer as appropriate (usually during business hours). For example, if Pure Storage Support determines that a failover was by design and had no impact on I/O being served, Pure Storage Support will follow up during business hours.

Prerequisites

The customer must have CloudAssist enabled on all Pure FlashArrays.

All the described actions above are real time 7x24x365. For all critical alerts, Pure Storage Support will contact the primary contact for the affected Pure Flash Array via e-mail and – if needed – via phone.

It is essential that customers provide an e-mail address and a phone number that is valid 7x24x365.

We strongly recommend that customers provide an e-mail alias and phone (or pager) number to **alert the entire customer team** that is in charge of the Pure FlashArray. This will ensure that the alerts from Pure Storage Support will reach the correct individuals at the customer without delay.

Advice for “Dark Sites”

Some customers will have strict security requirements that do not even allow the logging information contained in CloudAssist to leave their site.

Pure’s support methodology and best practices are based on Pure Storage Support being proactively informed and alerted about the status of customer arrays. When a customer elects to not enable or blocks CloudAssist and RemoteAssist, this will significantly limit Pure Storage Support’s ability to be proactive or resolve cases or problems in a timely manner.

Consequently, Pure Storage Support must rely on the customer’s administrators to take a much more active role in monitoring the array and in basic troubleshooting.

Pure Storage offers an online training that is targeted at administrators of the FlashArray at “dark sites”. We strongly recommend having at least two Pure-certified administrators on staff in “dark sites”.

Additional Terms

The provision of the services under this Guide are subject to the terms and conditions of the end user agreement that accompanies the FlashArray or the separate written agreement that specifically governs the same subject matter. A certified field service technician must do part replacements, unless Pure Storage Support has authorized replacement by the customer. The services are provided in English only. Notwithstanding anything to the contrary, Pure Storage may modify this Guide by notifying customer of the changes. Such changes will apply to the services on a going-forward basis. Customer will provide Pure Storage information, cooperation, reasonable assistance and prompt onsite or remote access to and use of the FlashArray to allow Pure Storage to perform the services hereunder.

APPENDIX

Listing of all international phone numbers for the Pure Storage Hotline

A complete listing of all international numbers to reach Pure Storage Support can also be found at <http://www.purestorage.com/support/>

| Country | Local Support Number |
|----------------|----------------------|
| Australia | 1-800-624251 |
| Belgium | 0-800-26671 |
| Denmark | 0-808-26092 |
| France | 0-8050-80443 |
| Germany | 0-800-7239467 |
| Indonesia | 001-803-015-205-3502 |
| Ireland | 1800-817079 |
| Italy | 800-596-354 |
| Japan | 0800-888-0257 |
| Luxembourg | 0-800-88061 |
| Malaysia | 1-800-81-7553 |
| Netherlands | 0-858-883168 |
| New Zealand | 0-800-003255 |
| Norway | 0-800-24646 |
| Philippines | 1-800-1-116-1240 |
| Poland | 0-123-966007 |
| Singapore | 800-1302-170 |
| South Africa | 875-502803 |
| South Korea | 00798-14-800-9446 |
| Spain | 900-838117 |
| Switzerland | 0-800-007766 |
| Taiwan | 0080-114-7207 |
| Thailand | 001-800-13-205-3502 |
| United Kingdom | 0-800-0885234 |

