PURE STORAGE CUSTOMER SUPPORT GUIDE

VERSION 5.0.0
JUNE 1, 2021

PURESTORAGE®

PURESTORAGE®

INTRODUCTION

WELCOME TO PURE STORAGE SUPPORT!

This guide briefly describes the technical support and maintenance services that Pure Storage ® provides its customers.

CONTACT PURE STORAGE SUPPORT

- **WEB**   pure1.purestorage.com/support
- **EMAIL**   support@purestorage.com
- **PHONE (US)**   +1 (866) 244-7121 or +1 (650) 729-4088
- **PHONE (INTERNATIONAL)**   support.purestorage.com/pure1/support

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

SUPPORT SERVICES

We offer support for Pure Storage FlashArray ᵗᵐ and FlashBlade ® systems and their environments over the phone, by email, and through our web portal. Customers can get help with the following:

SERVICES	
USAGE	Assistance with day-to-day administration and implementation of Pure Storage best practices.
DIAGNOSIS	Analysis of Pure Storage product error messages, identification, and isolation of root causes, and tracking of existing problems.
RESOLUTION	Solutions for problems, but also methods of avoiding trouble without compromising system performance or reliability
MONITORING	Pure Storage Support proactively monitors systems that are under "Premium" or "Advanced" maintenance plans that have Pure1 ® enabled.

For information on Product Supportability, please see our Pure Storage End-of-Product Lifecycle Overview (https://support.purestorage.com/?cid=Product_Life_Cycle_Overview).

PURESTORAGE®

SUPPORT PACKAGES

The following table outlines our maintenance and support packages:

	BASIC	NEXT-BUSINESS-DAY	FOUR-HOUR
HOTLINE	365 x 24 x 7	365 x 24 x 7	365 x 24 x 7
RESPONSE TIME	15 minutes	15 minutes	15 minutes
PURE1	Yes	Yes	Yes
ONLINE TRAINING	Yes	Yes	Yes
PROACTIVE MONITORING	No	Yes	Yes
SLA FOR HARDWARE REPLACEMENT[1]	Same-day shipping[2]: delivery varies	Next-business-day delivery	Four-hour delivery
INCLUDED CONTROLLER UPGRADES	Yes, with Gold	Yes, with Gold	Yes, with Gold
REMOTE SOFTWARE UPGRADE INCLUDED	Defect fixes only	Unlimited	Unlimited
OPTIONAL (DSE)	No	No	No

---

[1] Applies to time after diagnoses and dispatch; not after the ticket is opened.
[2] With Same-day Shipping there is no time-delivery commitment, the order is placed on the same day that the part has been diagnosed as faulty and replacement requested. The part is shipped from regional depots and may be subject to international transportation and customs lead times. The end user should be made aware that they will need to act as importer of record internationally.

PURESTORAGE®

EVERGREEN STORAGE

The following is a breakdown of the different Evergreen ™ subscriptions.

Evergreen Gold is Pure's standard subscription offering, delivering a subscription to our complete set of ever-improving capabilities across software, hardware, white-glove support, and maintenance.

Evergreen Silver omits the subscription to hardware, and is designed for (usually quite large) organizations that are trying to maximize CAPEX spend and minimize OPEX.

Evergreen™ Storage		Evergreen **Gold** Subscription	Evergreen **Silver** Subscription
SOFTWARE SUBSCRIPTION	All-Inclusive Array Software	✓	✓
	Future Array Software Features	✓	✓
HW & SW MAINTENANCE SUBSCRIPTION	Flat & Fair Maintenance	✓	✓
	Evergreen Maintenance	✓	✓
WHITE GLOVE SUPPORT SUBSCRIPTION	Predictive Analytics & Services	✓	✓
	Instant L2 Support Access	✓	✓
	Sev 1 Response SLA	15 min	15 min
	Support Managed Upgrades	✓	✓
	On-Site Break/Fix SLAs	4HR & NBD	4HR & NBD
	Mobile/SaaS-Based Monitoring	✓	✓
MEDIA & CONTROLLERS SUBSCRIPTION	Evergreen Architecture	✓	✓
	Right Size* & 30-Day Guarantees	✓	✓
	Upgrade Flex Controllers**	Trade-in Credit	
	Capacity Consolidation**	Trade-in Credit /w 4X Purchase	
	Free Every Three*	✓	

© 2019 PURE STORAGE INC.

*See Evergreen Storage program terms. Right Size Guarantee only available for FlashArray //X   **Requires purchase of qualifying capacity. Capacity Consolidation for FlashBlade available under Silver subscription.

PORTWORX SUPPORT SERVICES

Customers may contact Pure Storage Support for assistance with their Portworx ™ product via the above mentioned methods in **CONTACT PURE STORAGE SUPPORT**.

PORTWORX SUPPORT LEVELS

Severity 1	The classification used when the Software fails to function causing the system on which it is installed to go down or "crash" or data from Portworx volumes are unavailable. Portworx shall initially respond to the customer within one (1) hour.
Severity 2	The classification used when there is an error that does not render the system on which it is installed inoperable, but which materially interferes with the Software's ability to perform. Portworx shall initially respond to the customer within six (6) hours.
Severity 3	The classification used when there is an issue that causes or results in

PURESTORAGE®

	substandard or erratic performance. Portworx shall initially respond to the customer within one (1) day.
Severity 4	The classification used when there is an issue that produces an inconvenient situation or when the customer requests an enhancement. Portworx shall initially respond to the customer within five (5) business days.

PORTWORX ESSENTIALS FOR PURE'S FLASHARRAY AND FLASHBLADE PRODUCTS

Pure offers End Users of Pure's FlashArray and FlashBlade Products the Portworx Essentials for Pure FlashArray and FlashBlade software license ("PX Essentials License") at no additional cost, subject to the Portworx Essentials product and usage limitations set forth at https://portworx.com/products/features/. All FlashArray and FlashBlade End Users will not receive support for the PX Essentials License unless such End Users upgrade to Portworx Enterprise. Notwithstanding the foregoing, only End Users who downloaded the Pure Service Orchestrator prior to August 31, 2021 ("PSO") and migrate PSO to the PX Essentials License will receive support in accordance with End User's then-current Evergreen Subscription.

PORTWORX TECHNICAL DOCUMENTATION

Portworx technical documentation can be found at (docs.portworx.com) which includes FAQs.

TECHNICAL SUPPORT SERVICES

Pure Storage's technical support services are proactive, reaching out to customers when alerts in our Pure1 monitoring system brings attention to a problem, (see "Support Technologies," below). Customers may also discover issues and contact us for help, through telephone or email.

Whether the issue comes to our attention through an alert or a customer's contact, as soon our team becomes aware of a serious issue, we create a case, start the clock, and immediately get to work. Throughout the support process, we notify customers according to the severity level of the issue they face, (see "Severity Levels" on page 8).

When a problem is brought to Pure Storage Support's attention through a Pure1 alert, we already know a lot about what's happening, because the alert includes a description of the problem, the time it began, and how critical it may become. In a case like this, the Technical

Support Engineer (TSE) evaluates the alert to determine how to respond. If appropriate, they promptly email the customer's designated contact person, filling them in on the situation.

When a customer brings the issue to Pure Storage Support's attention over the phone, a Customer Support Specialist (CSS) fields the call, performs basic analysis, and creates a case in our management and tracking system. The CSS then puts the case in the hands of a qualified TSE who works with the customer to gather information such as system logs and to analyze the problem in depth. If the customer request arrives through email, the TSE usually responds to that correspondence first but may follow up later by phone. In either scenario, to better diagnose the problem, the TSE may ask for a video conference and to connect to the device through our secure Remote Assist, (RA) technology, (see "Support Technologies," below).

While the TSE will likely produce a resolution that fits with both the customer's insights and the evidence at hand, occasionally the case may need to be escalated, especially when the problem has a high level of severity. At that point, team members with higher levels of expertise or specialization join the effort. The original TSE, however, remains as the point of contact for the customer.

In addition to contacting customers when problems arise, Pure Storage Support also reaches out proactively when there is a need to upgrade a particular version of Purity software, as when a serious issue is discovered with a version that a customer is running. When setting up an upgrade or lending assistance with any other activity, such as configuring a new feature, we schedule a time that is both convenient and efficient.

While customers are notified of the progress of cases throughout an investigation or any other service, after the problem is resolved, customers confirm that they are completely satisfied with the issue's resolution before we close the case. We then ask them to fill out a brief survey where they may offer feedback.

PURESTORAGE®

SUPPORT TECHNOLOGIES

Pure operating environments have several built-in features that allow for quick, effective troubleshooting: Pure1 and Remote Assist. These tools enable our technicians to anticipate issues and work with problems often before they arise.

Pure1 is an essential part of Pure Storage's overall strategies that allows the technical support team to monitor every connected device and then proactively identify potential problems. It operates through a secure link where logs are transmitted every 30 seconds to a secure server, enabling detection of performance issues and error-rate trends. When a problem is discovered, an alert immediately reports the issue so that action can be taken quickly. Records of previous alerts and other diagnostic operations provide a history off significant events to inform the troubleshooting effort.

While Pure1 provides preliminary diagnostic information, in many cases, the most efficient way to service a Pure Storage product is by the direct intervention of a Technical Support Engineer (TSE). At that point, the operating environment's Remote Assist (RA) feature enables the TSE to communicate directly with the device through a secure link. Typically, RA sessions also include simultaneous video or phone conferences. Once begun, an RA session runs in the background of the server's operating environment until it is terminated by the customer, the TSE, or by automatically timing out.

To ensure security, connection to Pure1 only transmits diagnostic data. It never accesses any customer data. Only a customer's local administrator can open a Remote Assist session. Further, only one RA session can be active at any time, though many TSEs may be active on that one session.

A CLOSER LOOK AT MONITORING SYSTEMS, ALERTS, AND PURE1
The Pure1 system constantly monitors Pure FlashArrays and FlashBlades that are working under Premium or Advanced maintenance plans and that have Pure1® Cloud enabled. The system creates alerts when individual processes or components may need attention. Depending on the alert, the customer, Pure Storage Support, or both are immediately informed.

Pure Storage Support monitors all alerts that indicate:
- A product's failure to function

- Data loss or access issue
- Product performance degradation
- Visible changes in state on the UI or CLI

Specific features or processes that may cause alerts:
- SSD loss or lack of space
- NVRAM loss
- 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
- Array startup

Find a full list of alerts here:
- FlashArray https://support.purestorage.com/?cid=PurityFA_Alerts
- FlashBlade https://support.purestorage.com/?cid=PurityFB_Alerts

When alerted of a problem, Pure Storage Support starts analyzing the nature of the issue immediately, using the diagnostic information sent with the alert.

With all critical alerts, after a TSE has completed an initial analysis, Pure Storage Support contacts you regardless of the time of day or the day of the year, (unless specifically instructed not to do so by a no-contact order that was previously put in place by the customer).

Note: Because time may be spent on analysis after the initial alert is sent, the TSE's initial contact may be briefly delayed. Additionally, for non-critical alerts, we only contact customers as appropriate (usually during regular hours). For example, if we determine that a failover was "by design" and had no impact on I/O being served, we may follow up during regular business hours.

PREREQUISITES REQUIRED FOR ALERTS
The customer must have Pure1 enabled on all Pure servers, whether FlashArrays or FlashBlades. Those sites that are not connected are considered "dark" sites. (See "Advice for Unconnected 'Dark' Sites," below).

PURESTORAGE®

All of the services described above occur 24 hours per day, seven days per week, and 365 days per year. For all critical alerts, Pure Storage Support will reach out to customers through their designated representatives. For that reason, we strongly recommend that customers provide an email alias and phone (or pager) number to alert the entire team that is in charge of the Pure server equipment. Doing so ensures that the alerts from Pure Storage Support can reach the correct individuals without delay.

UNCONNECTED "DARK" SITES
Some customers have strict security requirements that do not allow information such as logs to leave their site for the Pure1. Our support methodology is based on being informed about the status of customer's servers when a customer elects not to use Pure1, they limit our ability to proactively resolve problems. Consequently, Pure Storage Support must rely on the customer's administrators to take a much more active role both in monitoring the equipment and, when problems arise, take a more active role in basic troubleshooting. To that end, Pure Storage offers a training course, written materials, and special tools that are targeted for administrators at unconnected, "dark" sites. We strongly recommend having at least two Pure-certified administrators on staff at each of these sites.

For more information on the assistance offered to dark sites, see the FlashArray Management Training Course information (https://support.purestorage.com/FlashArray/Getting_Started_with_FlashArray/FlashArray_Management_Training_Course). This certification course includes both video and hands-on training, plus a complete manual detailing methods that are not dependent on electronic connection to Pure Storage or any other site.

PURE STORAGE SUPPORT PORTAL

Pure Storage operates a state-of-the-art customer support portal at https://support.purestorage.com. The portal supports browsing from desktop, tablet, or smartphone with single sign-on between all sections of the site. If you are an existing customer, an account should have been created for you by your account team. If you have any questions or need assistance, email community@purestorage.com. The support portal provides access to:

PORTAL	DESCRIPTION
MANAGE	Easily monitor and manage your Pure Storage devices from anywhere.
CASES	Open, update, and view your support tickets with Pure Storage Support.

PURESTORAGE®

KNOWLEDGE	Access release notes, user guides, installation guides, advice on best practices, troubleshooting, and more.
COMMUNITY	Access peer-to-peer discussions with other members of the Pure Storage Community. Ask questions, share tips and tricks, and communicate with other customers.

SUPPORT CONTACTS

Designated support contacts are the only people from customer sites who can speak to Pure Storage Support technicians on behalf of their companies. Implemented for the customer's security, this policy ensures that all information provided by our TSEs is received and implemented by the appropriate personnel within the customer's organization. Customers need to designate all support contacts before they attempt to open their first case. Different types of customer contacts follow:

CALLERS	DESCRIPTION
AUTHORIZED CALLERS	A customer can designate up to five individuals as authorized callers for each site. Only these designated contacts can call and receive assistance from Pure Storage Support. Customers may request portal accounts for these individuals through email to Pure Storage Support.
PURE1 ADMIN	The Pure1 Admin is the person at the customer's site who is authorized to provide support for a Pure FlashArray or FlashBlade. As the customer's resident Pure Storage expert, the Pure1 Admin is responsible for the administration of contacts and for assisting users. Knowledgeable about a wide range of product issues, this person determines whether a particular problem can be solved locally or needs to be referred to Pure Storage Support.
BACKUP CONTACTS	Backup contacts should be located at the same site as the Pure1 Admin and be able to perform all the necessary duties on the FlashArray or FlashBlade, including contacting Pure Storage Support and opening RA sessions when required.

PURESTORAGE®

SEVERITY LEVELS

Pure Storage Support will assign a severity level to each new case by using a formal ranking system that is based on the business impact of the problem. If the severity is raised, the new severity level continues through the life of the case. When tracking a case on the Pure1 Portal, this value can be as the "Case Severity."

SEVERITY	DEFINITION	INITIAL RESPONSE	UPDATE FREQUENCY
SEVERITY 1 *EMERGENCY*	Critical impact to a critical business system which is preventing business functions from operating, resulting in loss of productivity or financial impact, including data loss or data corruption.	15 minutes	Continuous updates
SEVERITY 2 *MAJOR*	Major impact on a critical business system with reduced or degraded functionality impacting productivity or financial loss.	30 Minutes	Updates daily or as agreed
SEVERITY 3 *MINOR*	Minor impact or degradation of service to business system impacting non-essential functions with minimal or no impact to the business.	1 Business Hour	Every other business day or as agreed
SEVERITY 4 *INFORMATIONAL*	Information inquiries including a request for documentation, questions on product functionality, or configuration.	2 Business Hours	Updates as agreed

PURESTORAGE®

OPENING A NEW CASE

OPEN A NEW CASE VIA WEB PORTAL

When possible, Pure Storage recommends opening new cases via the support portal at https://pure1.purestorage.com/support. When the Case Management screen opens, you can do the following:

- To open a new case, click the orange (+) next to the Quick Find Bar.
- Enter the case in the field in the Quick Find bar, which will be listed in the left pane.
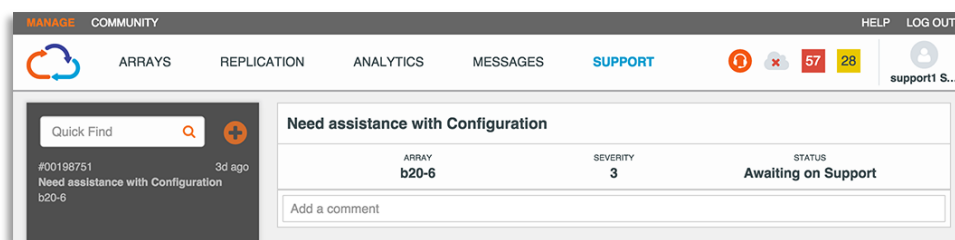- To update an existing case, on the right-hand side, open one of the cases listed.

Figure 1 - Pure1 Case Portal Home Screen

When opening a new case, provide the following information:

IN THIS FIELD	ENTER THIS
ARRAY	If the Pure FlashArray or FlashBlade is configured for Pure1 Manage, the device's name will automatically be populated in the drop-down menu. If available, select it. If the phone home feature is enabled, the site will also populate the Model and the Version of the device's operating environment.
INITIATOR OS	If applicable, provide information on the operating system of the host that is affected. This expedites troubleshooting and research efforts.
SUBJECT	Enter a brief phrase to summarize the issue.
DESCRIPTION	Describe in detail the issue you are experiencing. Additional details such as troubleshooting steps you've taken or whether anything has changed in your environment are important to note.
PRIMARY CONTACT	From the drop-down menu listing users in your system, select the name of the contact that we should contact first. This is the Pure1 Admin in most cases.

PURESTORAGE®

SECONDARY CONTACT	If the Pure1 Admin is not available, Pure Storage Support will attempt to work with the backup contact.

Figure 2 - Opening a New Case

After entering information in each of the fields, click **Create** to submit the case. The screen loads the individual case view. A case number displays and a confirmation is sent, (see Figure 3).
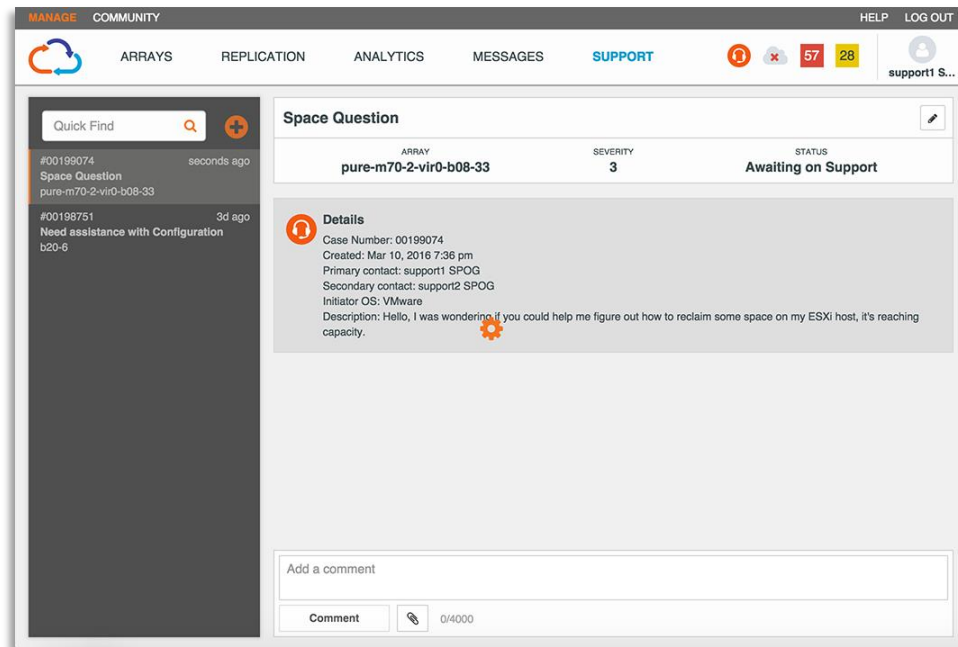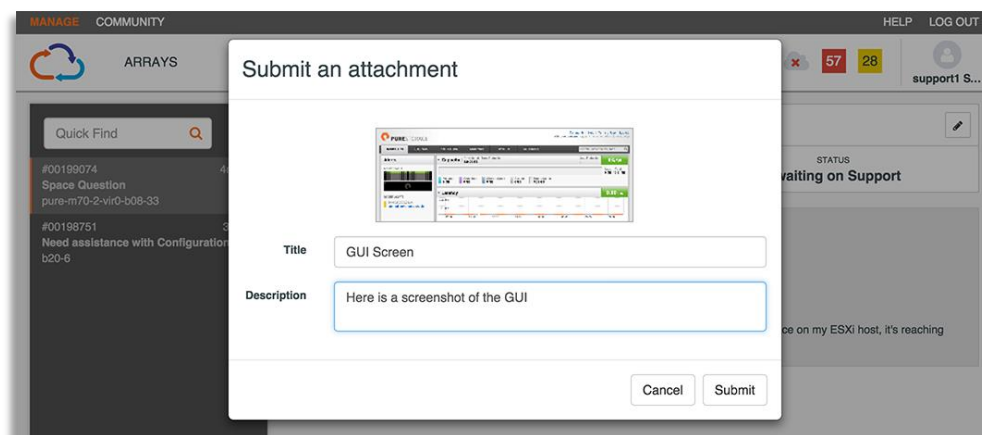

Figure 3 - Case View

You can add additional comments by entering them in the field and clicking the **Comment** button.

Figure 4 - Attachment Submission Dialog

You can add attachments by clicking the Attachment (paperclip icon). A dialog box displays that enables you to upload the attachment (see Figure 4). Attachments may include documents such as screenshots that will provide Pure Storage Support immediate access to pertinent information.

OPENING A NEW CASE VIA EMAIL

Another efficient way to request support is to use email to open a new case. Send the request with any additional related information, including screenshots.

Upon receipt of the email, the details of the case will be entered into Pure Storage's case tracking system, and one of our TSEs will promptly respond. This method of creating a new case is particularly useful for non-urgent requests.

OPEN A NEW CASE VIA PHONE

When you contact Pure Storage Support by phone, your call is answered by a Customer Support Specialist (CSS), dispatching agent who asks for several pieces of information:
- Existing ticket number, if this is a previously reported problem
- Exact error or advisory message (if more than two, please report via email)
- A description of the problem
- The severity of the problem in terms of business impact

The CSS then assigns the case to a TSE who promptly responds.

ACKNOWLEDGING THE CASE

Regardless of the method of communication, once a case is opened, it will be reviewed and dispatched through a case-tracking system and then be assigned to a TSE. The TSE notifies the customer's designated contact with the case number, confirm the severity level and, when possible, provide an initial diagnosis—or even the solution. The customer is also sent an email acknowledgment of the case.

PURESTORAGE®

CASE ESCALATION BY THE CUSTOMER

If for any reason you feel the quality of service is not adequate or prompt, you may choose to escalate the case. A manager will give full attention to the problem, address it appropriately, and then continue to monitor the case until it is resolved. Customers can escalate cases in the following ways:

- Call Pure Storage Support and ask to speak with the Support Manager on Duty.
- Send an email to case-escalation@purestorage.com with the case number for reference. A response from a Pure Storage Support manager can be expected within 15 minutes.
- Click the escalation link on one of the case emails. Every email from Pure Storage Support displays the following question near the bottom, including a dynamic link: "Not satisfied with the handling of this case? Click here to escalate."
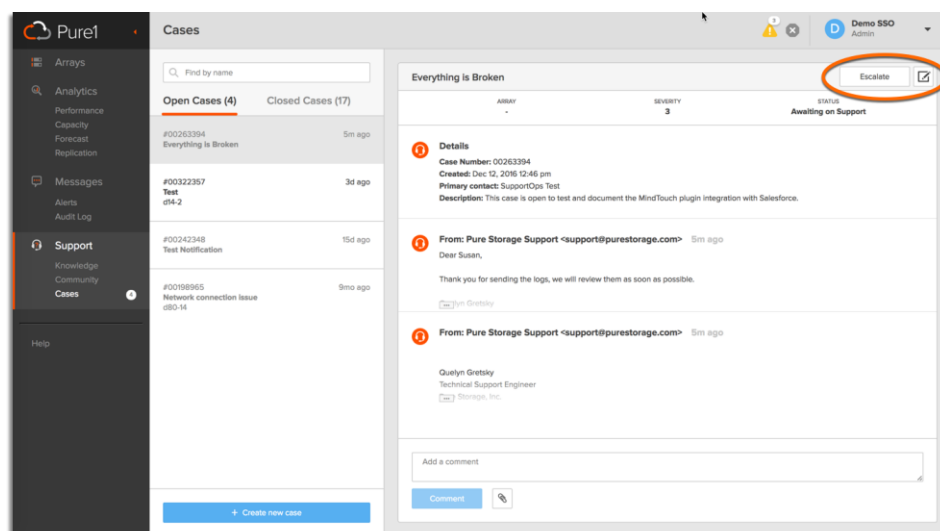- In the upper right-hand Pure1 Case Portal, click **Escalate**, (see Figure 5).

Figure 5 – Pure1 Case Portal, Escalate Button

Regardless of the contact method, include the following information in the request:

- Ticket Number
- Your contact information
- A summary of the issue and why it should be escalated

The Pure Storage Support manager will give full attention to the problem, discuss it with you, and address it appropriately. Along with escalating the issue, the manager will closely follow all further communication on the case until it is resolved.

PURESTORAGE®

HARDWARE REPLACEMENTS

Pure Storage Support provides quick replacement of any malfunctioning Pure hardware. When we determine that a hardware component needs to be replaced, the TSE initiates the shipping of the replacement part and, if required, dispatches a Field Technician to perform the part replacement.

If a hardware issue arises during installation, a new shipment for the entire asset may be procured from the nearest available factory on the following business day, with expedited delivery.

If a field technician is required for hardware replacement, customers need to provide information on the location of the device, including the address of the datacenter and any pertinent information within it, such as grid coordinates. The customers also need to provide specifics for site security that may be required to effect repair of the device.

After replacement of a part, the replaced hardware component must be shipped back to Pure Storage by the customer, using the packaging in which the replacement part was delivered. To ensure correct delivery, Pure Storage will provide a pre-paid return label to affix to the packaging via email. For an additional charge, customers may choose to retain drives that were installed in the replaced products.

When purchasing support strategies for some countries where Pure Storage does not have a parts depot, the Pure1 Basic Support plan may be an available option. With this plan, Pure Storage ships parts from a fulfillment center on the same day, though the company may not be able to guarantee a specific delivery time.

BUSINESS CRITICAL SERVICES (BCS) PROGRAM

The BCS service is a billable add-on option that is available for the Premium maintenance plan during periods of one, three, or twelve months. The program provides two key personnel for each of its customers:

- A Support Account Manager (SAM) who provides account management services.
- A Designated Support Engineer (DSE) who provides technical support services.

The SAM becomes familiar with the customer's technical account and administrative needs and acts as the primary conduit for communications. The DSE remotely services the customer's

PURESTORAGE®

FlashArrays and FlashBlades, as well as providing expertise on the customer's environments, configurations, and procedures.

BCS PROGRAM HIGHLIGHTS

The following highlights show the value of the BCS Program:

- Single point of contact for the management or technical support cases.
- An intimate understanding of the customer's environment.
- Remote assistance for the administration of the Pure FlashArray or FlashBlade.
- Proactive support, maintenance, and troubleshooting assistance.
- Knowledge transfer and technical assistance with customer's staff.

BCS PROGRAM FEATURES AND BENEFITS

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

The SAM is the central point of contact for support management activities, including:

- Senior designated resource providing a communication conduit into Pure Storage Support.
- Knowledge of customer environments, requirements, planning, and personnel.
- Defines business-critical success criteria prior to Implementation and then reports progress.
- Oversees the installation of Pure technology by acting as a liaison to support.
- Engages technical expertise (Implementation, Integration, solution architects, technical training, etc.), as required.

The DSE helps the customer in the following ways:

- Participates in a weekly status call with the customer and summarizes outstanding issues along with the health and performance of the FlashArrays and FlashBlades.
- Performs weekly proactive scans for known pathologies on the customer's FlashArrays and presents any findings, sharing a plan of action for any issues found.
- Troubleshoots and resolves problems when they are found.

REINSTATEMENT AND RENEWALS

If we suspend support services for any period of time due to non-renewal or a violation of the Support Agreement, you may reinstate services by submitting the full amount of any lapsed payments, outstanding fees, and reinstatement penalties. If within the calendar quarter, we

PURESTORAGE®

may waive reinstatement fees and penalties. Our Renewals team will guide you through the process.

Pure Storage, Inc.

Sales | sales@purestorage.com
Media | pr@purestorage.com
General | info@purestorage.com

650 Castro St #400,
Mountain View, CA 94041
800-379-7873

PURESTORAGE®