



Engineered Computer Appliance Operating System

ECA45

ecaOS 6.2

USER GUIDE

Revision 1.5
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Engineered Computer Appliance (ECA45) Operating System 6.2 User Guide

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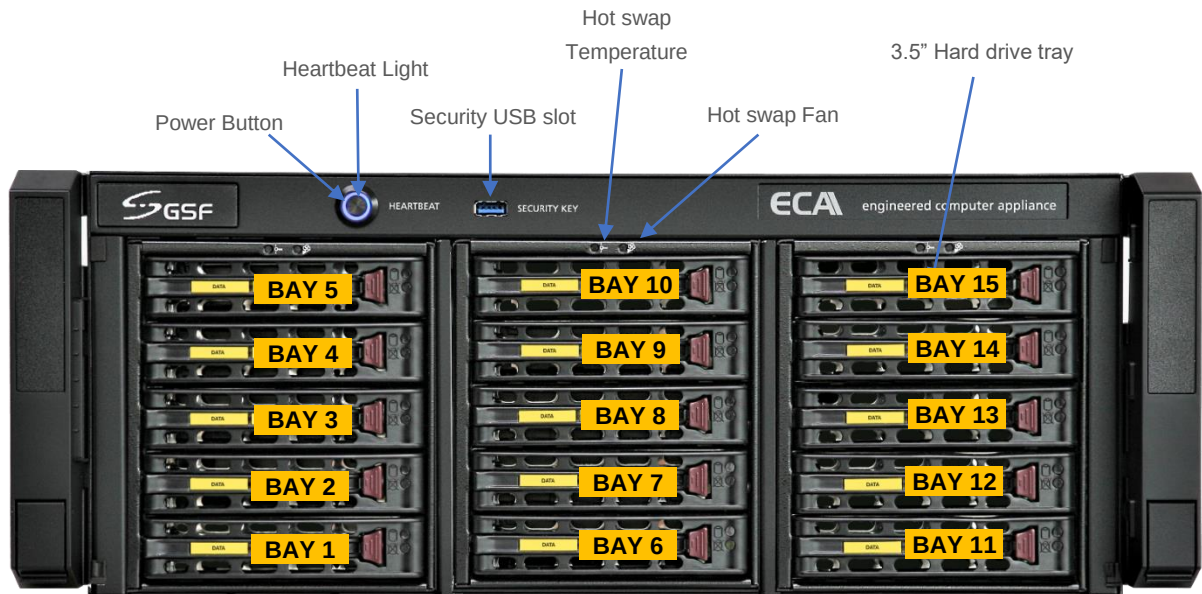
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1 ECA4.5

1.1 FX series



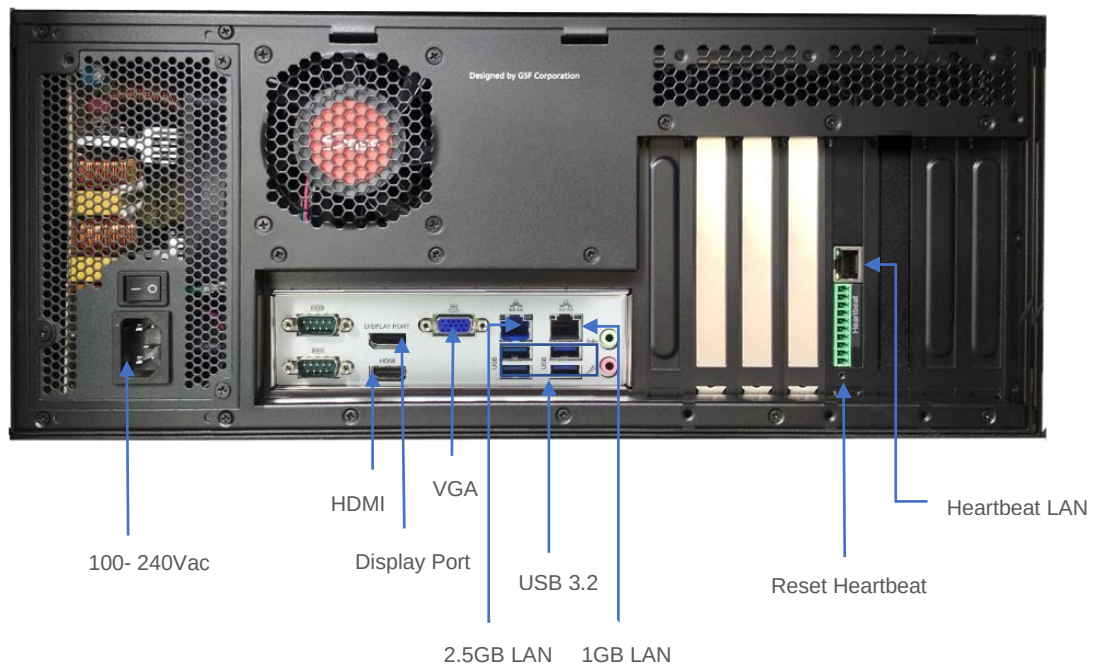
Power Button : Power button ECA

Heartbeat light : ECA operational indication

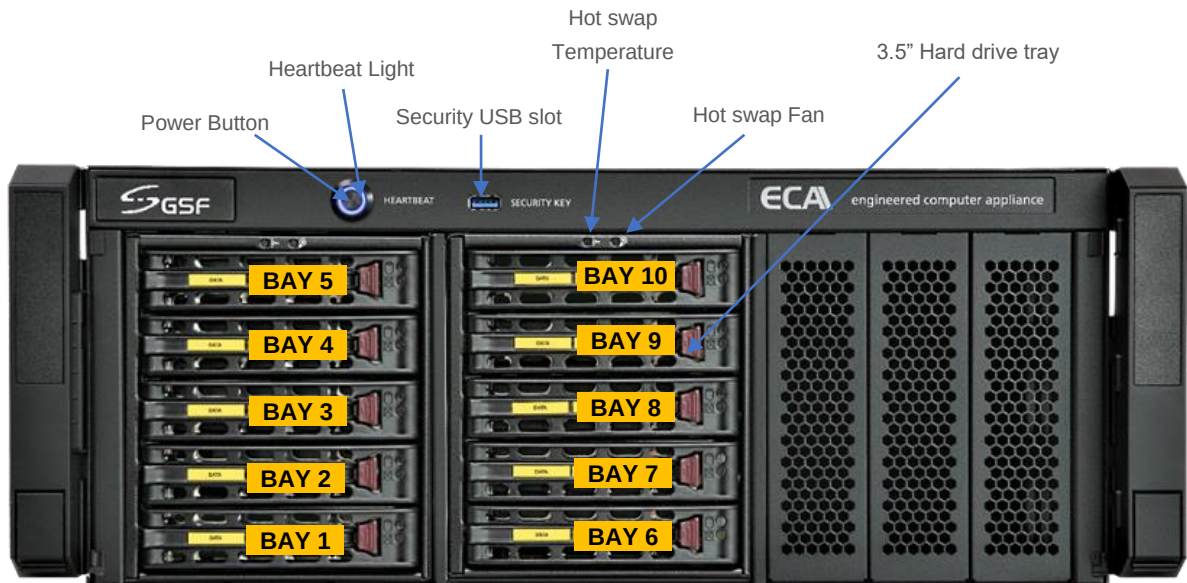
Security USB slot : This port for security key use to call 'System Manager'

Hot swap Temperature: The LED will light up if the temperature above 55°c

Hot swap fan: The LED will light up if no hot swap fan detected or not functioning



1.2 EX series



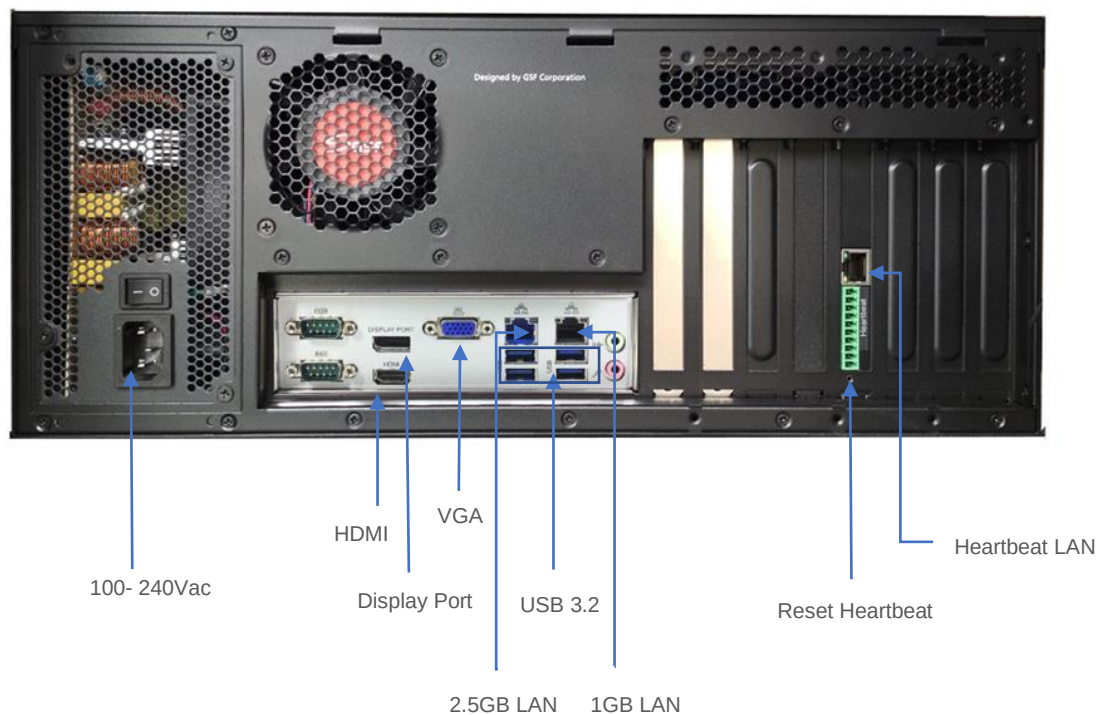
Power Button : Power button ECA

Heartbeat light : ECA operational indication

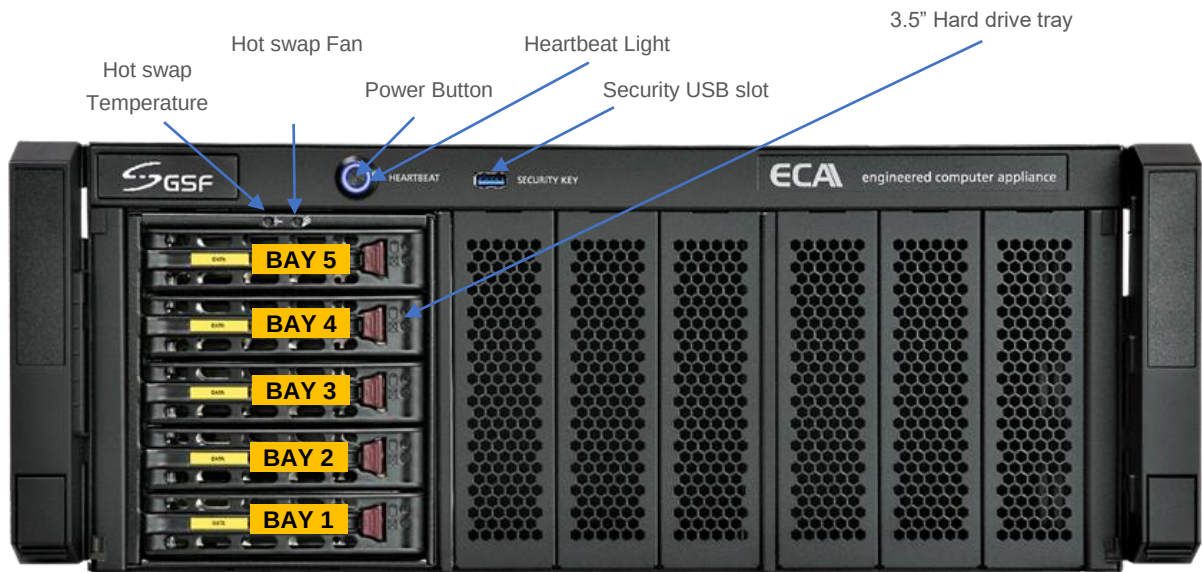
Security USB slot : This port for security key use to call 'System Manager'

Hot swap Temperature: The LED will light up if the temperature above 55 °c

Hot swap fan: The LED will light up if no hot swap fan detected or not functioning



1.3 DX series



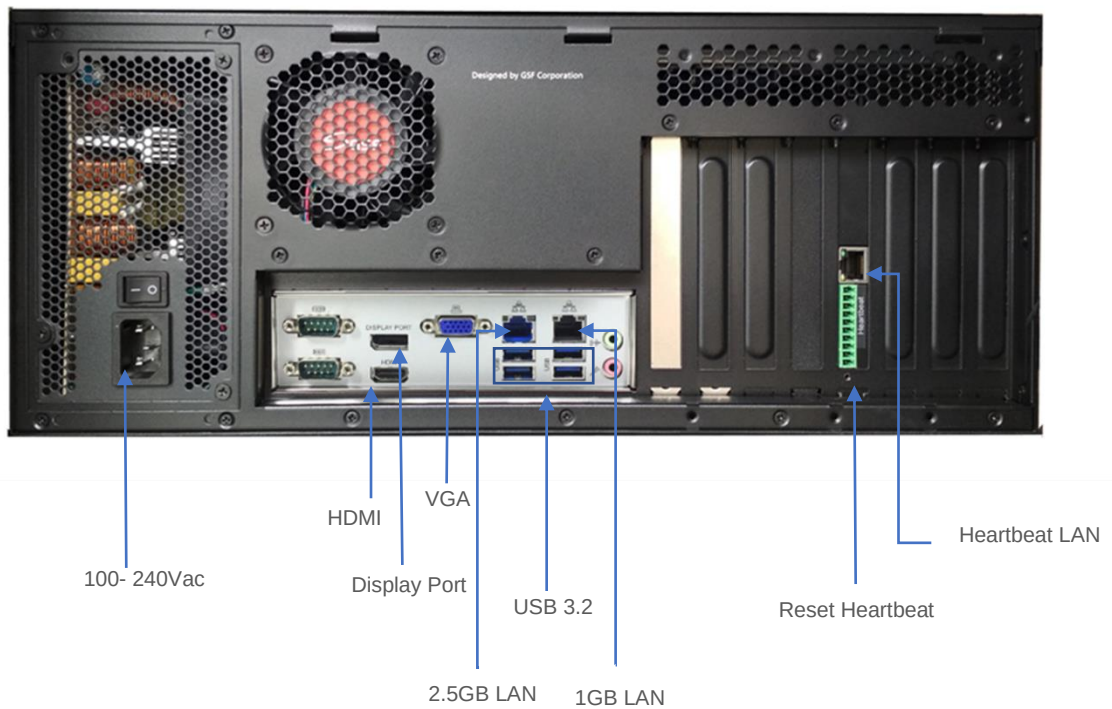
Power Button : Power button ECA

Heartbeat light : ECA operational indication

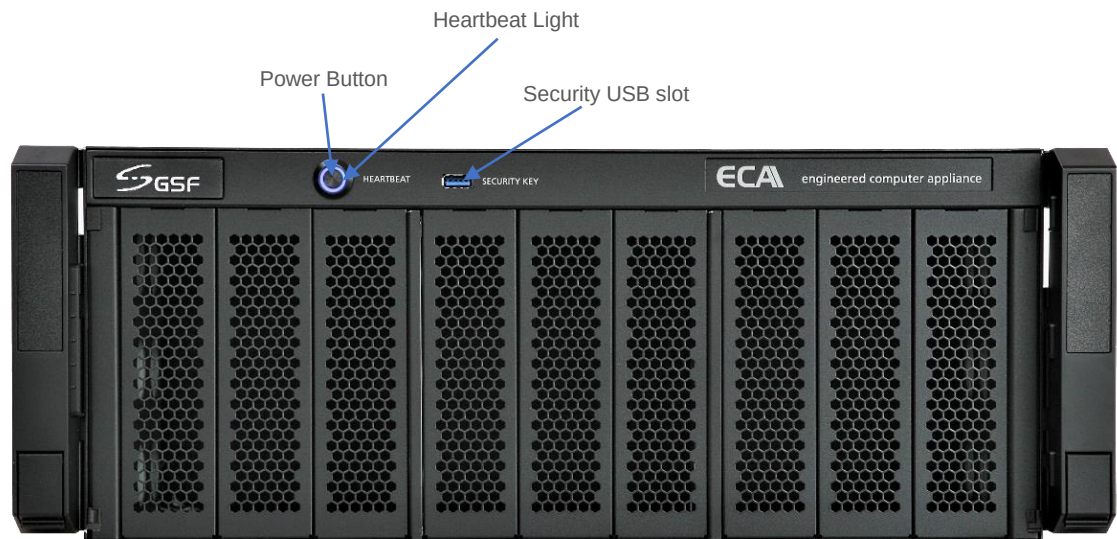
Security USB slot : This port for security key use to call 'System Manager'

Hot swap Temperature: The LED will light up if the temperature above 55°c

Hot swap fan: The LED will light up if no hot swap fan detected or not functioning



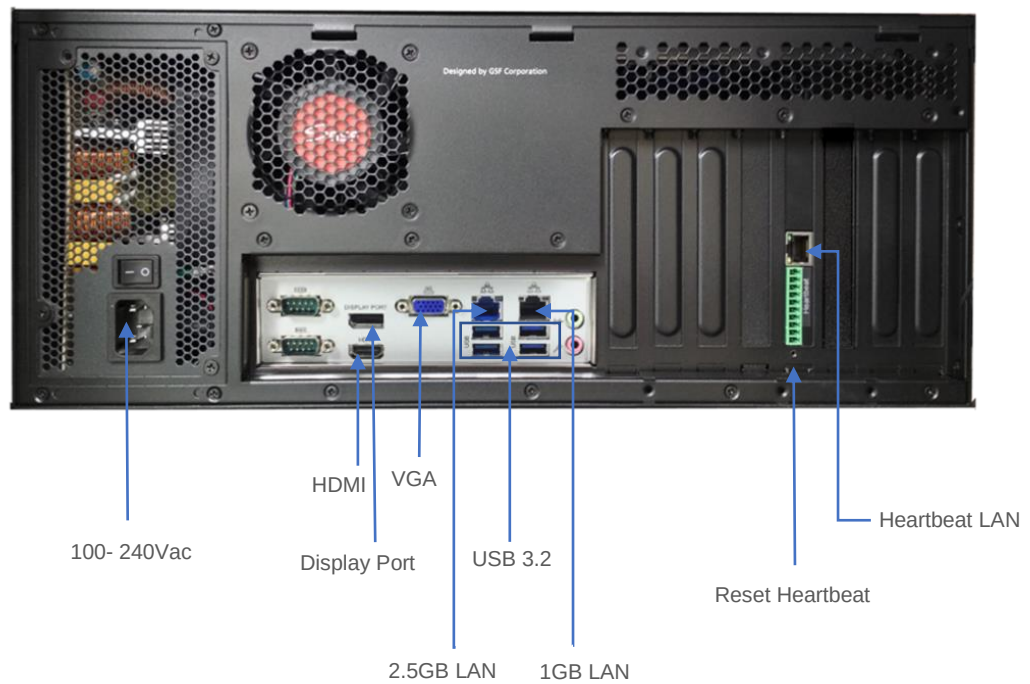
1.4 MX series



Power Button : Power button ECA

Heartbeat light : ECA operational indication

Security USB slot : This port for security key use to call 'System Manager'



1.5 VW series



1.6 Security & Virtual Key



Uniquely designed USB security key which is paired to the ECA. It only can be used with the paired ECA. If the key is lost, new key can be issued by GSF and the paired ECA will automatically reject the usage of the lost key, should they be recovered later.

The Security key is used to gain access to 'System Manager'.

Virtual Access Code :

Virtual Access Code gain access to 'System Manager' without need security key. 'Google Authenticator' is required to install on your device such as phone or tablet.

When to use Virtual Access Code?

- Access 'System Manager' but no Security Key.
- Access 'System Manager' remotely access ECA from another desktop

2 Heartbeat

2.1 What is Heartbeat

HeartBeat is around the clock hardware safeguard. Its micro controller overlooks the whole hardware platform to ensure continuous operation even in the event of critical breakdown.

In the event the server failed, it will send help signal via digital I/O or can be connect to CMS Alarm.

In what event the HeartBeat will react?

- **Unauthorized Shutdown:** The HeartBeat will reboot the ECA.
- **Unauthorized Power Unplug:** HeartBeat will produce beep tone.
- **ECA not responding:** HeartBeat will force restart the ECA after 2 minutes no respond.
- **Blue screen:** HeartBeat will force restart the ECA after 2 minutes no respond.

ECA power LED indication:

LED STATUS	ECA SCENARIO	DESCRIPTION
Slow glow and dim	System running in OS	HeartBeat operating normally.
Blinking	• ECA OFF • ECA rebooting. • System running in OS	• Low HeartBeat battery • ECA in rebooting status • Heartbeat not ready

Click the link to view LED indication demonstration:

<https://www.gsfcorp.com/downloads/eca-hb-led.gif>

2.2 Heartbeat Alert

	Beep Tone	Tone Description	Repeating Interval	ECA State	Scenario
1		Normal event	No repeat	ECA ON or OFF	Chassis closed.
				ECA ON	ECA powering up
				ECA OFF	1. Expected AC power loss. 2. AC power resumed. 3. Authorized shutdown
2		Bad event	No repeat	ECA ON	1. ECA failed to enter ecaOS after 15 minutes. 2. ecaOS not responsive for 2 minutes.

					1. Unauthorized shutdown
3		linked with ecaOS	No repeat	In ecaOS or Layer Manager	1. Heartbeat established link with ecaOS/Layer Manager.
4		Require human attention	10s	ECA ON	1. Repetitive ECA reboot (more than 3 times within half an hour) ¹ 2. Chassis opened (when not in Authorized Shutdown state) ² 3. ECA failed to enter ecaOS (3 HB reboot attempts in 45 minutes) ^{1,3}
				ECA OFF	1. Unexpected AC power loss ⁴

NOTE:

¹ Shutdown the ECA will mute the beep tone (Authorize or Unauthorize)

- Authorize shutdown: Shutdown the ECA via System Manager menu
- Unauthorize shutdown: Shutdown the ECA via OS shutdown or Force shutdown by long press Power button.

² Closing chassis cover will mute the beep tone

³ Successful entered OS will mute the beep tone

⁴ Resumed AC power to ECA will mute the beep tone

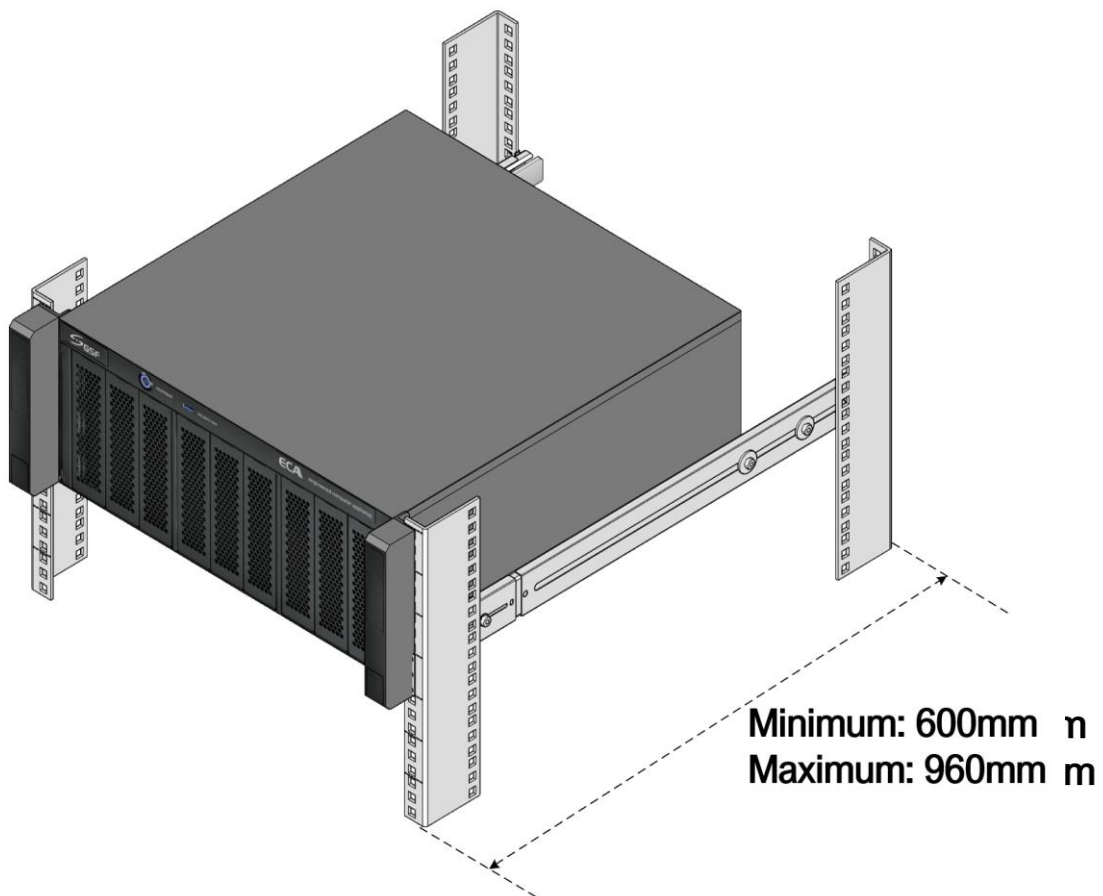
3 Rail

IMPORTANT NOTE



Before beginning with the installation, it is important to make sure that the ECA can fit into the equipment rack you are using. Use of improperly rack size may result in injury.

Minimum requirement¹ for equipment rack depth, front to rear vertical mounting column, is 600mm.



To avoid injury, it is strongly recommended the installation to be done by TWO persons.

¹Based on slide rail part number: King Slide 3A68-584BPZZ11ED.

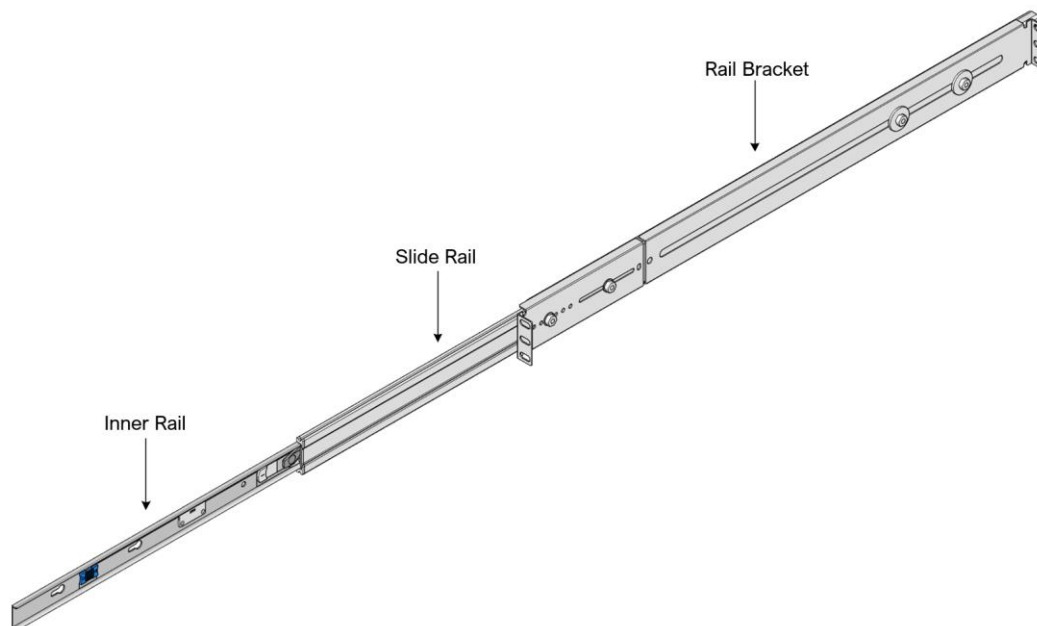
3.1 Package Content

Content	Description	Quantity
	Sliding rail	2
	CH Screw	2
	SL Screw	8
	CL Screw	6
	RK Nut	10

3.2 Sliding Rail Assembly

The Sliding Rail assembly is comprised of 3 parts:

- Inner Rail
- Slide Rail
- Rail Bracket

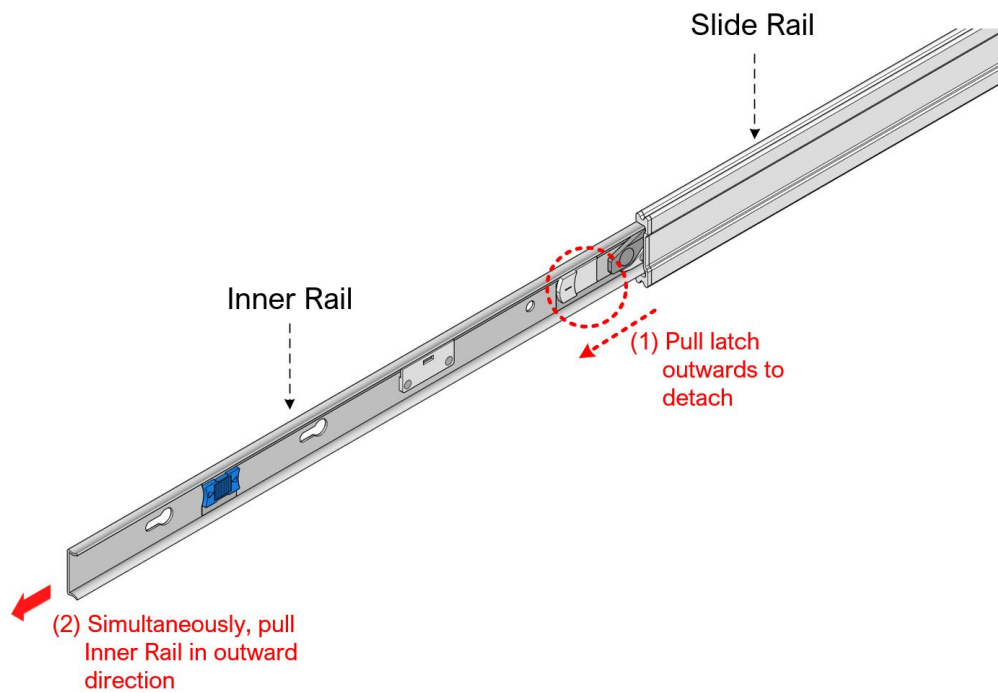


3.3 Installation Steps

Step 1: Detach the Inner Rail from the Sliding Rail assembly.

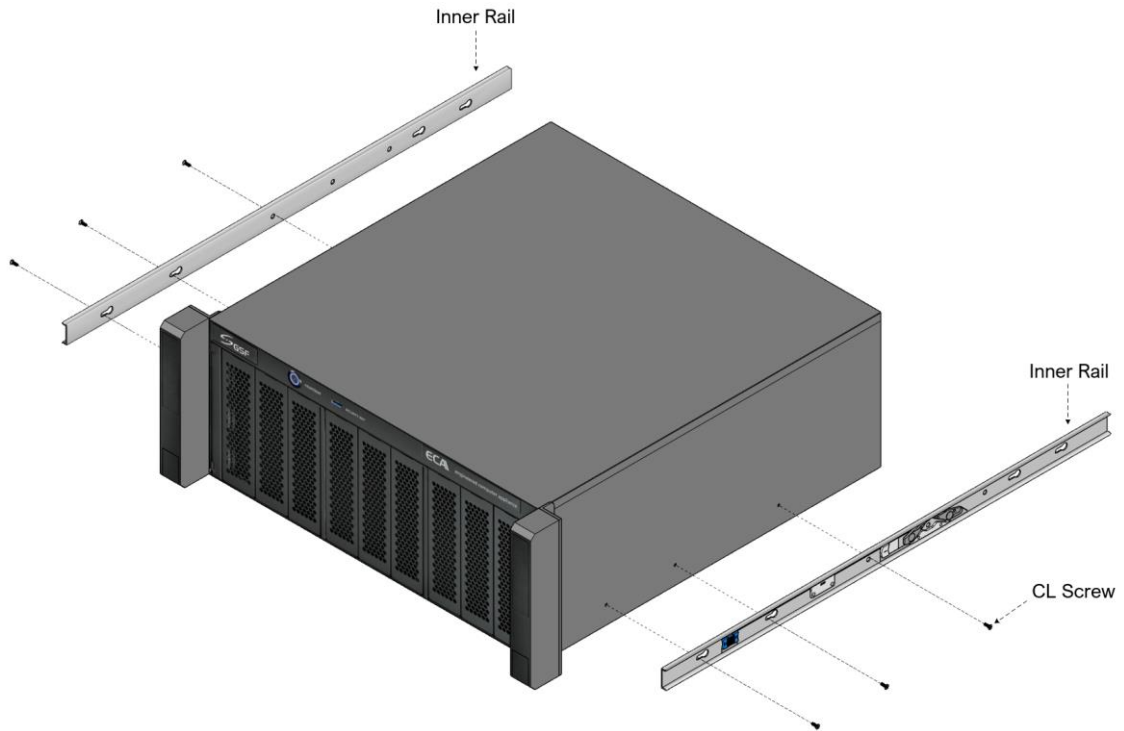
Extend the parts of the Sliding rail to reveal the WHITE color latch on the Inner Rail.

Pull and hold the **WHITE** color latch outwards, while simultaneously pulling the Inner Rail in outward direction. This shall remove the Inner Rail from the assembly.



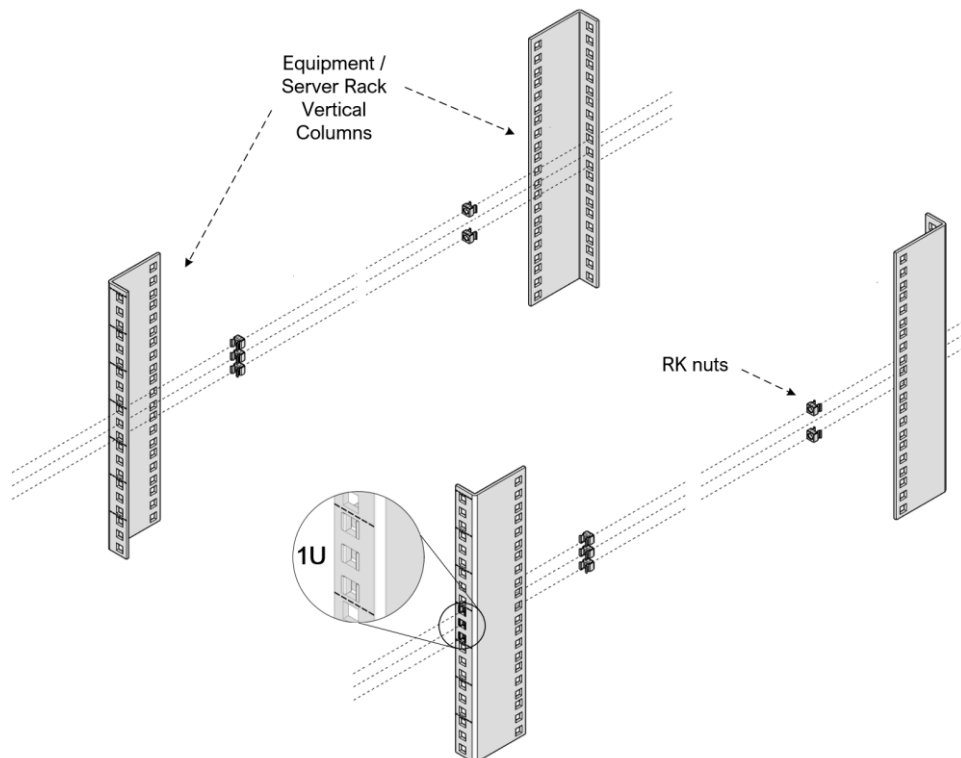
DO NOT remove the Slide rail from the Rail assembly. It is **NOT removable**.

Step 2: Attach Inner Rail to ECA Chassis.

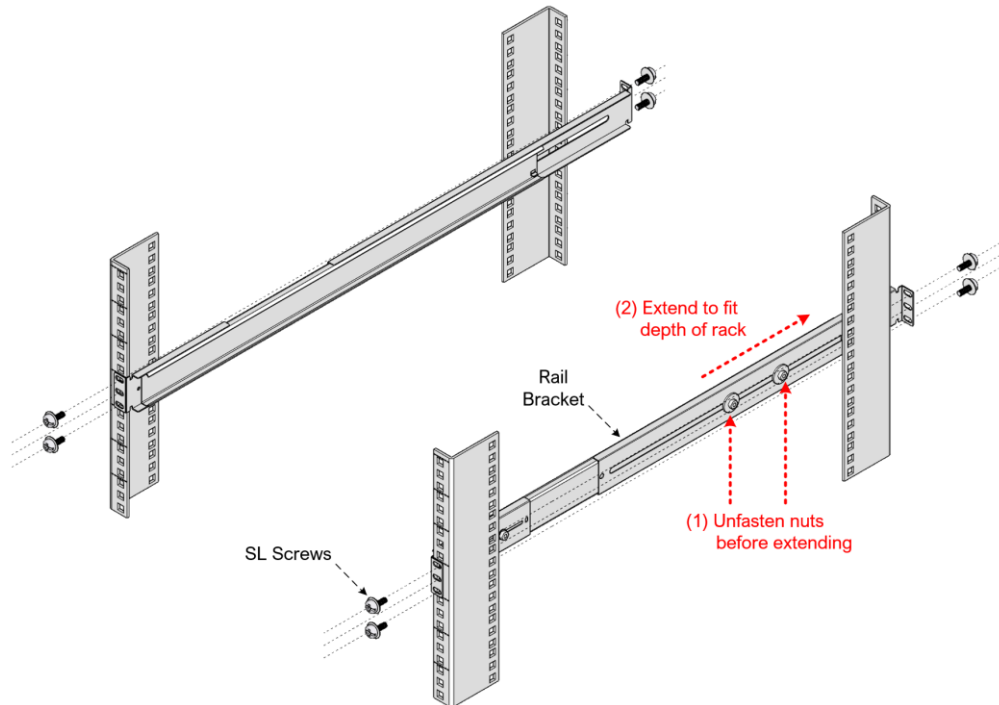


Step 3: Insert the RK nuts to Equipment Rack or Server Rack.

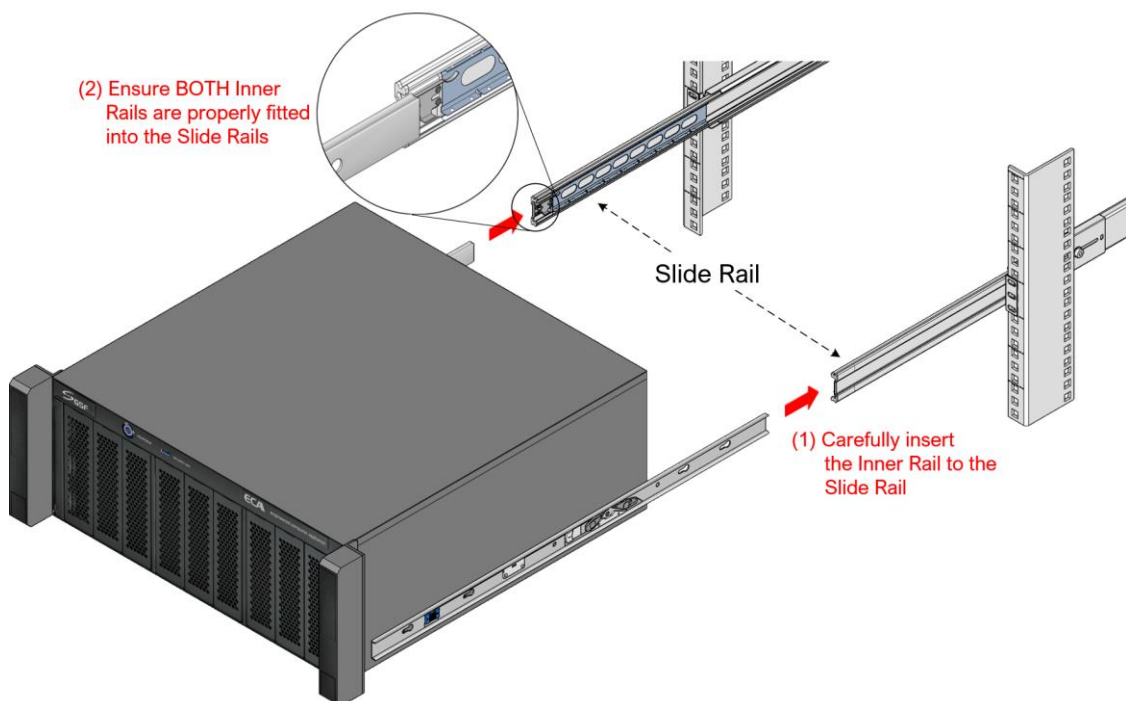
- Before inserting the nuts, make sure to reserve total 4U height and spacing for every ECA.
- The Sliding Rail is attached to the lowest 1U on the ECA.
- Ensure above the sliding rail, there is another 3U clearance space for the ECA.
- Take note of proper and correct spacing for 1U height.



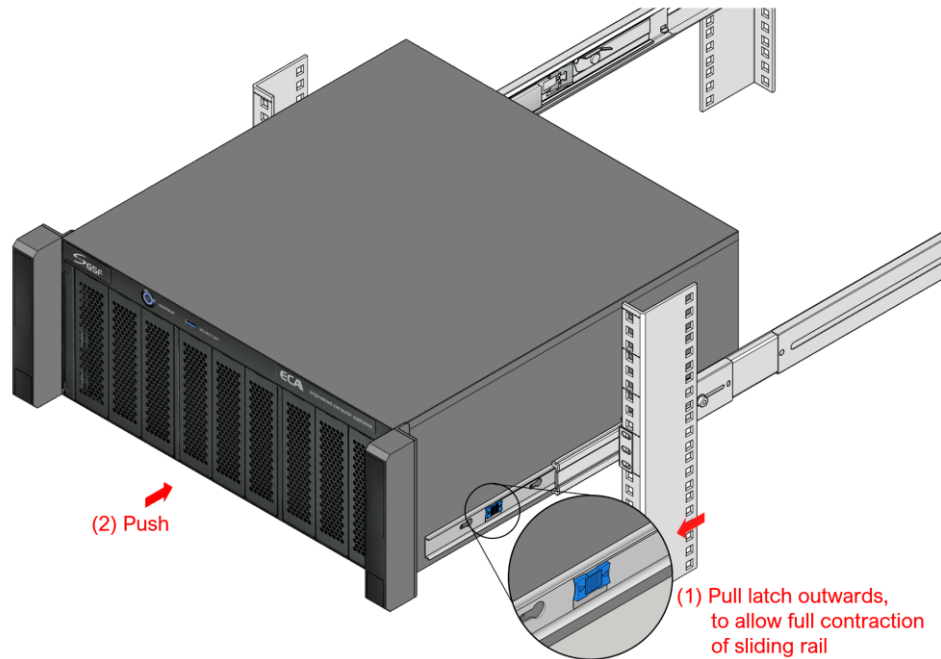
- Step 4:** Install the Rail Brackets to the Equipment rack or Server Rack. Place the Rail Brackets to the same level as the RK nuts, inserted in the previous step. Use SL screws and fasten them to the nuts. For the front, **DO NOT fasten any screw to the middle nut.** The middle nut is reserved for fastening the ECA.



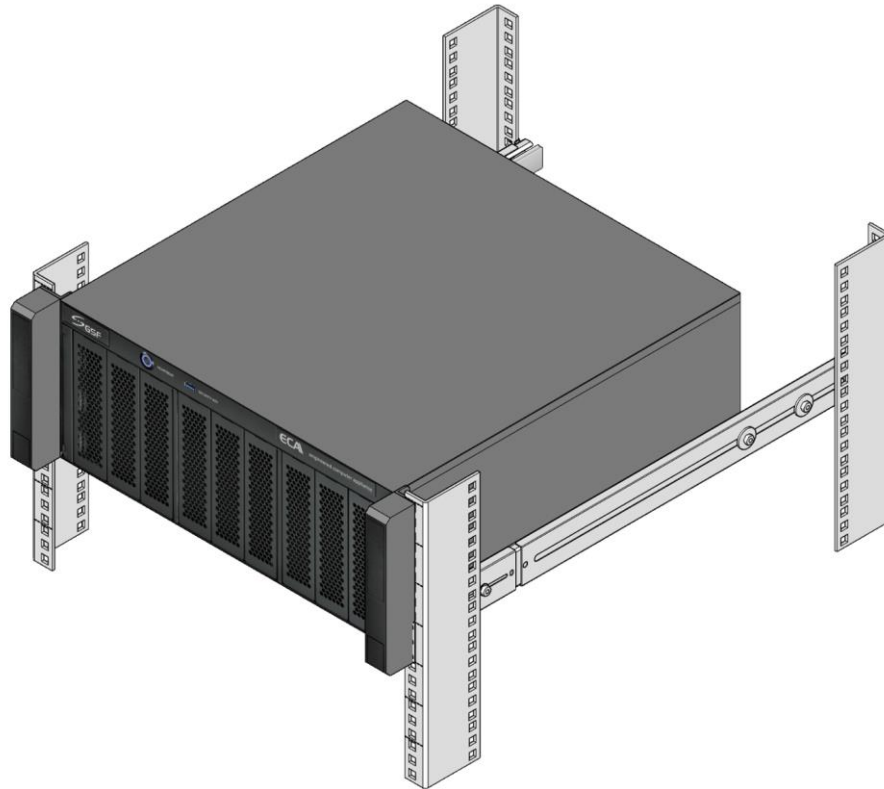
- Step 5:** Carry the ECA, which now has the Inner Rails attached, and ensure both Inner Rails are securely inserted into the Sliding Rail.



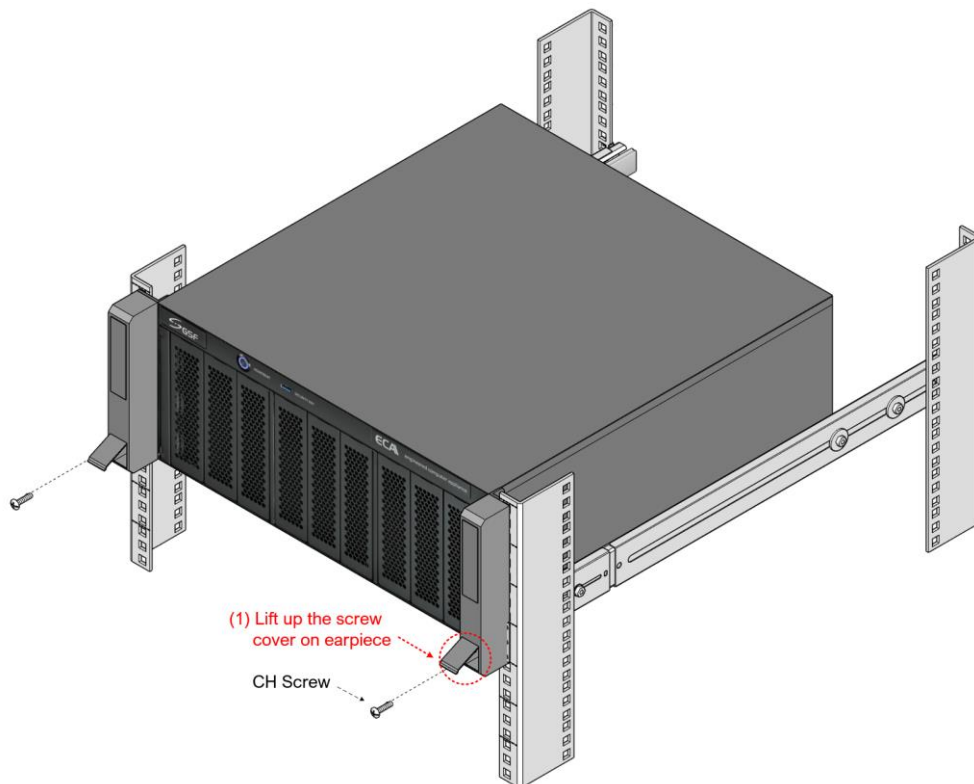
Step 6: Push the ECA inwards to the rack until the mounting brackets encounter the slide-rail stop. Then, simultaneously pull and hold the **BLUE** latch on the Inner Rail, while pushing the ECA inwards. This will fully contract the whole Sliding Rail assembly.



Step 7: The ECA, with the Sliding Rail at full contracted position, shall look like this:

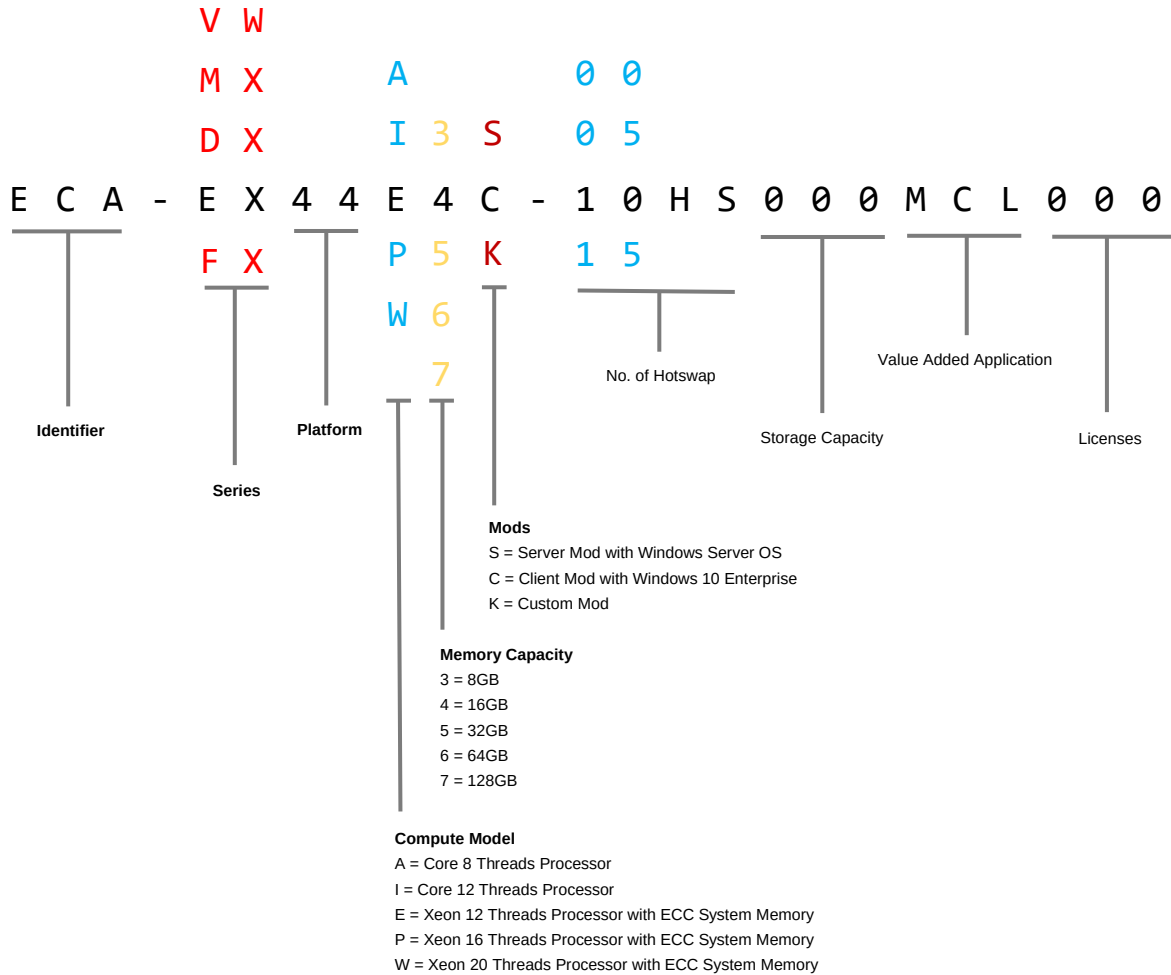


Step 8: Lift the screw cover on the earpiece of the ECA. Fasten ECA to the Sliding Rail using the CH Screw.



4 ECA Naming

The ECA naming will represent the specification of the platform.



5 ECA Series



VW-series



MX-series



DX-series



EX-series



FX-series

Mount	Tower / Rack	Rack	Rack	Rack	Rack
Storage	Internal: Up to 3 HDDs	Internal: Up to 3 HDDs	Hot-swap: 5 HDDs Internal: Up to 2 HDDs	Hot-swap: 10 HDDs Internal: 1 HDD	Hot-swap: 15 HDDs Internal: None
Hot-swap Bay	None	None	5	10	15
Redundant Storage System (RSS)	No	Yes	Yes	Yes	Yes
Recommended Usage	Video Workstation	Recording Server	Recording Server	Recording Server	Recording Server
HeartBeat	No	Yes	Yes	Yes	Yes

6 ecaOS

ecaOS is a protected operating system environment, equipped with a unique and practical feature called Triple Layers, essential for both reliable and secure operation of the ECA.

Its ability to Soft Reset within few minutes significantly reduces system down time in the event of, though rare, system disaster, such as corrupted Video Management Software or misconfiguration

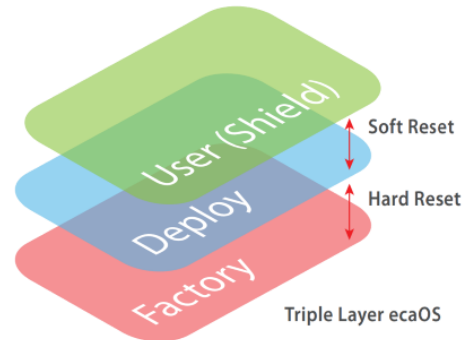


Figure 1: Triple Layers

User Layer (Current working layer)

This is a normal user operation layer with protected OS environment, any system changes without using the Embedded Security Key will be discarded after system reboot (Fast Reset)

Deployment Layer (Backup layer)

This is a good working state layer, usually saved by System Integrator with pre-configured NVR & camera settings

Factory Layer (Backup layer)

This is a good working state layer, with original default settings shipped from factor

1.7 ecaOS Login

Some ECA may be shipped without automatic login, subject to configurations. In such case, the ecaOS will boot until the login screen, and the prompt for login will be shown, as follow:

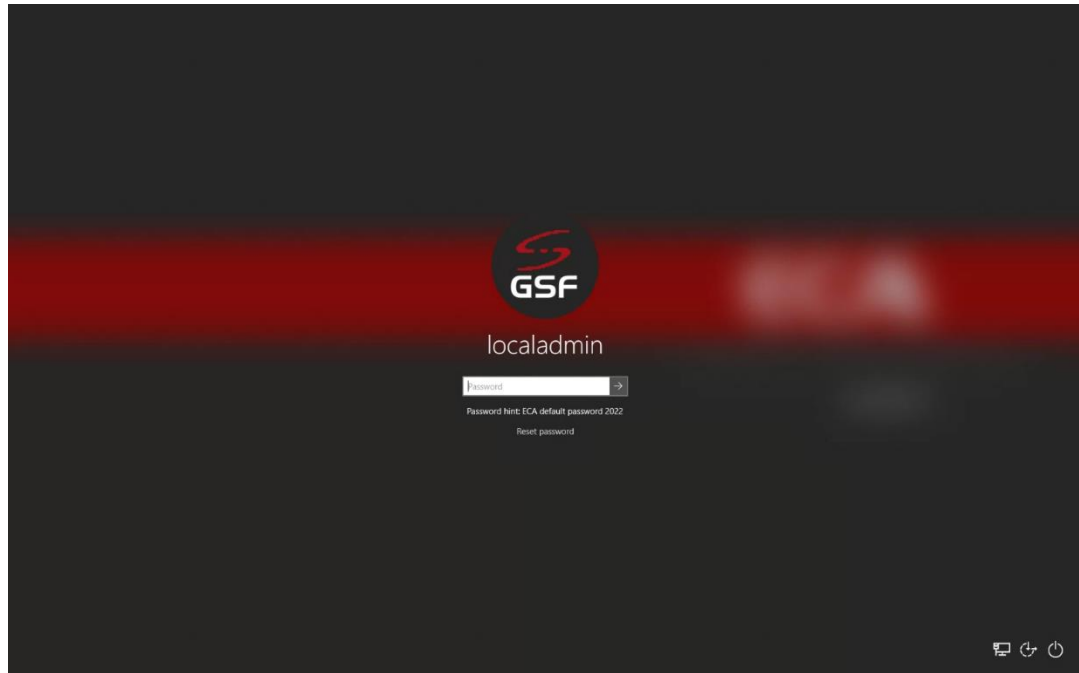


Figure 2: ecaOS Login Screen

Username : **localadmin**

Password : **Please contact TrueBlue support*
trueblue@gsfcorp.com +60-3-80908277

1.8 ecaOS Locked Out

If the password enters in 3 times incorrectly, the logging screen will be lock for 15 minutes before retrying



Figure 3: Account Locked Out

7 Dashboard and Notification

Location of the Dashboard application and ecaOS Notification display area.

Notification area where all the activity within the ECA will be prompt out.

Dashboard is web base interface displaying overall information and system vitals of the ECA machine status

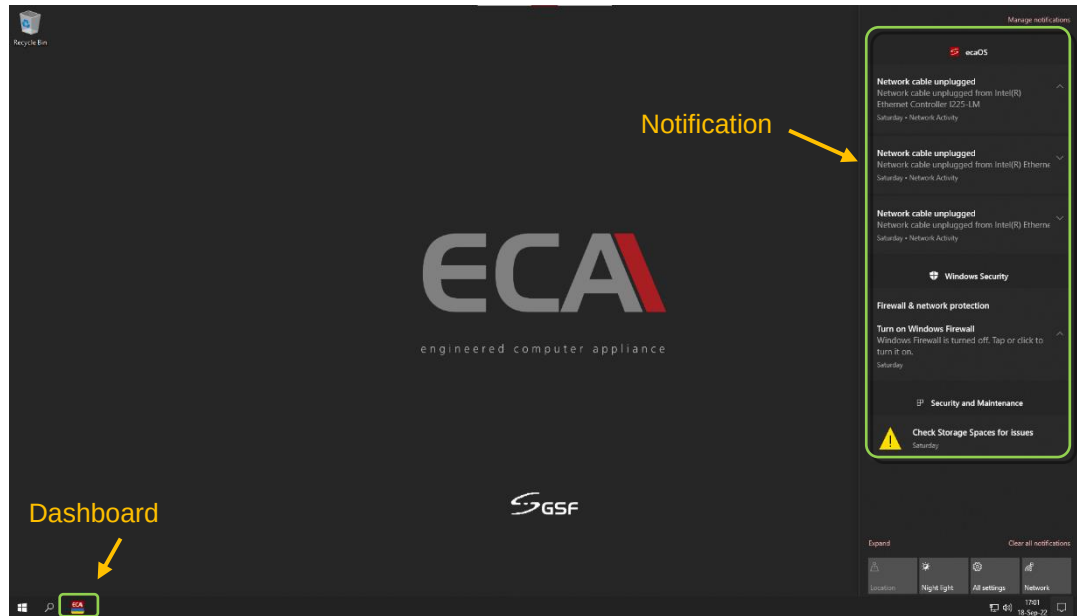


Figure 4: ecaOS Desktop

7.1 Accessing ecaOS Dashboard

There are two ways to access ecaOS Dashboard.

1. Security Key (USB)
2. Virtual Security Key card



Figure 5: Security Key & Virtual Security Key Card

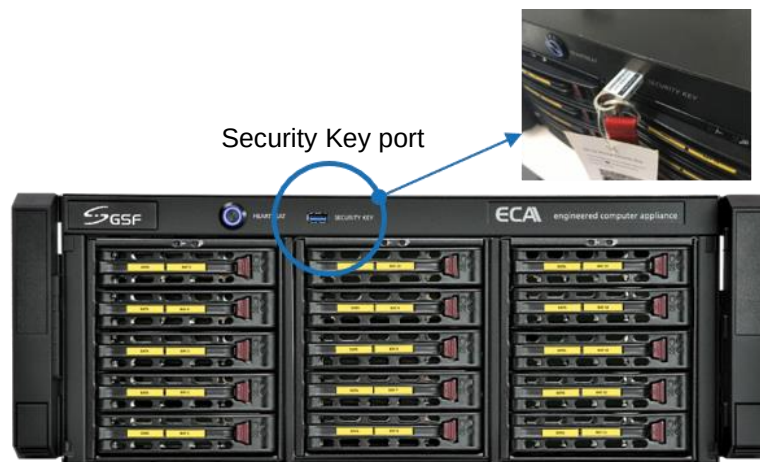


Figure 6: Security Key USB Port Location

1. Insert Security key to Security Key USB port
2. Run 'ecaOS Dashboard'  from the system taskbar.

7.1.1 Using Virtual Security Key (ECA Access Code)

Run 'ecaOS Dashboard'  from the desktop taskbar. Enter 'Access Code' from authenticator apps.

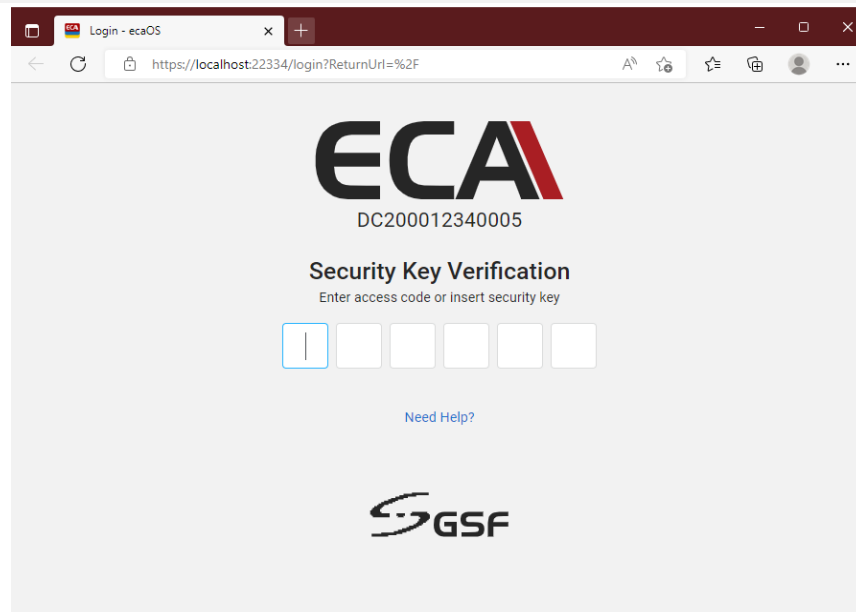


Figure 7: Dashboard Login Page

7.1.2 Get Virtual Security Key (ECA Access Code)

ECA Access code is mandatory for logging into the Dashboard. To obtain the ECA Access code, follow the procedures below:

1. Download an Authenticator app. For Android user, go to '**Google Play**'. For iOS user, go to '**App Store**'.
2. Search for 'authenticator'. 'Google Authenticator' or 'Microsoft Authenticator' should appear in the search result. You can install either one as the authenticator to use with ecaOS for obtaining the Access code.



Figure 8: App search results

3. This procedure is based on using Google Authenticator.



Before using any authenticator app, it is important to check and make sure your device's time is synchronized with ECA's time. Otherwise, it the access code may not work correctly.

4. Run 'Google Authenticator' on your device. Click 'Begin' button.

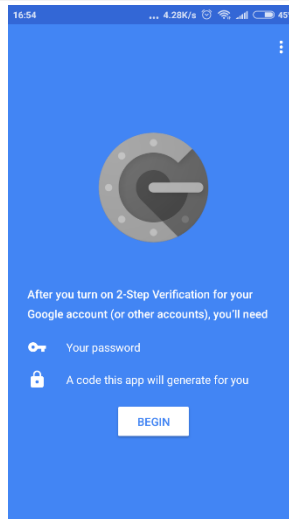


Figure 9: Authenticator Setup

5. Choose 'Scan a barcode' to start scanning the QR code, which can be found on the **Virtual Security card**.

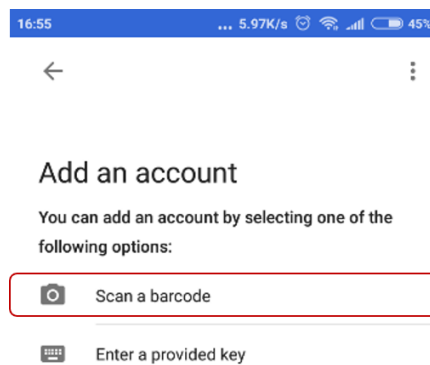


Figure 10: Authenticator Setup

6. Ensure the QR code is position correctly within the scanner frame.

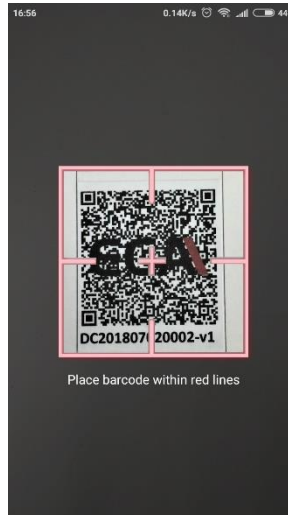


Figure 11: Authenticator Setup

7. The Access code will display in the app.

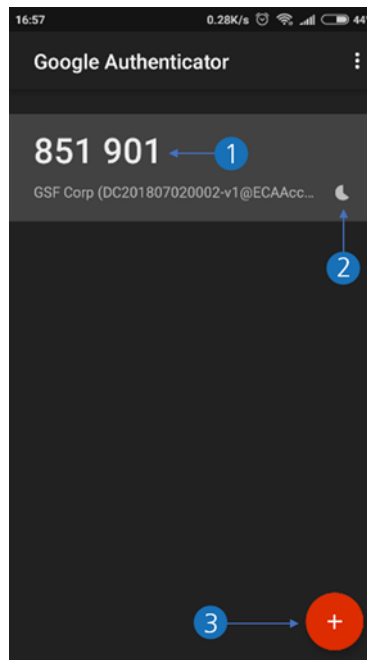


Figure 12: Authenticator Setup (4 of 4)

1. Access Code
2. Access Code will change for every 30 seconds
3. Click here to scan another QR Code for others ECA 'Virtual Security Key'.

8. Enter the 6-digits OTP access code into the Security Key Verification

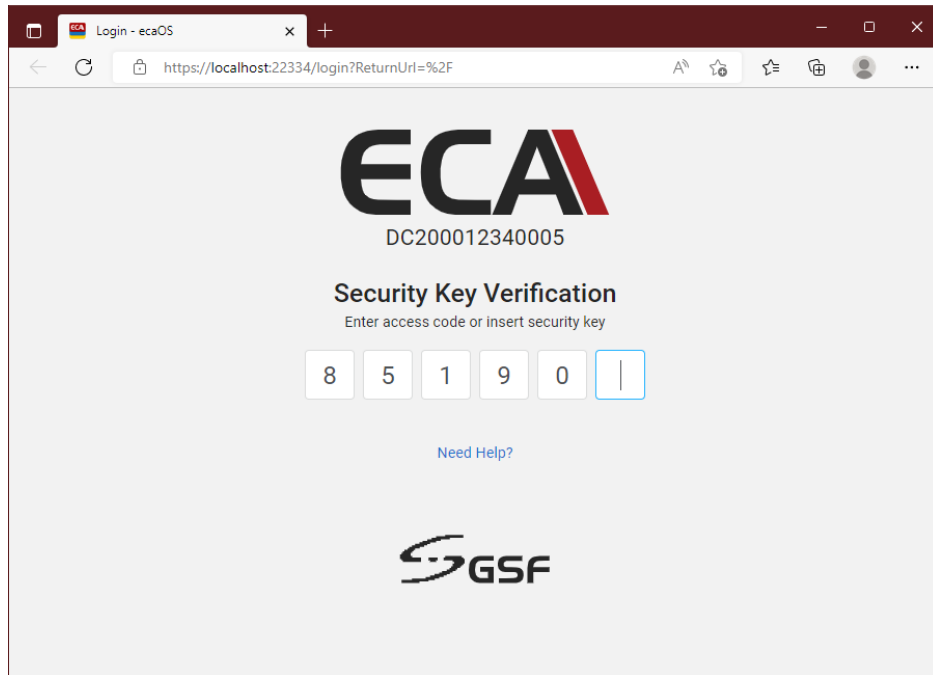


Figure 13: ecaOS Dashboard Login Page

7.1.3 Remotely Access ecaOS

Open web browser from remote computer. Enter the IP address of the ECA the address bar, following this URL format:

`https://<ipaddress>`

Example: `https://10.0.0.39`

Alternatively, you may insert the ECA's serial number at the browser's address bar, by following this format:

`https://<ECA serial number>`

Example: `https://DC200012340005`



Default access port number for the dashboard is '443'. This port number is changeable in the Dashboard configuration.

1. Click 'Advanced'

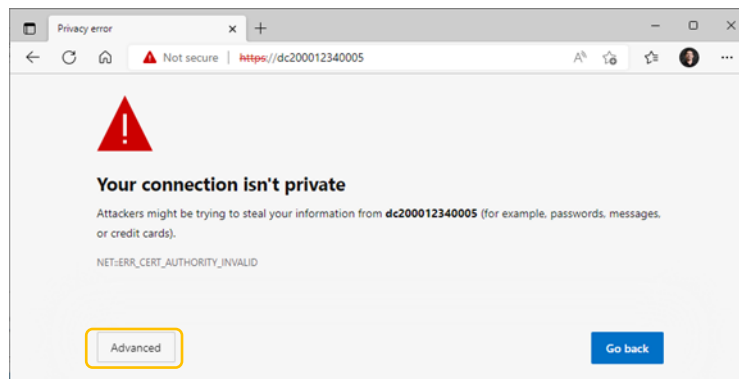


Figure 14: Dashboard Remote Access (1 of 2)

2. Click the link 'Continue to dcxxxxxxxxxx (unsafe)'

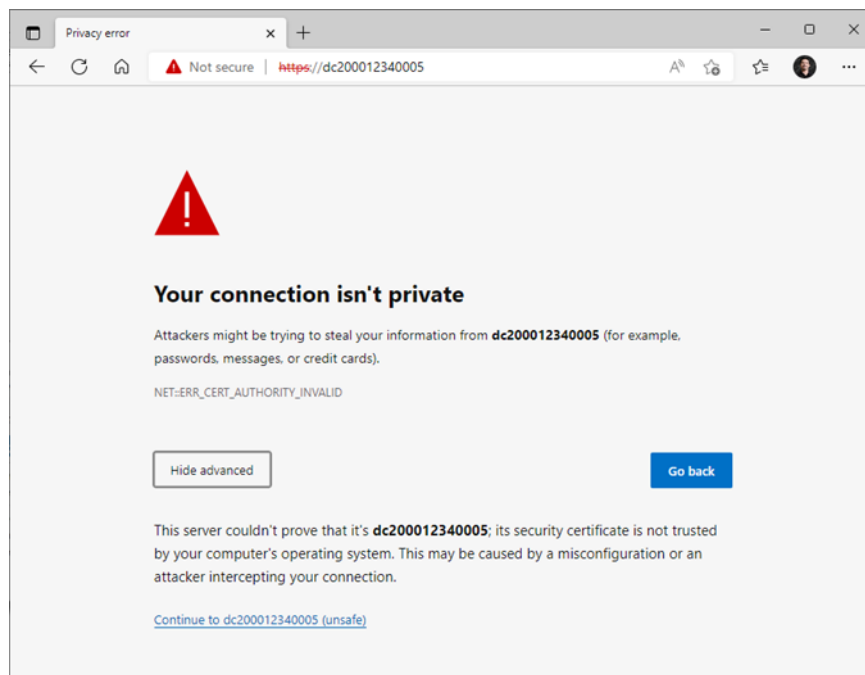


Figure 15: Dashboard Remote Access (2 of 2)

7.2 ecaOS Dashboard ▶ Summary

The summary Dashboard page able to offers overall information and system vitals of the ECA machine status. Example of information and status display on the Dashboard are:

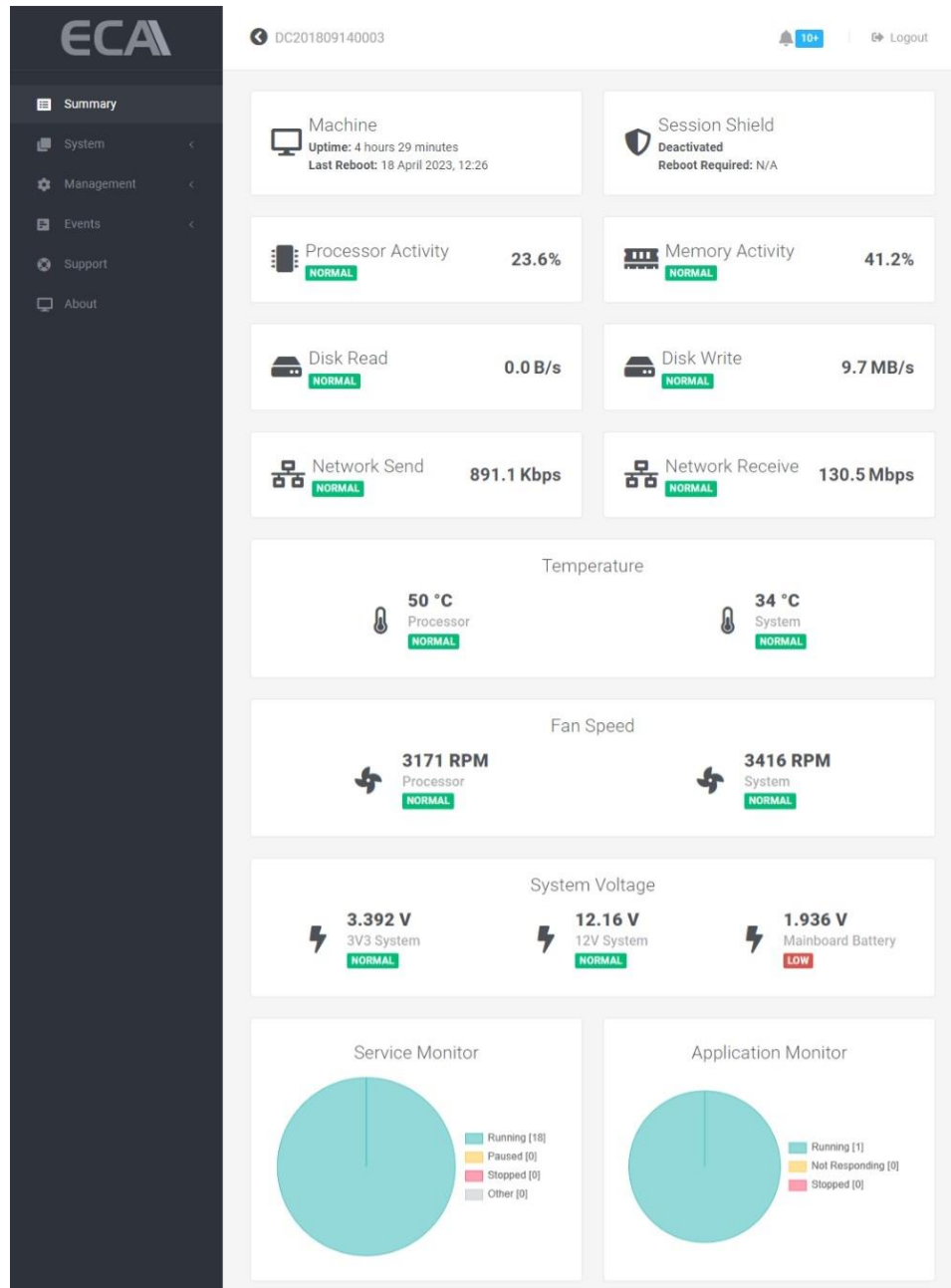


Figure 16: ecaOS Dashboard Summary

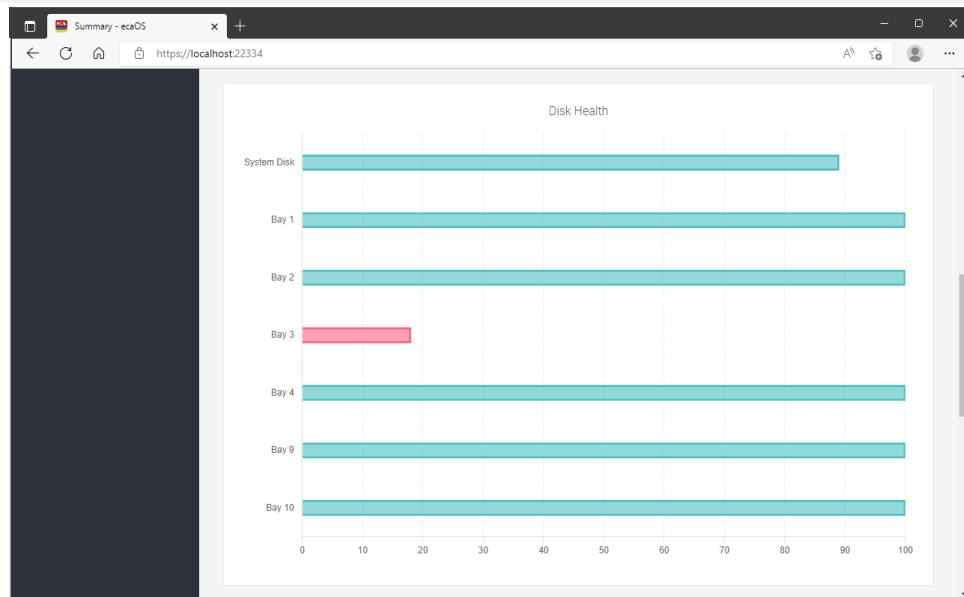


Figure 17: ecaOS Dashboard Summary – Disk Health

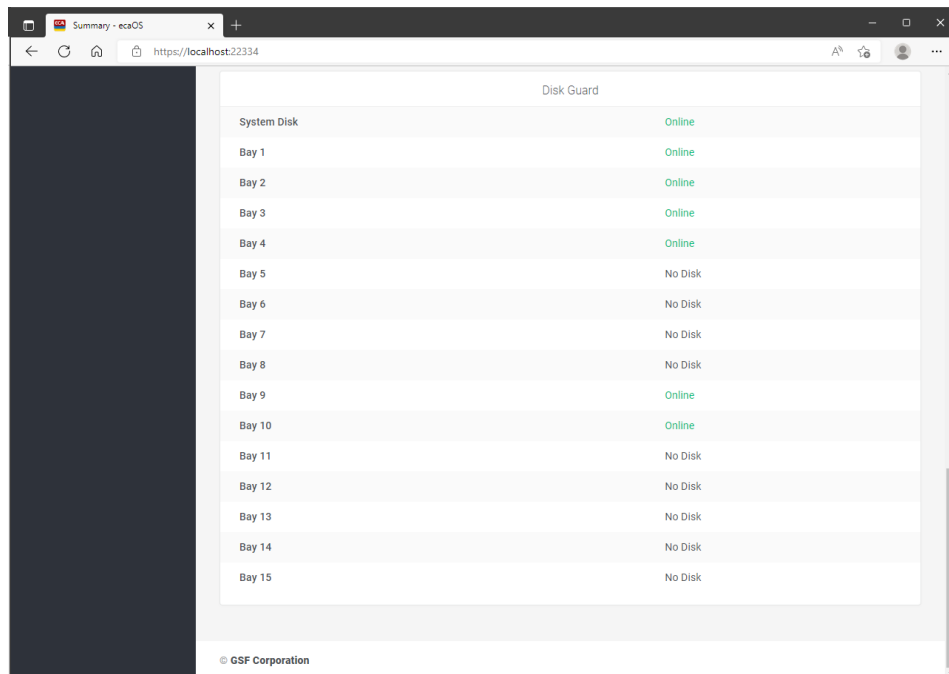


Figure 18: ecaOS Dashboard Summary – Disk Guard

8 System

8.1 System Monitor

With System Monitor, users can view a list of current Processor Temperature, Mainboard Temperature, Processor Fan speed, System Fan speed, 3V3 System Voltage, 12V System Voltage & Mainboard Battery Voltage.

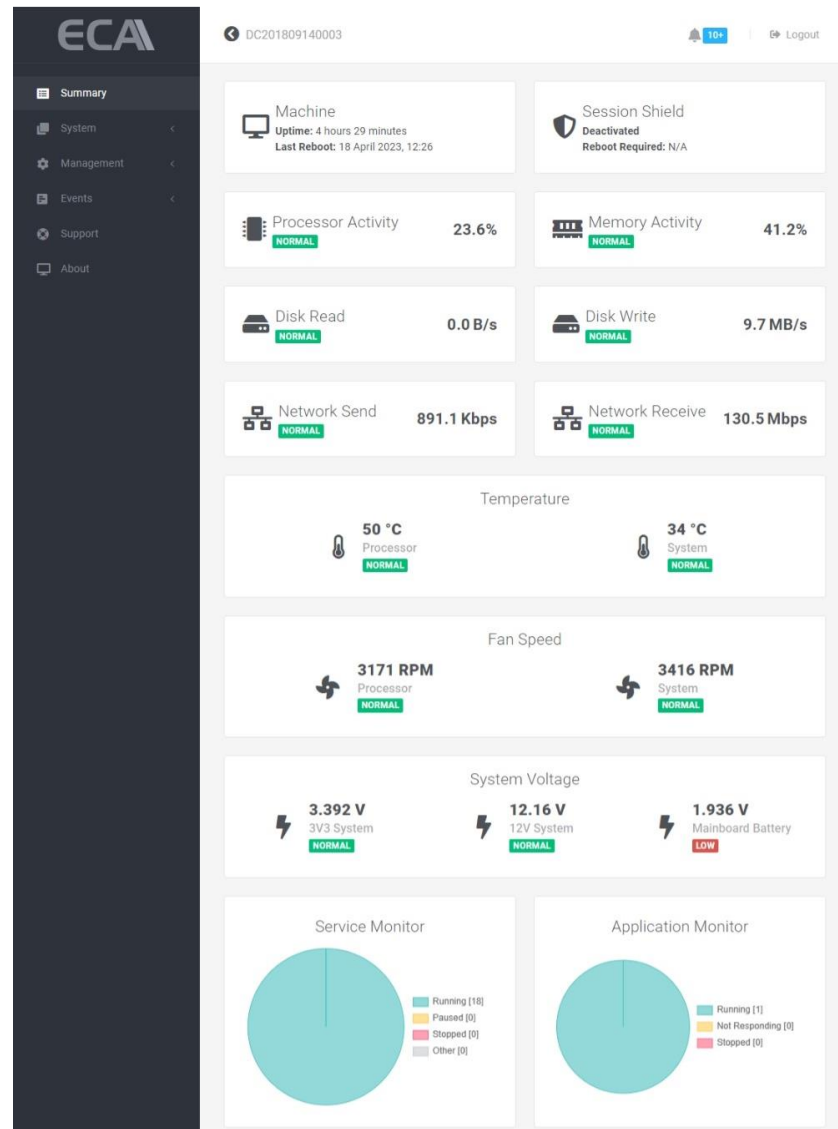


Figure 19: System Monitor Summary

8.2 Service Monitor

The tools will be displaying the status of all services in the ecaOS that have been added into Service Monitor.

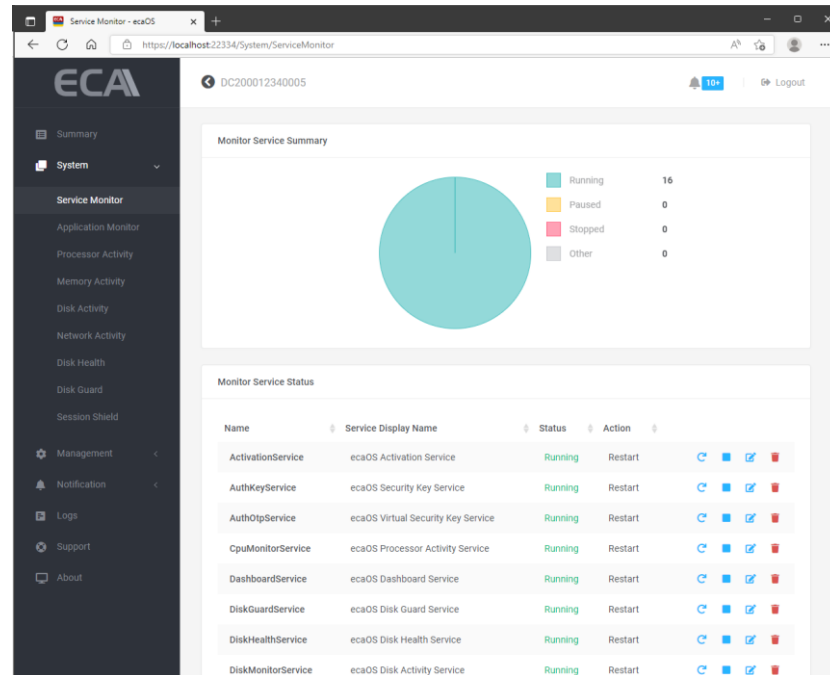


Figure 20: Service Monitor Summary

8.2.1 Add Services

- To add services, click the [+ Add Service](#) button.

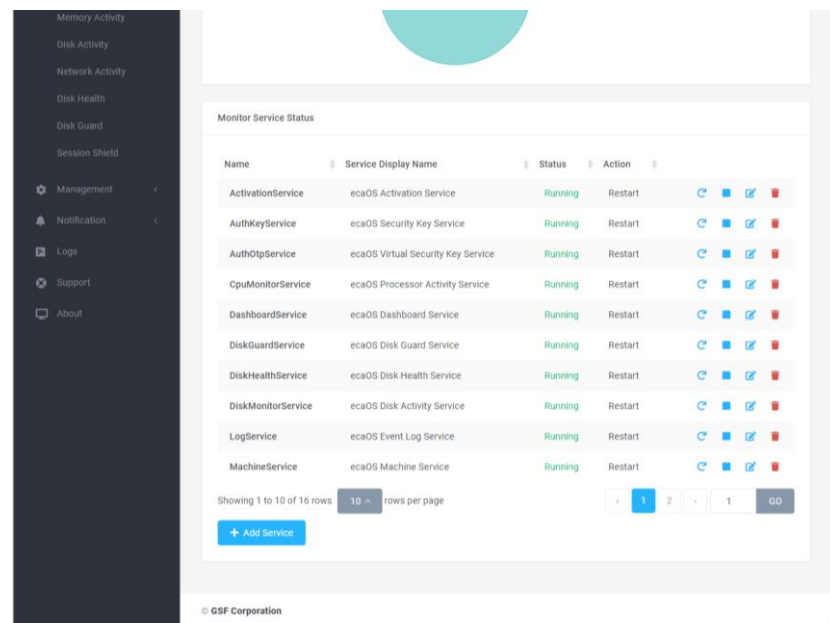


Figure 21: Add Services

- Click the drop-down button.

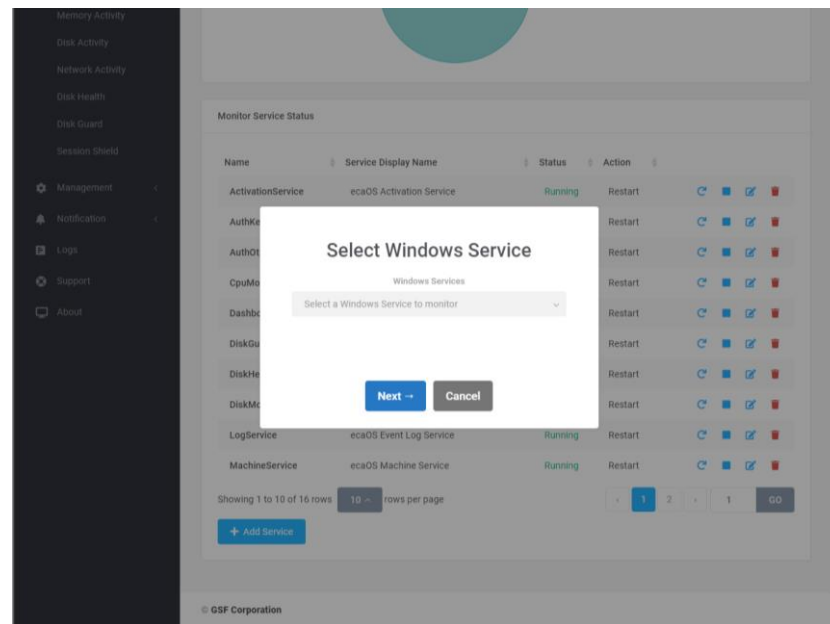


Figure 22: Select Windows Services (1 of 4)

3. Select the services to be added into Service Monitor.

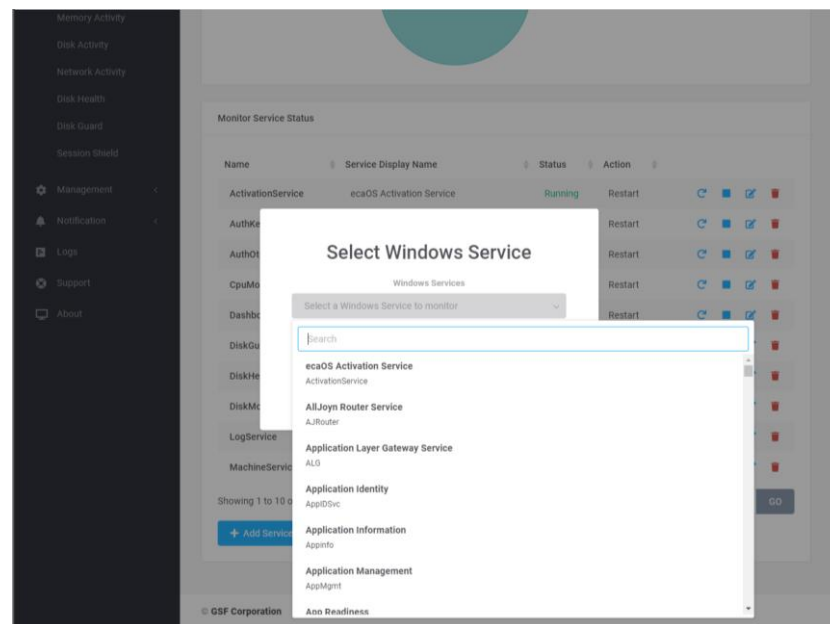


Figure 23: Select Windows Services (2 of 4)

4. Click **Next →** button

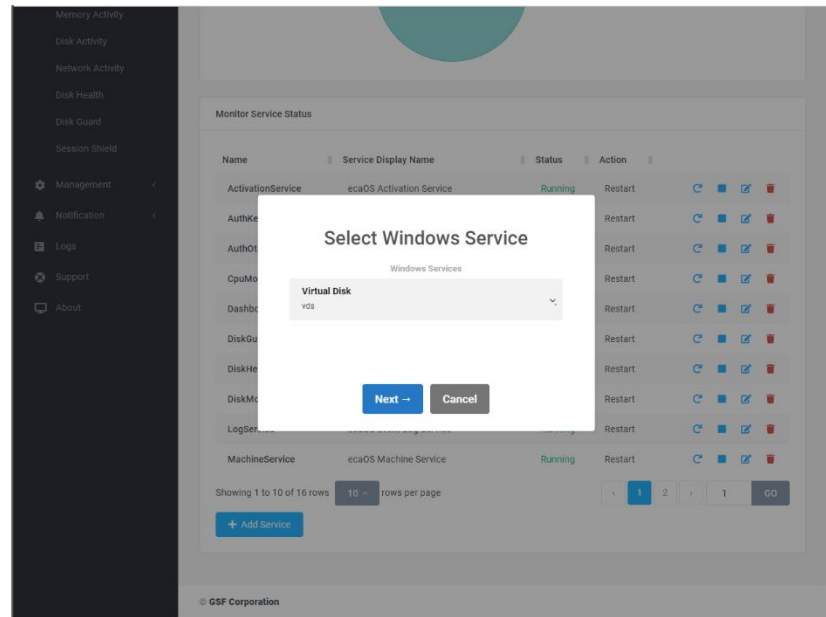


Figure 24: Select Windows services (3 of 4)

5. Select the actions that Service Monitor should perform when the services stop working. Click **Save** to save the setting.

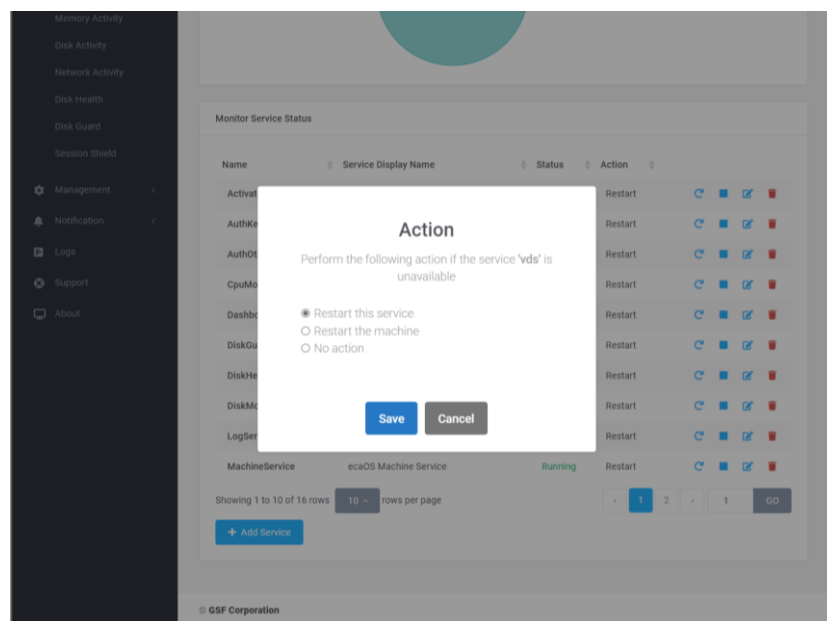


Figure 25: Select Windows Services (4 of 4)

8.2.2 Delete Services

- To delete services, click the  button of the service to be delete

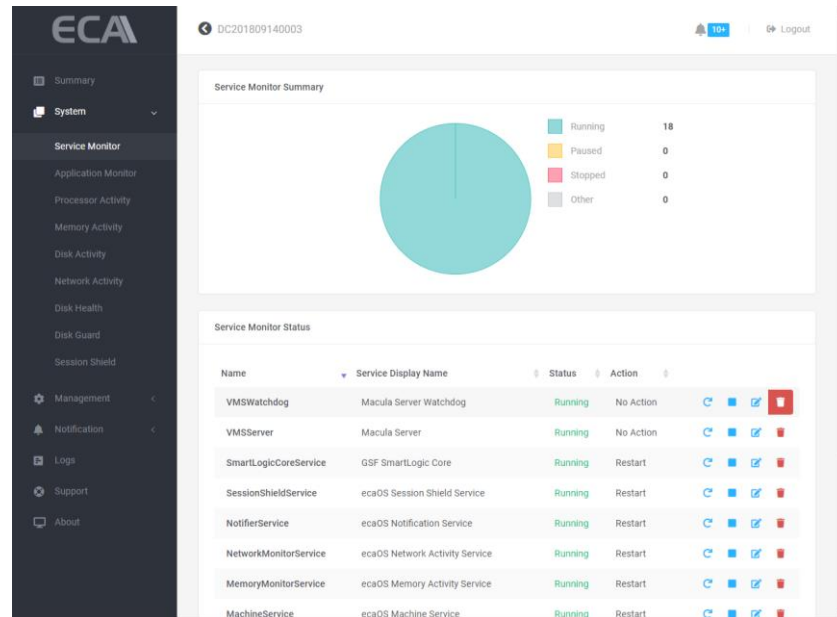


Figure 26: Delete Services (1 of 2)

- Click on  to proceed with the deletion

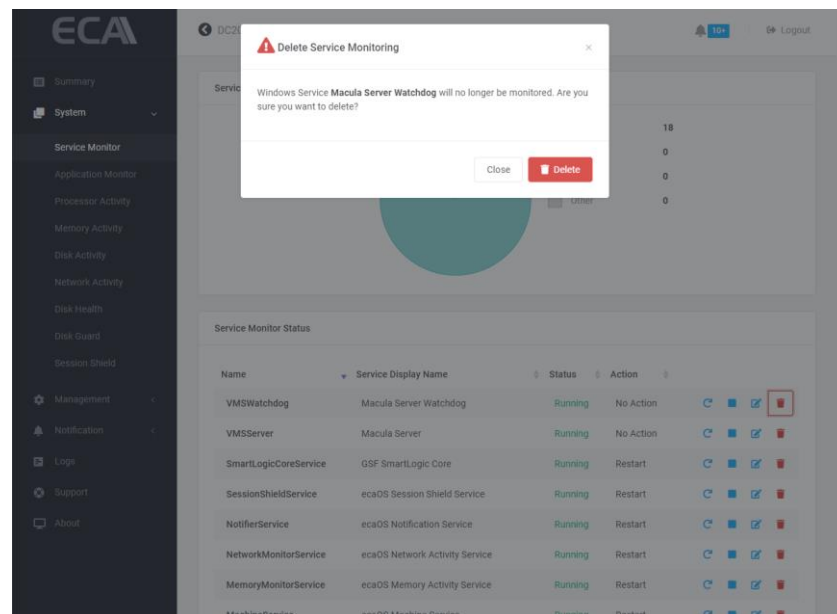


Figure 27: Delete Services (2 of 2)

8.3 Application Monitor

The tools will be displaying the status all application that added in 'Application Monitor'. Set the application to auto start after login to OS environment and terminate any instance running at the same time.

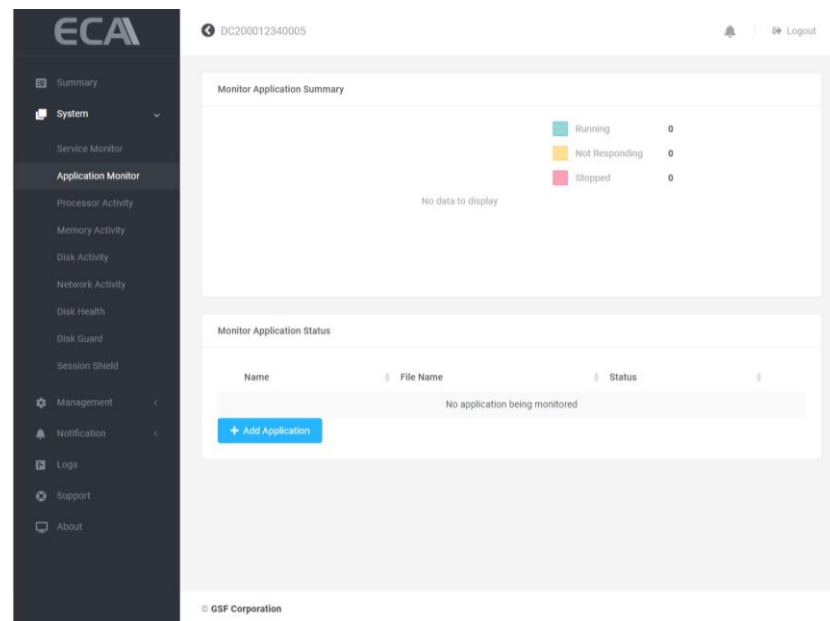


Figure 28: Application Monitor (1 of 5)

8.3.1 Add Application

1. To add application, click the **+ Add Application** button.
2. Enter the application name

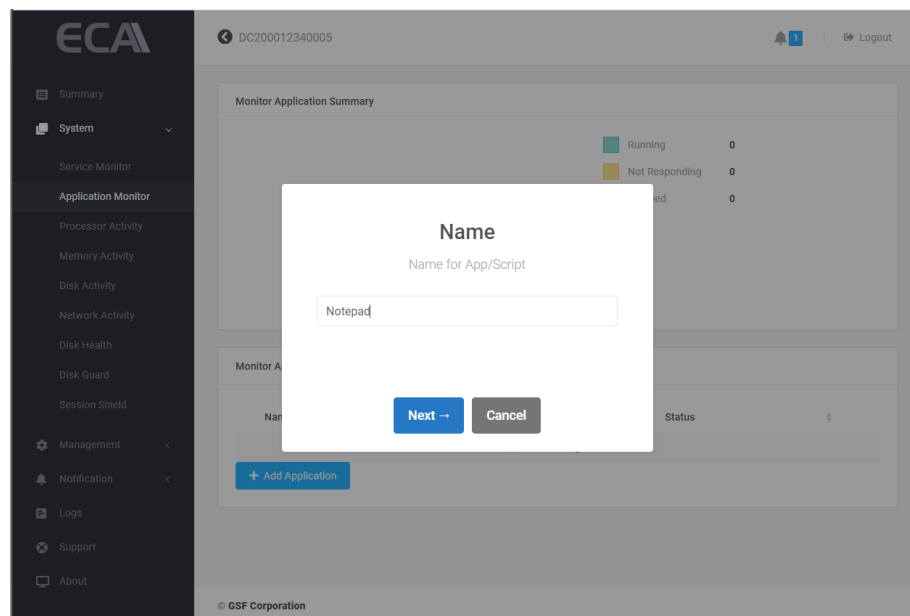


Figure 29: Application Monitor (2 of 5)

3. Paste the path of the application to be added.

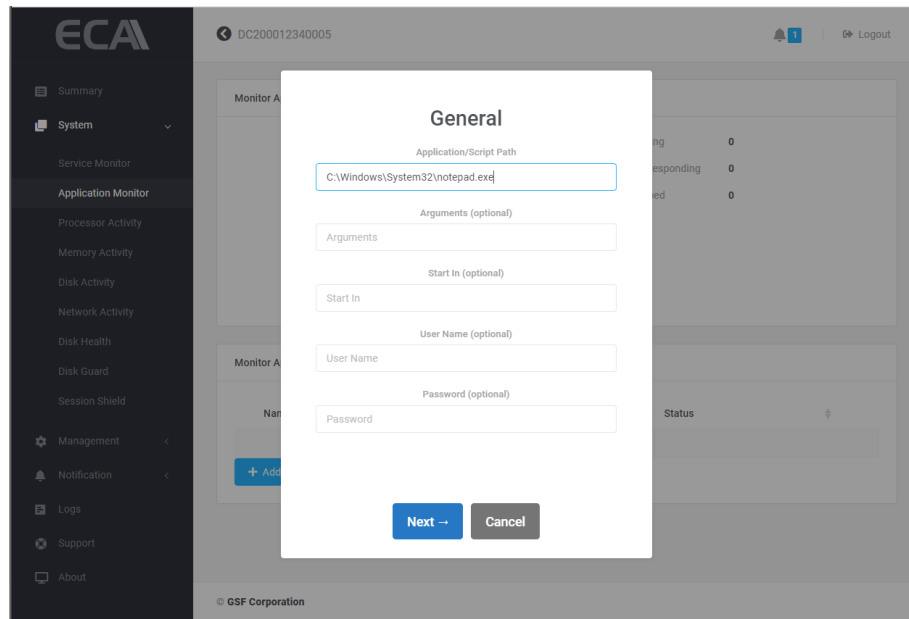


Figure 30: Application Monitor (3 of 5)

4. Apply setting

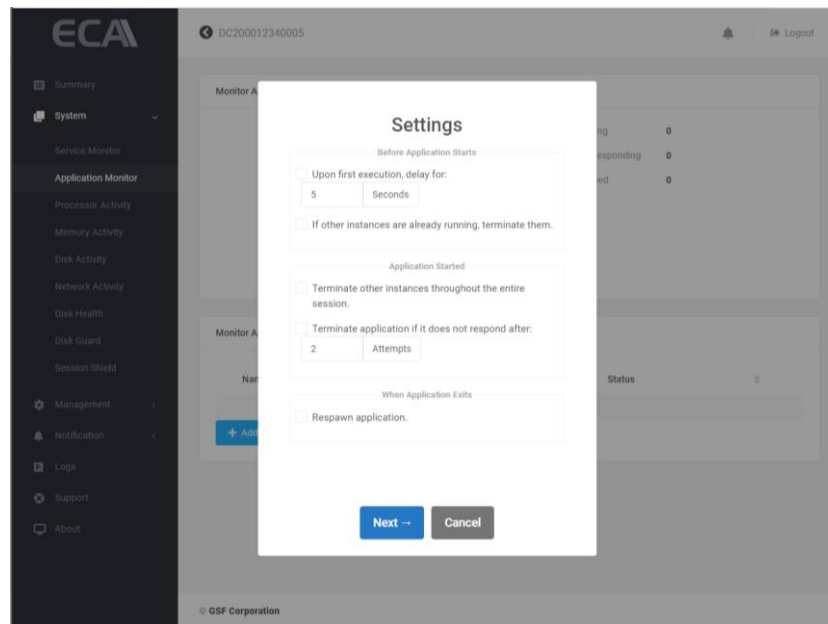


Figure 31: Application Monitor (4 of 5)

Upon first execution delay for

Set the delay when for application to start.

If other instance(s) already running, terminate it

Another instance will be terminated before 'Upon First Execution' started.

Terminate other instance(s) throughout the entire session

Another instance will be terminated

Terminate application if not responding

Application will terminate after number of attempts

Respawn Application

The application will respawn if it close

- After successfully add the application to be monitor. The application status will appear in the 'Application Monitor' page.

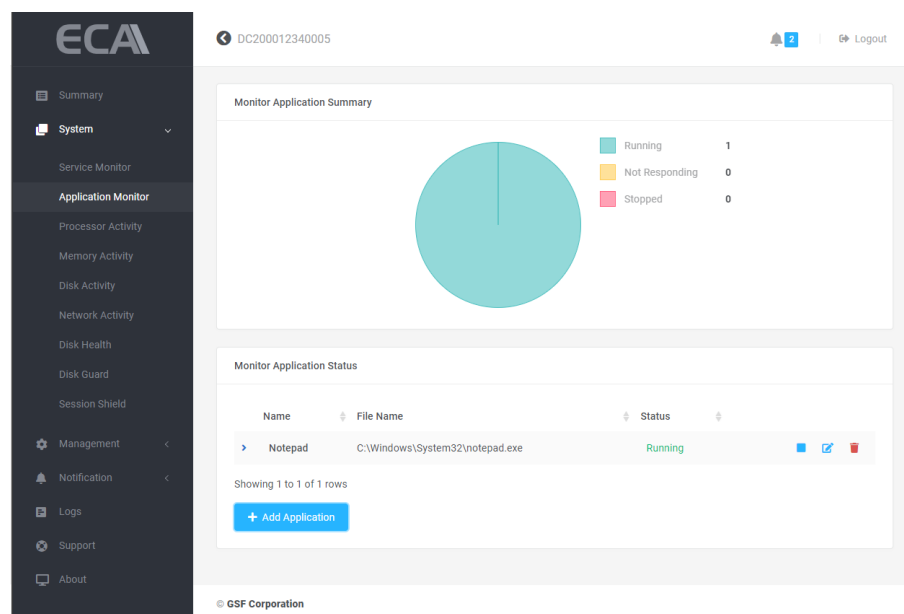


Figure 32: Application Monitor (5 of 5)

8.3.2 Delete Application

- To delete application to be monitor, click the  button of the application to be delete

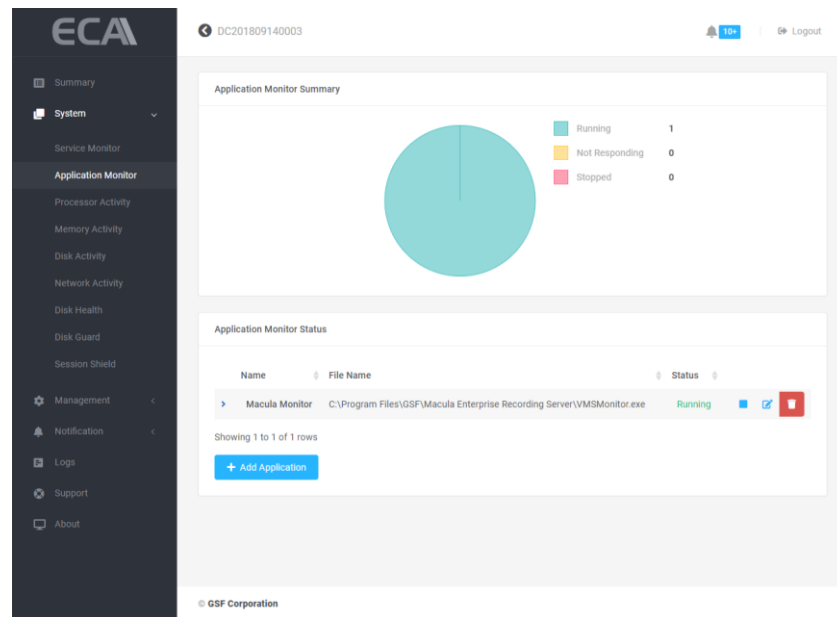


Figure 33: Delete monitored application (1 of 2)

- Click on  to proceed with the deletion

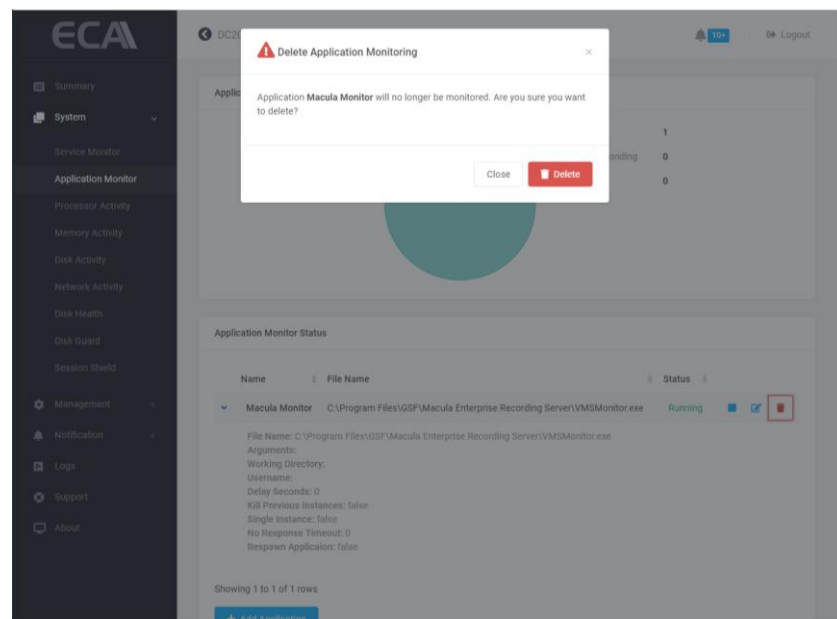


Figure 34: Delete monitored application (2 of 2)

8.4 Processor Activity

This application monitors the CPU usage and notify/email if the usage above the threshold value. ecaOS can generate notification to alert user when ECA CPU Alert utilization goes above the configured threshold for a pre-defined period.

CPU Activity: The status will base on Average CPU Utilization. The status will change to High if the Average CPU Utilization higher than threshold set under Processor Activity Monitor.

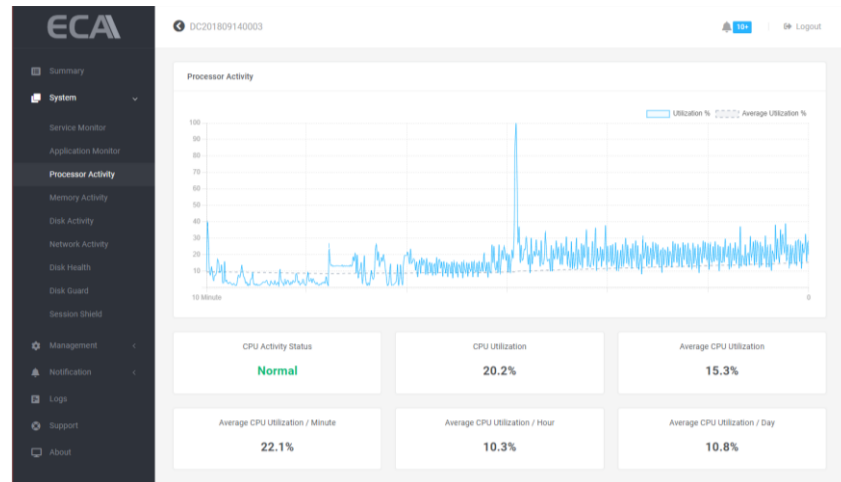


Figure 35: Processor Activity (1 of 2)

By the example below to demonstrate that the Processor Activity Monitor set to enable, the threshold set to 80% for 10 minutes. The CPU Activity status will change to High if the Average CPU Utilization higher than 80% for more than 10 minutes. This event will notify by email and at the notification.

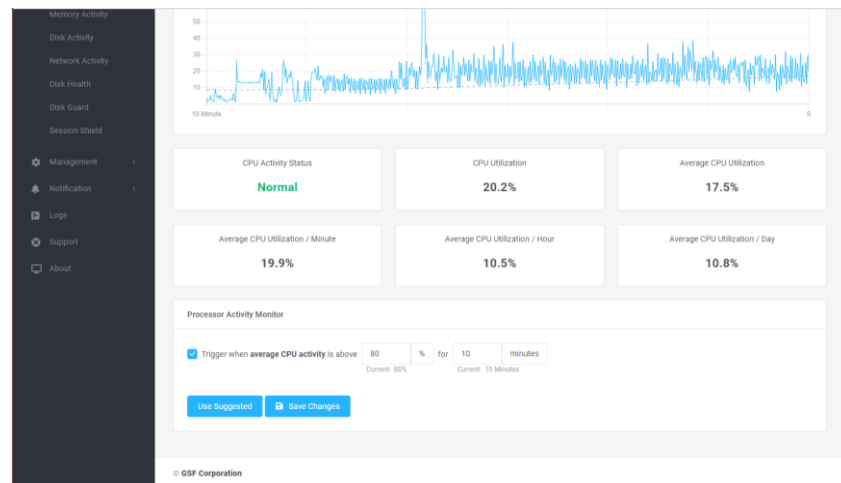


Figure 36: Processor Activity (2 of 2)

NOTE:

- Click on 'Use Suggested' for reference value calculate by the system.
- For email and notification setting, go to [Events](#)
- Example email of the CPU activity event in the [Appendix Processor Activity](#)

8.5 Memory Activity

Monitor the memory usage and notify/email if the usage above the threshold value. ecaOS can generate notification to alert user when ECA Memory utilization goes above the configured threshold for a pre-defined period.

Memory Activity: The status will base on Average Memory Usage. The status will change to High if the Average Memory Usage higher than threshold set under Memory Activity Monitor.

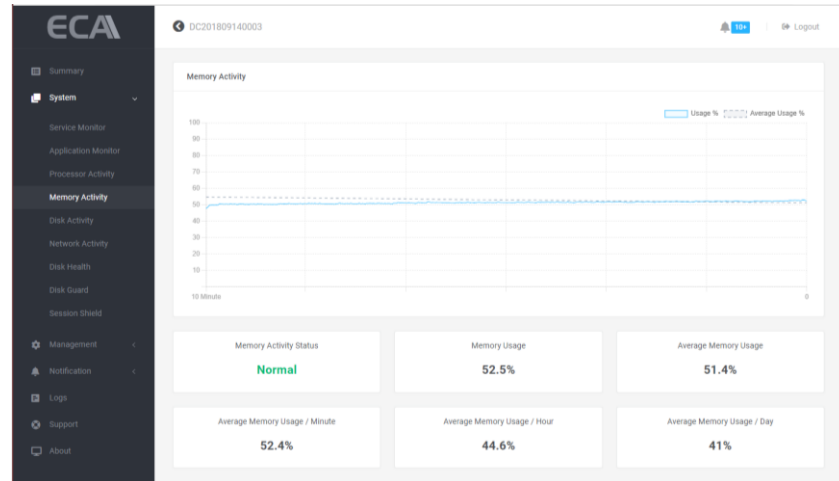


Figure 37: Memory Activity (1 of 2)

By the example below to demonstrate that the Memory Activity Monitor set to enable, the threshold set to 80% for 10 minutes. The Memory Activity status will change to High if the Average Memory Utilization higher than 80% for more than 10 minutes. This event will notify by email and at the notification.

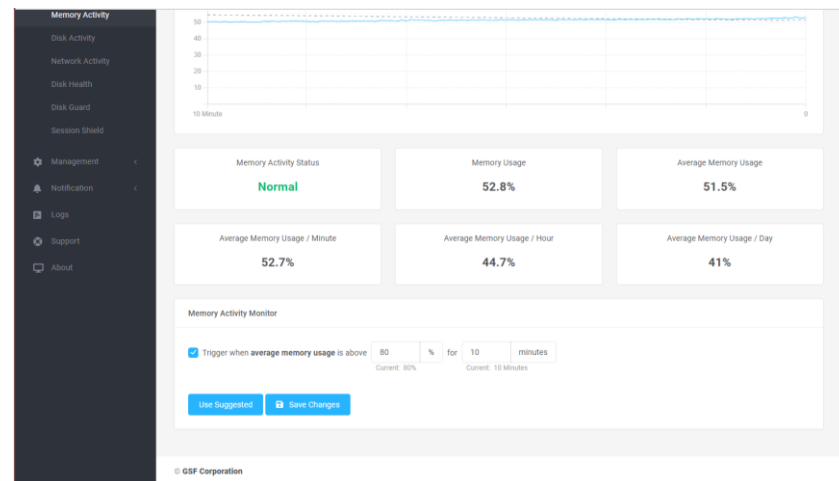


Figure 38: Memory Activity (2 of 2)

NOTE:

- Click on 'Use Suggested' for reference value calculate by the system.
- For email and notification setting, go to [Events](#)
- Example email of the Memory activity event in the [Appendix Memory Activity](#)

8.6 Disk Activity

It displays real time disk usage (activity), it also auto calculates average disk usage per minute, per hour and per day. Automatic alert if disk write or read is fall or raise above threshold limit for a period. This is very useful if recording function in the VMS software was accidentally turned off. There will be no disk write activity when recording was turned off, thus the system will auto alert potential CCTV no recording to user.

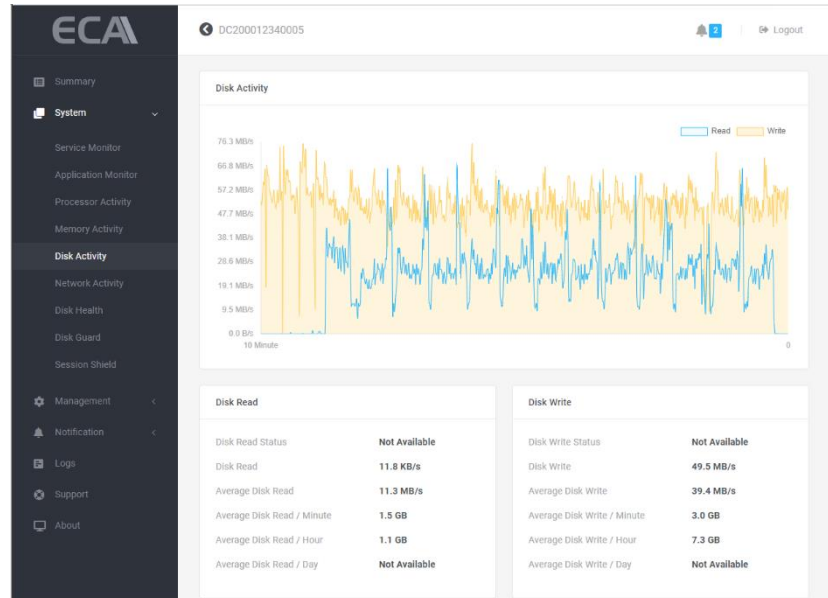


Figure 39: Disk Activity (1 of 2)

By the example below to demonstrate that the Disk Activity Monitor set to enable for both read & write.

The Average Disk read set to above 10GB/s for 10 minutes. The average disk write is below 15GB/s for 10 minutes. This event will notify by email and at the notification if exceed the set threshold.

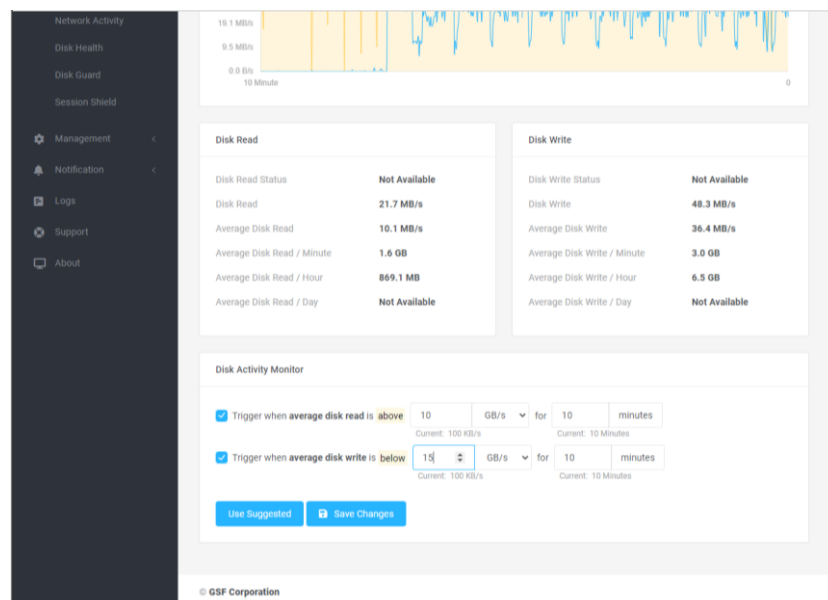


Figure 40: Disk Activity (2 of 2)

NOTE:

- Click on 'Use Suggested' for reference value calculate by the system.

- For email and notification setting, go to [Events](#)
- Example email of the Disk activity event in the [Appendix Disk Activity](#)

8.7 Network Activity

Network Activity displays real time network usage activity. It can automatically calculate average network utilization per minute, per hour or per day. This average value is important for the estimation and observation of network utilization, as incoming throughput from the network cameras or video sources varies throughout the day, where daytime throughput is usually higher than nighttime.

Automatic alert if network received or sending is fall or raise above threshold limit for a period of time. This is very useful if some of the cameras was accidentally offline due to faulty PoE switch.

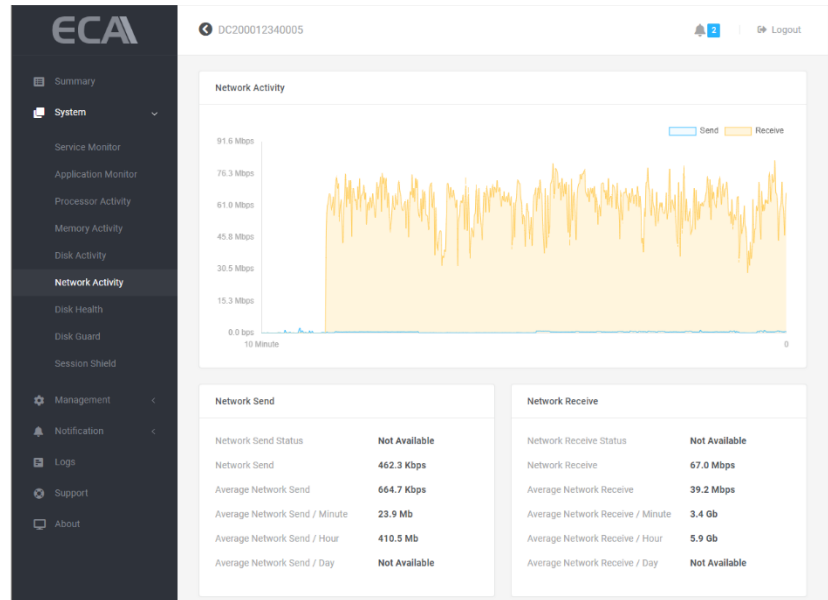


Figure 41: Network Activity (1 of 2)

By the example below to demonstrate that the Network Activity set to trigger email & desktop notifications.

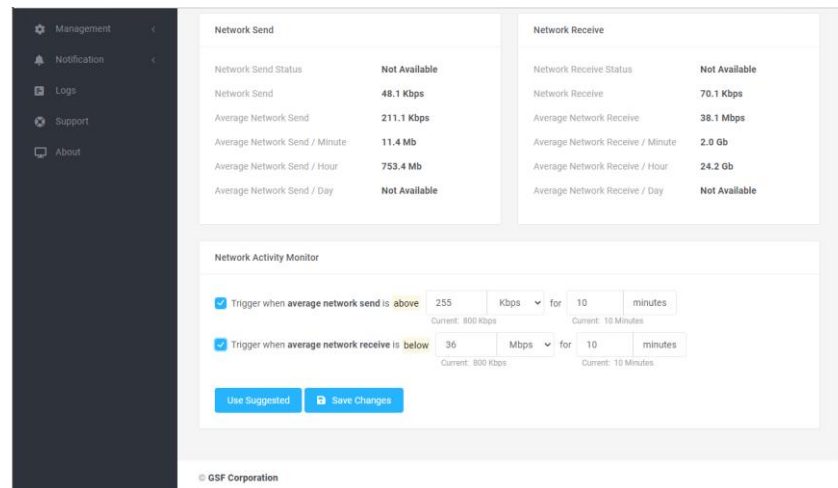


Figure 42: Network Activity (2 of 2)

It will trigger when the data send over network above 255Kbps for 10 minutes

It will trigger when the data receive below set threshold 36Mbps for 10 minutes

NOTE:

- Click on 'Use Suggested' for reference value calculate by the system.
- For email and notification setting, go to [Events](#)
- Example email of the Network activity event in the [Appendix Network Activity](#)

8.8 Disk Health

'Disk Health' able to show information of individual disk connected to ECA. 'Disk Health' also monitor disk status and notify whenever detected the health below certain threshold.

Oversee disk information and health such as, disk health, SMART value, temperature, drive wear level, power up hours, capacity, model and serial numbers, etc.

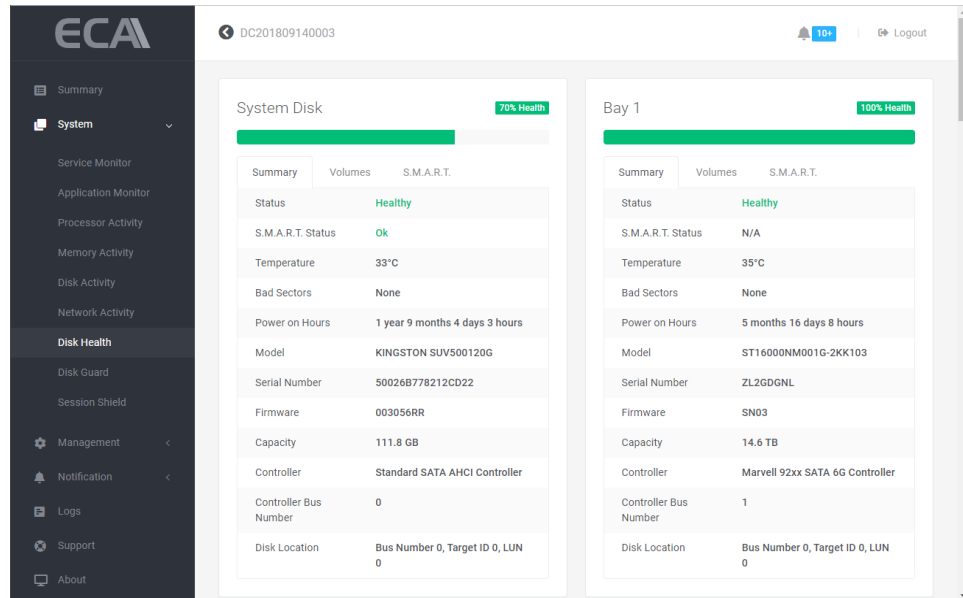


Figure 43: Disk Health (1 of 3)

Under Summary tab, can found drive information such health status, bad sector, temperature, model etc.

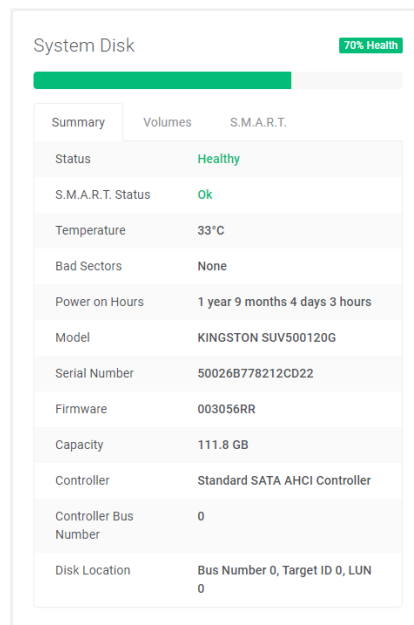


Figure 44: Disk Health – Healthy Disk (2 of 3)

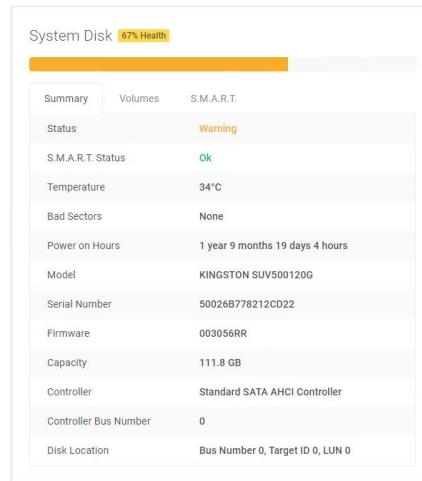


Figure 45: Disk Health – Warning Status Disk (2 of 3)

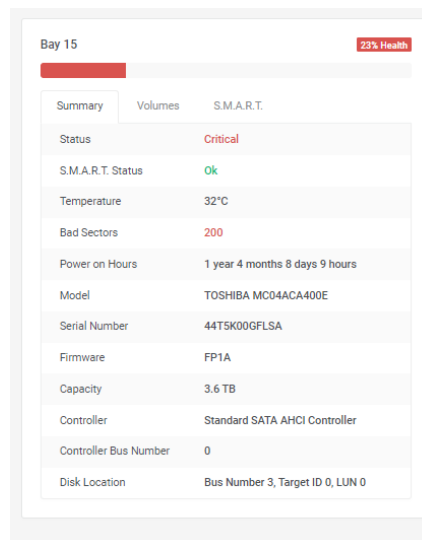


Figure 46: Disk Health – Critical Status Disk with Bad Sectors (2 of 3)

Under Volume, display partition & free space available information

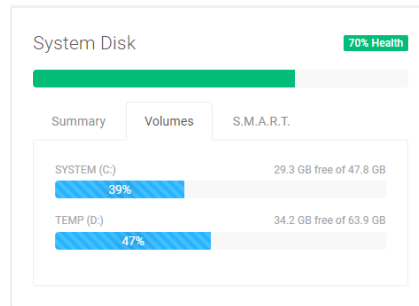
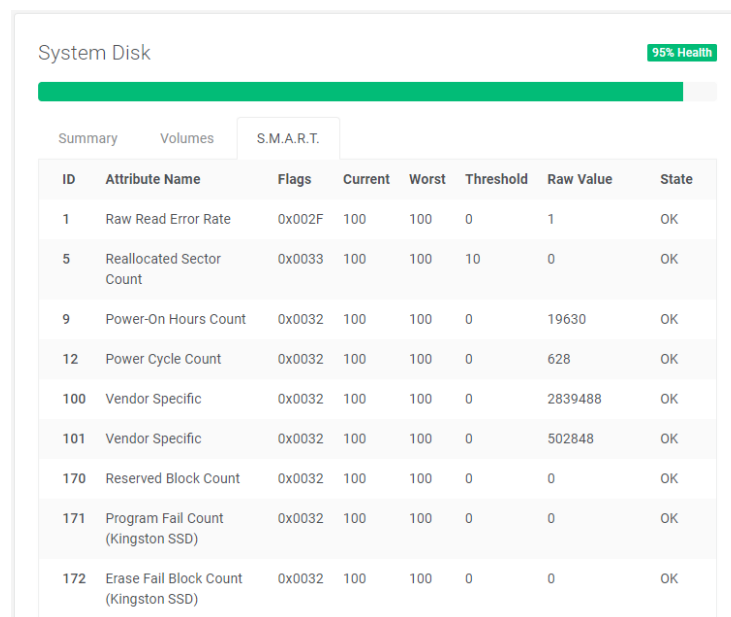


Figure 47: Disk Health (3 of 3)

Under S.M.A.R.T (Self-Monitoring, Analysis and Reporting Technology), will display S.M.A.R.T value. Its primary function is to detect and report various indicators of drive reliability with the intent of anticipating imminent hardware failures.



System Disk 95% Health

Summary Volumes S.M.A.R.T.

ID	Attribute Name	Flags	Current	Worst	Threshold	Raw Value	State
1	Raw Read Error Rate	0x002F	100	100	0	1	OK
5	Reallocated Sector Count	0x0033	100	100	10	0	OK
9	Power-On Hours Count	0x0032	100	100	0	19630	OK
12	Power Cycle Count	0x0032	100	100	0	628	OK
100	Vendor Specific	0x0032	100	100	0	2839488	OK
101	Vendor Specific	0x0032	100	100	0	502848	OK
170	Reserved Block Count	0x0032	100	100	0	0	OK
171	Program Fail Count (Kingston SSD)	0x0032	100	100	0	0	OK
172	Erase Fail Block Count (Kingston SSD)	0x0032	100	100	0	0	OK

Figure 48: Disk Health (3 of 3)

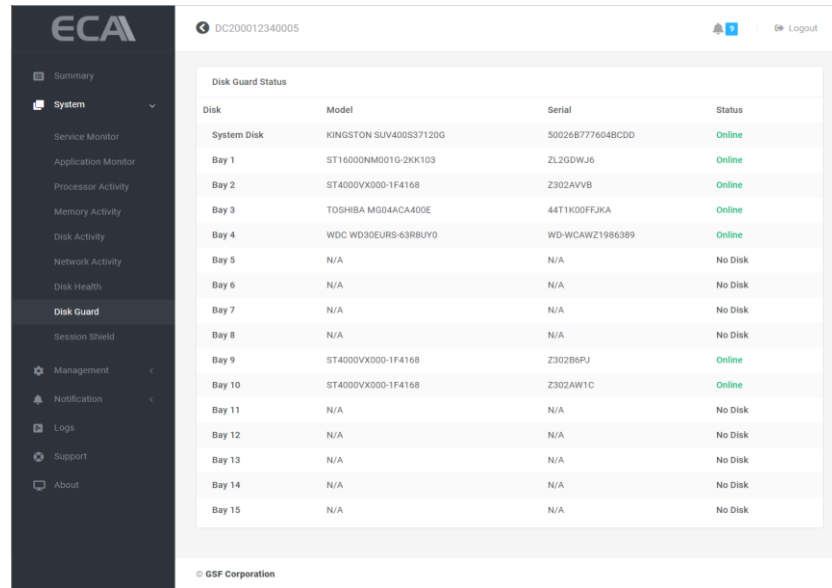
NOTE:

- Click on 'Use Suggested' for reference value calculate by the system.
- For email and notification setting, go to [Events](#)
- Example email of the Disk Health event in the [Appendix Disk Health](#)

8.9 Disk Guard

Display status all connected hard disk to the ECA.

HDD stores important video evidence data. It is important to ensure the data remains intact in the ECA. Disk Guard monitors HDD insertion and removal events on the ECA.



Disk	Model	Serial	Status
System Disk	KINGSTON SUV400S37120G	500268777604BCDD	Online
Bay 1	ST1600NM001G-2KK103	ZL2GDWJ6	Online
Bay 2	ST4000VX000-1F4168	Z302AVVB	Online
Bay 3	TOSHIBA MG04ACA400E	44T1K00FFJKA	Online
Bay 4	WDC WD30EURS-63R8UY0	WD-WCAWZ1986389	Online
Bay 5	N/A	N/A	No Disk
Bay 6	N/A	N/A	No Disk
Bay 7	N/A	N/A	No Disk
Bay 8	N/A	N/A	No Disk
Bay 9	ST4000VX000-1F4168	Z302B6PJ	Online
Bay 10	ST4000VX000-1F4168	Z302AW1C	Online
Bay 11	N/A	N/A	No Disk
Bay 12	N/A	N/A	No Disk
Bay 13	N/A	N/A	No Disk
Bay 14	N/A	N/A	No Disk
Bay 15	N/A	N/A	No Disk

Figure 49: Disk Guard

Disk list shown depending on the ECA model:

- ECA-FX44: System Disk, Bay 1 – Bay 15
- ECA-EX44: System Disk, Bay 1 – Bay 10 & HD1
- ECA-DX44: System Disk, Bay 1 – Bay 5, HDD1, HDD 2
- ECA-MX44: System Disk, HDD1, HDD 2
- ECA-VW44: System Disk, HDD1, HDD 2

Status:

- **Online:** Hard disk installed. Using by OS
- **Offline:** Hard disk installed. Not using by OS
- **No Disk:** No hard disk installed.
- **Removed:** Previous hard disk has been removed.
- **Replaced:** Hard disk has been replaced with different serial number.

NOTE:

- System Disk is the drive containing operating system.
- Hard disks insert in the hotswap bay will label shows as a 'Bay'.
- Internal hard disk will label HDD1 & HDD2 is for the internal hard disk.
- When hard disk removed, the hard disk information still shown with 'Removed' status. Acknowledge the removed hard disk will change to latest status.

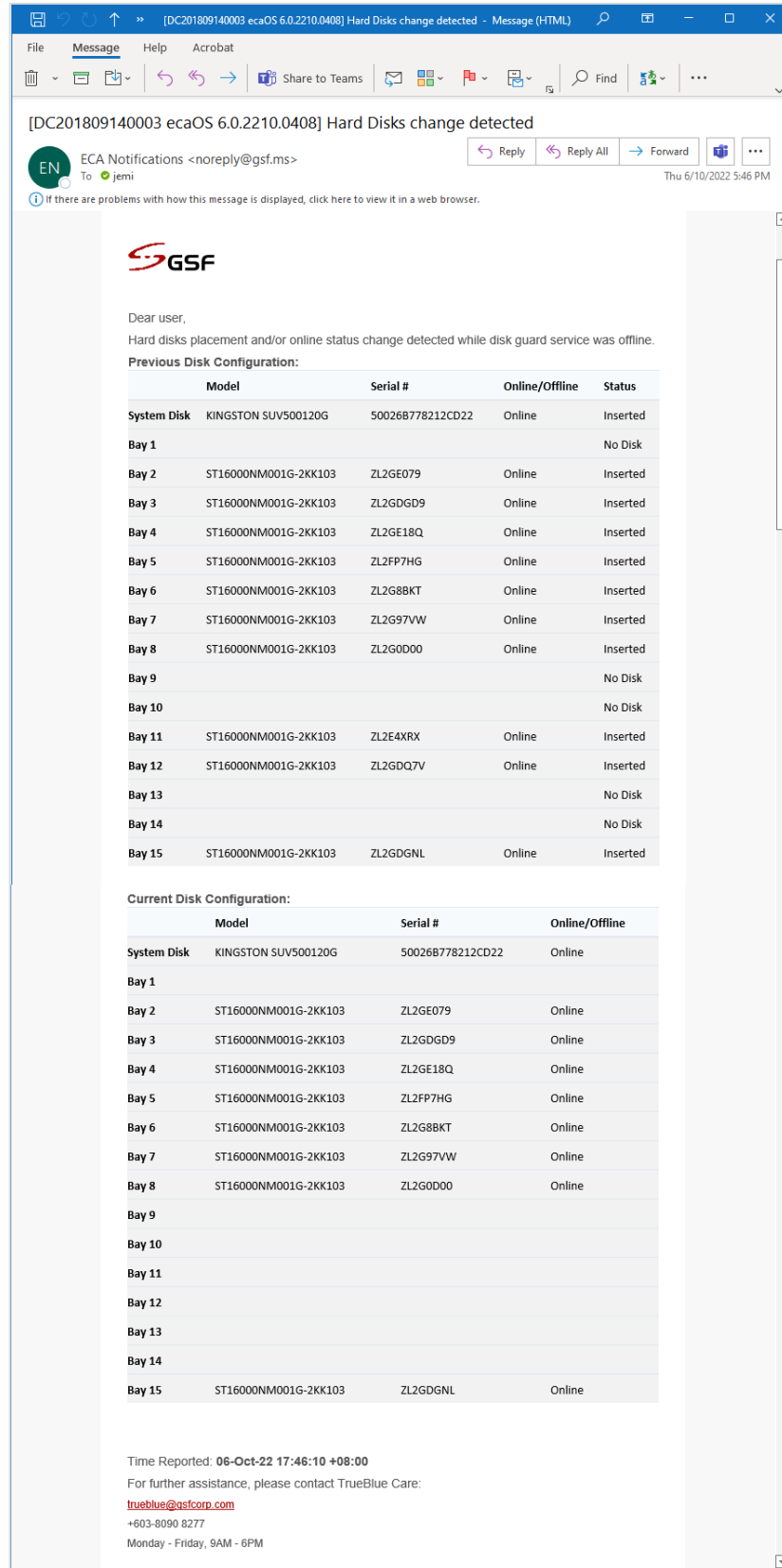
Bay 12	ZL2GDQ7V	ST1600NM001G-2KK103	Removed	Acknowledge
--------	----------	---------------------	---------	-------------

Figure 50: Disk removed

- For email and notification setting, go to [Events](#)
- Example email of the Disk Guard event in the [Appendix Disk Guard](#)

8.9.1 Hard disk change during ECA Power Off

Dashboard will be sending notification via email to inform there is hard disk changing during ECA off stage (power off). This feature is part of Disk Guard, to protect the Data/Evidence, ensure the same serial number was in the ECA machine before and after power on.



[DC201809140003 ecaOS 6.0.2210.0408] Hard Disks change detected - Message (HTML)

File Message Help Acrobat

Share to Teams Find

[DC201809140003 ecaOS 6.0.2210.0408] Hard Disks change detected

ECA Notifications <noreply@gsf.ms>
To jemi

Thu 6/10/2022 5:46 PM

If there are problems with how this message is displayed, click here to view it in a web browser.



Dear user,
Hard disks placement and/or online status change detected while disk guard service was offline.

Previous Disk Configuration:

	Model	Serial #	Online/Offline	Status
System Disk	KINGSTON SUV500120G	50026B778212CD22	Online	Inserted
Bay 1				No Disk
Bay 2	ST16000NM001G-2KK103	ZL2GE079	Online	Inserted
Bay 3	ST16000NM001G-2KK103	ZL2GDGD9	Online	Inserted
Bay 4	ST16000NM001G-2KK103	ZL2GE18Q	Online	Inserted
Bay 5	ST16000NM001G-2KK103	ZL2FP7HG	Online	Inserted
Bay 6	ST16000NM001G-2KK103	ZL2G88KT	Online	Inserted
Bay 7	ST16000NM001G-2KK103	ZL2G97VW	Online	Inserted
Bay 8	ST16000NM001G-2KK103	ZL2G0D00	Online	Inserted
Bay 9				No Disk
Bay 10				No Disk
Bay 11	ST16000NM001G-2KK103	ZL2E4XR	Online	Inserted
Bay 12	ST16000NM001G-2KK103	ZL2GDQ7V	Online	Inserted
Bay 13				No Disk
Bay 14				No Disk
Bay 15	ST16000NM001G-2KK103	ZL2GDGNL	Online	Inserted

Current Disk Configuration:

	Model	Serial #	Online/Offline
System Disk	KINGSTON SUV500120G	50026B778212CD22	Online
Bay 1			
Bay 2	ST16000NM001G-2KK103	ZL2GE079	Online
Bay 3	ST16000NM001G-2KK103	ZL2GDGD9	Online
Bay 4	ST16000NM001G-2KK103	ZL2GE18Q	Online
Bay 5	ST16000NM001G-2KK103	ZL2FP7HG	Online
Bay 6	ST16000NM001G-2KK103	ZL2G88KT	Online
Bay 7	ST16000NM001G-2KK103	ZL2G97VW	Online
Bay 8	ST16000NM001G-2KK103	ZL2G0D00	Online
Bay 9			
Bay 10			
Bay 11			
Bay 12			
Bay 13			
Bay 14			
Bay 15	ST16000NM001G-2KK103	ZL2GDGNL	Online

Time Reported: 06-Oct-22 17:46:10 +08:00
For further assistance, please contact TrueBlue Care:
trueblue@gsfcorp.com
+603-8090 8277
Monday - Friday, 9AM - 6PM

Figure 51: Hard Disks change detected (1 of 1)

8.10 Session Shield

Session shield which permanently stores all modifications into the User Layer. Without doing so, all modifications of settings, software, or Windows, are temporary only, and will be discarded once the ECA is powered off or reboot.

Total size availability will be half of the amount of the RAM.

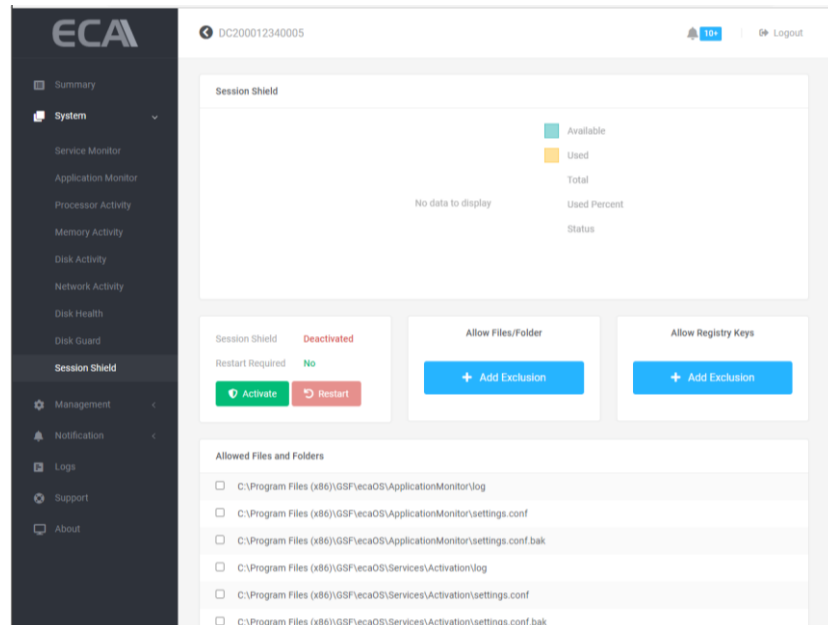


Figure 52: Session Shield

8.10.1 Activate Session Shield

All setting/files in the 'C:\' will be protected. All setting/files will be return to its original state after reboot the ECA.

1. Click on 'Activate'

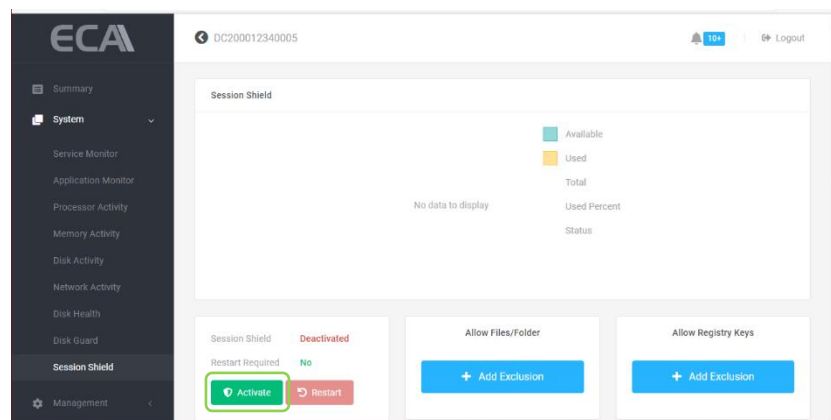


Figure 53: Activate Session Shield (1 of 5)

2. Click 'Change Settings' to save the setting

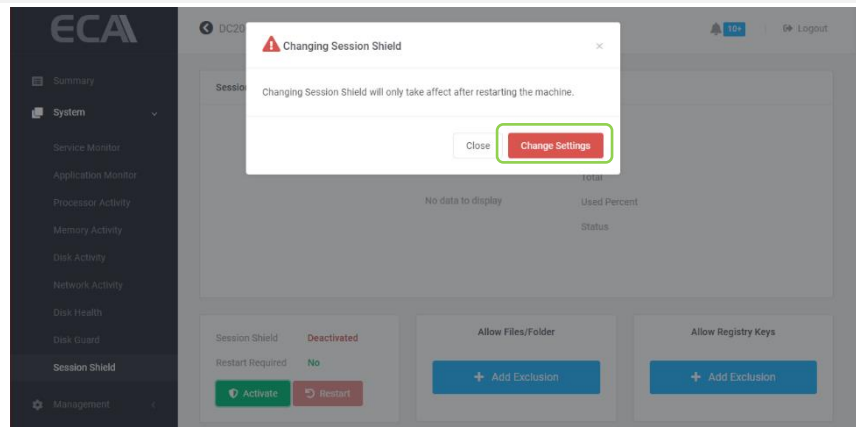


Figure 54: Activate Session Shield (2 of 5)

3. Click 'Restart' to reboot ECA and apply the setting.

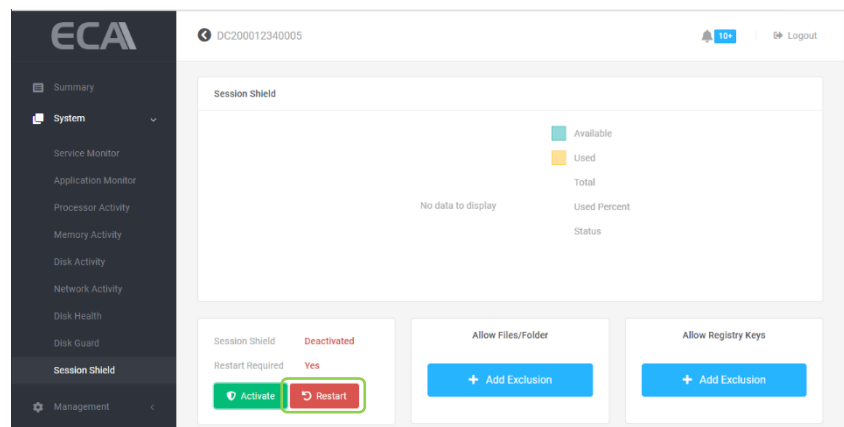


Figure 55: Activate Session Shield (4 of 6)

4. Type Restart then click 'Restart' button

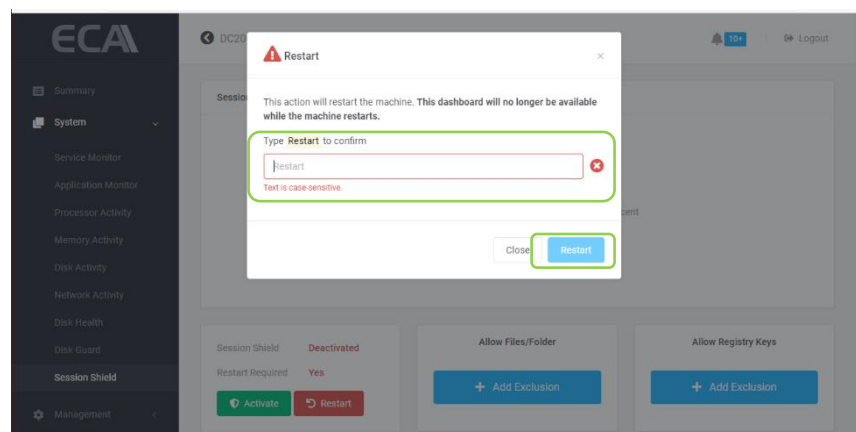


Figure 56: Activate Session Shield (5 of 6)

5. Once the Session Shield successfully activated. The Session Shield information shown as below

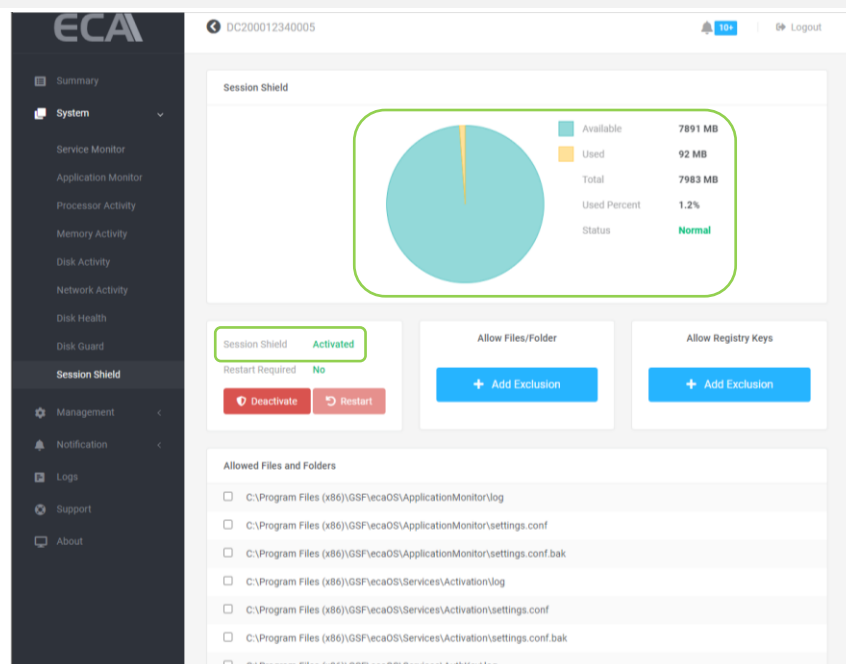


Figure 57: Activate Session Shield (6 of 6)

8.10.2 Deactivate Session Shield

All setting/files in the 'C:\' will not be protected. All files setting will be permanently written.

1. Click on 'Deactivate'

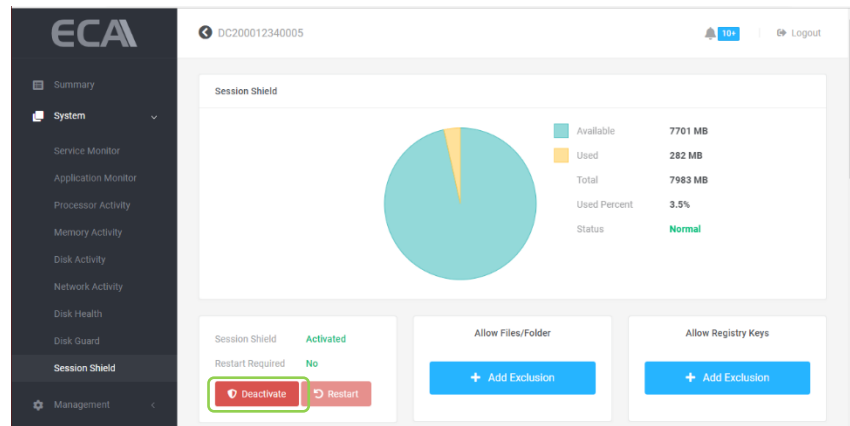


Figure 58: Deactivate Session Shield (1 of 3)

2. Click 'Change Settings' to save the setting

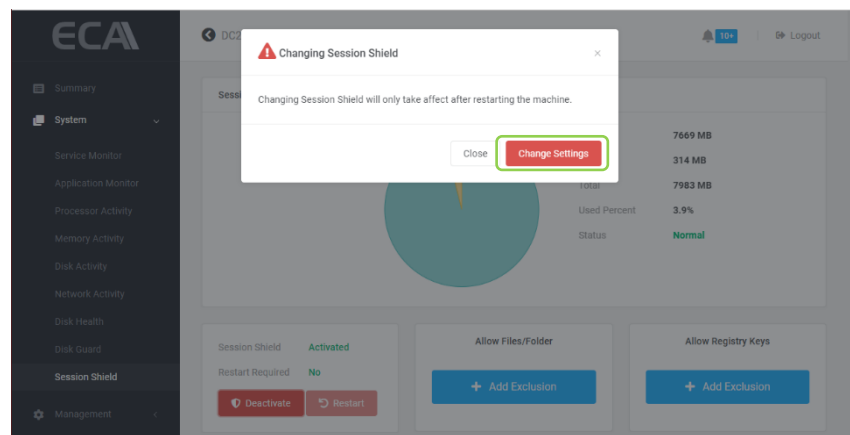


Figure 59: Deactivate Session Shield (2 of 3)

3. Click 'Restart' to reboot ECA and apply the setting

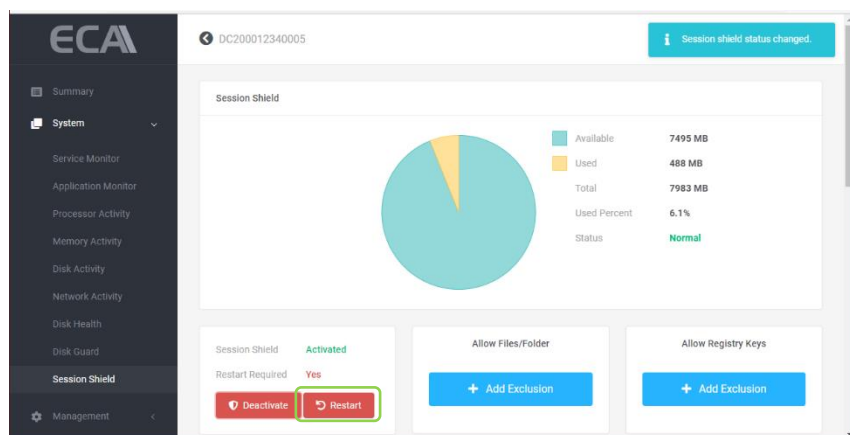


Figure 60: Deactivate Session Shield (2 of)

4. Type Restart then click 'Restart' button

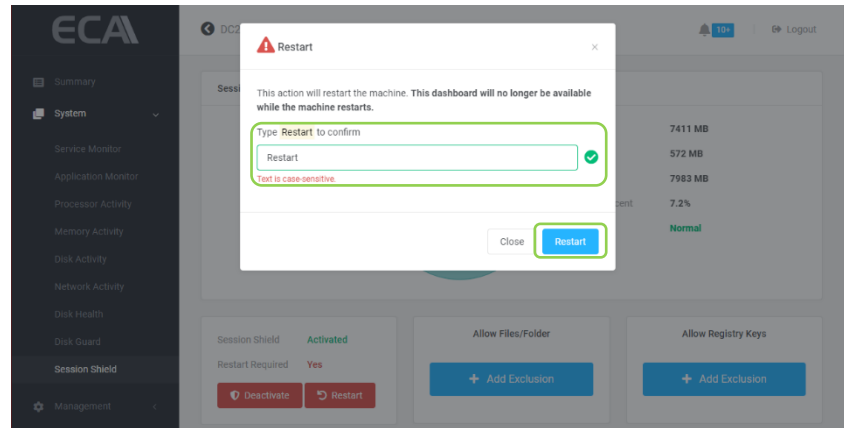


Figure 61: Deactivate Session Shield (3 of 3)

8.10.3 Exclusion List

All paths below will not be affected when Session Shield is activated. The data destined to these paths will be able to pass-through and written permanently:

```
C:\Program Files (x86)\GSF\eca05\ProcessMonitor\log
C:\Program Files (x86)\GSF\eca05\ProcessMonitor\settings.conf
C:\Program Files (x86)\GSF\eca05\ProcessMonitor\settings.conf.bak
C:\Program Files (x86)\GSF\eca05\Services\Activation\log
C:\Program Files (x86)\GSF\eca05\Services\Activation\settings.conf
C:\Program Files (x86)\GSF\eca05\Services\Activation\settings.conf.bak
C:\Program Files (x86)\GSF\eca05\Services\AuthKey\log
C:\Program Files (x86)\GSF\eca05\Services\AuthKey\settings.conf
C:\Program Files (x86)\GSF\eca05\Services\AuthKey\settings.conf.bak
C:\Program Files (x86)\GSF\eca05\Services\AuthOtp\log
C:\Program Files (x86)\GSF\eca05\Services\AuthOtp\settings.conf
C:\Program Files (x86)\GSF\eca05\Services\AuthOtp\settings.conf.bak
C:\Program Files (x86)\GSF\eca05\Services\HB2Gateway\log
C:\Program Files (x86)\GSF\eca05\Services\HB2Gateway\settings.conf
C:\Program Files (x86)\GSF\eca05\Services\HB2Gateway\settings.conf.bak
C:\Program Files (x86)\GSF\eca05\Services\Log\log
C:\Program Files (x86)\GSF\eca05\Services\Log\settings.conf
C:\Program Files (x86)\GSF\eca05\Services\Log\settings.conf.bak
C:\Program Files\Microsoft SQL Server\MSSQL15.SQLEXPRESS\MSSQL\DATA
C:\Program Files (x86)\GSF\eca05\Services\Machine\log
C:\Program Files (x86)\GSF\eca05\Services\Machine\settings.conf
C:\Program Files (x86)\GSF\eca05\Services\Machine\settings.conf.bak
C:\Program Files (x86)\GSF\eca05\Services\WindowsServiceMonitor\log
C:\Program Files (x86)\GSF\eca05\Services\WindowsServiceMonitor\settings.conf
C:\Program Files (x86)\GSF\eca05\Services\WindowsServiceMonitor\settings.conf.bak
C:\Program Files (x86)\GSF\eca05\Services\SessionShield\log
C:\Program Files (x86)\GSF\eca05\Services\SessionShield\settings.conf
C:\Program Files (x86)\GSF\eca05\Services\SessionShield\settings.conf.bak
C:\Program Files (x86)\GSF\eca05\Services\CPUMonitor\log
C:\Program Files (x86)\GSF\eca05\Services\CPUMonitor\Db
C:\Program Files (x86)\GSF\eca05\Services\CPUMonitor\appsettings.cpu_activity.json
C:\Program Files (x86)\GSF\eca05\Services\MemoryMonitor\log
C:\Program Files (x86)\GSF\eca05\Services\MemoryMonitor\Db
C:\Program Files (x86)\GSF\eca05\Services\MemoryMonitor\appsettings.memory_activity.json
C:\Program Files (x86)\GSF\eca05\Services\NetworkMonitor\log
C:\Program Files (x86)\GSF\eca05\Services\NetworkMonitor\Db
C:\Program Files (x86)\GSF\eca05\Services\NetworkMonitor\appsettings.network_activity.json
C:\Program Files (x86)\GSF\eca05\Services\DiskMonitor\log
C:\Program Files (x86)\GSF\eca05\Services\DiskMonitor\Db
C:\Program Files (x86)\GSF\eca05\Services\DiskMonitor\appsettings.disk_activity.json
C:\Program Files (x86)\GSF\eca05\Services\DiskHealth\log
C:\Program Files (x86)\GSF\eca05\Services\DiskHealth\Db
C:\Program Files (x86)\GSF\eca05\Services\DiskHealth\appsettings.disk_health.json
C:\Program Files (x86)\GSF\eca05\Services\Support\log
C:\Program Files (x86)\GSF\eca05\Services\Support\Db
C:\Program Files (x86)\GSF\eca05\Services\Support\appsettings.support.json
C:\Program Files (x86)\GSF\eca05\Services\DiskGuard\log
C:\Program Files (x86)\GSF\eca05\Services\DiskGuard\Db
C:\Program Files (x86)\GSF\eca05\Services\Notifier\log
```

```

C:\Program Files (x86)\GSF\eca05\Services\Notifier\Db
C:\Program Files (x86)\GSF\eca05\Services\Dashboard\log
C:\Program Files (x86)\GSF\eca05\Services\Dashboard\Db
C:\Program Files (x86)\GSF\eca05\Services\Dashboard\appsettings.json
C:\Windows\System32\config\systemprofile\AppData\Roaming\smartlogic
C:\Program Files\Windows Defender
C:\ProgramData\Microsoft\Windows Defender
C:\Windows\WindowsUpdate.log
C:\Windows\System32\winevt\Logs
C:\Windows\Logs
C:\Windows\assembly
C:\Windows\SoftwareDistribution
C:\Windows\MEMORY.DMP
C:\Users\localadmin\Desktop
C:\Users\localadmin\Documents
C:\Users\localadmin\Downloads
C:\Users\localadmin\Music
C:\Users\localadmin\Pictures
C:\Users\localadmin\Videos
C:\Program Files (x86)\GSF\eca05\ApplicationMonitor\log
C:\Program Files (x86)\GSF\eca05\ApplicationMonitor\settings.conf
C:\Program Files (x86)\GSF\eca05\ApplicationMonitor\settings.conf.bak
C:\Program Files (x86)\GSF\eca05\Services\Support\settings.conf
C:\Program Files (x86)\GSF\eca05\Services\Support\settings.conf.bak
C:\Program Files (x86)\GSF\eca05\Services\Support\TrueBlue\log
C:\Program Files (x86)\GSF\eca05\Services\Support\TrueBlue\Db
C:\Program Files (x86)\Google\Chrome Remote Desktop
C:\ProgramData\Google\Chrome Remote Desktop

```

8.10.4 Add Exclusion Files or Folder

New files or folder can be added in the Exclusion List will be allowed to be written permanently when the 'Session Shield' is activated.

1. Click 'Add Exclusion' to add new file/folder

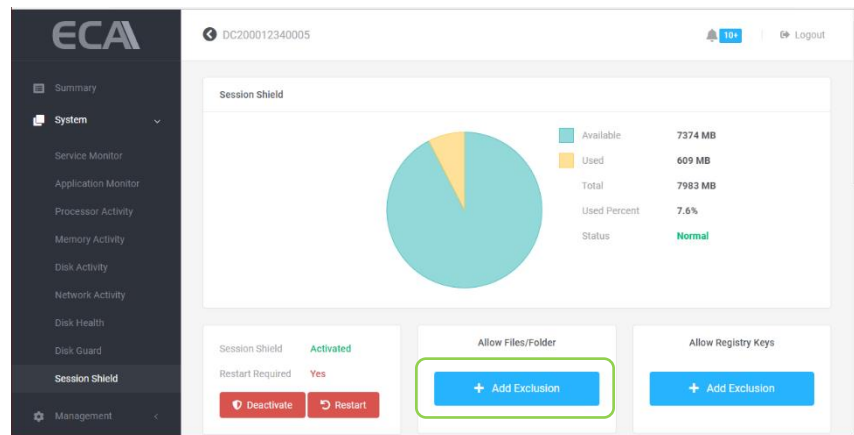


Figure 62: Allow Files/Folder (1 of 3)

2. Type or paste the new files/folder path to be include and click 'Exclude'

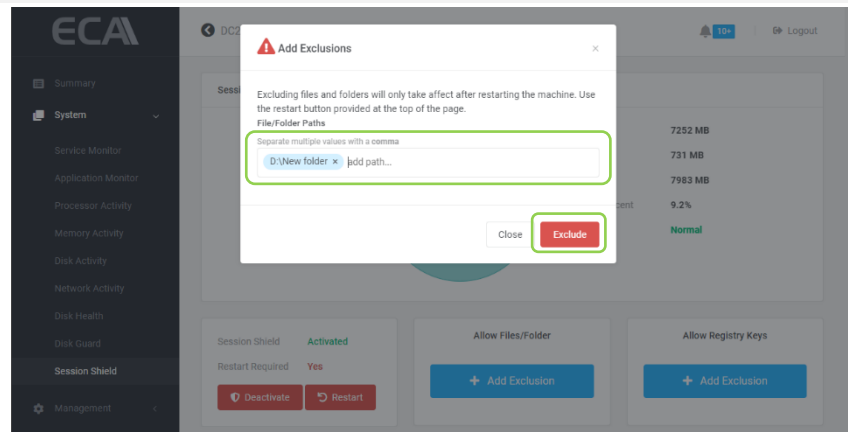


Figure 63: Allow Files/Folder (2 of 3)

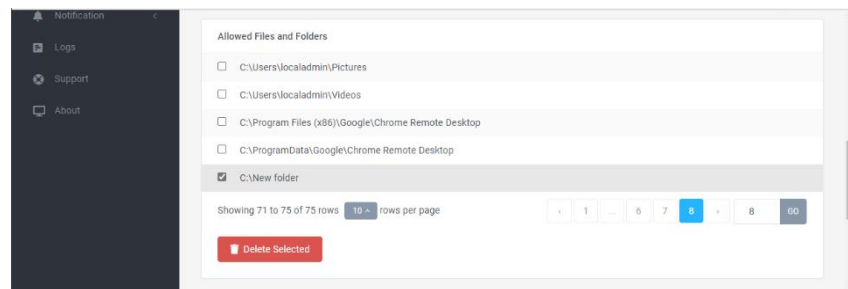


Figure 64: Allow Files/Folder (3 of 3)

8.10.5 Delete Exclusion Files or folder

1. Tick the check box which files/folder to be delete from the exclusion list and click 'Delete Selected'

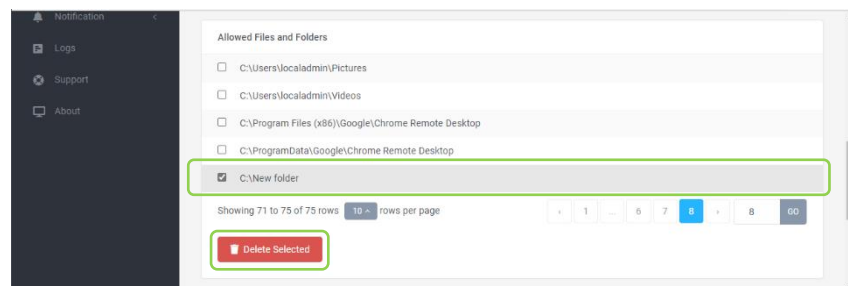


Figure 65: Delete Files/Folder (1 of 3)

2. Click 'Delete Exclusion' to confirm the operation

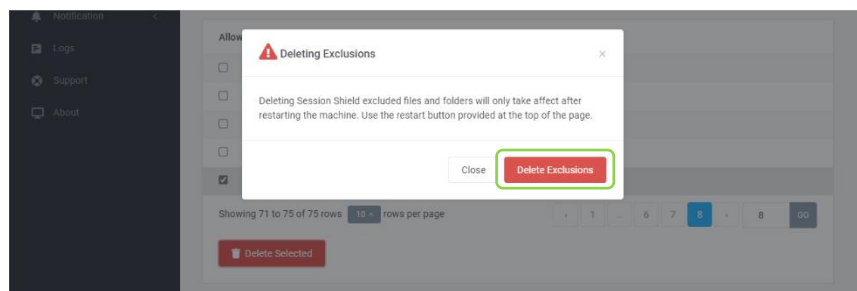


Figure 66: Delete Files/Folder (2 of 2)

8.10.6 Add Registry Keys

Allow to be written permanently when the 'Shield' is activated.

1. Click 'Add Exclusion' to add registry keys

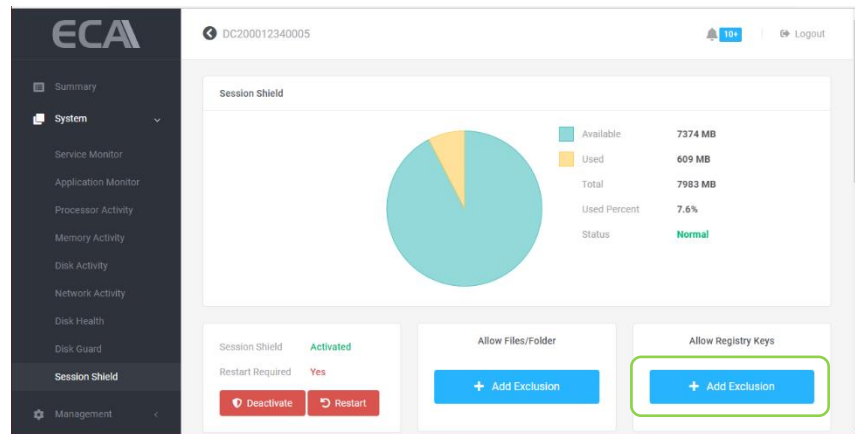


Figure 67: Allow Registry Keys (1 of 2)

2. Type or paste the registry key to be include and click 'Exclude'

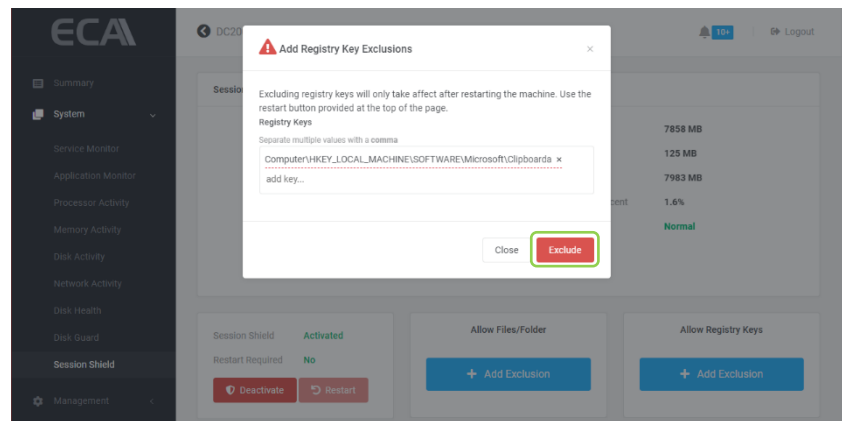


Figure 68: Allow Registry Keys (1 of 2)

8.10.7 Delete Exclusion Registry Key

1. Tick the check box which registry key to be delete from the exclusion list and click 'Delete Selected'

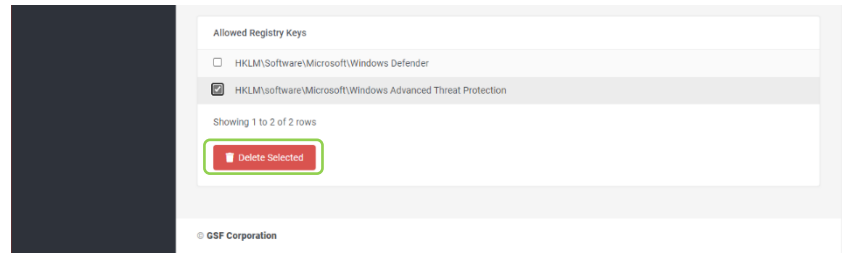


Figure 69: Delete Registry Key (1 of 2)

2. Click 'Delete Exclusion' to confirm the operation

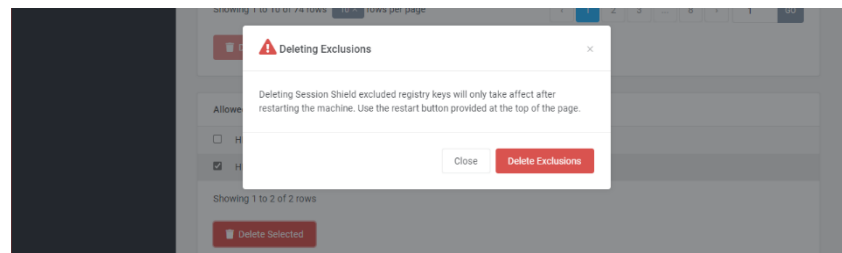


Figure 70: Delete Registry Key (2 of 2)

8.10.8 Status: Warning

Session shield status will turn to 'Warning' state when the used amount of space exceeds 80% of total space.

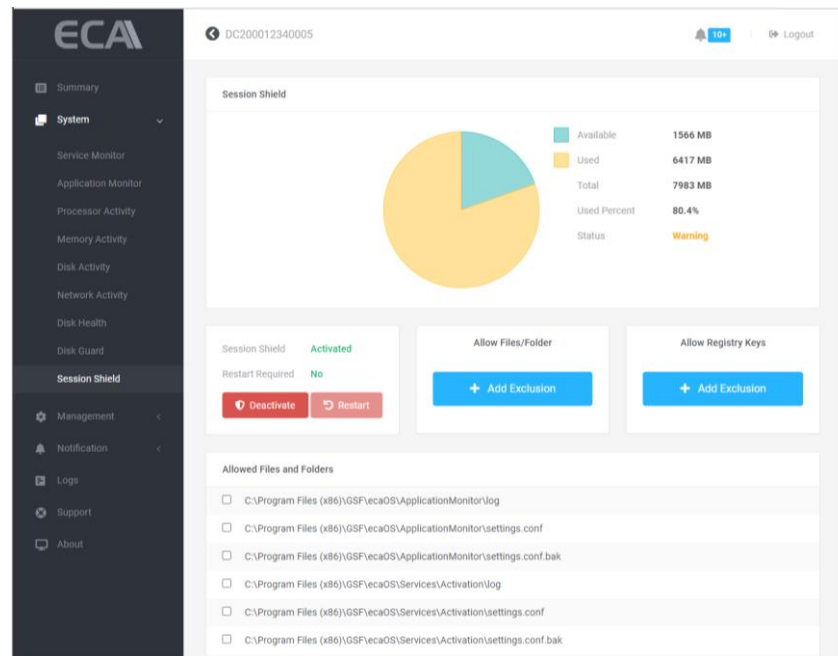


Figure 71: Warning Status

8.10.9 Status: Critical

Session shield status will turn to 'Critical state when the used amount of space exceeds 90% of total space. The ECA will be start the counter and restart in few minutes.

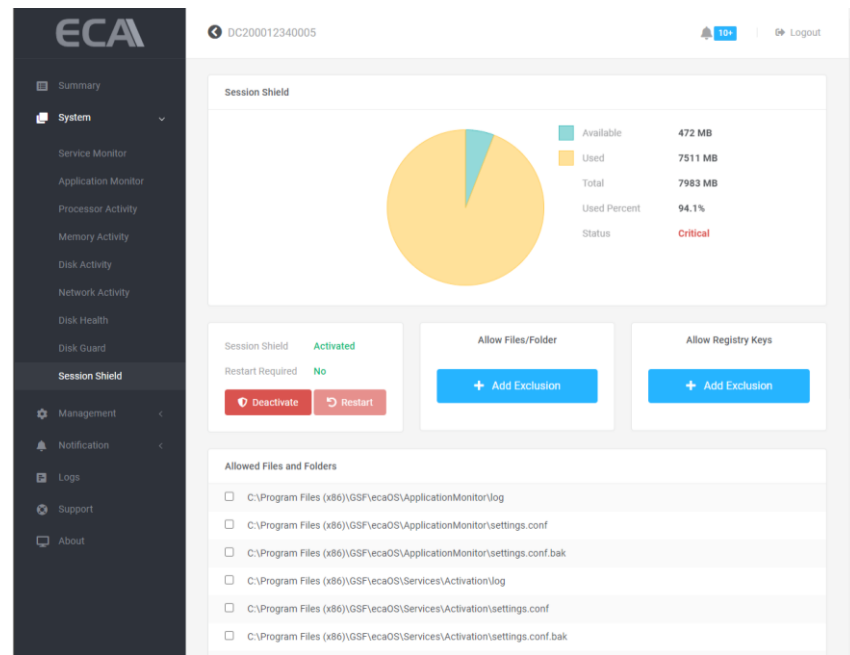


Figure 72: Critical Status

9 Management

9.1 General

Under Machine Control to Reboot or Shutdown ECA. Layer Management to save current layer as a backup layer. Backup layer can be deploy (Soft Reset & Hard Reset) in the future to restore previous setting.

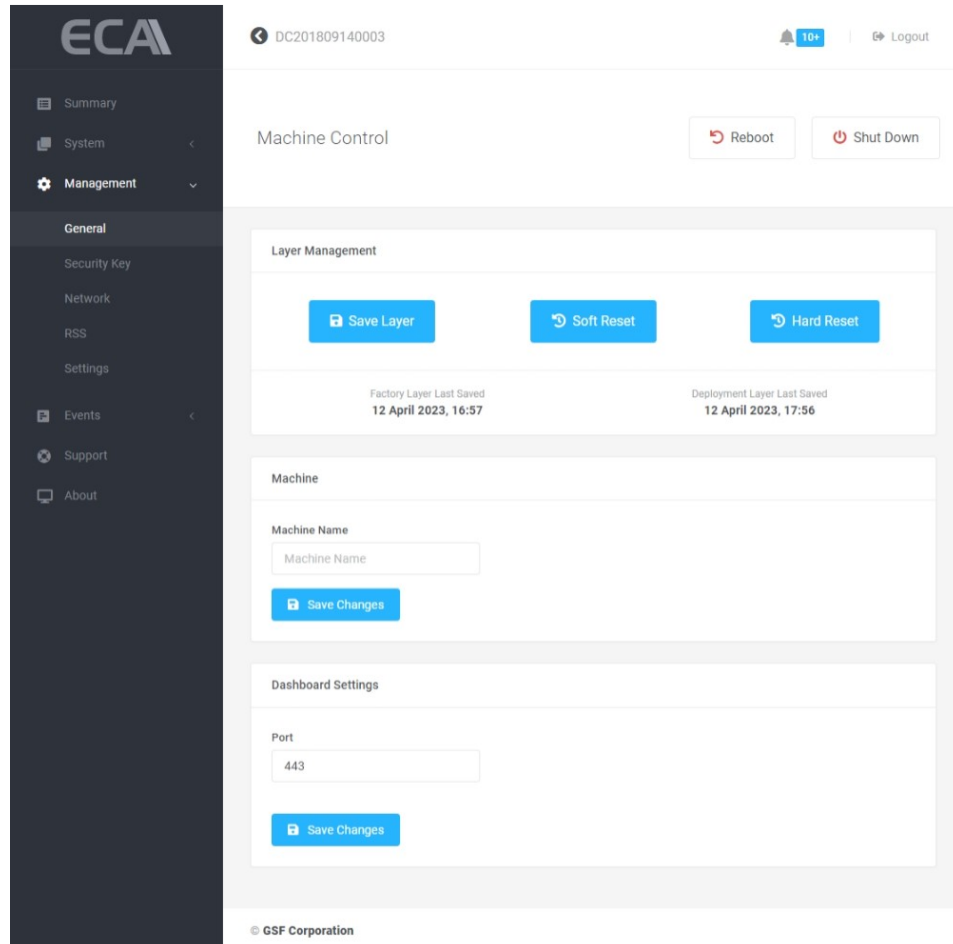


Figure 73: General

9.1.1 Authorize Restart

Only restart through the Dashboard will consider as authorize restart.

1. Click on 'Restart'

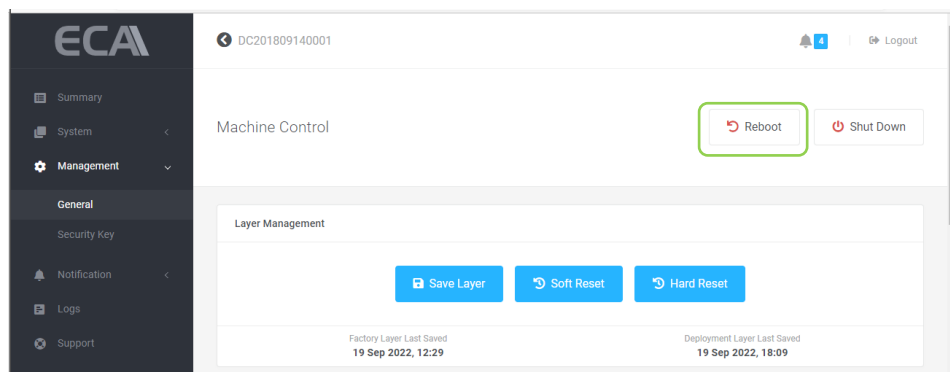


Figure 74: Authorize Restart (1 of 2)

2. Type **Restart** then click 'Restart' button

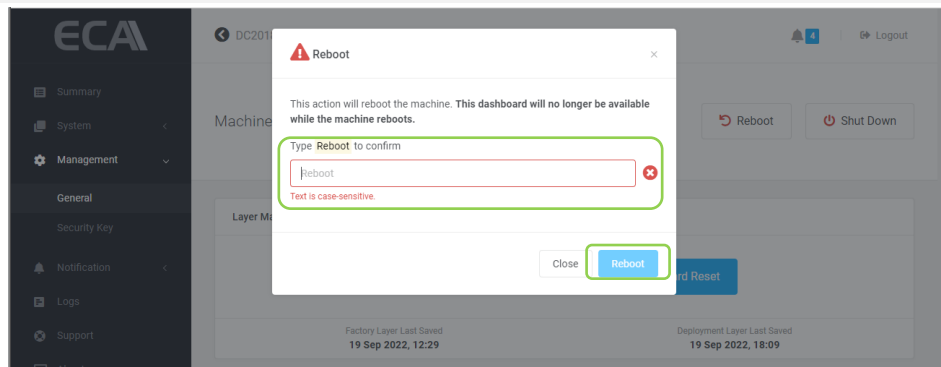


Figure 75: Authorize Restart (2 of 2)

9.1.2 Authorize Shutdown

To shutdown ECA, only through the Dashboard will consider as authorize restart. Shutdown ECA not via dashboard will consider as unauthorize shutdown. HB will reboot the ECA.

1. Click on 'Shut Down'

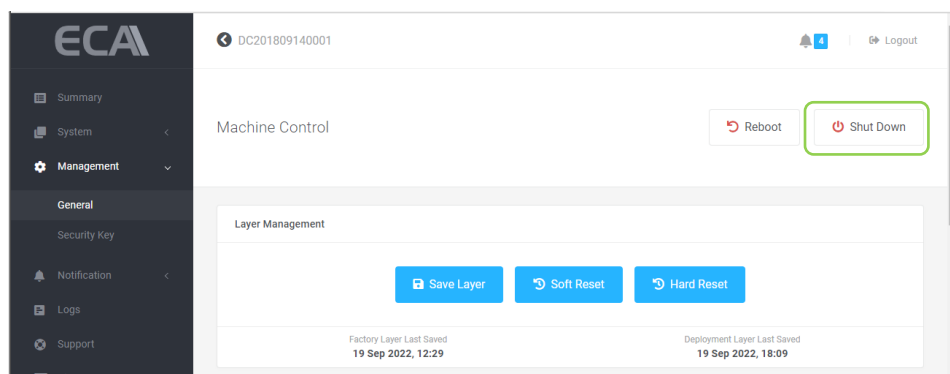


Figure 76: Authorize Shut Down (1 of 2)

2. Type **Shutdown** then click 'shutdown' button

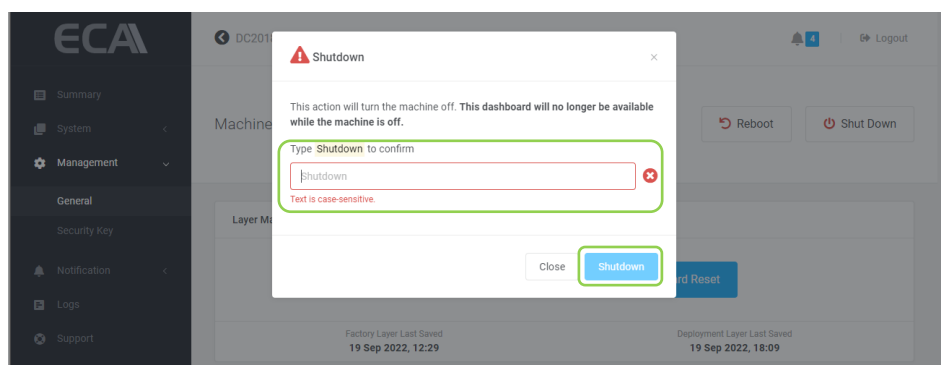


Figure 77: Authorize Shut Down (2 of 2)

9.1.3 Saving & Deploy Layer

It is recommended to perform 'Save Layer' for any changes under system including video management software such as added new camera.

9.1.3.1 Save Layer

Save current user working layer as a deployment layer. This layer will content all current working setting. If in the future suddenly the OS corrupt, this layer can recall (Soft Reset) to deploy previous working state.

NOTE:

Performing Save Layer, Soft Reset & Hard Reset will cause the downtime of the ECA means there will no recording & accessing to Dashboard not available during this period until the ECA complete the layer saving and reboot back to ecaOS.

1. Click on 'Save Layer'

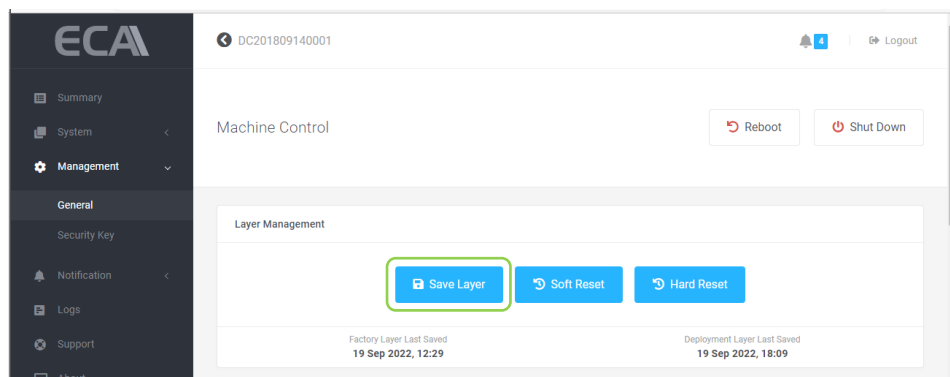


Figure 78: Save Layer (1 of 5)

1. ECA will reboot and go to Layer Manager.



Figure 79: Save Layer (2 of 5)

2. Saving layer will be start after 10 seconds countdown. To cancel the operation, click on Cancel

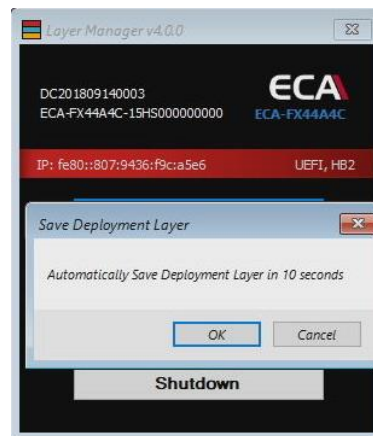


Figure 80: Save Layer (3 of 5)

3. Saving layer in progress show with percentage

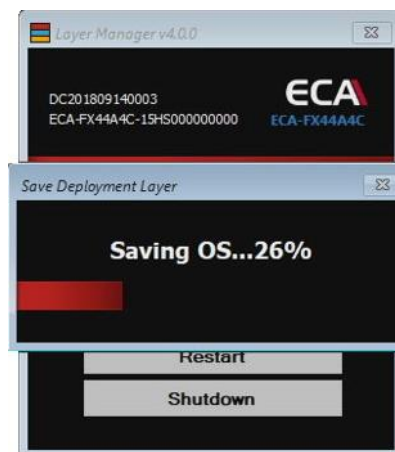


Figure 81: Save Layer (4 of 5)

4. ECA will reboot to ecaOS after complete saving layer.



Figure 82: Save Layer (5 of 5)

9.1.3.2 Soft Reset

Deploy deployment layer and replace current working with previous save setting.

1. Click on 'Soft Reset'

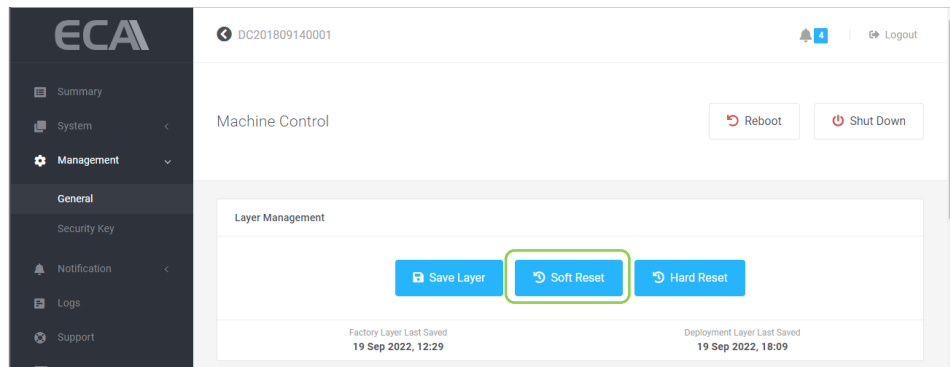


Figure 83: Soft Reset (1 of 5)

3. ECA will reboot and go to Layer Manager.



Figure 84: Save Layer (2 of 5)

4. Restoring Deployment layer will be start after 10 seconds countdown. To cancel the operation, click on Cancel

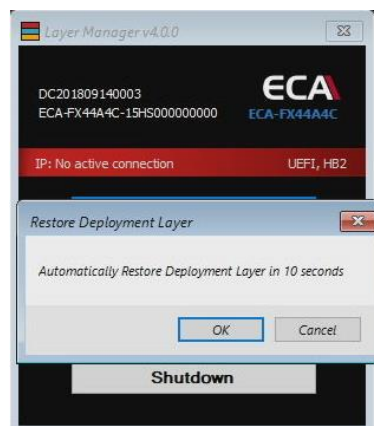


Figure 85: Save Layer (3 of 5)

5. Restoring layer in progress show with percentage

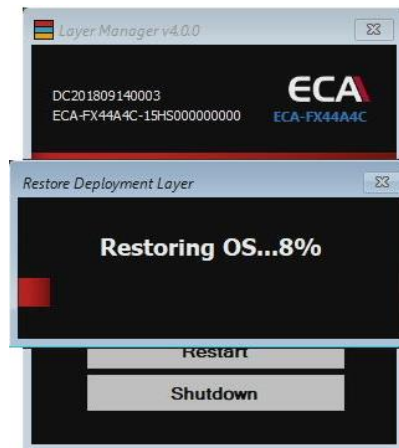


Figure 86: Save Layer (4 of 5)

6. ECA will reboot to ecaOS after complete saving layer.



Figure 87: Save Layer (5 of 5)

9.1.3.3 Hard Reset

Deploy default layer saved from factory.

NOTE: All setting previously done on site will not available after Hard Reset. Only perform Hard Reset when Soft Reset failed.

1. Click on 'Hard Reset'

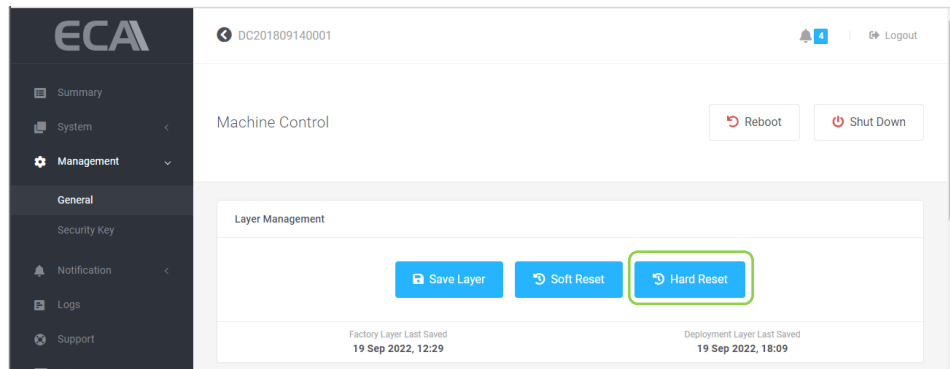


Figure 88: Soft Reset (1 of 2)

5. ECA will reboot and go to Layer Manager.



Figure 89: Save Layer (2 of 5)

6. Restoring Factory layer will be start after 10 seconds countdown. To cancel the operation, click on Cancel

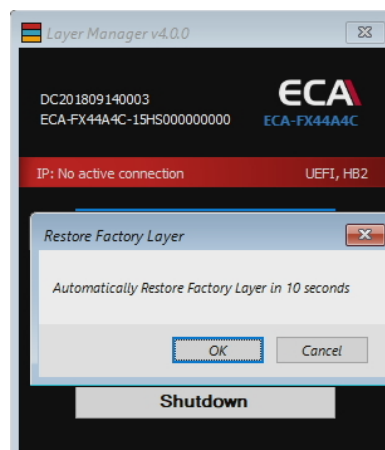


Figure 90: Save Layer (3 of 5)

7. Restoring layer in progress show with percentage

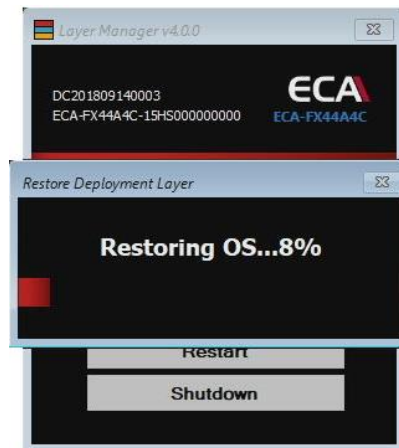


Figure 91: Save Layer (4 of 5)

8. ECA will reboot to ecaOS after complete saving layer.

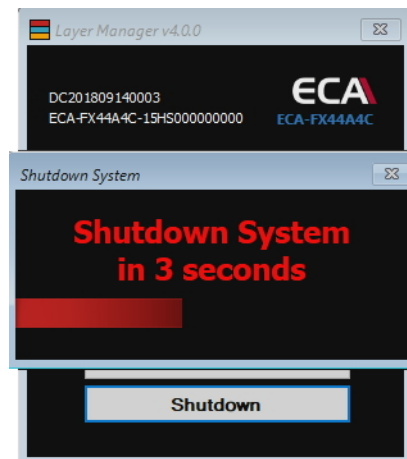


Figure 92: Save Layer (5 of 5)

9.1.3.4 Last Saved Layer Information

Display the last date and time of the layer last saved

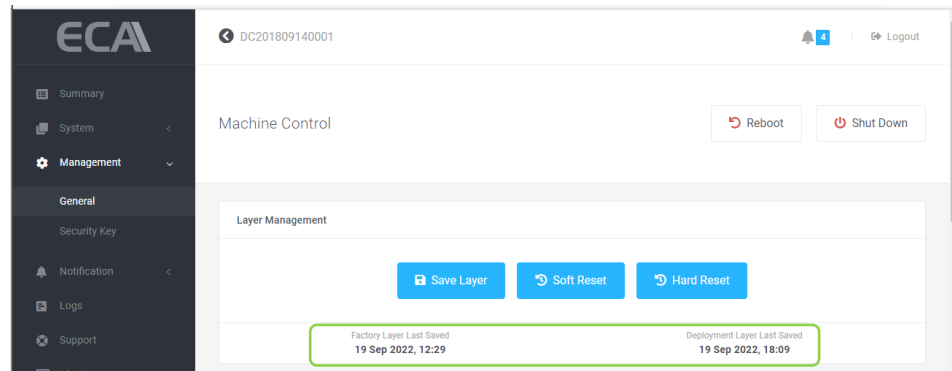


Figure 93: Information about the last saved layer

9.1.4 Machine Name

Assign your ECA a friendly name to make it easier to identify.

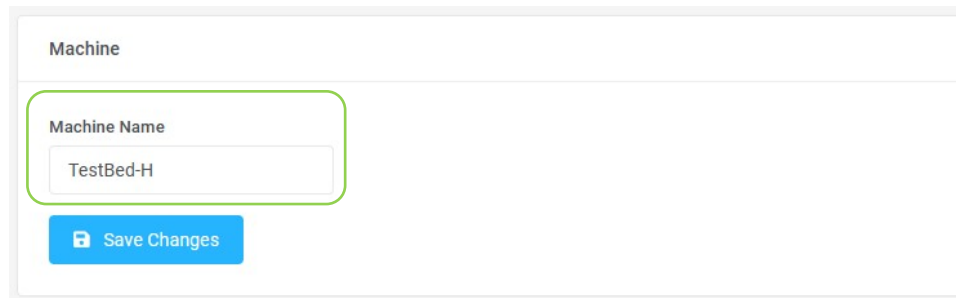


Figure 94: Machine name for ECA

9.1.5 Change Dashboard Port

By default, port 443 is use ECA for remotely access Dashboard from another machine via local LAN. Modify this port if the default ports already in use.

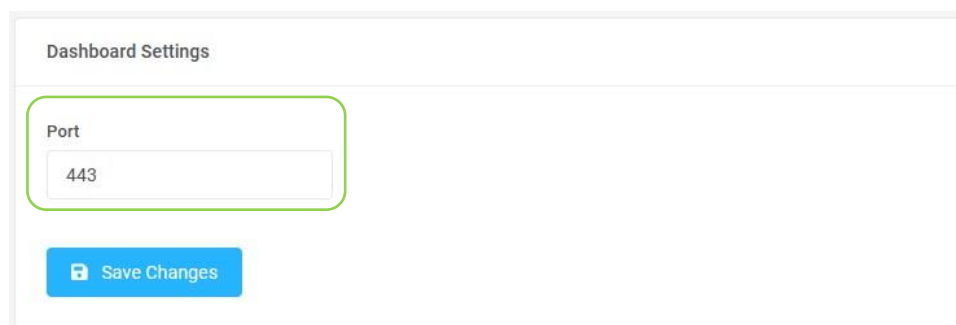


Figure 95: Port settings for Dashboard

9.2 Security Key

Each ECA will come with 1 unit of Security key. Any extra Security key or replacement unit require to register the Security Key to access Dashboard.

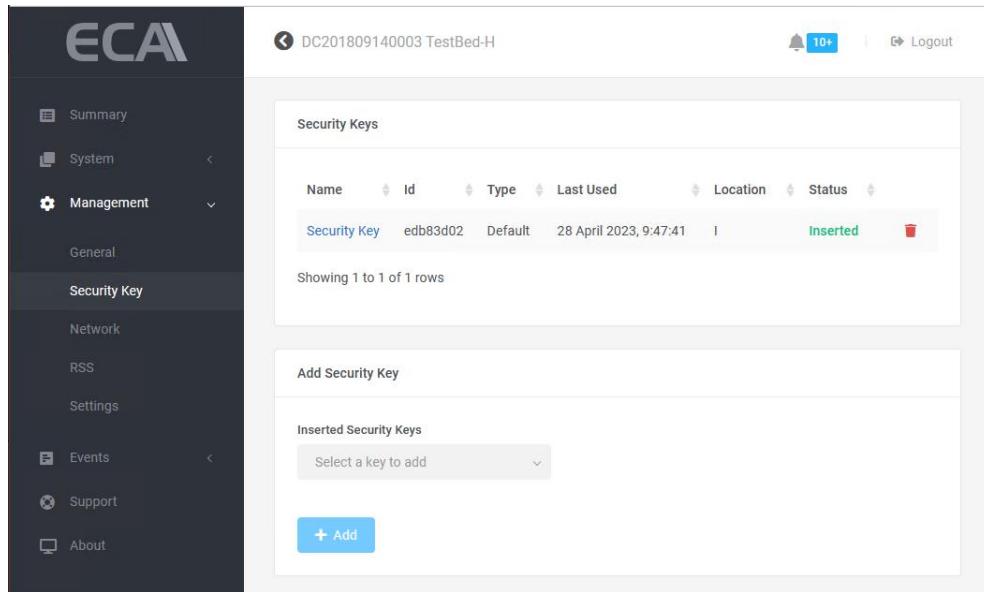


Figure 96: Security Key

9.2.1 Register Security Key

1. Insert valid Security Key in the USB on the ECA
2. Click on the drop-down list and select the key to register.

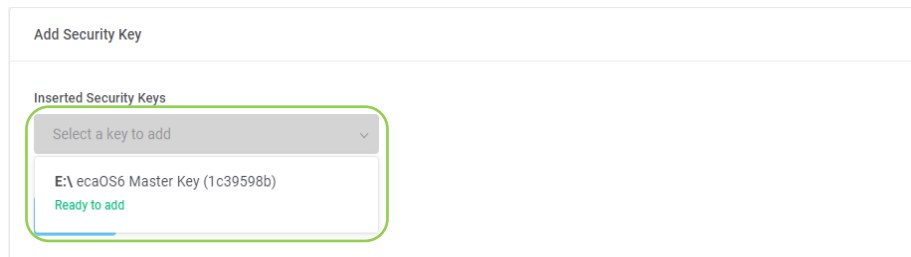


Figure 97: Register security key (1 of 3)

3. Click Add to register

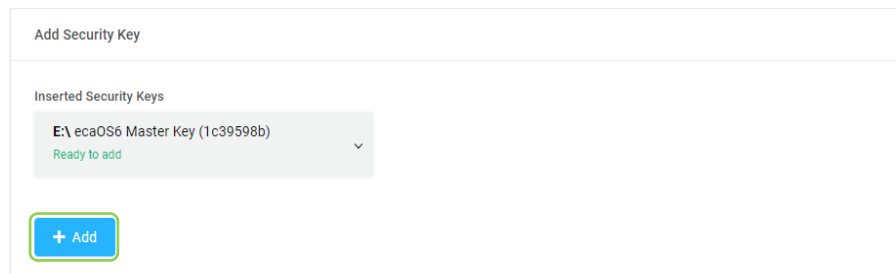


Figure 98: Register security key (2 of 3)

- Once successfully added the Security Key. The new security key will show under 'Security keys'

Security Keys						
Name	Id	Type	Last Used	Location	Status	
ecaOS6 Master Key	1c39598b	Master	N/A	E	Inserted	
Showing 1 to 1 of 1 rows						

Figure 99: Register security key (3 of 3)

9.2.2 Delete Security Key

- Click on the dustbin icon of the Security key to be delete

Security Keys						
Name	Id	Type	Last Used	Location	Status	
ecaOS6 Master Key	1c39598b	Master	25 Aug 2022, 12:47:26	E	Inserted	
Showing 1 to 1 of 1 rows						

Figure 100: Delete security key (1 of 2)

- Type in the field Security Key name and click 'Delete Security Key'


Delete Security Key

Security key **ecaOS6 Master Key** will not be able to access this machine after deletion.

Type **ecaOS6 Master Key** to confirm

Text is case-sensitive.

Close
Delete Security Key

Figure 101: Delete security key (1 of 2)

9.2.3 Add Virtual Security Key

1. Click on the 'Add' button under Virtual Security key

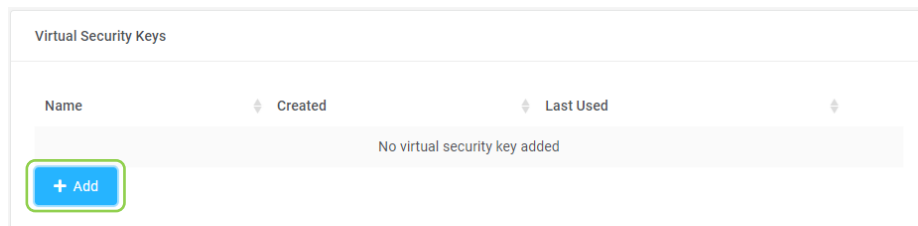


Figure 102: Add virtual security key (1 of 5)

2. Click 'Next' button

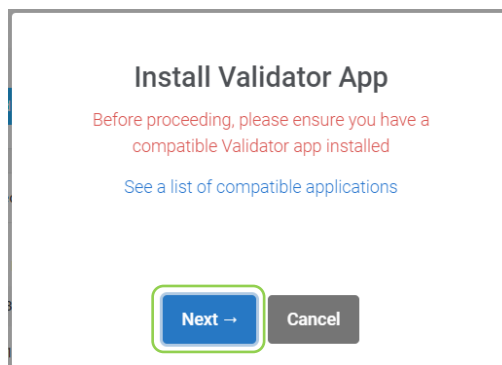


Figure 103: Add virtual security key (2 of 5)

3. Give the new virtual security key a name

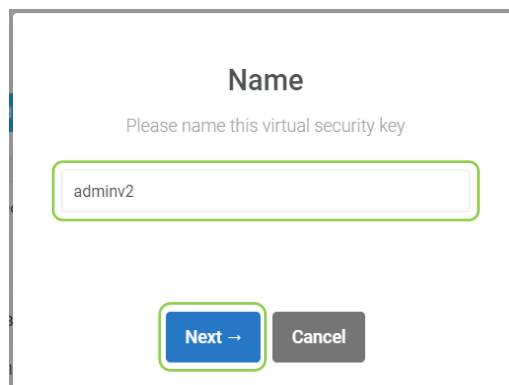
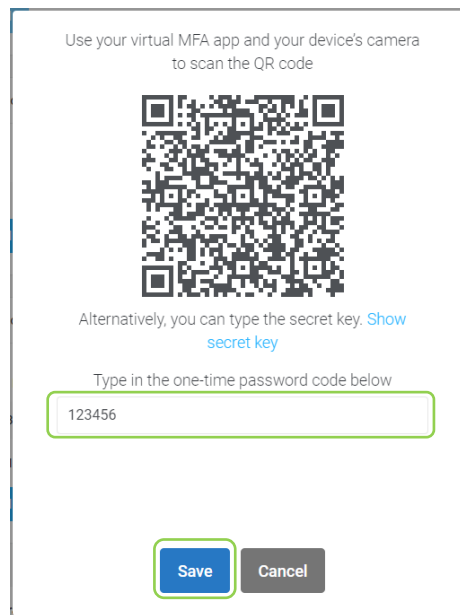


Figure 104: Add virtual security key (3 of 5)

4. Scan the QR code using authenticator application on the phone. Type the in the field and click 'Save' button one-time password for example 123456



Use your virtual MFA app and your device's camera to scan the QR code



Alternatively, you can type the secret key. [Show secret key](#)

Type in the one-time password code below

[Save](#) [Cancel](#)

Figure 105: Add virtual security key (4 of 5)

5. The new virtual security key will show under 'Virtual Security keys'

Virtual Security Keys			
Name	Created	Last Used	
adminv2	25 Aug 2022, 12:56:45	N/A	
Showing 1 to 1 of 1 rows			
+ Add			

Figure 106: Add virtual security key (5 of 5)

9.2.4 Delete Virtual Security Key

1. Click on the dustbin icon the Virtual key to be delete

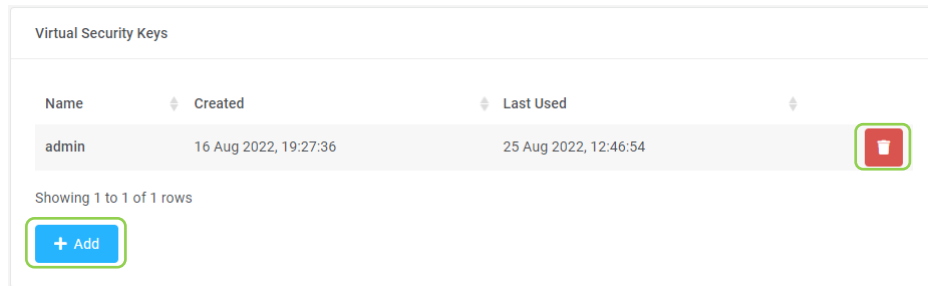


Figure 107: Delete Virtual Security Key (1 of 2)

2. Type 'admin' and click on 'Delete Virtual Security Key' button

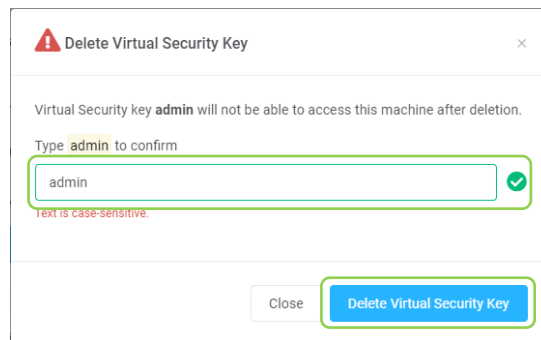


Figure 108: Delete Virtual Security Key (2 of 2)

9.3 Network

All ECA come with GSF DDNS. Network teaming groups multiple physical adapters together to provide better network fault tolerance.

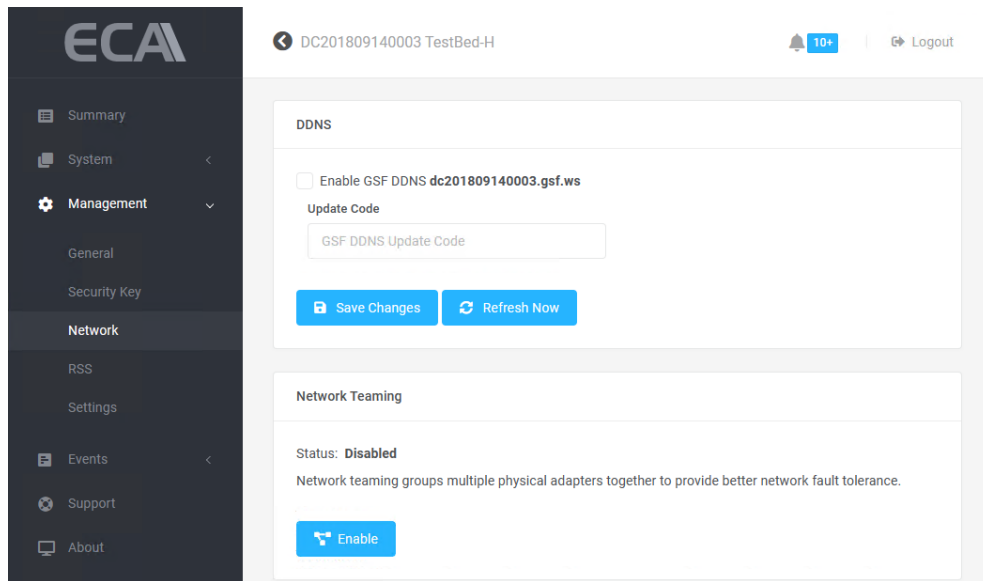


Figure 109: DDNS and Network Teaming

9.3.1 Enable DDNS

1. Enable GSF DDNS.
2. Enter the correct Update Code and click on 'Save Changes'. Please contact GSF to obtain your update code.

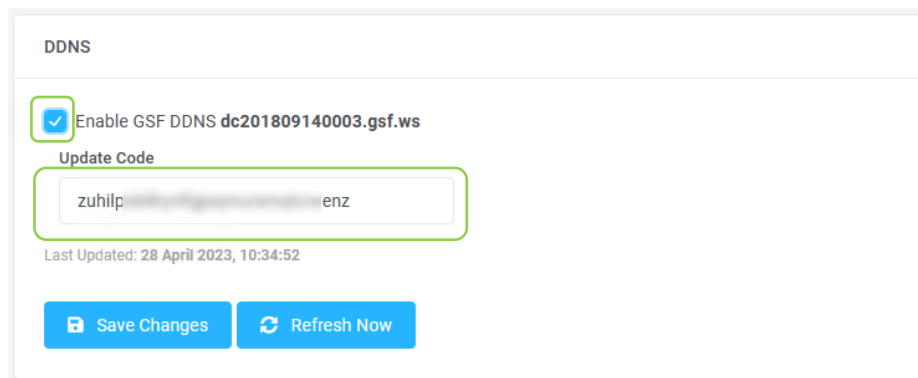


Figure 110: Enable DDNS

9.3.2 Enable Network Teaming

1. Click on the 'Enable' button to enable Network Teaming.

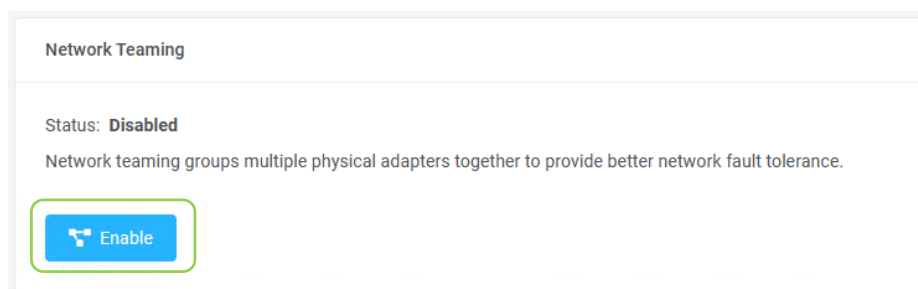
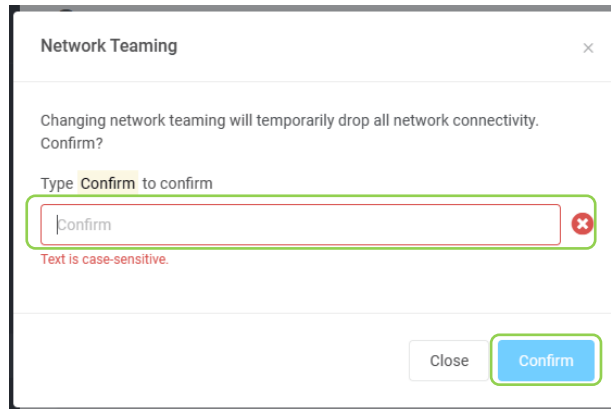


Figure 111: Enable Network Teaming

2. Type 'Confirm' and click on 'Confirm' button

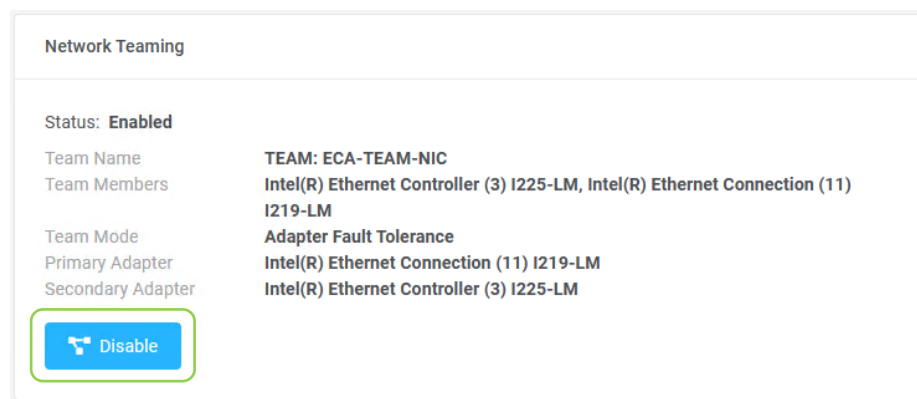


A dialog box titled "Network Teaming" with a close button (X) in the top right corner. The text inside reads: "Changing network teaming will temporarily drop all network connectivity. Confirm?". Below this, it says "Type Confirm to confirm". There is a text input field containing the word "confirm", which is highlighted with a green border. To the right of the input field is a red 'X' icon. Below the input field, it says "Text is case-sensitive." in red. At the bottom right, there are two buttons: "Close" and "Confirm". The "Confirm" button is highlighted with a green border.

Figure 112: Confirm to enable network teaming

9.3.3 Disable Network Teaming

1. Click on the 'Disable' button to disable Network Teaming.



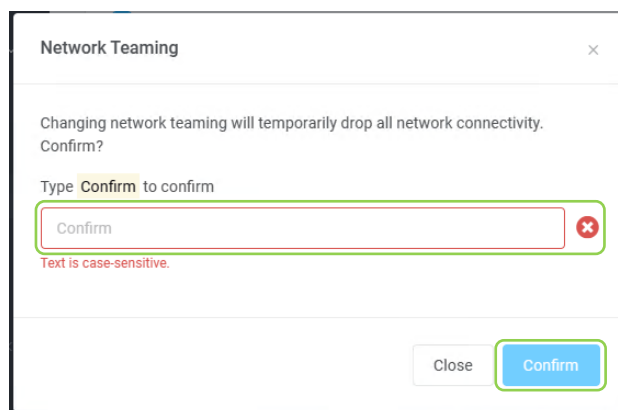
A dialog box titled "Network Teaming" showing the current status. The status is "Enabled". Below this, there is a table with the following information:

Team Name	TEAM: ECA-TEAM-NIC
Team Members	Intel(R) Ethernet Controller (3) I225-LM, Intel(R) Ethernet Connection (11) I219-LM
Team Mode	Adapter Fault Tolerance
Primary Adapter	Intel(R) Ethernet Connection (11) I219-LM
Secondary Adapter	Intel(R) Ethernet Controller (3) I225-LM

At the bottom left, there is a blue button with a network icon and the text "Disable", which is highlighted with a green border.

Figure 113: Disable Network Teaming

2. Type 'Confirm' and click on 'Confirm' button



A dialog box titled "Network Teaming" with a close button (X) in the top right corner. The text inside reads: "Changing network teaming will temporarily drop all network connectivity. Confirm?". Below this, it says "Type Confirm to confirm". There is a text input field containing the word "Confirm", which is highlighted with a green border. To the right of the input field is a red 'X' icon. Below the input field, it says "Text is case-sensitive." in red. At the bottom right, there are two buttons: "Close" and "Confirm". The "Confirm" button is highlighted with a green border.

Figure 114: Confirm to disable network teaming

9.4 RSS (Redundant Storage System)

RSS can help protect your data from drive failures. It's a technology in ECA and is conceptually similar to redundant array of independent disks (RAID), implemented in software. You can use RSS to group three or more drives into a storage pool and then use capacity from that pool to create Storage Spaces. These drives typically store extra copies of your data, so if one of your drives fails, you still have an intact copy of your data.

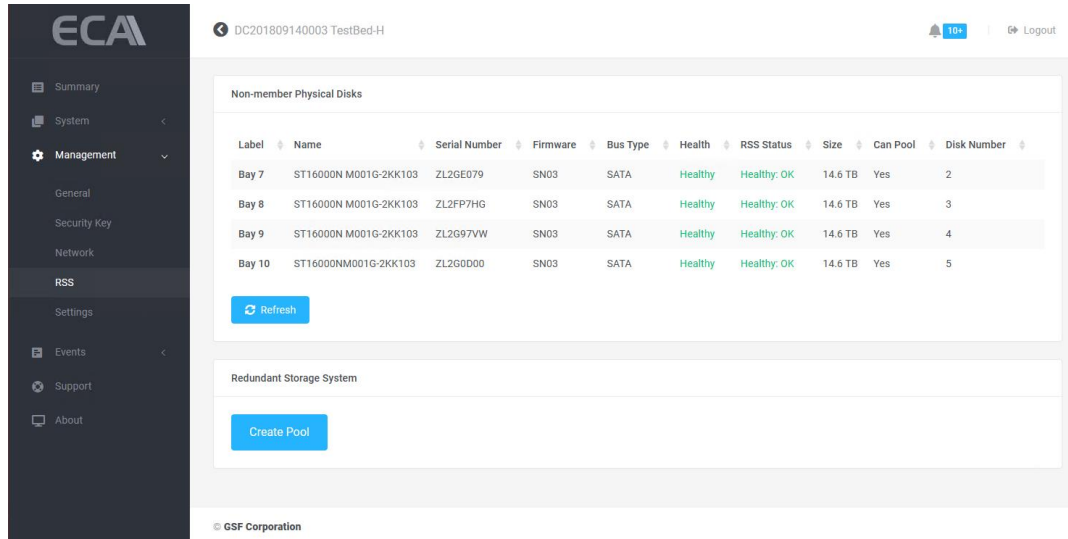


Figure 115: RSS – Redundant Storage System

9.4.1 Create Storage Pool

1. Click on the 'Create Pool' button to create pool.

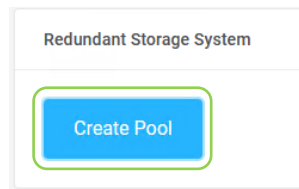


Figure 116: Create Pool

2. Name the storage pool and click on the 'Next' button.

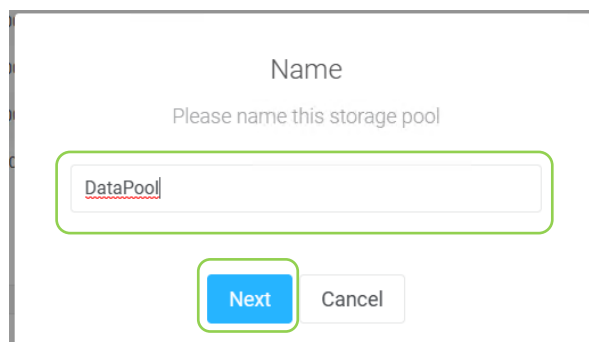


Figure 117: Name storage pool

3. Select the non-member physical disks and click on the 'Next' button to create pool.

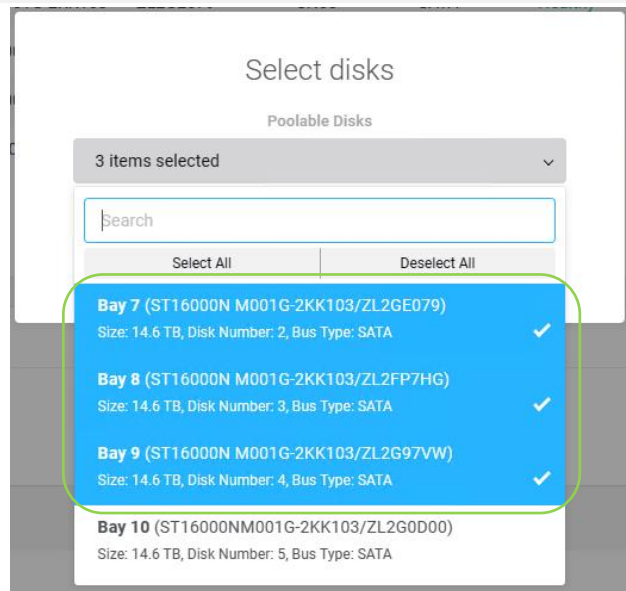


Figure 118: Select disks

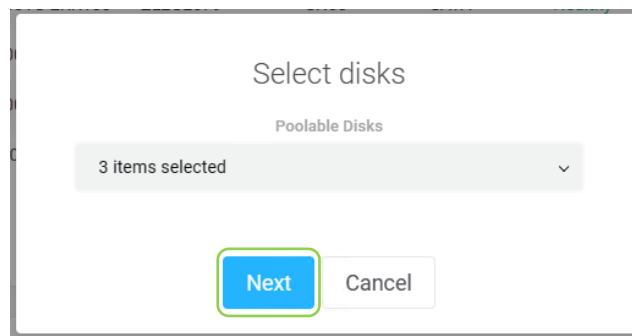
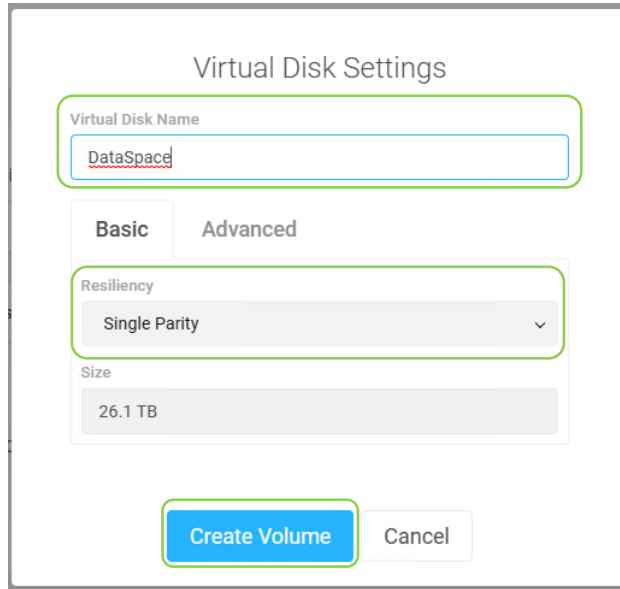


Figure 119: Select disks

4. In Virtual Disk Settings, name the virtual disk and select the Resiliency type. Click on the 'Create Volume' to create volume.

Resiliency type	Fault-tolerance for each storage pool	Minimum number of disks	Disk space efficiency
Simple	0 Disk	1	100%
Two-way Mirror	1 Disk	2	50%
Three-way Mirror	2 Disks	5	33%
Single Parity	1 Disk	3 (recommended 5disk for optimized performance)	$\frac{\text{Disk Count} - 1}{\text{Disk Count}}$
Dual Parity	2 Disks	5 (recommended 10disk for optimized performance)	$\frac{\text{Disk Count} - 2}{\text{Disk Count}}$

Figure 120: Resiliency type table



Virtual Disk Settings

Virtual Disk Name
DataSpace

Basic Advanced

Resiliency
Single Parity

Size
26.1 TB

Create Volume Cancel

Figure 121: Create volume

5. Storage pool and virtual disk health status in RSS.

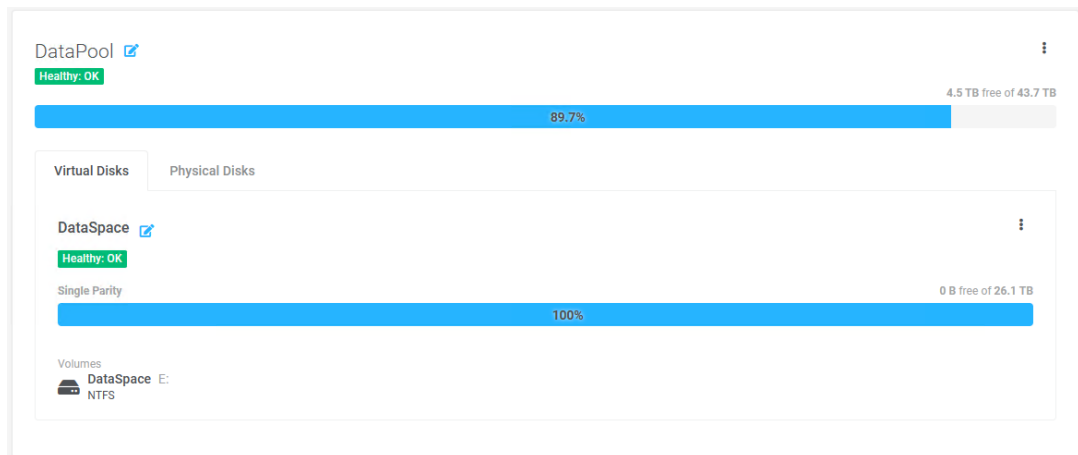


Figure 122: View storage pool, virtual disk health status

9.4.2 Delete Storage Pool

1. Click on the '⋮' and select 'Delete Pool' to delete the pool.

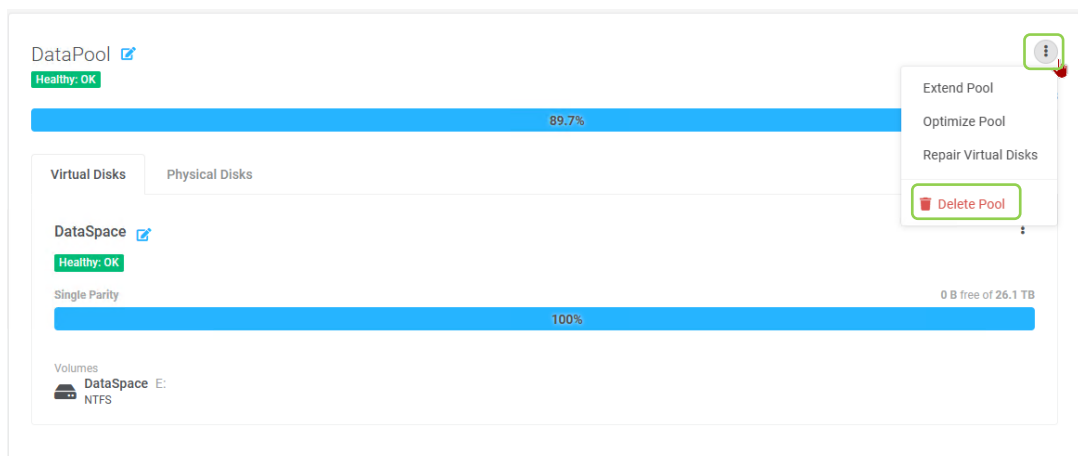


Figure 123: Delete pool

2. Enter storage pool name and click on the 'Delete Pool and Volumes' to delete the pool.

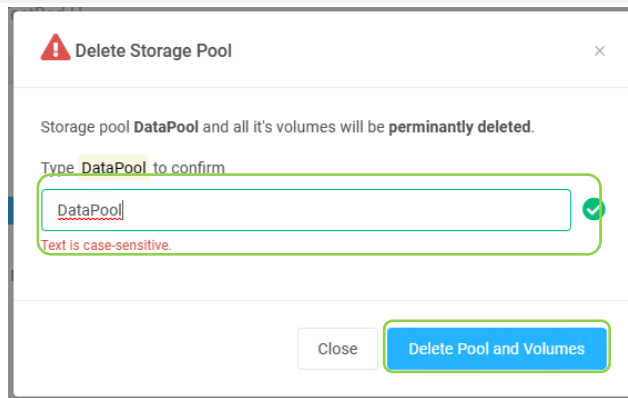


Figure 124: Confirm delete pool

9.4.3 Extend Storage Pool

Add a new non-member disk to extend the storage pool.

1. Insert a new clean disk into the ECA, it will appear under the Non-member Physical Disks list.

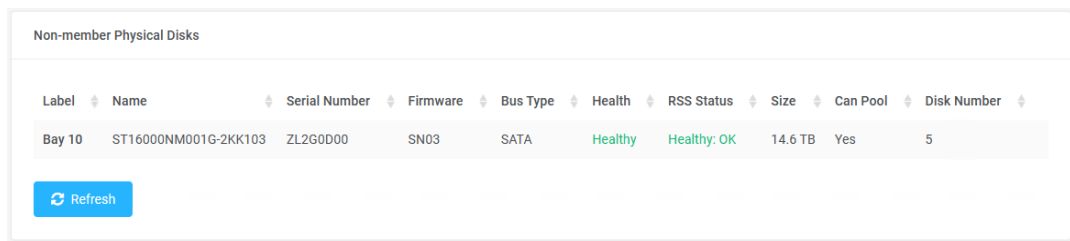


Figure 125: RSS non-member physical disks

2. Click on the '⋮' and select 'Extend Pool' to extend the pool.

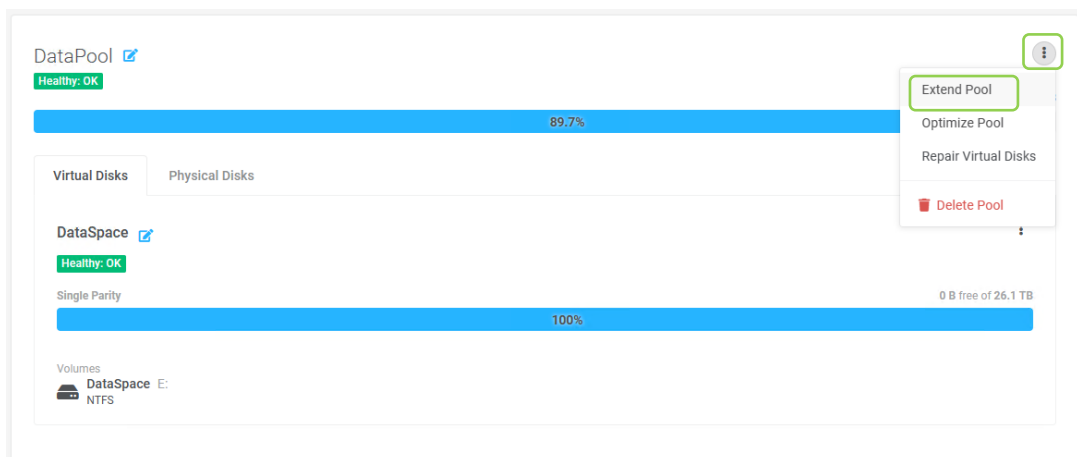


Figure 126: Extend storage pool

3. Enable Optimize storage pool and click on the 'Extend' button to extend the pool.

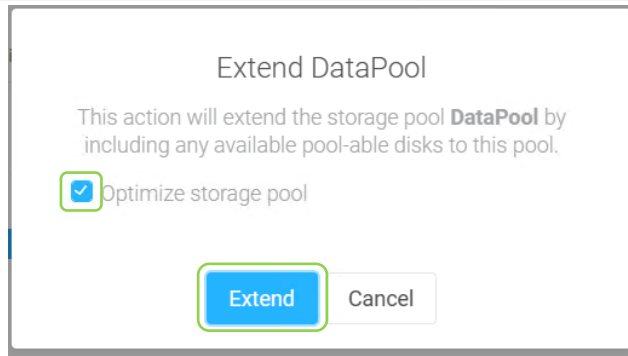


Figure 127: Optimize and extend storage pool

- Please wait for the ECA to complete the optimization process.

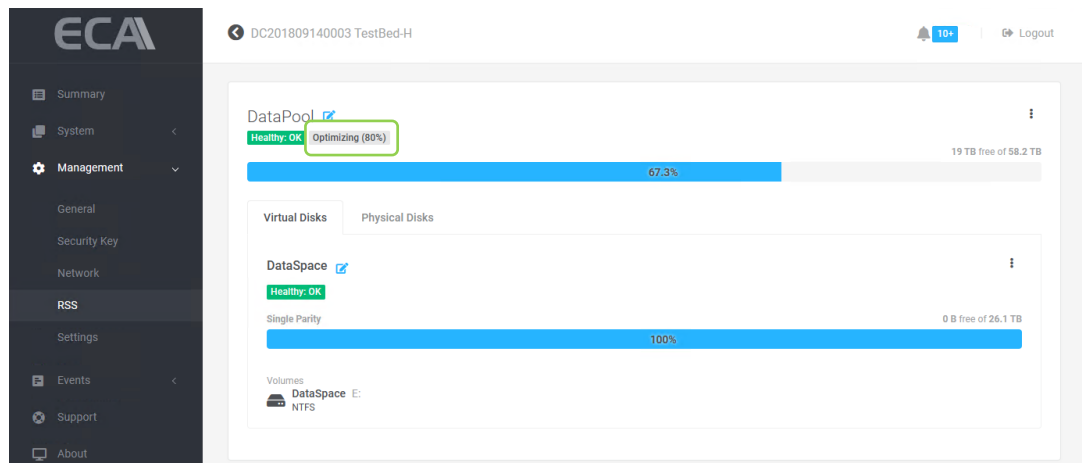


Figure 128: Optimizing storage pool

- After the RSS optimization process is complete, go to Windows Device Manager to expand the RSS volume.

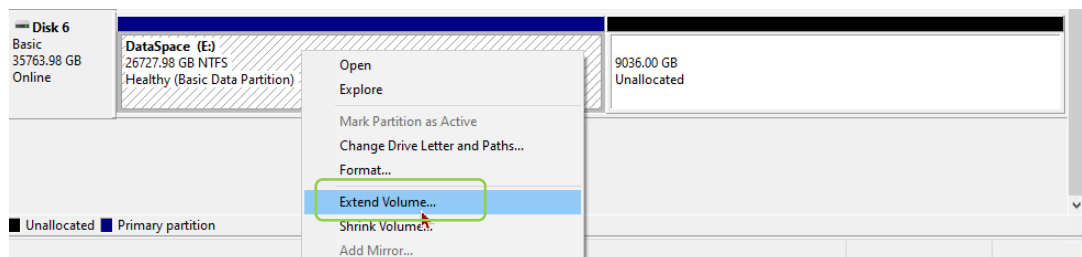


Figure 129: Extend volume in Disk Management (1 of 2)

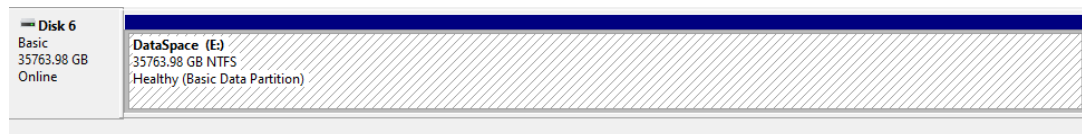


Figure 130: Extend volume in Disk Management (2 of 2)

9.4.4 Repair Storage Pool

If any of the RSS member disks are missing or faulty, ecaOS will notify you via email or desktop notification. To repair the storage pool, replace the missing or faulty disk with a new non-member disk.

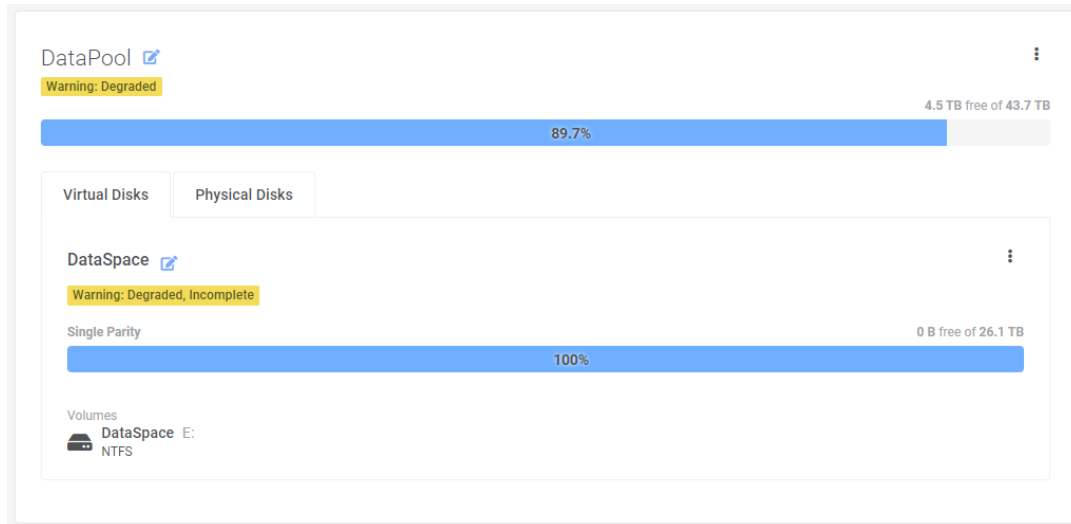


Figure 131: RSS Degraded

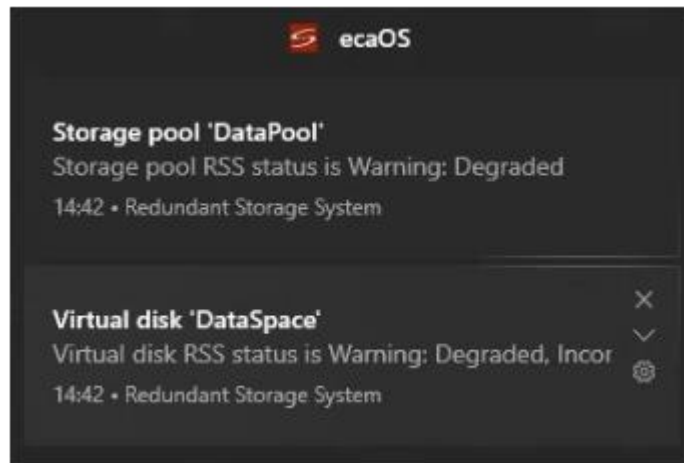


Figure 132: RSS Degraded Desktop notifications

1. To determine which member disks are 'Warning: lost communication,' go to the 'Physical Disks' tab. Then remove the faulty disk from the ECA.

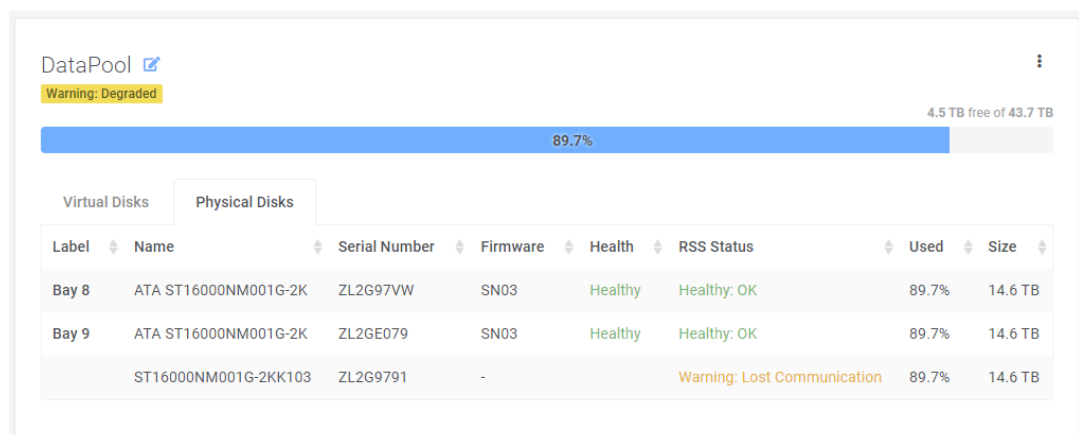


Figure 133: RSS member disk lost communication

2. Insert a new clean disk into the ECA, and then navigate to 'System > Disk Guard' to 'Acknowledge' the new replaced disk.

Bay 10	ST16000NM001G-2KK103	ZL2G0D00	Replaced	Acknowledge
--------	----------------------	----------	----------	-------------

Figure 134: Acknowledge the replacement disk

- Go to Management > RSS, the new replacement disk will be listed under Non-member Physical Disks.

Label	Name	Serial Number	Firmware	Bus Type	Health	RSS Status	Size	Can Pool	Disk Number
Bay 10	ST16000NM001G-2KK103	ZL2G0D00	SN03	SATA	Healthy	Healthy: OK	14.6 TB	Yes	5

[Refresh](#)

Figure 135: RSS non-member physical disks

- Click on the '⋮' and select 'Repair Virtual Disks' to repair the virtual disk.

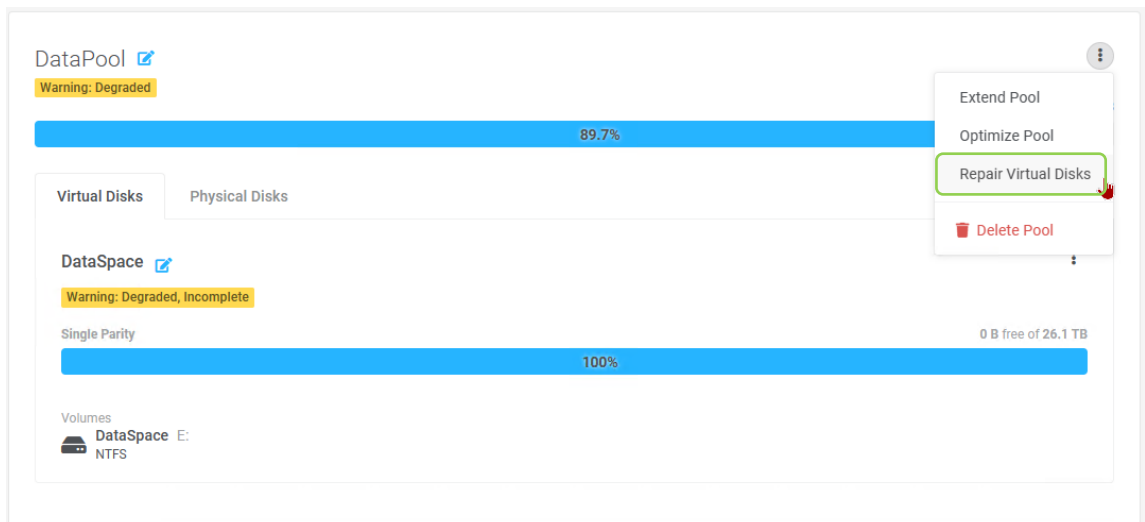


Figure 136: RSS non-member physical disks

- Enter storage pool name and click on the 'Repair' button to start repair.


Repair Virtual Disks

This will start the process of repairing the virtual disks belonging to storage pool **DataPool**. Unhealthy physical disks will be removed and new pool-able physical disks will be added to this pool.

Type **DataPool** to confirm



Text is case-sensitive.

[Close](#)
[Repair](#)

Figure 137: Confirm delete pool

- After the RSS repair process is complete, the health of the storage pool and virtual disk will return to normal.

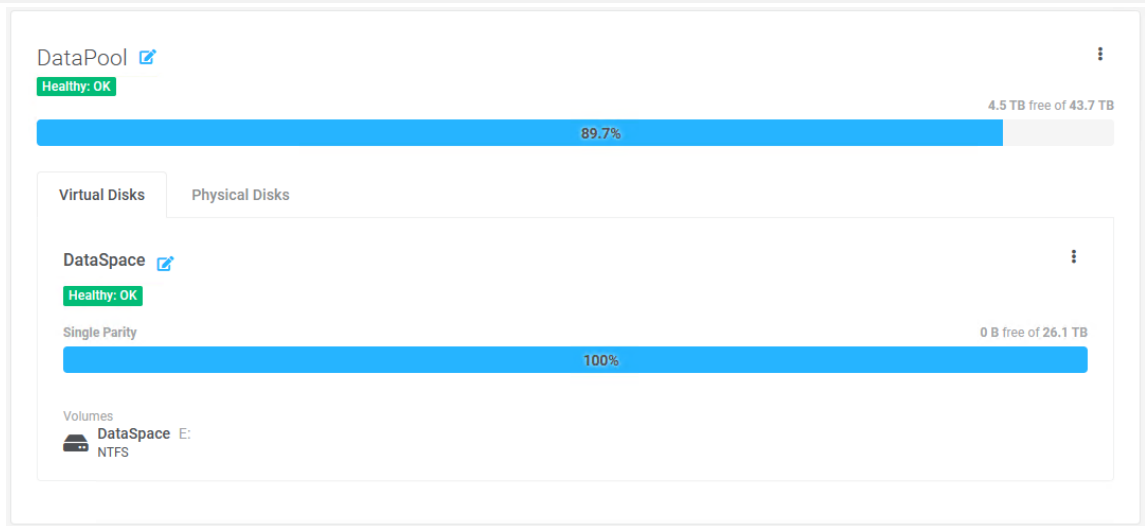


Figure 138: RSS healthy storage pool and virtual disk

9.5 Settings

Any event trigger can be set send email to respective personnel for any abnormal event.

9.5.1 Email Recipient Settings

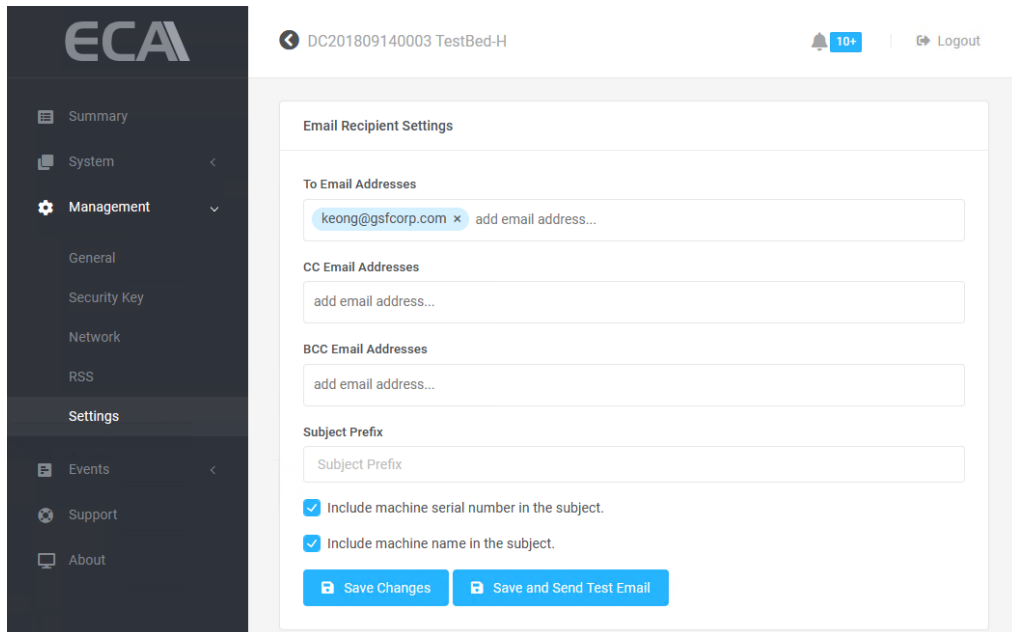


Figure 139: Email Setting (1 of 2)

9.5.2 Mail Servers

Profile Name	SMTP Server	Port	Sender Email	Sender Name	Encryption
✓ ECA Notifications	-	-	noreply@gsf.ms	ECA Notifications	-
SmartLogic Mail Server	-	-	wilson-sl@gsf.com.my	SmartLogic Mail Server	- Set as Default

[+ Add Server](#)

Figure 140: Email Setting (2 of 2)

9.5.3 Events

All monitoring application under System able to set notify in the desktop, send the email or both.

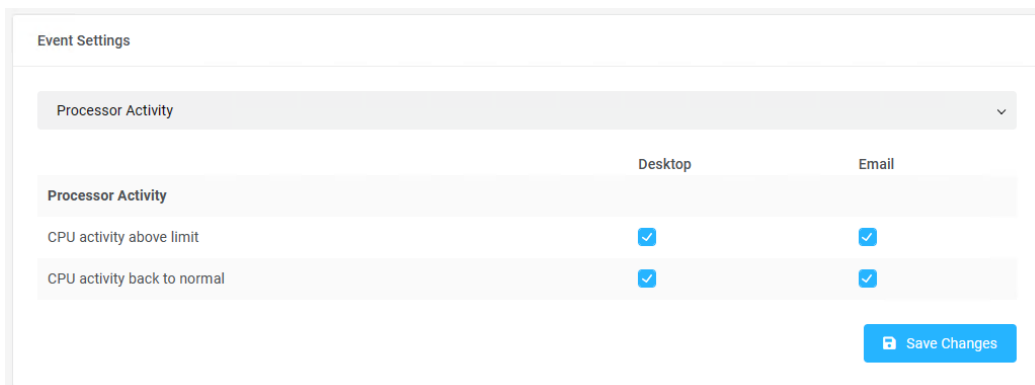


Figure 141: Events

1. Select event to be set by click drop down.

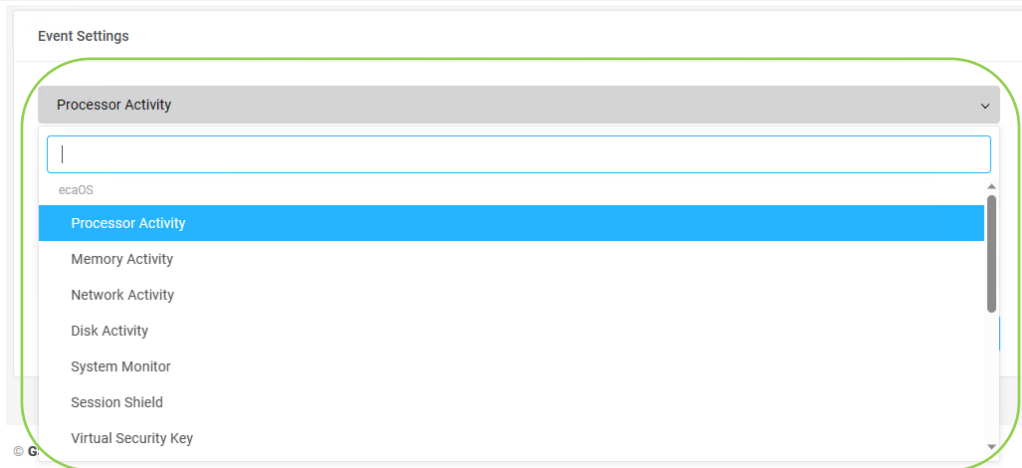


Figure 142: Select event (1 of 2)

2. Check the box to enable notification on the desktop or email and click 'Save Changes'
3. Setting below will notify user via Desktop notification and email if the memory usage above threshold limit. The user also will notify when the memory usage return to normal state

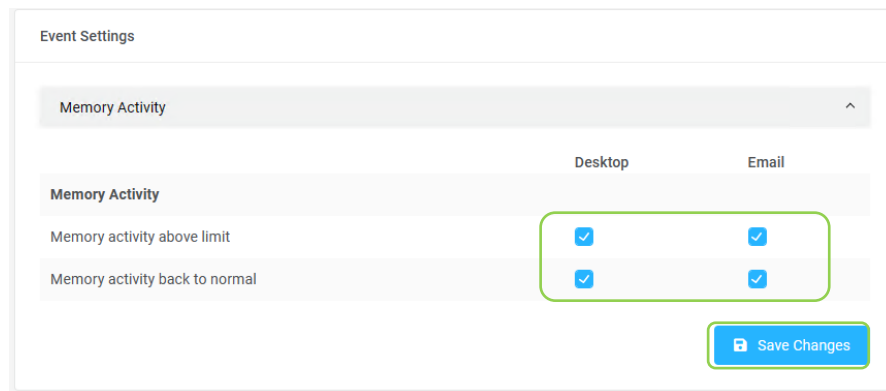


Figure 143: Select event (2 of 2)

9.5.3.1 Events List

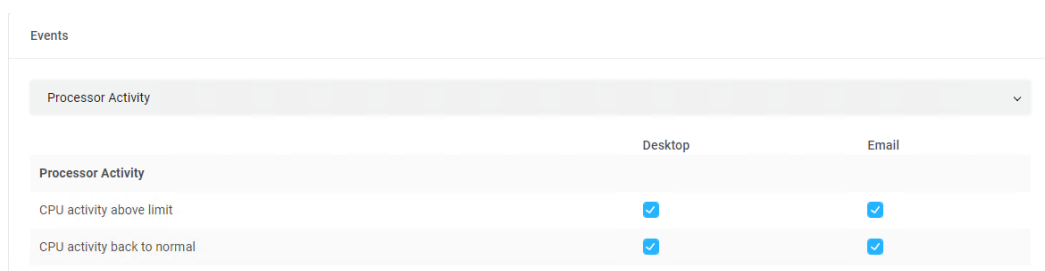


Figure 144: Processor Activity events notify setting

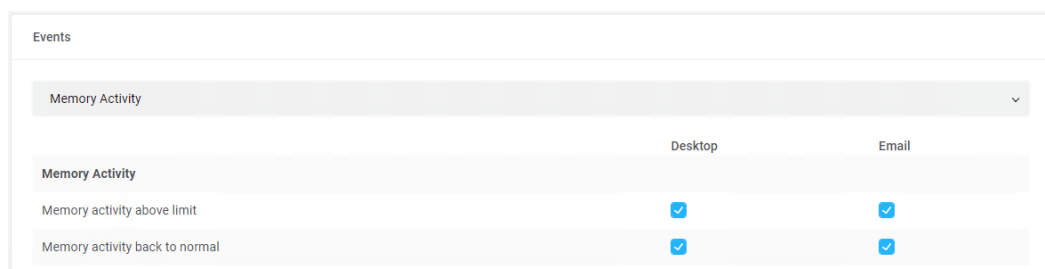


Figure 145: Memory Activity events notify setting

Event Settings

Network Activity

	Desktop	Email
Network Activity		
Network send activity above limit	☒	☒
Network send activity back to normal	☒	☒
Network receive activity below limit	☒	☒
Network receive activity back to normal	☒	☒
Network cable plugged	☒	☒
Network cable unplugged	☒	☒
Network available	☒	☒
Network unavailable	☒	☒
Network Teaming Enabled	☒	☒
Network Teaming Disabled	☒	☒

 Save Changes

Figure 146: Network Activity events notify setting

Events

Disk Activity

	Desktop	Email
Disk Activity		
Disk read activity above limit	☒	☒
Disk read activity back to normal	☒	☒
Disk write activity below limit	☒	☒
Disk write activity back to normal	☒	☒

Figure 147: Disk Activity events notify setting

Event Settings

System Monitor

	Desktop	Email
System Monitor		
High CPU Temperature	☒	☒
CPU temperature back to normal	☒	☒
High System Temperature	☒	☒
System temperature back to normal	☒	☒
CPU fan speed below limit	☒	☒
CPU fan speed back to normal	☒	☒
System fan speed below limit	☒	☒
System fan speed back to normal	☒	☒
3V3 System above limit	☒	☒
3V3 System back to normal	☒	☒
3V3 System below limit	☒	☒
3V3 System back to normal	☒	☒
12V System above limit	☒	☒
12V System back to normal	☒	☒
12V System below limit	☒	☒
12V System back to normal	☒	☒
Mainboard Battery Low	☒	☒
Mainboard Battery back to normal	☒	☒

 Save Changes

Figure 148: System Monitor events notify setting

Events

Session Shield

	Desktop	Email
Session Shield		
Session Shield at warning state	☒	☒
Session Shield at critical state	☒	☒
Session Shield back to normal	☒	☒
Session Shield rebooting system	☒	☒

Figure 149: Session Shield events notify setting

Events

Virtual Security Key

	Desktop	Email
Virtual Security Key		
Virtual security key added	☒	☒
Virtual security key deleted	☒	☒

Figure 150: Virtual Security Key events notify setting

Events		
Security Key		
	Desktop	Email
Security Key		
Security key added	☒	☒
Security key deleted	☒	☒
Security key renamed	☒	☒

Figure 151: Security Key events notify setting

Events		
Support		
	Desktop	Email
Support		
Remote support enabled	☒	☒
Remote support disabled	☒	☒
Remote support setup successful	☒	☒
Remote support setup failed	☒	☒

Figure 152: Support events notify setting

Events		
Disk Guard		
	Desktop	Email
Disk Guard		
Disk Removed	☒	☒
Disk Remove Acknowledged	☒	☒
Disk Inserted	☒	☒
New Disk	☒	☒
Disk Replaced	☒	☒
Disk Replace Acknowledged	☒	☒
Disk Online	☒	☒
Disk Offline	☒	☒
Disks Changed	☒	☒

Figure 153: Disk Guard events notify setting

Events		
Disk Health		
	Desktop	Email
Disk Health		
Disk health warning	☒	☒
Disk health critical	☒	☒

Figure 154: Disk Health events notify setting

Event Settings		
Redundant Storage System		
	Desktop	Email
Redundant Storage System		
Storage pool status is healthy	☒	☒
Storage pool status is warning	☒	☒
Storage pool status is unhealthy	☒	☒
Virtual disk status is healthy	☒	☒
Virtual disk status is warning	☒	☒
Virtual disk status is unhealthy	☒	☒
Physical disk status is healthy	☒	☒
Physical disk status is warning	☒	☒
Physical disk status is unhealthy	☒	☒
Save Changes		

Figure 155: Redundant Storage System notify setting

Events		
Firmware		
	Desktop	Email
Firmware		
Firmware update success	☒	☒
Firmware update failed	☒	☒

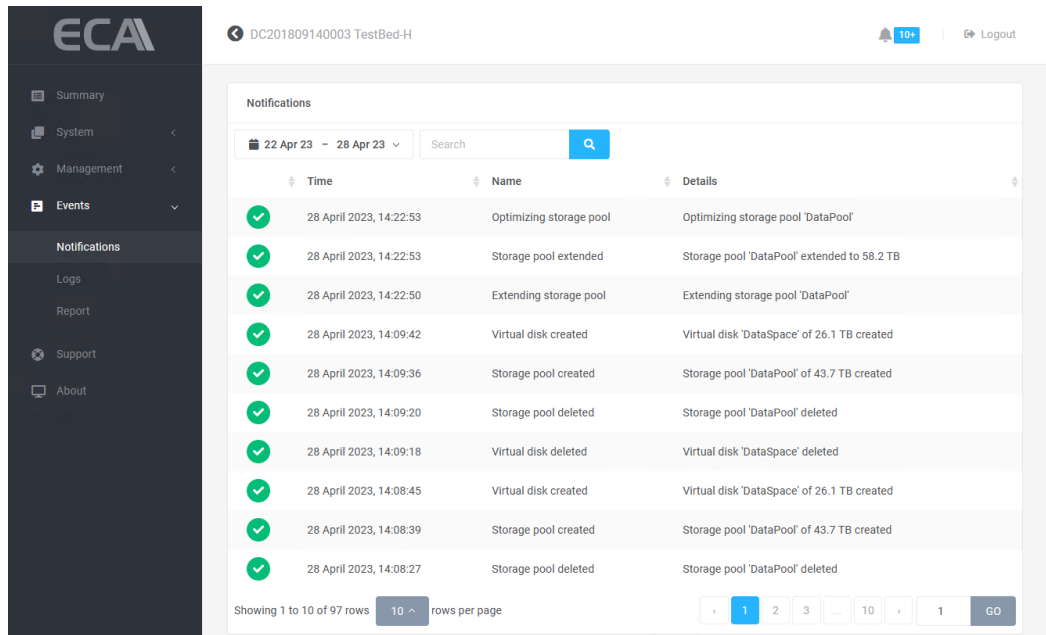
Figure 156: Heartbeat firmware events notify setting

Events		
ECA Layer		
	Desktop	Email
ECA Layer		
Saving layer successful	☒	☒
Saving layer failed	☒	☒
Restoring layer successful	☒	☒
Restoring layer failed	☒	☒

Figure 157: ECA Layer events notify setting

10 Events

10.1 Notification



The screenshot displays the ECA user interface. On the left is a dark sidebar with the ECA logo and a menu containing: Summary, System, Management, Events (selected), Notifications, Logs, Report, Support, and About. The main content area is titled 'DC201809140003 TestBed-H' and shows a notification bell icon with '18+'. Below this is a 'Notifications' section with a date range filter set to '22 Apr 23 - 28 Apr 23' and a search bar. A table lists 10 notifications, each with a green checkmark icon, a timestamp, a name, and a detailed description. At the bottom, it indicates 'Showing 1 to 10 of 97 rows' and '10 rows per page'.

	Time	Name	Details
✓	28 April 2023, 14:22:53	Optimizing storage pool	Optimizing storage pool 'DataPool'
✓	28 April 2023, 14:22:53	Storage pool extended	Storage pool 'DataPool' extended to 58.2 TB
✓	28 April 2023, 14:22:50	Extending storage pool	Extending storage pool 'DataPool'
✓	28 April 2023, 14:09:42	Virtual disk created	Virtual disk 'DataSpace' of 26.1 TB created
✓	28 April 2023, 14:09:36	Storage pool created	Storage pool 'DataPool' of 43.7 TB created
✓	28 April 2023, 14:09:20	Storage pool deleted	Storage pool 'DataPool' deleted
✓	28 April 2023, 14:09:18	Virtual disk deleted	Virtual disk 'DataSpace' deleted
✓	28 April 2023, 14:08:45	Virtual disk created	Virtual disk 'DataSpace' of 26.1 TB created
✓	28 April 2023, 14:08:39	Storage pool created	Storage pool 'DataPool' of 43.7 TB created
✓	28 April 2023, 14:08:27	Storage pool deleted	Storage pool 'DataPool' deleted

Figure 158: Notification

10.2 Logs

An event log is a file that contains information about usage, operations and activity of the ECA system. The log can be filtered by specifying data range and/or inserting keyword(s).

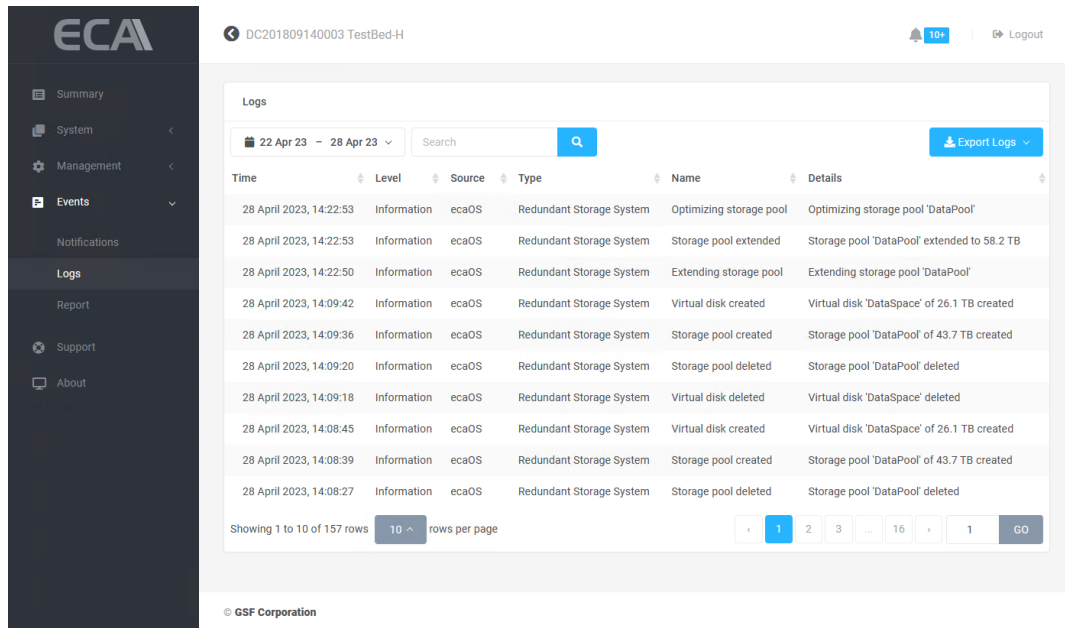


Figure 159: Log

10.2.1 Filtering Log

Filter by can choose by Today, Yesterday, Last 3 days, Last 7 Days, Last 30 Days or Custom data range.

Type any keyword and click on magnetify glass icon to start filtering. Click 'Apply' to filter the Logs.

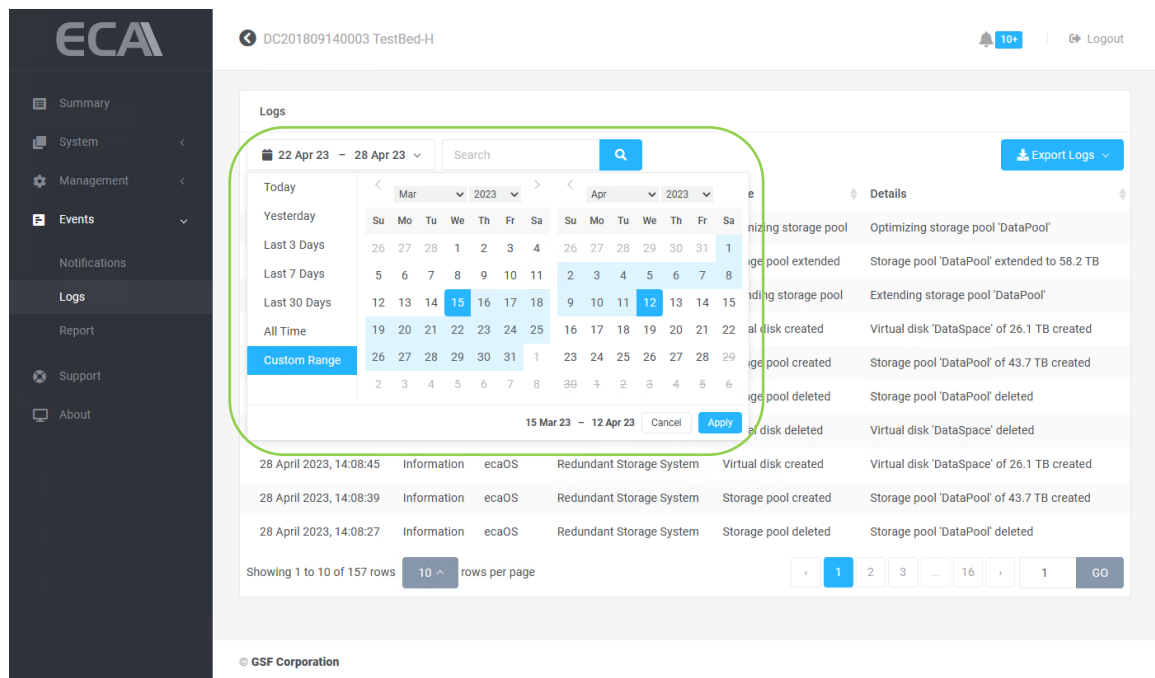


Figure 160: Filter log

10.2.2 Exporting Log

1. Click on the 'Export Logs' button

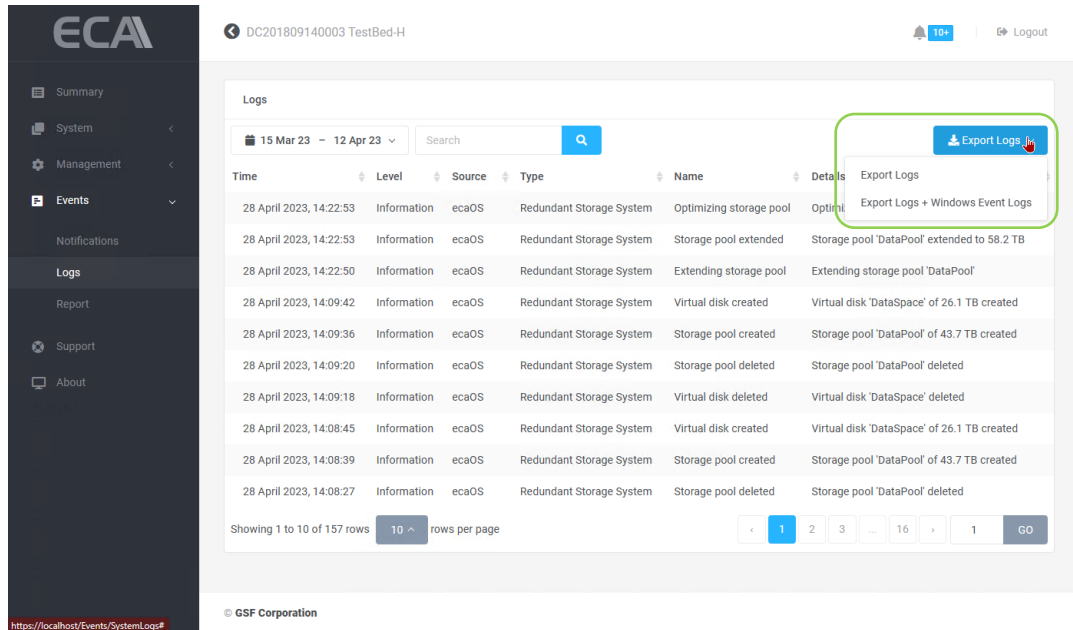


Figure 161: Export Log (1 of 8)

2. Click OK to start export the current log

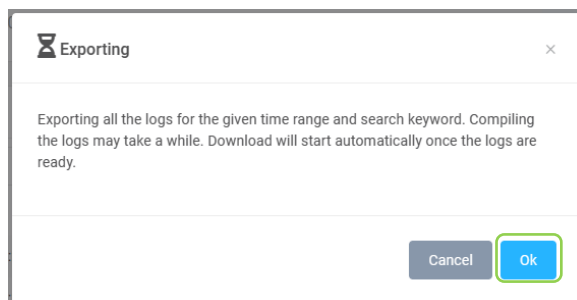


Figure 162: Export Log (2 of 8)

3. The log will export to Downloads folder in compress format

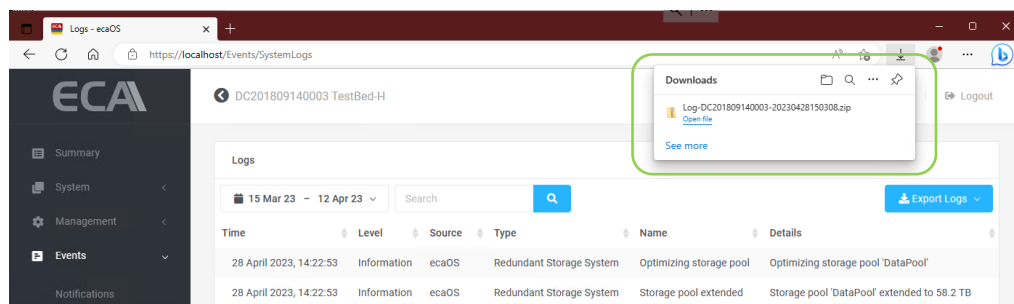


Figure 163: Export Log (3 of 8)

4. The log will be export to under Downloads. The exported log can be retrieved via Explorer.

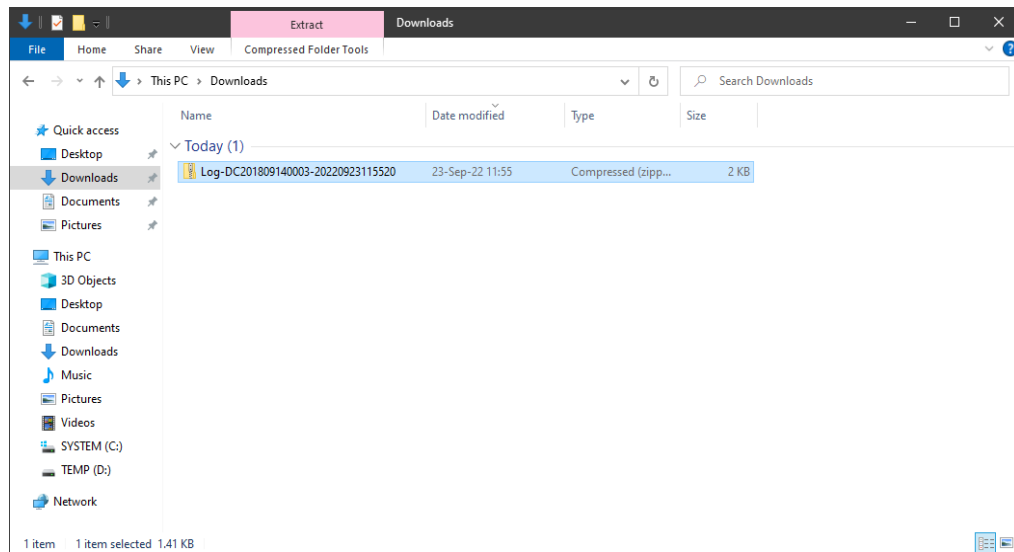


Figure 164: Exporting log (4 of 8)

5. Extract the file by right click on the file and select Extract All.

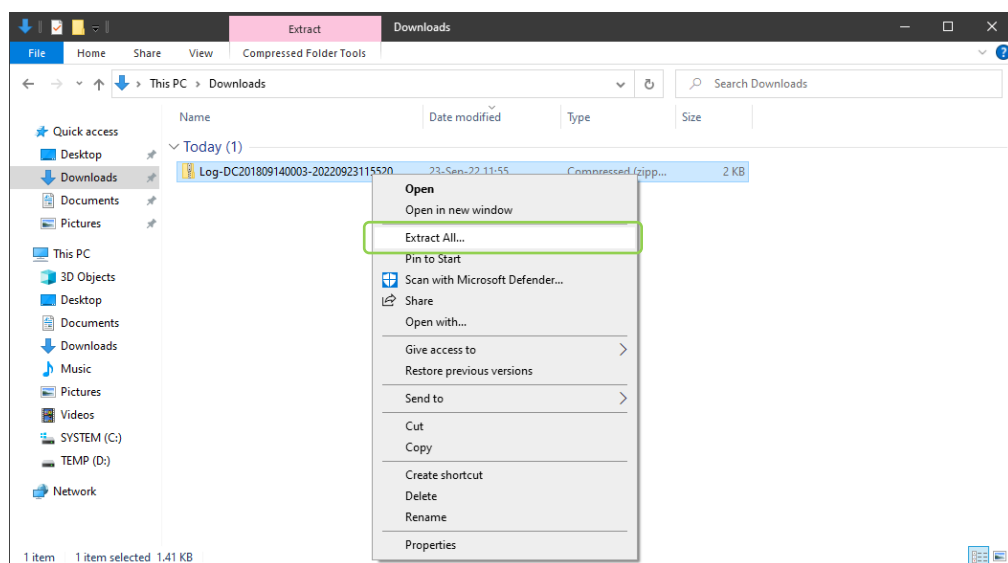


Figure 165: Exporting log (5 of 8)

6. Choose the location to extra the file and click Extract button.

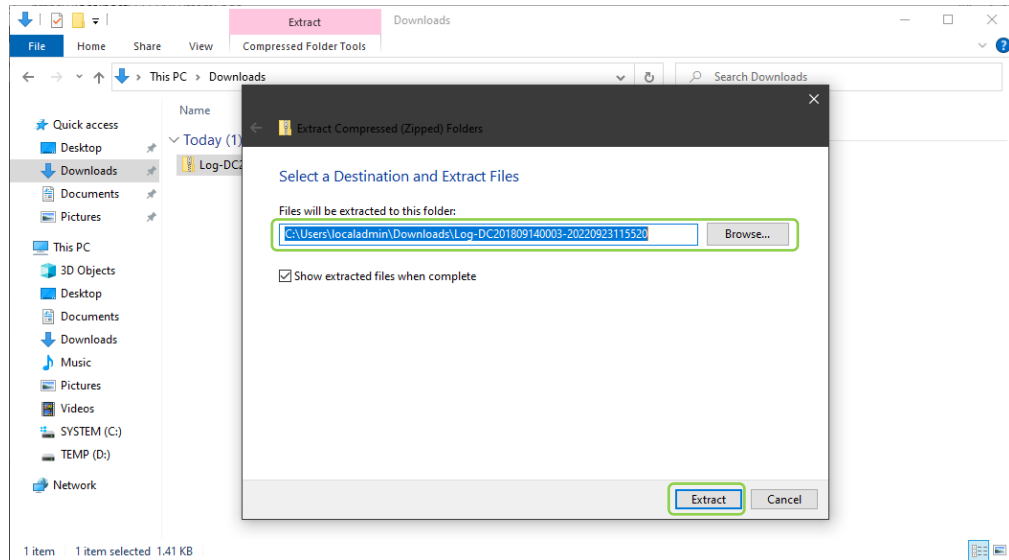


Figure 166: Exporting log (6 of 8)

7. The log file saved in comma-separated values (CSV) format.

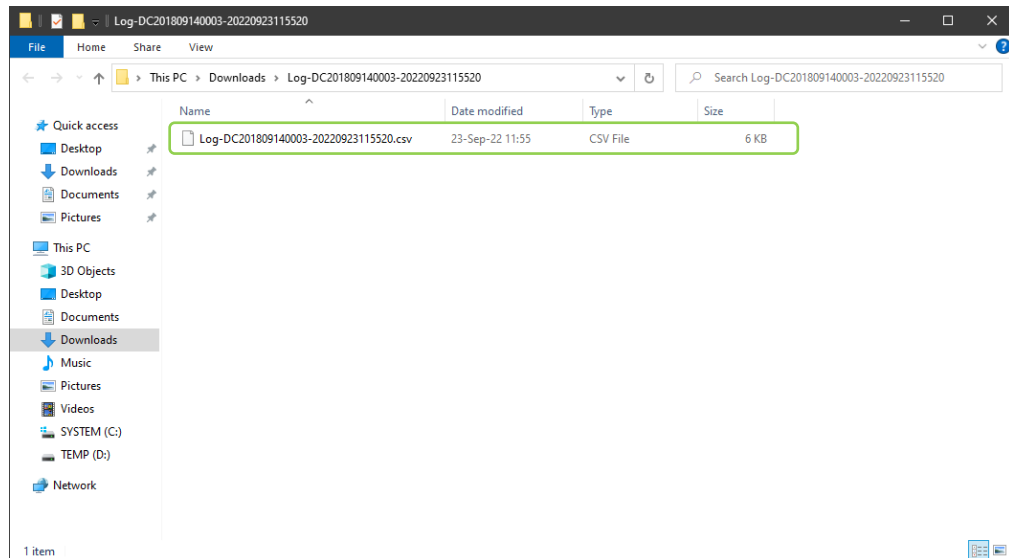
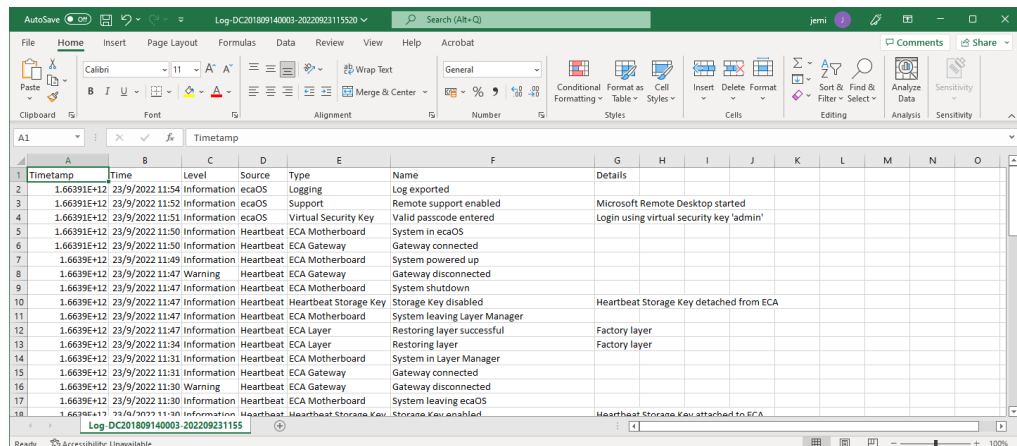


Figure 167: Exporting log (7 of 8)

8. Use Spreadsheet program to open the log file.



Timestamp	Time	Level	Source	Type	Name	Details
1.66391E+12	23/9/2022 11:54	Information	ecaOS	Logging	Log exported	
1.66391E+12	23/9/2022 11:52	Information	ecaOS	Support	Remote support enabled	Microsoft Remote Desktop started
1.66391E+12	23/9/2022 11:51	Information	ecaOS	Virtual Security Key	Valid passcode entered	Login using virtual security key 'admin'
1.66391E+12	23/9/2022 11:50	Information	Heartbeat	ECA Motherboard	System in ecaOS	
1.66391E+12	23/9/2022 11:50	Information	Heartbeat	ECA Gateway	Gateway connected	
1.66391E+12	23/9/2022 11:49	Information	Heartbeat	ECA Motherboard	System powered up	
1.66391E+12	23/9/2022 11:47	Warning	Heartbeat	ECA Gateway	Gateway disconnected	
1.66391E+12	23/9/2022 11:47	Information	Heartbeat	ECA Motherboard	System shutdown	
1.66391E+12	23/9/2022 11:47	Information	Heartbeat	Heartbeat Storage Key	Storage Key disabled	Heartbeat Storage Key detached from ECA
1.66391E+12	23/9/2022 11:47	Information	Heartbeat	ECA Motherboard	System leaving Layer Manager	
1.66391E+12	23/9/2022 11:47	Information	Heartbeat	ECA Layer	Restoring layer successful	Factory layer
1.66391E+12	23/9/2022 11:34	Information	Heartbeat	ECA Layer	Restoring layer	Factory layer
1.66391E+12	23/9/2022 11:31	Information	Heartbeat	ECA Motherboard	System in Layer Manager	
1.66391E+12	23/9/2022 11:31	Information	Heartbeat	ECA Gateway	Gateway connected	
1.66391E+12	23/9/2022 11:30	Warning	Heartbeat	ECA Gateway	Gateway disconnected	
1.66391E+12	23/9/2022 11:30	Information	Heartbeat	ECA Motherboard	System leaving ecaOS	
1.66391E+12	23/9/2022 11:30	Information	Heartbeat	Heartbeat Storage Key	Storage Key attached	Heartbeat Storage Key attached to ECA

Figure 168: Exporting log (8 of 8)

10.3 Report

Report will be auto generated and sent to all recipients daily at: 23:55 or manually download by click on the 'Download System Report' button.

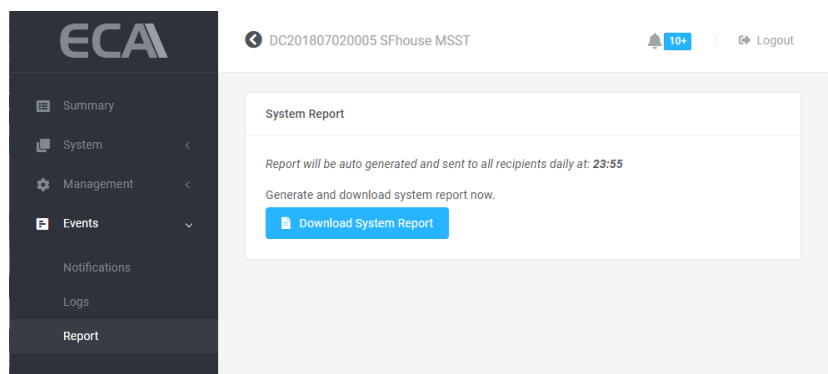


Figure 169: Manual Report Download at Events > Report section

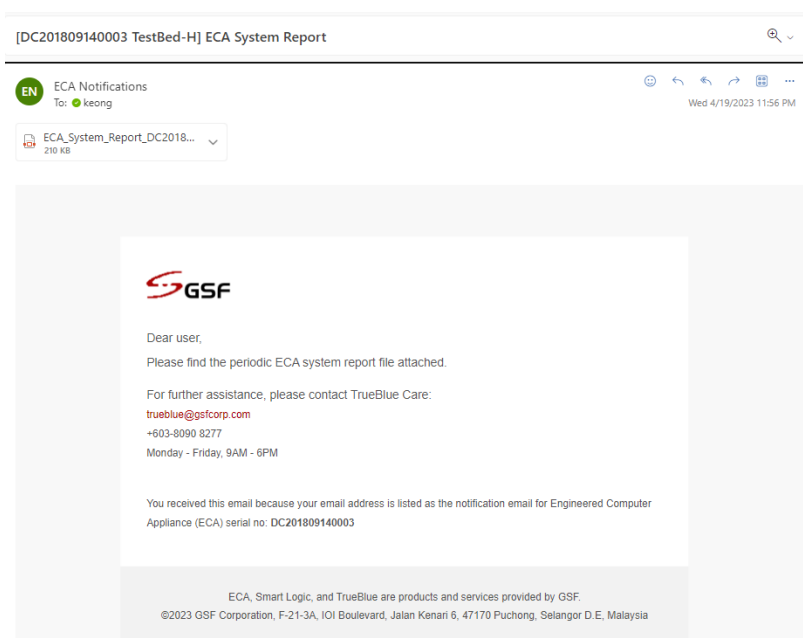


Figure160A: ECA email an ECA report

ECA System Report: DC201809140003 | TestBed-H | 18 Apr 2023, 23:55 (+08:00)

Disks

	Model	Serial #	Health Status	Temperature	Disk Guard
System Disk	KINGSTON SUV400S37120G	50026B777C01AC30	94% HEALTHY	32 °C	ONLINE
Bay 1	ST4000VX000-1F4168	Z302B6PJ	100% HEALTHY	30 °C	ONLINE
Bay 2	ST16000NM001G-2KK103	ZL2G64K3	100% HEALTHY	32 °C	ONLINE
Bay 3	ST16000NM001G-2KK103	ZL2E4XRK	100% HEALTHY	31 °C	ONLINE
Bay 4	ST16000NM001G-2KK103	ZL2E4XGM	100% HEALTHY	30 °C	ONLINE
Bay 5	ST16000NM001G-2KK103	ZL2GDQ7V	100% HEALTHY	31 °C	ONLINE
Bay 6	ST4000VX000-1F4168	Z302AVWB	100% HEALTHY	30 °C	ONLINE
Bay 7			-	-	NO DISK
Bay 8			-	-	NO DISK
Bay 9			-	-	NO DISK
Bay 10			-	-	NO DISK
Bay 11			-	-	NO DISK
Bay 12			-	-	NO DISK
Bay 13			-	-	NO DISK
Bay 14	ST31000S28ASQ	5VP4QVVK	30% CRITICAL	31 °C	ONLINE
Bay 15			-	-	NO DISK

Figure 170B: Example ECA report in PDF format

11 Support

11.1 TrueBlue Remote Support

TrueBlue Remote Support is an online live support service backed by the professional TrueBlue Support team. This service allows our TrueBlue Engineer to remotely access the targeted ECA, and gain full control for troubleshooting, usually on software and OS related issues. Internet must be connected for support via internet.

1. To Start Trueblue Remote Support, click on 'Start' button

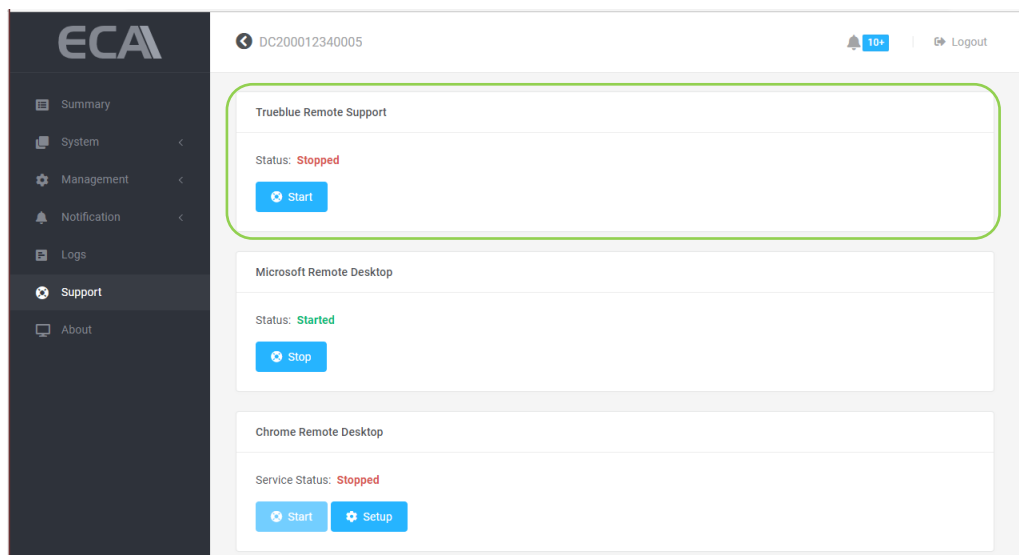


Figure 171: Trueblue Remote Support (1 of 2)

2. Once the connection establishes, inform our Trueblue Support Engineer to let support remotely.

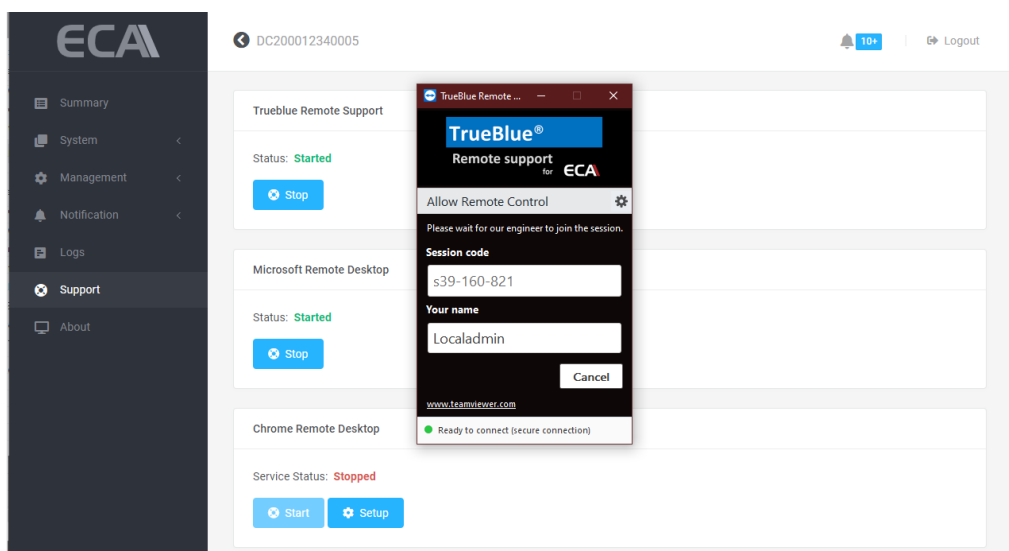


Figure 172: Trueblue Remote Support (2 of 2)

11.2 Microsoft Remote Desktop

Microsoft Remote Desktop app to connect to a remote PC or virtual apps and desktops made available by your admin.

Click on 'Start' button under Microsoft Remote Desktop

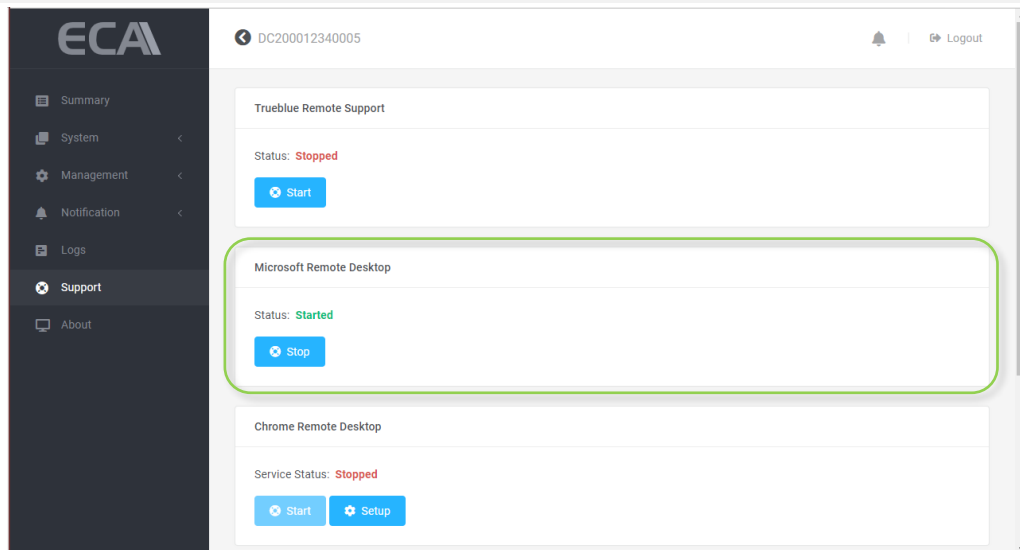


Figure 173: Microsoft Remote Support

From local PC. Enter computer name or IP address of the remote ECA.

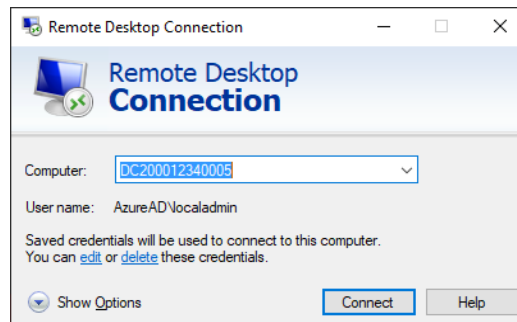


Figure 174: Trueblue Remote Support (1 of 2)

NOTE: You will require to port forward in your router to allowed Remote Desktop to be accessible via internet. Default port is 3389

11.3 Chrome Remote Desktop

This option allows you to access your ECA remotely from your PC/Laptop using your own Google account without require any port forwarding setting in the router. Before begin, Chrome Remote Desktop work in both Google Chrome or Microsoft Edge Browser, at the address bar type: <https://remotedesktop.google.com/access> then follow the directions to enabled Chrome Remote Desktop in your browser.

11.3.1 Setup ECA into your Chrome Remote Desktop

In your PC/Laptop, run Chrome/Edge and enter <https://remotedesktop.google.com/headless>

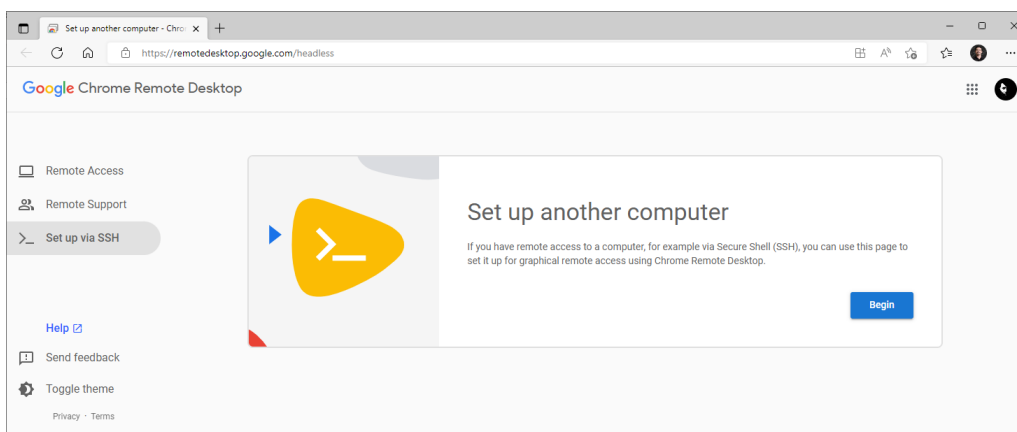


Figure 175: Chrome Remote Desktop (1 of 6)

1. Click 'Begin'

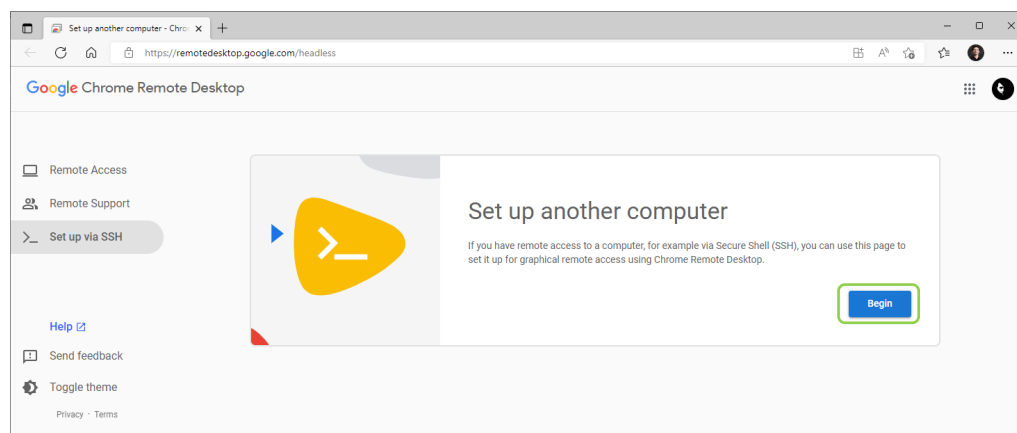


Figure 176: Chrome Remote Desktop (2 of 6)

2. Click 'Next'

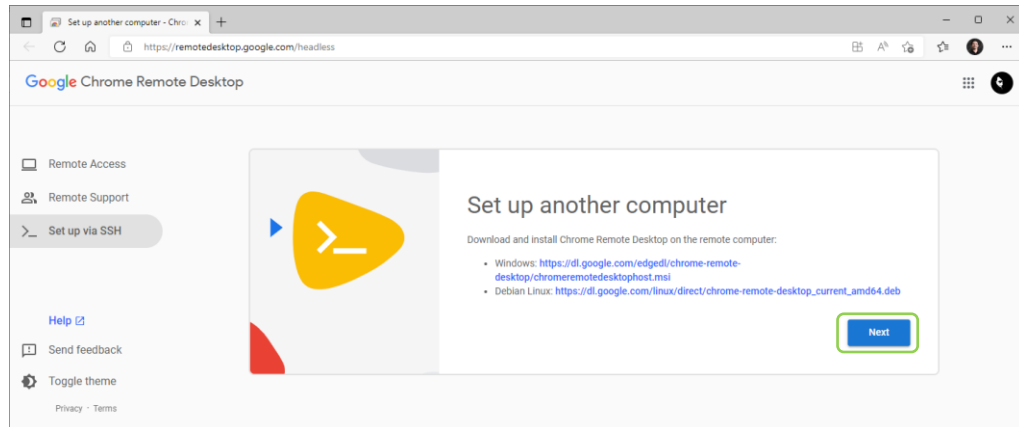


Figure 177: Chrome Remote Desktop (3 of 6)

3. Click 'Authorize'

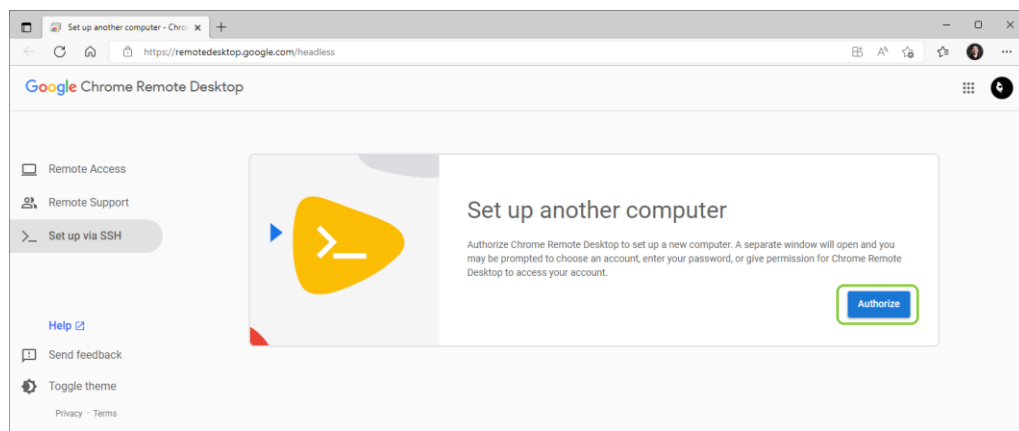


Figure 178: Chrome Remote Desktop (3 of 6)

4. Copy command for Windows (Cmd)

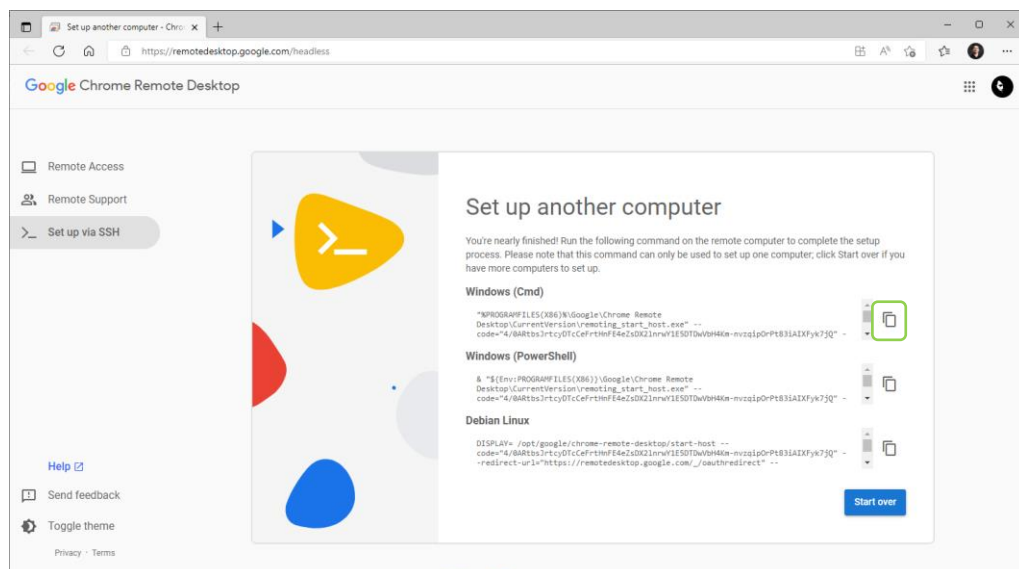


Figure 179: Chrome Remote Desktop (4 of 6)

5. From the ECA machine, go to Support. Under 'Chrome Remote Desktop', click setup

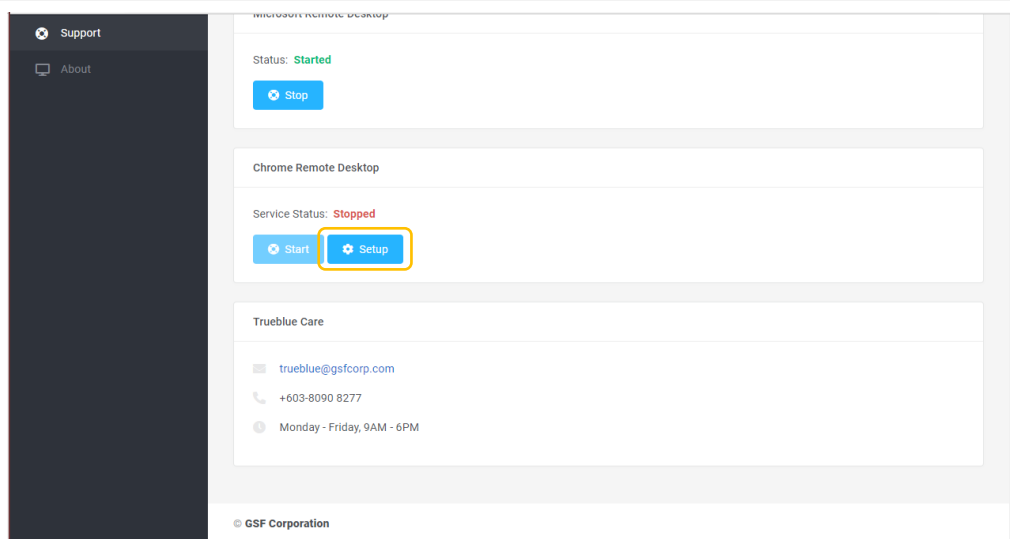


Figure 180: Chrome Remote Desktop (5 of 6)

6. Paste the command and enter 6-digit PIN number as a password.

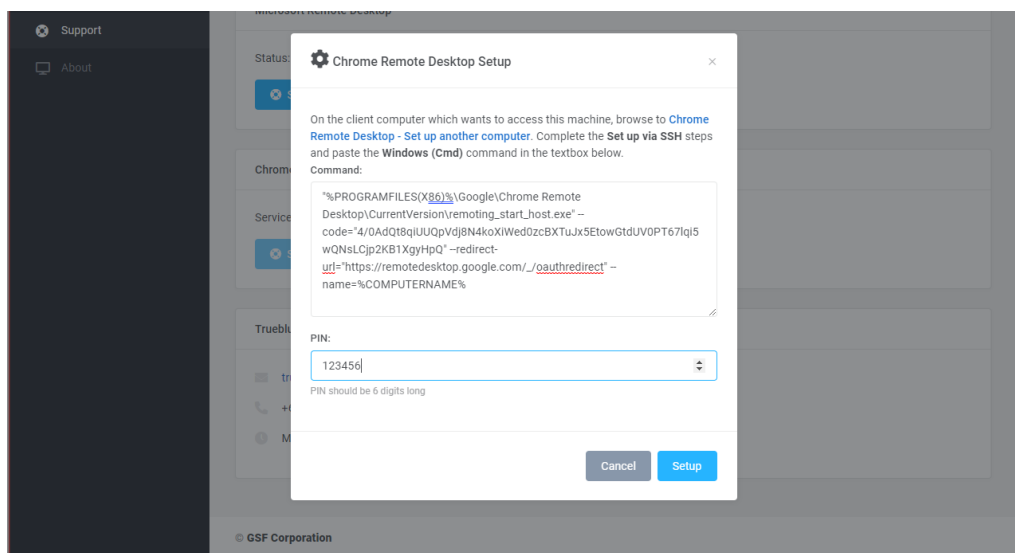


Figure 181: Chrome Remote Desktop (6 of 6)

11.3.2 Accessing ECA via Chrome Remote Desktop?

1. From the ECA will be remote. Make sure the service status Started

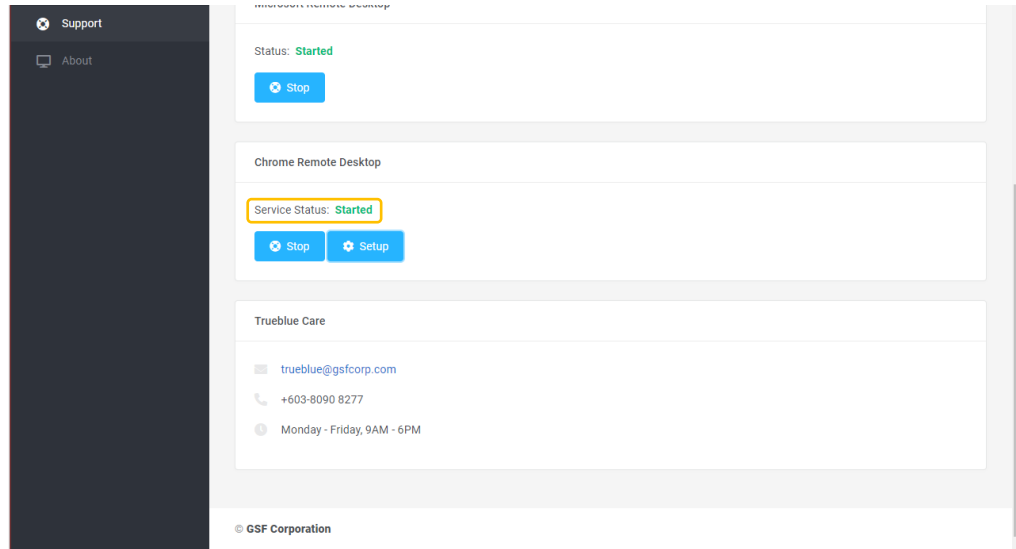


Figure 182: Accessing ECA via Chrome Remote Desktop (1 of 4)

2. From remote machine. Run web browser enter <https://remotedesktop.google.com/access/>. Click on remote devices.

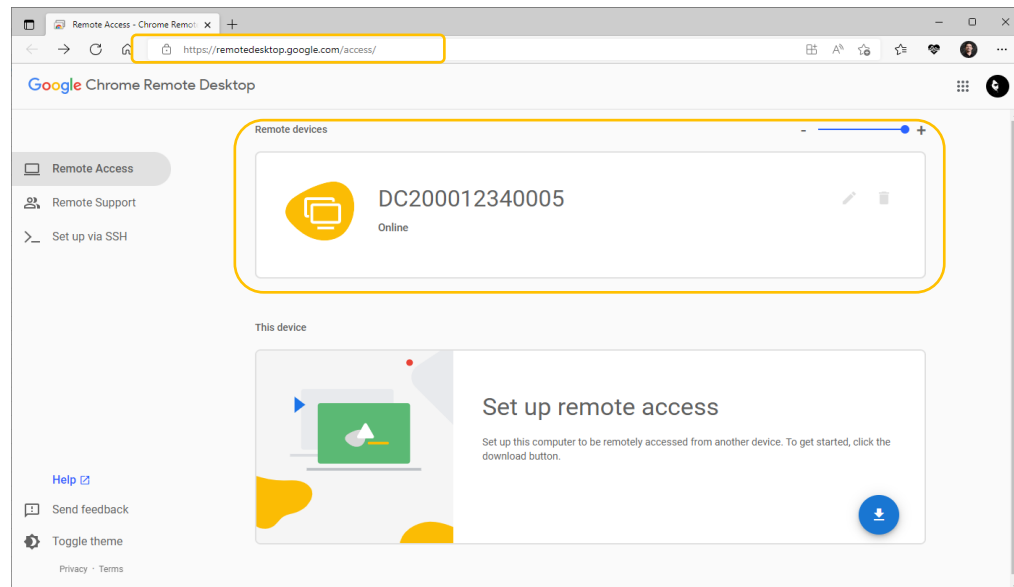


Figure 183: Accessing ECA via Chrome Remote Desktop (2 of 4)

3. Enter 6-digit PIN previously set during setup to start login

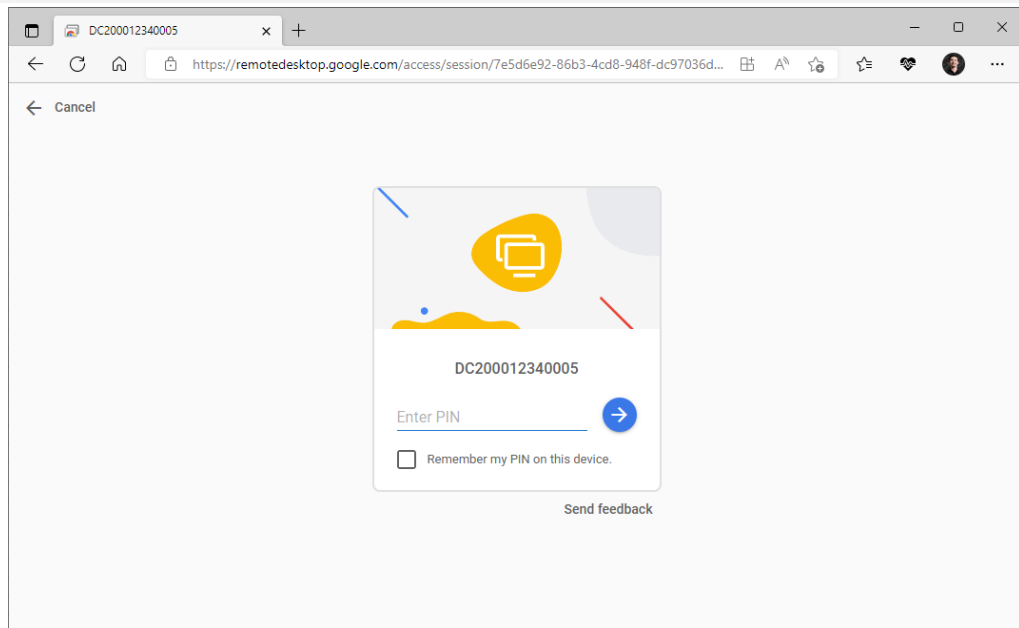


Figure 184: Accessing ECA via Chrome Remote Desktop (3 of 4)

4. Access the ECA

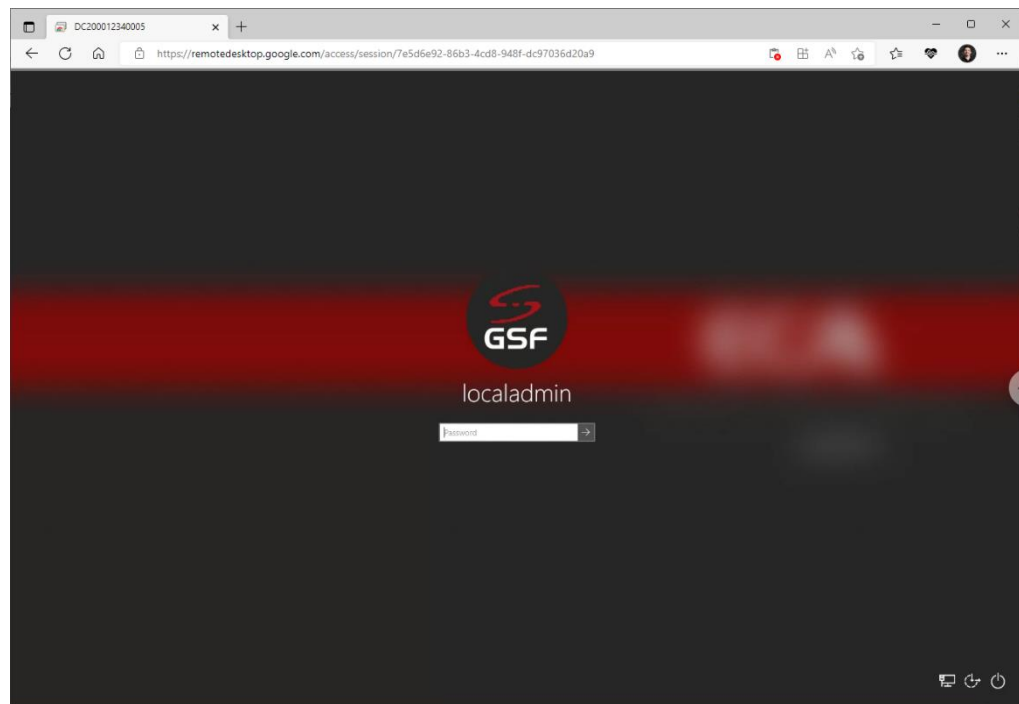


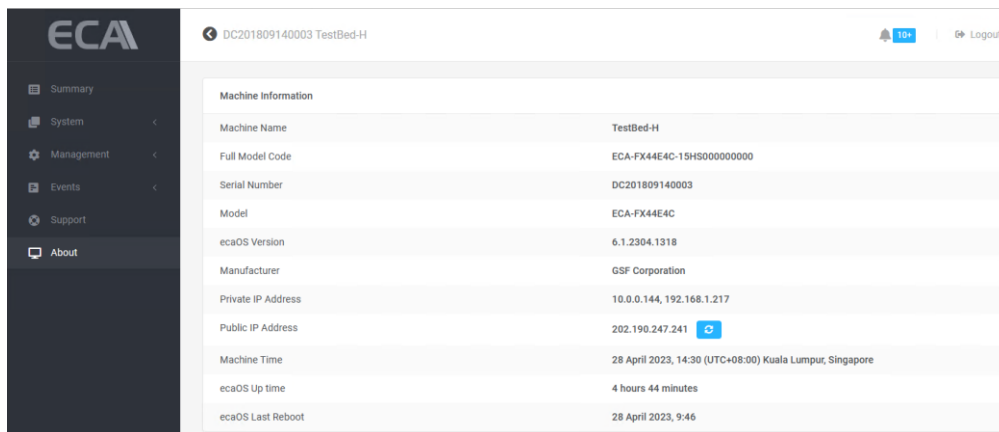
Figure 185: Accessing ECA via Chrome Remote Desktop (4 of 4)

12 About

12.1 Machine Information

The ECA information display here such as Model, Serial Number, ecaOS version, Up time, when last reboot.

The IP address will be display if the ECA connected to local LAN.



The screenshot shows the ECA web interface. On the left is a dark sidebar with a menu containing: Summary, System, Management, Events, Support, and About (highlighted). The main content area has a header with the ECA logo, a breadcrumb 'DC201809140003 TestBed-H', and a 'Logout' link. Below the header is a 'Machine Information' table.

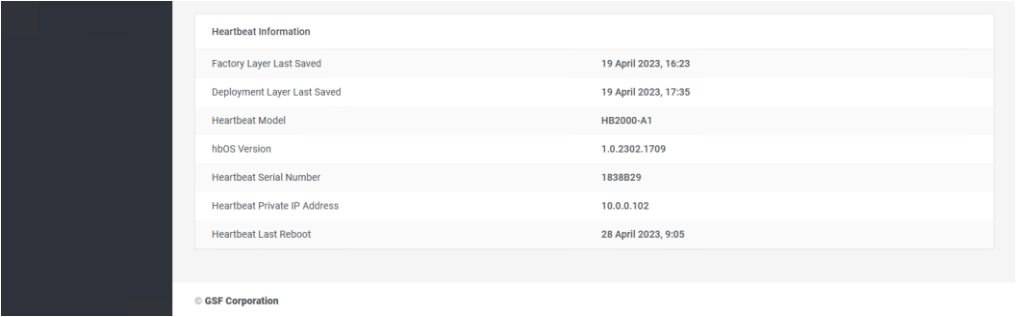
Machine Information	
Machine Name	TestBed-H
Full Model Code	ECA-FX44E4C-15HS000000000
Serial Number	DC201809140003
Model	ECA-FX44E4C
ecaOS Version	6.1.2304.1318
Manufacturer	GSF Corporation
Private IP Address	10.0.0.144, 192.168.1.217
Public IP Address	202.190.247.241 
Machine Time	28 April 2023, 14:30 (UTC+08:00) Kuala Lumpur, Singapore
ecaOS Up time	4 hours 44 minutes
ecaOS Last Reboot	28 April 2023, 9:46

Figure 186: Machine Information

12.2 Heartbeat Information

The Heartbeat is around the clock hardware safeguard. Its micro controller overlooks the whole hardware platform to ensure continuous operation even in the event of critical breakdown.

‘Factory Layer Last Saved’ (Hard Reset) & Deployment Layer Last Saved’ (Soft Reset) it shows the date of the layer saved.



Heartbeat Information	
Factory Layer Last Saved	19 April 2023, 16:23
Deployment Layer Last Saved	19 April 2023, 17:35
Heartbeat Model	HB2000-A1
hbOS Version	1.0.2302.1709
Heartbeat Serial Number	1838B29
Heartbeat Private IP Address	10.0.0.102
Heartbeat Last Reboot	28 April 2023, 9:05

© GSF Corporation

Figure 187: Heartbeat Information

13 APPENDIX

13.1 Processor Activity

13.1.1 CPU activity above limit

Dashboard	Processor Activity - ecaOS https://localhost:22334/System/CpuActivity ECA Summary System Service Monitor Application Monitor Processor Activity Memory Activity Disk Activity Network Activity Disk Health Disk Guard Session Shield Management Notification Logs Support About DC201809140003 Processor Activity Utilization % Average Utilization % CPU Activity Status High CPU Utilization 97.5% Average CPU Utilization 94.7% Average CPU Utilization / Minute 94.3% Average CPU Utilization / Hour 39.8% Average CPU Utilization / Day 24.8%												
Notification	CPU activity above limit CPU activity has been above the set limit 80% for more than 10 minutes. Average CPU activity is 93% 17:10 • Processor Activity												
Log	<table><tr><th>Time</th><th>Level</th><th>Source</th><th>Type</th><th>Name</th><th>Details</th></tr><tr><td>13 Oct 2022, 17:10:14</td><td>Warning</td><td>ecaOS</td><td>Processor Activity</td><td>CPU activity above limit</td><td>CPU activity has been above the set limit 80% for more than 10 minutes. Average CPU activity is 93%</td></tr></table>	Time	Level	Source	Type	Name	Details	13 Oct 2022, 17:10:14	Warning	ecaOS	Processor Activity	CPU activity above limit	CPU activity has been above the set limit 80% for more than 10 minutes. Average CPU activity is 93%
Time	Level	Source	Type	Name	Details								
13 Oct 2022, 17:10:14	Warning	ecaOS	Processor Activity	CPU activity above limit	CPU activity has been above the set limit 80% for more than 10 minutes. Average CPU activity is 93%								
Email	[DC201809140003] High CPU Usage Detected - Message (HTML) File Message Help Acrobat Share to Teams Find ... [DC201809140003 ecaOS 6.0.2210.0408] High CPU Usage Detected EN ECA Notifications <noreply@gsf.ms> To jemi Thu 13/10/2022 5:10 PM if there are problems with how this message is displayed, click here to view it in a web browser. GSF Dear user, Average CPU usage has been reported above the predefined limit of 80% for more than 10 minutes. Average CPU usage: 93% Time Reported: 13-Oct-22 17:10:14 +08:00 For further assistance, please contact TrueBlue Care: trueblue@gsfcorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003 ECA, Smart Logic, and TrueBlue are products and services provided by GSF. ©2022 GSF Corporation, F-21-3A, IOI Boulevard, Jalan Kenari 6, 47170 Puchong, Selangor D.E, Malaysia												

13.1.2 CPU activity back to normal

Dashboard	Processor Activity - ecaOS https://localhost:22334/System/CpuActivity ECA Summary System Service Monitor Application Monitor Processor Activity Memory Activity Disk Activity Network Activity Disk Health Disk Guard Session Shield Management Notification Logs Support About DC201809140003 Processor Activity Utilization % Average Utilization % CPU Activity Status Normal CPU Utilization 16.3% Average CPU Utilization 13.3% Average CPU Utilization / Minute 13.4% Average CPU Utilization / Hour 42.7% Average CPU Utilization / Day 24.5%												
Notification	CPU activity back to normal CPU activity has returned to normal (after 0 hours 15 minutes). Average CPU activity is 40% 17:25 • Processor Activity												
Log	<table><tr><th>Time</th><th>Level</th><th>Source</th><th>Type</th><th>Name</th><th>Details</th></tr><tr><td>13 Oct 2022, 17:25:54</td><td>Information</td><td>ecaOS</td><td>Processor Activity</td><td>CPU activity back to normal</td><td>CPU activity has returned to normal (after 0 hours 15 minutes). Average CPU activity is 40%</td></tr></table>	Time	Level	Source	Type	Name	Details	13 Oct 2022, 17:25:54	Information	ecaOS	Processor Activity	CPU activity back to normal	CPU activity has returned to normal (after 0 hours 15 minutes). Average CPU activity is 40%
Time	Level	Source	Type	Name	Details								
13 Oct 2022, 17:25:54	Information	ecaOS	Processor Activity	CPU activity back to normal	CPU activity has returned to normal (after 0 hours 15 minutes). Average CPU activity is 40%								
Email	[DC201809140003] ecaOS 6.0.2210.0408 CPU Usage Returned to Normal - Message (HTML) File Message Help Acrobat Share to Teams Find ... [DC201809140003 ecaOS 6.0.2210.0408] CPU Usage Returned to Normal EN ECA Notifications <noreply@gsf.ms> To jemi Thu 13/10/2022 5:26 PM If there are problems with how this message is displayed, click here to view it in a web browser. GSF Dear user, Previously reported high CPU usage has returned to normal. Average CPU usage had been reported above the predefined limit of 80% for more than 0 hours and 15 minutes Average CPU usage: 40% Return normal time: 13-Oct-22 17:25:54 +08:00 For further assistance, please contact TrueBlue Care: trueblue@gsfcorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003 ECA, Smart Logic, and TrueBlue are products and services provided by GSF. ©2022 GSF Corporation, F-21-3A, IOI Boulevard, Jalan Kenari 6, 47170 Puchong, Selangor D.E, Malaysia												

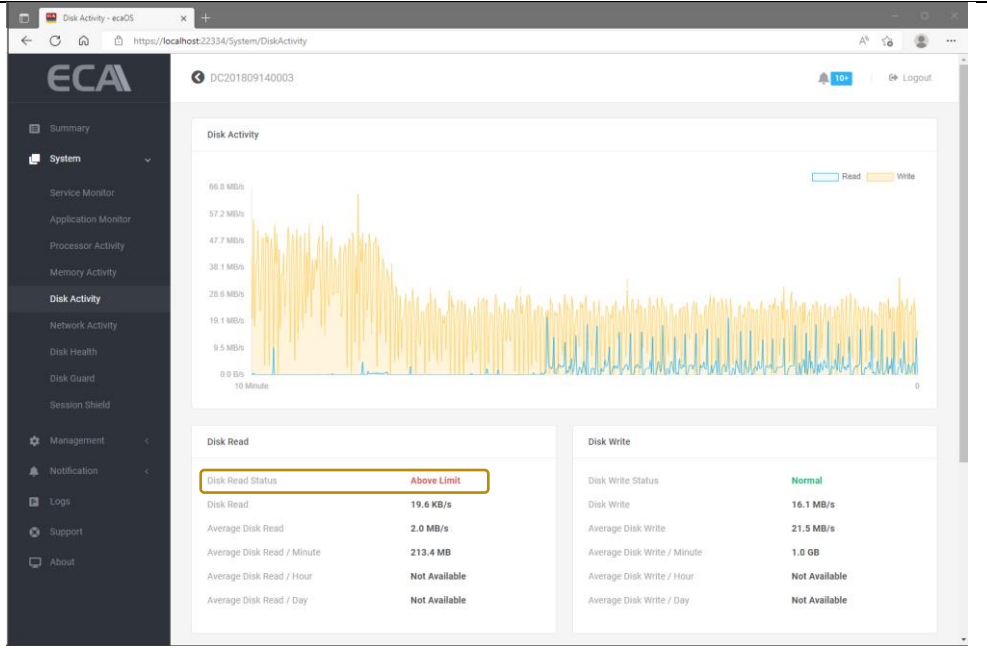
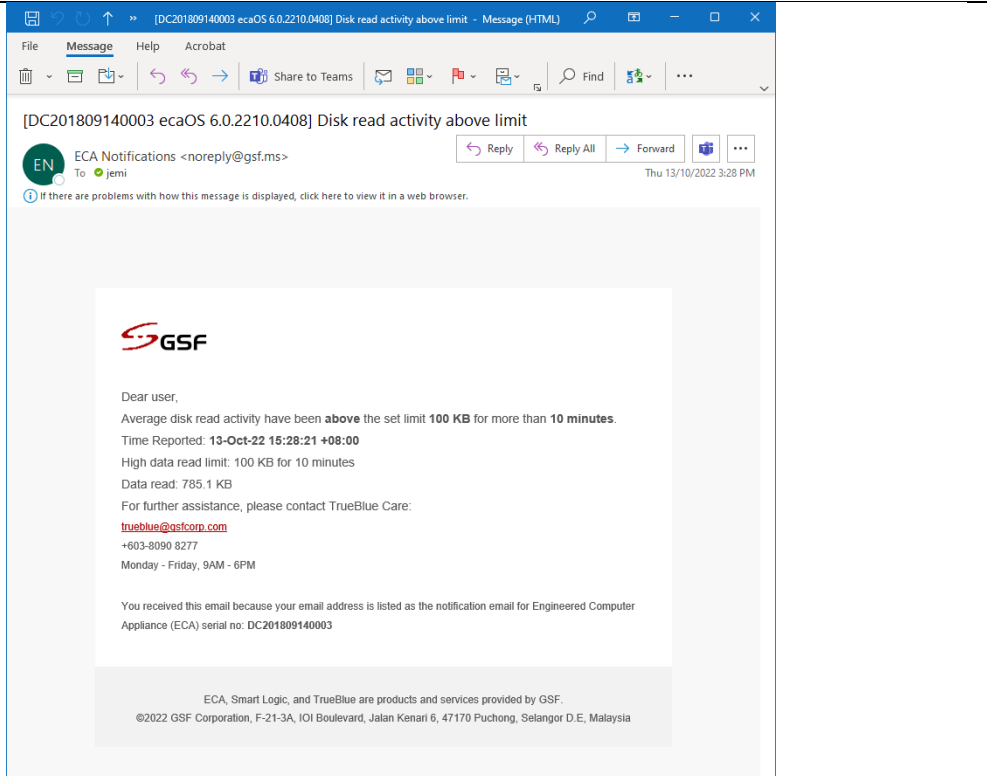
13.2 Memory Activity

13.2.1 Memory usage above limit

Dashboard	Memory Activity - ecaOS https://localhost:22334/System/MemoryActivity ECA Summary System Service Monitor Application Monitor Processor Activity Memory Activity Disk Activity Network Activity Disk Health Disk Guard Session Shield Management Notification Logs Support About DC201809140003 Memory Activity Usage % Average Usage % Memory Activity Status High Memory Usage 56.1% Average Memory Usage 55.5% Average Memory Usage / Minute 55.9% Average Memory Usage / Hour 51.4% Average Memory Usage / Day 46%												
Notification	Memory usage above limit Memory usage has been above the set limit 50% for more than 10 minutes. Average memory usage is 55% 17:52 • Memory Activity												
Log	<table><tr><th>Time</th><th>Level</th><th>Source</th><th>Type</th><th>Name</th><th>Details</th></tr><tr><td>13 Oct 2022, 17:52:29</td><td>Warning</td><td>ecaOS</td><td>Memory Activity</td><td>Memory activity above limit</td><td>Memory activity has been above the set limit 50% for more than 10 minutes. Average Memory activity is 55%</td></tr></table>	Time	Level	Source	Type	Name	Details	13 Oct 2022, 17:52:29	Warning	ecaOS	Memory Activity	Memory activity above limit	Memory activity has been above the set limit 50% for more than 10 minutes. Average Memory activity is 55%
Time	Level	Source	Type	Name	Details								
13 Oct 2022, 17:52:29	Warning	ecaOS	Memory Activity	Memory activity above limit	Memory activity has been above the set limit 50% for more than 10 minutes. Average Memory activity is 55%								
Email	[DC201809140003 ecaOS 6.0.2210.0408] High Memory Usage Detected - Message (HTML) File Message Help Acrobat Share to Teams Find Forward [DC201809140003 ecaOS 6.0.2210.0408] High Memory Usage Detected EN ECA Notifications - <noreply@gsf.ms> To jemi Reply Reply All Forward Thu 13/10/2022 5:52 PM GSF Dear user, Average memory usage has been reported above the predefined limit of 50% for more than 10 minutes. Average memory usage: 55% Time Reported: 13-Oct-22 17:52:29 +08:00 For further assistance, please contact TrueBlue Care: trueblue@gscorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003 ECA, Smart Logic, and TrueBlue are products and services provided by GSF. ©2022 GSF Corporation, F-21-3A, IOI Boulevard, Jalan Kenari 6, 47170 Puchong, Selangor D.E, Malaysia												

13.3 Disk Activity

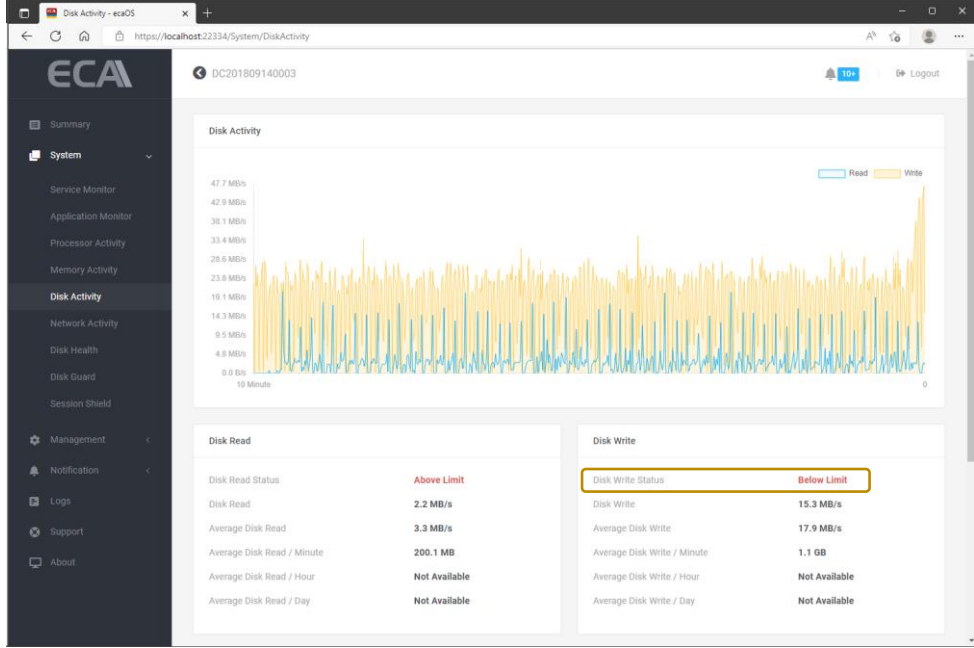
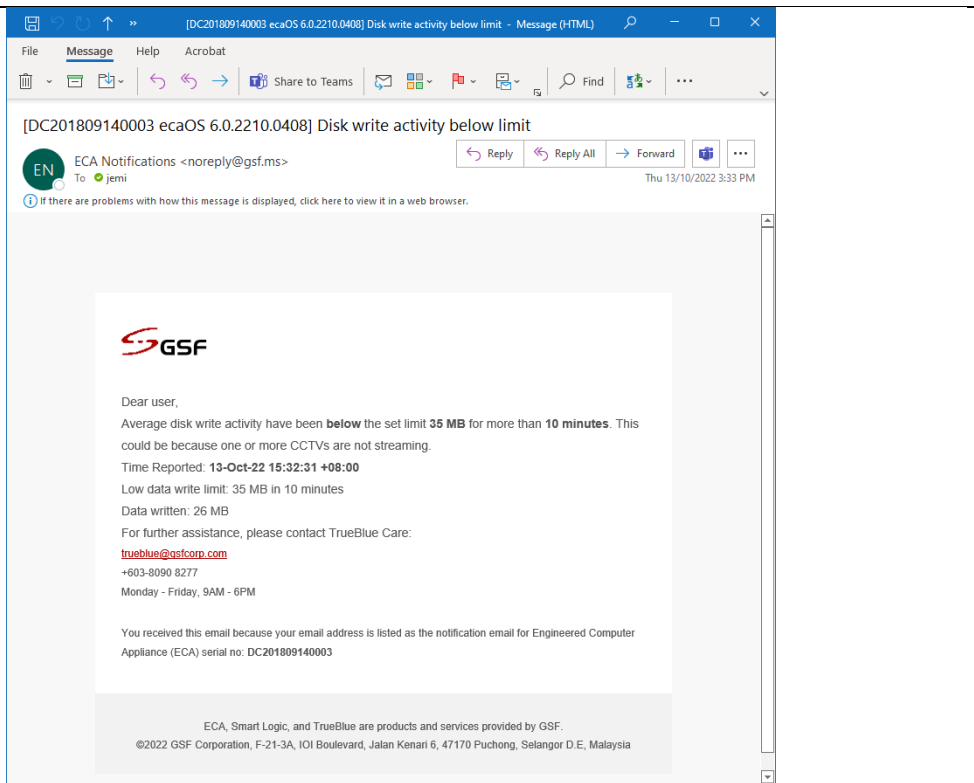
13.3.1 Disk read activity above limit

Dashboard													
Notification	Disk read activity above limit Average disk read activity has been above the set limit 100 KB for more than 10 minutes. Current average disk read activity is 785.1 KB 15:28 - Disk Activity												
Log	<table border="1"> <thead> <tr> <th>Time</th><th>Level</th><th>Source</th><th>Type</th><th>Name</th><th>Details</th></tr> </thead> <tbody> <tr> <td>13 Oct 2022, 15:28:21</td><td>Warning</td><td>ecaOS</td><td>Disk Activity</td><td>Disk read activity above limit</td><td>Average disk read activity has been above the set limit 100 KB for more than 10 minutes. Current average disk read activity is 785.1 KB</td></tr> </tbody> </table>	Time	Level	Source	Type	Name	Details	13 Oct 2022, 15:28:21	Warning	ecaOS	Disk Activity	Disk read activity above limit	Average disk read activity has been above the set limit 100 KB for more than 10 minutes. Current average disk read activity is 785.1 KB
Time	Level	Source	Type	Name	Details								
13 Oct 2022, 15:28:21	Warning	ecaOS	Disk Activity	Disk read activity above limit	Average disk read activity has been above the set limit 100 KB for more than 10 minutes. Current average disk read activity is 785.1 KB								
Email													

13.3.2 Disk read activity back to normal

Dashboard	ecaOS Summary System Service Monitor Application Monitor Processor Activity Memory Activity Disk Activity Network Activity Disk Health Disk Guard Session Shield Management Notification Logs Support About DC201809140003 Disk Activity 66.8 MB/s 57.2 MB/s 47.7 MB/s 38.1 MB/s 28.6 MB/s 19.1 MB/s 9.5 MB/s 0.0 MB/s 10 Minute 0 Read Write Disk Read Disk Read Status Normal Disk Read 15.8 KB/s Average Disk Read 81.3 KB/s Average Disk Read / Minute 14.3 MB Average Disk Read / Hour 6.1 GB Average Disk Read / Day Not Available Disk Write Disk Write Status Below Limit Disk Write 30.4 MB/s Average Disk Write 22.1 MB/s Average Disk Write / Minute 2.1 GB Average Disk Write / Hour 109.4 GB Average Disk Write / Day Not Available												
Notification	Disk read activity back to normal Average disk read activity has returned to normal (after 0 hours 16 minutes). Current average disk read activity is 99.9 KB 16:31 - Disk Activity												
Log	<table><tr><th>Time</th><th>Level</th><th>Source</th><th>Type</th><th>Name</th><th>Details</th></tr><tr><td>13 Oct 2022, 16:31:26</td><td>Information</td><td>ecaOS</td><td>Disk Activity</td><td>Disk read activity back to normal</td><td>Average disk read activity has returned to normal (after 0 hours 16 minutes). Current average disk read activity is 99.9 KB</td></tr></table>	Time	Level	Source	Type	Name	Details	13 Oct 2022, 16:31:26	Information	ecaOS	Disk Activity	Disk read activity back to normal	Average disk read activity has returned to normal (after 0 hours 16 minutes). Current average disk read activity is 99.9 KB
Time	Level	Source	Type	Name	Details								
13 Oct 2022, 16:31:26	Information	ecaOS	Disk Activity	Disk read activity back to normal	Average disk read activity has returned to normal (after 0 hours 16 minutes). Current average disk read activity is 99.9 KB								
Email	[DC201809140003] ecaOS 6.0.2210.0408 Disk Read Activity Returned to Normal - Message (HTML) File Message Help Acrobat 🗑️ 📧 📧 ↶ ↶ ↷ 👤 Share to Teams 📧 📧 📧 📧 🔍 Find 🔗 ⋮ [DC201809140003 ecaOS 6.0.2210.0408] Disk Read Activity Returned to Normal EN ECA Notifications <noreply@gsf.ms> To 🟢 jemi ↶ Reply ↶ Reply All → Forward 📧 ⋮ Thu 13/10/2022 4:31 PM 🔔 If there are problems with how this message is displayed, click here to view it in a web browser. GSF Dear user, Previously reported high average disk read activity have returned to normal. Disk read activity previously crossed the limit of 1 MB for 10 minutes. Time Reported: 13-Oct-22 16:31:26 +08:00 High disk read limit: 1 MB for 10 minutes Data Transmitted: 99.9 KB Stayed above the limit for: 0 Hours and 16 minutes For further assistance, please contact TrueBlue Care: trueblue@gsfcorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003 ECA, Smart Logic, and TrueBlue are products and services provided by GSF. ©2022 GSF Corporation, F-21-3A, IOI Boulevard, Jalan Kenari 6, 47170 Puchong, Selangor D.E, Malaysia												

13.3.3 Disk write activity below limit

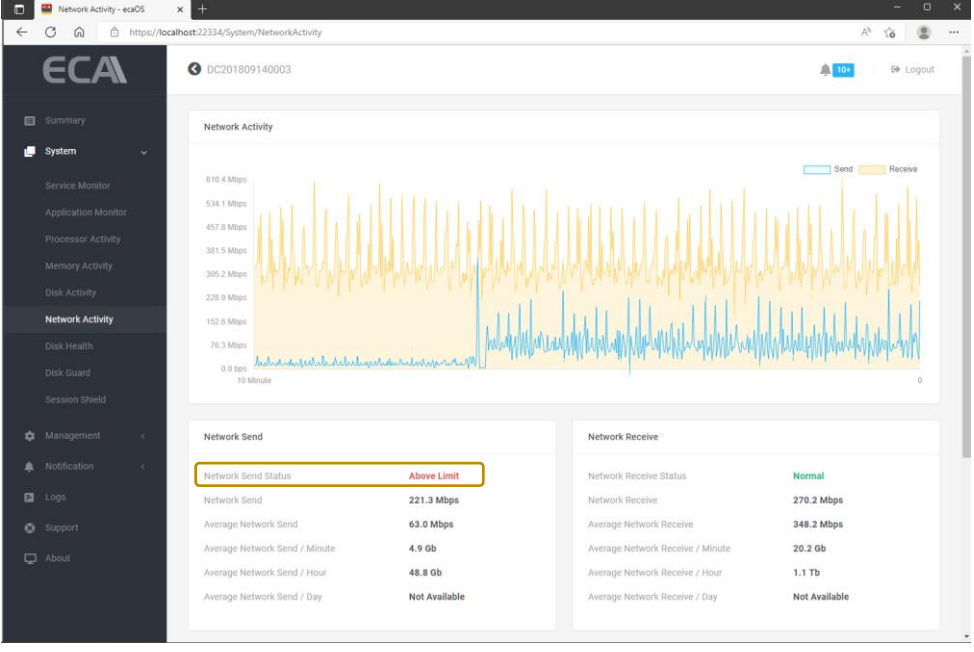
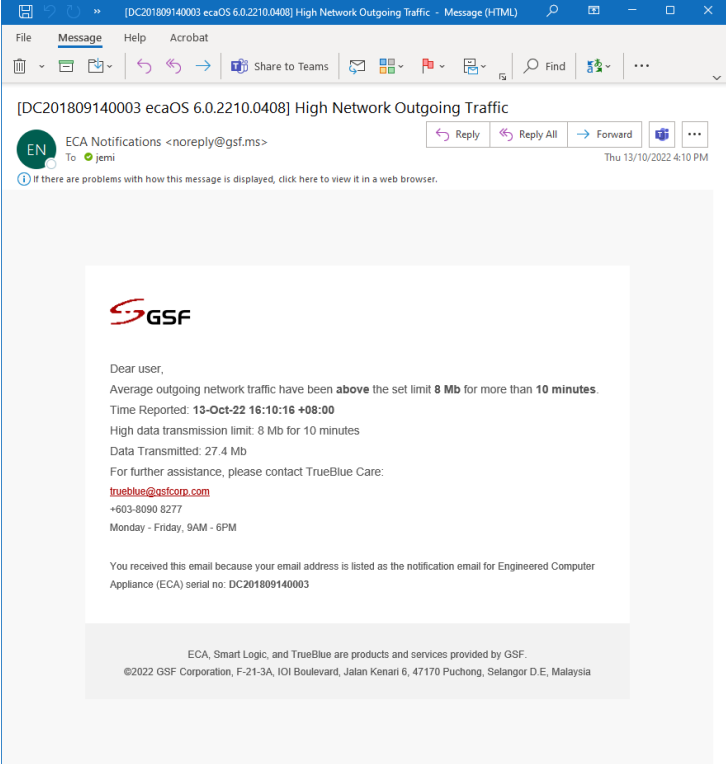
Dashboard	 Disk Read Summary: <table border="1"> <thead> <tr> <th>Metric</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Disk Read Status</td> <td>Above Limit</td> </tr> <tr> <td>Disk Read</td> <td>2.2 MB/s</td> </tr> <tr> <td>Average Disk Read</td> <td>3.3 MB/s</td> </tr> <tr> <td>Average Disk Read / Minute</td> <td>200.1 MB</td> </tr> <tr> <td>Average Disk Read / Hour</td> <td>Not Available</td> </tr> <tr> <td>Average Disk Read / Day</td> <td>Not Available</td> </tr> </tbody> </table> Disk Write Summary: <table border="1"> <thead> <tr> <th>Metric</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Disk Write Status</td> <td>Below Limit</td> </tr> <tr> <td>Disk Write</td> <td>15.3 MB/s</td> </tr> <tr> <td>Average Disk Write</td> <td>17.9 MB/s</td> </tr> <tr> <td>Average Disk Write / Minute</td> <td>1.1 GB</td> </tr> <tr> <td>Average Disk Write / Hour</td> <td>Not Available</td> </tr> <tr> <td>Average Disk Write / Day</td> <td>Not Available</td> </tr> </tbody> </table>	Metric	Value	Disk Read Status	Above Limit	Disk Read	2.2 MB/s	Average Disk Read	3.3 MB/s	Average Disk Read / Minute	200.1 MB	Average Disk Read / Hour	Not Available	Average Disk Read / Day	Not Available	Metric	Value	Disk Write Status	Below Limit	Disk Write	15.3 MB/s	Average Disk Write	17.9 MB/s	Average Disk Write / Minute	1.1 GB	Average Disk Write / Hour	Not Available	Average Disk Write / Day	Not Available
Metric	Value																												
Disk Read Status	Above Limit																												
Disk Read	2.2 MB/s																												
Average Disk Read	3.3 MB/s																												
Average Disk Read / Minute	200.1 MB																												
Average Disk Read / Hour	Not Available																												
Average Disk Read / Day	Not Available																												
Metric	Value																												
Disk Write Status	Below Limit																												
Disk Write	15.3 MB/s																												
Average Disk Write	17.9 MB/s																												
Average Disk Write / Minute	1.1 GB																												
Average Disk Write / Hour	Not Available																												
Average Disk Write / Day	Not Available																												
Notification	Disk write activity below limit Average disk write activity has been above the set limit 35 MB for more than 10 minutes. Current average disk write activity is 26 MB 15:32 - Disk Activity																												
Log	<table border="1"> <thead> <tr> <th>Time</th> <th>Level</th> <th>Source</th> <th>Type</th> <th>Name</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>13 Oct 2022, 15:32:31</td> <td>Warning</td> <td>ecaOS</td> <td>Disk Activity</td> <td>Disk write activity below limit</td> <td>Average disk write activity has been below the set limit 35 MB for more than 10 minutes. Current average disk write activity is 26 MB</td> </tr> </tbody> </table>	Time	Level	Source	Type	Name	Details	13 Oct 2022, 15:32:31	Warning	ecaOS	Disk Activity	Disk write activity below limit	Average disk write activity has been below the set limit 35 MB for more than 10 minutes. Current average disk write activity is 26 MB																
Time	Level	Source	Type	Name	Details																								
13 Oct 2022, 15:32:31	Warning	ecaOS	Disk Activity	Disk write activity below limit	Average disk write activity has been below the set limit 35 MB for more than 10 minutes. Current average disk write activity is 26 MB																								
Email	 [DC201809140003 ecaOS 6.0.2210.0408] Disk write activity below limit Dear user, Average disk write activity have been below the set limit 35 MB for more than 10 minutes. This could be because one or more CCTVs are not streaming. Time Reported: 13-Oct-22 15:32:31 +08:00 Low data write limit: 35 MB in 10 minutes Data written: 26 MB For further assistance, please contact TrueBlue Care: trueblue@gsfcorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003 ECA, Smart Logic, and TrueBlue are products and services provided by GSF. ©2022 GSF Corporation, F-21-3A, IOI Boulevard, Jalan Kenari 6, 47170 Puchong, Selangor D.E., Malaysia																												

13.3.4 Disk write activity back to normal

Dashboard	ecaOS System Service Monitor Application Monitor Processor Activity Memory Activity Disk Activity Network Activity Disk Health Disk Guard Session Shield Management Notification Logs Support About DC201809140003 Disk Activity 95.4 MB/s 85.8 MB/s 76.3 MB/s 66.8 MB/s 57.2 MB/s 47.7 MB/s 38.1 MB/s 28.6 MB/s 19.1 MB/s 9.5 MB/s 0.0 B/s 10 Minute Disk Read Disk Read Status Disk Read Average Disk Read Average Disk Read / Minute Average Disk Read / Hour Average Disk Read / Day Above Limit 43.7 KB/s 20.5 KB/s 4.7 MB Not Available Not Available Disk Write Disk Write Status Disk Write Average Disk Write Average Disk Write / Minute Average Disk Write / Hour Average Disk Write / Day Normal 47.3 MB/s 35.7 MB/s 2.1 GB Not Available Not Available													
Notification	Disk write activity back to normal Average disk write activity has returned to normal (after 0 hours 21 minutes). Current average disk write activity is 35.7 MB 15:53 • Disk Activity													
Log	<table><tr><th>Time</th><th>Level</th><th>Source</th><th>Type</th><th>Name</th><th>Details</th></tr><tr><td>13 Oct 2022, 15:53:46</td><td>Information</td><td>ecaOS</td><td>Disk Activity</td><td>Disk write activity back to normal</td><td>Average disk write activity has returned to normal (after 0 hours 21 minutes). Current average disk write activity is 35.7 MB</td></tr></table>		Time	Level	Source	Type	Name	Details	13 Oct 2022, 15:53:46	Information	ecaOS	Disk Activity	Disk write activity back to normal	Average disk write activity has returned to normal (after 0 hours 21 minutes). Current average disk write activity is 35.7 MB
Time	Level	Source	Type	Name	Details									
13 Oct 2022, 15:53:46	Information	ecaOS	Disk Activity	Disk write activity back to normal	Average disk write activity has returned to normal (after 0 hours 21 minutes). Current average disk write activity is 35.7 MB									
Email	[DC201809140003] ecaOS 6.0.2210.0408] Disk write activity back to normal - Message (HTML) File Message Help Acrobat Share to Teams													

13.4 Network Activity

13.4.1 Network send activity above limit

Dashboard	 Network Send <table border="1"> <thead> <tr> <th>Network Send Status</th> <th>Above Limit</th> </tr> </thead> <tbody> <tr> <td>Network Send</td> <td>221.3 Mbps</td> </tr> <tr> <td>Average Network Send</td> <td>63.0 Mbps</td> </tr> <tr> <td>Average Network Send / Minute</td> <td>4.9 Gb</td> </tr> <tr> <td>Average Network Send / Hour</td> <td>48.8 Gb</td> </tr> <tr> <td>Average Network Send / Day</td> <td>Not Available</td> </tr> </tbody> </table> Network Receive <table border="1"> <thead> <tr> <th>Network Receive Status</th> <th>Normal</th> </tr> </thead> <tbody> <tr> <td>Network Receive</td> <td>270.2 Mbps</td> </tr> <tr> <td>Average Network Receive</td> <td>348.2 Mbps</td> </tr> <tr> <td>Average Network Receive / Minute</td> <td>20.2 Gb</td> </tr> <tr> <td>Average Network Receive / Hour</td> <td>1.1 Tb</td> </tr> <tr> <td>Average Network Receive / Day</td> <td>Not Available</td> </tr> </tbody> </table>	Network Send Status	Above Limit	Network Send	221.3 Mbps	Average Network Send	63.0 Mbps	Average Network Send / Minute	4.9 Gb	Average Network Send / Hour	48.8 Gb	Average Network Send / Day	Not Available	Network Receive Status	Normal	Network Receive	270.2 Mbps	Average Network Receive	348.2 Mbps	Average Network Receive / Minute	20.2 Gb	Average Network Receive / Hour	1.1 Tb	Average Network Receive / Day	Not Available
Network Send Status	Above Limit																								
Network Send	221.3 Mbps																								
Average Network Send	63.0 Mbps																								
Average Network Send / Minute	4.9 Gb																								
Average Network Send / Hour	48.8 Gb																								
Average Network Send / Day	Not Available																								
Network Receive Status	Normal																								
Network Receive	270.2 Mbps																								
Average Network Receive	348.2 Mbps																								
Average Network Receive / Minute	20.2 Gb																								
Average Network Receive / Hour	1.1 Tb																								
Average Network Receive / Day	Not Available																								
Notification	Network send activity above limit Average network send activity has been above the set limit 8 Mb for more than 10 minutes. Current average network sent activity is 27.4 Mb 16:10 - Network Activity																								
Log	<table border="1"> <thead> <tr> <th>Time</th> <th>Level</th> <th>Source</th> <th>Type</th> <th>Name</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>13 Oct 2022, 16:10:16</td> <td>Warning</td> <td>ecaOS</td> <td>Network Activity</td> <td>Network send activity above limit</td> <td>Average network send activity has been above the set limit 8 Mb for more than 10 minutes. Current average network send activity is 27.4 Mb</td> </tr> </tbody> </table>	Time	Level	Source	Type	Name	Details	13 Oct 2022, 16:10:16	Warning	ecaOS	Network Activity	Network send activity above limit	Average network send activity has been above the set limit 8 Mb for more than 10 minutes. Current average network send activity is 27.4 Mb												
Time	Level	Source	Type	Name	Details																				
13 Oct 2022, 16:10:16	Warning	ecaOS	Network Activity	Network send activity above limit	Average network send activity has been above the set limit 8 Mb for more than 10 minutes. Current average network send activity is 27.4 Mb																				
Email	 [DC201809140003] ecaOS 6.0.2210.0408] High Network Outgoing Traffic - Message (HTML) [DC201809140003] ecaOS 6.0.2210.0408] High Network Outgoing Traffic ECA Notifications <noreply@gsf.ms> To: jemi Thu 13/10/2022 4:10 PM If there are problems with how this message is displayed, click here to view it in a web browser. GSF Dear user, Average outgoing network traffic have been above the set limit 8 Mb for more than 10 minutes. Time Reported: 13-Oct-22 16:10:16 +08:00 High data transmission limit: 8 Mb for 10 minutes Data Transmitted: 27.4 Mb For further assistance, please contact TrueBlue Care: trueblue@gsfcorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003 ECA, Smart Logic, and TrueBlue are products and services provided by GSF. ©2022 GSF Corporation, F-21-3A, IOI Boulevard, Jalan Kenari 6, 47170 Puchong, Selangor D.E, Malaysia																								

13.4.2 Network send activity back to normal

Dashboard

Network Activity - ecaOS

https://localhost:22334/System/NetworkActivity

ECA

DC201809140003

Summary

System

Service Monitor

Application Monitor

Processor Activity

Memory Activity

Disk Activity

Network Activity

Disk Health

Disk Guard

Session Shield

Management

Notification

Logs

Support

About

Network Activity

688.6 Mbps

610.4 Mbps

534.1 Mbps

457.8 Mbps

381.5 Mbps

305.2 Mbps

228.9 Mbps

152.6 Mbps

76.3 Mbps

0.0 bps

10 Minute

Send

Receive

Network Send

Network Send StatusNormal

Network Send4.8 Mbps

Average Network Send3.9 Mbps

Average Network Send / Minute321.9 Mb

Average Network Send / Hour66.6 Gb

Average Network Send / DayNot Available

Network Receive

Network Receive StatusBelow Limit

Network Receive337.5 Mbps

Average Network Receive250.8 Mbps

Average Network Receive / Minute20.1 Gb

Average Network Receive / Hour1.0 Tb

Average Network Receive / DayNot Available

Notification

Network send activity back to normal

Average network send activity has returned to normal (after 0 hours 21 minutes). Current average network send activity is 3 Mb

16:31 • Network Activity

Log

Time	Level	Source	Type	Name	Details
13 Oct 2022, 16:31:52	Information	ecaOS	Network Activity	Network send activity back to normal	Average network send activity have returned to normal (after 0 hours 21 minutes). Current average network send activity is 3 Mb

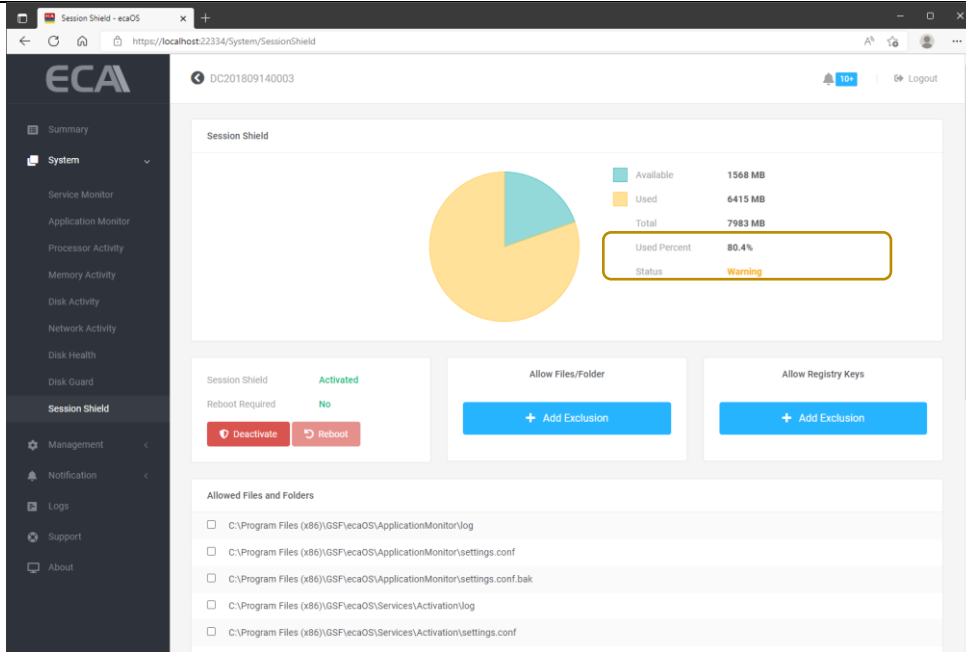
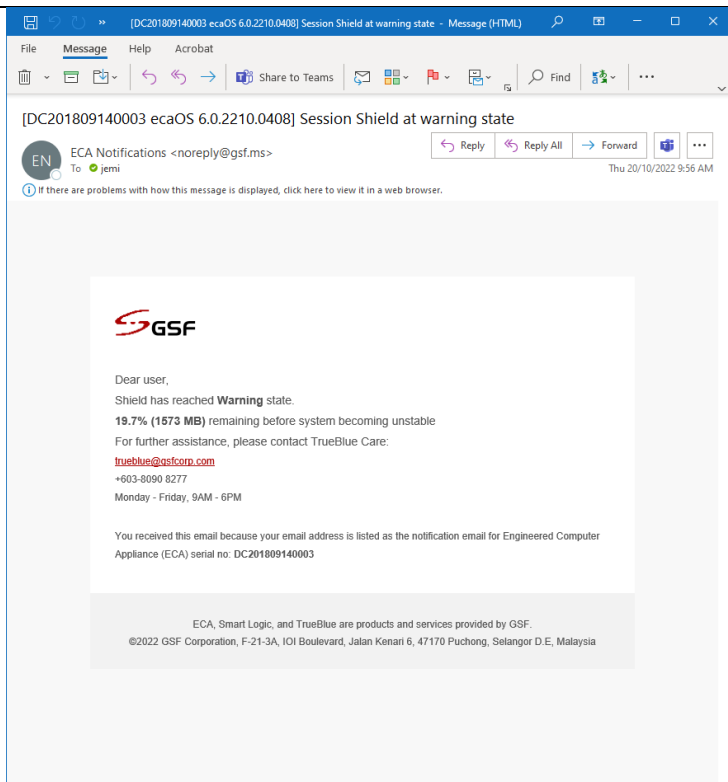
Email

13.4.3 Network receive activity below limit

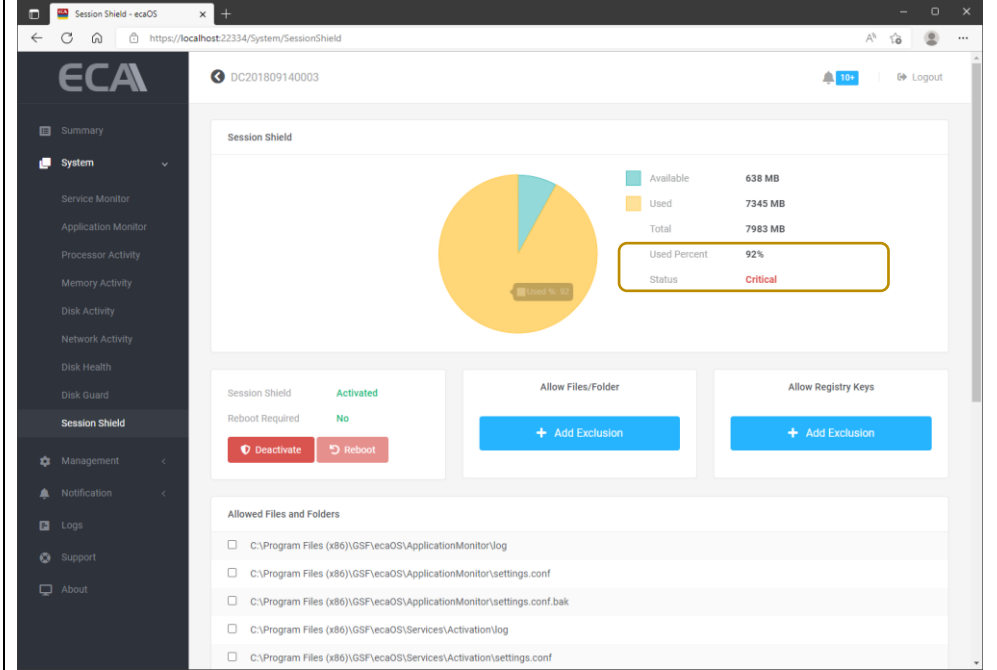
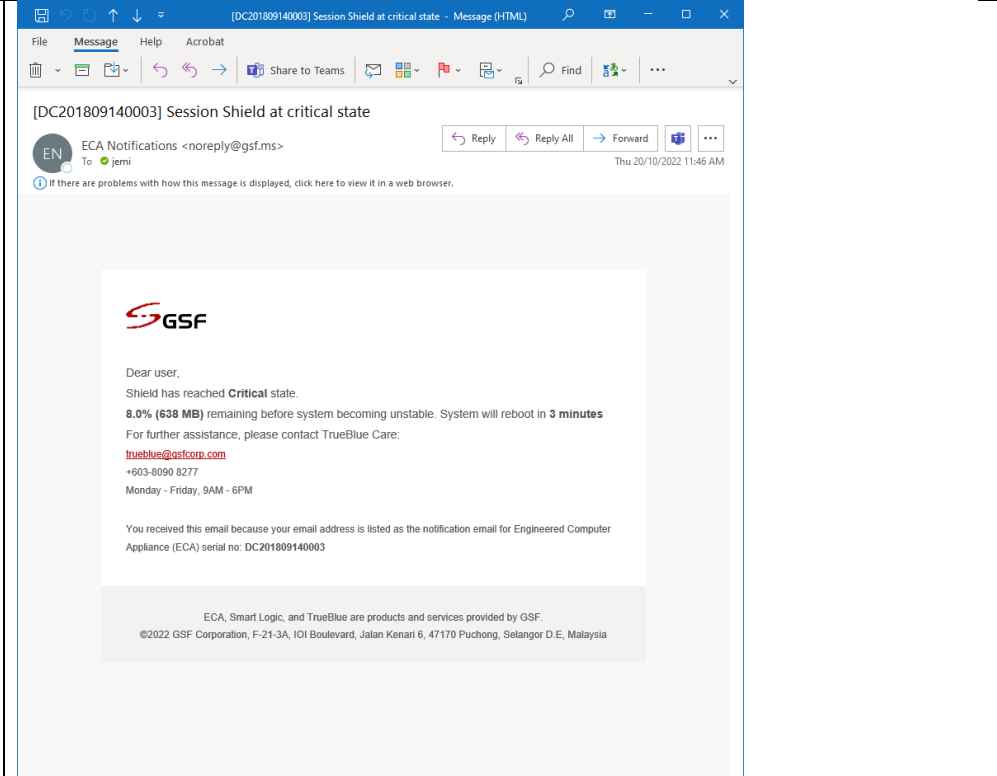
Dashboard	Network Activity - ecaOS https://localhost:22334/System/NetworkActivity ECA Summary System Service Monitor Application Monitor Processor Activity Memory Activity Disk Activity Network Activity Disk Health Disk Guard Session Shield Management Notification Logs Support About DC201809140003 10+ Logout Network Activity 457.8 Mbps 381.5 Mbps 305.2 Mbps 228.9 Mbps 152.6 Mbps 76.3 Mbps 0.0 Mbps 10 Minute Send Receive Network Send Network Send Status Above Limit Network Send 2.9 Mbps Average Network Send 2.9 Mbps Average Network Send / Minute 182.8 Mb Average Network Send / Hour 64.9 Gb Average Network Send / Day Not Available Network Receive Network Receive Status Below Limit Network Receive 133.8 Mbps Average Network Receive 170.1 Mbps Average Network Receive / Minute 9.9 Gb Average Network Receive / Hour 1.0 Tb Average Network Receive / Day Not Available																
Notification	Network received activity below limit Average network receive activity has been below the set limit 330 Mb for more than 10 minutes. Current average network receive activity is 242 Mb 16:24 • Network Activity																
Log	<table><tr><th>Time</th><th>Level</th><th>Source</th><th>Type</th><th>Name</th><th>Details</th></tr><tr><td>13 Oct 2022, 16:24:22</td><td>Warning</td><td>ecaOS</td><td>Network Activity</td><td>Network receive activity below limit</td><td>Average network receive activity has been below the set limit 330 Mb for more than 10 minutes. Current average network receive activity is 242 Mb</td></tr></table>					Time	Level	Source	Type	Name	Details	13 Oct 2022, 16:24:22	Warning	ecaOS	Network Activity	Network receive activity below limit	Average network receive activity has been below the set limit 330 Mb for more than 10 minutes. Current average network receive activity is 242 Mb
Time	Level	Source	Type	Name	Details												
13 Oct 2022, 16:24:22	Warning	ecaOS	Network Activity	Network receive activity below limit	Average network receive activity has been below the set limit 330 Mb for more than 10 minutes. Current average network receive activity is 242 Mb												
Email	[DC201809140003 ecaOS 6.0.2210.0408] One or more CCTVs might not be streaming - Message (HTML) File Message Help Acrobat Share to Teams Find ... [DC201809140003 ecaOS 6.0.2210.0408] One or more CCTVs might not be streaming EN ECA Notifications <noreply@gsf.ms> To jemi Thu 13/10/2022 4:24 PM Reply Reply All Forward ... If there are problems with how this message is displayed, click here to view it in a web browser. GSF Dear user, Average incoming network traffic have been below the set limit 330 Mb for more than 10 minutes. This could be because one or more CCTVs are not streaming. Time Reported: 13-Oct-22 16:24:22 +08:00 Low data reception limit: 330 Mb in 10 minutes Data received: 242 Mb For further assistance, please contact TrueBlue Care: trueblue@gscorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003 ECA, Smart Logic, and TrueBlue are products and services provided by GSF. ©2022 GSF Corporation, F-21-3A, IOI Boulevard, Jalan Kenari 6, 47170 Puchong, Selangor D.E, Malaysia																

13.5 Session Shield

13.5.1 Warning Status

Dashboard													
Notification	Session Shield at warning state Shield has reached Warning state. 19.7% (1573 MB) remaining before system becoming unstable 09:56 • Session Shield												
Log	<table border="1"> <thead> <tr> <th>Time</th> <th>Level</th> <th>Source</th> <th>Type</th> <th>Name</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>20 Oct 2022, 9:56:07</td> <td>Warning</td> <td>ecaOS</td> <td>Session Shield</td> <td>Session Shield at warning state</td> <td>Shield has reached Warning state. 19.7% (1573 MB) remaining before system becoming unstable</td> </tr> </tbody> </table>	Time	Level	Source	Type	Name	Details	20 Oct 2022, 9:56:07	Warning	ecaOS	Session Shield	Session Shield at warning state	Shield has reached Warning state. 19.7% (1573 MB) remaining before system becoming unstable
Time	Level	Source	Type	Name	Details								
20 Oct 2022, 9:56:07	Warning	ecaOS	Session Shield	Session Shield at warning state	Shield has reached Warning state. 19.7% (1573 MB) remaining before system becoming unstable								
Email													

13.5.2 Critical Status

Dashboard													
Notification	Session Shield at critical state Shield has reached Critical state. 8.0% (638 MB) remaining before system becoming unstable. System will reboot in 3 minutes 11:45 • Session Shield												
Log	<table border="1"> <thead> <tr> <th>Time</th><th>Level</th><th>Source</th><th>Type</th><th>Name</th><th>Details</th></tr> </thead> <tbody> <tr> <td>20 Oct 2022, 11:45:30</td><td>Critical</td><td>ecaOS</td><td>Session Shield</td><td>Session Shield at critical state</td><td>Shield has reached Critical state. 8% (638 MB) remaining before system becoming unstable. System will reboot in 3 minutes</td></tr> </tbody> </table>	Time	Level	Source	Type	Name	Details	20 Oct 2022, 11:45:30	Critical	ecaOS	Session Shield	Session Shield at critical state	Shield has reached Critical state. 8% (638 MB) remaining before system becoming unstable. System will reboot in 3 minutes
Time	Level	Source	Type	Name	Details								
20 Oct 2022, 11:45:30	Critical	ecaOS	Session Shield	Session Shield at critical state	Shield has reached Critical state. 8% (638 MB) remaining before system becoming unstable. System will reboot in 3 minutes								
Email													

13.5.3 Status back to normal

Dashboard

Session Shield - ecaOS

https://localhost:22334/System/SessionShield

DC201809140003

10+ Logout

ECA

Summary

System

Service Monitor

Application Monitor

Processor Activity

Memory Activity

Disk Activity

Network Activity

Disk Health

Disk Guard

Session Shield

Management

Notification

Logs

Support

About

Session Shield

Available 7315 MB

Used 668 MB

Total 7983 MB

Used Percent 8.4%

Status Normal

Session Shield Activated

Reboot Required No

Deactivate Reboot

Allow Files/Folder

Add Exclusion

Allow Registry Keys

Add Exclusion

Allowed Files and Folders

C:\Program Files (x86)\GSF\ecaOS\ApplicationMonitor\log

C:\Program Files (x86)\GSF\ecaOS\ApplicationMonitor\settings.conf

C:\Program Files (x86)\GSF\ecaOS\ApplicationMonitor\settings.conf.bak

C:\Program Files (x86)\GSF\ecaOS\Services\Activation\log

C:\Program Files (x86)\GSF\ecaOS\Services\Activation\settings.conf

Notification

Session Shield back to normal

Shield returned to Normal state. 91.6% (7316 MB) remaining

11:48 • Session Shield

Log

Time	Level	Source	Type	Name	Details
20 Oct 2022, 11:48:52	Information	ecaOS	Session Shield	Session Shield back to normal	Shield returned to Normal state. 91.6% (7316 MB) remaining

Email

[DC201809140003] Session Shield back to normal - Message (HTML)

File Message Help Acrobat

Share to Teams Find

[DC201809140003] Session Shield back to normal

ECA Notifications <noreply@gsf.ms>

To jemi

Thu 20/10/2022 11:49 AM

Reply Reply All Forward

If there are problems with how this message is displayed, click here to view it in a web browser.

GSF

Dear user,

Shield returned to **Normal** state.

91.6% (7316 MB) remaining

For further assistance, please contact TrueBlue Care:

trueblue@gsfcorp.com

+603-8090 8277

Monday - Friday, 9AM - 6PM

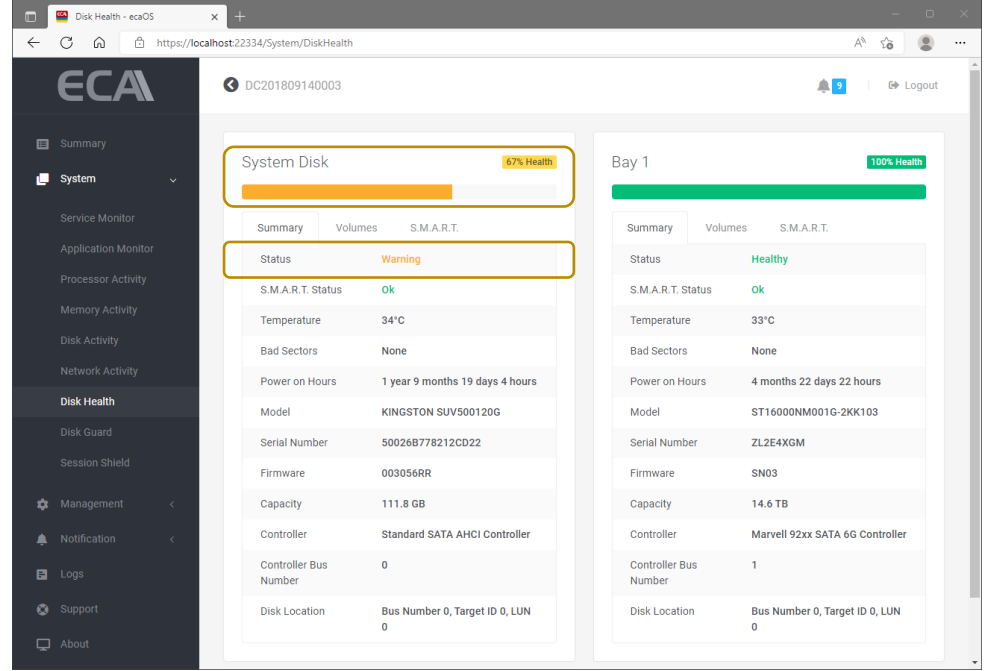
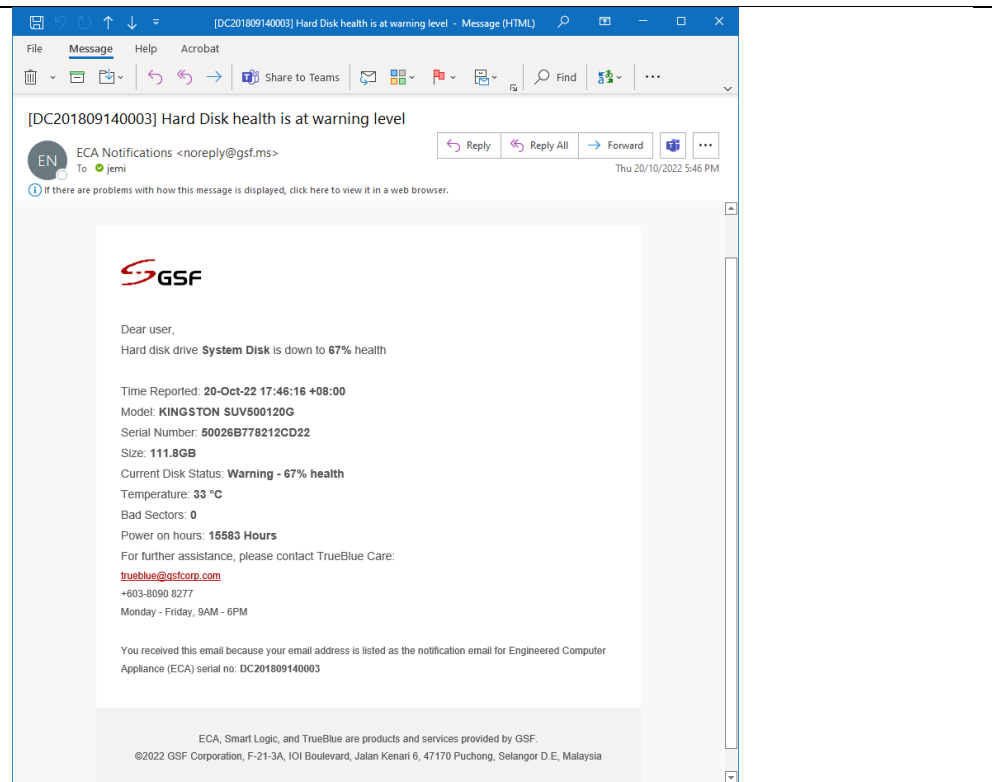
You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003

ECA, Smart Logic, and TrueBlue are products and services provided by GSF.

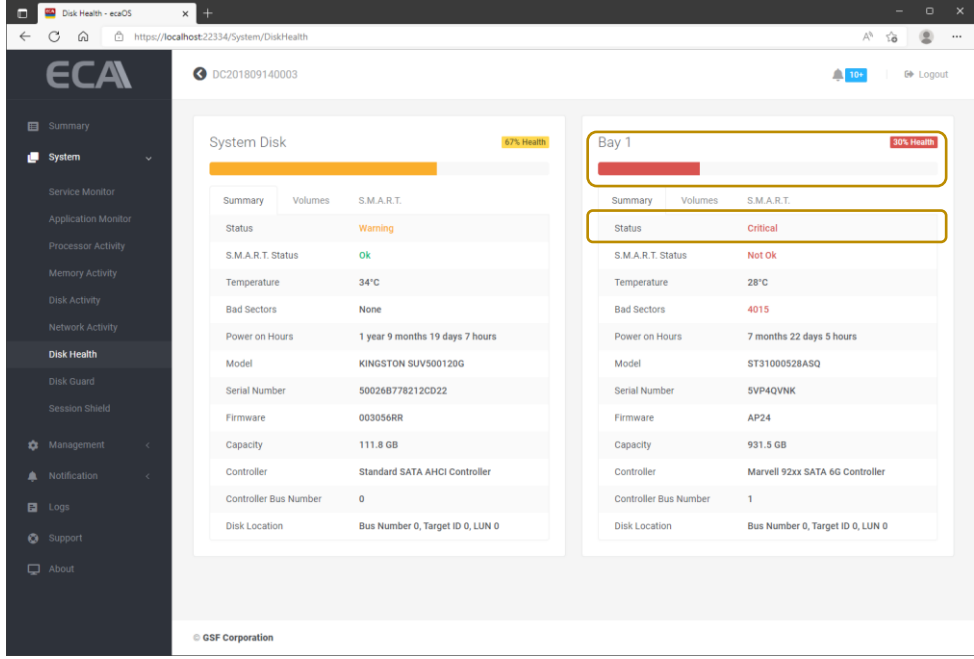
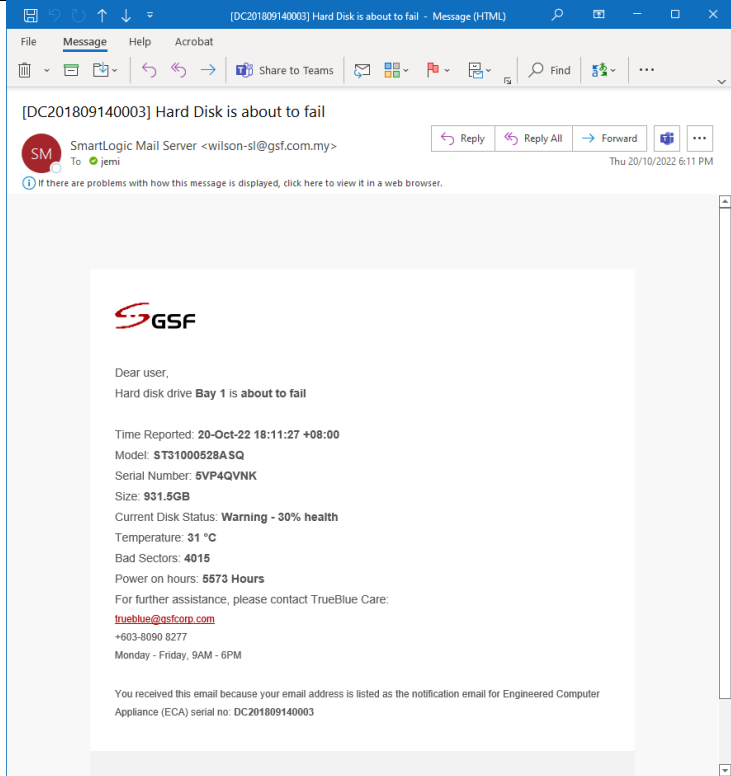
©2022 GSF Corporation, F-21-3A, IOI Boulevard, Jalan Kenari 6, 47170 Puchong, Selangor D.E, Malaysia

13.6 Disk Health

13.6.1 Warning Status Disk

Dashboard													
Notification	Disk health warning Disk System Disk is down to 67% health 17:46 • Disk Health												
Log	<table border="1"> <thead> <tr> <th>Time</th> <th>Level</th> <th>Source</th> <th>Type</th> <th>Name</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>20 Oct 2022, 17:46:16</td> <td>Warning</td> <td>ecaOS</td> <td>Disk Health</td> <td>Disk health warning</td> <td>Disk System Disk is down to 67% health</td> </tr> </tbody> </table>	Time	Level	Source	Type	Name	Details	20 Oct 2022, 17:46:16	Warning	ecaOS	Disk Health	Disk health warning	Disk System Disk is down to 67% health
Time	Level	Source	Type	Name	Details								
20 Oct 2022, 17:46:16	Warning	ecaOS	Disk Health	Disk health warning	Disk System Disk is down to 67% health								
Email													

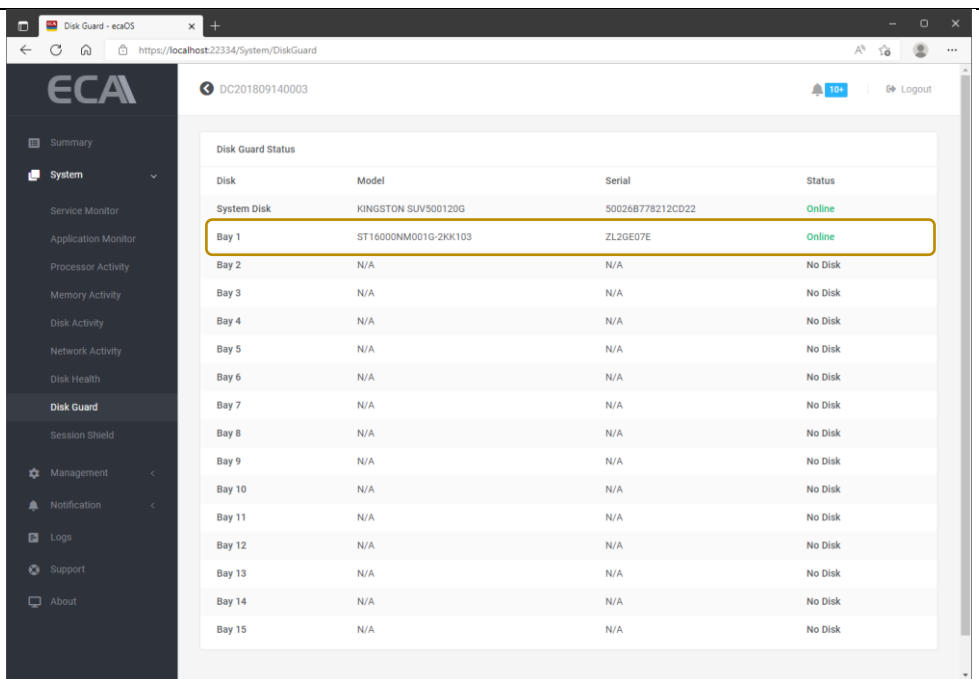
13.6.2 Critical Status Disk

Dashboard	 The screenshot shows the ECA Disk Health interface. On the left is a sidebar with navigation options: Summary, System (selected), Service Monitor, Application Monitor, Processor Activity, Memory Activity, Disk Activity, Network Activity, Disk Health (highlighted), Disk Guard, Session Shield, Management, Notification, Logs, Support, and About. The main content area displays the 'System Disk' health for 'DC201809140003'. It shows a 'Warning' status for the system disk and a 'Critical' status for 'Bay 1'. The 'Bay 1' section shows a 'Not Ok' S.M.A.R.T. status, a temperature of 28°C, 4015 bad sectors, and a power-on time of 7 months 22 days 5 hours. The disk is a KINGSTON SUV500120G, 111.8 GB, with a Standard SATA AHCI Controller.												
Notification	Disk health critical Disk Bay 1 is down to 30% health 17:55 • Disk Health												
Log	<table border="1"> <thead> <tr> <th>Time</th><th>Level</th><th>Source</th><th>Type</th><th>Name</th><th>Details</th></tr> </thead> <tbody> <tr> <td>20 Oct 2022, 17:55:57</td><td>Warning</td><td>ecaOS</td><td>Disk Health</td><td>Disk health critical</td><td>Disk Bay 1 is down to 30% health</td></tr> </tbody> </table>	Time	Level	Source	Type	Name	Details	20 Oct 2022, 17:55:57	Warning	ecaOS	Disk Health	Disk health critical	Disk Bay 1 is down to 30% health
Time	Level	Source	Type	Name	Details								
20 Oct 2022, 17:55:57	Warning	ecaOS	Disk Health	Disk health critical	Disk Bay 1 is down to 30% health								
Email	 The screenshot shows an email notification from SmartLogic Mail Server. The subject is '[DC201809140003] Hard Disk is about to fail'. The email is addressed to 'jemi' and was received on 'Thu 20/10/2022 6:11 PM'. The body of the email contains the following information: Dear user, Hard disk drive Bay 1 is about to fail Time Reported: 20-Oct-22 18:11:27 +08:00 Model: ST31000528ASQ Serial Number: 5VP4QVVK Size: 931.5GB Current Disk Status: Warning - 30% health Temperature: 31 °C Bad Sectors: 4015 Power on hours: 5673 Hours For further assistance, please contact TrueBlue Care: trueblue@gsfcorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003												

13.7 Disk Guard

13.7.1 New disk / Disk Inserted

Dashboard



Disk	Model	Serial	Status
System Disk	KINGSTON SUV300120G	500268778212CD22	Online
Bay 1	ST1600NM001G-2KK103	ZL2GE07E	Online
Bay 2	N/A	N/A	No Disk
Bay 3	N/A	N/A	No Disk
Bay 4	N/A	N/A	No Disk
Bay 5	N/A	N/A	No Disk
Bay 6	N/A	N/A	No Disk
Bay 7	N/A	N/A	No Disk
Bay 8	N/A	N/A	No Disk
Bay 9	N/A	N/A	No Disk
Bay 10	N/A	N/A	No Disk
Bay 11	N/A	N/A	No Disk
Bay 12	N/A	N/A	No Disk
Bay 13	N/A	N/A	No Disk
Bay 14	N/A	N/A	No Disk
Bay 15	N/A	N/A	No Disk

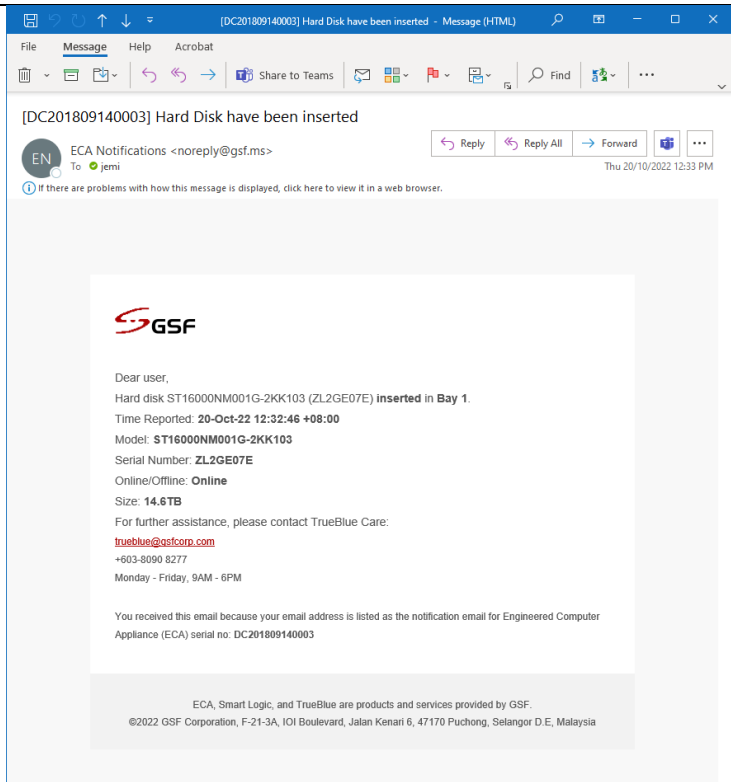
Notification

Disk Inserted
Disk ST1600NM001G-2KK103 (ZL2GE07E)
placed in Bay 1
12:32 • Disk Guard

Log

Time	Level	Source	Type	Name	Details
20 Oct 2022, 12:32:46	Information	ecaOS	Disk Guard	Disk Inserted	Disk ST1600NM001G-2KK103 (ZL2GE07E) placed in Bay 1

Email



[DC201809140003] Hard Disk have been inserted - Message (HTML)

[DC201809140003] Hard Disk have been inserted

ECA Notifications <noreply@gsf.ms>
To: jemi

Thu 20/10/2022 12:33 PM

If there are problems with how this message is displayed, click here to view it in a web browser.

GSF

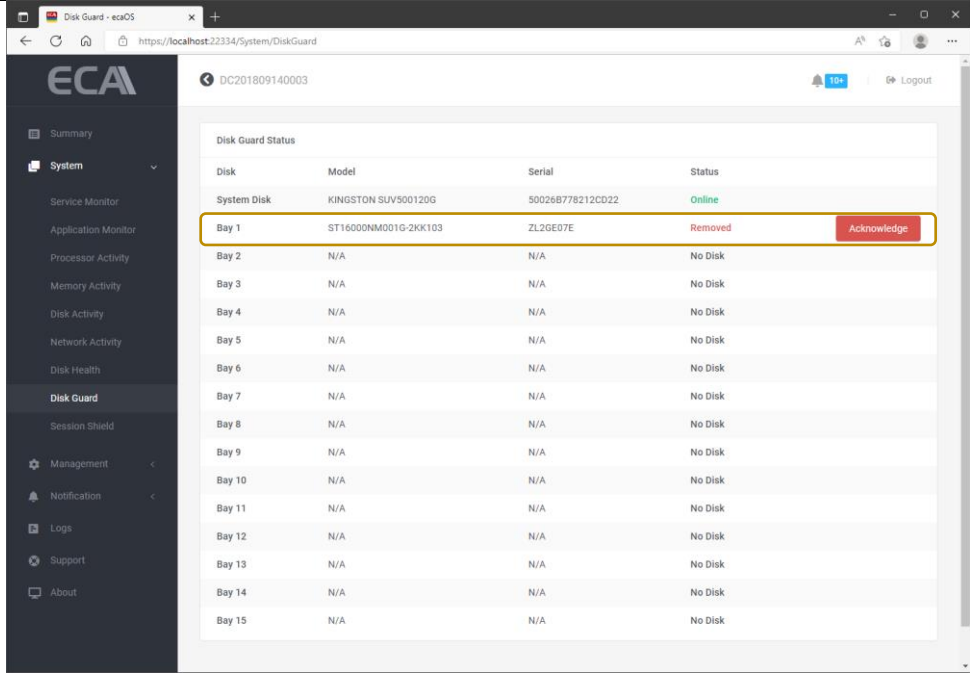
Dear user,
Hard disk ST1600NM001G-2KK103 (ZL2GE07E) inserted in Bay 1.
Time Reported: 20-Oct-22 12:32:46 +08:00
Model: ST1600NM001G-2KK103
Serial Number: ZL2GE07E
Online/Offline: Online
Size: 14.6TB
For further assistance, please contact TrueBlue Care:
trueblue@gsfcorp.com
+603-8090 8277
Monday - Friday, 9AM - 6PM

You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003

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13.7.2 Disk Removed

Dashboard



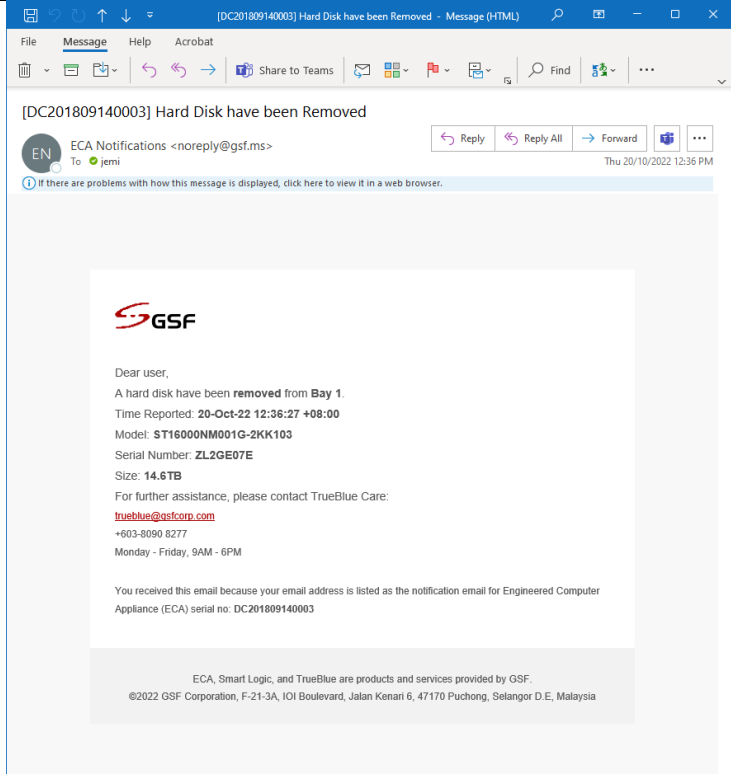
Notification

Disk Removed
Disk ST16000NM001G-2KK103 (ZL2GE07E)
removed from Bay 1
12:36 • Disk Guard

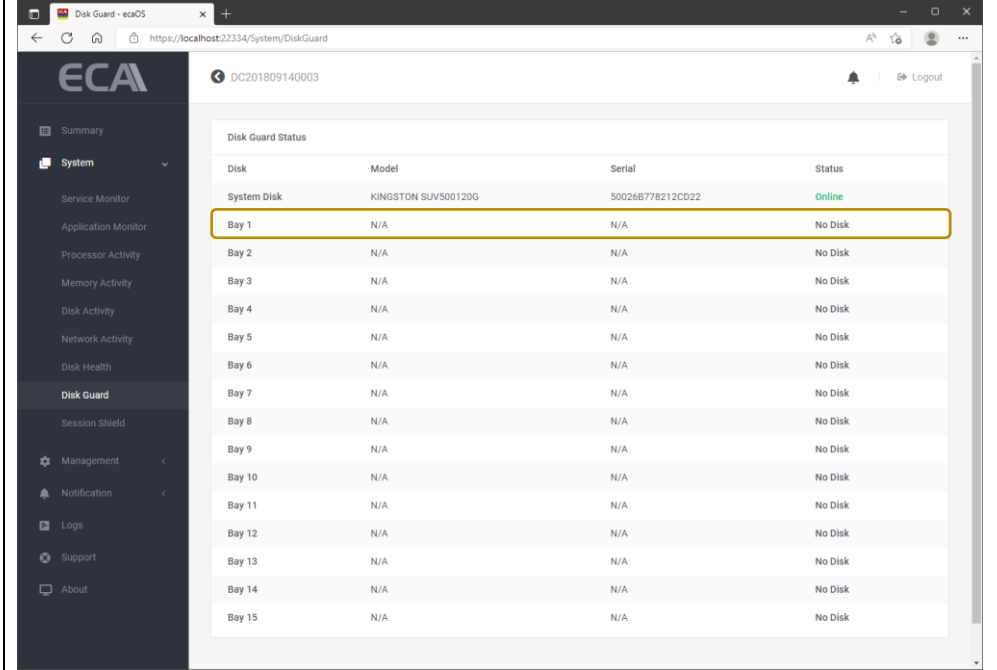
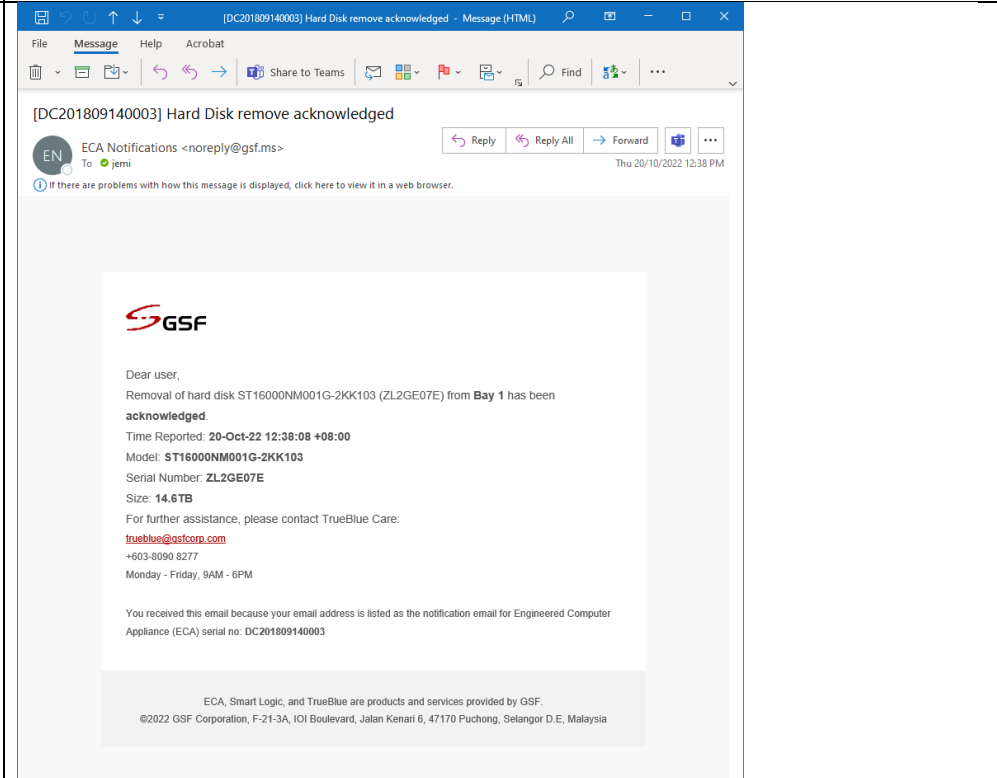
Log

Time	Level	Source	Type	Name	Details
20 Oct 2022, 12:36:27	Warning	ecaOS	Disk Guard	Disk Removed	Disk ST16000NM001G-2KK103 (ZL2GE07E) removed from Bay 1

Email

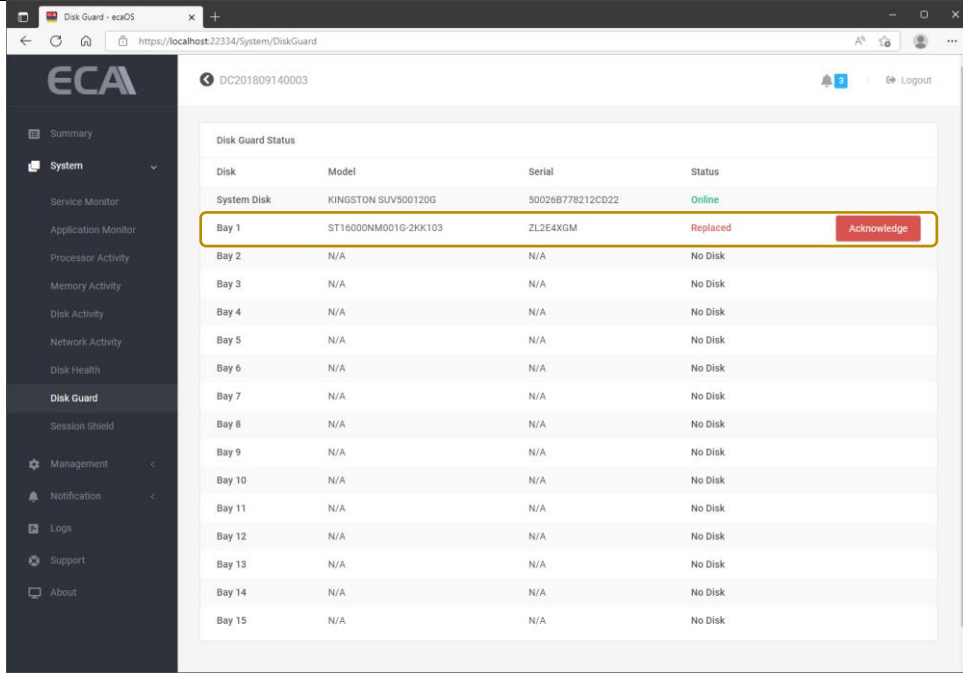


13.7.3 Disk Removed Acknowledge

Dashboard													
Notification	Disk Remove Acknowledged Disk ST16000NM001G-2KK103 (ZL2GE07E) removal from Bay 1 acknowledged 12:38 • Disk Guard												
Log	<table border="1"> <thead> <tr> <th>Time</th> <th>Level</th> <th>Source</th> <th>Type</th> <th>Name</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>20 Oct 2022, 12:38:08</td> <td>Information</td> <td>ecaOS</td> <td>Disk Guard</td> <td>Disk Remove Acknowledged</td> <td>Disk ST16000NM001G-2KK103 (ZL2GE07E) removal from Bay 1 acknowledged</td> </tr> </tbody> </table>	Time	Level	Source	Type	Name	Details	20 Oct 2022, 12:38:08	Information	ecaOS	Disk Guard	Disk Remove Acknowledged	Disk ST16000NM001G-2KK103 (ZL2GE07E) removal from Bay 1 acknowledged
Time	Level	Source	Type	Name	Details								
20 Oct 2022, 12:38:08	Information	ecaOS	Disk Guard	Disk Remove Acknowledged	Disk ST16000NM001G-2KK103 (ZL2GE07E) removal from Bay 1 acknowledged								
Email													

13.7.4 Disk Replaced

Dashboard



Disk	Model	Serial	Status
System Disk	KINGSTON SUV500120G	50026B778212CD22	Online
Bay 1	ST16000NM001G-2KK103	ZL2E4XGM	Replaced
Bay 2	N/A	N/A	No Disk
Bay 3	N/A	N/A	No Disk
Bay 4	N/A	N/A	No Disk
Bay 5	N/A	N/A	No Disk
Bay 6	N/A	N/A	No Disk
Bay 7	N/A	N/A	No Disk
Bay 8	N/A	N/A	No Disk
Bay 9	N/A	N/A	No Disk
Bay 10	N/A	N/A	No Disk
Bay 11	N/A	N/A	No Disk
Bay 12	N/A	N/A	No Disk
Bay 13	N/A	N/A	No Disk
Bay 14	N/A	N/A	No Disk
Bay 15	N/A	N/A	No Disk

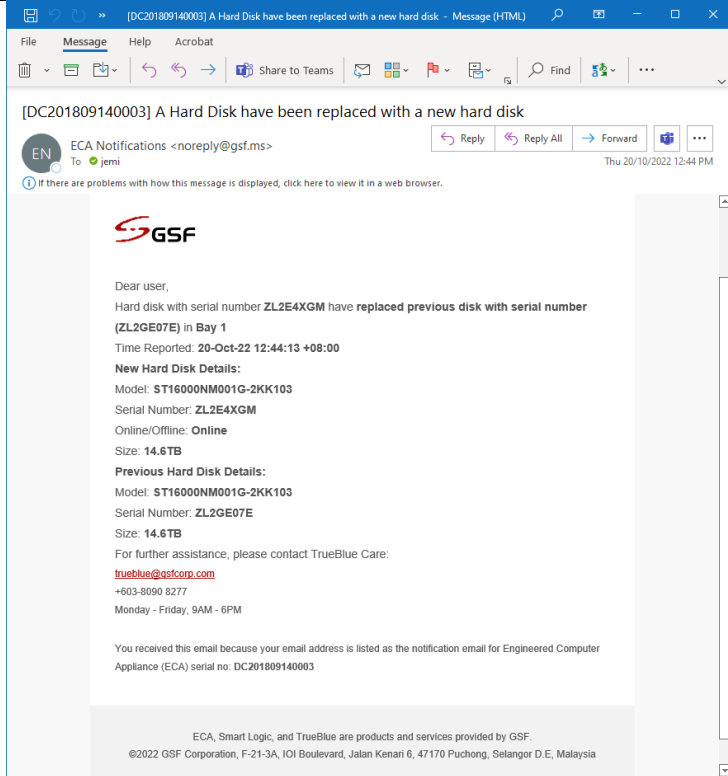
Notification

Disk Replaced
Disk (ZL2E4XGM) have replaced previous disk (ZL2GE07E) in Bay 1
12:44 • Disk Guard

Log

Time	Level	Source	Type	Name	Details
20 Oct 2022, 12:44:13	Warning	ecaOS	Disk Guard	Disk Replaced	Disk (ZL2E4XGM) have replaced previous disk (ZL2GE07E) in Bay 1

Email



[DC201809140003] A Hard Disk have been replaced with a new hard disk

ECA Notifications <noreply@gsf.ms>
To: jemi
Thu 20/10/2022 12:44 PM

If there are problems with how this message is displayed, click here to view it in a web browser.

GSF

Dear user,

Hard disk with serial number **ZL2E4XGM** have replaced previous disk with serial number **(ZL2GE07E)** in Bay 1

Time Reported: 20-Oct-22 12:44:13 +08:00

New Hard Disk Details:
Model: ST16000NM001G-2KK103
Serial Number: ZL2E4XGM
Online/Offline: Online
Size: 14.6TB

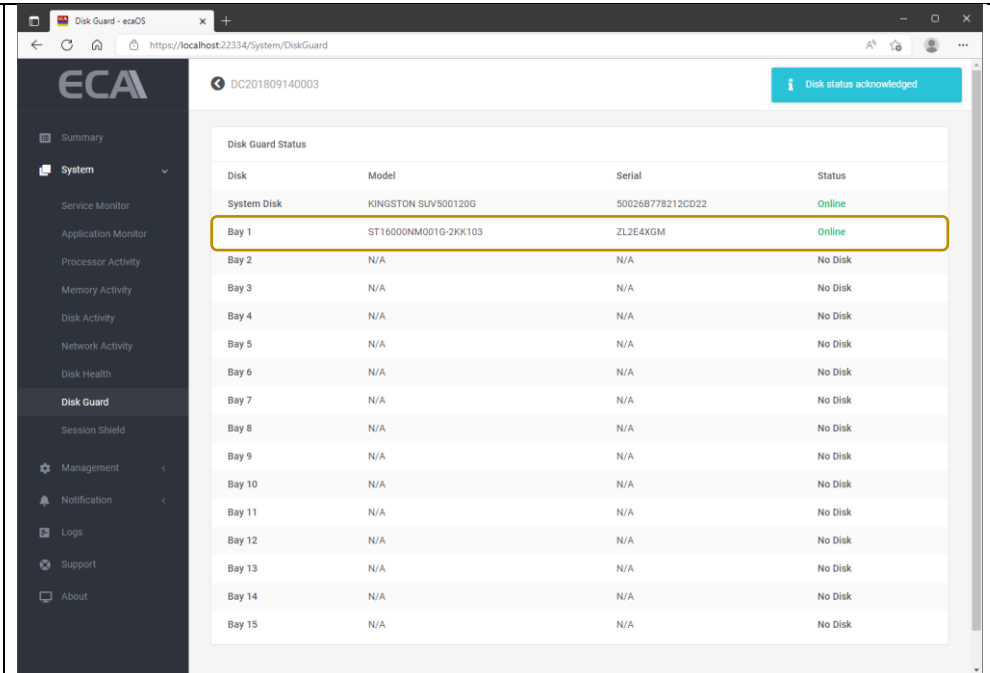
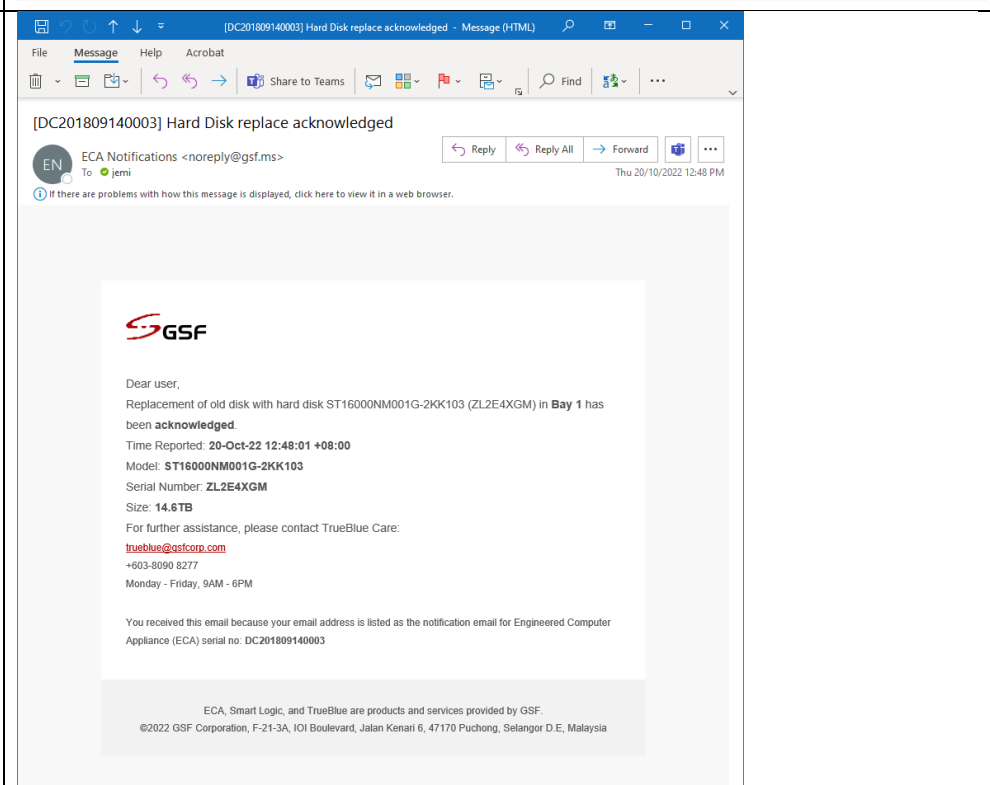
Previous Hard Disk Details:
Model: ST16000NM001G-2KK103
Serial Number: ZL2GE07E
Size: 14.6TB

For further assistance, please contact TrueBlue Care:
trueblue@gsfcorp.com
+603-8090 8277
Monday - Friday, 9AM - 6PM

You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003

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13.7.5 Disk Replaced Acknowledge

Dashboard	 <table border="1"> <thead> <tr> <th>Disk</th><th>Model</th><th>Serial</th><th>Status</th></tr> </thead> <tbody> <tr> <td>System Disk</td><td>KINGSTON SUV500120G</td><td>500268778212CD22</td><td>Online</td></tr> <tr> <td>Bay 1</td><td>ST16000NM001G-2KK103</td><td>ZL2E4XGM</td><td>Online</td></tr> <tr> <td>Bay 2</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 3</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 4</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 5</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 6</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 7</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 8</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 9</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 10</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 11</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 12</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 13</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 14</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> <tr> <td>Bay 15</td><td>N/A</td><td>N/A</td><td>No Disk</td></tr> </tbody> </table>	Disk	Model	Serial	Status	System Disk	KINGSTON SUV500120G	500268778212CD22	Online	Bay 1	ST16000NM001G-2KK103	ZL2E4XGM	Online	Bay 2	N/A	N/A	No Disk	Bay 3	N/A	N/A	No Disk	Bay 4	N/A	N/A	No Disk	Bay 5	N/A	N/A	No Disk	Bay 6	N/A	N/A	No Disk	Bay 7	N/A	N/A	No Disk	Bay 8	N/A	N/A	No Disk	Bay 9	N/A	N/A	No Disk	Bay 10	N/A	N/A	No Disk	Bay 11	N/A	N/A	No Disk	Bay 12	N/A	N/A	No Disk	Bay 13	N/A	N/A	No Disk	Bay 14	N/A	N/A	No Disk	Bay 15	N/A	N/A	No Disk
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Email	 [DC201809140003] Hard Disk replace acknowledged ECA Notifications <noreply@gsf.ms> To: jemi Thu 20/10/2022 12:48 PM If there are problems with how this message is displayed, click here to view it in a web browser. GSF Dear user, Replacement of old disk with hard disk ST16000NM001G-2KK103 (ZL2E4XGM) in Bay 1 has been acknowledged. Time Reported: 20-Oct-22 12:48:01 +08:00 Model: ST16000NM001G-2KK103 Serial Number: ZL2E4XGM Size: 14.6TB For further assistance, please contact TrueBlue Care: trueblue@gsfcorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003 ECA, Smart Logic, and TrueBlue are products and services provided by GSF. ©2022 GSF Corporation, F-21-3A, IOI Boulevard, Jalan Kenari 6, 47170 Puchong, Selangor D.E, Malaysia																																																																				

13.8 Log

13.8.1 ECA reboot more than 3 times

Figure 188 Show chronological events in log when ECA reboot more than 3 times within 1 hour

Time	Level	Source	Type	Name	Details
21 Oct 2022, 17:15:16	Information	Heartbeat	I/O	D00 output set to high	
21 Oct 2022, 17:15:15	Warning	Heartbeat	ECA Controller	Unauthorized system reboot	
21 Oct 2022, 17:15:14	Warning	Heartbeat	ECA Controller	Alert on: System repetitive reboot	

Figure 188

13.8.2 AC Power loss

Figure 189 Show chronological events in log when AC power loss.

Time	Level	Source	Type	Name	Details
21 Oct 2022, 17:10:44	Information	Heartbeat	ECA Motherboard	System in ecaOS	
21 Oct 2022, 17:10:43	Information	Heartbeat	ECA Gateway	Gateway connected	
21 Oct 2022, 17:10:24	Information	Heartbeat	I/O	D00 output set to low	
21 Oct 2022, 17:10:23	Information	Heartbeat	ECA Controller	Alert off: Unexpected system power loss	
21 Oct 2022, 17:10:23	Information	Heartbeat	ECA Motherboard	System powered up	
21 Oct 2022, 17:10:21	Information	Heartbeat	Battery	Battery charging	
21 Oct 2022, 17:10:18	Information	Heartbeat	Battery	Charger power resumed	
21 Oct 2022, 17:10:18	Information	Heartbeat	ECA Motherboard	AC power resumed	
21 Oct 2022, 17:10:17	Warning	Heartbeat	ECA Gateway	Gateway disconnected	
21 Oct 2022, 17:10:16	Warning	Heartbeat	Battery	Charger power loss	
21 Oct 2022, 17:10:15	Information	Heartbeat	Battery	Battery discharging	
21 Oct 2022, 17:10:10	Information	Heartbeat	I/O	D00 output set to high	
21 Oct 2022, 17:10:09	Warning	Heartbeat	ECA Controller	Alert on: Unexpected system power loss	
21 Oct 2022, 17:10:09	Warning	Heartbeat	ECA Motherboard	AC power loss	
21 Oct 2022, 17:05:32	Warning	Heartbeat	ECA Controller	Unauthorized system reboot	

Figure 189

13.8.3 Unauthorize ECA Reboot

Figure 190 Show chronological events in log when ECA reboot does not through Dashboard.

Time	Level	Source	Type	Name	Details
21 Oct 2022, 17:05:32	Warning	Heartbeat	ECA Controller	Unauthorized system reboot	
21 Oct 2022, 17:05:27	Information	Heartbeat	ECA Motherboard	System in ecaOS	
21 Oct 2022, 17:05:25	Information	Heartbeat	ECA Gateway	Gateway connected	
21 Oct 2022, 17:05:11	Warning	Heartbeat	ECA Gateway	Gateway disconnected	
21 Oct 2022, 17:04:59	Information	Heartbeat	ECA Motherboard	System leaving ecaOS	

Figure 190

13.8.4 Unauthorized ECA Shutdown

Figure 191 Show chronological events in log when ECA shutdown does not through Dashboard.

Time	Level	Source	Type	Name	Details
21 Oct 2022, 17:00:06	Information	Heartbeat	ECA Motherboard	System in ecaOS	
21 Oct 2022, 17:00:03	Information	Heartbeat	ECA Gateway	Gateway connected	
21 Oct 2022, 16:59:49	Information	Heartbeat	ECA Motherboard	System powered up by Heartbeat	
21 Oct 2022, 16:59:43	Warning	Heartbeat	ECA Controller	Unauthorized system shutdown	
21 Oct 2022, 16:59:43	Information	Heartbeat	ECA Motherboard	System shutdown	
21 Oct 2022, 16:59:42	Warning	Heartbeat	ECA Gateway	Gateway disconnected	
21 Oct 2022, 16:59:32	Information	Heartbeat	ECA Motherboard	System leaving ecaOS	

Figure 191

13.8.5 Authorize ECA Shutdown

Figure 192 Show chronological events in log when ECA shutdown through Dashboard.

Time	Level	Source	Type	Name	Details
21 Oct 2022, 16:53:08	Information	Heartbeat	ECA Motherboard	System shutdown	
21 Oct 2022, 16:53:07	Warning	Heartbeat	ECA Gateway	Gateway disconnected	
21 Oct 2022, 16:52:56	Information	Heartbeat	ECA Motherboard	System leaving ecaOS	
21 Oct 2022, 16:52:50	Information	ecaOS	System	Shutdown system	

Figure 192

13.8.6 Authorize ECA Reboot

Figure 193 Show chronological events in log when ECA reboot through Dashboard.

Time	Level	Source	Type	Name	Details
21 Oct 2022, 16:58:11	Information	Heartbeat	ECA Motherboard	System in ecaOS	
21 Oct 2022, 16:58:09	Information	Heartbeat	ECA Gateway	Gateway connected	
21 Oct 2022, 16:57:54	Warning	Heartbeat	ECA Gateway	Gateway disconnected	
21 Oct 2022, 16:57:42	Information	Heartbeat	ECA Motherboard	System leaving ecaOS	
21 Oct 2022, 16:57:39	Information	ecaOS	System	Reboot system	

Figure 193

13.8.7 Power up ECA by pressing power button

Figure 194 Show chronological events in log when ECA power up by pressing power button

Time	Level	Source	Type	Name	Details
21 Oct 2022, 16:53:41	Information	Heartbeat	ECA Motherboard	System in ecaOS	
21 Oct 2022, 16:53:39	Information	Heartbeat	ECA Gateway	Gateway connected	
21 Oct 2022, 16:53:25	Information	Heartbeat	ECA Motherboard	System power button released	
21 Oct 2022, 16:53:24	Information	Heartbeat	ECA Motherboard	System powered up	
21 Oct 2022, 16:53:19	Information	Heartbeat	ECA Motherboard	System power button pressed	

Figure 194

13.8.8 Force shutdown by pressing power (heartbeat) button

Figure 195 Show chronological events in log when force shutdown by long pressed power button

Time	Level	Source	Type	Name	Details
21 Oct 2022, 16:51:40	Information	Heartbeat	ECA Motherboard	System in ecaOS	
21 Oct 2022, 16:51:37	Information	Heartbeat	ECA Gateway	Gateway connected	
21 Oct 2022, 16:51:22	Information	Heartbeat	ECA Motherboard	System powered up by Heartbeat	
21 Oct 2022, 16:51:19	Warning	Heartbeat	ECA Gateway	Gateway disconnected	
21 Oct 2022, 16:51:12	Warning	Heartbeat	ECA Controller	Unauthorized system shutdown	
21 Oct 2022, 16:51:12	Information	Heartbeat	ECA Motherboard	System power button released	
21 Oct 2022, 16:51:12	Information	Heartbeat	ECA Motherboard	System forced shutdown	

Figure 195

13.8.9 Accessing Dashboard using Security Key

Figure 196 Show chronological events in log when accessing dashboard using security key

Time	Level	Source	Type	Name	Details
21 Oct 2022, 16:46:02	Information	ecaOS	Security Key	Paired security key inserted	Paired security key 'Security Key' (56a30456) was inserted
21 Oct 2022, 16:46:02	Information	ecaOS	Security Key	Security key inserted	Security key 'Security Key' (56a30456) was inserted

Figure 196

13.8.10 Accessing Dashboard using Virtual Security Key

Figure 197 Show chronological events in log when accessing dashboard using Virtual security key

Time	Level	Source	Type	Name	Details
21 Oct 2022, 16:29:32	Information	ecaOS	Virtual Security Key	Valid passcode entered	Login using virtual security key 'admin'

Figure 197

13.8.11 Add new Security Key

Figure 198 Show chronological events in log when add new security key.

Time	Level	Source	Type	Name	Details
21 Oct 2022, 15:47:38	Information	ecaOS	Security Key	Security key added	New security key 'Security Key' (56a30456) was added

Figure 198

13.8.12 Delete paired Security Key

Figure 199 Show chronological events in log when paired Security Key deleted.

Time	Level	Source	Type	Name	Details
21 Oct 2022, 15:47:29	Information	ecaOS	Security Key	Security key deleted	Security key 'Security Key' (56a30456) was deleted

Figure 199

13.8.13 Delete Virtual Security Key

Figure 199 Show chronological events in log when existing Virtual Security Key deleted.

Time	Level	Source	Type	Name	Details
21 Oct 2022, 15:53:02	Information	ecaOS	Virtual Security Key	Virtual security key deleted	Virtual security key 'admin' was deleted

Figure 200

13.8.14 Add Virtual Security Key

Figure 199 Show chronological events in log when new Virtual Security Key added.

Time	Level	Source	Type	Name	Details
25 Aug 2022, 12:56:45	Information	ecaOS	Virtual Security Key	Virtual security key added	New virtual security key 'adminv2' was added

Figure 201

13.8.15 Open ECA cover chassis

Figure 198 Show chronological events in log when ECA top cover open.

Time	Level	Source	Type	Name	Details
21 Oct 2022, 15:57:58	Information	Heartbeat	I/O		DO0 output set to high
21 Oct 2022, 15:57:58	Warning	Heartbeat	ECA Controller		Alert on: Unauthorized chassis opened
21 Oct 2022, 15:57:58	Warning	Heartbeat	ECA Motherboard		System chassis opened

Figure 202

13.8.16 Close ECA cover chassis

Figure 198 Show chronological events in log when ECA top cover close.

Time	Level	Source	Type	Name	Details
21 Oct 2022, 16:38:20	Information	Heartbeat	I/O		DO0 output set to low
21 Oct 2022, 16:38:15	Information	Heartbeat	ECA Controller		Alert off: Unauthorized chassis opened
21 Oct 2022, 16:38:15	Information	Heartbeat	ECA Motherboard		System chassis closed

Figure 203



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