

ECA

Engineered Computer Appliance Operating System

ECA44

ecaOS 6.1

USER GUIDE

Revision 1.4
30 May 2023



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Engineered Computer Appliance (ECA44) Operating System 6.1 (eca6.1) User Guide
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Table of Contents

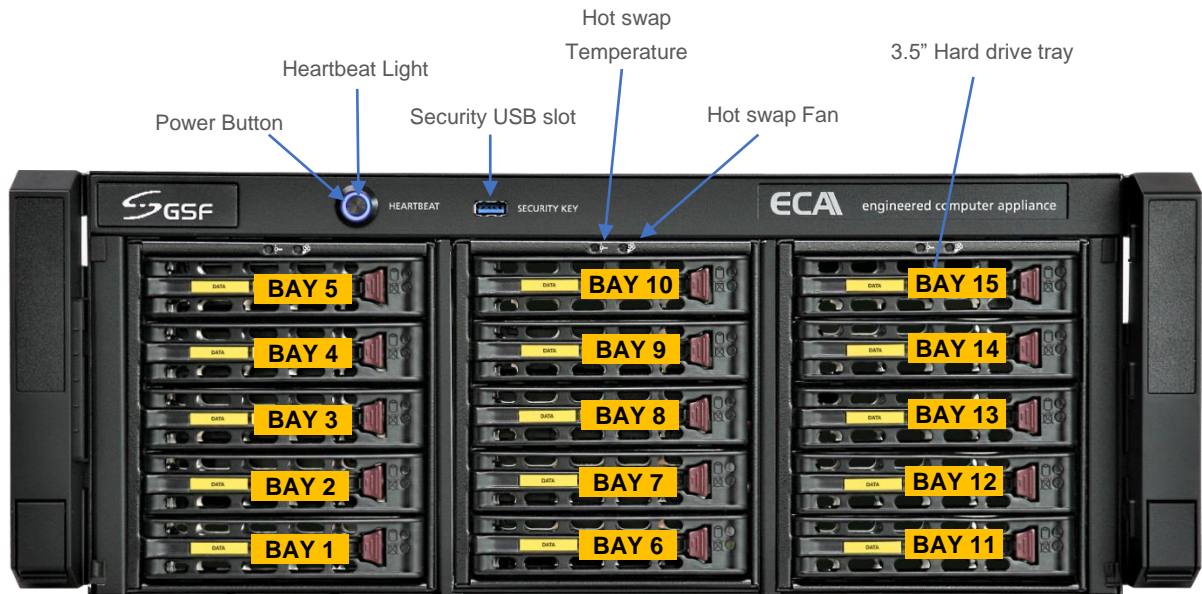
1	ECA4.4	6
1.1	FX series	6
1.2	EX series	7
1.3	DX series	8
1.4	MX series	9
1.5	VW series	10
1.6	Security & Virtual Key	11
2	Heartbeat	12
2.1	What is Heartbeat	12
2.2	Heartbeat Alert	12
3	Rail	14
3.1	Package Content	15
3.2	Sliding Rail Assembly	15
3.3	Installation Steps	16
4	ECA Naming	21
5	ECA Series	22
6	ecaOS	23
1.7	ecaOS Login	24
1.8	ecaOS Locked Out	24
7	Dashboard and Notification	25
7.1	Accessing ecaOS Dashboard	26
7.1.1	Using Virtual Security Key (ECA Access Code)	26
7.1.2	Get Virtual Security Key (ECA Access Code)	27
7.1.3	Remotely Access ecaOS	31
7.2	ecaOS Dashboard ▶ Summary	32
8	System	34
8.1	System Monitor	34
8.2	Service Monitor	35
8.2.1	Add Services	35
8.2.2	Delete Services	38
8.3	Application Monitor	39
8.3.1	Add Application	39
8.3.2	Delete Application	42
8.4	Processor Activity	43
8.5	Memory Activity	44
8.6	Disk Activity	45
8.7	Network Activity	47
8.8	Disk Health	49
8.9	Disk Guard	52
8.9.1	Hard disk change during ECA Power Off	53
8.10	Session Shield	54
8.10.1	Activate Session Shield	54
8.10.2	Deactivate Session Shield	57
8.10.3	Exclusion List	58
8.10.4	Add Exclusion Files or Folder	59
8.10.5	Delete Exclusion Files or folder	60
8.10.6	Add Registry Keys	61
8.10.7	Delete Exclusion Registry Key	62
8.10.8	Status: Warning	62
8.10.9	Status: Critical	63
9	Management	64

9.1	General.....	64
9.1.1	Authorize Restart.....	64
9.1.2	Authorize Shutdown	65
9.1.3	Saving & Deploy Layer	66
9.1.3.1	Save Layer	66
9.1.3.2	Soft Reset.....	68
9.1.3.3	Hard Reset	70
9.1.3.4	Last Saved Layer Information	72
9.1.4	Machine Name	72
9.1.5	Change Dashboard Port.....	72
9.2	Security Key	73
9.2.1	Register Security Key.....	73
9.2.2	Delete Security Key	74
9.2.3	Add Virtual Security Key.....	75
9.2.4	Delete Virtual Security Key.....	77
9.3	Network	78
9.3.1	Enable DDNS	78
9.3.2	Enable Network Teaming	78
9.3.3	Disable Network Teaming	79
9.4	RSS (Redundant Storage System)	80
9.4.1	Create Storage Pool.....	80
9.4.2	Delete Storage Pool	82
9.4.3	Extend Storage Pool.....	83
9.4.4	Repair Storage Pool	84
9.5	Settings.....	87
9.5.1	Email Recipient Settings	87
9.5.2	Mail Servers.....	87
9.5.3	Events.....	87
9.5.3.1	Events List	88
10	Events	94
10.1	Notification.....	94
10.2	Logs.....	95
10.2.1	Filtering Log.....	95
10.2.2	Exporting Log	96
10.3	Report.....	99
11	Support.....	101
11.1	TrueBlue Remote Support.....	101
11.2	Microsoft Remote Desktop	102
11.3	Chrome Remote Desktop	103
11.3.1	Setup ECA into your Chrome Remote Desktop	103
11.3.2	Accessing ECA via Chrome Remote Desktop?	106
12	About.....	108
12.1	Machine Information.....	108
12.2	Heartbeat Information.....	109
13	APPENDIX	110
13.1	Processor Activity	110
13.1.1	CPU activity above limit.....	110
13.1.2	CPU activity back to normal	111
13.2	Memory Activity	112
13.2.1	Memory usage above limit	112
13.2.2	Memory activity back to normal	113
13.3	Disk Activity	114
13.3.1	Disk read activity above limit	114
13.3.2	Disk read activity back to normal.....	115

13.3.3	Disk write activity below limit	116
13.3.4	Disk write activity back to normal	117
13.4	Network Activity	118
13.4.1	Network send activity above limit	118
13.4.2	Network send activity back to normal	119
13.4.3	Network receive activity below limit	120
13.4.4	Network receive activity back to normal	121
13.5	Session Shield	122
13.5.1	Warning Status	122
13.5.2	Critical Status	123
13.5.3	Status back to normal	124
13.6	Disk Health	125
13.6.1	Warning Status Disk	125
13.6.2	Critical Status Disk	126
13.7	Disk Guard	127
13.7.1	New disk / Disk Inserted	127
13.7.2	Disk Removed	128
13.7.3	Disk Removed Acknowledge	129
13.7.4	Disk Replaced	130
13.7.5	Disk Replaced Acknowledge	131
13.8	Log	132
13.8.1	ECA reboot more than 3 times	132
13.8.2	AC Power loss	132
13.8.3	Unauthorize ECA Reboot	132
13.8.4	Unauthorize ECA Shutdown	133
13.8.5	Authorize ECA Shutdown	133
13.8.6	Authorize ECA Reboot	133
13.8.7	Power up ECA by pressing power button	133
13.8.8	Force shutdown by pressing power (heartbeat) button	134
13.8.9	Accessing Dashboard using Security Key	134
13.8.10	Accessing Dashboard using Virtual Security Key	134
13.8.11	Add new Security Key	134
13.8.12	Delete paired Security Key	135
13.8.13	Delete Virtual Security Key	135
13.8.14	Add Virtual Security Key	135
13.8.15	Open ECA cover chassis	135
13.8.16	Close ECA cover chassis	135

1 ECA4.4

1.1 FX series



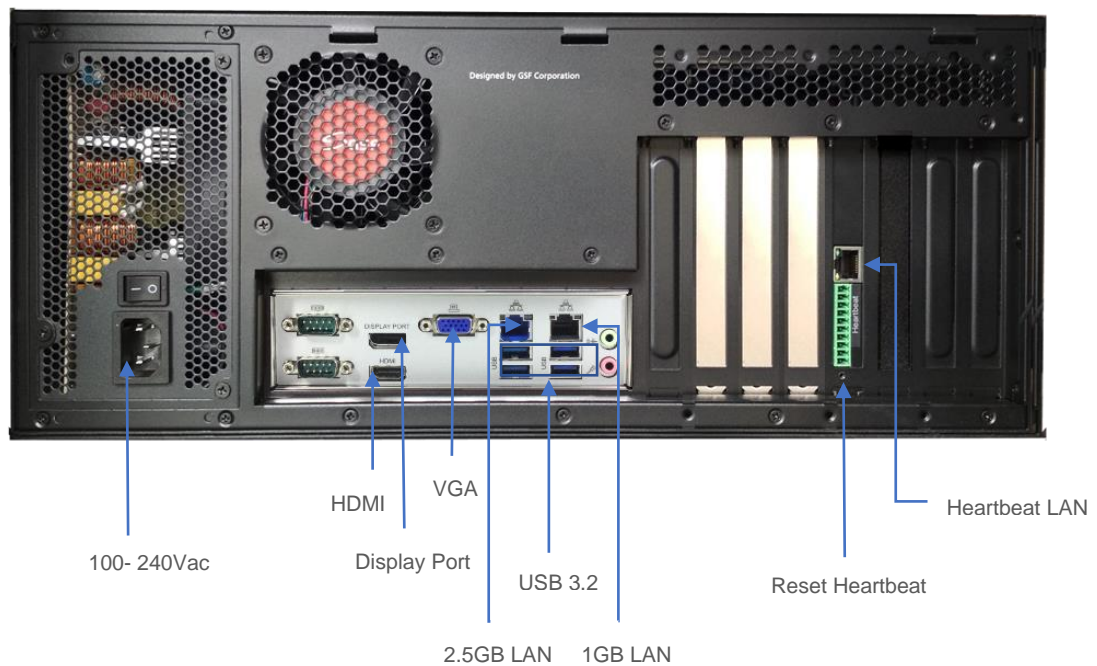
Power Button : Power button ECA

Heartbeat light : ECA operational indication

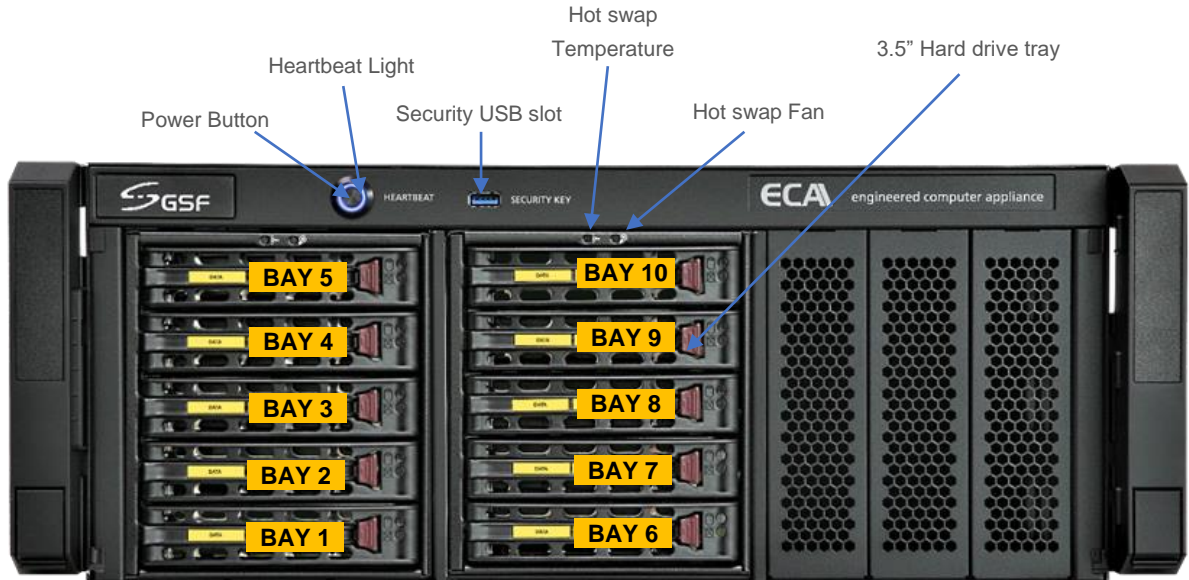
Security USB slot : This port for security key use to call 'System Manager'

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



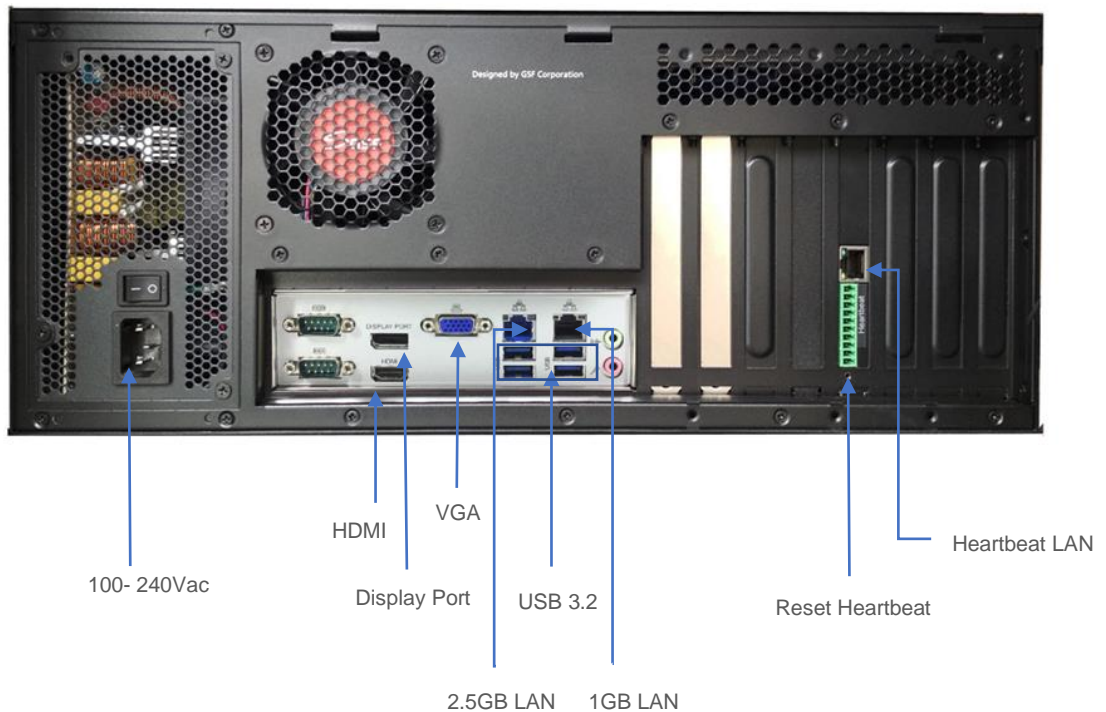
Power Button : Power button ECA

Heartbeat light : ECA operational indication

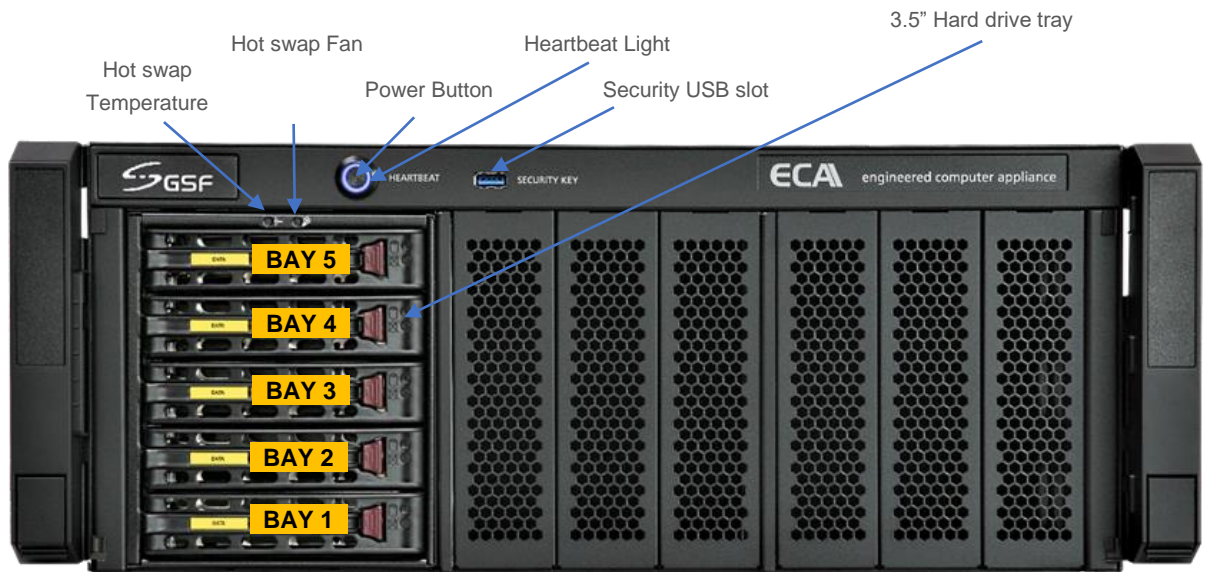
Security USB slot : This port for security key use to call 'System Manager'

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



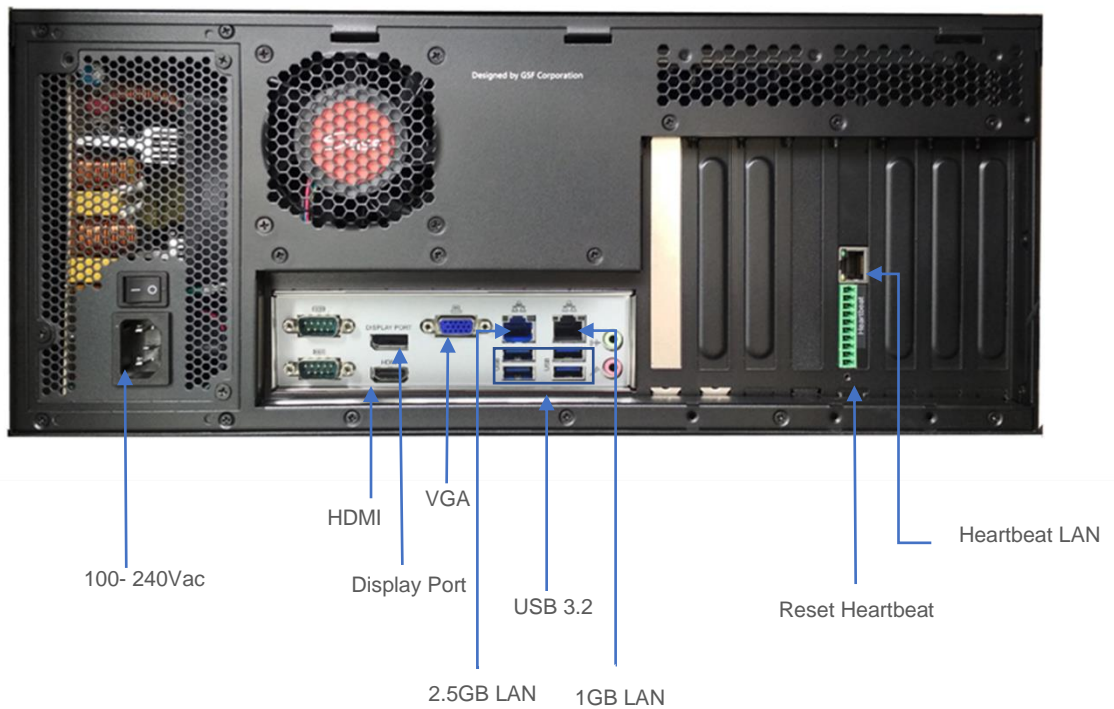
Power Button : Power button ECA

Heartbeat light : ECA operational indication

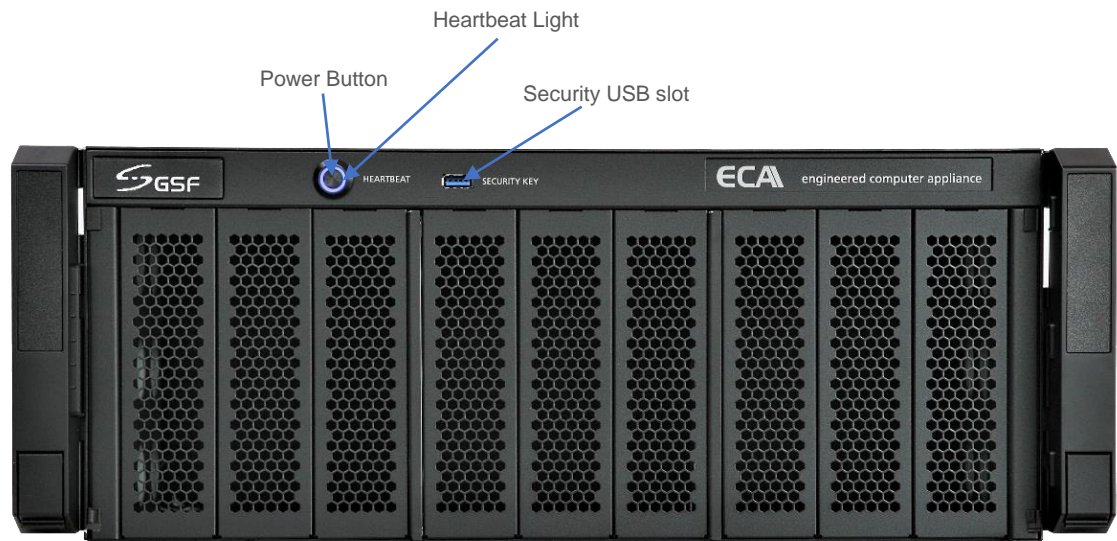
Security USB slot : This port for security key use to call 'System Manager'

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



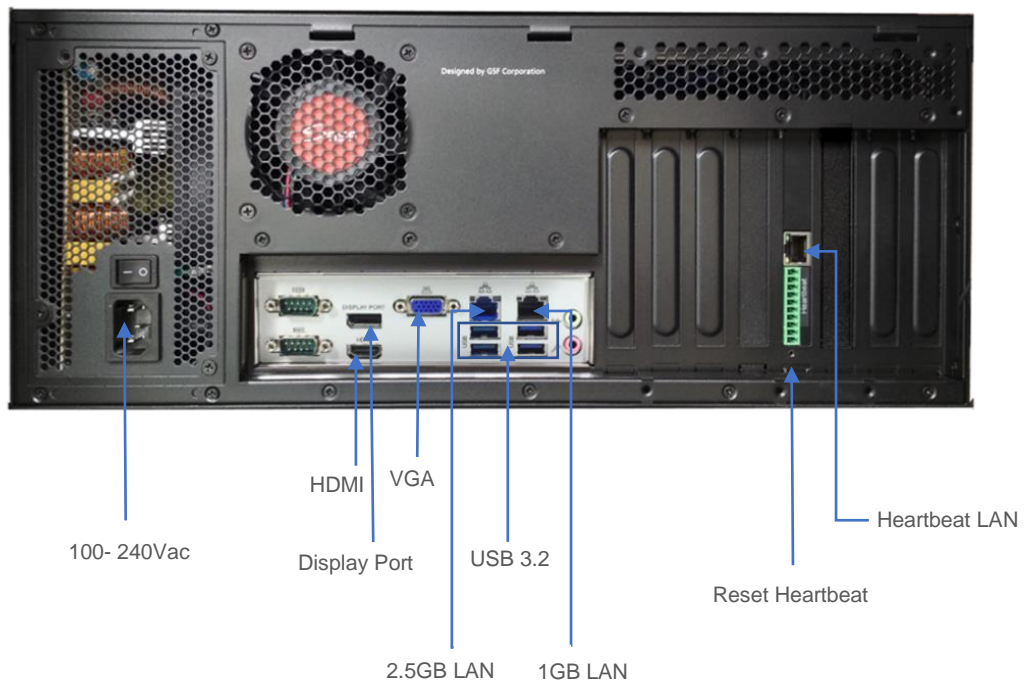
1.4 MX series



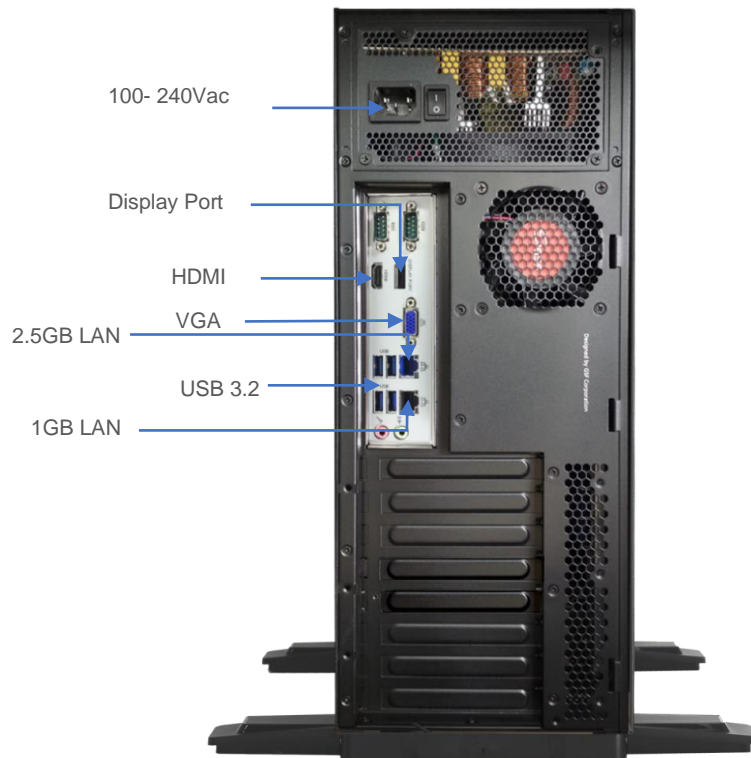
Power Button : Power button ECA

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.

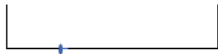
ECA power LED indication:




LED STATUS	ECA SCENARIO	DESCRIPTION
Slow glow and dim	System running in OS	HeartBeat operating normally.
Blinking	<ul style="list-style-type: none"> • ECA OFF • ECA rebooting. • System running in OS 	<ul style="list-style-type: none"> • 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	<ol style="list-style-type: none"> 1. Expected AC power loss. 2. AC power resumed. 3. Authorized shutdown
2		Bad event	No repeat	ECA ON	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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

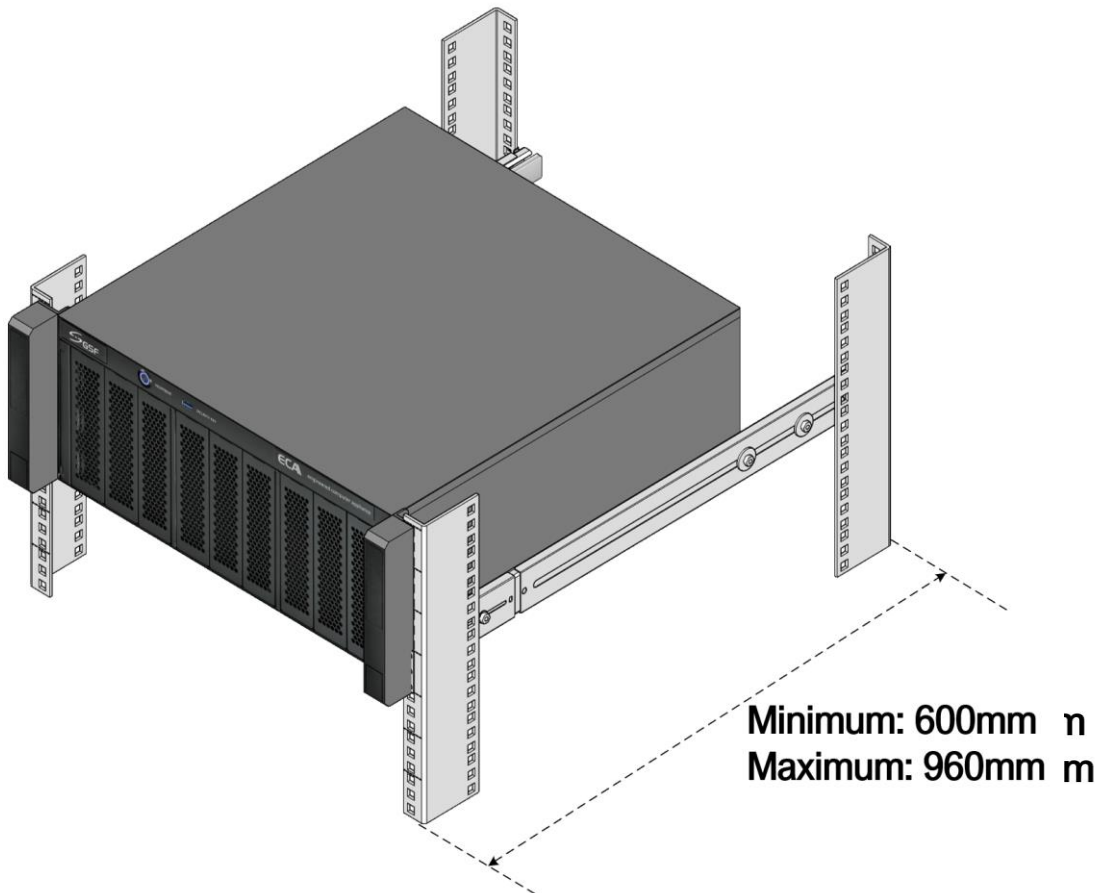
3 Rail

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.

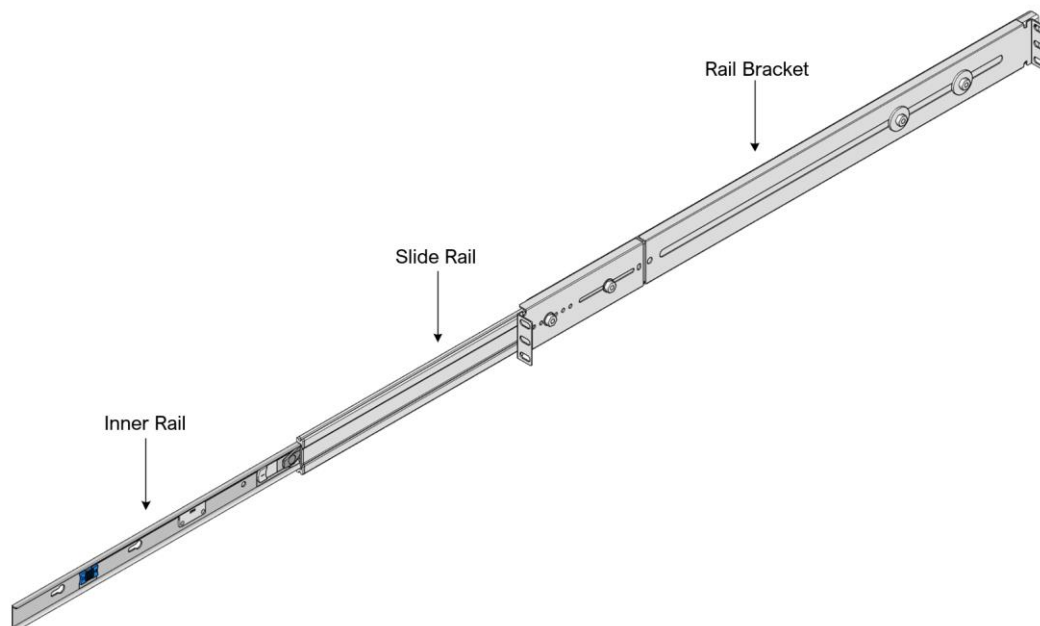
3.1 Package Content

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

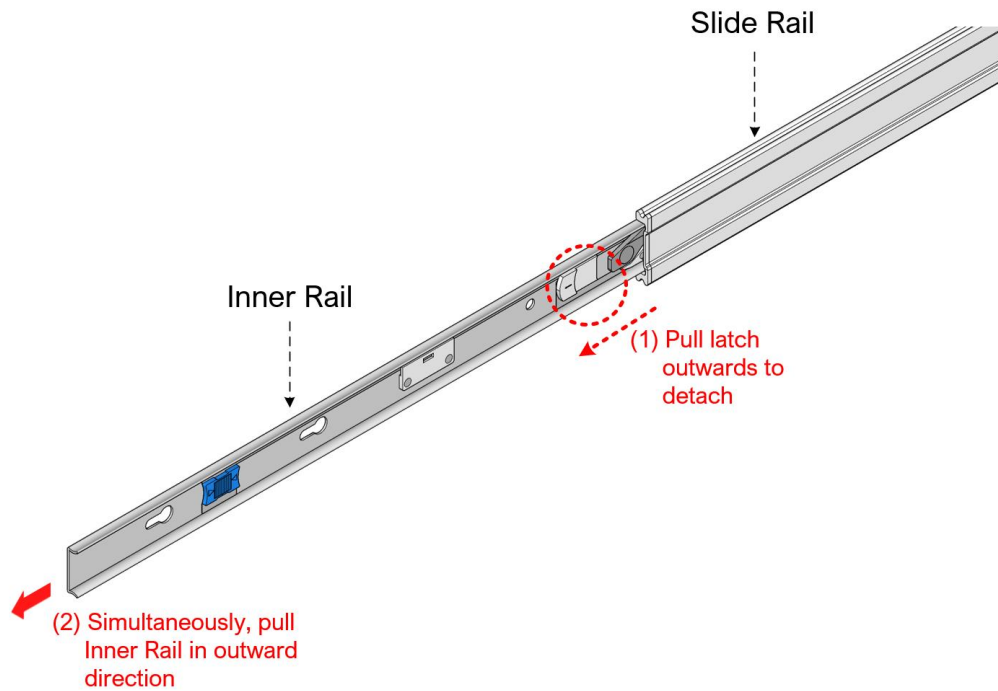


3.3 Installation Steps

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

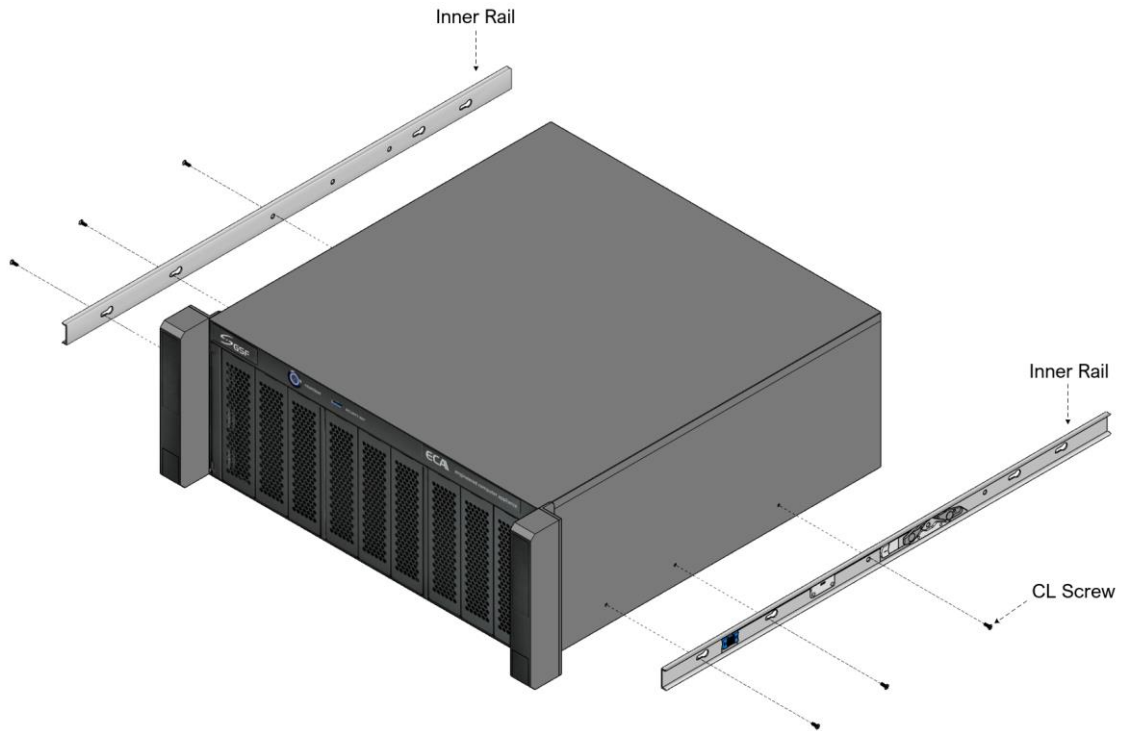
Extend the parts of the Sliding rail to reveal the WHITE color latch on the Inner Rail.

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.



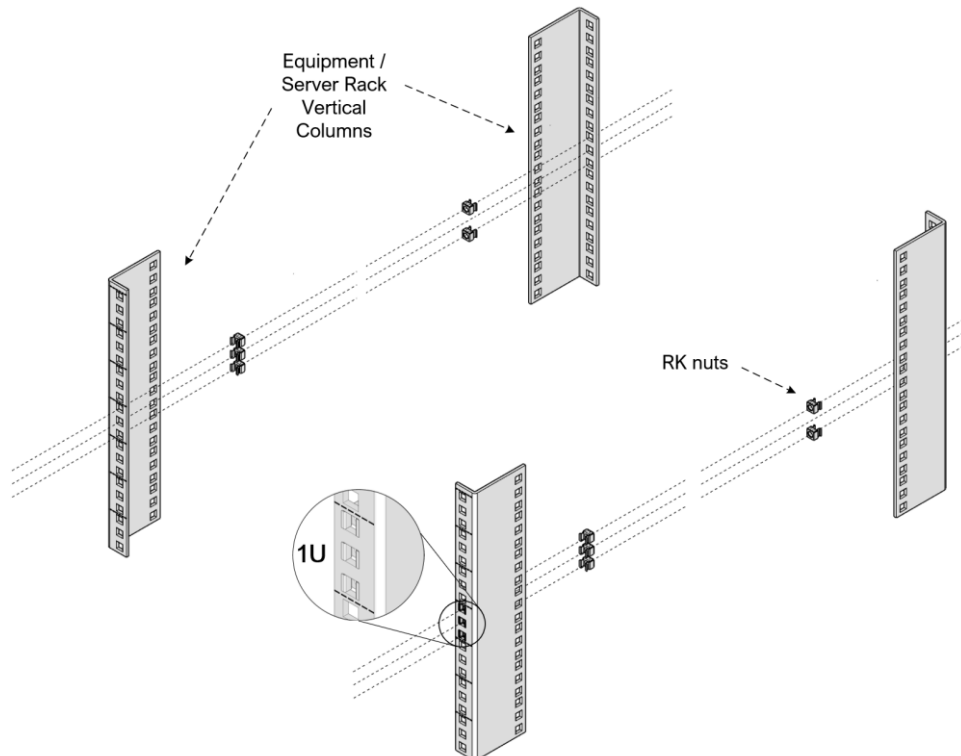
DO NOT remove the Slide rail from the Rail assembly. It is **NOT removable**.

Step 2: Attach Inner Rail to ECA Chassis.

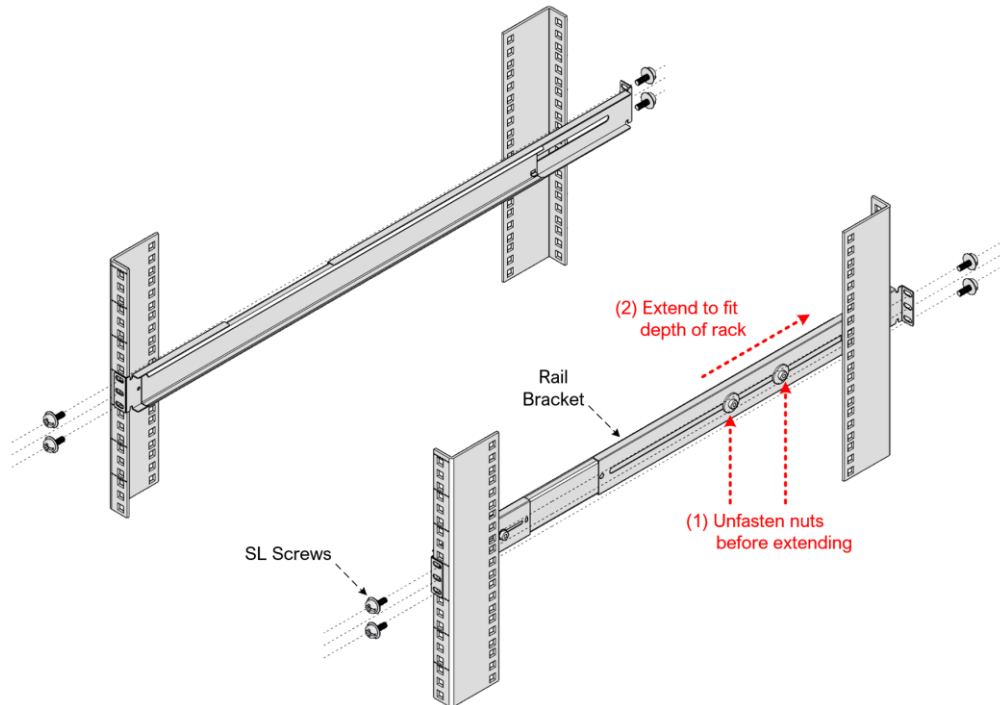


Step 3: Insert the RK nuts to Equipment Rack or Server Rack.

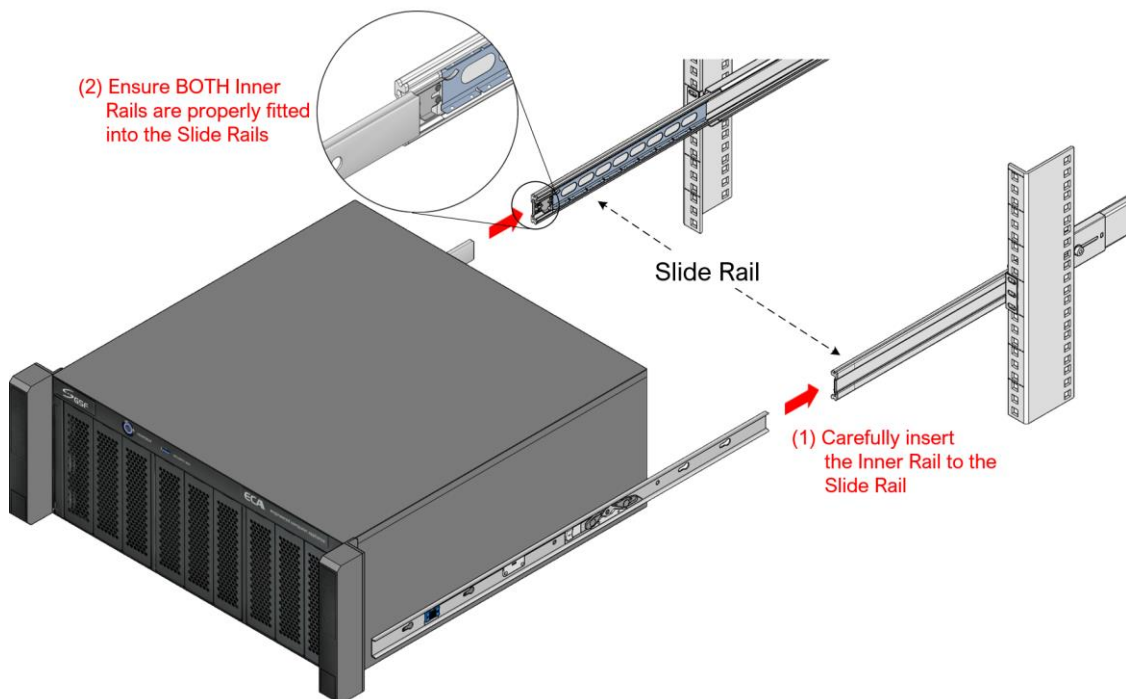
- Before inserting the nuts, make sure to reserve total 4U height and spacing for every ECA.
- The Sliding Rail is attached to the lowest 1U on the ECA.
- Ensure above the sliding rail, there is another 3U clearance space for the ECA.
- Take note of proper and correct spacing for 1U height.



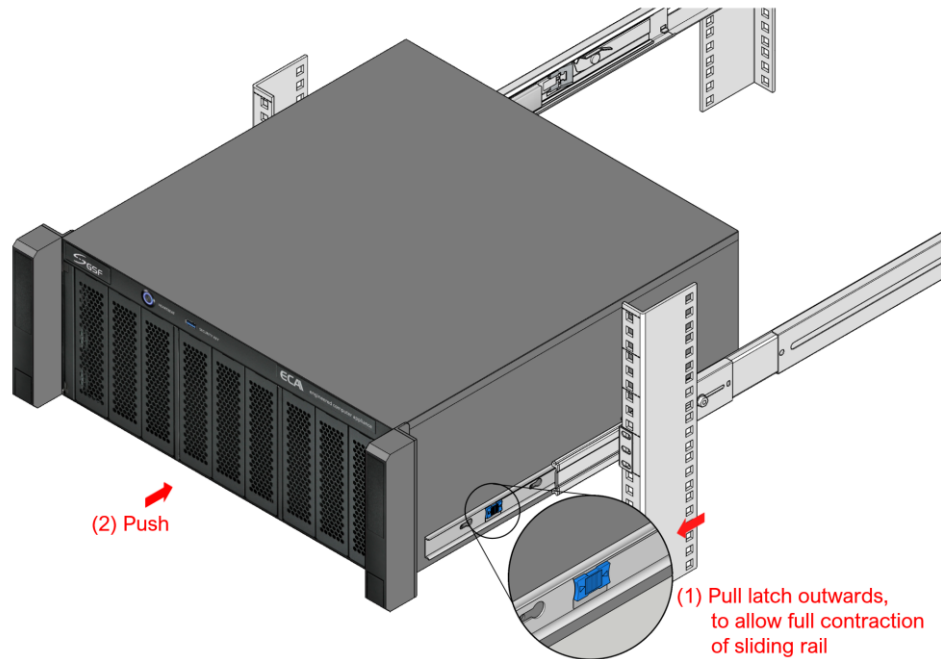
- Step 4:** Install the Rail Brackets to the Equipment rack or Server Rack. Place the Rail Brackets to the same level as the RK nuts, inserted in the previous step. Use SL screws and fasten them to the nuts. For the front, **DO NOT fasten any screw to the middle nut.** The middle nut is reserved for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



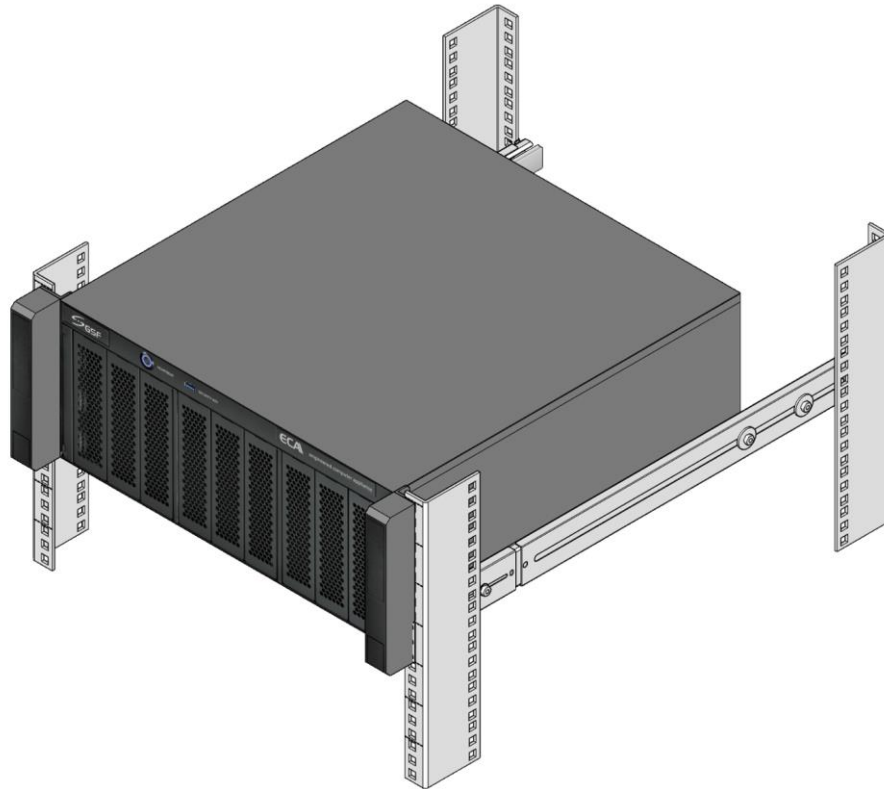
- Step 5:** Carry the ECA, which now has the Inner Rails attached, and ensure both Inner Rails are securely inserted into the Sliding Rail.



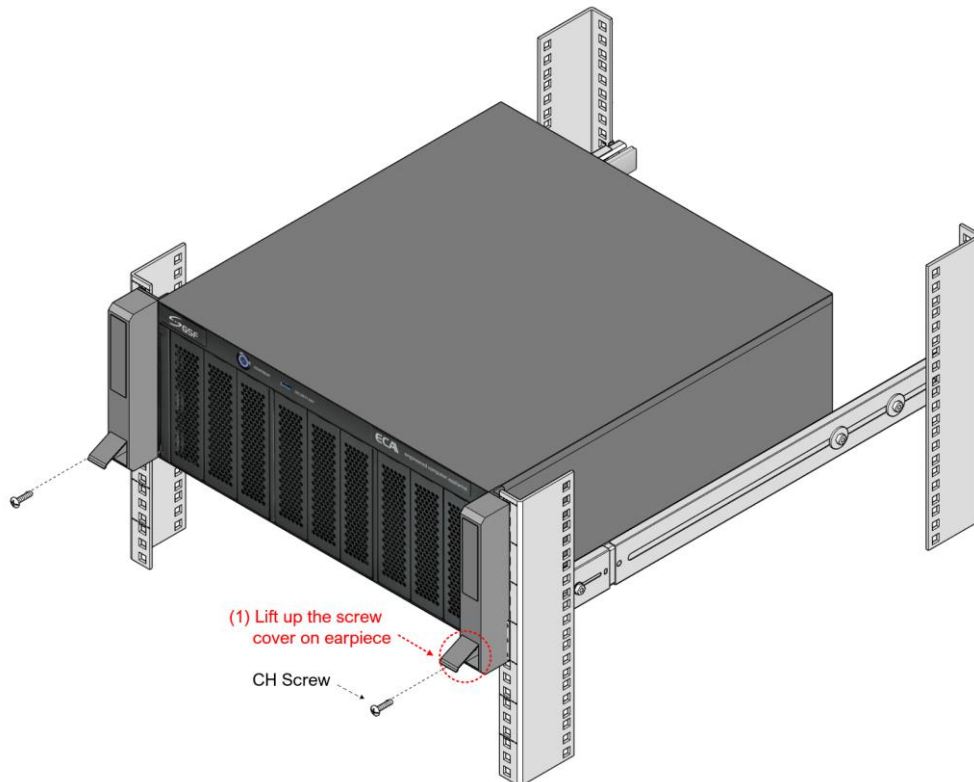
Step 6: Push the ECA inwards to the rack until the mounting brackets encounter the slide-rail stop. Then, simultaneously pull and hold the **BLUE** latch on the Inner Rail, while pushing the ECA inwards. This will fully contract the whole Sliding Rail assembly.



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

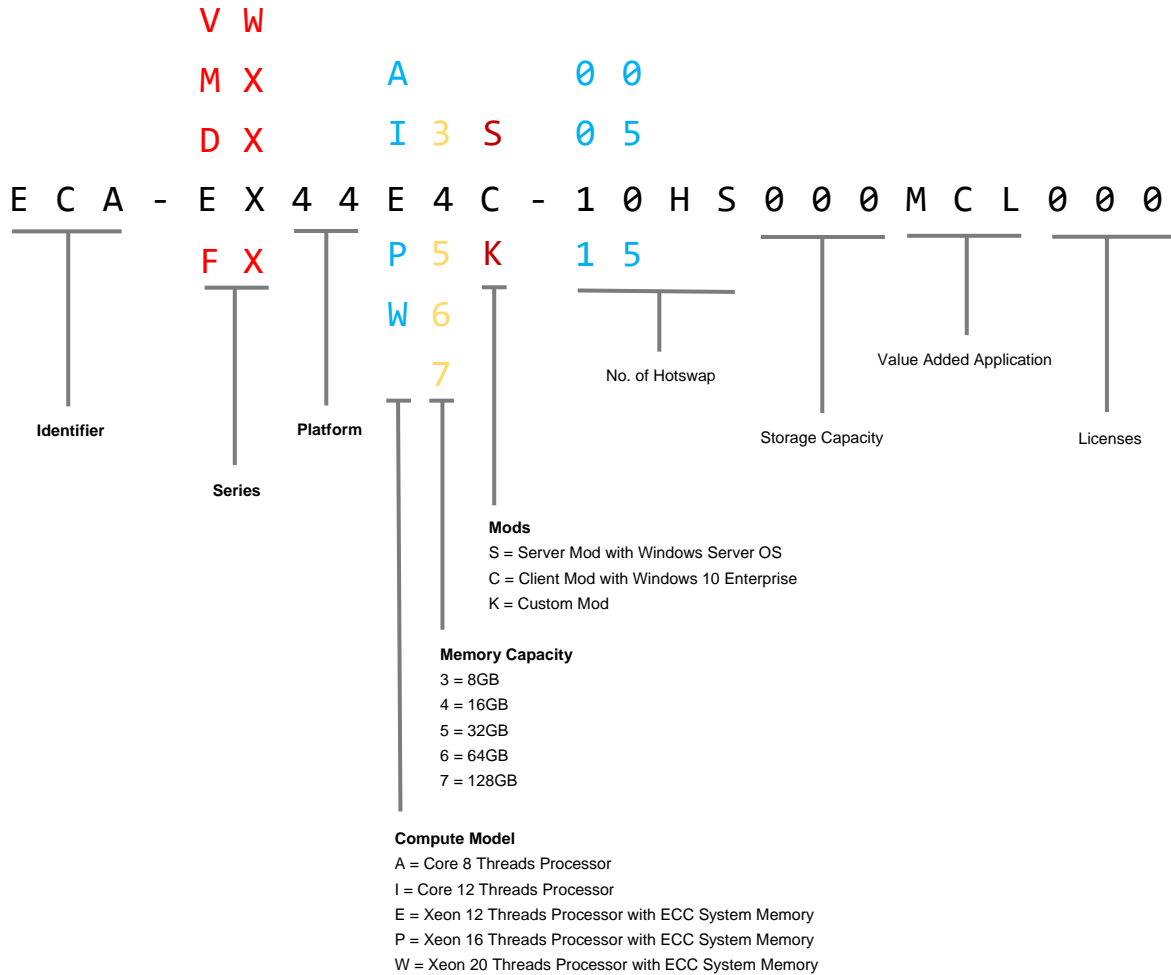


Step 8: Lift the screw cover on the earpiece of the ECA. Fasten ECA to the Sliding Rail using the CH Screw.



4 ECA Naming

The ECA naming will represent the specification of the platform.



5 ECA Series



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

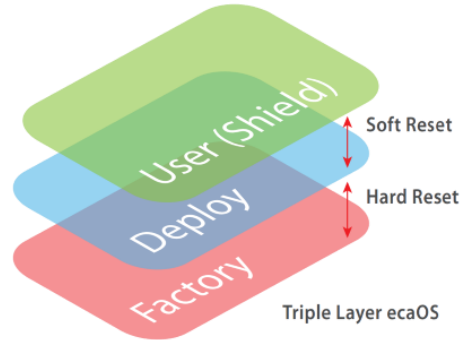


Figure 1: Triple Layers

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:

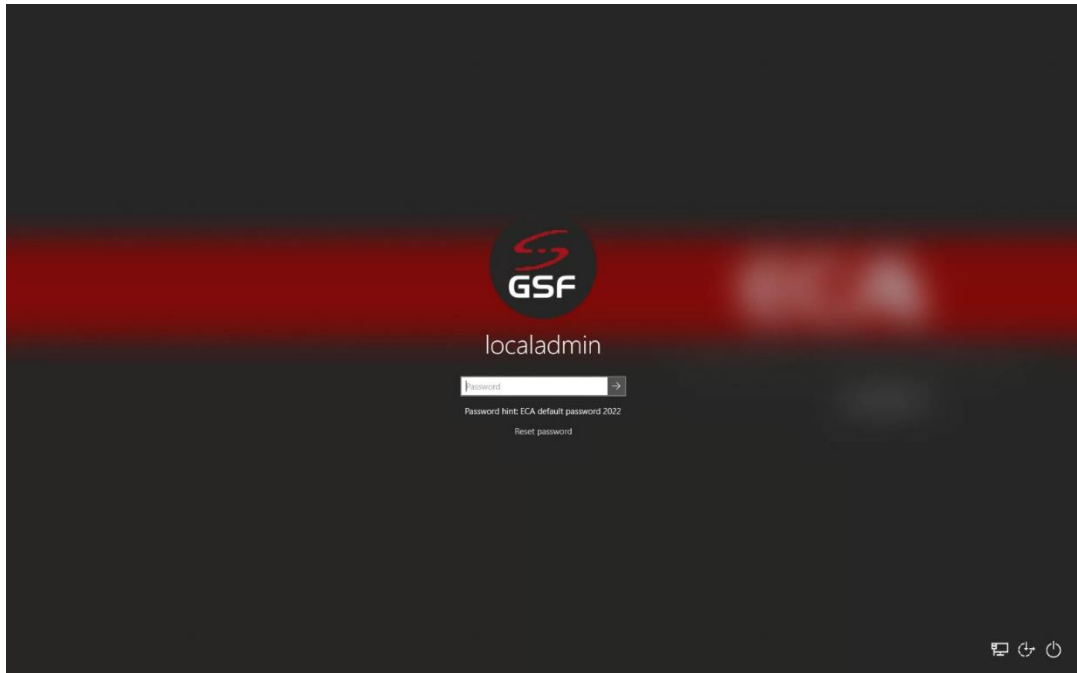


Figure 2: ecaOS Login Screen

Username : **localadmin**

Password : **Please contact TrueBlue support*

trueblue@gscorp.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

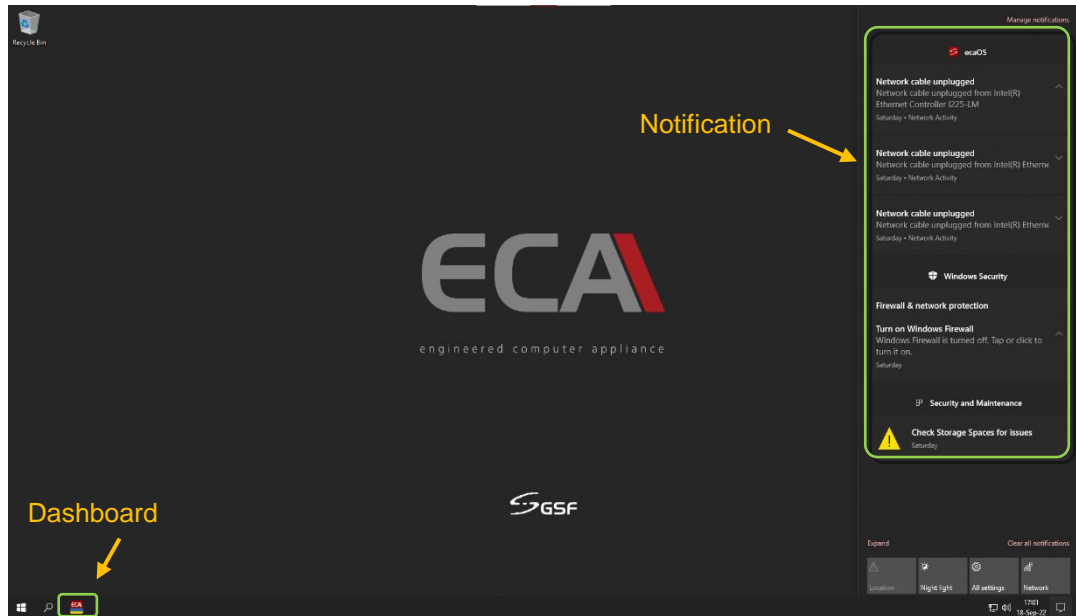


Figure 4: ecaOS Desktop

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

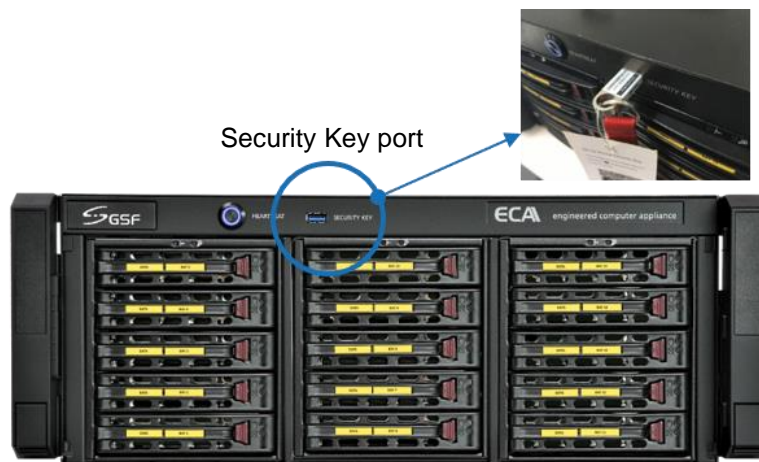



Figure 6: Security Key USB Port Location

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.

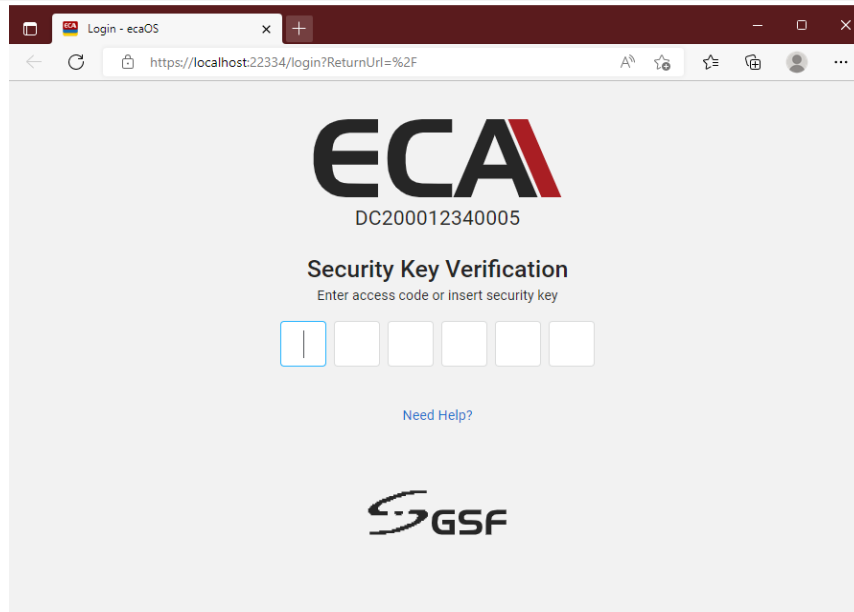


Figure 7: Dashboard Login Page

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.

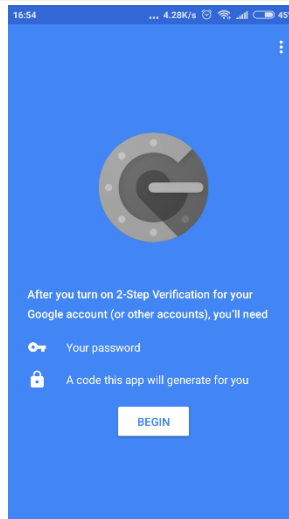


Figure 9: Authenticator Setup

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

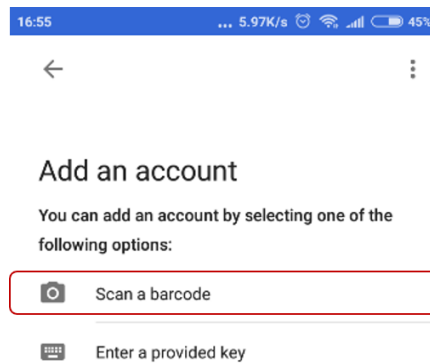


Figure 10: Authenticator Setup

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

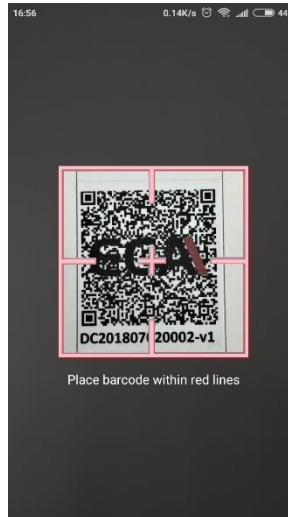


Figure 11: Authenticator Setup

7. The Access code will display in the app.

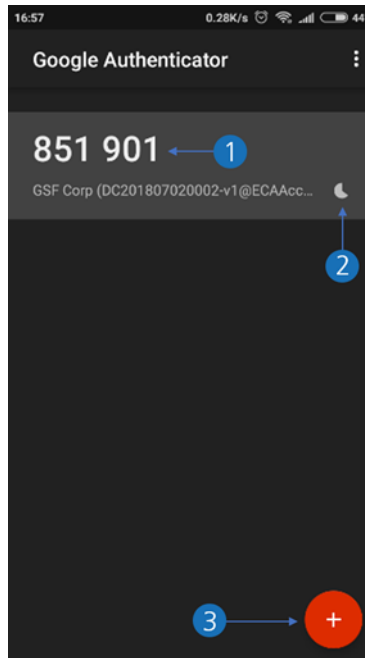


Figure 12: Authenticator Setup (4 of 4)

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

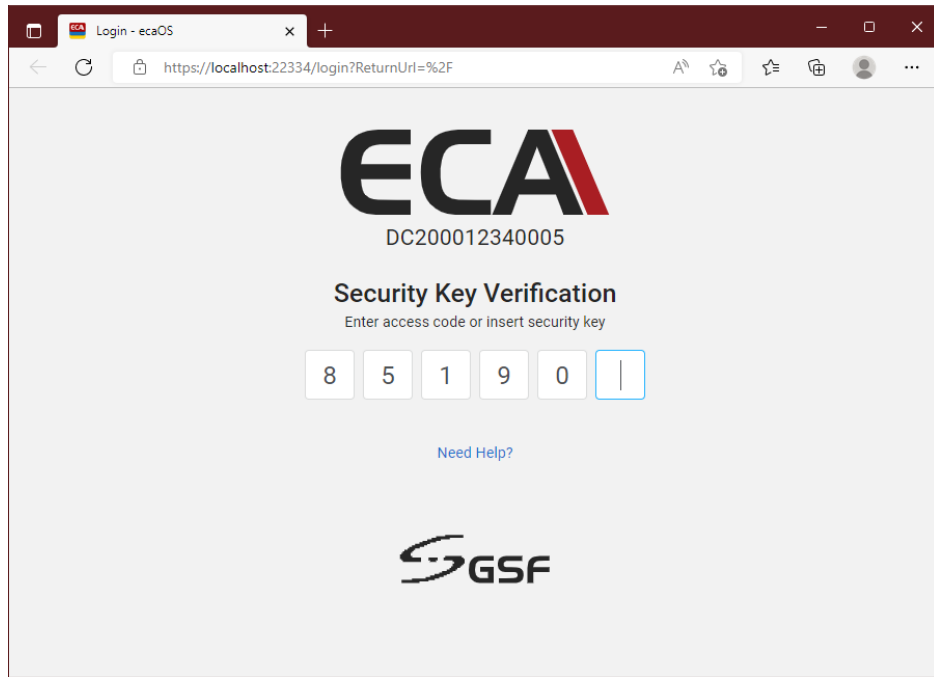


Figure 13: ecaOS Dashboard Login Page

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>:22334`

Example: `https://10.0.0.39:22334`

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

`https://<ECA serial number>:22334`

Example: `https://DC200012340005:22334`



Default access port number for the dashboard is '2334'. This port number is changeable in the Dashboard configuration.

1. Click 'Advanced'

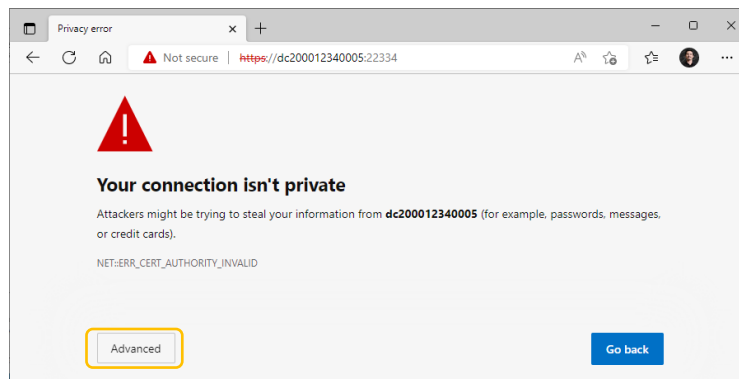


Figure 14: Dashboard Remote Access (1 of 2)

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

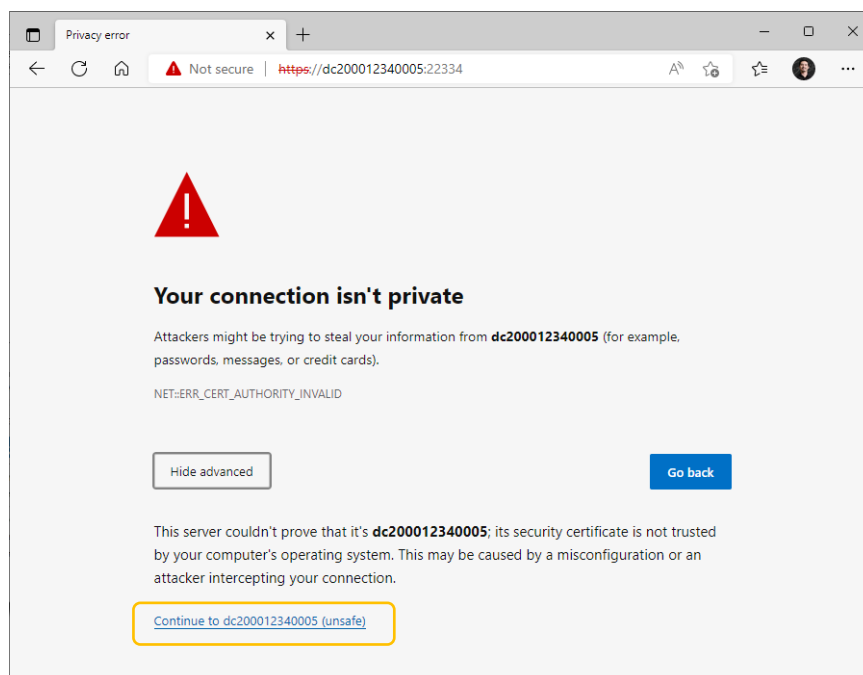


Figure 15: Dashboard Remote Access (2 of 2)

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:

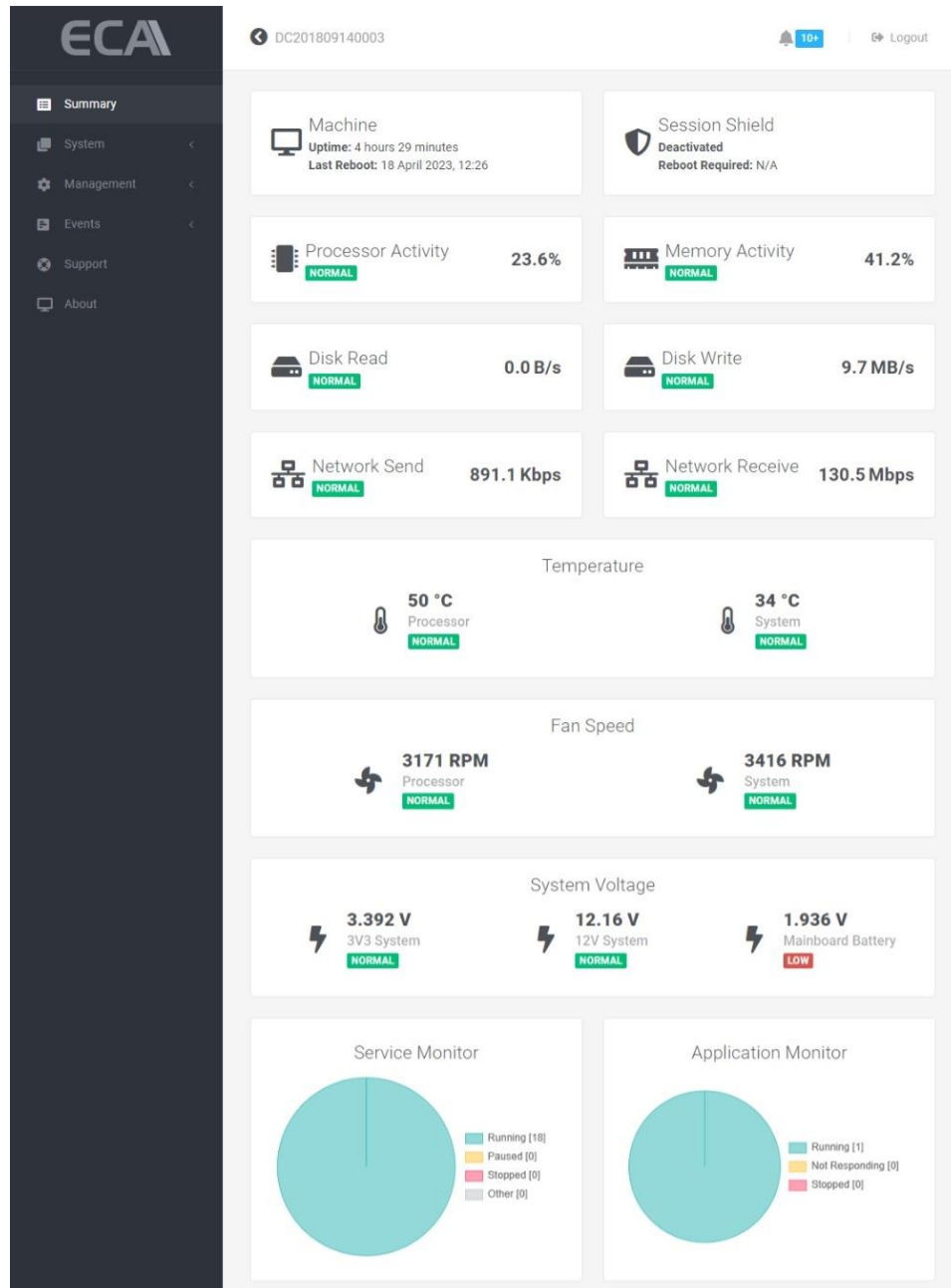


Figure 16: ecaOS Dashboard Summary

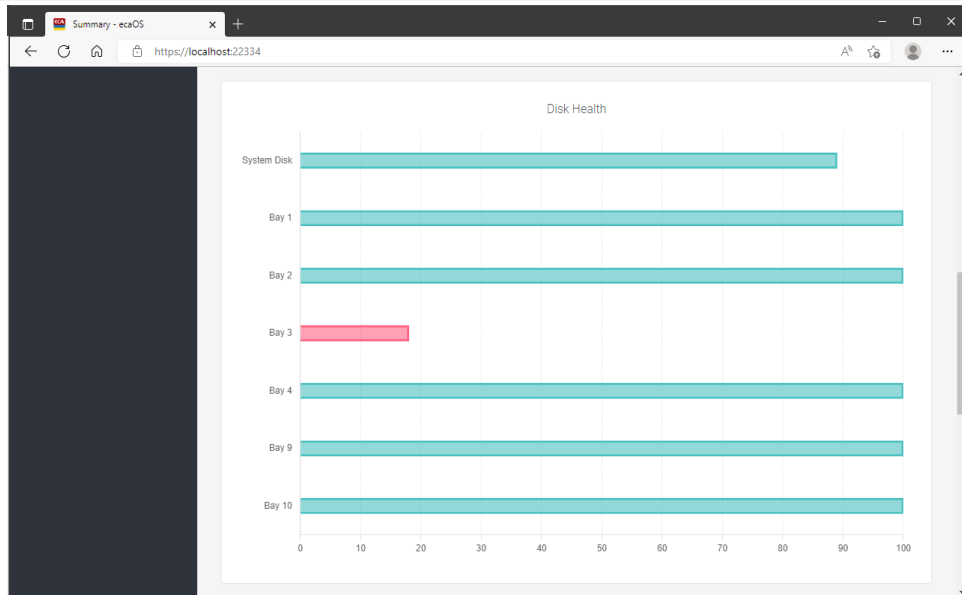


Figure 17: ecaOS Dashboard Summary – Disk Health

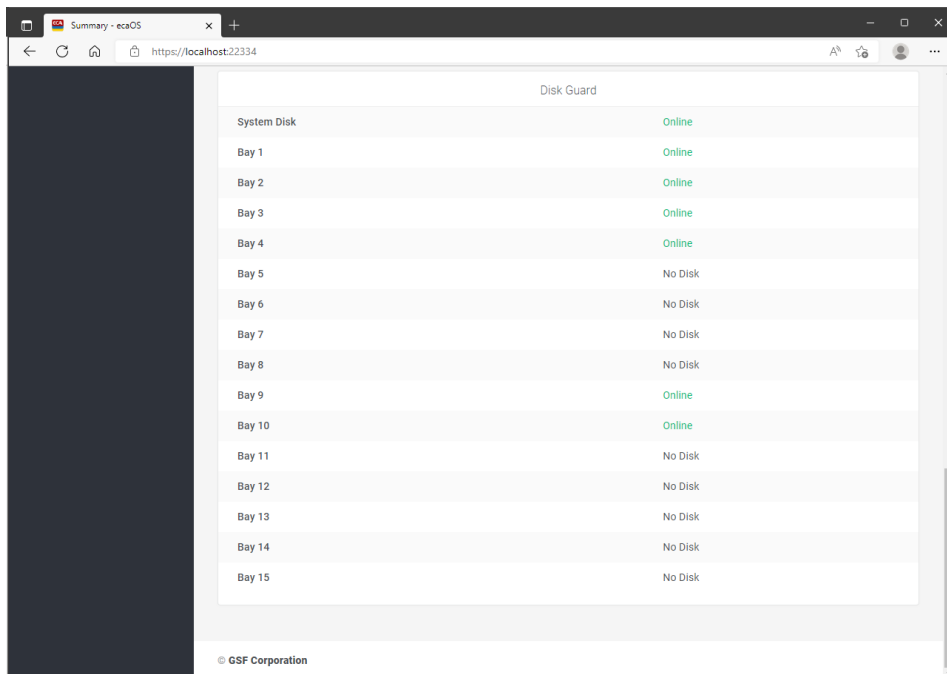


Figure 18: ecaOS Dashboard Summary – Disk Guard

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.

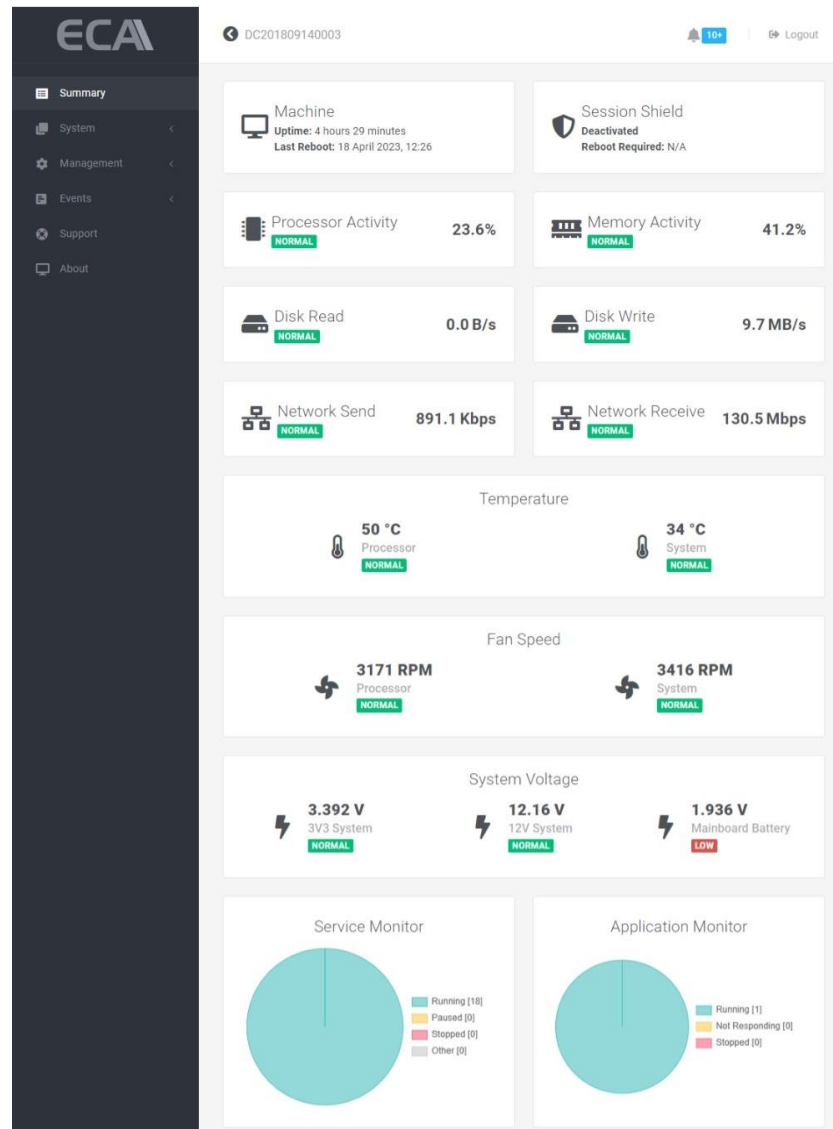


Figure 19: System Monitor Summary

8.2 Service Monitor

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

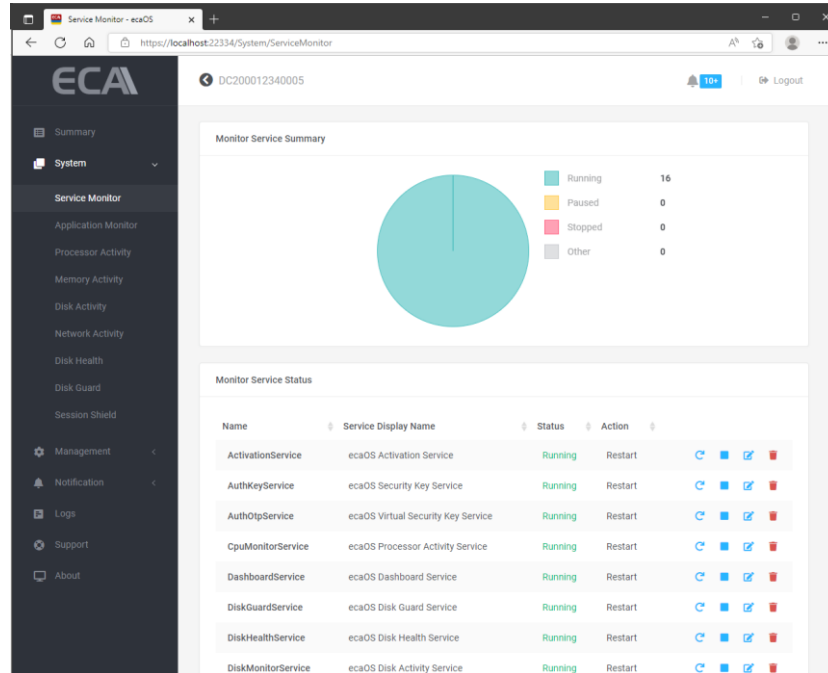


Figure 20: Service Monitor Summary

8.2.1 Add Services

- To add services, click the  button.

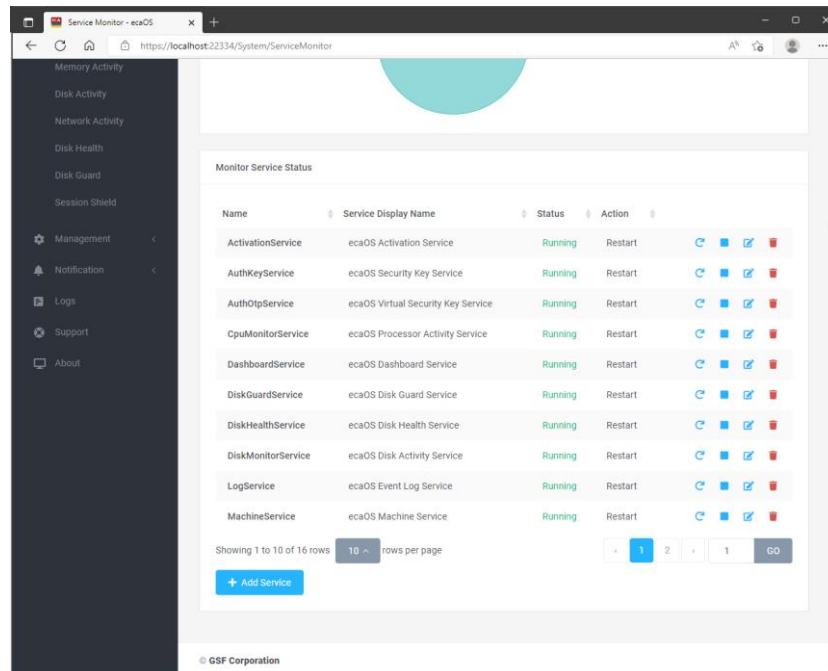


Figure 21: Add Services

- Click the drop-down button.

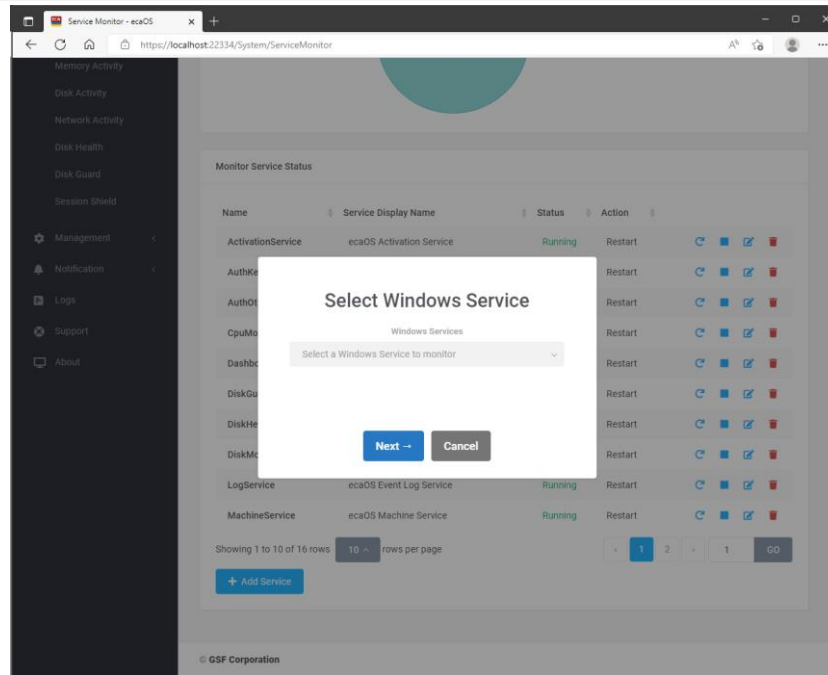


Figure 22: Select Windows Services (1 of 4)

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

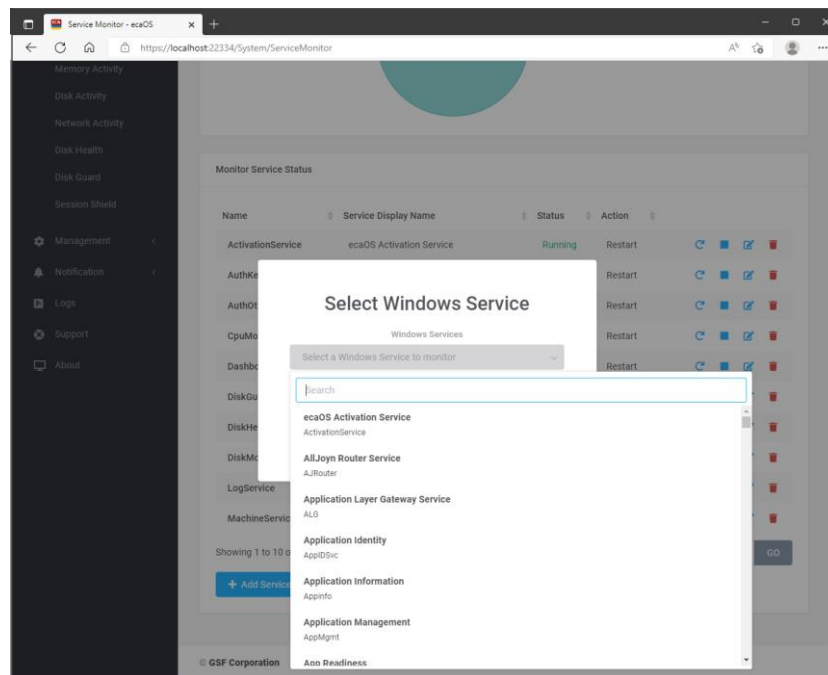


Figure 23: Select Windows Services (2 of 4)

4. Click **Next →** button

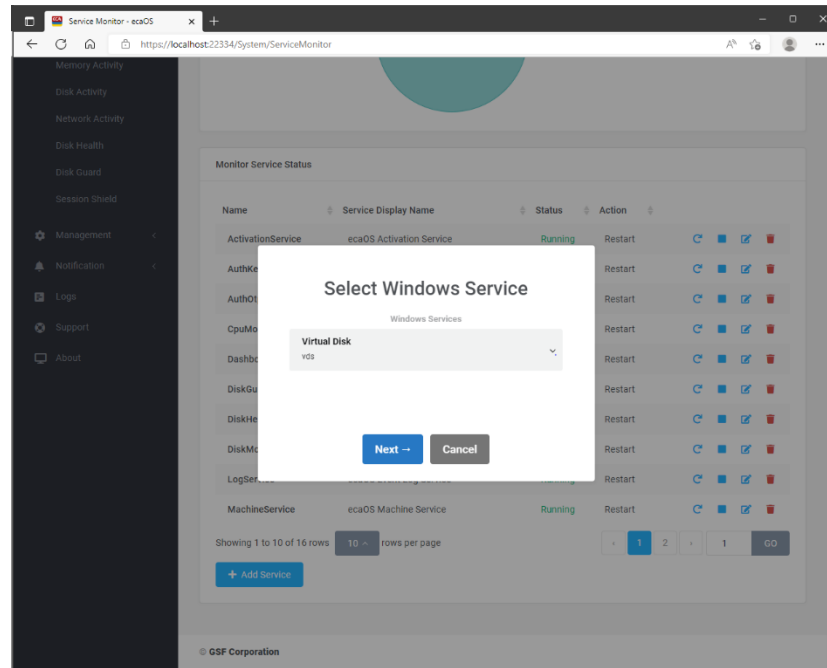


Figure 24: Select Windows services (3 of 4)

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

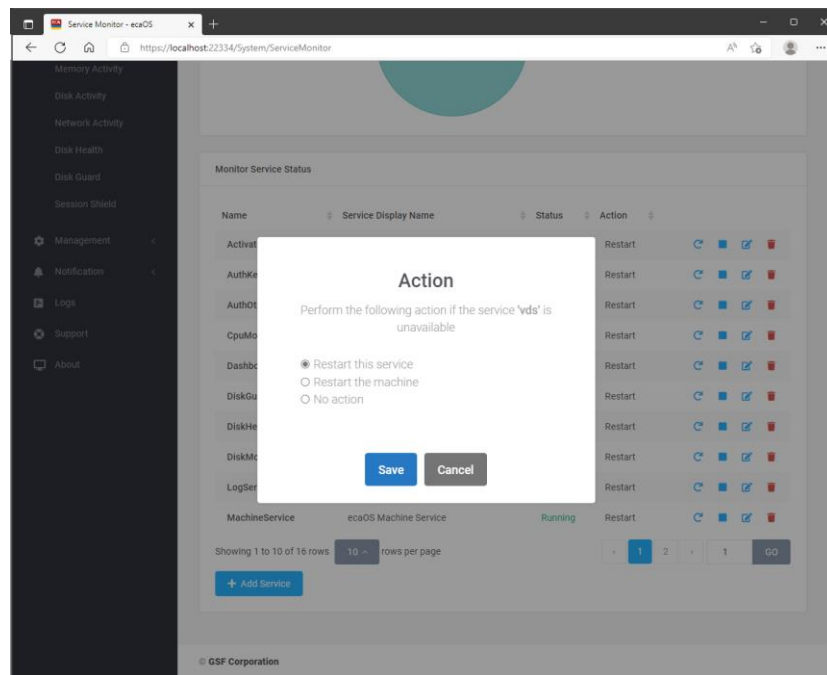


Figure 25: Select Windows Services (4 of 4)

8.2.2 Delete Services

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

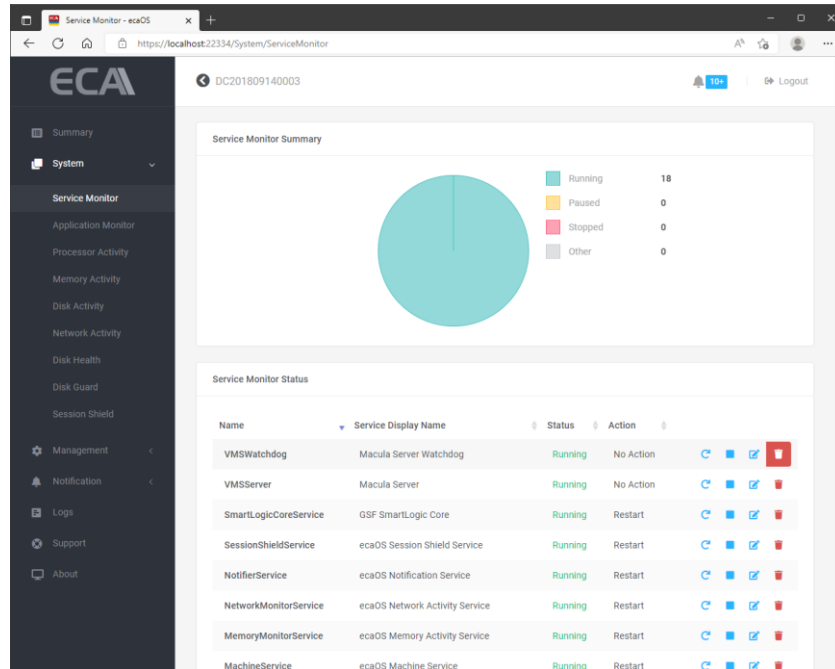



Figure 26: Delete Services (1 of 2)

- Click on  to proceed with the deletion

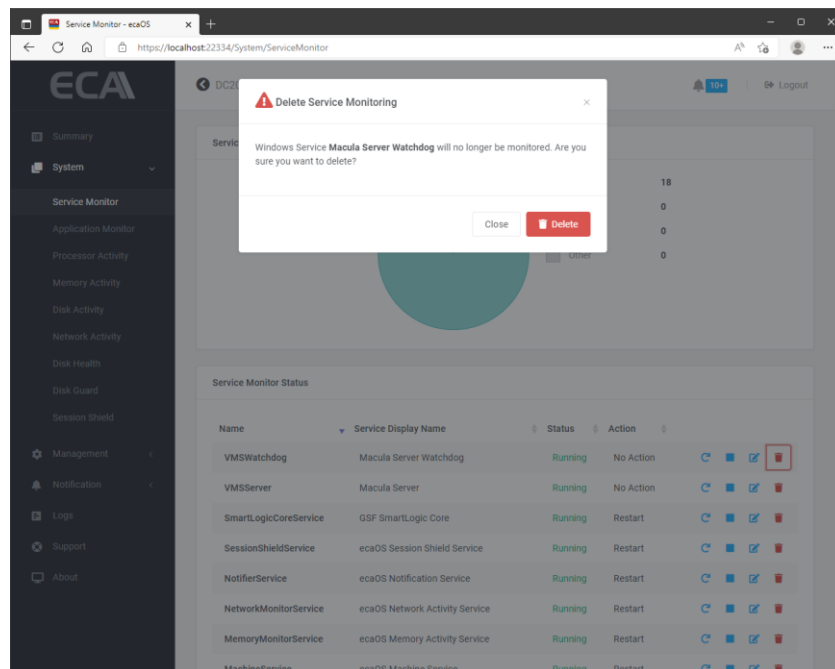


Figure 27: Delete Services (2 of 2)

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.

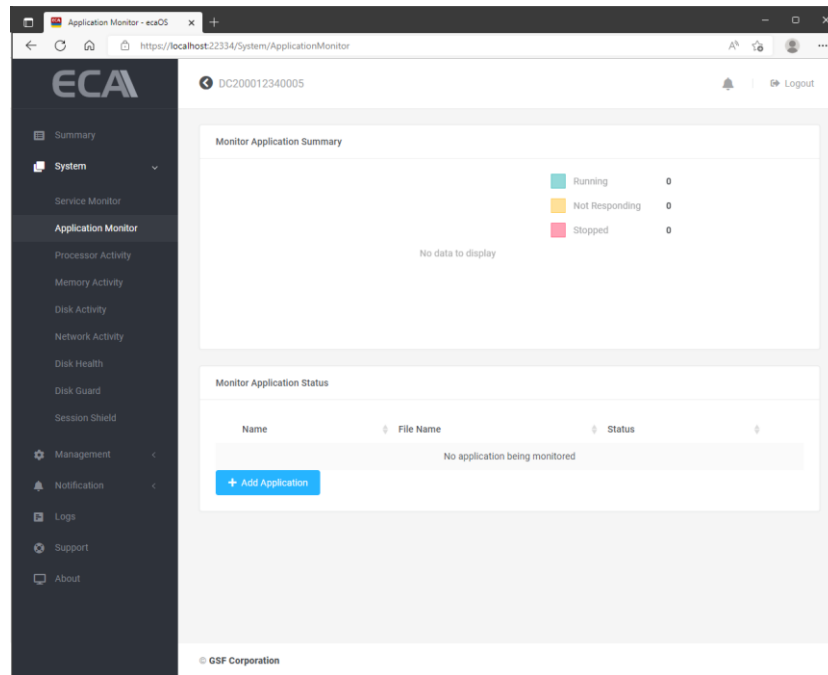



Figure 28: Application Monitor (1 of 5)

8.3.1 Add Application

1. To add application, click the  button.
2. Enter the application name

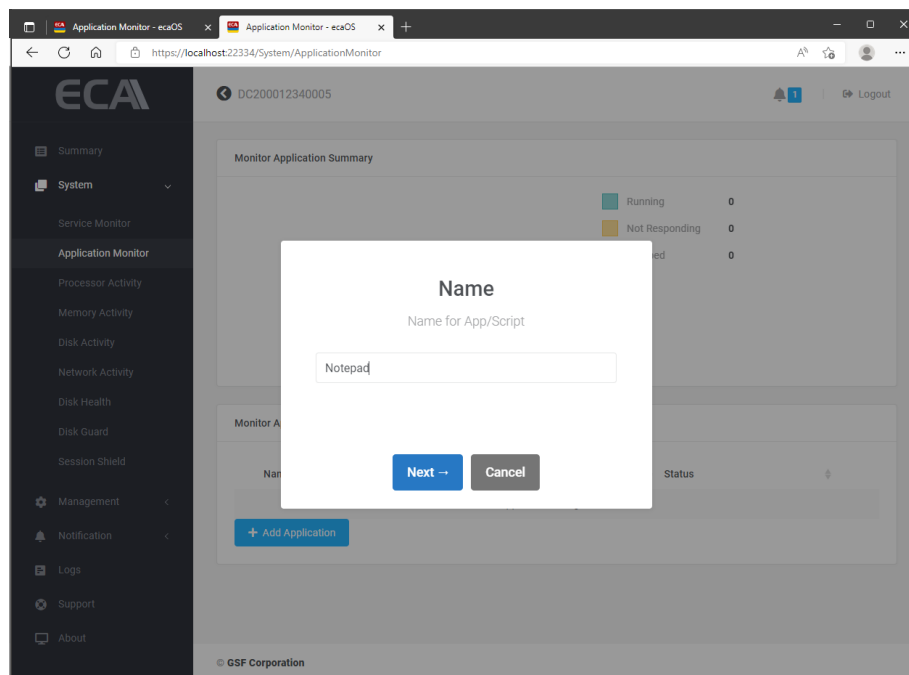


Figure 29: Application Monitor (2 of 5)

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

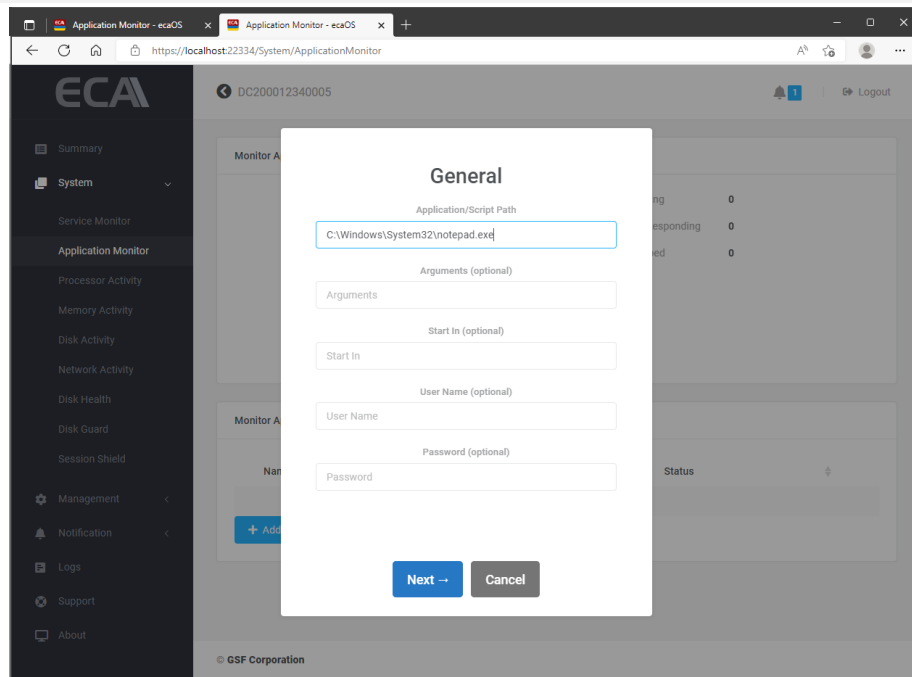


Figure 30: Application Monitor (3 of 5)

4. Apply setting

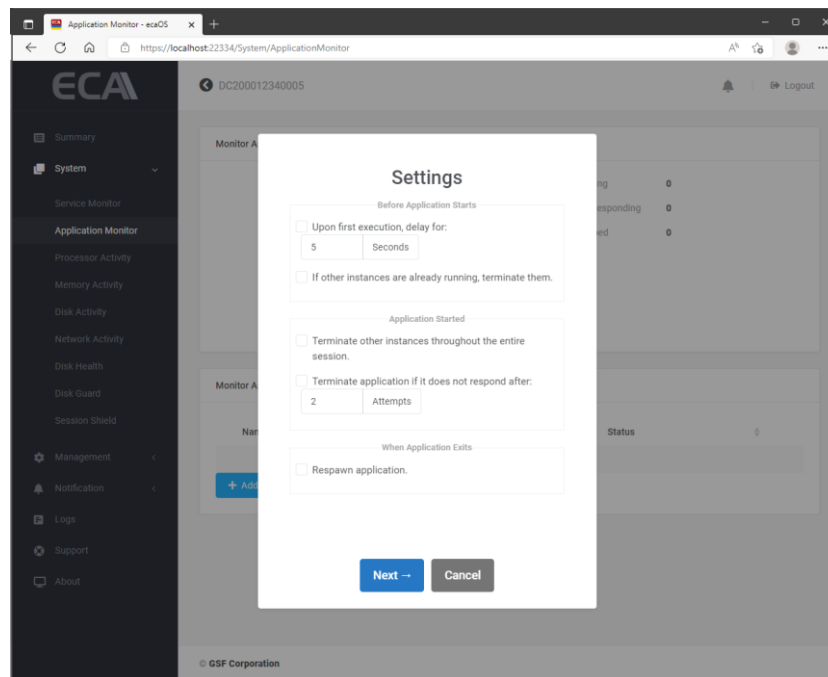


Figure 31: Application Monitor (4 of 5)

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

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

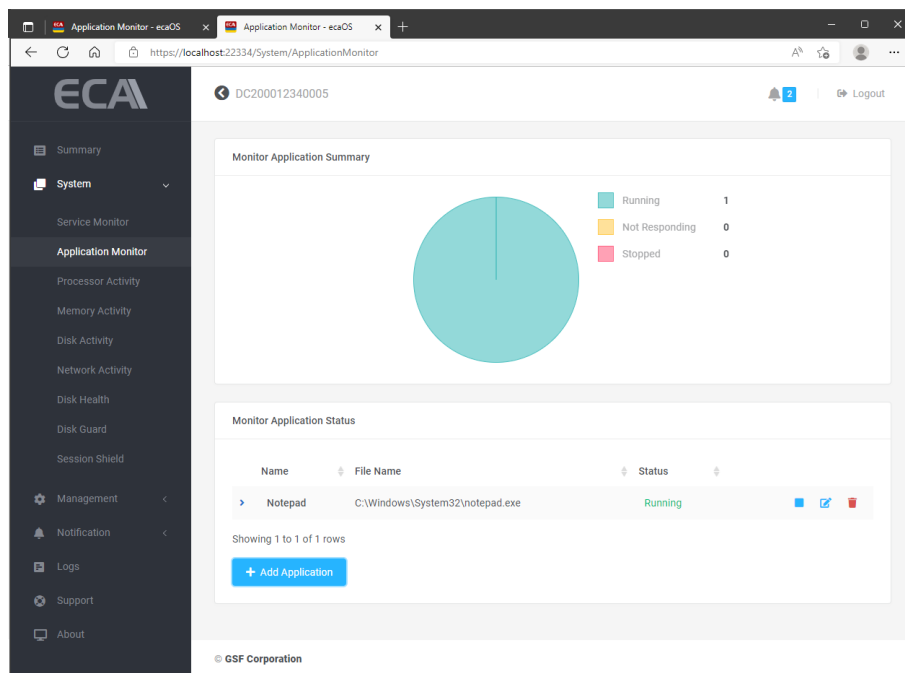



Figure 32: Application Monitor (5 of 5)

8.3.2 Delete Application

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

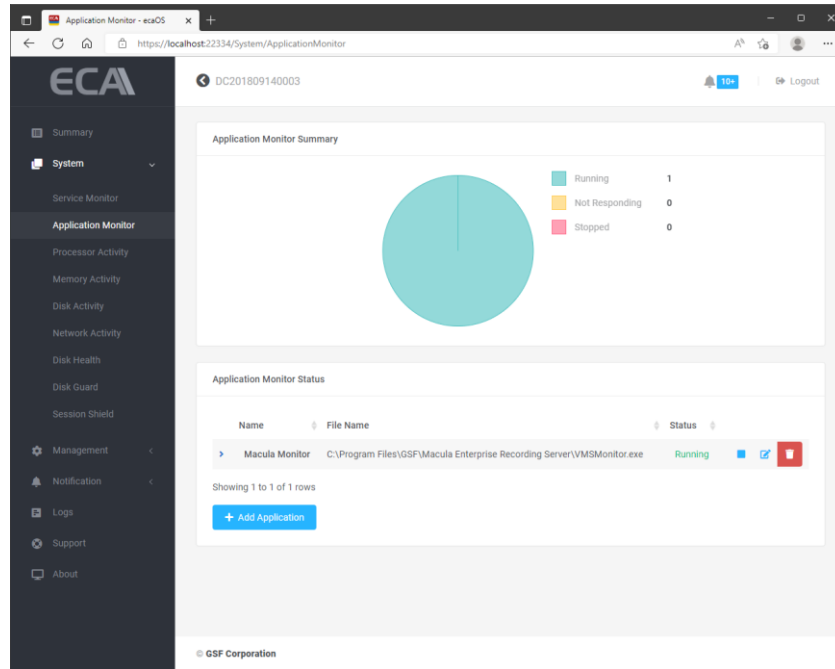



Figure 33: Delete monitored application (1 of 2)

- Click on  to proceed with the deletion

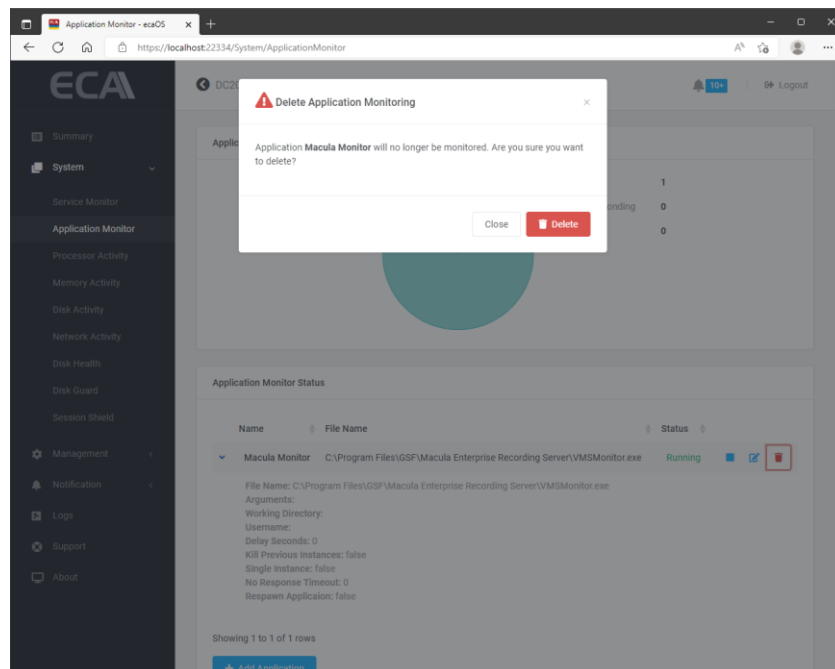


Figure 34: Delete monitored application (2 of 2)

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.

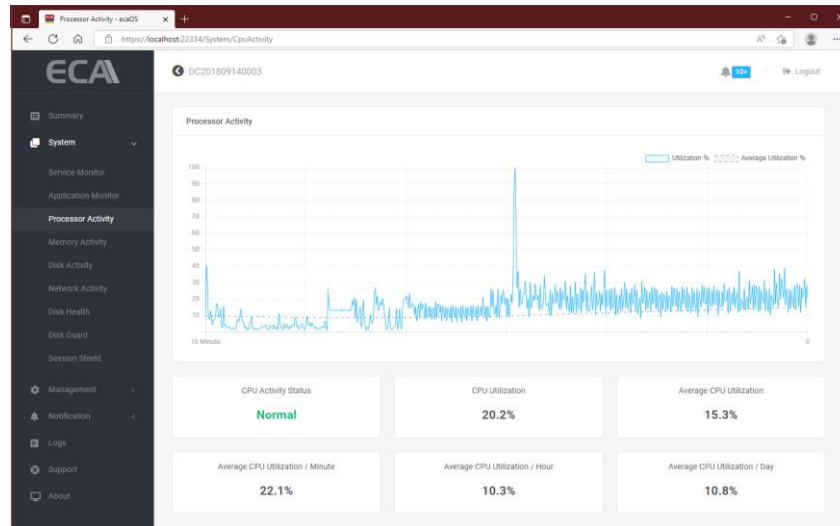


Figure 35: Processor Activity (1 of 2)

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.

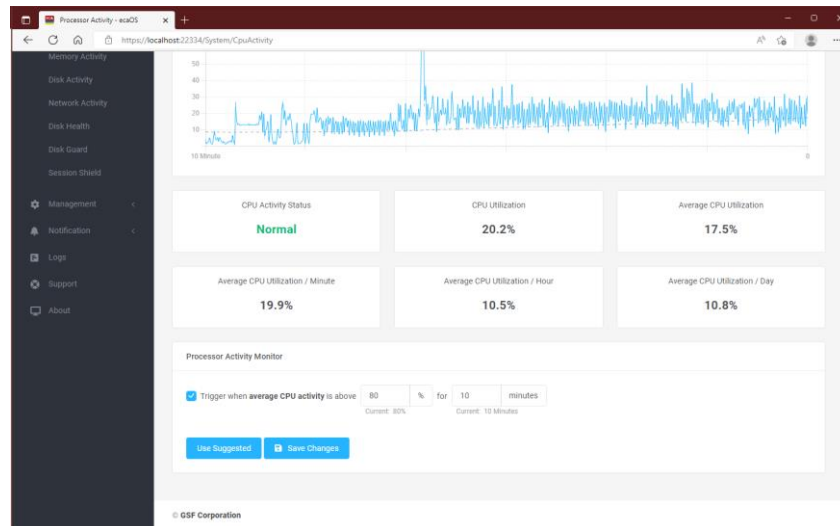


Figure 36: Processor Activity (2 of 2)

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.

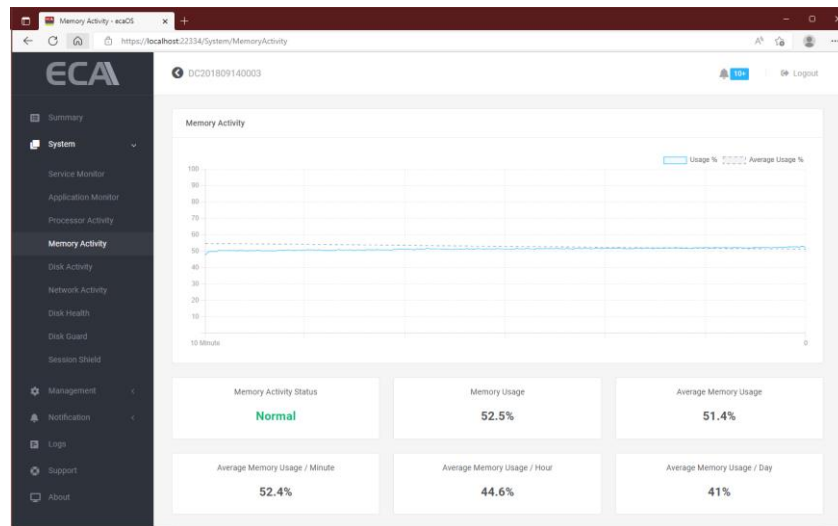


Figure 37: Memory Activity (1 of 2)

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.

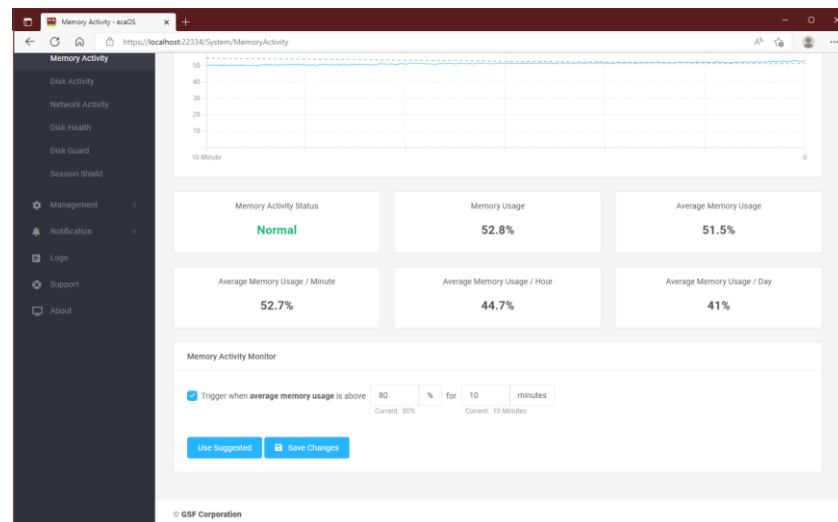


Figure 38: Memory Activity (2 of 2)

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.

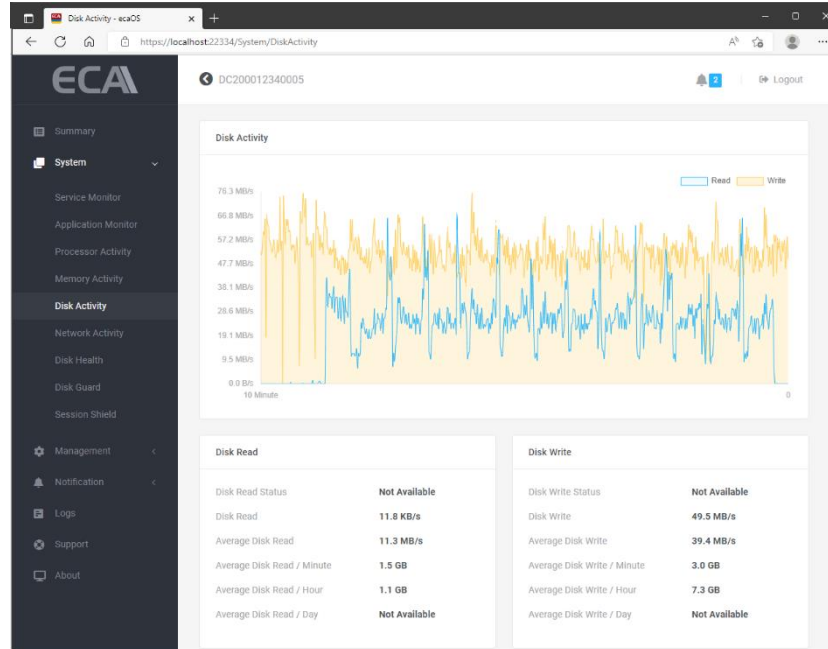


Figure 39: Disk Activity (1 of 2)

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.

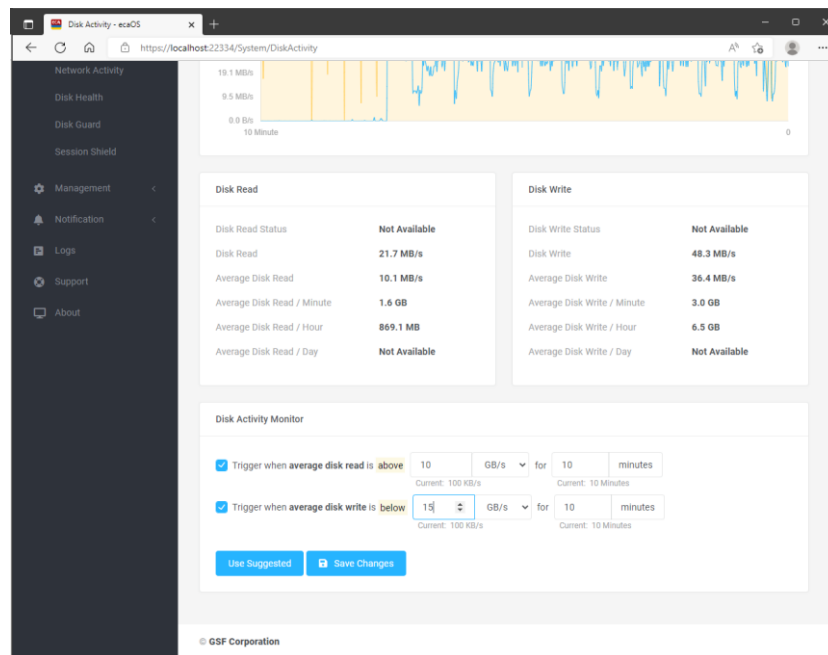


Figure 40: Disk Activity (2 of 2)

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.

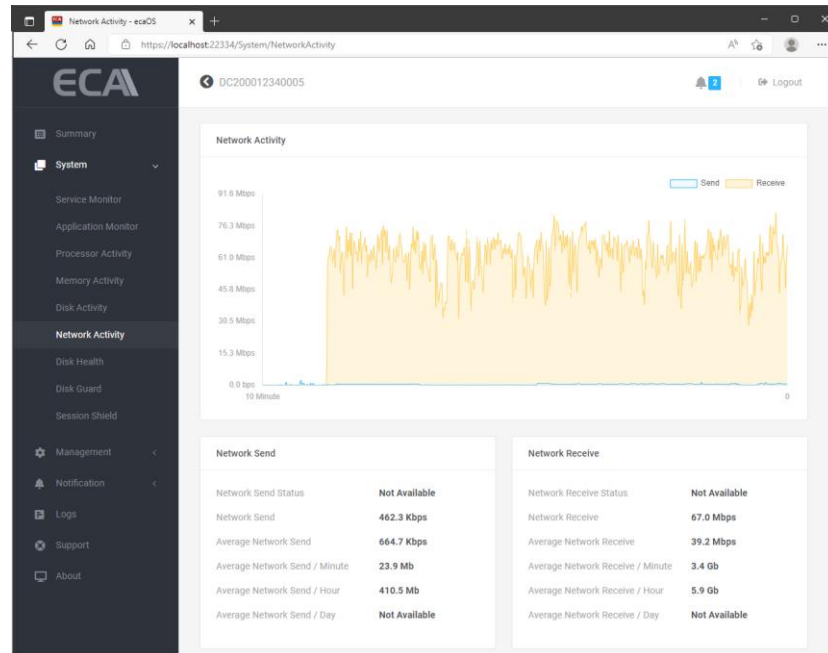


Figure 41: Network Activity (1 of 2)

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

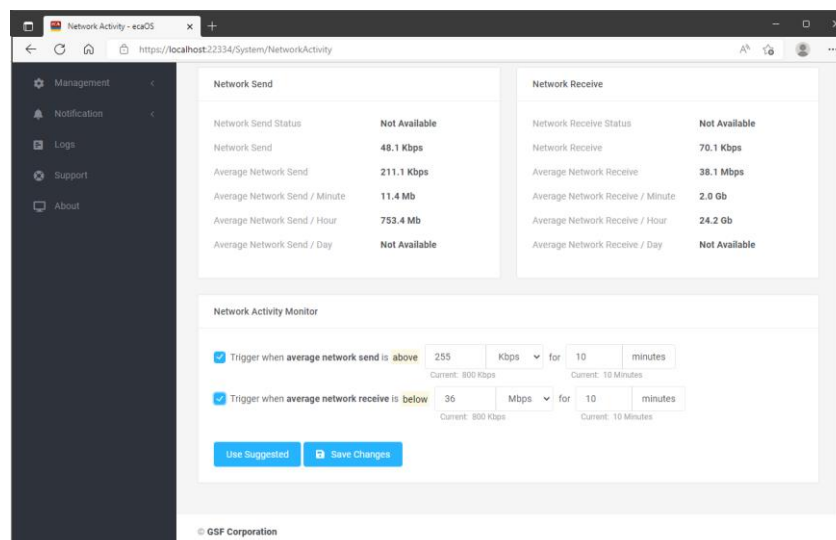


Figure 42: Network Activity (2 of 2)

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.

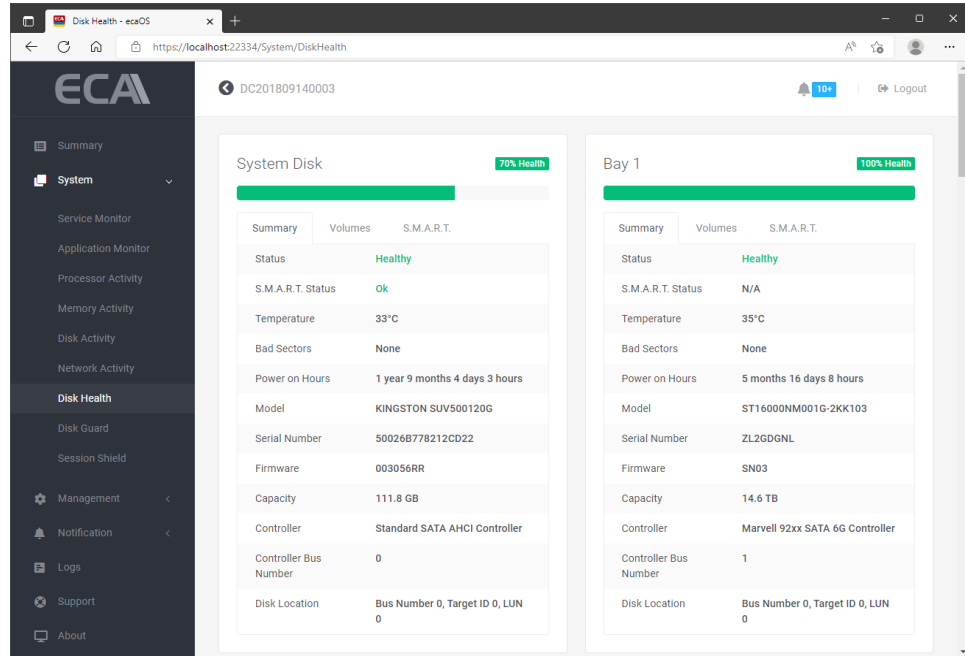


Figure 43: Disk Health (1 of 3)

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

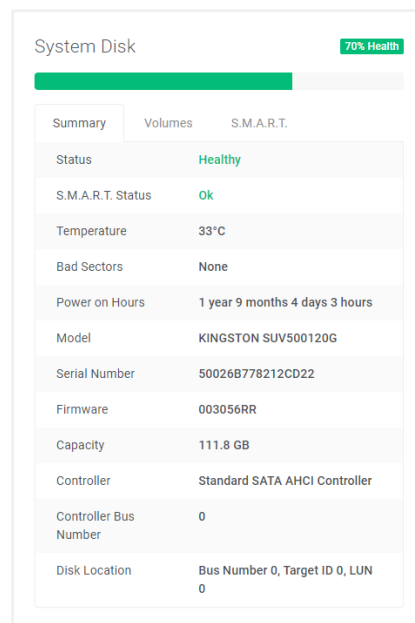


Figure 44: Disk Health – Healthy Disk (2 of 3)

System Disk 67% Health	
Summary	Volumes S.M.A.R.T.
Status	Warning
S.M.A.R.T. Status	Ok
Temperature	34°C
Bad Sectors	None
Power on Hours	1 year 9 months 19 days 4 hours
Model	KINGSTON SUV500120G
Serial Number	50026B778212CD22
Firmware	003056RR
Capacity	111.8 GB
Controller	Standard SATA AHCI Controller
Controller Bus Number	0
Disk Location	Bus Number 0, Target ID 0, LUN 0

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

Bay 15 23% Health	
Summary	Volumes S.M.A.R.T.
Status	Critical
S.M.A.R.T. Status	Ok
Temperature	32°C
Bad Sectors	200
Power on Hours	1 year 4 months 8 days 9 hours
Model	TOSHIBA MC04ACA400E
Serial Number	44T5K00GFLSA
Firmware	FP1A
Capacity	3.6 TB
Controller	Standard SATA AHCI Controller
Controller Bus Number	0
Disk Location	Bus Number 3, Target ID 0, LUN 0

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

Under Volume, display partition & free space available information

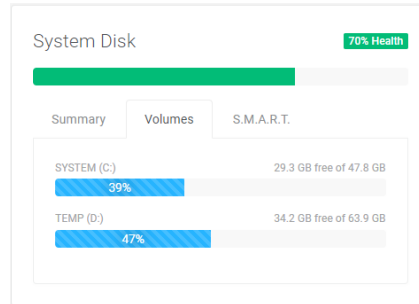
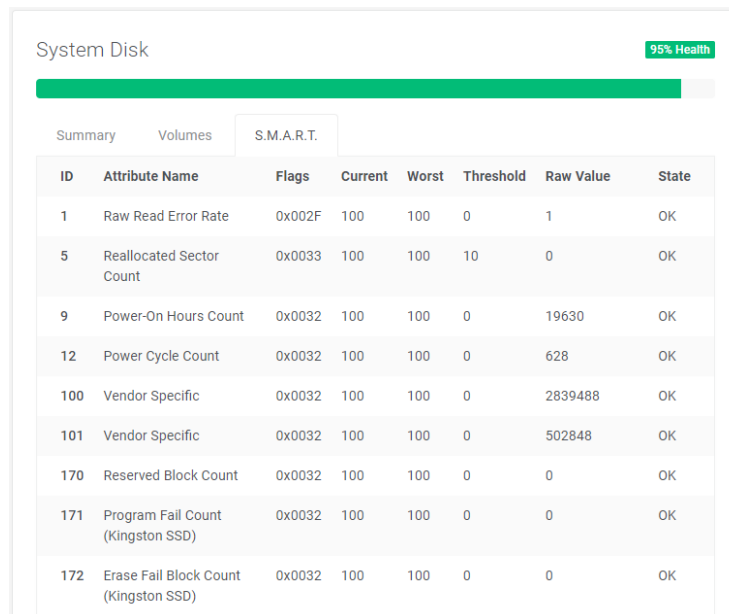


Figure 47: Disk Health (3 of 3)

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)

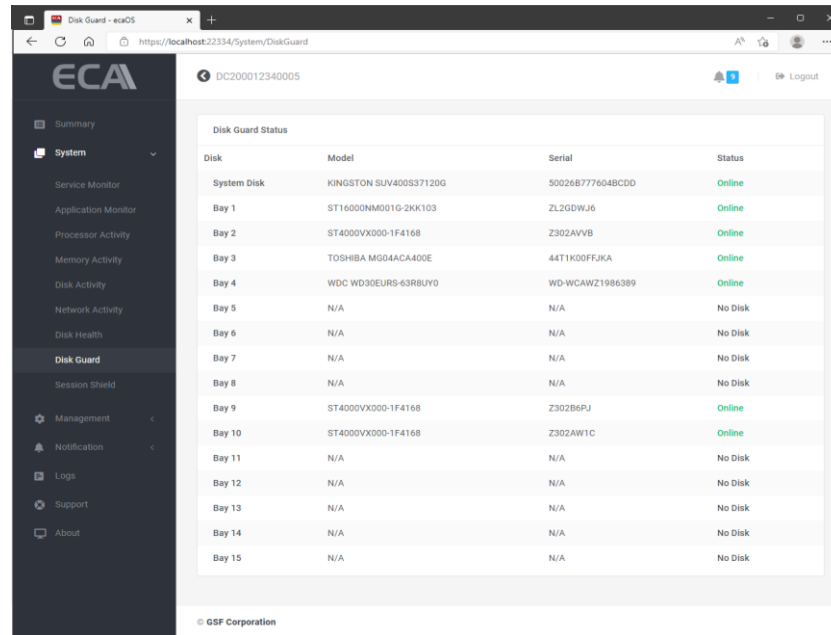
NOTE:

- 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.



Bay	Model	Serial	Status
System Disk	KINGSTON SUV400S37120G	5002687776048CDD	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.

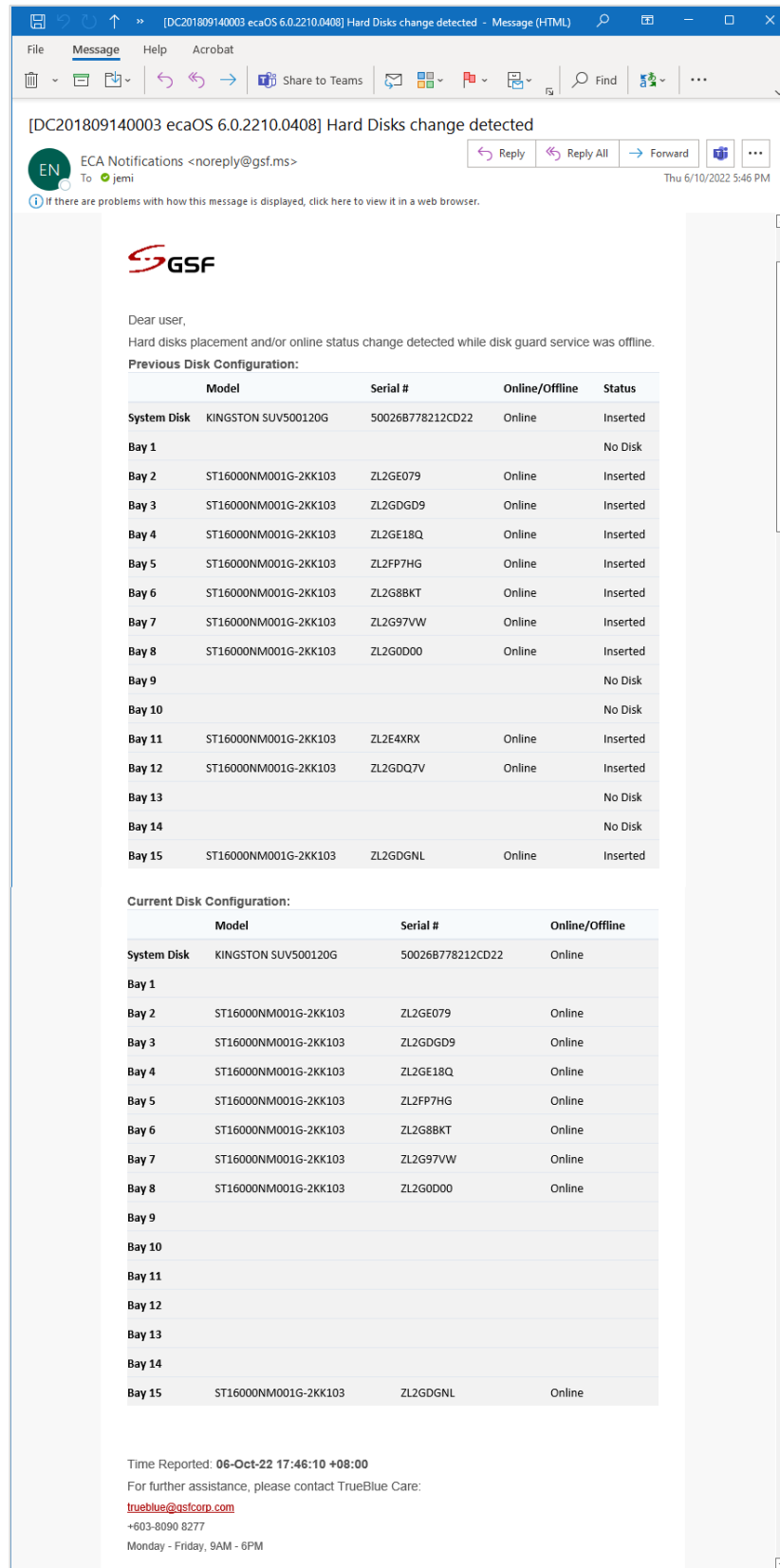
Bay 12	ZL2GDQ7V	ST1600NM001G-2KK103	Removed	Acknowledge
--------	----------	---------------------	---------	-------------

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.

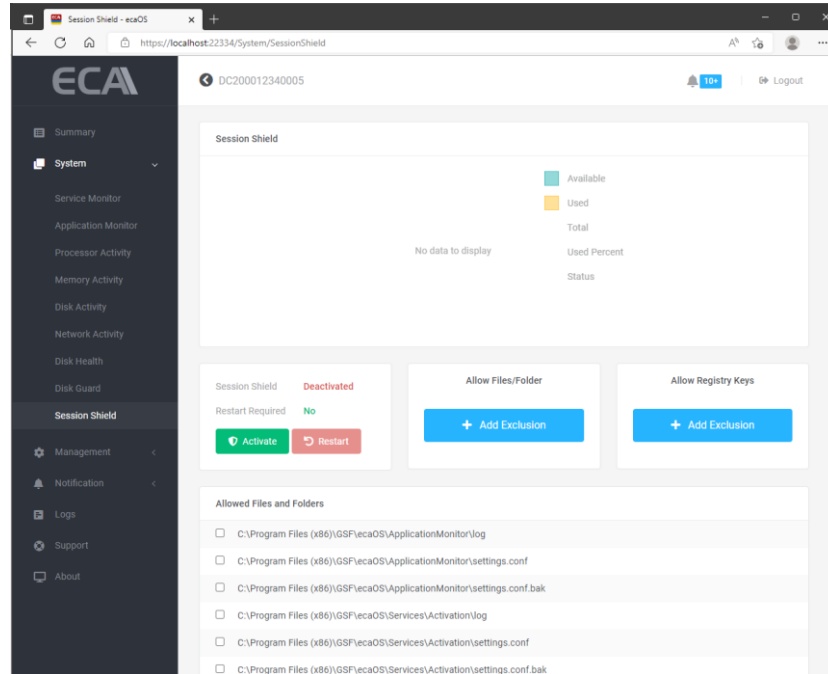


Figure 52: Session Shield

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'

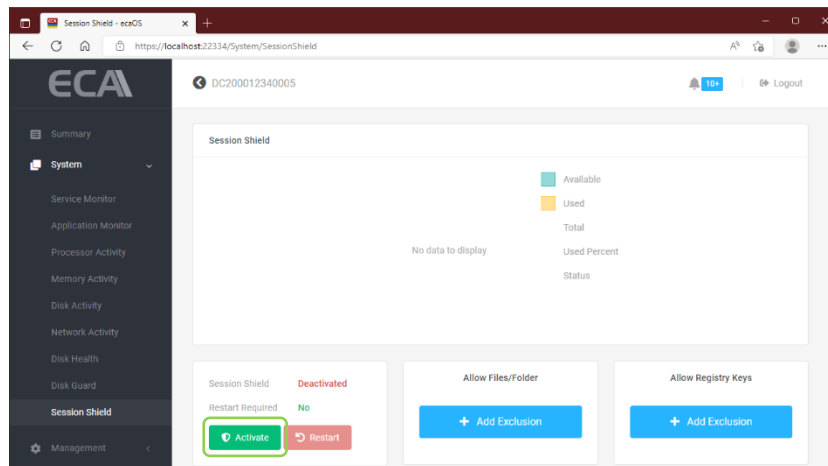


Figure 53: Activate Session Shield (1 of 5)

2. Click 'Change Settings' to save the setting

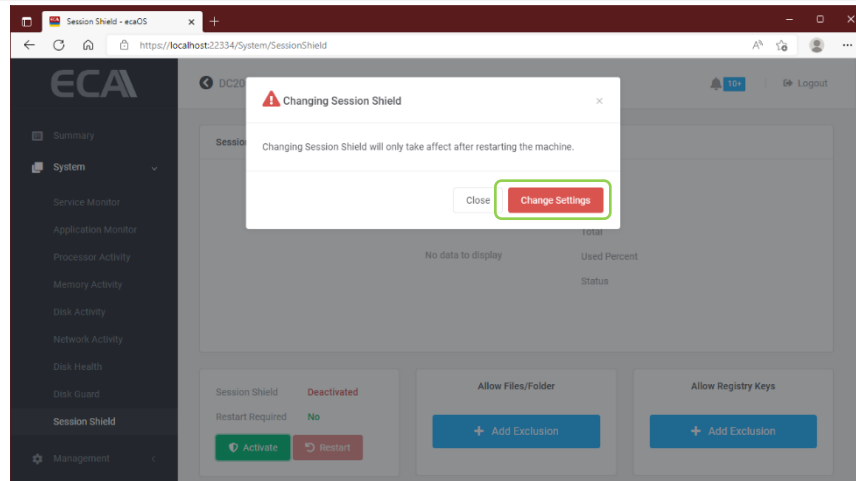


Figure 54: Activate Session Shield (2 of 5)

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

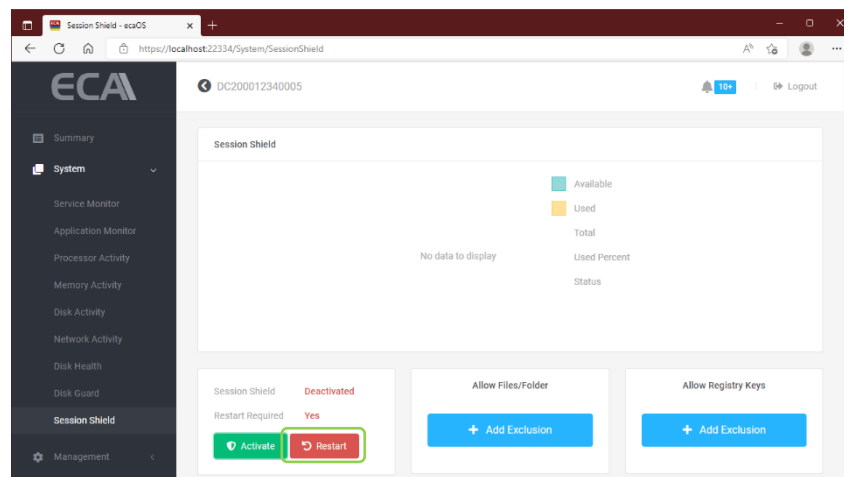


Figure 55: Activate Session Shield (4 of 6)

4. Type Restart then click 'Restart' button

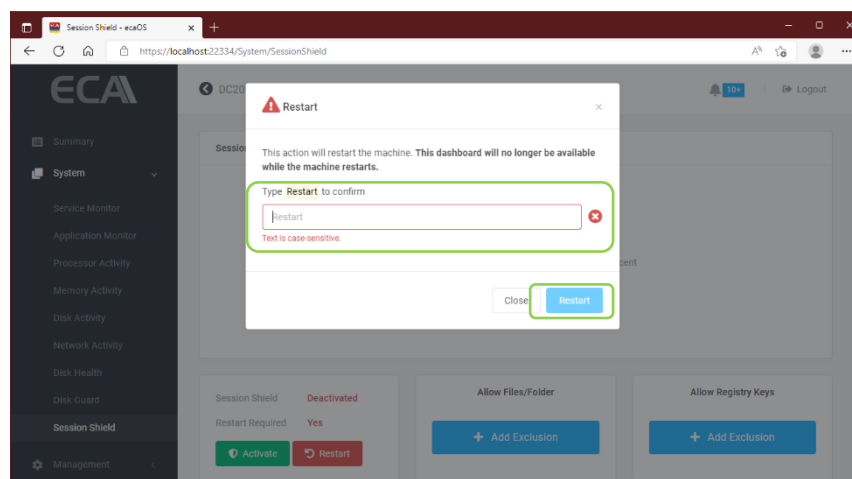
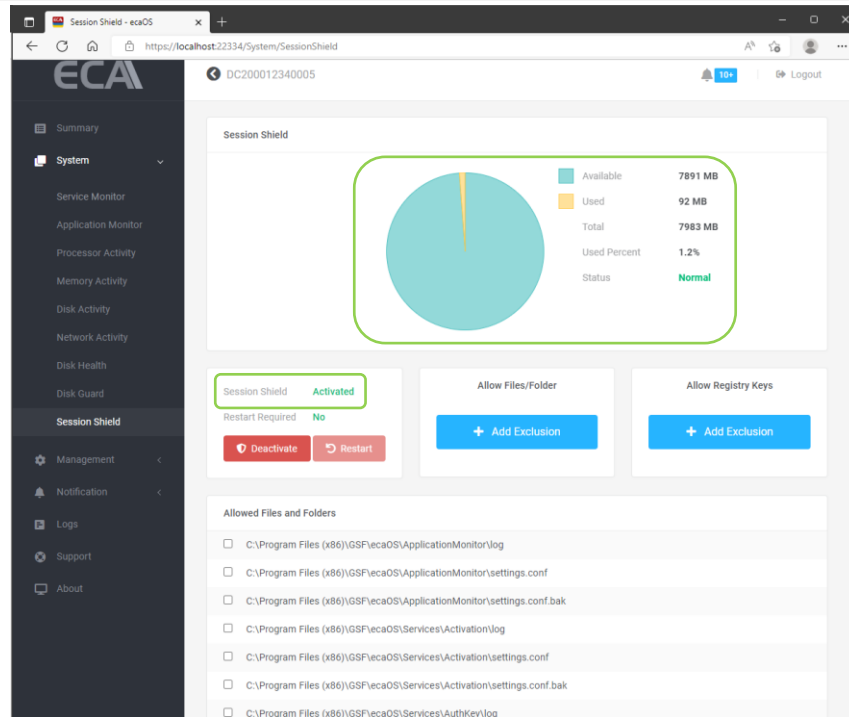


Figure 56: Activate Session Shield (5 of 6)

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



The screenshot displays the ECA Session Shield web interface. The left sidebar contains navigation options: Summary, System (expanded), Service Monitor, Application Monitor, Processor Activity, Memory Activity, Disk Activity, Network Activity, Disk Health, Disk Guard, Session Shield (selected), Management, Notification, Logs, Support, and About. The main content area shows the Session Shield status as 'Activated' with a green indicator. A pie chart displays memory usage: Available (7891 MB), Used (92 MB), and Total (7983 MB). The Used Percent is 1.2% and the Status is Normal. Below the chart are three configuration panels: 'Session Shield' (Restart Required: No, buttons for Deactivate and Restart), 'Allow Files/Folder' (button for Add Exclusion), and 'Allow Registry Keys' (button for Add Exclusion). A table lists 'Allowed Files and Folders' with checkboxes for each path.

Memory Category	Value
Available	7891 MB
Used	92 MB
Total	7983 MB
Used Percent	1.2%
Status	Normal

Allowed Files and Folders	Selected
<input type="checkbox"/> C:\Program Files (x86)\GSF\ecaOS\ApplicationMonitor\log	
<input type="checkbox"/> C:\Program Files (x86)\GSF\ecaOS\ApplicationMonitor\settings.conf	
<input type="checkbox"/> C:\Program Files (x86)\GSF\ecaOS\ApplicationMonitor\settings.conf.bak	
<input type="checkbox"/> C:\Program Files (x86)\GSF\ecaOS\Services\Activation\log	
<input type="checkbox"/> C:\Program Files (x86)\GSF\ecaOS\Services\Activation\settings.conf	
<input type="checkbox"/> C:\Program Files (x86)\GSF\ecaOS\Services\Activation\settings.conf.bak	
<input type="checkbox"/> C:\Program Files (x86)\GSF\ecaOS\Services\AuthKey\log	

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'

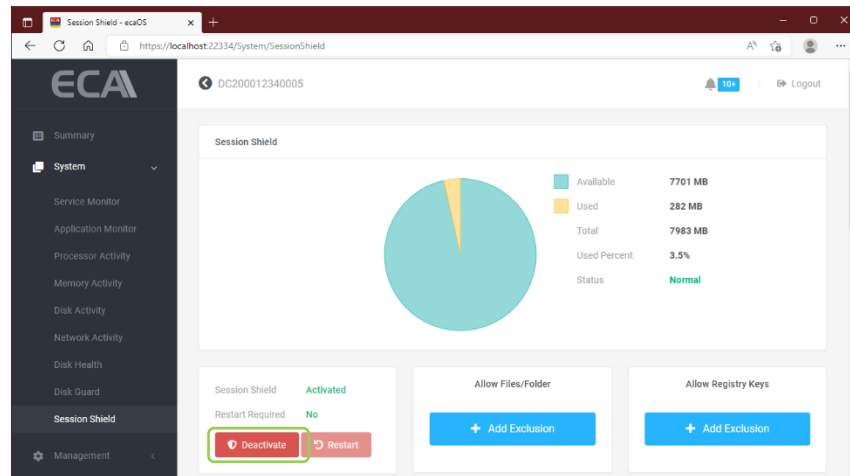


Figure 58: Deactivate Session Shield (1 of 3)

2. Click 'Change Settings' to save the setting

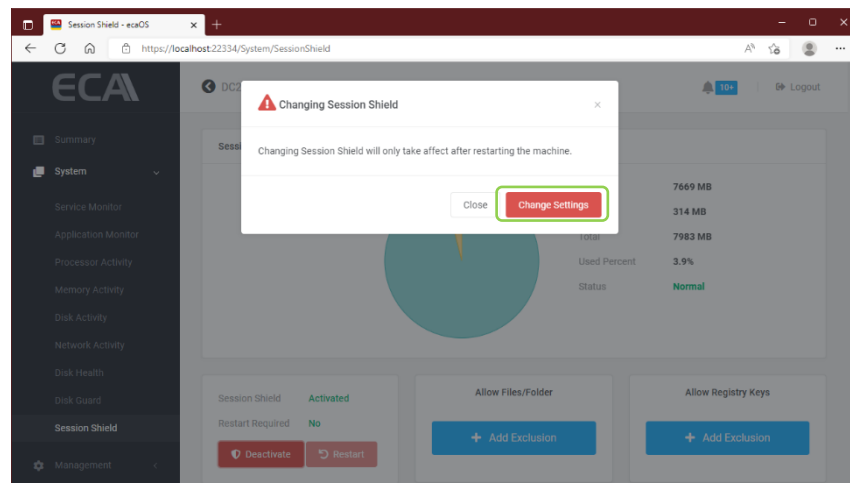


Figure 59: Deactivate Session Shield (2 of 3)

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

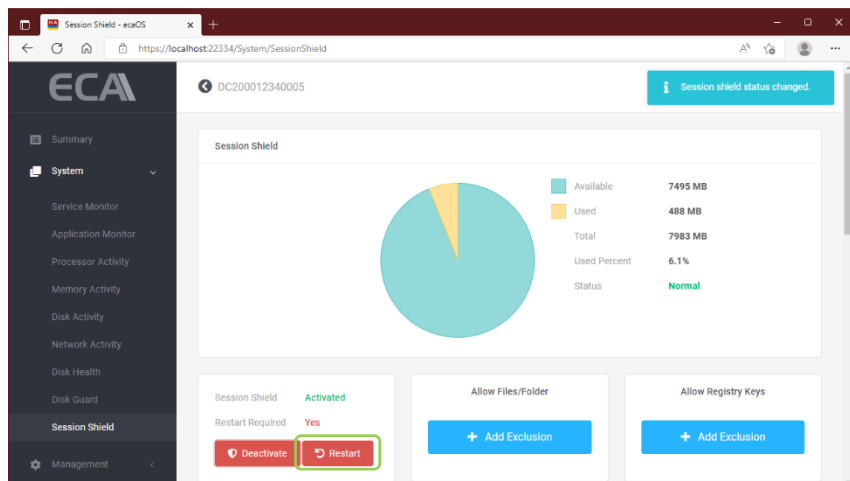


Figure 60: Deactivate Session Shield (2 of)

4. Type Restart then click 'Restart' button

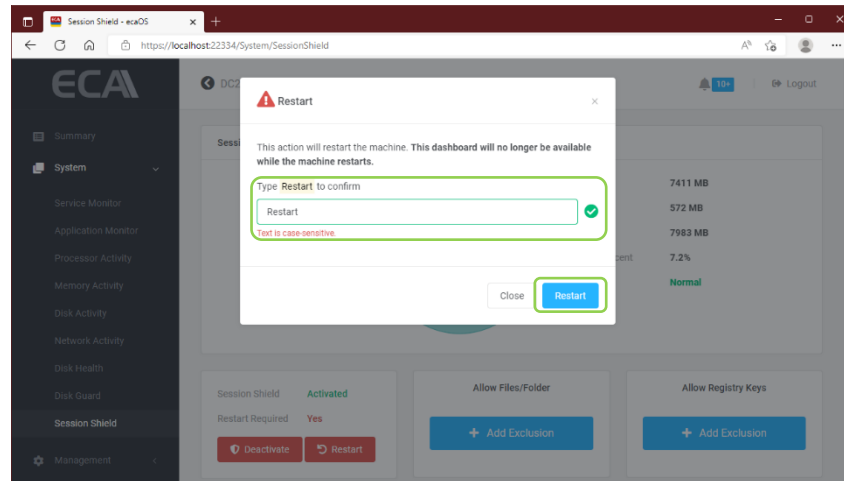


Figure 61: Deactivate Session Shield (3 of 3)

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

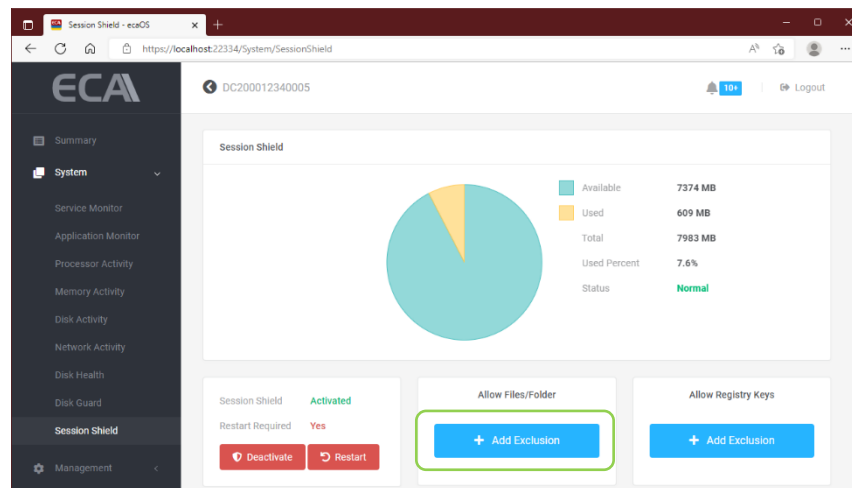


Figure 62: Allow Files/Folder (1 of 3)

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

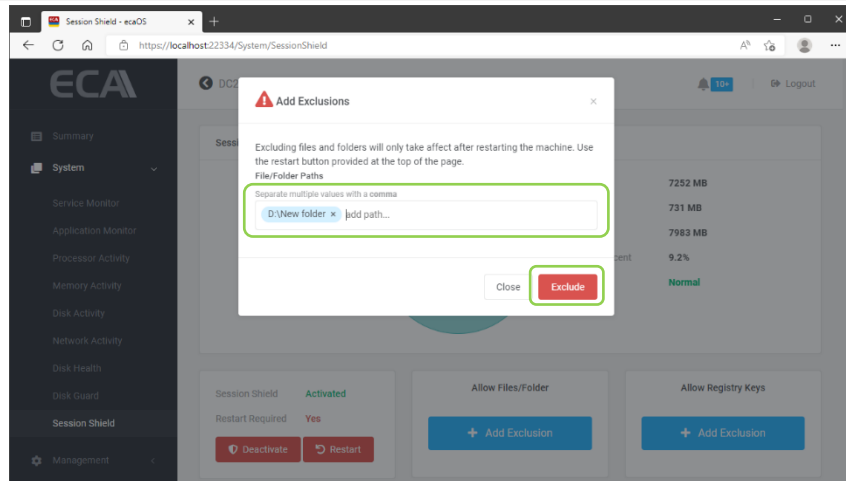


Figure 63: Allow Files/Folder (2 of 3)

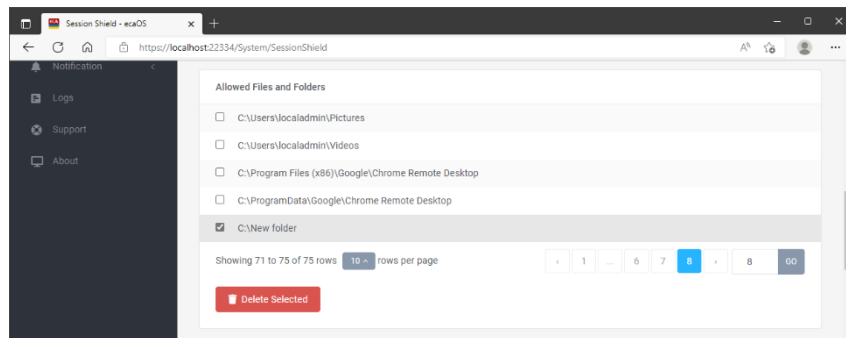


Figure 64: Allow Files/Folder (3 of 3)

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'

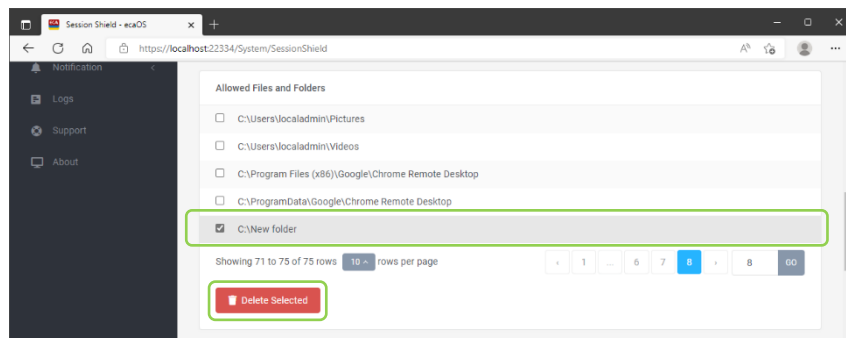


Figure 65: Delete Files/Folder (1 of 3)

2. Click 'Delete Exclusion' to confirm the operation

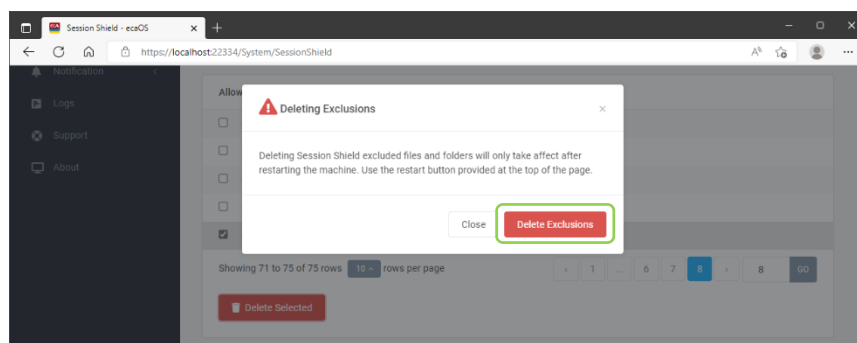


Figure 66: Delete Files/Folder (2 of 2)

8.10.6 Add Registry Keys

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

1. Click 'Add Exclusion' to add registry keys

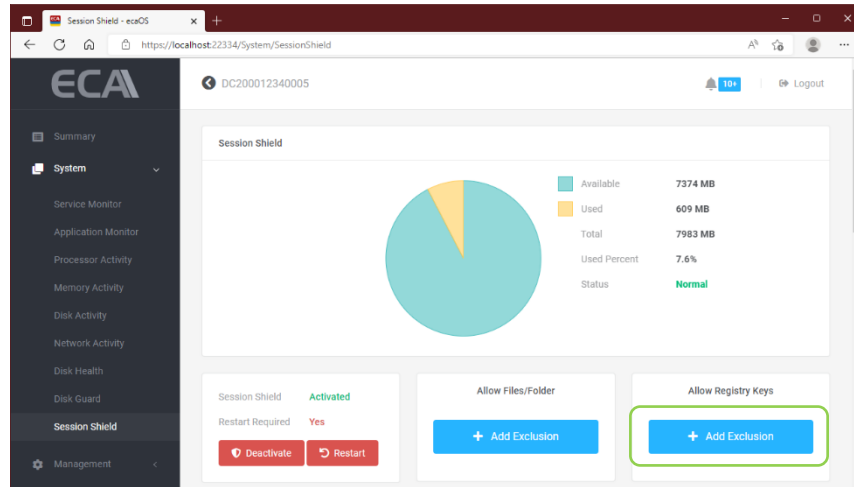


Figure 67: Allow Registry Keys (1 of 2)

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

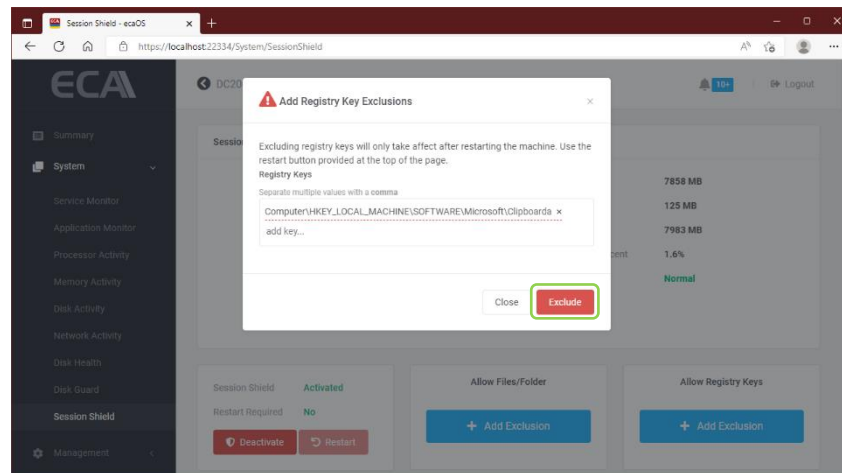


Figure 68: Allow Registry Keys (1 of 2)

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'

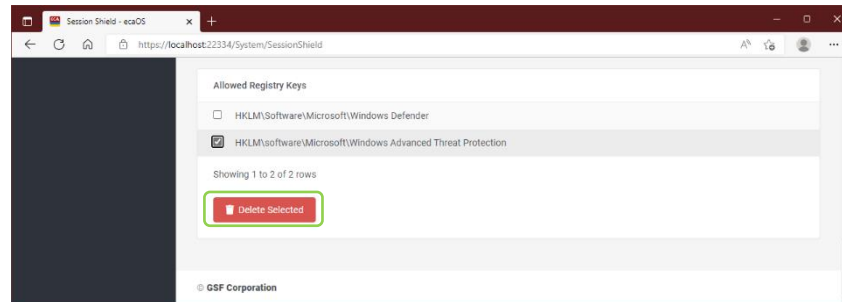


Figure 69: Delete Registry Key (1 of 2)

2. Click 'Delete Exclusion' to confirm the operation

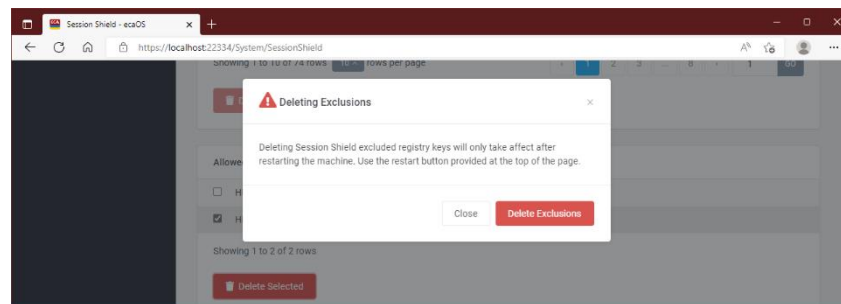


Figure 70: Delete Registry Key (2 of 2)

8.10.8 Status: Warning

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

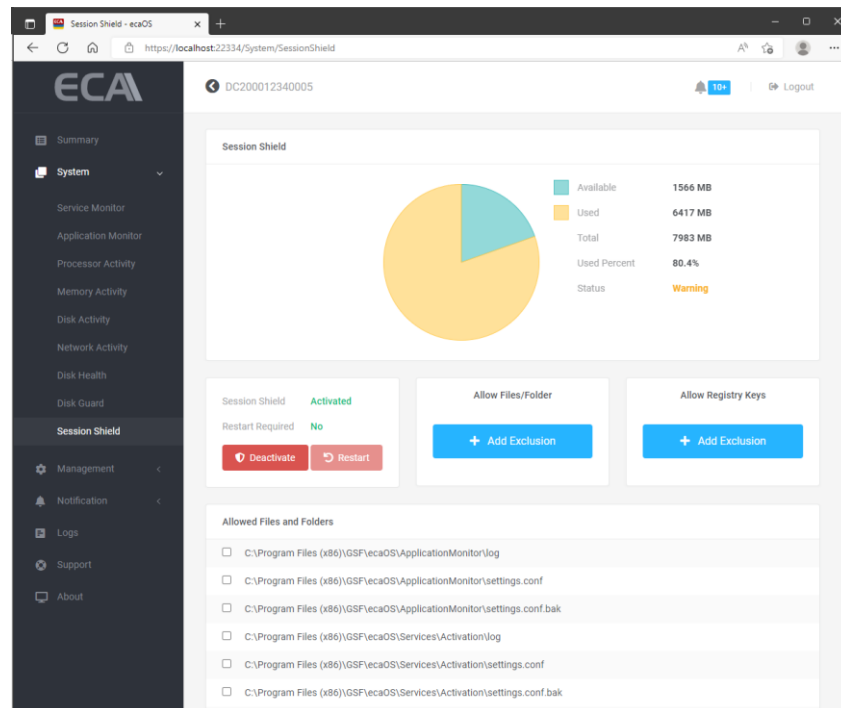


Figure 71: Warning Status

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 start the counter and restart in few minutes.

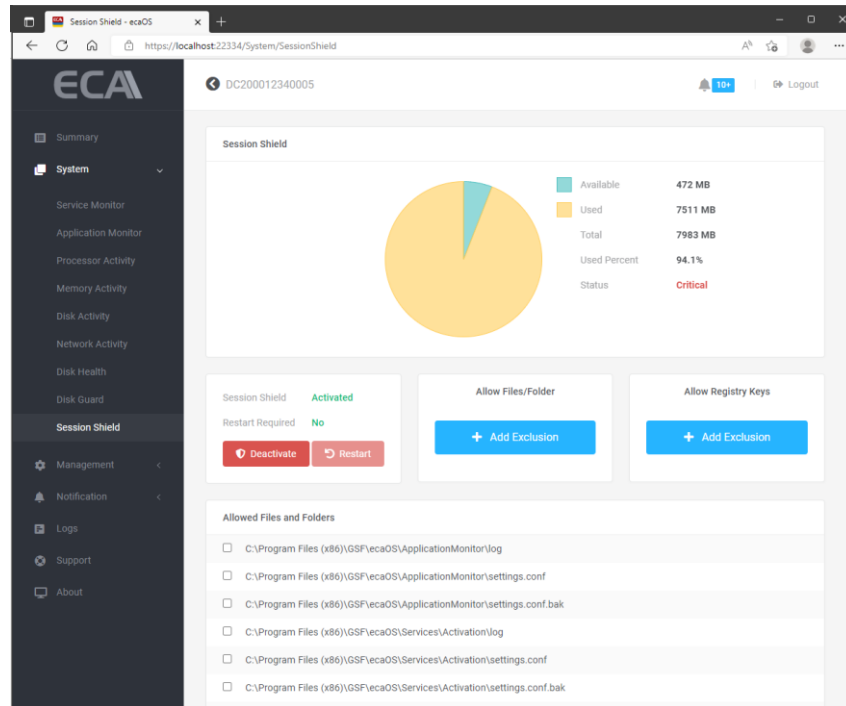


Figure 72: Critical Status

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.

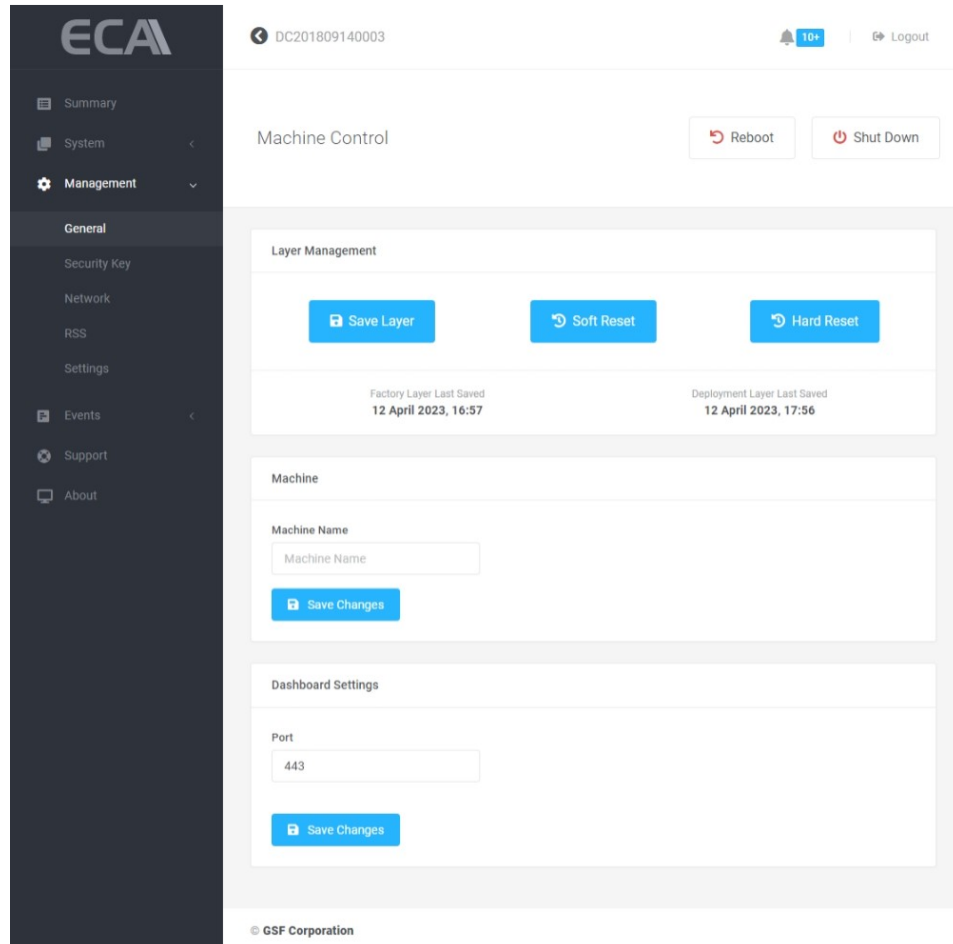


Figure 73: General

9.1.1 Authorize Restart

Only restart through the Dashboard will consider as authorize restart.

1. Click on 'Restart'

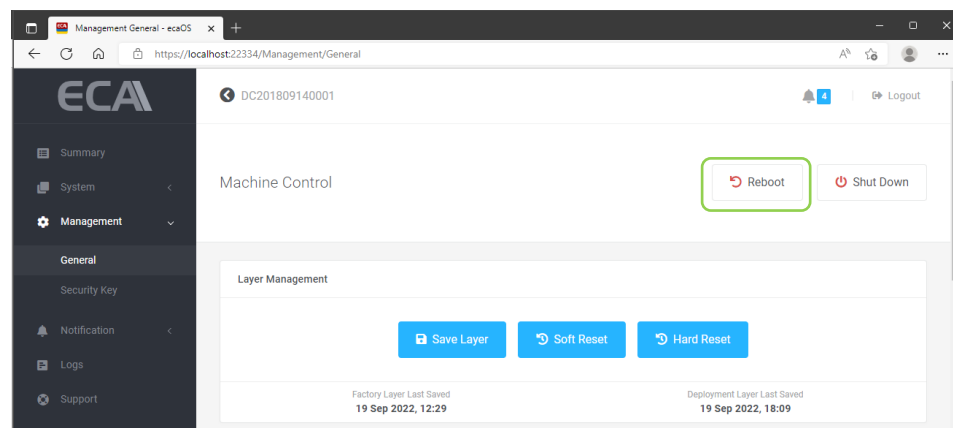


Figure 74: Authorize Restart (1 of 2)

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

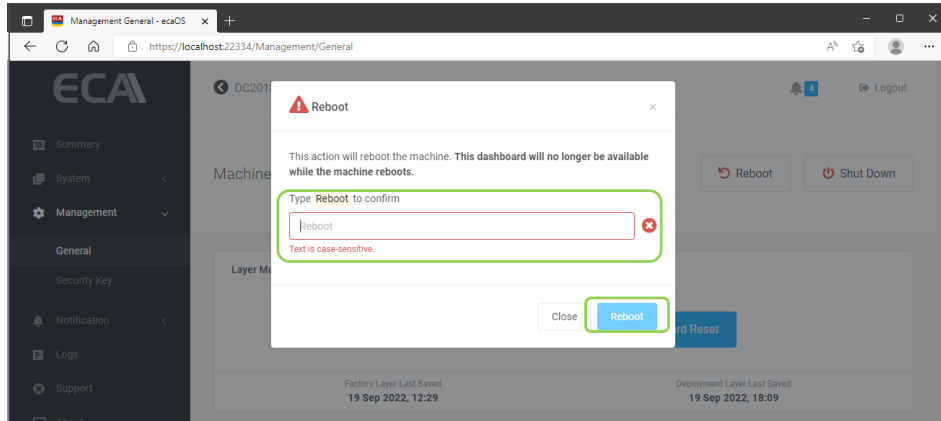


Figure 75: Authorize Restart (2 of 2)

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'

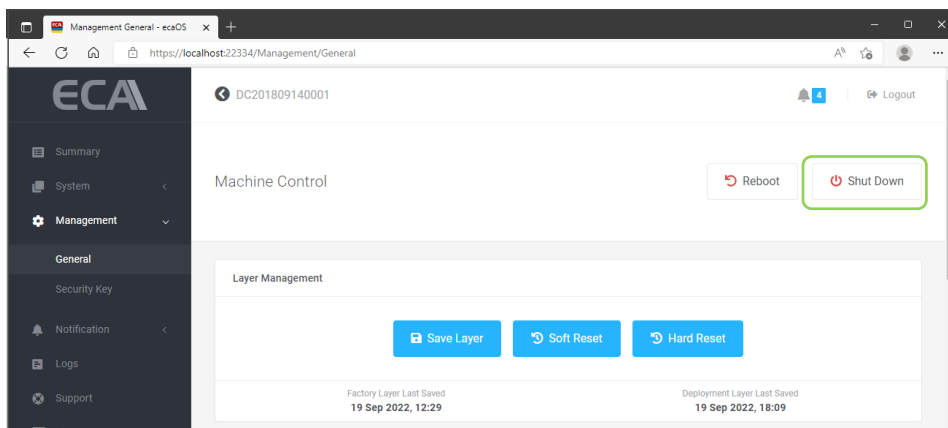


Figure 76: Authorize Shut Down (1 of 2)

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

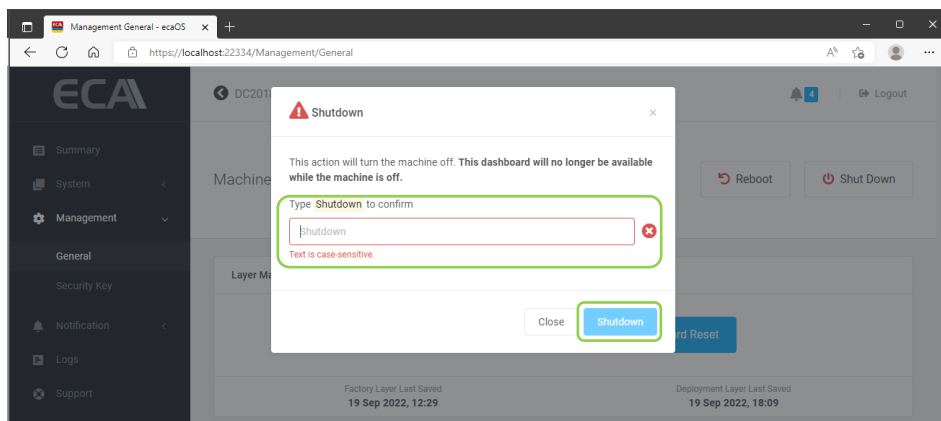


Figure 77: Authorize Shut Down (2 of 2)

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'

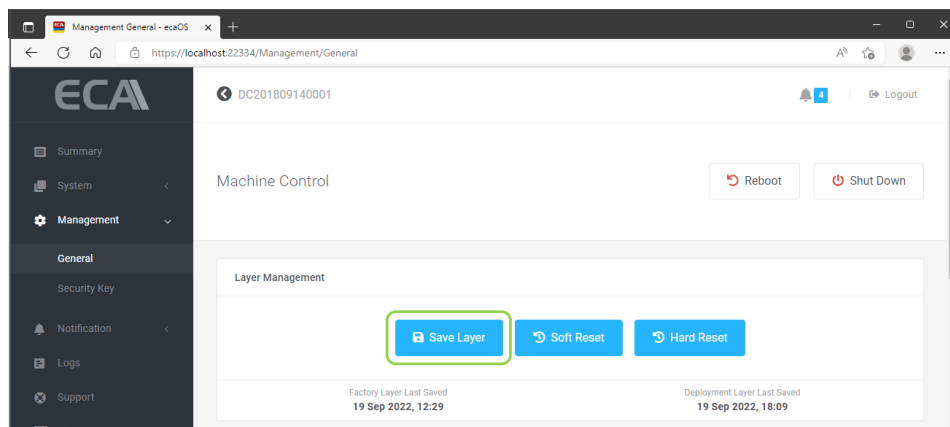


Figure 78: Save Layer (1 of 5)

1. ECA will reboot and go to Layer Manager.



Figure 79: Save Layer (2 of 5)

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

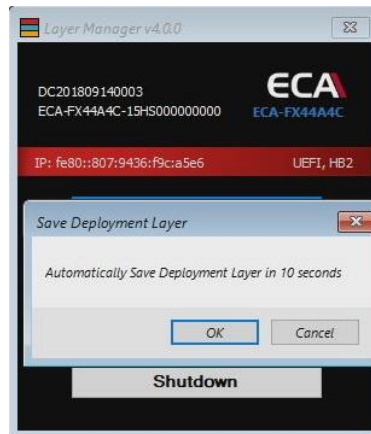


Figure 80: Save Layer (3 of 5)

- Saving layer in progress show with percentage

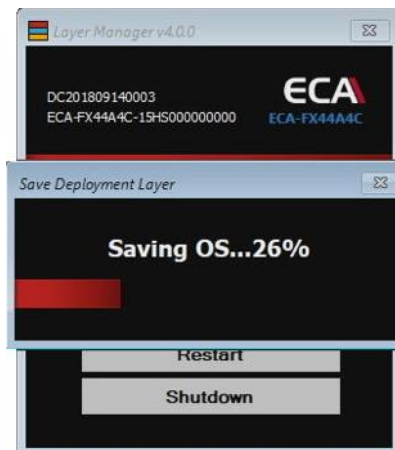


Figure 81: Save Layer (4 of 5)

- 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'

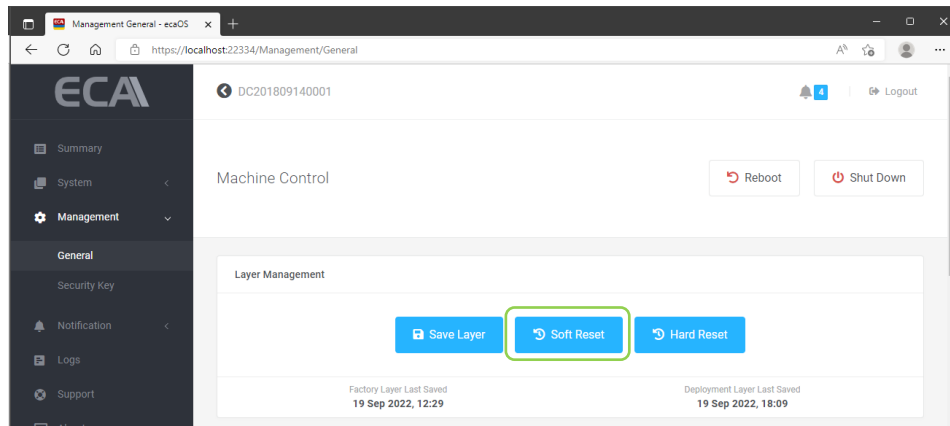


Figure 83: Soft Reset (1 of 5)

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

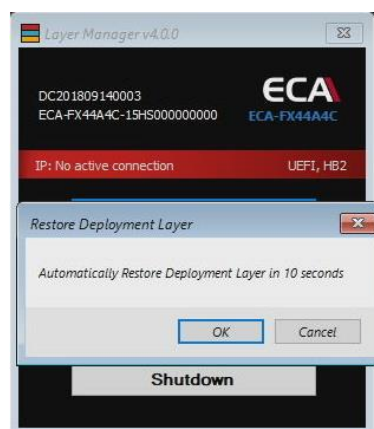


Figure 85: Save Layer (3 of 5)

- Restoring layer in progress show with percentage

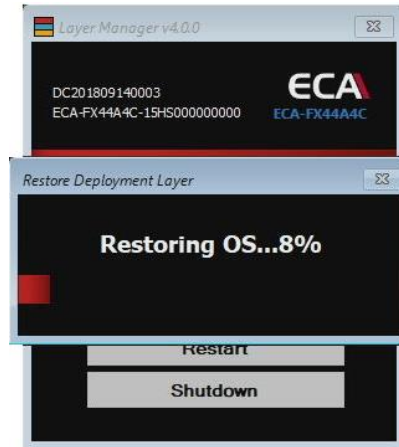


Figure 86: Save Layer (4 of 5)

- 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'

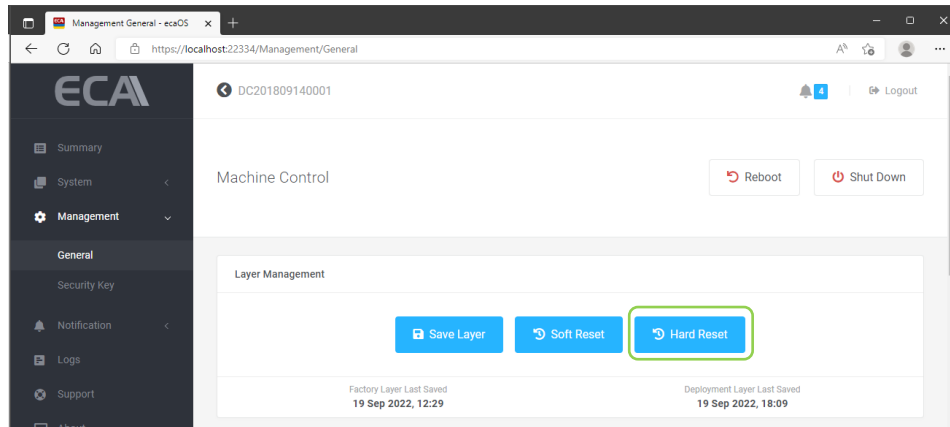


Figure 88: Soft Reset (1 of 2)

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

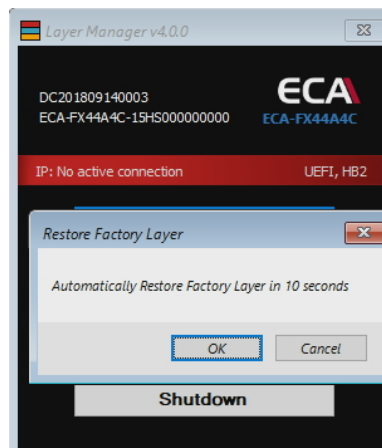


Figure 90: Save Layer (3 of 5)

- Restoring layer in progress show with percentage



Figure 91: Save Layer (4 of 5)

- ECA will reboot to ecaOS after complete saving layer.

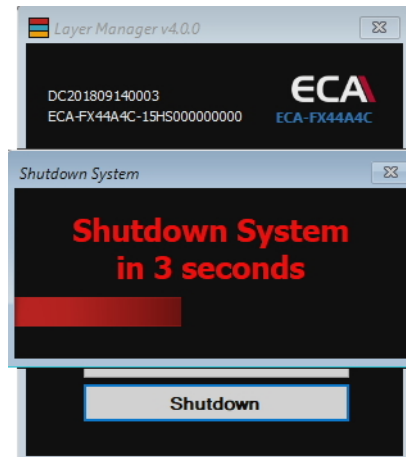


Figure 92: Save Layer (5 of 5)

9.1.3.4 Last Saved Layer Information

Display the last date and time of the layer last saved

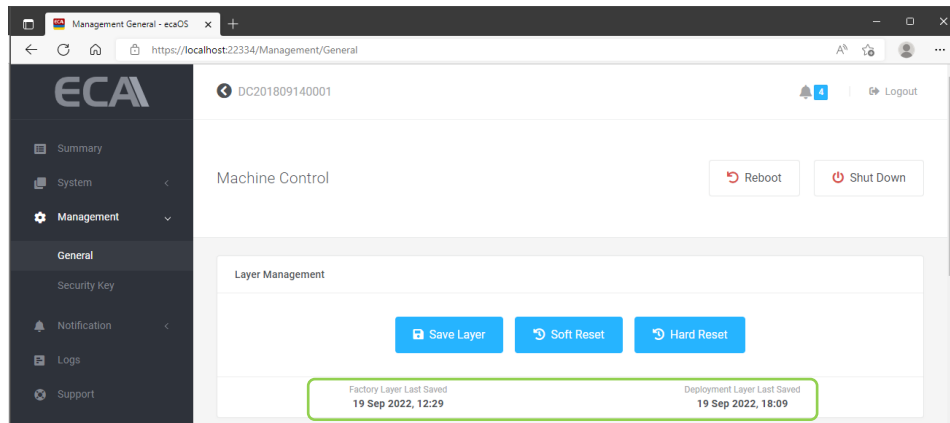


Figure 93: Information about the last saved layer

9.1.4 Machine Name

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

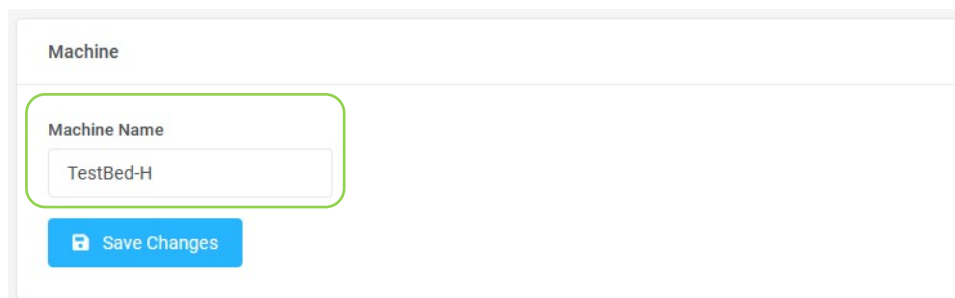


Figure 94: Machine name for ECA

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.

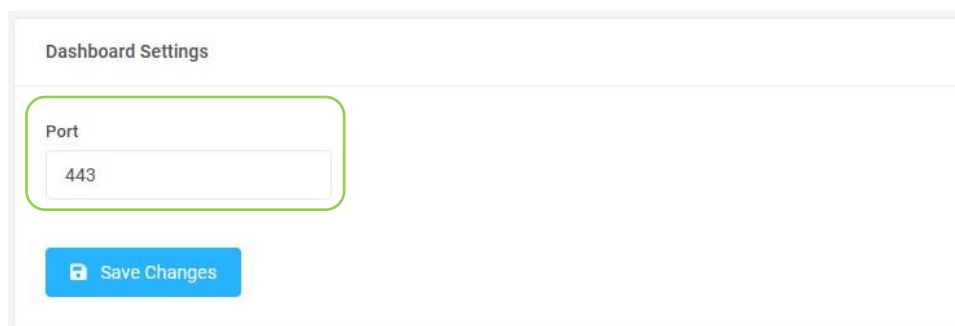


Figure 95: Port settings for Dashboard

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.

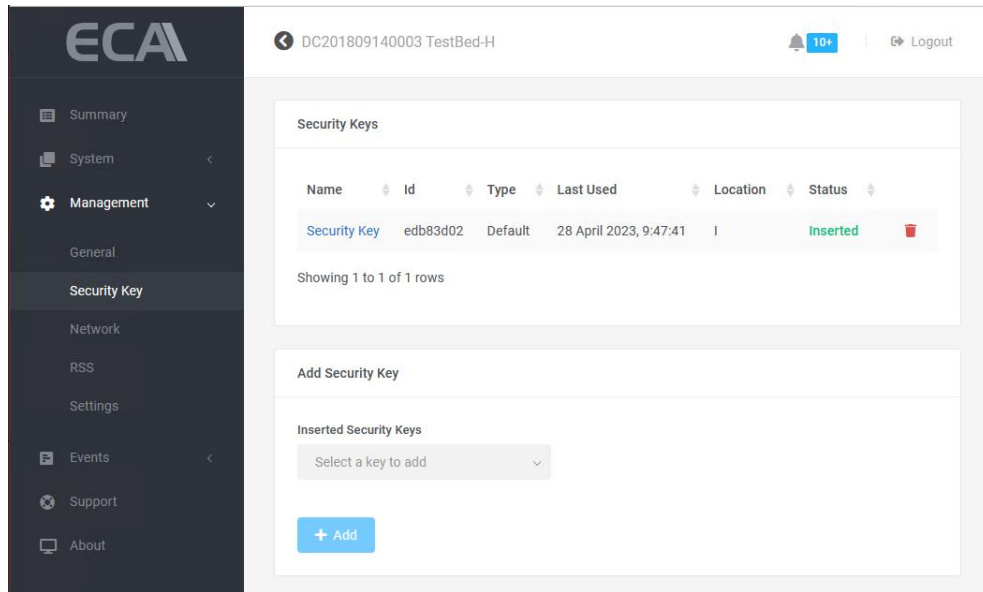


Figure 96: Security Key

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.

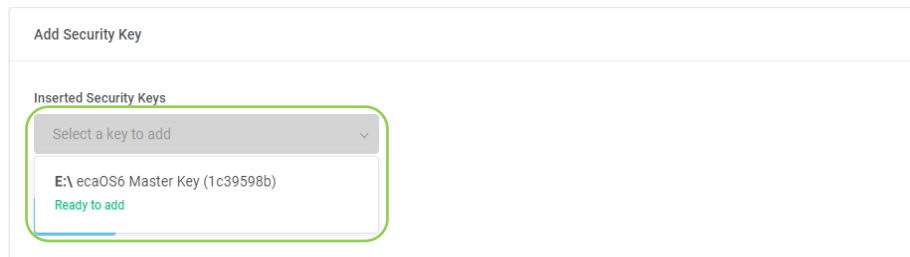


Figure 97: Register security key (1 of 3)

3. Click Add to register

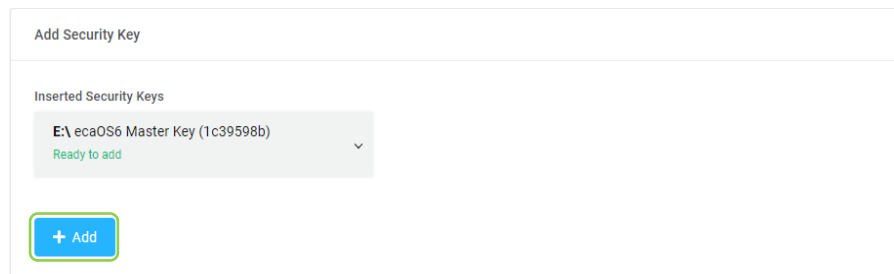


Figure 98: Register security key (2 of 3)

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

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

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

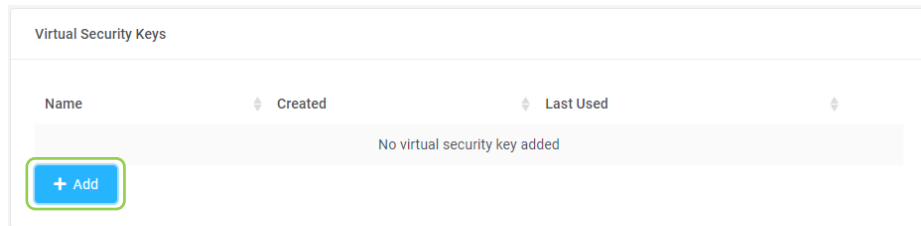


Figure 102: Add virtual security key (1 of 5)

2. Click 'Next' button

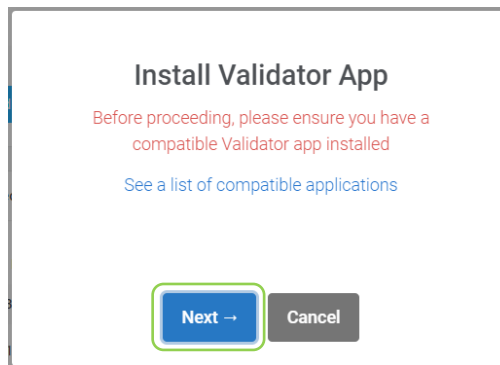


Figure 103: Add virtual security key (2 of 5)

3. Give the new virtual security key a name

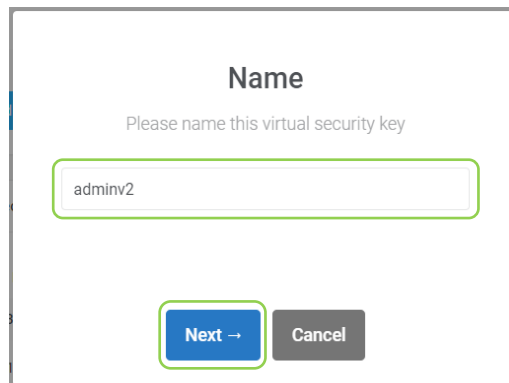
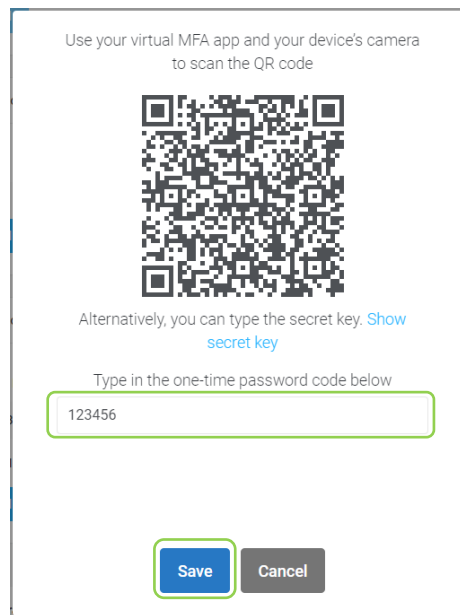



Figure 104: Add virtual security key (3 of 5)

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

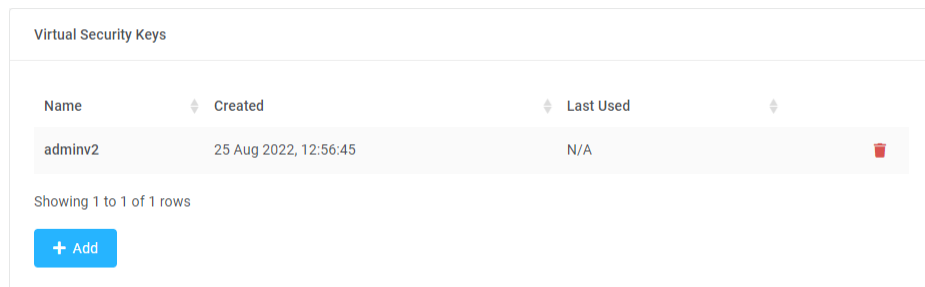


Alternatively, you can type the secret key. [Show secret key](#)

Type in the one-time password code below

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

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



Name	Created	Last Used
adminv2	25 Aug 2022, 12:56:45	N/A

Showing 1 to 1 of 1 rows

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

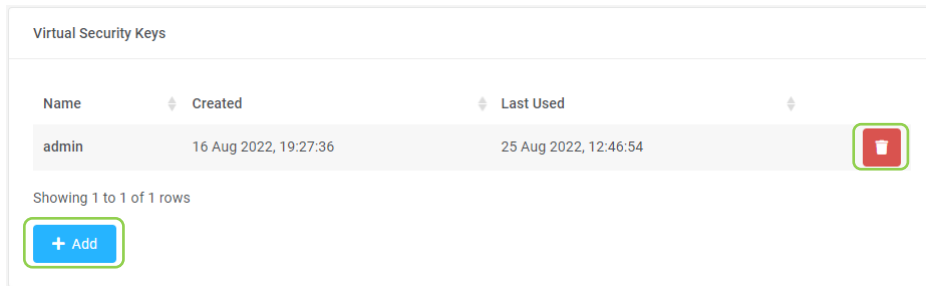


Figure 107: Delete Virtual Security Key (1 of 2)

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

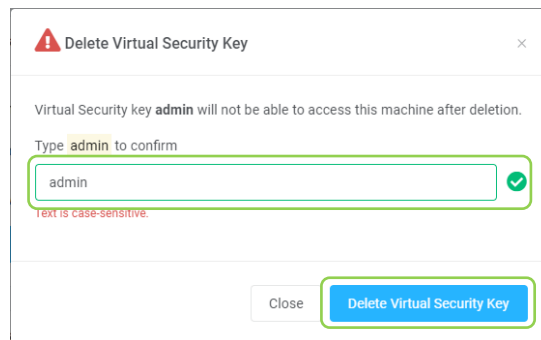


Figure 108: Delete Virtual Security Key (2 of 2)

9.3 Network

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

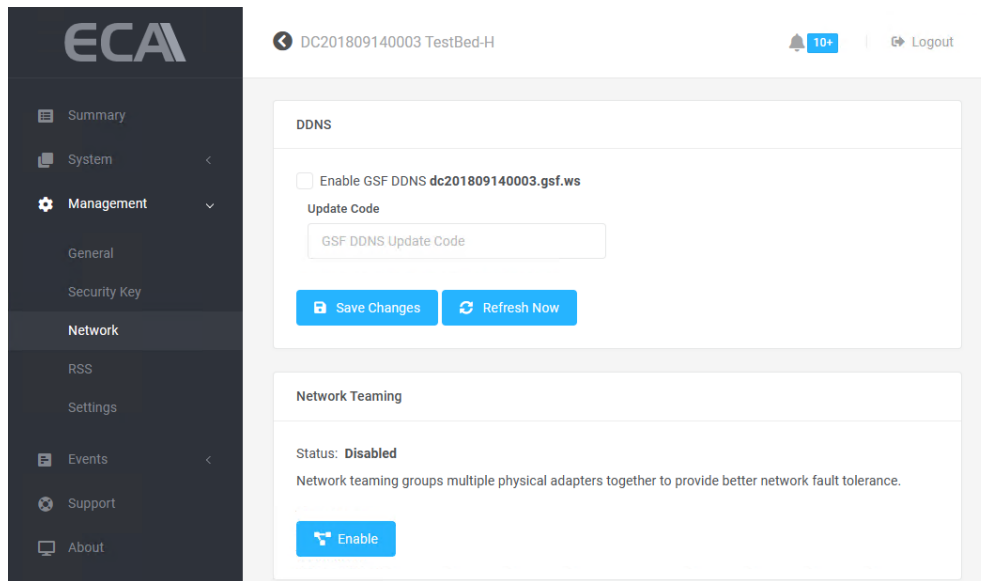


Figure 109: DDNS and Network Teaming

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.

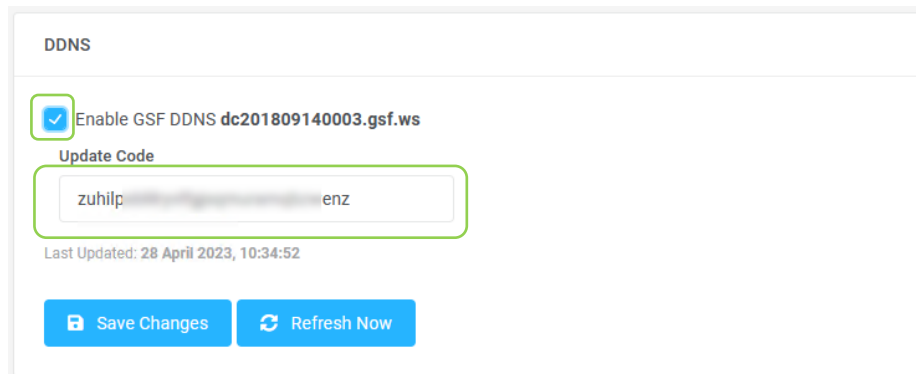


Figure 110: Enable DDNS

9.3.2 Enable Network Teaming

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

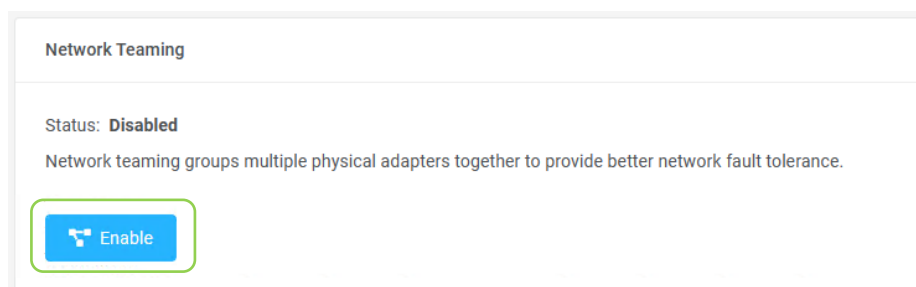
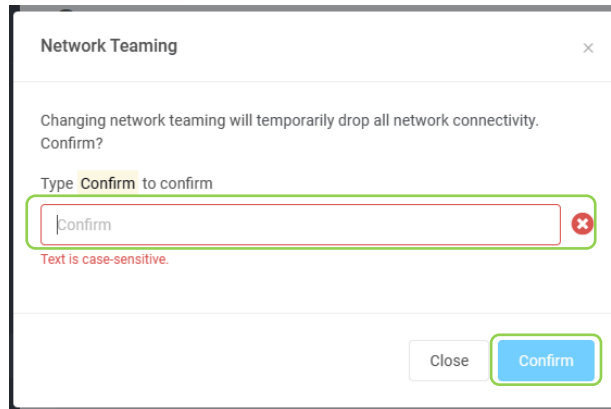


Figure 111: Enable Network Teaming

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



Network Teaming

Changing network teaming will temporarily drop all network connectivity. Confirm?

Type **Confirm** to confirm

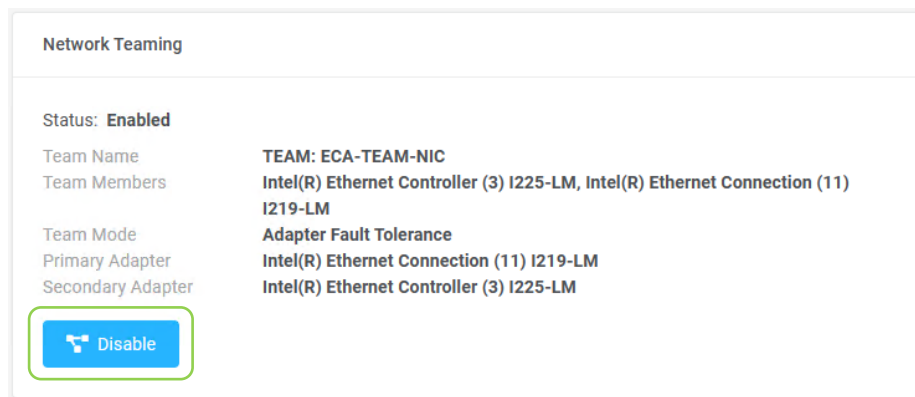
Text is case-sensitive.

Close Confirm

Figure 112: Confirm to enable network teaming

9.3.3 Disable Network Teaming

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



Network Teaming

Status: **Enabled**

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**

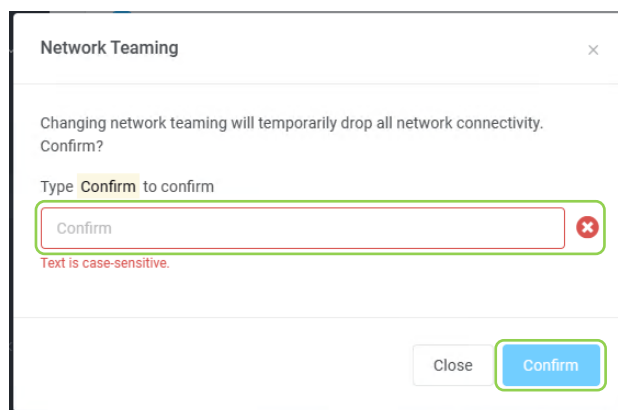
Primary Adapter: **Intel(R) Ethernet Connection (11) I219-LM**

Secondary Adapter: **Intel(R) Ethernet Controller (3) I225-LM**

Disable

Figure 113: Disable Network Teaming

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



Network Teaming

Changing network teaming will temporarily drop all network connectivity. Confirm?

Type **Confirm** to confirm

Text is case-sensitive.

Close Confirm

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.

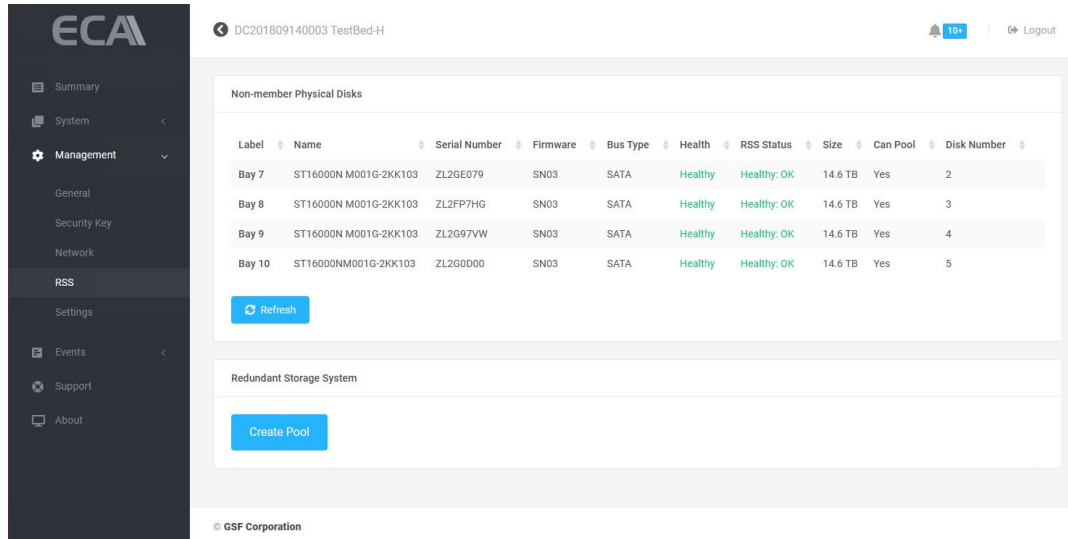


Figure 115: RSS – Redundant Storage System

9.4.1 Create Storage Pool

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

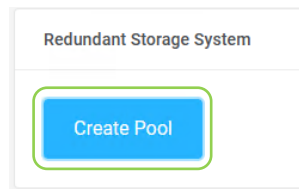
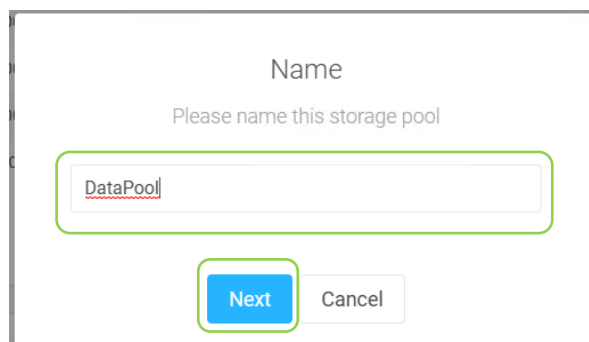


Figure 116: Create Pool

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



The screenshot shows a form titled 'Name' with the instruction 'Please name this storage pool'. A text input field contains the text 'DataPool'. Below the input field are two buttons: 'Next' (highlighted with a green border) and 'Cancel'.

Figure 117: Name storage pool

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

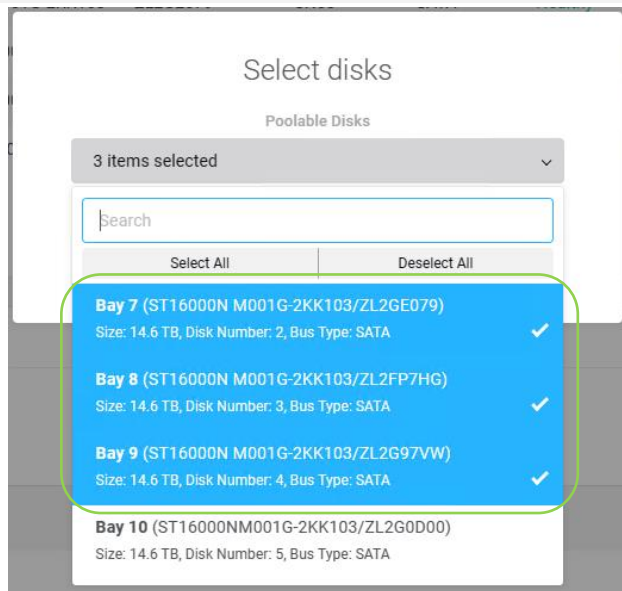


Figure 118: Select disks

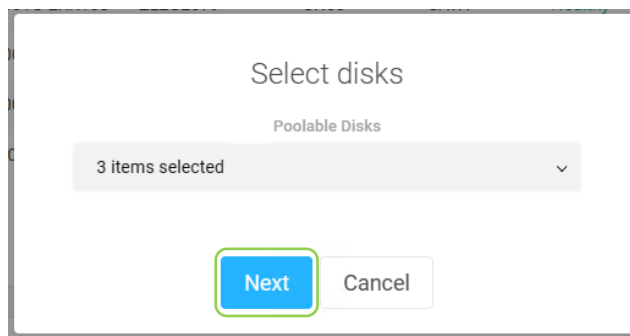
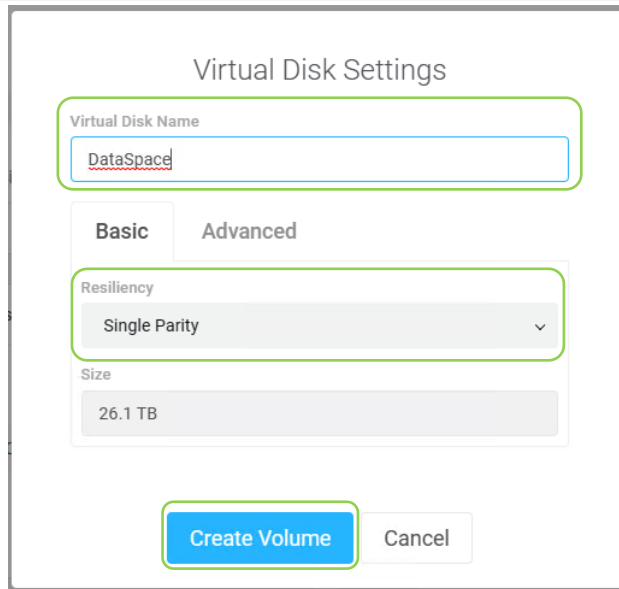


Figure 119: Select disks

- 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.

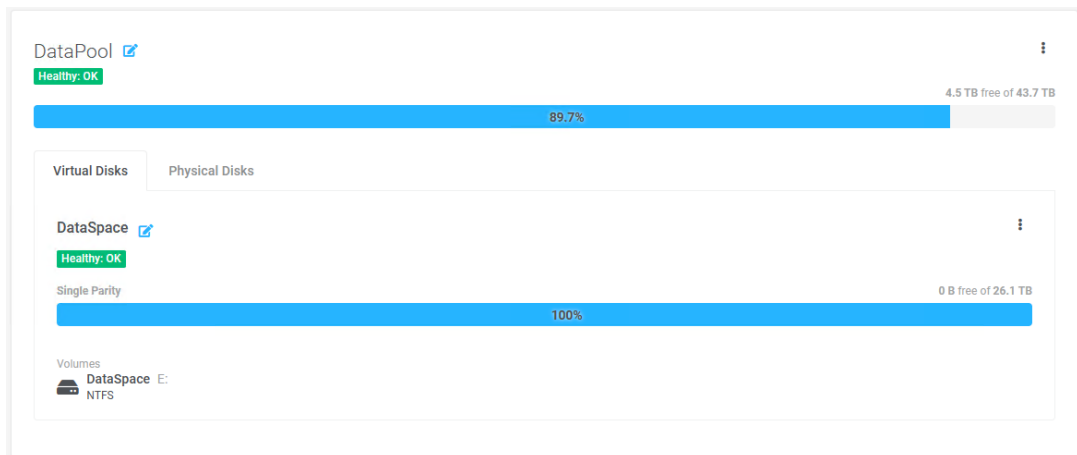


Figure 122: View storage pool, virtual disk health status

9.4.2 Delete Storage Pool

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

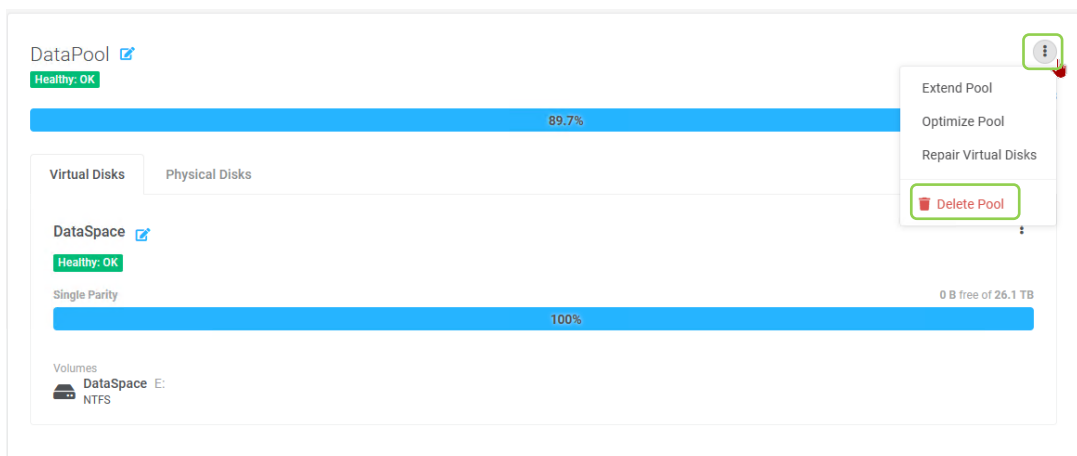


Figure 123: Delete pool

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

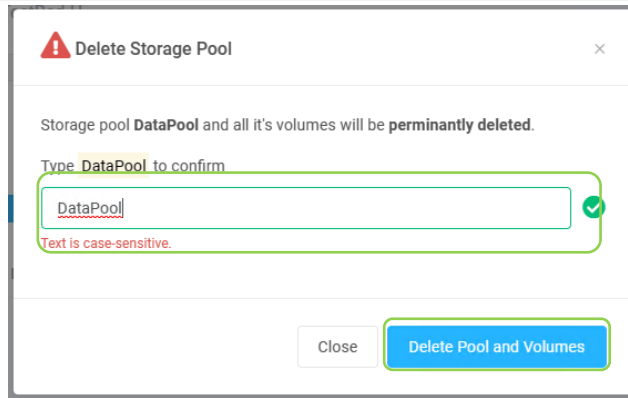


Figure 124: Confirm delete pool

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.

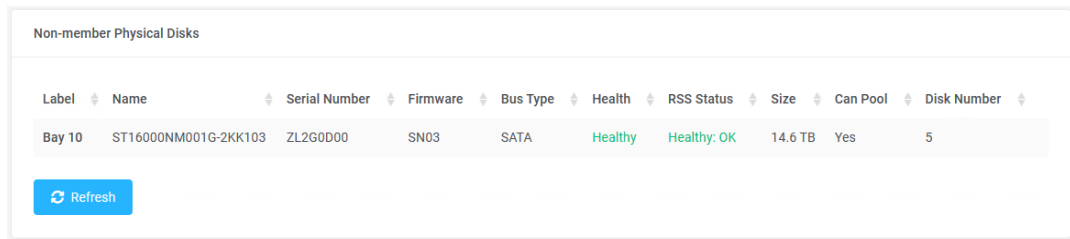


Figure 125: RSS non-member physical disks

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

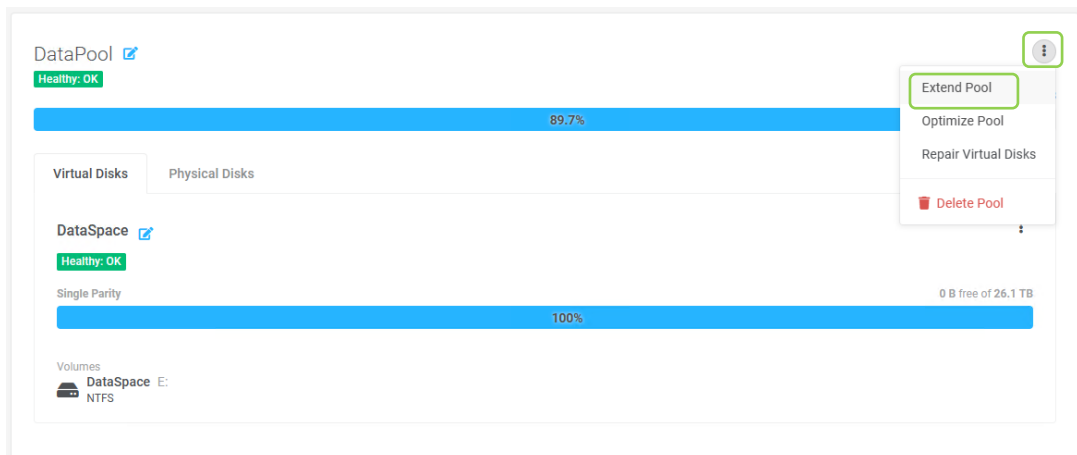


Figure 126: Extend storage pool

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

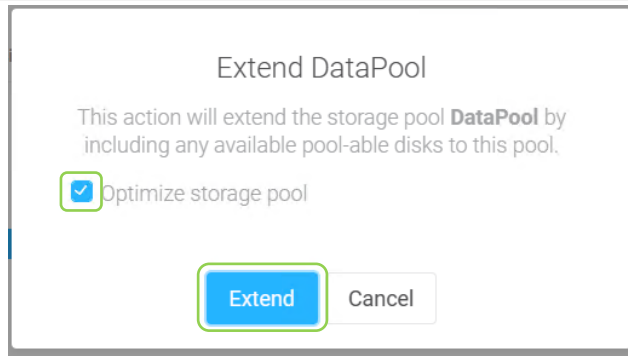


Figure 127: Optimize and extend storage pool

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

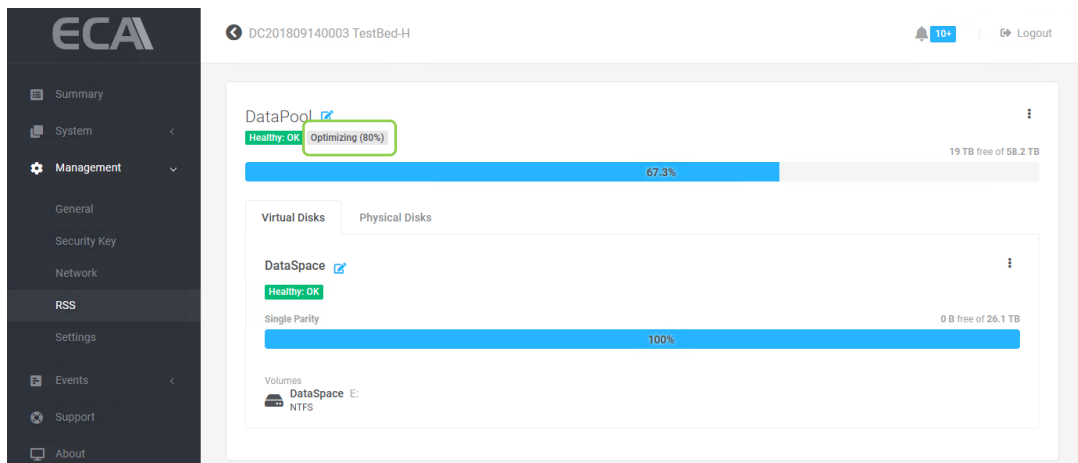


Figure 128: Optimizing storage pool

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

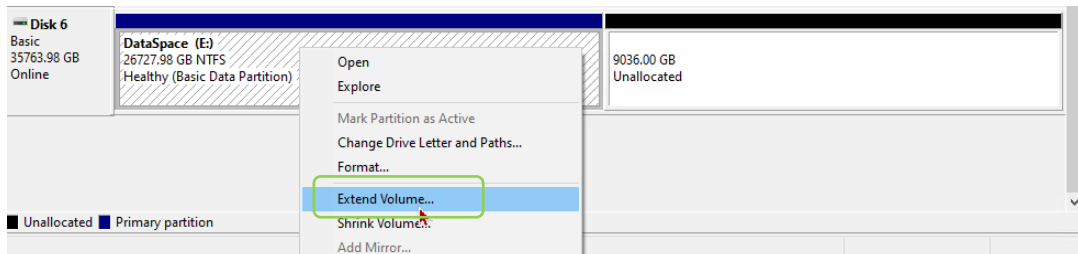


Figure 129: Extend volume in Disk Management (1 of 2)

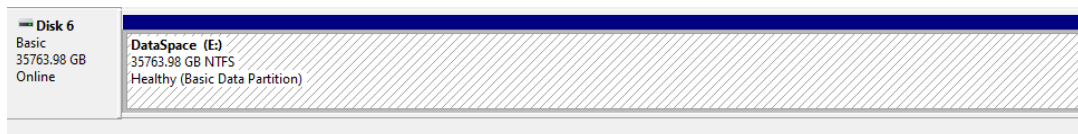


Figure 130: Extend volume in Disk Management (2 of 2)

9.4.4 Repair Storage Pool

Replace the missing or faulty disk with a new non-member disk to repair the storage pool.

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

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 131: RSS non-member physical disks

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

DataPool [ⓘ](#)

Warning: Degraded

89.7%

Virtual Disks | Physical Disks

DataSpace [ⓘ](#)

Warning: Degraded, Incomplete

Single Parity | 0 B free of 26.1 TB

100%

Volumes

DataSpace E: NTFS

- Extend Pool
- Optimize Pool
- Repair Virtual Disks
- Delete Pool

Figure 132: 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.

Figure 133: Confirm delete pool

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

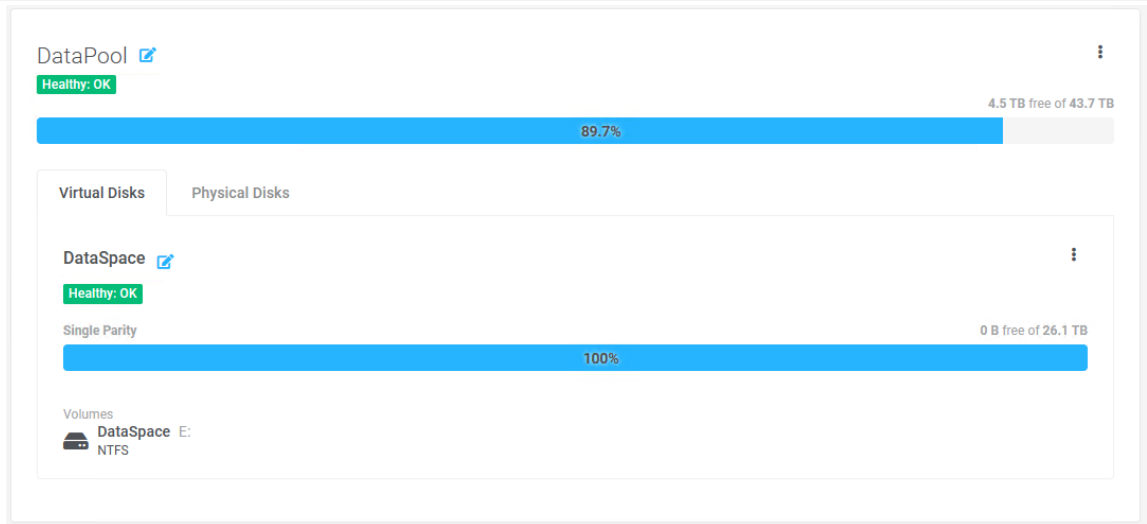
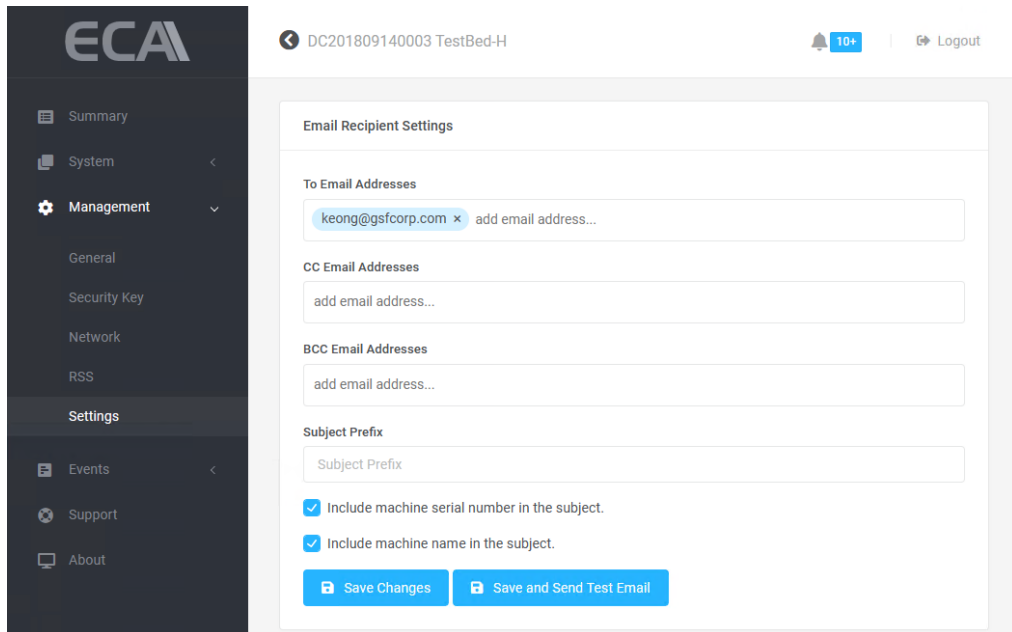


Figure 134: RSS healthy storage pool and virtual disk

9.5 Settings

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

9.5.1 Email Recipient Settings



Email Recipient Settings

To Email Addresses
 x add email address...

CC Email Addresses

BCC Email Addresses

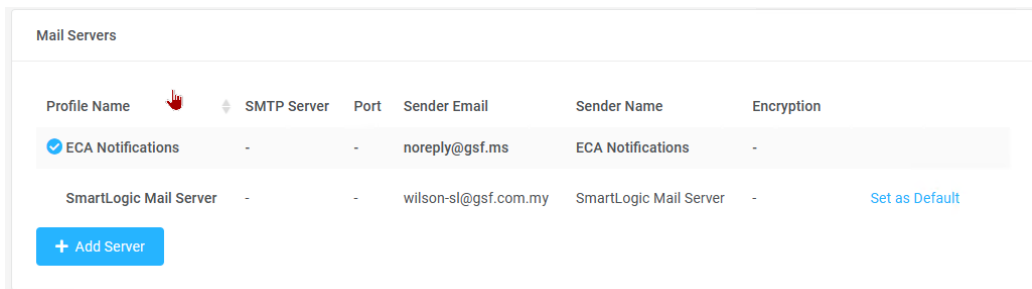
Subject Prefix

Include machine serial number in the subject.
 Include machine name in the subject.

[Save Changes](#) [Save and Send Test Email](#)

Figure 135: Email Setting (1 of 2)

9.5.2 Mail Servers



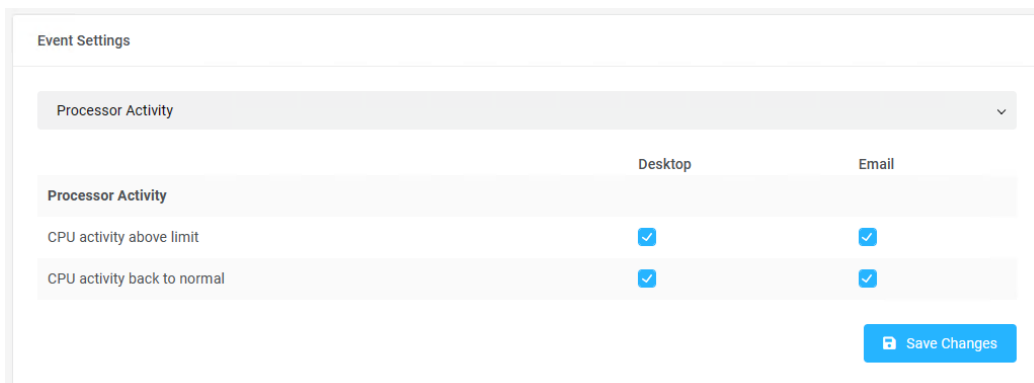
Profile Name	SMTP Server	Port	Sender Email	Sender Name	Encryption
<input checked="" type="checkbox"/> ECA Notifications	-	-	noreply@gsf.ms	ECA Notifications	-
SmartLogic Mail Server	-	-	wilson-sl@gsf.com.my	SmartLogic Mail Server	- Set as Default

[+ Add Server](#)

Figure 136: 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.



Event Settings

Processor Activity

	Desktop	Email
Processor Activity		
CPU activity above limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CPU activity back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Save Changes](#)

Figure 137: Events

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

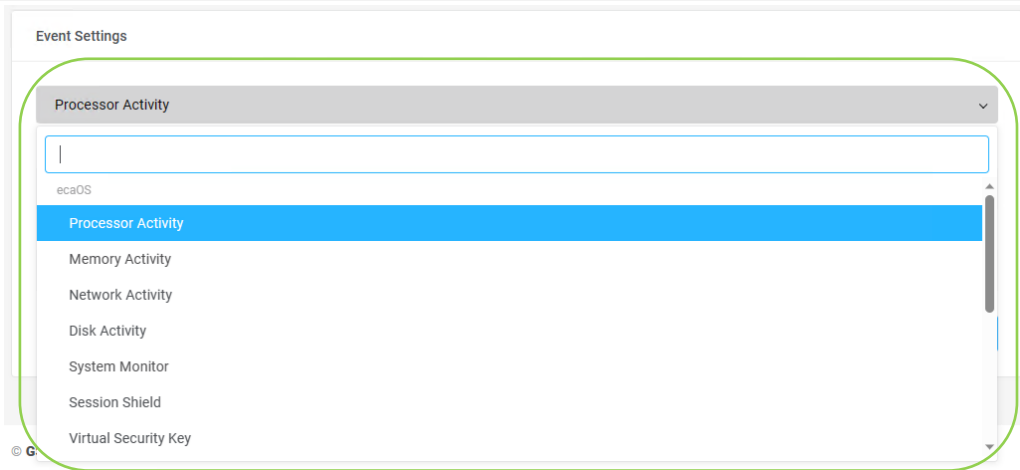


Figure 138: Select event (1 of 2)

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

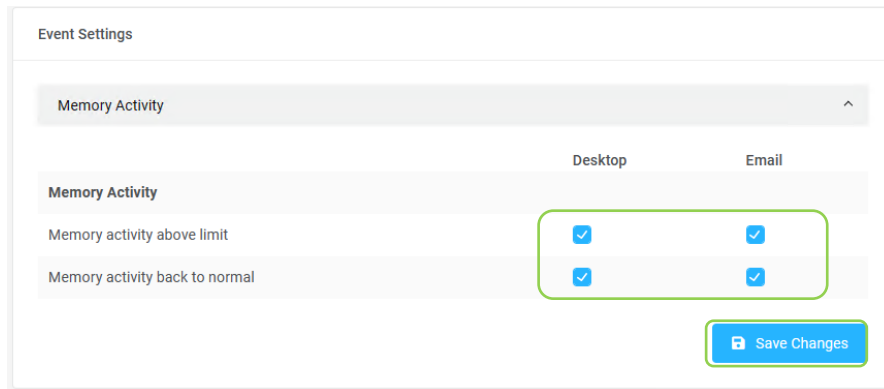


Figure 139: Select event (2 of 2)

9.5.3.1 Events List

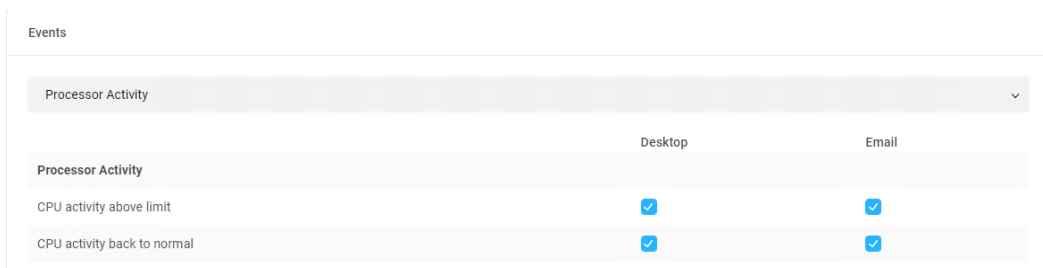


Figure 140: Processor Activity events notify setting

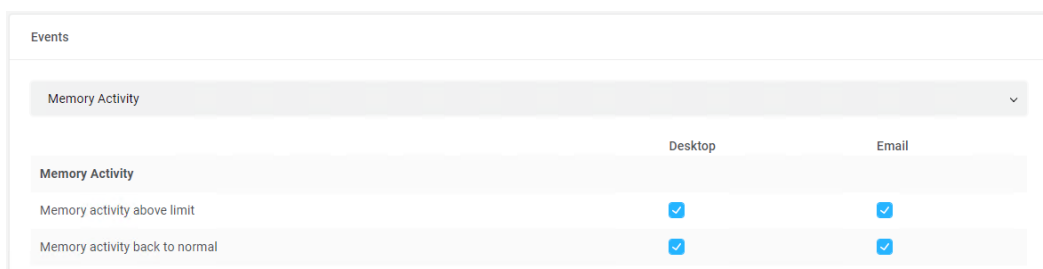


Figure 141: Memory Activity events notify setting

Event Settings

Network Activity ▼

	Desktop	Email
Network Activity		
Network send activity above limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Network send activity back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Network receive activity below limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Network receive activity back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Network cable plugged	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Network cable unplugged	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Network available	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Network unavailable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Network Teaming Enabled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Network Teaming Disabled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Save Changes](#)

Figure 142: Network Activity events notify setting

Events

Disk Activity ▼

	Desktop	Email
Disk Activity		
Disk read activity above limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disk read activity back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disk write activity below limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disk write activity back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 143: Disk Activity events notify setting

Event Settings

System Monitor

	Desktop	Email
System Monitor		
High CPU Temperature	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CPU temperature back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
High System Temperature	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
System temperature back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CPU fan speed below limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CPU fan speed back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
System fan speed below limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
System fan speed back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3V3 System above limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3V3 System back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3V3 System below limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3V3 System back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12V System above limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12V System back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12V System below limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12V System back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mainboard Battery Low	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mainboard Battery back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Save Changes](#)

Figure 144: System Monitor events notify setting

Events

Session Shield

	Desktop	Email
Session Shield		
Session Shield at warning state	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Session Shield at critical state	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Session Shield back to normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Session Shield rebooting system	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 145: Session Shield events notify setting

Events

Virtual Security Key

	Desktop	Email
Virtual Security Key		
Virtual security key added	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Virtual security key deleted	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 146: Virtual Security Key events notify setting

Events		
Security Key		
	Desktop	Email
Security Key		
Security key added	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Security key deleted	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Security key renamed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 147: Security Key events notify setting

Events		
Support		
	Desktop	Email
Support		
Remote support enabled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Remote support disabled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Remote support setup successful	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Remote support setup failed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 148: Support events notify setting

Events		
Disk Guard		
	Desktop	Email
Disk Guard		
Disk Removed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disk Remove Acknowledged	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disk Inserted	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
New Disk	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disk Replaced	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disk Replace Acknowledged	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disk Online	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disk Offline	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disks Changed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 149: Disk Guard events notify setting

Events		
Disk Health		
	Desktop	Email
Disk Health		
Disk health warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Disk health critical	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 150: Disk Health events notify setting

Event Settings		
Redundant Storage System		
	Desktop	Email
Redundant Storage System		
Storage pool status is healthy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storage pool status is warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storage pool status is unhealthy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Virtual disk status is healthy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Virtual disk status is warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Virtual disk status is unhealthy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Physical disk status is healthy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Physical disk status is warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Physical disk status is unhealthy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Save Changes](#)

Figure 151: Redundant Storage System notify setting

Events		
Firmware		
	Desktop	Email
Firmware		
Firmware update success	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Firmware update failed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

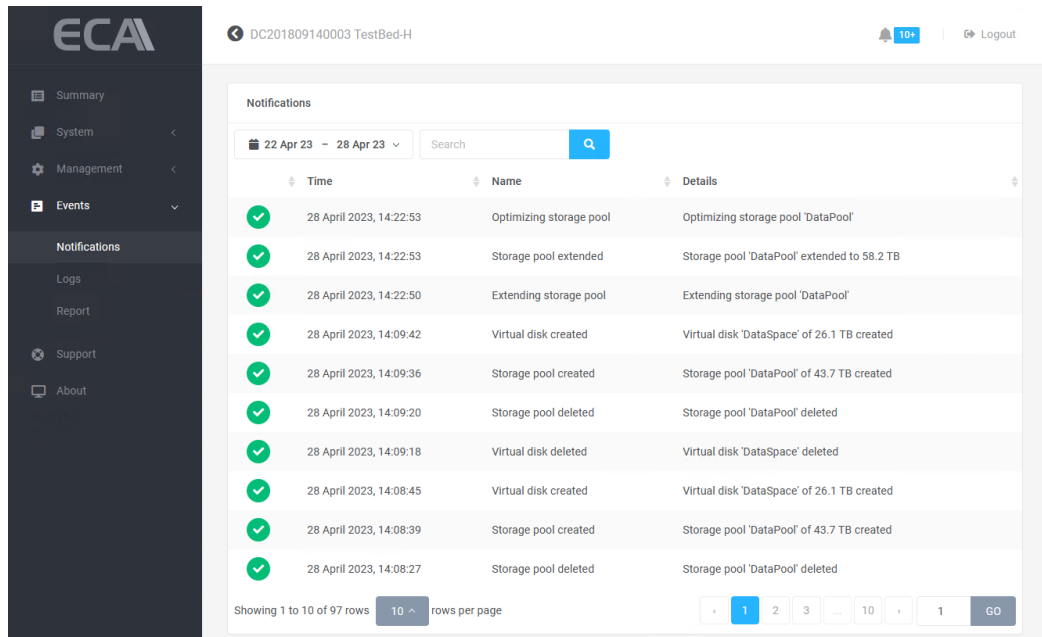
Figure 152: Heartbeat firmware events notify setting

Events		
ECA Layer		
	Desktop	Email
ECA Layer		
Saving layer successful	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Saving layer failed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Restoring layer successful	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Restoring layer failed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 153: ECA Layer events notify setting

10 Events

10.1 Notification



DC201809140003 TestBed-H

Notifications

22 Apr 23 - 28 Apr 23

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

Showing 1 to 10 of 97 rows 10 rows per page

Figure 154: 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).

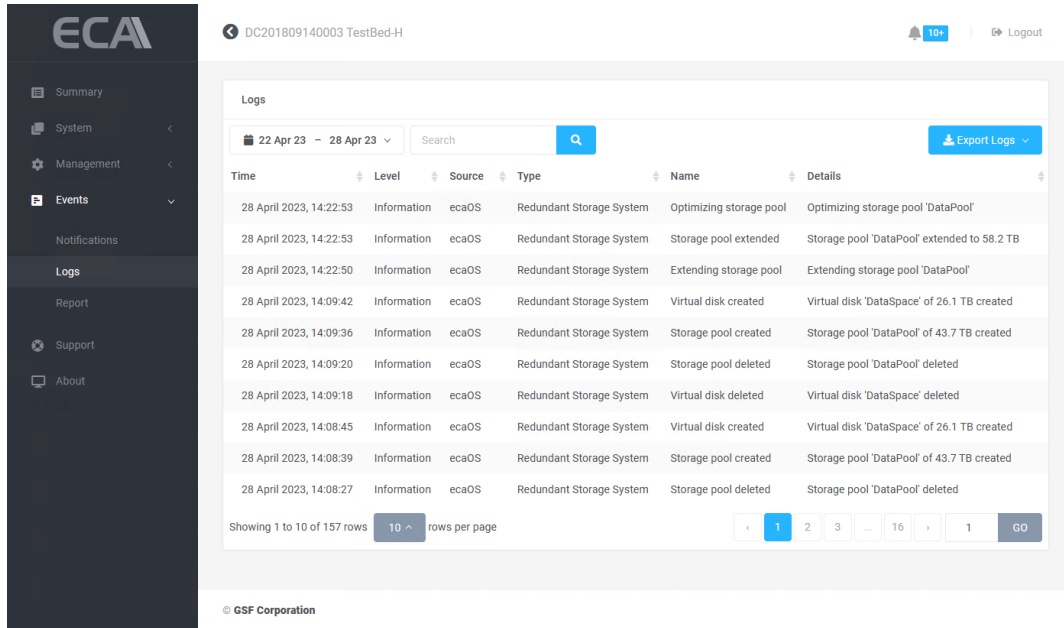


Figure 155: Log

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.

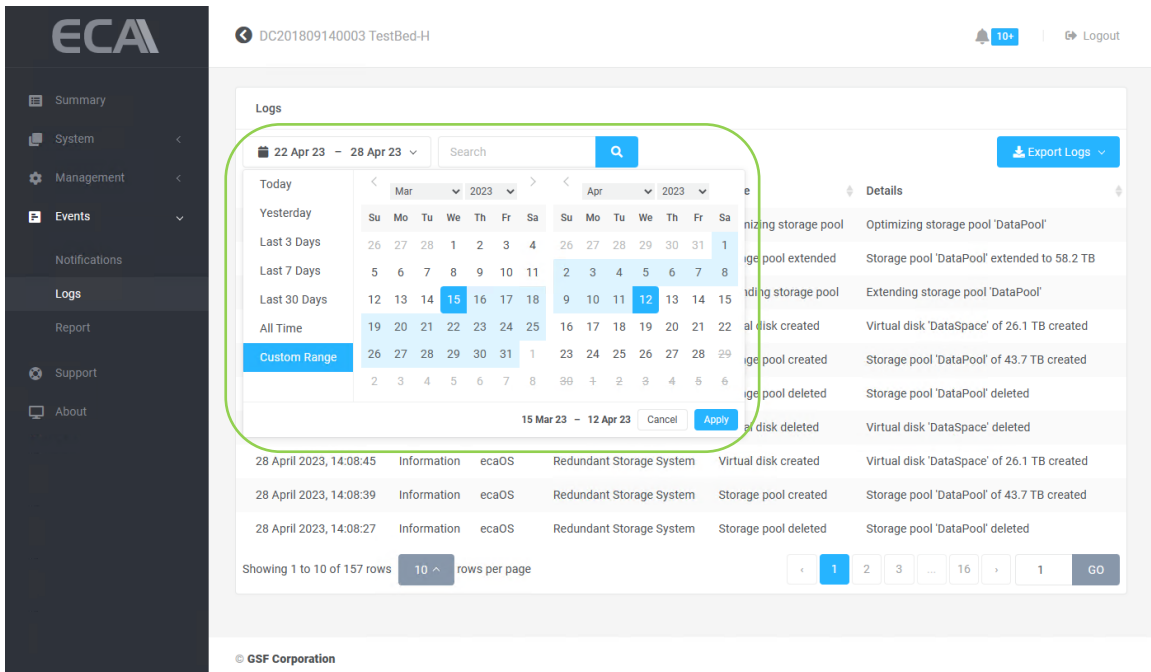


Figure 156: Filter log

10.2.2 Exporting Log

1. Click on the 'Export Logs' button

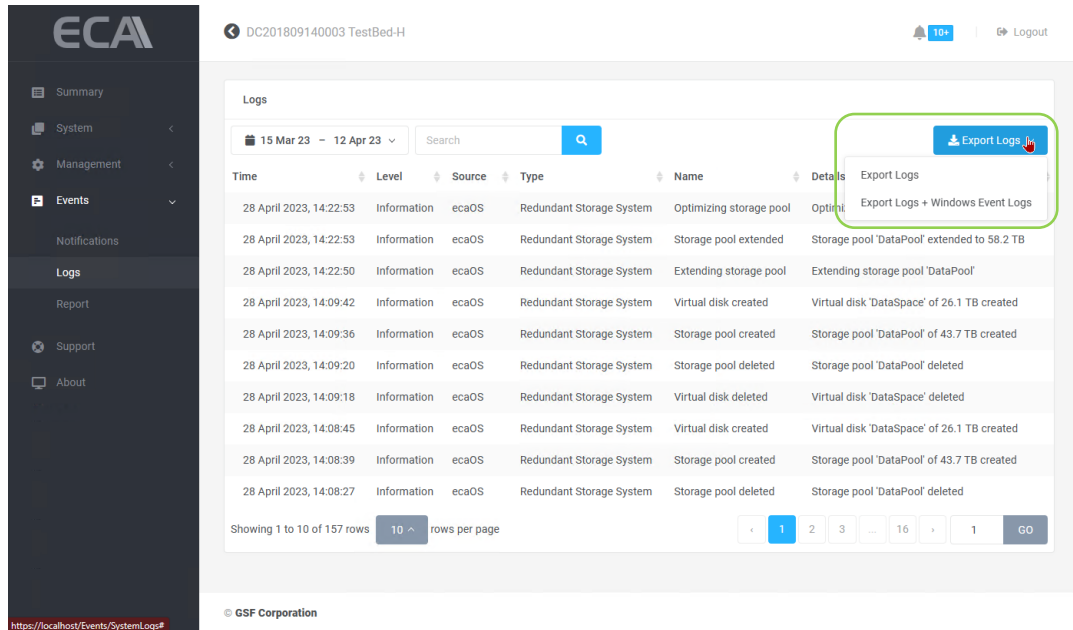


Figure 157: Export Log (1 of 8)

2. Click OK to start export the current log

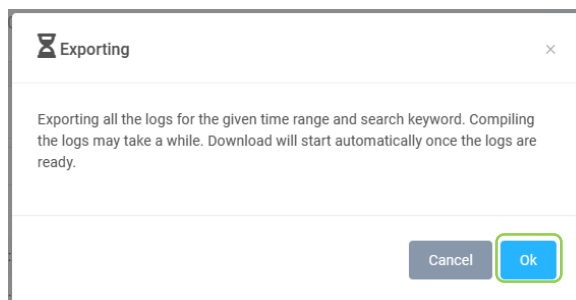


Figure 158: Export Log (2 of 8)

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

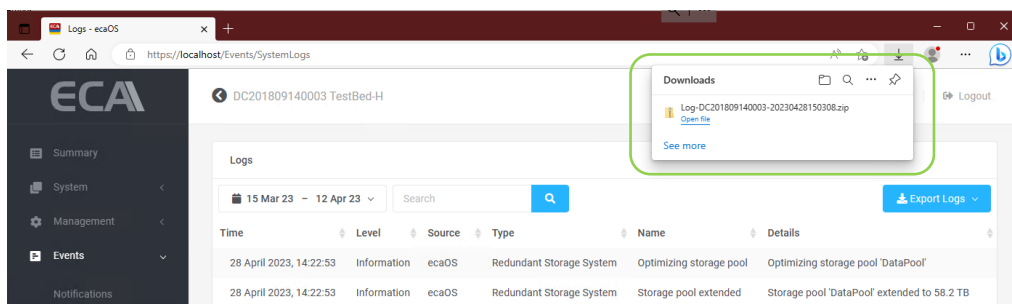


Figure 159: Export Log (3 of 8)

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

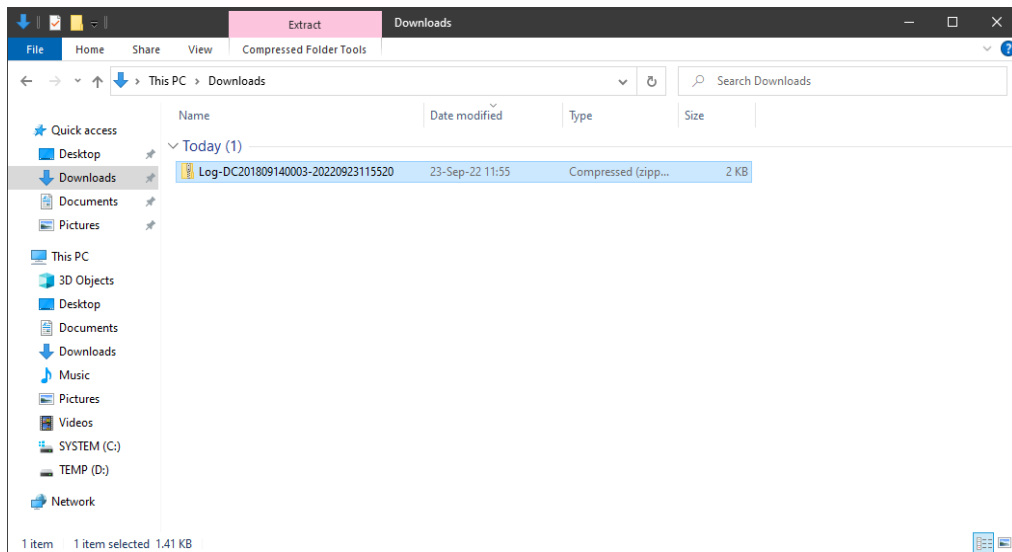


Figure 160: Exporting log (4 of 8)

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

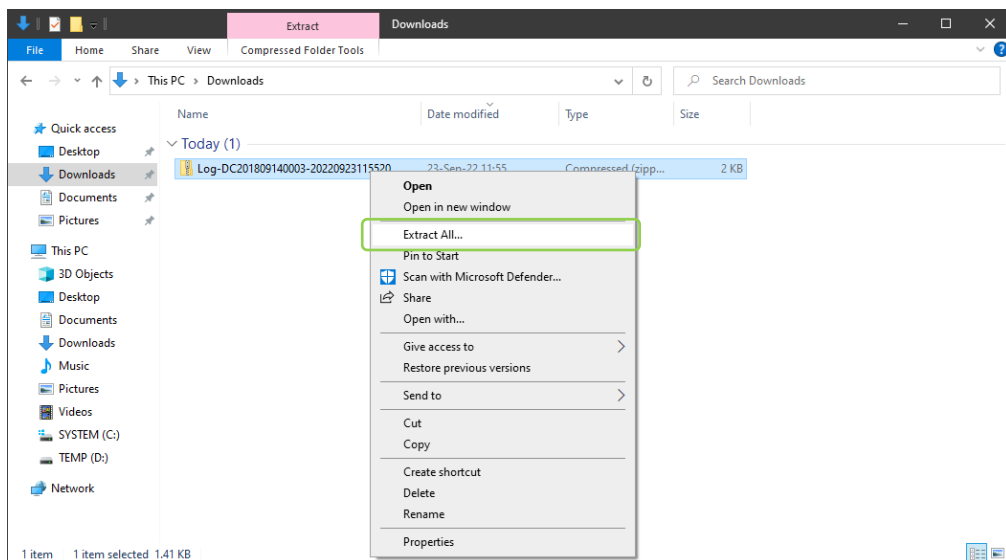


Figure 161: Exporting log (5 of 8)

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

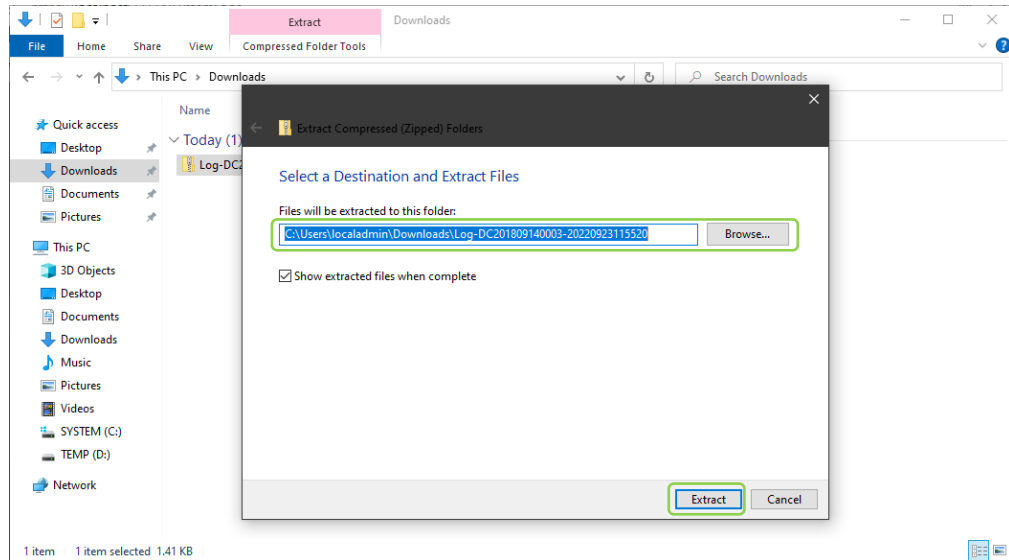


Figure 162: Exporting log (6 of 8)

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

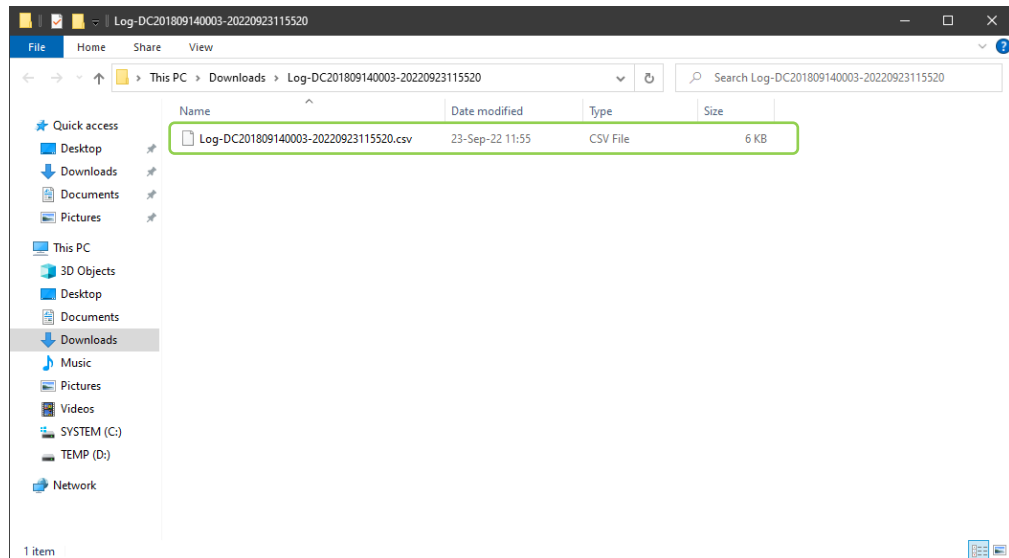
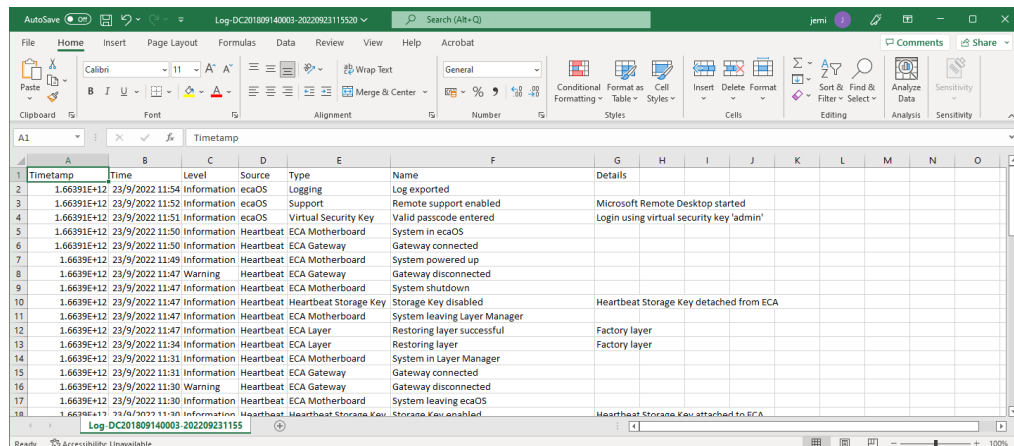


Figure 163: Exporting log (7 of 8)

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 enabled	Heartbeat Storage Key attached to ECA

Figure 164: 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.

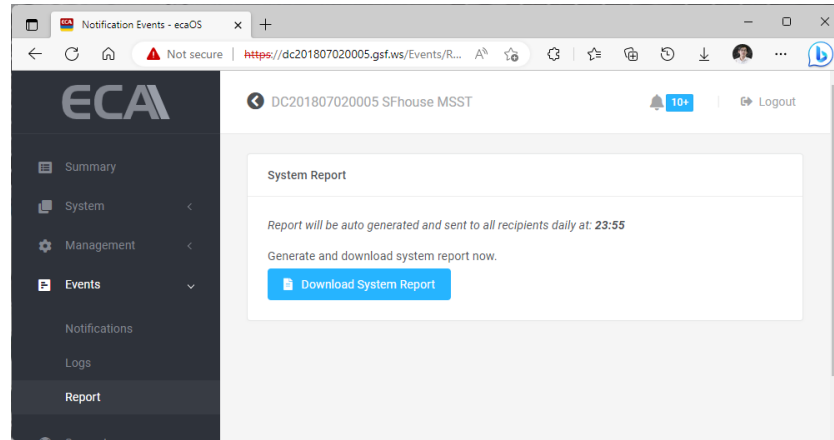


Figure 165: Manual Report Download at Events > Report section

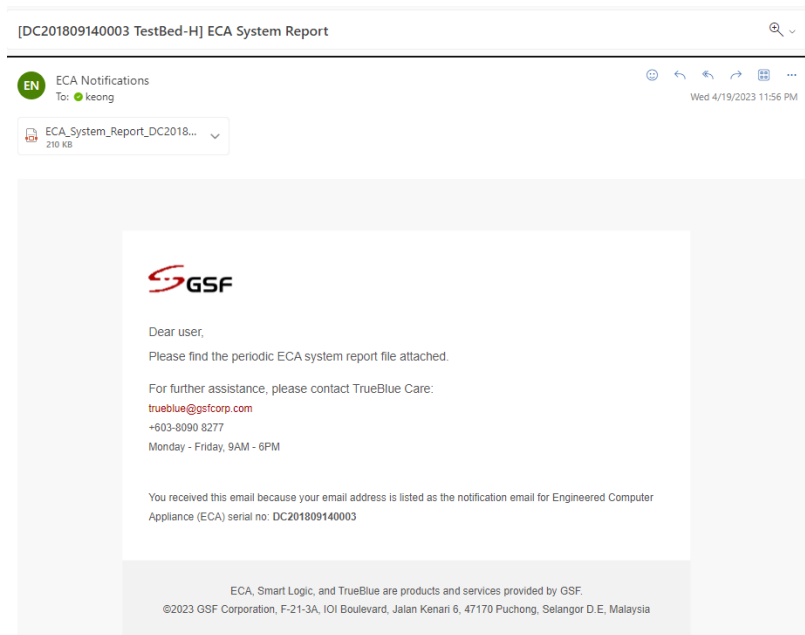


Figure160A: ECA email an ECA report

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	ST31000528ASQ	SVP4QVNK	30% CRITICAL	31 °C	ONLINE
Bay 15			-	-	NO DISK

Figure 166B: 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

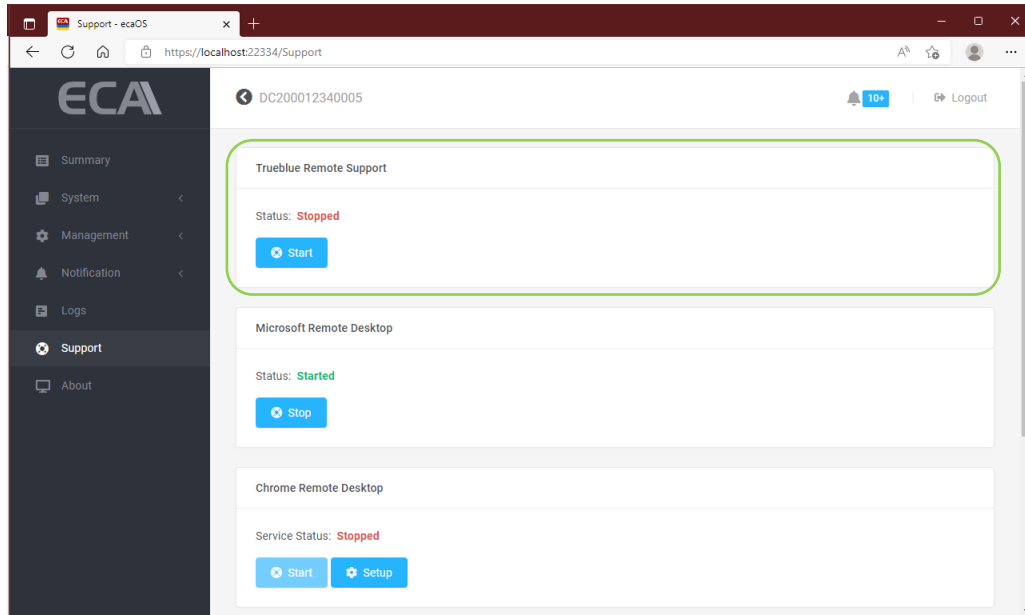


Figure 167: Trueblue Remote Support (1 of 2)

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

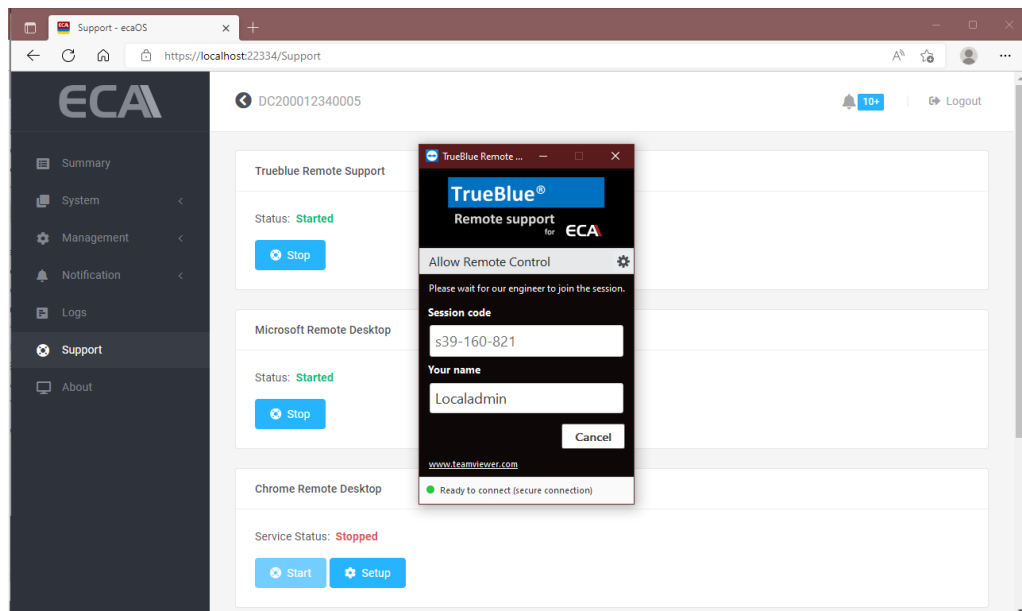


Figure 168: Trueblue Remote Support (2 of 2)

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

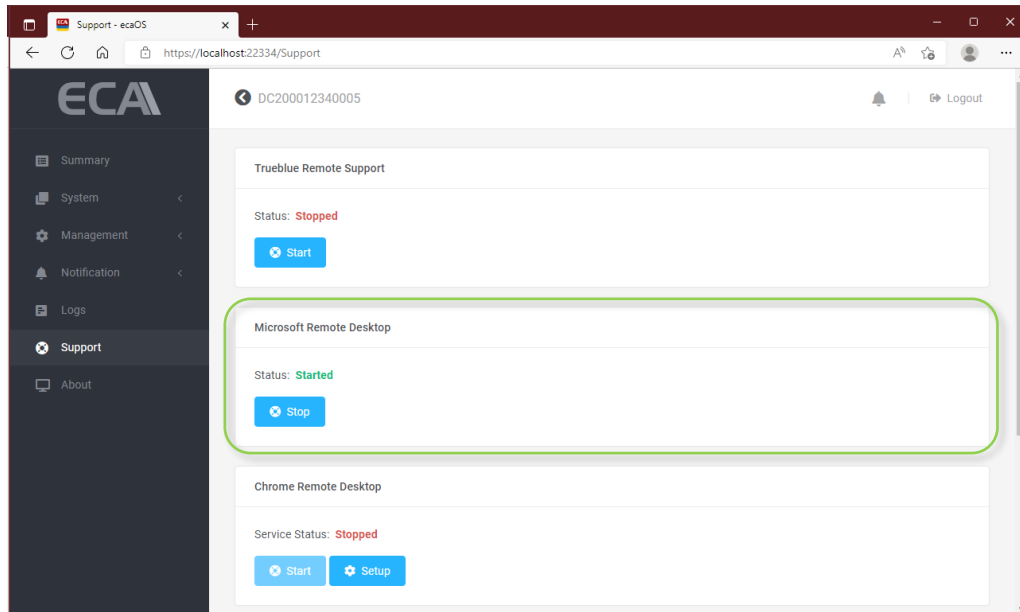


Figure 169: Microsoft Remote Support

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

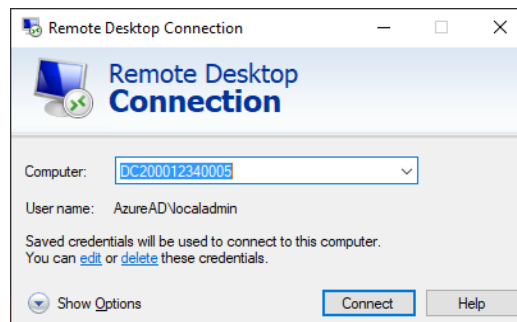


Figure 170: Trueblue Remote Support (1 of 2)

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>

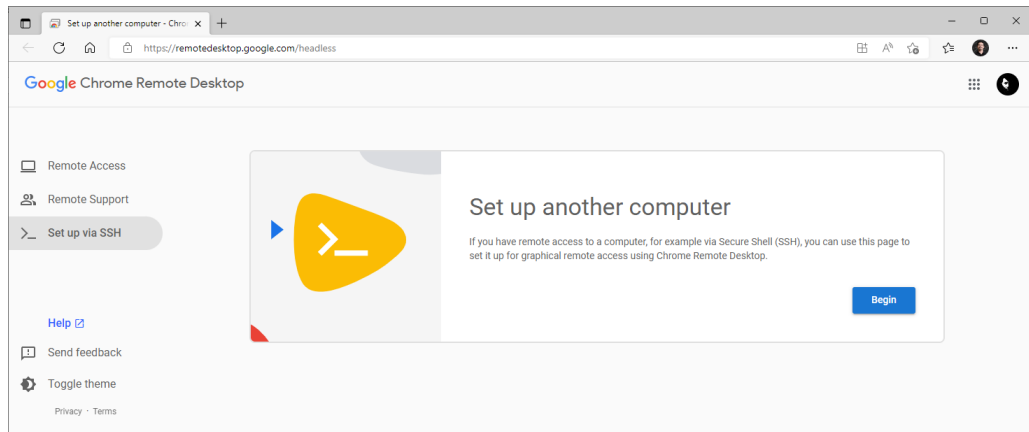


Figure 171: Chrome Remote Desktop (1 of 6)

1. Click 'Begin'

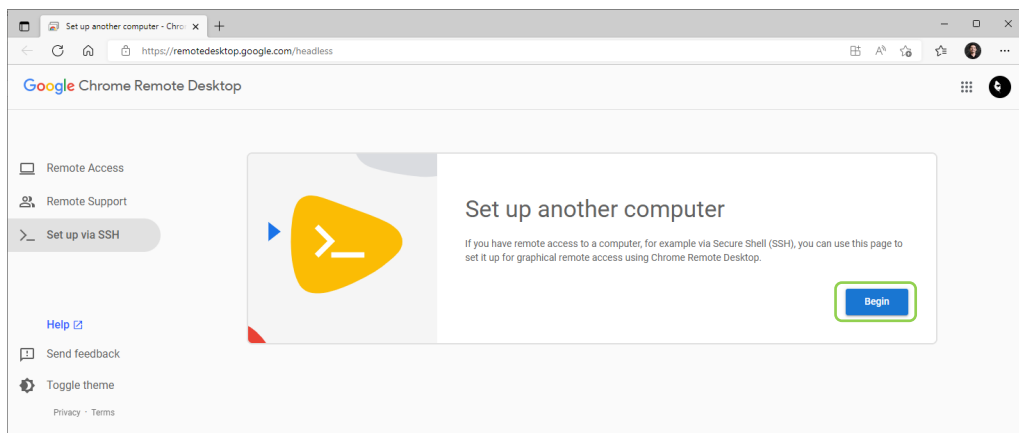


Figure 172: Chrome Remote Desktop (2 of 6)

2. Click 'Next'

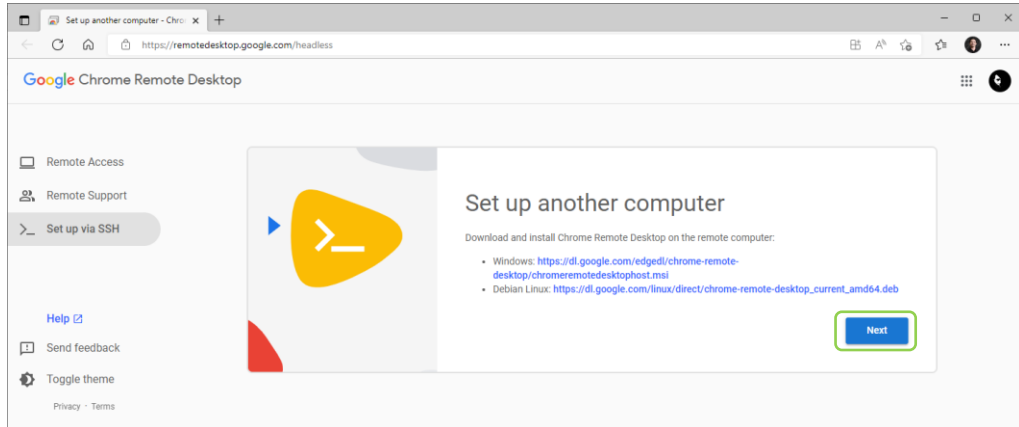


Figure 173: Chrome Remote Desktop (3 of 6)

3. Click 'Authorize'

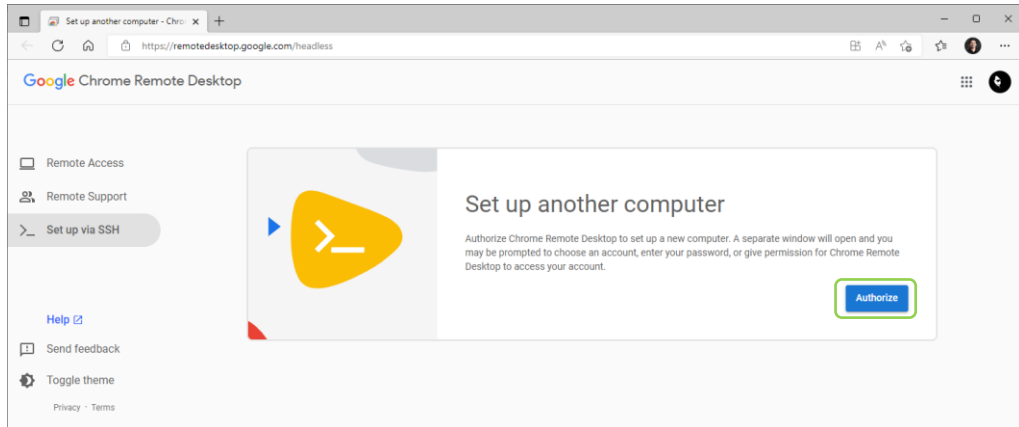


Figure 174: Chrome Remote Desktop (3 of 6)

4. Copy command for Windows (Cmd)

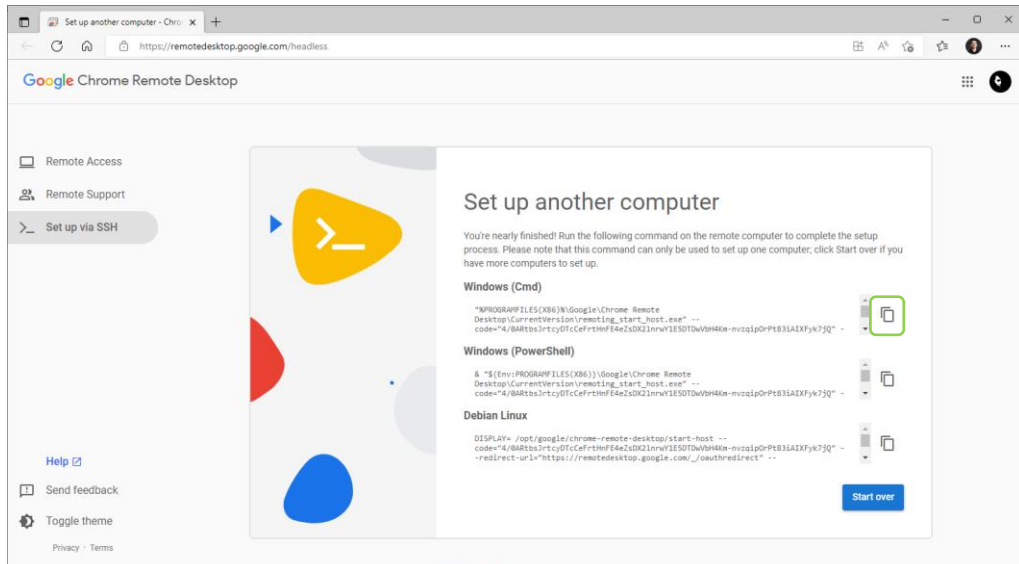


Figure 175: Chrome Remote Desktop (4 of 6)

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

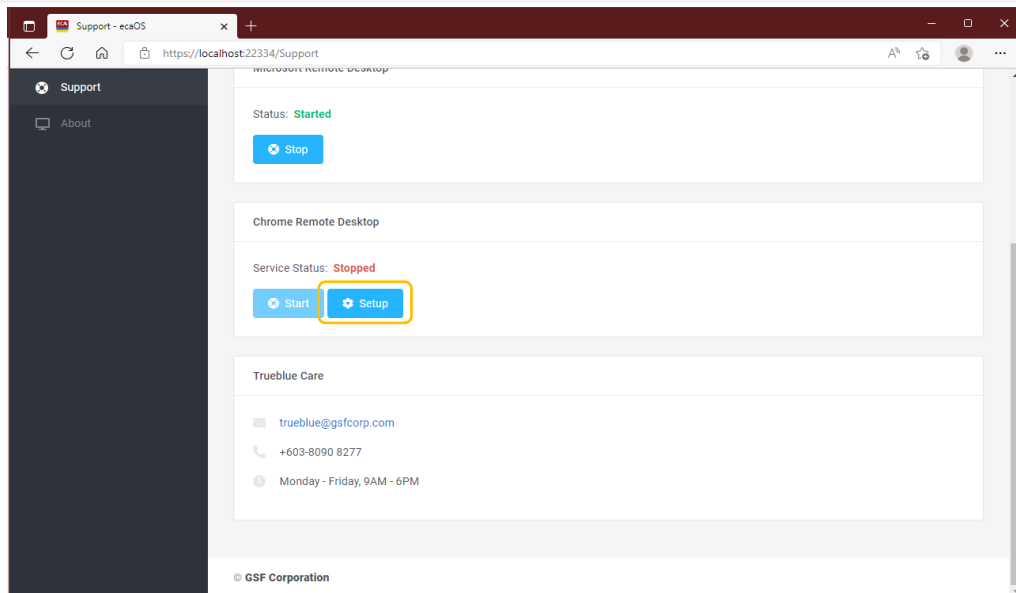


Figure 176: Chrome Remote Desktop (5 of 6)

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

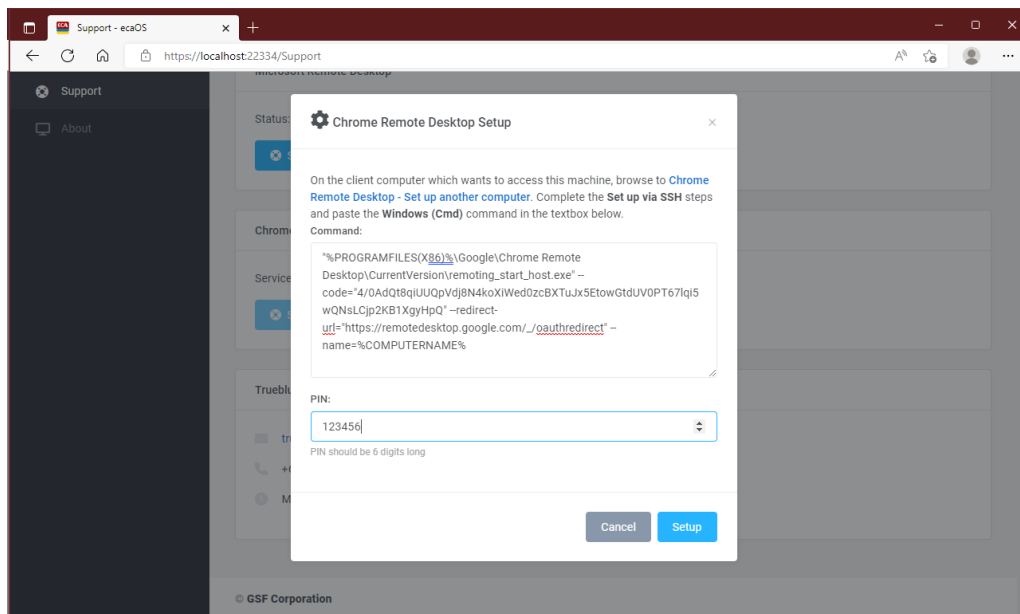


Figure 177: Chrome Remote Desktop (6 of 6)

11.3.2 Accessing ECA via Chrome Remote Desktop?

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

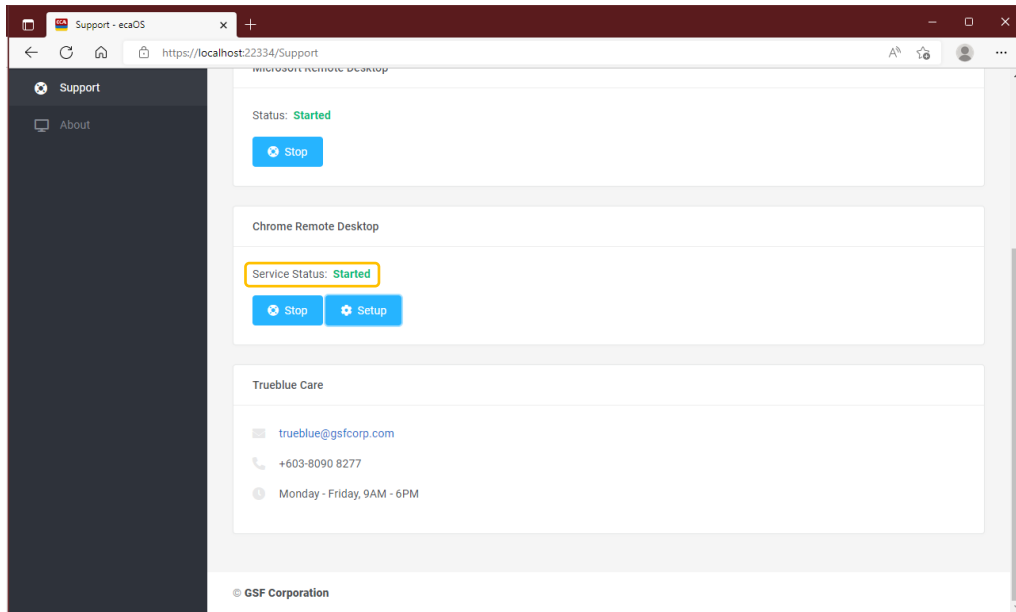


Figure 178: Accessing ECA via Chrome Remote Desktop (1 of 4)

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

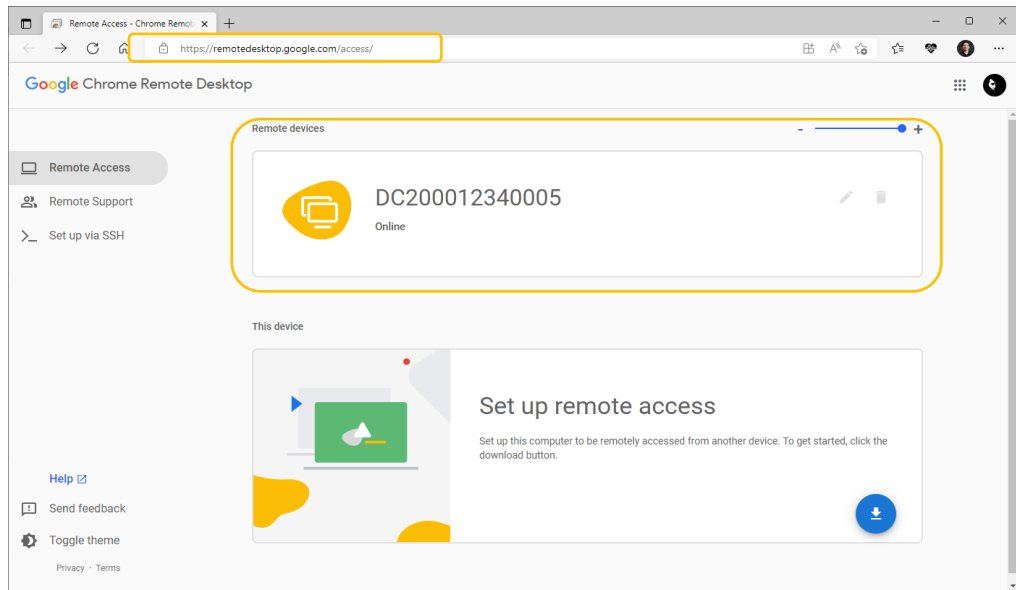


Figure 179: Accessing ECA via Chrome Remote Desktop (2 of 4)

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

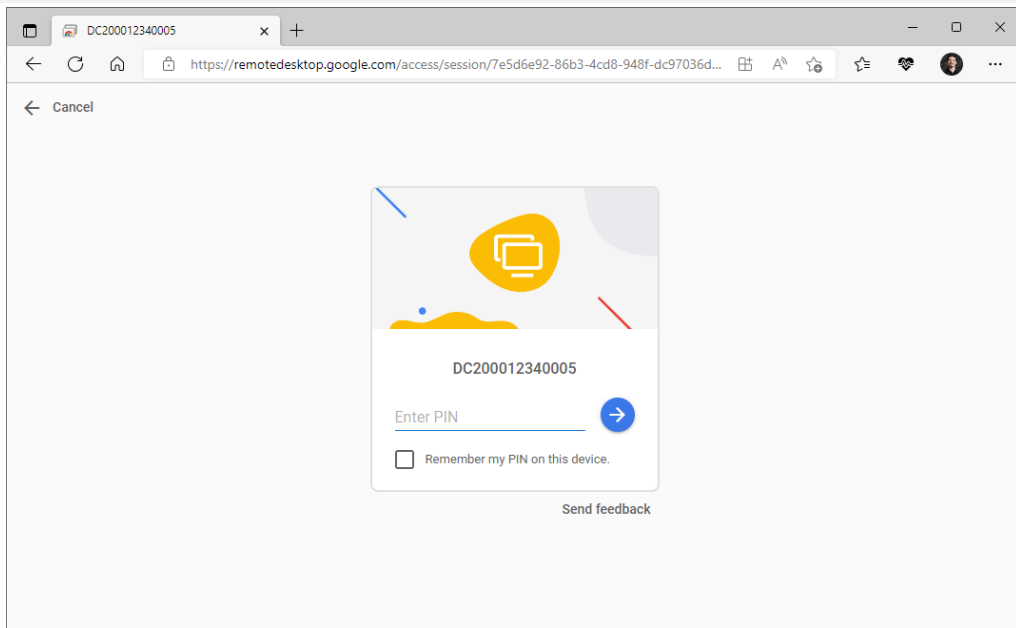


Figure 180: Accessing ECA via Chrome Remote Desktop (3 of 4)

4. Access the ECA

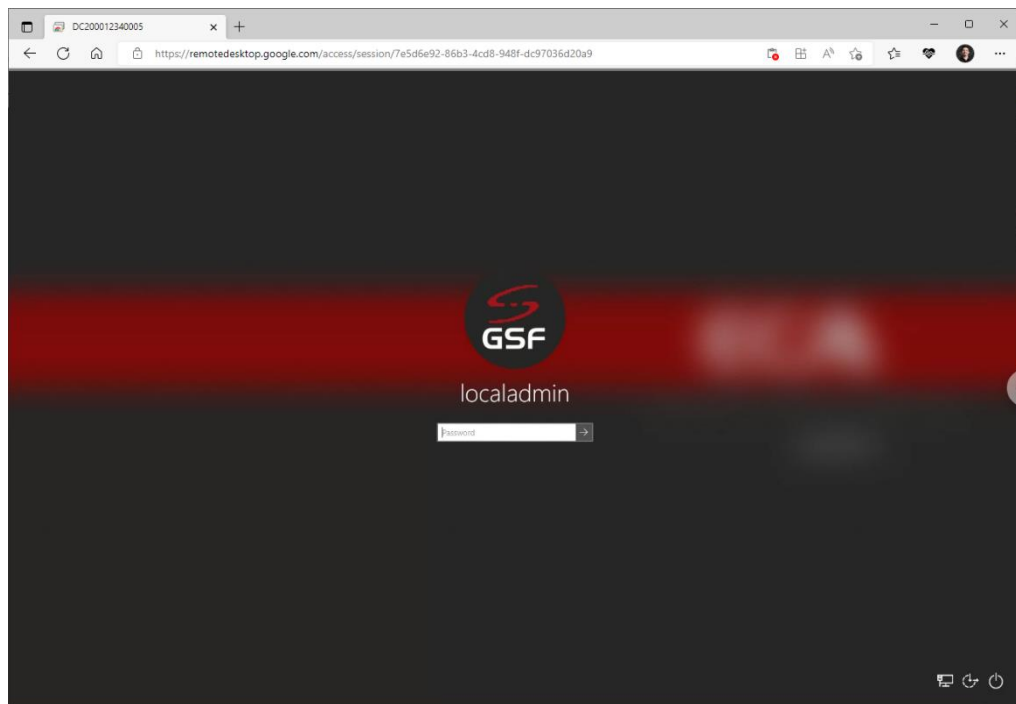


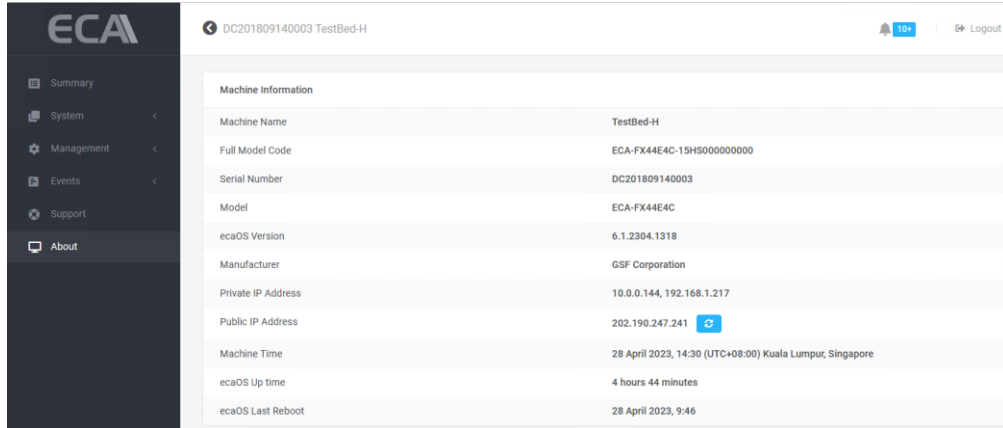
Figure 181: Accessing ECA via Chrome Remote Desktop (4 of 4)

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.




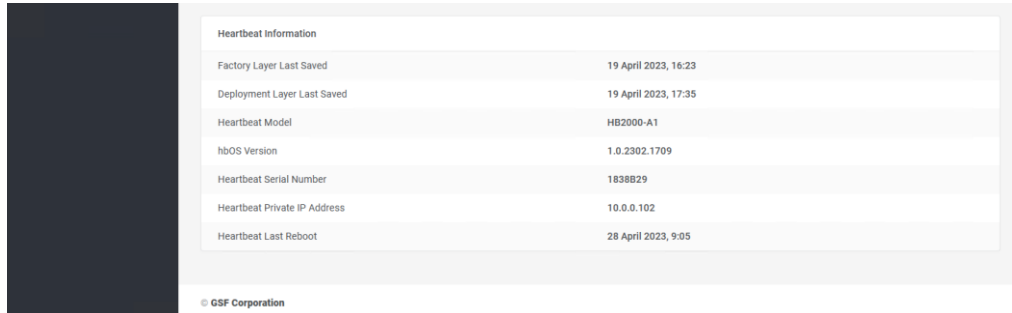
Machine Information	
Machine Name	TestBed-H
Full Model Code	ECA-FX44E4C-15HS000000000
Serial Number	DC201809140003
Model	ECA-FX44E4C
ecaOS Version	6.1.2304.1318
Manufacturer	GSF Corporation
Private IP Address	10.0.0.144, 192.168.1.217
Public IP Address	202.190.247.241 
Machine Time	28 April 2023, 14:30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

Figure 182: 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 183: Heartbeat Information

13 APPENDIX
13.1 Processor Activity
13.1.1 CPU activity above limit

<p>Dashboard</p>													
<p>Notification</p>	<p>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</p>												
<p>Log</p>	<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, 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> </tbody> </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%								
<p>Email</p>													

13.1.2 CPU activity back to normal

<p>Dashboard</p>	<p>The screenshot shows the ECA Processor Activity dashboard. On the left is a navigation menu with options like Summary, System, Service Monitor, Application Monitor, Processor Activity (selected), Memory Activity, Disk Activity, Network Activity, Disk Health, Disk Guard, Session Shield, Management, Notification, Logs, Support, and About. The main area features a line graph titled 'Processor Activity' showing 'Utilization %' (solid blue line) and 'Average Utilization %' (dashed grey line) over a 10-minute period. Below the graph are six summary cards: 'CPU Activity Status' (Normal, highlighted with a yellow box), 'CPU Utilization' (16.3%), 'Average CPU Utilization' (13.3%), 'Average CPU Utilization / Minute' (13.4%), 'Average CPU Utilization / Hour' (42.7%), and 'Average CPU Utilization / Day' (24.5%).</p>												
<p>Notification</p>	<p>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</p>												
<p>Log</p>	<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, 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> </tbody> </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%								
<p>Email</p>	<p>The screenshot shows an email notification from 'ECA Notifications <noreply@gsf.ms>' to 'jemii'. The subject is '[DC201809140003 ecaOS 6.0.2210.0408] CPU Usage Returned to Normal'. The email body contains the GSF logo, a greeting, and details: '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. Footer: 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.</p>												

13.2 Memory Activity

13.2.1 Memory usage above limit

<p>Dashboard</p>													
<p>Notification</p>	<p>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</p>												
<p>Log</p>	<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, 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> </tbody> </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%								
<p>Email</p>													

13.2.2 Memory activity back to normal

<p>Dashboard</p>													
<p>Notification</p>	<p>Memory usage back to normal Memory usage has returned to normal (after 1 hours 17 minutes). Average memory usage is 35% 19:01 • Memory Activity</p>												
<p>Log</p>	<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>22 Oct 2022, 19:01:59</td> <td>Information</td> <td>ecaOS</td> <td>Memory Activity</td> <td>Memory activity back to normal</td> <td>Memory activity has returned to normal (after 1 hours 17 minutes). Average Memory activity is 35%</td> </tr> </tbody> </table>	Time	Level	Source	Type	Name	Details	22 Oct 2022, 19:01:59	Information	ecaOS	Memory Activity	Memory activity back to normal	Memory activity has returned to normal (after 1 hours 17 minutes). Average Memory activity is 35%
Time	Level	Source	Type	Name	Details								
22 Oct 2022, 19:01:59	Information	ecaOS	Memory Activity	Memory activity back to normal	Memory activity has returned to normal (after 1 hours 17 minutes). Average Memory activity is 35%								
<p>Email</p>													

13.3 Disk Activity

13.3.1 Disk read activity above limit

<p>Dashboard</p>	<p>The screenshot shows the ECA dashboard for device DC201809140003. The 'Disk Activity' section features a line graph showing read and write activity over 10 minutes. Below the graph, the 'Disk Read' status is 'Above Limit' (highlighted with a yellow box), with a current rate of 19.6 KB/s. The 'Disk Write' status is 'Normal' at 16.1 MB/s. A table below provides further details on average disk read and write rates.</p> <table border="1"> <thead> <tr> <th colspan="2">Disk Read</th> <th colspan="2">Disk Write</th> </tr> </thead> <tbody> <tr> <td>Disk Read Status</td> <td>Above Limit</td> <td>Disk Write Status</td> <td>Normal</td> </tr> <tr> <td>Disk Read</td> <td>19.6 KB/s</td> <td>Disk Write</td> <td>16.1 MB/s</td> </tr> <tr> <td>Average Disk Read</td> <td>2.0 MB/s</td> <td>Average Disk Write</td> <td>21.5 MB/s</td> </tr> <tr> <td>Average Disk Read / Minute</td> <td>213.4 MB</td> <td>Average Disk Write / Minute</td> <td>1.0 GB</td> </tr> <tr> <td>Average Disk Read / Hour</td> <td>Not Available</td> <td>Average Disk Write / Hour</td> <td>Not Available</td> </tr> <tr> <td>Average Disk Read / Day</td> <td>Not Available</td> <td>Average Disk Write / Day</td> <td>Not Available</td> </tr> </tbody> </table>	Disk Read		Disk Write		Disk Read Status	Above Limit	Disk Write Status	Normal	Disk Read	19.6 KB/s	Disk Write	16.1 MB/s	Average Disk Read	2.0 MB/s	Average Disk Write	21.5 MB/s	Average Disk Read / Minute	213.4 MB	Average Disk Write / Minute	1.0 GB	Average Disk Read / Hour	Not Available	Average Disk Write / Hour	Not Available	Average Disk Read / Day	Not Available	Average Disk Write / Day	Not Available
Disk Read		Disk Write																											
Disk Read Status	Above Limit	Disk Write Status	Normal																										
Disk Read	19.6 KB/s	Disk Write	16.1 MB/s																										
Average Disk Read	2.0 MB/s	Average Disk Write	21.5 MB/s																										
Average Disk Read / Minute	213.4 MB	Average Disk Write / Minute	1.0 GB																										
Average Disk Read / Hour	Not Available	Average Disk Write / Hour	Not Available																										
Average Disk Read / Day	Not Available	Average Disk Write / Day	Not Available																										
<p>Notification</p>	<p>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</p>																												
<p>Log</p>	<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																								
<p>Email</p>	<p>The screenshot shows an email notification from ECA Notifications (noreply@gsf.ms) to jemi, dated Thu 13/10/2022 3:28 PM. The subject is '[DC201809140003 ecaOS 6.0.2210.0408] Disk read activity above limit'. The email body contains the following text:</p> <p>Dear user, Average disk read activity have been above the set limit 100 KB for more than 10 minutes. Time Reported: 13-Oct-22 15:28:21 +08:00 High data read limit: 100 KB for 10 minutes Data read: 785.1 KB For further assistance, please contact TrueBlue Care: trueblue@gstcorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM</p> <p>You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003</p> <p><small>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</small></p>																												

13.3.2 Disk read activity back to normal

<p>Dashboard</p>													
<p>Notification</p>	<p>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</p>												
<p>Log</p>	<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, 16:31:26</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> </tbody> </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								
<p>Email</p>													

13.3.3 Disk write activity below limit

<p>Dashboard</p>													
<p>Notification</p>	<p>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</p>												
<p>Log</p>	<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								
<p>Email</p>													

13.3.4 Disk write activity back to normal

<p>Dashboard</p>	<p>The screenshot shows the ECA dashboard for device DC201809140003. The 'Disk Activity' section features a line graph showing read and write activity over 10 minutes. Below the graph, two summary cards are visible: 'Disk Read' with a status of 'Above Limit' and 'Disk Write' with a status of 'Normal' (highlighted with a yellow box). The 'Disk Write' card lists metrics such as 'Disk Write: 47.3 MB/s' and 'Average Disk Write: 35.7 MB/s'.</p>												
<p>Notification</p>	<p>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</p>												
<p>Log</p>	<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, 15:53:46</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> </tbody> </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								
<p>Email</p>	<p>The screenshot shows an email notification from 'ECA Notifications <noreply@gsf.ms>' to 'jemi' on Thursday, 13/10/2022 at 3:54 PM. The subject is '[DC201809140003] Disk write activity back to normal'. The email body contains the following text:</p> <p>Dear user, Previously reported low average disk write activity have returned to normal. Disk write activity previously fell below the limit of 35 MB for more than 10 minutes Time Reported: 13-Oct-22 15:53:46 +08:00 Low write activity limit: 35 MB in 10 minutes Data written: 35.7 MB Stayed below the limit for: 0 Hours and 21 minutes For further assistance, please contact TrueBlue Care: trueblue@gsfcorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM</p> <p>You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003</p> <p><small>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</small></p>												

13.4 Network Activity

13.4.1 Network send activity above limit

<p>Dashboard</p>	<p>The screenshot shows the ECA Network Activity dashboard. A line graph displays network activity over time, with 'Send' activity (blue) and 'Receive' activity (yellow). Below the graph, two summary tables are visible:</p> <table border="1"> <thead> <tr> <th colspan="2">Network Send</th> <th colspan="2">Network Receive</th> </tr> </thead> <tbody> <tr> <td>Network Send Status</td> <td>Above Limit</td> <td>Network Receive Status</td> <td>Normal</td> </tr> <tr> <td>Network Send</td> <td>221.3 Mbps</td> <td>Network Receive</td> <td>270.2 Mbps</td> </tr> <tr> <td>Average Network Send</td> <td>63.0 Mbps</td> <td>Average Network Receive</td> <td>348.2 Mbps</td> </tr> <tr> <td>Average Network Send / Minute</td> <td>4.9 Gb</td> <td>Average Network Receive / Minute</td> <td>20.2 Gb</td> </tr> <tr> <td>Average Network Send / Hour</td> <td>48.8 Gb</td> <td>Average Network Receive / Hour</td> <td>1.1 Tb</td> </tr> <tr> <td>Average Network Send / Day</td> <td>Not Available</td> <td>Average Network Receive / Day</td> <td>Not Available</td> </tr> </tbody> </table>	Network Send		Network Receive		Network Send Status	Above Limit	Network Receive Status	Normal	Network Send	221.3 Mbps	Network Receive	270.2 Mbps	Average Network Send	63.0 Mbps	Average Network Receive	348.2 Mbps	Average Network Send / Minute	4.9 Gb	Average Network Receive / Minute	20.2 Gb	Average Network Send / Hour	48.8 Gb	Average Network Receive / Hour	1.1 Tb	Average Network Send / Day	Not Available	Average Network Receive / Day	Not Available
Network Send		Network Receive																											
Network Send Status	Above Limit	Network Receive Status	Normal																										
Network Send	221.3 Mbps	Network Receive	270.2 Mbps																										
Average Network Send	63.0 Mbps	Average Network Receive	348.2 Mbps																										
Average Network Send / Minute	4.9 Gb	Average Network Receive / Minute	20.2 Gb																										
Average Network Send / Hour	48.8 Gb	Average Network Receive / Hour	1.1 Tb																										
Average Network Send / Day	Not Available	Average Network Receive / Day	Not Available																										
<p>Notification</p>	<p>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</p>																												
<p>Log</p>	<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																								
<p>Email</p>	<p>The screenshot shows an email notification from ECA Notifications. The subject is "[DC201809140003] High Network Outgoing Traffic". The body of the email contains the following text:</p> <p>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@gscorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM</p> <p>You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003</p> <p>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</p>																												

13.4.2 Network send activity back to normal

<p>Dashboard</p>													
<p>Notification</p>	<p>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</p>												
<p>Log</p>	<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, 16:31:52</td> <td>Information</td> <td>ecaOS</td> <td>Network Activity</td> <td>Network send activity back to normal</td> <td>Average network send activity have returned to normal (after 0 hours 21 minutes). Current average network send activity is 3 Mb</td> </tr> </tbody> </table>	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
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								
<p>Email</p>	Empty content for Email section												

13.4.3 Network receive activity below limit

<p>Dashboard</p>													
<p>Notification</p>	<p>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</p>												
<p>Log</p>	<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, 16:24:22</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> </tbody> </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								
<p>Email</p>													

13.4.4 Network receive activity back to normal

<p>Dashboard</p>	<p>The screenshot shows the ECA Network Activity dashboard. At the top, there's a 'Network Activity' line graph with 'Send' (blue) and 'Receive' (yellow) data over a 10-minute period. Below the graph are two summary tables:</p> <table border="1"> <thead> <tr> <th colspan="2">Network Send</th> <th colspan="2">Network Receive</th> </tr> </thead> <tbody> <tr> <td>Network Send Status</td> <td>Normal</td> <td>Network Receive Status</td> <td>Normal</td> </tr> <tr> <td>Network Send</td> <td>5.2 Mbps</td> <td>Network Receive</td> <td>506.8 Mbps</td> </tr> <tr> <td>Average Network Send</td> <td>5.3 Mbps</td> <td>Average Network Receive</td> <td>347.4 Mbps</td> </tr> <tr> <td>Average Network Send / Minute</td> <td>319.7 Mb</td> <td>Average Network Receive / Minute</td> <td>20.2 Gb</td> </tr> <tr> <td>Average Network Send / Hour</td> <td>64.7 Gb</td> <td>Average Network Receive / Hour</td> <td>1.0 Tb</td> </tr> <tr> <td>Average Network Send / Day</td> <td>Not Available</td> <td>Average Network Receive / Day</td> <td>Not Available</td> </tr> </tbody> </table>	Network Send		Network Receive		Network Send Status	Normal	Network Receive Status	Normal	Network Send	5.2 Mbps	Network Receive	506.8 Mbps	Average Network Send	5.3 Mbps	Average Network Receive	347.4 Mbps	Average Network Send / Minute	319.7 Mb	Average Network Receive / Minute	20.2 Gb	Average Network Send / Hour	64.7 Gb	Average Network Receive / Hour	1.0 Tb	Average Network Send / Day	Not Available	Average Network Receive / Day	Not Available
Network Send		Network Receive																											
Network Send Status	Normal	Network Receive Status	Normal																										
Network Send	5.2 Mbps	Network Receive	506.8 Mbps																										
Average Network Send	5.3 Mbps	Average Network Receive	347.4 Mbps																										
Average Network Send / Minute	319.7 Mb	Average Network Receive / Minute	20.2 Gb																										
Average Network Send / Hour	64.7 Gb	Average Network Receive / Hour	1.0 Tb																										
Average Network Send / Day	Not Available	Average Network Receive / Day	Not Available																										
<p>Notification</p>	<p>Network received activity back to normal Average network receive activity has returned to normal (after 0 hours 24 minutes). Current average network receive activity is 346.6 Mb 16:48 • Network Activity</p>																												
<p>Log</p>	<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, 16:48:31</td> <td>Information</td> <td>ecaOS</td> <td>Network Activity</td> <td>Network receive activity back to normal</td> <td>Average network receive activity has returned to normal (after 0 hours 24 minutes). Current average network receive activity is 346.6 Mb</td> </tr> </tbody> </table>	Time	Level	Source	Type	Name	Details	13 Oct 2022, 16:48:31	Information	ecaOS	Network Activity	Network receive activity back to normal	Average network receive activity has returned to normal (after 0 hours 24 minutes). Current average network receive activity is 346.6 Mb																
Time	Level	Source	Type	Name	Details																								
13 Oct 2022, 16:48:31	Information	ecaOS	Network Activity	Network receive activity back to normal	Average network receive activity has returned to normal (after 0 hours 24 minutes). Current average network receive activity is 346.6 Mb																								
<p>Email</p>	<p>The screenshot shows an email notification from ECA Notifications. The subject is '[DC201809140003] Incoming Network Traffic Returned to Normal'. The body of the email contains the following text:</p> <p>Dear user, Previously reported low average incoming network traffic have returned to normal. Incoming network traffic previously fell below the limit of 330 Mb for more than 10 minutes Time Reported: 13-Oct-22 16:48:31 +08:00 Low data reception limit: 330 Mb in 10 minutes Data received: 346.6 Mb Stayed below the limit for: 0 Hours and 24 minutes For further assistance, please contact TrueBlue Care: trueblue@gscorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM</p> <p>You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003</p> <p>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</p>																												

13.5 Session Shield

13.5.1 Warning Status

<p>Dashboard</p>													
<p>Notification</p>	<p>Session Shield at warning state Shield has reached Warning state. 19.7% (1573 MB) remaining before system becoming unstable 09:56 • Session Shield</p>												
<p>Log</p>	<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								
<p>Email</p>													

13.5.2 Critical Status

<p>Dashboard</p>													
<p>Notification</p>	<p>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</p>												
<p>Log</p>	<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								
<p>Email</p>													

13.5.3 Status back to normal

<p>Dashboard</p>													
<p>Notification</p>	<p>Session Shield back to normal Shield returned to Normal state. 91.6% (7316 MB) remaining 11:48 • Session Shield</p>												
<p>Log</p>	<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, 11:48:52</td> <td>Information</td> <td>ecaOS</td> <td>Session Shield</td> <td>Session Shield back to normal</td> <td>Shield returned to Normal state. 91.6% (7316 MB) remaining</td> </tr> </tbody> </table>	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
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								
<p>Email</p>													

13.6 Disk Health

13.6.1 Warning Status Disk

Dashboard

- 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

The screenshot shows the ECA dashboard for device DC201809140003. The 'System Disk' section shows a health status of 67% (Warning) with a yellow progress bar. Below it, a table lists S.M.A.R.T. attributes: Status (Warning), S.M.A.R.T. Status (OK), Temperature (34°C), Bad Sectors (None), Power on Hours (1 year 9 months 19 days 4 hours), Model (KINGSTON SUV500120G), Serial Number (50026B778212CD22), Firmware (003056RR), Capacity (111.8 GB), Controller (Standard SATA AHCI Controller), Controller Bus Number (0), and Disk Location (Bus Number 0, Target ID 0, LUN 0). The 'Bay 1' section shows a health status of 100% (Healthy) with a green progress bar. Below it, a table lists S.M.A.R.T. attributes: Status (Healthy), S.M.A.R.T. Status (OK), Temperature (33°C), Bad Sectors (None), Power on Hours (4 months 22 days 22 hours), Model (ST16000NM001G-2KK103), Serial Number (ZL2E4XGM), Firmware (SN03), Capacity (14.6 TB), Controller (Marvell 92xx SATA 6G Controller), Controller Bus Number (1), and Disk Location (Bus Number 0, Target ID 0, LUN 0).

Notification

Disk health warning
Disk System Disk is down to 67% health
17:46 • Disk Health

Log

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

The screenshot shows an email notification from 'ECA Notifications <noreply@gsf.ms>' to 'jemi' on Thu 20/10/2022 5:46 PM. The subject is '[DC201809140003] Hard Disk health is at warning level'. The email body contains the GSF logo and the following text: 'Dear user, Hard disk drive System Disk is down to 67% health'. It also includes the following details: 'Time Reported: 20-Oct-22 17:46:16 +08:00', 'Model: KINGSTON SUV500120G', 'Serial Number: 50026B778212CD22', 'Size: 111.8GB', 'Current Disk Status: Warning - 67% health', 'Temperature: 33 °C', 'Bad Sectors: 0', and 'Power on hours: 15583 Hours'. It provides contact information for TrueBlue Care: 'trueblue@gsfcorp.com', '+603-8090 8277', and 'Monday - Friday, 9AM - 6PM'. A footer note states: 'You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no. DC201809140003'. At the bottom, it says: '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'.

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13.6.2 Critical Status Disk

<p>Dashboard</p>	<p>The screenshot shows the ECA web interface. On the left is a navigation menu with 'System' selected. The main content area displays 'System Disk' with a 'Warning' status and '83% Health' indicator. Below this is a table with columns 'Summary', 'Volumes', and 'S.M.A.R.T.'. The 'Summary' column shows: Status: Warning, S.M.A.R.T. Status: OK, Temperature: 34°C, Bad Sectors: None, Power on Hours: 1 year 9 months 19 days 7 hours, Model: KINGSTON SUV500120G, Serial Number: 50026B778212C022, Firmware: 003056RR, Capacity: 111.8 GB, Controller: Standard SATA AHCI Controller, Controller Bus Number: 0, and Disk Location: Bus Number 0, Target ID 0, LUN 0. To the right, 'Bay 1' is shown with a 'Critical' status and '30% Health' indicator. Its 'Summary' column shows: Status: Critical, S.M.A.R.T. Status: Not Ok, Temperature: 28°C, Bad Sectors: 4015, Power on Hours: 7 months 22 days 5 hours, Model: ST31000528ASQ, Serial Number: 5VP4QVNK, Firmware: AP24, Capacity: 931.5 GB, Controller: Marvell 92xx SATA 6G Controller, Controller Bus Number: 1, and Disk Location: Bus Number 0, Target ID 0, LUN 0.</p>												
<p>Notification</p>	<p>The notification is a dark grey box with white text: Disk health critical, Disk Bay 1 is down to 30% health, 17:55 - Disk Health.</p>												
<p>Log</p>	<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								
<p>Email</p>	<p>The email is from SmartLogic Mail Server <wilson-sl@gsf.com.my> to jemi, dated Thu 20/10/2022 6:11 PM. The subject is '[DC201809140003] Hard Disk is about to fail'. The body contains the GSF logo and the following text: 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: 5VP4QVNK. 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.</p>												

13.7 Disk Guard

13.7.1 New disk / Disk Inserted

Dashboard

- 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

Disk	Model	Serial	Status
System Disk	KINGSTON SUV500120G	500268778212CD22	Online
Bay 1	ST16000NM001G-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 ST16000NM001G-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 ST16000NM001G-2KK103 (ZL2GE07E) placed in Bay 1

Email

[DC201809140003] Hard Disk have been inserted

Dear user,
Hard disk ST16000NM001G-2KK103 (ZL2GE07E) inserted in Bay 1.
Time Reported: 20-Oct-22 12:32:46 +08:00
Model: ST16000NM001G-2KK103
Serial Number: ZL2GE07E
Online/Offline: Online
Size: 14.6TB
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

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13.7.2 Disk Removed

<p>Dashboard</p>	<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>50026B778212CD22</td> <td>Online</td> </tr> <tr style="background-color: yellow;"> <td>Bay 1</td> <td>ST16000NM001G-2KK103</td> <td>ZL2GE07E</td> <td>Removed</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	50026B778212CD22	Online	Bay 1	ST16000NM001G-2KK103	ZL2GE07E	Removed	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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<p>Notification</p>	<p>Disk Removed Disk ST16000NM001G-2KK103 (ZL2GE07E) removed from Bay 1 12:36 • Disk Guard</p>																																																																				
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<p>Email</p>	<p>[DC201809140003] Hard Disk have been Removed</p> <p>ECA Notifications - <noreply@gsf.ms> To: jemi Thu 20/10/2022 12:36 PM</p> <p>If there are problems with how this message is displayed, click here to view it in a web browser.</p> <p>GSF</p> <p>Dear user, A hard disk have been removed from Bay 1. Time Reported: 20-Oct-22 12:36:27 +08:00 Model: ST16000NM001G-2KK103 Serial Number: ZL2GE07E Size: 14.6TB For further assistance, please contact TrueBlue Care: trueblue@gscorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM</p> <p>You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003</p> <p>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</p>																																																																				

13.7.3 Disk Removed Acknowledge

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<p>Notification</p>	<p>Disk Remove Acknowledged Disk ST16000NM001G-2KK103 (ZL2GE07E) removal from Bay 1 acknowledged 12:38 • Disk Guard</p>																																																																				
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<p>Email</p>	<p>[DC201809140003] Hard Disk remove acknowledged</p> <p>ECA Notifications - <noreply@gsf.ms> To: jemi Thu 20/10/2022 12:38 PM</p> <p>If there are problems with how this message is displayed, click here to view it in a web browser.</p> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Dear user, Removal of hard disk ST16000NM001G-2KK103 (ZL2GE07E) from Bay 1 has been acknowledged. Time Reported: 20-Oct-22 12:38:08 +08:00 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</p> <p>You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003</p> </div> <p style="font-size: small; text-align: center;"> 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 </p>																																																																				

13.7.4 Disk Replaced

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<p>Notification</p>	<p>Disk Replaced Disk (ZL2E4XGM) have replaced previous disk (ZL2GE07E) in Bay 1 12:44 • Disk Guard</p>																																																																				
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<p>Email</p>	<p>[DC201809140003] A Hard Disk have been replaced with a new hard disk</p> <p>ECA Notifications - <noreply@gsf.ms> To: jemi Thu 20/10/2022 12:44 PM</p> <p>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</p> <p>New Hard Disk Details: Model: ST16000NM001G-2KK103 Serial Number: ZL2E4XGM Online/Offline: Online Size: 14.6TB</p> <p>Previous Hard Disk Details: Model: ST16000NM001G-2KK103 Serial Number: ZL2GE07E Size: 14.6TB</p> <p>For further assistance, please contact TrueBlue Care: trueblue@gsfcorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM</p> <p>You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003</p> <p>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</p>																																																																				

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Time	Level	Source	Type	Name	Details																																																																
20 Oct 2022, 12:48:01	Information	ecaOS	Disk Guard	Disk Replace Acknowledged	Disk ST16000NM001G-2KK103 (ZL2E4XGM) now default disk in Bay 1																																																																
<p>Email</p>	<p>[DC201809140003] Hard Disk replace acknowledged</p> <p>ECA Notifications - <noreply@gsf.ms> To: jemi Thu 20/10/2022 12:48 PM</p> <p>If there are problems with how this message is displayed, click here to view it in a web browser.</p> <p>GSF</p> <p>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@gscorp.com +603-8090 8277 Monday - Friday, 9AM - 6PM</p> <p>You received this email because your email address is listed as the notification email for Engineered Computer Appliance (ECA) serial no: DC201809140003</p> <p>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</p>																																																																				

13.8 Log

13.8.1 ECA reboot more than 3 times

Figure 184 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	DO0 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 184

13.8.2 AC Power loss

Figure 185 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	DO0 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	DO0 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 185

13.8.3 Unauthorize ECA Reboot

Figure 186 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 186

13.8.4 Unauthorize ECA Shutdown

Figure 187 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 187

13.8.5 Authorize ECA Shutdown

Figure 188 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 188

13.8.6 Authorize ECA Reboot

Figure 189 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 189

13.8.7 Power up ECA by pressing power button

Figure 190 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 190

13.8.8 Force shutdown by pressing power (heartbeat) button

Figure 191 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 191

13.8.9 Accessing Dashboard using Security Key

Figure 192 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 192

13.8.10 Accessing Dashboard using Virtual Security Key

Figure 193 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 193

13.8.11 Add new Security Key

Figure 194 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 194

13.8.12 Delete paired Security Key

Figure 195 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 195

13.8.13 Delete Virtual Security Key

Figure 195 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 196

13.8.14 Add Virtual Security Key

Figure 195 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 197

13.8.15 Open ECA cover chassis

Figure 194 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 198

13.8.16 Close ECA cover chassis

Figure 194 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 199



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