

Ghaf-24.09 Release Note

Introduction

Ghaf Framework is an open-source project for enhancing security through compartmentalization on edge devices.

Release Tag

<https://github.com/tiiuae/ghaf/releases/tag/ghaf-24.09>

Supported Hardware

- NVIDIA Jetson AGX Orin
- NVIDIA Jetson Orin NX
- Generic x86 (PC)
- Polarfire Icicle Kit
- Lenovo ThinkPad X1 Carbon Gen 11
- Lenovo ThinkPad X1 Carbon Gen 10
- NXP i.MX 8M Plus

What is new in Ghaf-24.09

- Lenovo X1 Carbon Gen 10/11:
 - Trusted Business VM with firewall protection containing the following apps: Microsoft365, Outlook, Teams, Trusted Browser, Text Editor, Video Editor
 - integrated camera supported with Business VM applications
 - Previous Element-VM modified to more generic Comms-VM adding Slack
 - GlobalProtect VPN client
 - Centralized logging solution using Grafana
 - ZFS file system and logical volume manager
 - Storage VM using impermanence framework
 - USB hot plug supporting input, audio and media devices
 - USB camera support on Chromium VM
 - Initial version of file manager
 - Hardware detection scanner to generate hardware definition files for different laptops
 - GPU acceleration enabled

- Yubikey authentication
- Falcon LLM
- greetd login manager with system autolock enabled, locks screen after 5 minutes of inactivity
- UI waybar replaced by EWW taskbar
- Magnification app
- Calculator
- Sticky notes app
- Screenshot app
- AppFlowy has been disabled
- NVIDIA Jetson Orin NX:
 - Jetpack baseline software updates and fixes.
- Further refactoring and modularization of the Ghaf framework.
- Development, testing, and performance tooling improvements.

Bug Fixes

Fixed bugs that were present in the ghaf-24.06 release:

- N/A

Known Issues and Limitations

Issue	Status	Comments
Orin NX/AGX		
Cannot log in to the Element chat with a Google account	IN PROGRESS	Under investigation
Orin AGX and NX: screenshots cannot be taken successfully anymore	IN PROGRESS	Under investigation
Orin AGX and NX and NUC: no taskbar visible	IN PROGRESS	Use Win -key to open up the menu
Cannot connect to a hidden Wi-Fi network from GUI	IN PROGRESS	Workaround: connect with SSH to a netvm and run the command: nmcli dev wifi connect SSID password PASSWORD hidden yes.
Orin AGX and NX: cannot make voice calls using the Element application	IN PROGRESS	Under investigation
The Element application cannot find a camera	IN PROGRESS	Under investigation

Lenovo X1		
Cannot log in to the Element chat with a Google account	IN PROGRESS	Workaround: create a user specifically for Element.
Time synchronization between host and VMs does not work in all scenarios	IN PROGRESS	Under investigation
Not possible to change WiFi network from the Network Settings app	IN PROGRESS	Fix under verification. Workaround: Remove current network from the app
Taskbar on extended display is visible only when booting up with HDMI connected	IN PROGRESS	Under investigation
Suspend does not work from the taskbar power menu	IN PROGRESS	Under investigation
Mute status not visible in the taskbar	IN PROGRESS	Fix under work
VPN credentials are not saved	ON HOLD	Not clear if this can be fixed
Keyboard boots up always with English layout	IN PROGRESS	Use Alt+Shift to switch between English-Arabic-Finnish layout
Bluetooth notification windows stay on the screen	IN PROGRESS	Use ESC key to remove pop-ups

Environment Requirements

There are no specific requirements for the environment with this release.

Installation Instructions

Released images are available at

<https://ghafreleasesstorage.z16.web.core.windows.net/?selected=ghaf-24.09>