# XFS4IoT SP-Dev Workgroup

5th March 2024

# XFS4IoT SP-Dev Workgroup agenda

- Recap from previous meeting
- Update to templates and documents
- Camera SP - demo
- What's next?
- Next meeting

# Recap from previous meeting

# Recap from previous meeting

Support for 2023-2 in the SP-Dev framework:

- Reviewed migration from current version to the 2023-2 specification
- Discussed Version Handling (how to set and check versions)
- Reviewed new features:
  - StatusChanged / Import EMVPublicKey / ImportKeyToken
- Regarding .NET support: Migrated to .NET 8 and C#12
- Some work still to do including:
  - Support for ‘required’ and ‘default’ properties in the framework
  - Enforce the JSON schema
  - Provide a camera sample

Demo showing migration of existing code to the new specification

# SP Framework updates

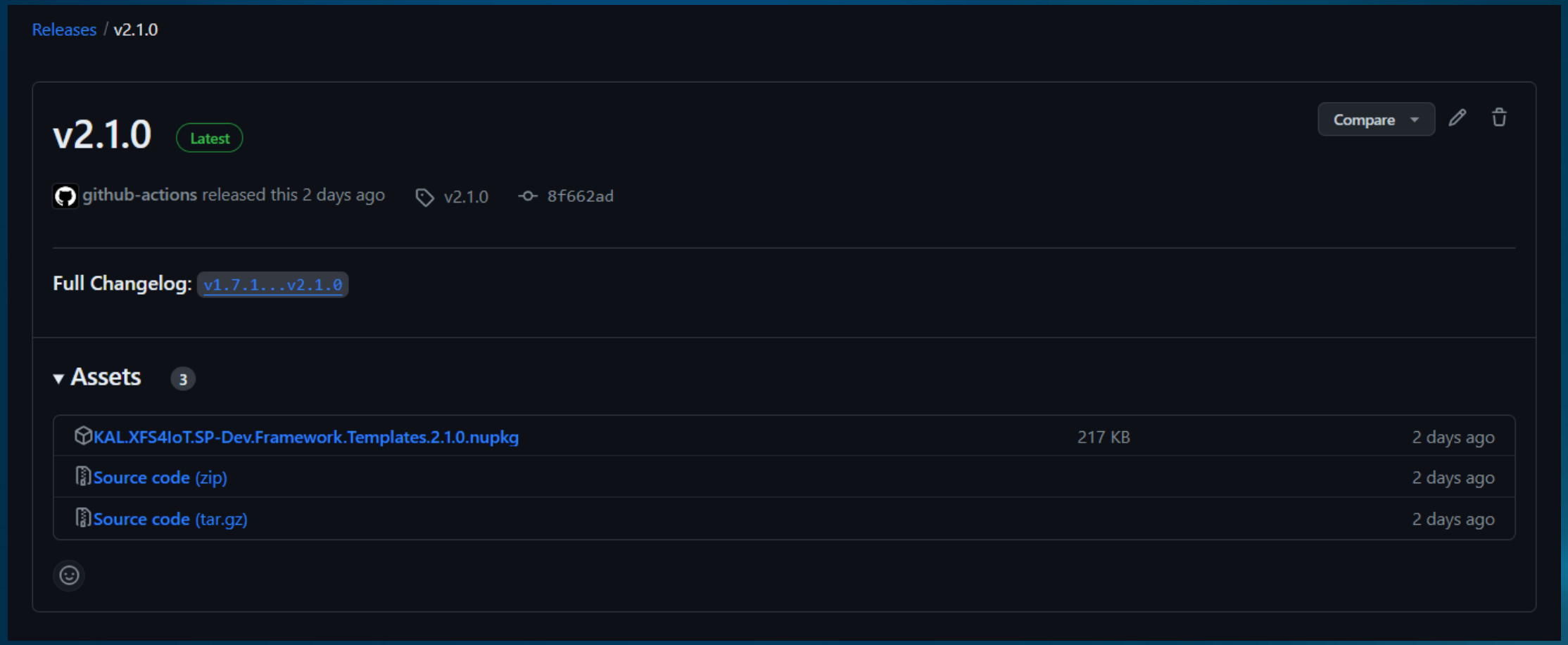
# SP Framework and samples

- SP Framework package 2.1.0 is available
- Camera SP framework is tested with the device implementation
- Added:
  - Camera SP sample in the SP project
  - Camera SP support in the test client application

# SP Framework: templates

- New template package 2.1.0 is available:

https://github.com/KAL-ATM-Software/KAL_XFS4IoT_SP-Dev-Samples/releases/tag/v2.1.0



# SP Framework: templates

- Added Camera SP template project
- All template projects are .NET8
- Updated device interfaces along with SP framework package 2.0.0 or later

- SP-Dev Template installation steps
  - https://kal-atm-software.github.io/KAL_XFS4IoT_SP-Dev-Documentation/articles/Templates.html

# SP Framework: documentation

- Available on GitHub pages:
  - https://kal-atm-software.github.io/KAL_XFS4IoT_SP-Dev-Documentation/
- Contains complete API Reference for XFS4 SP-Dev Framework
- Articles on compiling the framework/samples, installing and using SP-Dev Templates
- Any requests for content – let us know!

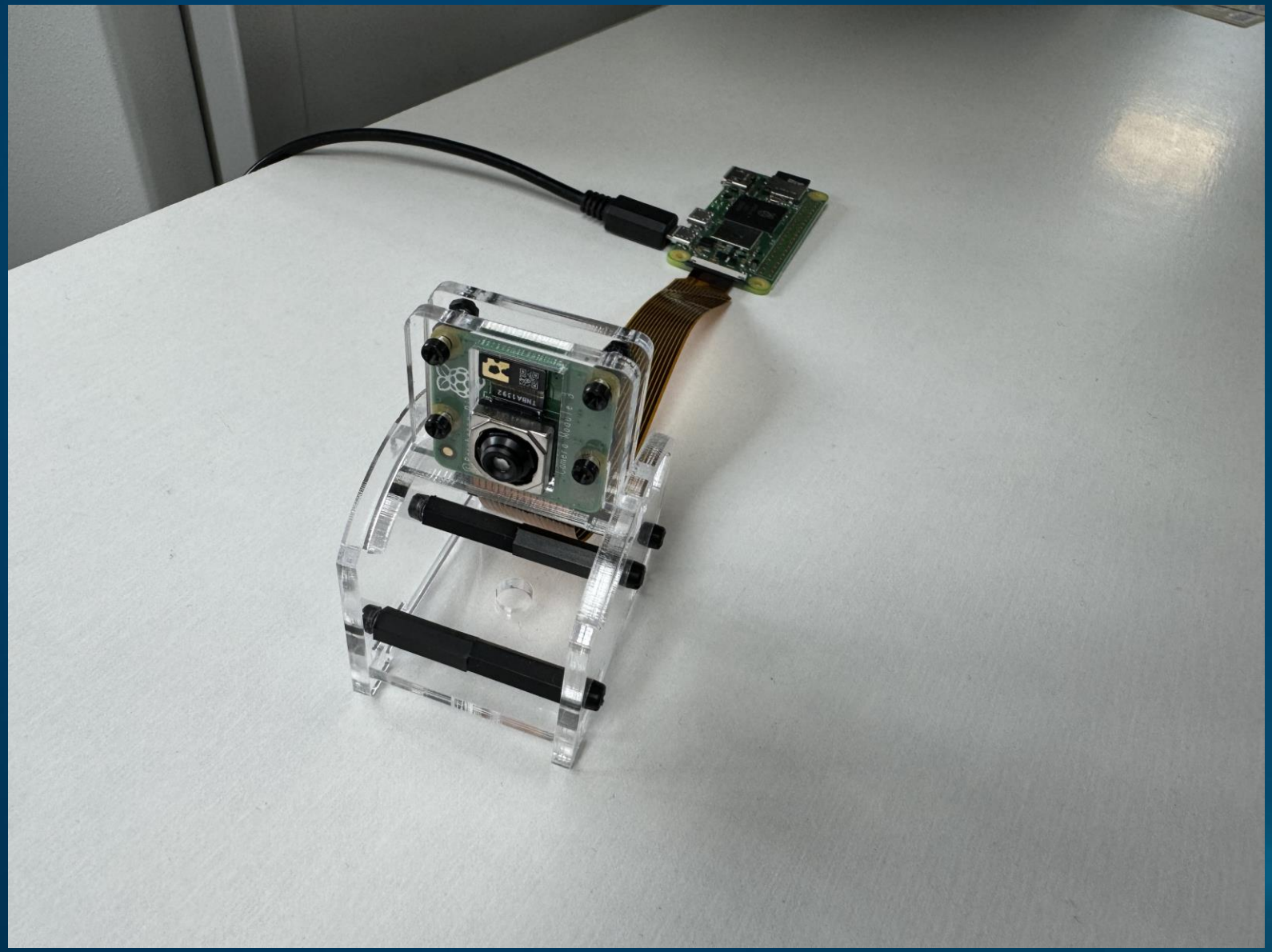
# Camera Demo

# The hardware

- Raspberry Pi Zero 2w
- Camera Module
- Adapter cable
- £47.50

| Product | | Quantity | Total |
|---|---|---|---|
|  | RASPBERRY PI<br>**Raspberry Pi Zero 2 W**<br>Zero 2 W<br>£17 incl. VAT | − 1 +<br>Remove | £17<br>incl. VAT |
|  | RASPBERRY PI<br>**Raspberry Pi Zero Camera Adapter**<br>£4.50 incl. VAT | − 1 +<br>Remove | £4.50<br>incl. VAT |
|  | RASPBERRY PI<br>**Raspberry Pi Camera Module 3**<br>Standard<br>£26 incl. VAT | − 1 +<br>Remove | £26<br>incl. VAT |

# Camera



# SP Implementation

```
public async Task<TakePictureResponse> TakePictureAsync(TakePictureRequest request, CancellationToken cancellation)
{
    using Process process = new Process();
    process.StartInfo = new ProcessStartInfo(fileName: "libcamera-still", arguments: "--height 480 --width 852 -t 10 -e bmp -o pi.bmp");
    process.Start();
    await process.WaitForExitAsync(cancellation);

    RoomCamStatus.NumberOfPictures++;

    if (!File.Exists(path: "pi.bmp"))
        return new TakePictureResponse(MessagePayload.CompletionCodeEnum.InternalError,
            ErrorDescription: "File not found after capture.", TakePictureCompletion.PayloadData.ErrorCodeEnum.CameraInoperable);

    byte[] bytes = await File.ReadAllBytesAsync(path: "pi.bmp", cancellation);

    return new TakePictureResponse(MessagePayload.CompletionCodeEnum.Success, [.. bytes]);
}
```

- 13 lines of code
- Adapted from the Camera sample
- Using existing libcamera library

# Camera SP - demo

# XFS4IoT Camera

- Add a camera to an existing device, without the hardware capability
- Add an external camera over the network
- Support for multiple cameras on the same Service Provider

# What's next?

# Demos, POCs and guest speakers

- More Framework updates
- Framework roadmap
- POCs and demos
  (Check scanner …)
- More guest speakers

# Next call

Zoom

- First Tuesday of each month at 1300 UK time for 30 mins

**Next call: 2nd April 2024**
**1300 UK, 0800 US EST, 2100 Tokyo time**

**Calls are 30 mins long**

**We will continue to use Zoom**
(Interpretation in Japanese, Chinese and Spanish is available using Zoom's interpretation feature)