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Overview

The EventVideoPlayback Service is a Windows background service that handles video creation and automatic file management. This guide covers all configuration options and troubleshooting steps.

Configuration File Location

The service configuration file is located at:

```
C:\Program Files\Beckhoff USA Community\EventVideoPlayback\Service\EventVideoPlaybackService.config.json
```

Open this file with Notepad, Visual Studio, or any text editor.

Configuration Parameters

Default Configuration

```
{
 "CodecFourCC": "avc1",
 "VideoDeleteTime": 1,
 "AdsPort": 26129,
 "MaxFolderSize": 250
}
```

CodecFourCC

Type: String **Default:** `"avc1"` **Description:** The video codec used to create MP4 videos from image sequences.

The `avc1` codec (H.264) is recommended as it provides: - Excellent compression - Wide compatibility with web browsers - Support for TwinCAT HMI playback - Good balance between quality and file size

Supported Codecs

The service supports multiple codecs, but not all are web-compatible. For TwinCAT HMI compatibility, stick with these recommended options:

Codec	FourCC	Description	Web Compatible	Recommended
H.264	`avc1`	Most common, best compatibility	✓	**Yes**

H.264	`avc3`	Alternative H.264 variant	✓	Yes
H.265/HEVC	`hev1`	Better compression, newer	✓	Maybe
H.265/HEVC	`hvc1`	Alternative HEVC variant	✓	Maybe
MPEG-4	`mp4v`	Older standard	✓	No
VP9	`vp09`	Google's codec	✓	No
AV1	`av01`	Newest, best compression	■	No

Changing the Codec

To change the codec, edit the configuration file:

```
{
 "CodecFourCC": "hev1",  // Changed to H.265
 "VideoDeleteTime": 1,
 "AdsPort": 26129,
 "MaxFolderSize": 250
}
```

■ **Important:** After changing any configuration, you must restart the service for changes to take effect.

VideoDeleteTime

Type: Decimal (floating-point) **Default:** `1` **Units:** Days **Description:** How long video files are kept before automatic deletion.

The service automatically cleans up old videos based on this setting. This helps manage disk space and keep only relevant videos.

Examples

```
// Keep videos for 1 day (default)
"VideoDeleteTime": 1

// Keep videos for 12 hours
"VideoDeleteTime": 0.5

// Keep videos for 1 week
"VideoDeleteTime": 7
```

```
// Keep videos for 30 days
"VideoDeleteTime": 30

// Keep videos for 2 hours
"VideoDeleteTime": 0.083
```

Calculation Reference

Duration	Value	Calculation
1 hour	0.042	1/24
6 hours	0.25	6/24
12 hours	0.5	12/24
1 day	1.0	24/24
3 days	3.0	-
1 week	7.0	-
1 month	30.0	-

AdsPort

Type: Integer **Default:** `26129` **Description:** The ADS port number the service listens on.

■ WARNING: DO NOT CHANGE THIS VALUE

The PLC function blocks are configured to communicate with the service on port 26129. Changing this value will break PLC communication.

If you have a specific need to use a different port, you must: 1. Change this configuration value 2. Recompile the PLC library with the new port number 3. Update all PLC projects using the library

MaxFolderSize

Type: Integer **Default:** `250` **Units:** Megabytes (MB) **Description:** Maximum total size of the video folder.

When a new video is created, the service checks the total folder size. If it exceeds this limit, the oldest videos are automatically deleted to free space.

Examples

```
// Limit to 250 MB (default)
"MaxFolderSize": 250

// Limit to 1 GB
"MaxFolderSize": 1024

// Limit to 5 GB
"MaxFolderSize": 5120

// Limit to 500 MB
"MaxFolderSize": 500
```

Size Planning

Consider these factors when setting folder size:

- **Video duration**: Longer pre/post event times = larger files
- **Image resolution**: Higher resolution = larger files
- **Frame rate**: More frames per second = larger files
- **Codec**: Different codecs have different compression ratios
- **Event frequency**: More frequent events = more videos

Example Calculation: - Average video duration: 30 seconds - Average file size: 5 MB per video - MaxFolderSize: 250 MB - Approximate capacity: ~50 videos

Applying Configuration Changes

After modifying the configuration file:

Option 1: Restart the Service

1. Open **Windows Services** (services.msc)
2. Find **EventVideoPlayback Service**
3. Right-click and select **Restart**

Option 2: Use Command Line

```
# Stop the service
net stop "EventVideoPlayback Service"

# Start the service
net start "EventVideoPlayback Service"
```

Option 3: Reboot

A system reboot will also restart the service with the new configuration.

Advanced Configuration

Example: High-Quality, Long Retention

For critical systems where video quality and retention are important:

```
{
 "CodecFourCC": "avc1",
 "VideoDeleteTime": 30,       // Keep for 30 days
 "AdsPort": 26129,
 "MaxFolderSize": 10240       // 10 GB
}
```

Example: Space-Constrained, Short Retention

For systems with limited disk space:

```
{
 "CodecFourCC": "avc1",
 "VideoDeleteTime": 0.5,      // Keep for 12 hours
 "AdsPort": 26129,
 "MaxFolderSize": 100         // 100 MB
}
```

Example: Maximum Compression

For maximum file size reduction:

```
{
 "CodecFourCC": "hev1",       // H.265 for better compression
 "VideoDeleteTime": 7,        // Keep for 1 week
 "AdsPort": 26129,
 "MaxFolderSize": 500         // 500 MB
}
```

Service Management

Checking Service Status

Windows Services GUI: 1. Press `Win + R`, type `services.msc`, press Enter 2. Find "EventVideoPlayback Service" 3. Check the Status column (should show "Running")

PowerShell:

```
Get-Service -Name "EventVideoPlayback*"
```

Command Prompt:

```
sc query "EventVideoPlayback Service"
```

Starting the Service

```
Start-Service -Name "EventVideoPlayback Service"
```

Stopping the Service

```
Stop-Service -Name "EventVideoPlayback Service"
```

Setting Startup Type

Automatic (recommended):

```
Set-Service -Name "EventVideoPlayback Service" -StartupType Automatic
```

Manual:

```
Set-Service -Name "EventVideoPlayback Service" -StartupType Manual
```

Troubleshooting

Service Won't Start

Check Event Viewer: 1. Open Event Viewer (eventvwr.msc) 2. Navigate to **Windows Logs** > **Application** 3. Look for errors from source "EventVideoPlayback"

Common Causes: - Missing .NET 8 Runtime - Invalid configuration file (JSON syntax error) - Port 26129 already in use - Insufficient permissions

Solutions:

```
# Verify .NET 8 Runtime is installed
dotnet --list-runtimes

# Check if port is in use
netstat -ano | findstr "26129"

# Run as administrator
net start "EventVideoPlayback Service"
```

Configuration Not Taking Effect

- Verify you saved the configuration file
- Ensure JSON syntax is valid (use a JSON validator)
- Restart the service after changes
- Check file permissions (service must be able to read the file)

Videos Not Being Deleted

- Verify `VideoDeleteTime` is set appropriately
- Check that the service has write permissions to the video folder
- Ensure the system clock is correct
- Review service logs for cleanup errors

Disk Space Issues

If you're running out of disk space:

Reduce MaxFolderSize: `json "MaxFolderSize": 100 // Reduce to 100 MB`

Reduce VideoDeleteTime: `json "VideoDeleteTime": 0.5 // Keep only 12 hours`

Manually clean old videos:

4. Navigate to the video output folder
5. Delete old MP4 files
6. Service will manage space going forward

Performance Issues

If video creation is slow:

- **Check CPU usage**: Video encoding is CPU-intensive
- **Use faster storage**: SSD is recommended for video output
- **Reduce image resolution**: Lower resolution = faster encoding
- **Consider codec**: H.264 (avc1) is generally fastest

Monitoring and Logging

Log File Location

Service logs are typically located at:

```
C:\Program Files\Beckhoff USA Community\EventVideoPlayback\Service\Logs\
```

Log Contents

Logs include: - Service startup and shutdown events - Video creation requests and completions - File cleanup operations - Errors and warnings - ADS communication status

Viewing Logs

Use any text editor or PowerShell:

```
# View latest log file
Get-Content "C:\Program Files\Beckhoff USA Community\EventVideoPlayback\Service\Logs\*.log" -Tail 50
```

Best Practices

1. **Regular Monitoring**: Check service status weekly
2. **Disk Space**: Ensure adequate free space (at least 2x MaxFolderSize)
3. **Backup Configuration**: Keep a copy of your configuration file
4. **Test Changes**: Test configuration changes in a development environment first
5. **Document Settings**: Document why you chose specific values

Next Steps

- Learn about PLC Library Usage
- Set up HMI Controls
- Review Getting Started