Filmworkz®

Create Incredible

LOKI 2.0
TECH DECK

LOKI 2.0 TECH DECK - CONTENTS

1 ABOUT LOKI 2.0

1.1   What is Loki 2.0?

Replacing the original Loki, Loki 2.0 is a file-based software application that opens the gateway to 30 years of Image Science Technology, in a simple and easy to use solution that can be customized to minimize the need for specialist knowledge and training.

Whatever your image needs, Loki 2.0 will most likely have a solution!

1.2   What can Loki 2.0 do?

Loki 2.0 addresses a very wide variety of image processing tasks, through a simple interface and automated workflow. By accessing a huge range of Emmy award-winning **DVO Tools** designed to meet any conversion, finishing or restoration challenge, you can simplify and automate your workflows to achieve top end results while saving time on manual work. Here are some typical example uses:

- Camera RAW file De-bayering
- Digital Camera image repair
- Transcoding from and to a variety of file formats
- Colour Space Conversion and LUT application

- Film Restoration
- Video Tape Restoration
- Image Enhancement
- Up/Down/Cross conversions

Please also see Section 3 for the Loki 2.0 DVO and Codec options.

1.3   Loki 2.0 Features & Benefits

Feature	Benefit
Set up a **watchfolder** triggered workflow	*Easy to use by anyone*
Use the in-built **preview window** to see the results in advance of processing	*Saves time, improves quality*
Batch time-consuming & repetitive tasks in bulk	*Saves time and frees up creative skills for better use*
Access to **DVOs** & requires no specialist knowledge e.g. of core Filmworkz products (Nucoda & Phoenix)	*Lower cost of entry to DVOs, so enhance/monetise more content & combine tools for the ultimate results*
Automated processing - fully configurable, or use presets to apply multiple effects in a single pass	*Ease of use, saves time and doesn't require skilled operators for automated work*
Deploy multiple nodes to **boost capacity** & speed	*Increase output, monetise more content*
Easily **scale up/down** your environment to match your throughput requirements, only paying for what you need	*Adapt to technical challenges and business needs, manage costs*
Transcode from and to a variety of file formats	*Meet standards, monetise more content*
De-Bayer Camera RAW files	*Go back to source material to optimise output quality; workflow shortcut*
Great **Support** included in base price	*Minimise downtime, request new features…*
Available on **flexible, modular subscription**	*No up-front capital investment*

1.4   Further updates *Coming Soon*

Feature	Benefit
User privileges/setup	*Allows you to control access to vital settings and presets, which can be set up by skilled operators for simple deployment by anyone*
Airgap licensing, coming in 2024	*Maintains studio security, meaning can be used for all types of content*
Floating Licence, coming in 2024 - jobs can be created and monitored on any system on the network	*Manage resources efficiently and avoid capital costs*
Job scheduling – set start times and prioritisation	*Maximise efficient use of your network (bandwidth, processing & storage), e.g. by utilising downtime*
Various **format enhancements**	*Keeping pace with industry standards*

1.5   Is Loki 2.0 compliant with latest Film and TV standards?

Yes, Loki 2.0 is resolution independent and is compliant with the latest HDR specifications as well as ACES color space.

For supported input/output file types, see the [Filmworkz Forum](#) *which is regularly refreshed as formats are updated.*

1.6   Who should use Loki 2.0?

Simply, anyone who deals with the repair, enhancement or conversion of moving images. From Post-Production facilities, Restoration houses, Camera rental companies to Broadcast Services providers, Loki 2.0 will reduce your workload, improve quality and free up your time to focus on the specialist elements of your craft.

1.7   How easy is Loki 2.0 to use?

Loki 2.0 has been designed specifically to make operation as simple as possible. Simply browse your media to select a file(s) requiring processing, select the tools and settings required (or from a predefined template), enter your destination file format and location and let Loki 2.0 do the rest. Loki 2.0 allows for full monitoring during processing and notifies you when the job is complete.

Once configured to your requirements, Loki can be operated by anyone, with routine tasks automated yet with the ability to apply specialist knowledge and skills to the DVOs and other settings where necessary.

1.8   What operating system does Loki 2.0 run on?

The Loki 2.0 server runs on Windows 10/11 but can be easily used with a browser on any operating system within a facility or a VPN connection.

1.9   How's Loki 2.0 installed and configured?

Loki 2.0 comprises three software modules: Client (a Graphical User Interface), Server (a Master Controller) and Node (Processing Node). If the software modules can communicate, either internally within the same workstation or over a network, they can be installed on any available hardware.

Please see Section 2 for the possible Loki configurations

1.10 How many Loki render nodes can be controlled?

Loki is completely scalable and there's no limit to how many nodes you can use.

Please see section 2 for the possible Loki configurations.

1.11 What changes are needed to existing infrastructure?

Loki 2.0 is purely a software solution and can be tailored to match the scale and specification of your existing setup. So, no up-front capex, no upheaval, just a more efficient and effective workflow allowing you to improve productivity and focus your resources.

1.12 Is Loki 2.0 cost effective?

Yes, out-of-the-box it's an affordable solution to which you can add extra nodes and individual processes in a flexible and modular way as and when you require. Loki Core comes packed with features, including an incredible set of powerful DVO Tools and offers the following capabilities:

- Transcoding
- Colour Space Conversion
- LUT Application
- Blanking

- Cropping
- Scaling
- Interlacing tools
- Retiming

See Section 3 for the full range of DVO Packs and Section 4 for various workflow examples.
For supported input/output file types, see the [Filmworkz Forum](#) *which is regularly refreshed as formats are updated.*

Loki 2.0 also runs on your existing infrastructure and offers you the chance to have your business running round the clock doing meaningful work without the need for 24/7 supervision.

1.13 In Short…

Loki 2.0 will enable you to:

- Make more content monetizable;
- Unlock trapped value in your library;
- Achieve top-end results with minimal manual intervention;
- Reduce manual processing time;
- Devote your time and skills where they matter most;
- Avoid the need for costly up-front capex and system upheaval.

All of which means you can save time, allocate your resources for maximum results, generate more revenue from the same infrastructure and improve your profit margins.

2 CONFIGURATION

Deployment is incredibly easy whether installing on a single system or over an enterprise network setup. Thanks to its Service Orientated Architecture, jobs can be created and monitored on any system on the network, providing multiple users access to the tools they need, anywhere, any time.

The components deployed are:

Client — The Loki 2.0 app & user interface: intuitive, simple to use & configure

Server — The master controller – works in the background, translating instructions from the client into processing actions
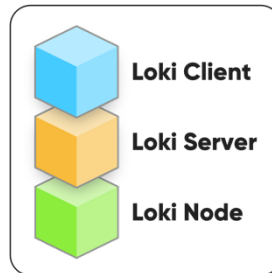
Node — A processing node: single or multiple instances to drive productivity

2.1 Example configurations

**LOCAL** — The simplest configuration is to use one workstation connected to Local storage, with all components being deployed on that single workstation


Loki Client
Loki Server
Loki Node

NETWORK — As long as the various software and hardware elements are detectable over a single network, the Client, the Server & Node, plus the source & output files can all be at independent locations

Loki Server
Loki Node
Network
Loki Clients
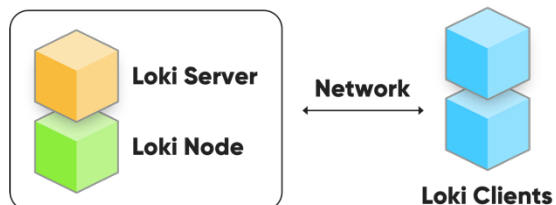
MULTIPLE — Clients and Nodes are infinitely scalable to suit your setup, all run from a single Loki 2.0 Server

Loki Server
Loki Nodes
Network
Loki Clients
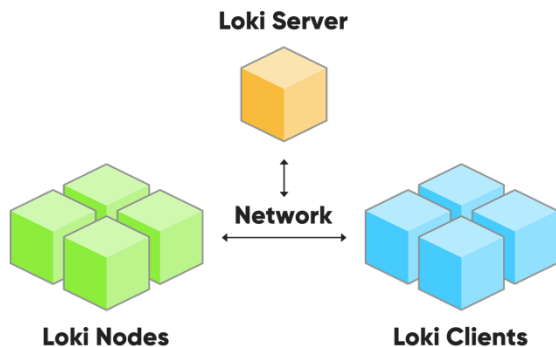
3 DVO SOLUTIONS

Loki provides easy access to the **Filmworkz DVOs** – a set of industry-leading and award-winning image processing algorithms which meet any conversion, finishing or restoration challenge. This enables you to simplify and automate your workflows to achieve top end results while saving time on manual work. What's more, by presenting these DVOs in a simple UI, depending on the user's experience and skill levels you can choose the presets for each tool and hit 'go', or fine-tune the settings to suit your needs.

We've assembled convenient DVO Packs which suit a variety of workflows and can be subscribed to flexibly, meaning Loki is versatile, scalable and easily configured to create the right solution at the right time.

3.1 DVO Packs

LOKI ESSENTIALS *Out of the box*

Loki comes equipped with the following DVOs, all included within the base price:

Decompress ★NEW★ High-compression, artifact infested cleaner which improves bad gradients and macroblocking issues	**De-interlace** Highly accurate creation of progressive frames from any interlaced material	**Regrain RGB** Magically match any film grain look	**Scala** Our intelligent image upscaler with unparalleled quality
Sharpen Sharpen the image without magnifying the noise - unbelievable!!!	**Three Two** Our auto mixed cadence correction tool	**Twister** Our advanced software standards conversion tool	**Upscale** Need to up-convert SD to HD? Do it here
Velvet ★NEW★ Remove extreme noise, manage low light shots & unlock unusable footage	**Zoom** Our super high quality up-converter and down-converter		

DVO RESTORE *Optional Upgrade*

The essential restoration solution, primarily for film-based material:

Dirt Map Our legendary Auto Repair tool	**Dry Clean** Simply the best automated dust and dirt removal tool in the world	**Dust** Excellent auto motion-compensation dust removal	**Dust GT** A super fast dust management tool
Frame Lock ★NEW★ Fast, automatic frame stabilization	**Print Align** Will auto align RGB separation prints	**Print Align Sequential** Auto combine and align sequential RGB separation prints	**Scratch Target** Easily remove vertical scratch
Warp Removes warping associated with line scanners			

DVO FILM   *Optional Upgrade*

High-end toolset for bringing damaged film material back to life:

Alias
Fix image aliasing caused by high frequency patterns

Aperture
Introduce incredible sharpness to your image

Brickwall
Enables you to Pre-master video for compression and fix digital camera sensor issues

Chroma
Magically fix any chromatic aberration, fringing & color bleeding

Clarity
It's simply the best grain and noise reducer in the world – 'nuff said

Dirt Map
Our legendary Auto Repair tool

Flicker
Automatic flicker removal

Frame Lock ★NEW★
Fast, automatic frame stabilization

Grain GT
Super fast grain management

Pixel
Dead pixel trouble? Not any more... Auto locate & remove here

Print Align
Will auto align RGB separation prints

Print Align Seq.

Warp
Removes warping associated with line scanners

DVO VIDEO   *Optional Upgrade*

The best tools for restoration and enhancement of video content from various tape formats:

Alias
Fix image aliasing caused by high frequency patterns

Aperture
Introduce incredible sharpness to your image

Brickwall
Enables you to Pre-master video for compression and fix digital camera sensor issues

Chroma
Magically fix any chromatic aberration, fringing & color bleeding

Cross-colour
Remove Chroma or dot crawl from video

Dropout
Easy auto drop-out and random artifact concealment

Grain GT
Super fast grain management

Line-Sync
Correct shifted and/or stretched lines due to synchronization errors

Noise
Motion-compensated video noise reduction

Pixel
Dead pixel trouble? Not any more... Auto locate & remove here

For more details on all the DVOs and where else to find them, see the [Filmworkz website](#).

4 WORKFLOW EXAMPLES

Hands-free image processing excellence is the clear purpose of Loki 2.0; however, its versatility presents an abundance of workflow possibilities and options to different users. Here are some typical ways in which Loki 2.0 can enhance and simplify many image processing tasks.

4.1 Color Grading Enhancement

Empowers you to do your best work

DVO Clarity for noise reduction and DVO Sharpen offer the perfect complement to color grading by giving a sound base from which to produce the cleanest, sharpest images possible, without painstaking manual effort. Using it on a scene-by-scene basis, the colorist can easily use Loki Essentials plus DVO Film Pack to clean and repair problems restricting their creative vision.

While noise and sharpness are among the most common issues faced by colorists, Loki 2.0 also offers the ability to fix other problems such as flicker, lens aberration and dead pixels to enhance, equalize and convert the footage to any standards.


4.2 Film Restoration

Efficient workflow while maintaining quality

Many restoration workflows use a variety of tools from different software providers to allow the Restoration specialist to cherry pick the best tool(s) from each to create a streamlined processing pipeline.

Loki 2.0 enhances this approach and offers the user the cost-effective option of cherry-picking from the award winning and comprehensive DVO Restore Pack to fill in the gaps in their workflows or improve on existing processes. DVO Dry Clean is the leading dust and dirt tool, and this tool alone will greatly enhance quality and project speed.
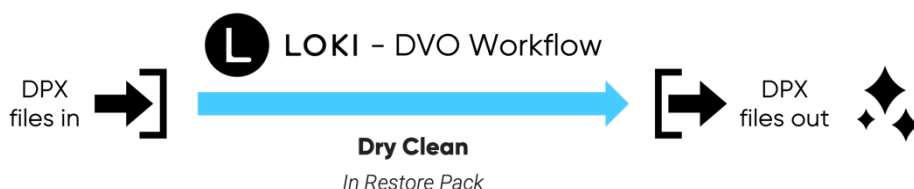
4.3 Video Tape restoration and archiving

### *Do your archive justice while powering through the collection*

Video tape archiving can be greatly enhanced and simplified by using Loki 2.0's watch folder feature in tandem with the DVO Video Pack. Once the watch folder, DVO tools and desired broadcast/archive format are selected the process of video tape digital restoration and archiving becomes essentially automated, meaning you can devote precious time where it's needed, for example by using the option to fine-tune the settings in Loki where the content demands more artistry.

4.4   RAW file De-bayering with Digital Camera clean up

Free yourself from manual tasks, applying your skills where they're truly needed

De-Bayer camera files for grading while fixing any known camera issues such as de-Bayer colour fringing, flicker, noisy lowlights, chromatic lens aberration and dead pixels, all in one pass. Offloading these tasks to Loki 2.0 to render in the background, or in downtime, frees up the operator to grade as opposed to waiting for RAW data de-Bayering and image clean up.
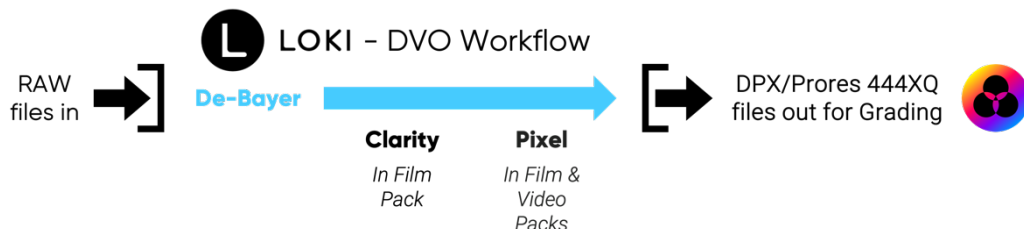
4.5   Ultimate Upscaling

Automated advanced upscaling to revive footage while saving time

It's not uncommon to have to produce scaled deliverable versions of master files. Hand this task over to Loki 2.0 and scale to any spatial resolution required with DVO Scala; include DVO Clarity and DVO Sharpen to guarantee the cleanest and sharpest results possible.


4.6   Cross conversions

Automate your conversion workflow and unleash your creativity

Let Loki 2.0 with DVO Twister and DVO Scala deal with deliverables for resolutions and frame rates different to your master file. Adding further complementary DVOs such as Clarity & Sharpen will guarantee the best image possible.

DVO Twister has been the OEM choice of standards converters for many years and has been integrated into industry leading products for broadcast services.
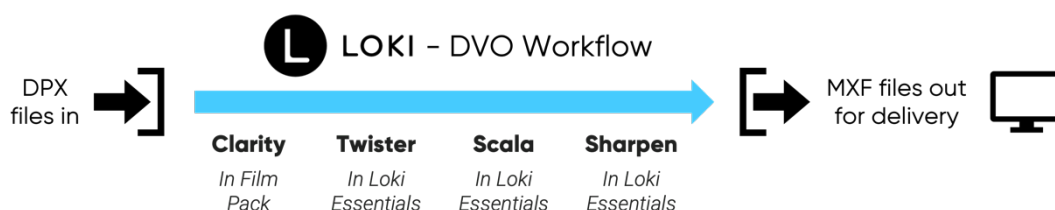

4.7   Transcoding

Easily operated for reliable results, saving time and money

At its heart Loki 2.0 functions as an effective transcoding device. The inclusion of DVO Brickwall will make any compression codec more efficient by increasing quality, decreasing file size or a combination of both.

As a Windows based application, it's important to note that the Loki 2.0 ProRes I/O is fully Apple certified for performance and quality.
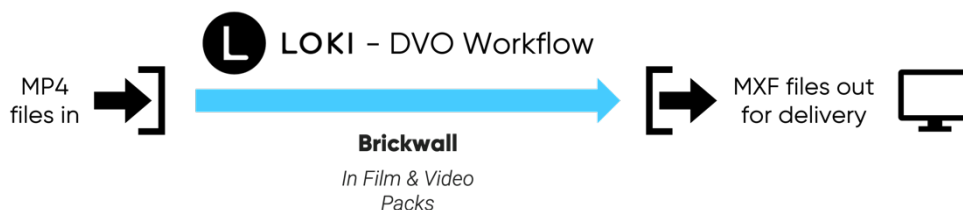
5 HARDWARE REQUIREMENTS

The beauty of Loki with its flexible, modular & scalable configuration, is that you can tailor it to suit your current setup and content needs, without upheaval or investment in new kit.

However, if you're looking for some suggestions of the optimal setup for your circumstances, take a look at our **Hardware Requirements** page.

WANNA KNOW MORE?

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DEMO

SALES