Bifrost for Maya Release
Questions and Answers

Overview

On Wednesday, July 31, 2019, Autodesk will release Bifrost for Maya, a new visual programming environment which enables 3D artists and technical directors (TDs) to create complex effects quickly and easily in Autodesk® Maya® software. Bifrost for Maya will be released with Maya 2019.2 and available to all users with Maya 2018 or later.

Questions and Answers

1. **What is Bifrost?**

   Bifrost for Maya is a new visual programming environment which makes it possible for artists and TDs to create effects procedurally in Maya.

   There are two components to Bifrost:

   - Using the **new Bifrost graph editor** within the visual programming environment, you can create custom graphs and package them up to use across different shows, scenes, and shots. You can also take advantage of a library of ready-to-use graphs to create effects like fire, smoke, explosions, sand, and snow right out-of-the-box.

   - The **Bifrost Engine** allows you to process simulations on a compute farm.

2. **Why is Bifrost being developed?**

   The decision to add Bifrost to Maya is a result of hearing loud and clear that Maya users need powerful effects and visual programming tools right within their 3D tool. By adding Bifrost to Maya, we're empowering technical users like TDs to create custom effects which can then be packaged up and used many times across different shows. A library of pre-built graphs are also available to download for free, making it easy to get started quickly creating incredible effects that meet today's quality demands – without having to be an expert in visual programming.

3. **How is Bifrost for Maya different from Bifrost Fluids?**

   Bifrost Fluids is used specifically to create realistic water and ocean simulations. Bifrost for Maya is an entirely different system – unlike Bifrost Fluids, it has a visual programming core.

   At first, Bifrost for Maya will enable you to create effects including smoke, fire, particles, basic volumetrics, cloth, and fibers. For the time being, you should continue to use the existing Bifrost Fluids tool for your fluid simulations.

4. **What are the benefits of Bifrost?**

   - **Creating detailed, natural-looking effects** like smoke, fire, explosions, sand, and snow requires a high level of expertise and can take a long time. It also tends to consume a lot of RAM. Bifrost caters to artists at all levels of technical expertise – from visual programming tools for building your own effects from scratch to pre-built graphs which can be used as a starting point for getting 90% of the way to a final effect fast. With Bifrost's adaptive volume tile-tree system, you can also control where you want high-detail in your simulations, and where low detail is desired. This reduces RAM usage and cache sizes, as well as speeds up your simulations.

   - **Knowing how effects will look** after lighting and rendering often comes down to guesswork, posing the risk of time-consuming iterations later on in production. Interactive progressive rendering in the Arnold Viewport makes it an attractive choice for prototyping Bifrost effects while viewing final pixels right in Maya. Not only does seeing realistic previews help reduce guesswork, it also provides a more creatively engaging experience.

   - **Packaging up effects for re-use** across shows, scenes, and shots is difficult. Bifrost makes it possible to publish any working effect as a portable graph that can be re-used by artists, so TDs aren't stuck re-creating the same fire or smoke effect over and over again each time it's needed.

5. **What features are included in Bifrost today?**

   - **One graph:** In a single visual programming graph called the Bifrost graph editor, you can mix nodes ranging from math operations, to file IO, particles, volumes, mesh or surface operations, and simulations.

   - **Realistic previews:** With Arnold integrated in Maya, you can see exactly how effects will look after lighting and rendering, right in the Arnold Viewport. You can also see near-final previews of effects in Viewport 2.0.

   - **Detailed smoke, fire, and explosions:** New physically-based solvers for aerodynamics and combustion make it possible to create natural-looking fire effects.

   - **Granular, cloth, and fiber simulations:** The new Material Point Method (MPM) solver enables you to create realistic simulations of:
       - Granular materials such as snow, sand, and mud
       - Dynamic thin shells and cloth such as textiles, aluminum, and plastics
       - Dynamics of individual fibers or strands

   - **High-performance particle system:** A new particle system crafted entirely using visual programming adds power and scalability to particle workflows in Maya.

   - **Artistic effects with volumes:** Bifrost comes loaded with nodes that help you convert between meshes, points, and volumes to create artistic effects.

   - **Rendering-oriented instancing:** High-performance instancing enables you to create enormous complexity in your scenes.

- **Detailed hair, fur, and fuzz:** You can now model things consisting of multiple fibers or strands procedurally.
- **Ready-to-use graphs:** From dust motes and volumetric clouds to fire and explosions, a library of pre-built graphs in the new Bifrost Browser make it possible to create great looking effects in just a few clicks. You can also publish your own graphs to the Browser for other artists to easily find and re-use.

6. **What is the price of Bifrost?**

Bifrost is included with Maya, therefore there is no additional cost to access it. As long as you have Maya 2018 or later, you get Bifrost.

7. **How do I access Bifrost?**

To access Bifrost, you must have a license of Maya 2018 or later. As of July 31, 2019, when you go to your Autodesk Account, you will see "Bifrost Extension for Maya" listed under Maya. This Extension refers to the plugin for Bifrost which includes the Bifrost graph editor for creating effects simulations. If you update to Maya 2019.2, you will get the first version of Bifrost for Maya as part of the installation.

Bifrost will be updated frequently. Between Maya releases, you will be able to access the latest version of Bifrost on AREA as they become available. On July 31, the first update will already be available for download from this page.

8. **What is the Bifrost Engine?**

Another component of Bifrost is the Bifrost Engine, which is used to process simulations on a compute farm. You are able to run the Bifrost Engine through a command line tool called bifcommand (bifcmd).

If you have a standalone Maya license, you can run the Bifrost Engine for background processing on up to 3 machines. Alternatively, if you have the M&E Collection, you can run the Bifrost Engine on up to 15 machines. For example, if your company has 10 standalone Maya licenses, you can run Bifrost jobs on up to 30 machines at once. If you have 10 M&E Collection licenses, you can run Bifrost jobs on up to 150 machines at once.

For more information on Bifrost access and usage, please see the special terms for Bifrost Extension for Maya.

9. **Where do I go to download pre-built graphs and compounds?**

Both pre-built Bifrost graphs and compounds are available to download from AREA.

10. **How do I install pre-built graphs and compounds?**

To install pre-built graphs and compounds, follow these steps:
1. Download the .json file for the compound, or the folder corresponding to the graph
2. Copy the .json file or the folder to the following path:

AUTODESK.

- On Windows: C:\Users\<your_user_name>\Autodesk\Bifrost\Compounds
- On Mac OSX: /Users/<your_user_name>/Autodesk/Bifrost/Compounds
- On Linux: $HOME/Autodesk/Bifrost/Compounds

3. Restart Maya
4. The new compound(s) should show up in the TAB-create menu, and any new graphs will show up in the Bifrost Browser

For example, if your username on your computer is marcusn, and you are using Windows, your destination folder will be: C:\Users\marcusn\Autodesk\Bifrost\Compounds

11. How can I provide feedback or ask questions about Bifrost?

Visit the new [Bifrost forum](#) to give feedback and ask questions, as well as share your own knowledge on creating effects using Bifrost back with the community. The development team behind Bifrost will be checking this space regularly to ensure your questions are answered.

12. Where can I find more information on Bifrost?

[Bifrost for Maya Help](#)
Visit the help portal for release notes, getting started videos, and how-to topics.

[Bifrost Community Hub](#)
Visit the community hub on AREA to download the current version of Bifrost, access pre-built graphs, read news on Bifrost development, and find the latest tutorials.

[Maya Learning Channel](#)
The Maya Learning Channel on YouTube includes a series of video tutorials that introduce the basics of Bifrost and demonstrate how to build a graph to create your own effects.

AUTODESK.