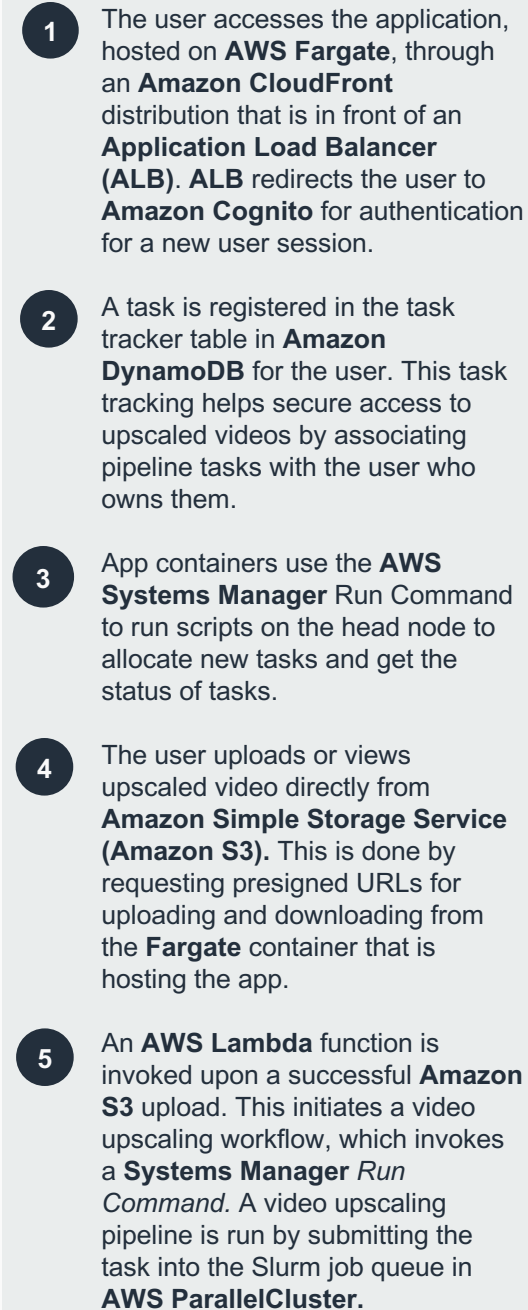
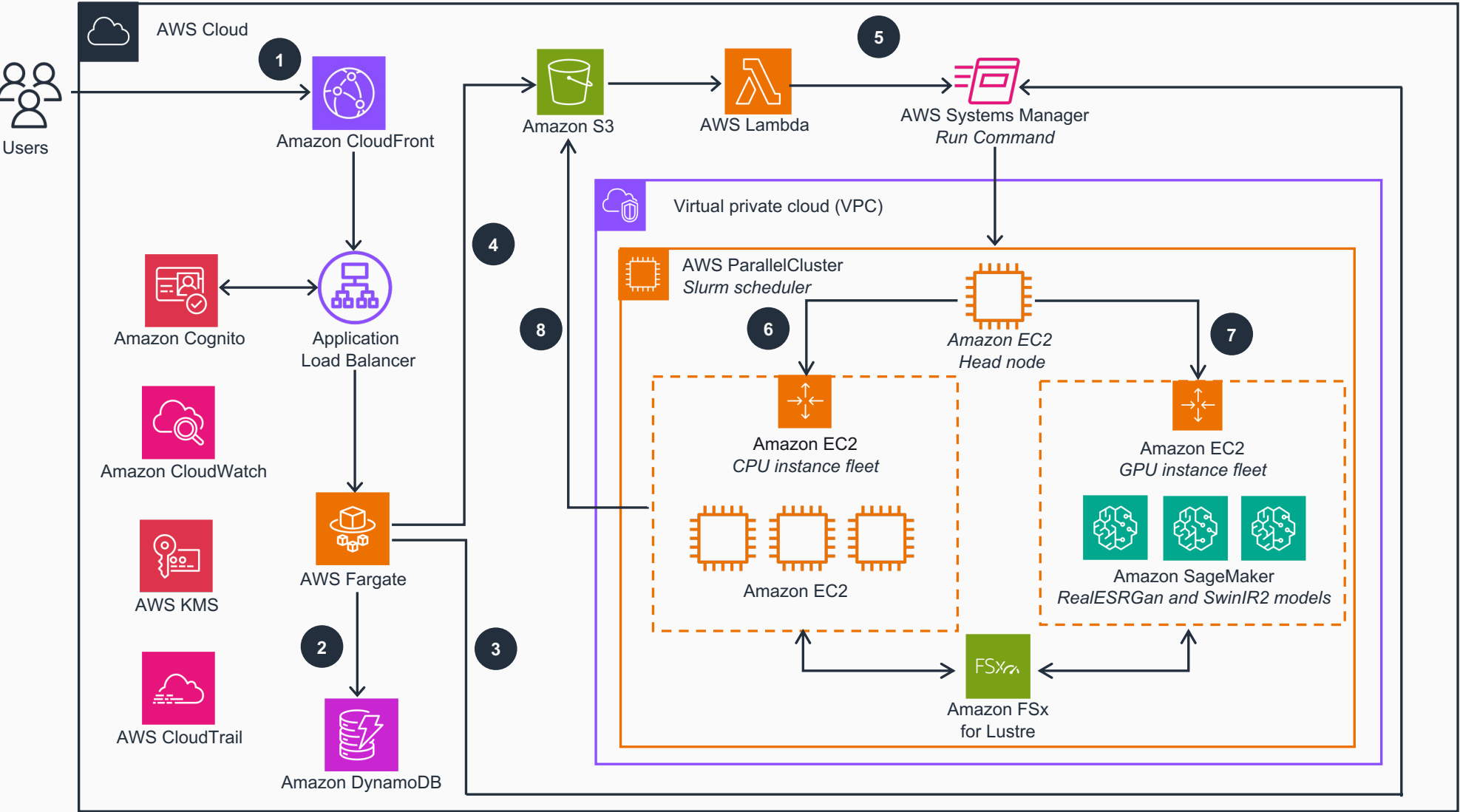


This architecture diagram shows you how you can enhance video content resolutions at scale in your AWS accounts using generative artificial intelligence (AI). This slide shows details on step 1-5. For more on steps 6-8, go to the next slide.



Guidance for Media Super Resolution on AWS

Steps 6-8



6 A scheduled task in **ParallelCluster** extracts video frames and writes images. It also extracts audio and media metadata, such as bitrate and frames per second (fps), into the shared **Amazon FSx for Lustre** file system for artificial intelligence (AI) super resolution tasks. The file system is encrypted with a key provided by **AWS Key Management System (AWS KMS)**. The cluster automatically scales the central processing unit (CPU) compute fleet for video frame processing tasks.

7 **ParallelCluster** performs AI upscaling on each frame. It does this by invoking a generative AI model (*RealESRGan* and *SwinIR2*) through an **Amazon SageMaker** endpoint hosted in the Graphics Processing Unit (GPU) compute fleet. The output is written to the **FSx for Lustre** file system. The cluster automatically scales the GPU compute fleet for video upscaling tasks.

8 A **ParallelCluster** batch job encodes image frames to create new video content and uploads it to a given **Amazon S3** location. An **Amazon S3** presigned URL is created on-demand if an authorized user requests it.

