There are two considerations to take into account when setting up a machine in Amazon Web Services (AWS) particularly Amazon Elastic Cloud Computing (EC2): Instance Type and Amazon Machine Image (AMI).

**Instance Type** - This can be thought of as the machine configuration itself. What are the CPU, Memory and Storage resources assigned.

**Amazon Machine Image** - This is the operating system choice which is made to work with AWS.

There are literally thousands of AMI’s to choose from, but the focus was on four: Amazon Linux (AL), Red Hat Enterprise Linux (RHEL), SUSE Enterprise Linux Server and Ubuntu Server.

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| --- | --- | --- | --- |
| Amazon Linux | | Red Hat Enterprise Linux | |
| PROS | CONS | PROS | CONS |
| Closely Tied to the Hardware | Cannot run on any VM outside of AWS | Red Hat maintains the base RHEL images | Large Enterprise Focused |
| Optimized for use in AWS | Can’t be moved to a new cloud system. | Intended for server functions. | Meant as Platform as a Service |
| Has AWS tools right out of the box |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| SUSE Enterprise Linux Server | | Ubuntu Server | |
| PROS | CONS | PROS | CONS |
| SUSE maintains the base images | Large Enterprise Focused | Most familiar to team | Least tightly coupled with AWS |
|  |  | Has Ubuntu packages | Updates not automatic |

Since this is a startup, focusing on SUSE and RHEL which are meant for large enterprises does not seem like a lean way to go. Added on to this, is the fact that these linux version are not technically free. The free versions are CentOS and Fedora, respectively. Fedora is not really supported anymore and AL can be thought of as parallel to RHEL. Even though AWS tools come out of the box with AL, they can be installed into the other AMIs. Finally, Ubuntu has all the packages that the team is most familiar with although this seems to be the least integrated OS to AWS. But, because Ubuntu is by far the most common AMI choice there is a lot of help to find on the internet. Also, the amount of packages of Ubuntu far outweighs those of AL, but the majority might be useless in a web-server environment.

[Ubuntu Packages](http://packages.ubuntu.com/) and [Amazon Linux Packages](https://aws.amazon.com/amazon-linux-ami/2016.03-packages/)

Instance types can be put into five families: General, Compute optimized, Memory optimized, Storage optimized and GPU instances.

General - Provides a balance of resources and comes in two flavors: T2 and M4. T2 is meant for burst applications. While M4, provides consistent CPU usage.

Compute Optimized - High performance applications

Memory Optimized - For in-memory databases or memory applications

Storage optimized - For large databases

GPU Instances - 3D streaming and machine learning

General purpose seems to provide the right balance between all our needs which are front end applications and database as well.