**Components**

**Primary Systems**

**DAMS - Digital Asset Management System.**

php, mysql, apache webserver.

Management system for all assets audio, video, images etc.

**Content Delivery System.**

php, mysql, apache webserver.

Delivers the metadata for content and appropriate content streaming / download urls.

**Subsystems**

* ***Transcoding***.

FFMPEG.

Transcodes raw audio, video to deliverable formats.

On Demand Streaming Content

Audio - AAC LC

Video - h.264

Container - mp4

Live / Linear Radio Streaming Content

Audio - mp3

* ***Wowza***

Deliver audio, video content in various formats.

HLS, HDS, RTSP, MS Smooth Streaming, MMS, RTMP

* **Icecast / Ices**

Linear playback (radio) of audio content.

Supplies http stream to wowza, which further delivers the content.

* **SOLR Search.**

Search for content metadata.

**Secondary Systems**

**Ad server**

Java, Jetty

Deliver ads to web/mobile.

**Reporting**

Php, Mysql, Apache WebServer

Reads wowza logs to give content usage logs, feedback goes back to DAMS

**Display Systems (with CMS of their own)**

**Website**

Php, MySQL, Apache web server.

**Wap site**

Php, MySQL, Apache web server.

**Mobile Apps**

Android, IOS, Windows

**REQUIREMENTS**

1. Linux box.
2. Install LAMP Stack.
3. Install wurfl library.
4. Install java
5. Install tomcat.
6. Install FFMPEG
   1. Build from source; make sure you have the following codecs.

libx264, libfdk\_aac

1. Install Ice cast, Ices
   1. Build from source.
   2. Lot of dependencies, install with help of documentation provided in docs.
2. Get latest Wowza build with developer key.
3. Download geoIp database from maxmind.

**Installation guide**

1. LAMP stack
   1. <https://www.digitalocean.com/community/articles/how-to-install-linux-apache-mysql-php-lamp-stack-on-centos-6>

The link provided gives installation for apache web server, php and mysql.

Mysql username : root

Password :

1. Java and JDK
   1. sudo yum install java
   2. sudo yum install java-1.7.0-openjdk-devel
2. Install tomcat
   1. sudo wget <http://psg.mtu.edu/pub/apache/tomcat/tomcat-7/v7.0.53/bin/apache-tomcat-7.0.53.tar.gz>
   2. sudo tar –xvzf apache-tomcat-7.0.53.tar.gz
   3. sudo cp –R apache-tomcat-7.0.53.tar.gz /usr/local

this installs tomcat in /usr/local

to start /usr/local/bin/startup.sh

to stop /usr/local/bin/shutdown.sh

To test if installation is correct,

Start tomcat, open webpage http://<SERVER-IP>:8080

To give admin rights to a user edit file, <tomcat-dir>/conf/tomcat-users.xml

Add <user username="tomcat" password="password" roles="tomcat,role1,manager-gui"/>

Username: tomcat

Password :password

1. FFMPEG

Follow <https://trac.ffmpeg.org/wiki/CompilationGuide/Centos#FFmpeg>

Please do not skip any steps, as there are dependencies

1. ICES
2. yum -y install bzip2-devel ncurses-devel aspell pspell expat-devel gmp-devel freetype-devel flex-devel ruby-libs ruby gd-devel subversion libjpeg-devel libpng-devel gcc-c++ gcc-cpp curl-devel libxml2-devel libtool-ltdl-devel httpd-devel pcre-devel libc-client-devel unixODBC-devel postresql-devel net-snmp-devel libxslt-devel sqlite-devel readline-devel atop htop pspell-devel
3. wget http://downloads.xiph.org/releases/icecast/icecast-2.3.2.tar.gz
4. wget http://www.centova.com/clientdist/ices/ices-cc-0.4.1.tar.gz
5. tar -xvzf icecast-2.3.2.tar.gz
6. tar -xvzf ices-cc-0.4.1.tar.gz
7. wget <http://downloads.xiph.org/releases/libshout/libshout-2.3.1.tar.gz>
8. tar –xvzf libshout-2.3.1
9. cd libshout-2.3.1
10. ./configure --with-ogg=/home/ec2-user/ffmpeg\_build/
11. Sudo make
12. Sudo make install