

HotelTV

Video Encryption Document

REV A0.4

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Vestek Elektronik Ar-Ge A.Ş.
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Arı 2-B Blok Maslak/İstanbul

1. Revision History

Date	Owner	Version	Reason & Change
10.14.2014	Eren ULUCAN	A0.4	Initial Creation

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4. Introduction

This document describes to video encoding and file transferring operations on Verimatrix server. Used abbreviations explained below.

Abbreviations

- **SSH** Secure Shell
- **USB** Universal Serial Bus
- **VOD** Video On Demand
- **FTP** File Transfer Protocol

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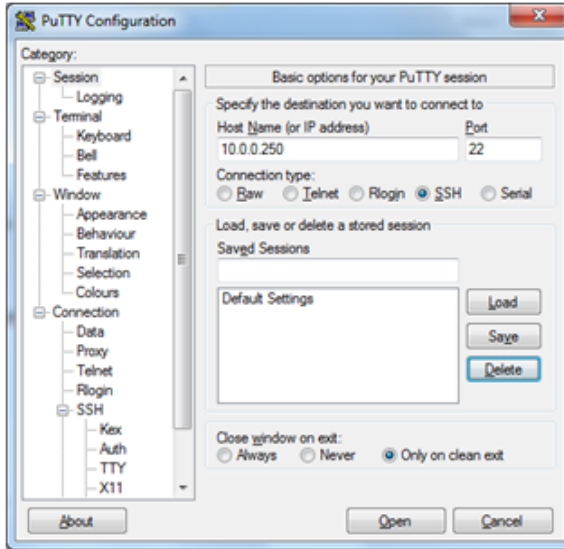
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5. Video Encoding

In this chapter accessing Verimatrix system, disk management, file transfer via FTP, encoding via web, and file transferring to VOD server are explained.

Accessing Verimatrix System

SSH protocol is used to access Verimatrix server. There are two users available in verimatrix which are 'vmx' and 'root'. 'root' user does not have SSH permission. So firstly system is accessed with 'vmx' user and then user changed to 'root' user. (Figure 5.1)



```
SSH 10.0.0.250
User : vmx
Default password : verimatrix

Bağlantı yapıldıktan sonra Root
kullanıcısı,

[vmx@vm-vcas1 ~]$ su -
Password: verimatrix
[root@vm-vcas1 ~]#

Şeklinde kullanıcı değiştirilir.
```

Figure 5-1: Putty and Terminal Operations

Disk Management

All the movie files which will be encrypted are transferred to /Movie folder on Verimatrix server. Before doing this operation disk usage must be controlled. Because of encrypted videos use the disk as much as unencrypted videos there should be two times to total size of all the movies more free space on the disk.

```
[root@vm-vcas1 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/sda7       106G   18G   83G   18% /
/dev/sda5        4.9G  139M   4.5G    3% /tmp
/dev/sda3        9.7G  334M   8.9G    4% /var
/dev/sda2        9.7G  417M   8.8G    5% /home
/dev/sda1        99M   12M   83M   13% /boot
tmpfs           3.9G    0    3.9G    0% /dev/shm
```

Figure 5-2 : Verimatrix disk status

Disk usage percentage is shown on figure 5-2. In this example there is 83Gb free space.

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File Transfer With FTP

Firstly directory path is changed to /Movie folder. Then login to VOD server via FTP. To copying movie files to Verimatrix server you can use "get" command. After copying the files FTP connection is closed with "bye" command. On Figure 5-3 an example is shown about these operations.

Video Encoding With WEB UI

After transferring the movie files video encryption procedure is started. For encryption process system is accessed with WEB User Interface.

<https://10.0.0.250:8090>

User : admin
Password : P*****

Vod > Add section is opened and table is filled

On the table File Location must be /Movie/moviname.mpeg and Target Directory /Movie/Encrypt. For Movie Type Adult is only selected for Adult movies and Action is selected rest of the other movies. The other options leaved with default properties and save button is clicked.

On **VOD > View Processing** section shown on Figure 5-5 ongoing encryption process can be seen. When movies disappear on this page encryption process is finished.

```
[root@vm-vcas1 ~]# cd /Movie/
[root@vm-vcas1 ~]# ftp
10.0.0.241
User : admin
Pass : paris
ftp> cd vod/streams
250 Directory successfully
changed.
ftp>
ftp> ls
200 PORT command successful.
Consider using PASV.
150 Here comes the directory
listing.
Robinhood.ts
Thor.mpeg
...
...
ftp>
get Robinhood.ts
ftp> bye
Chmod -R 777 /Movie
```

Figure 5-3: FTP Operations

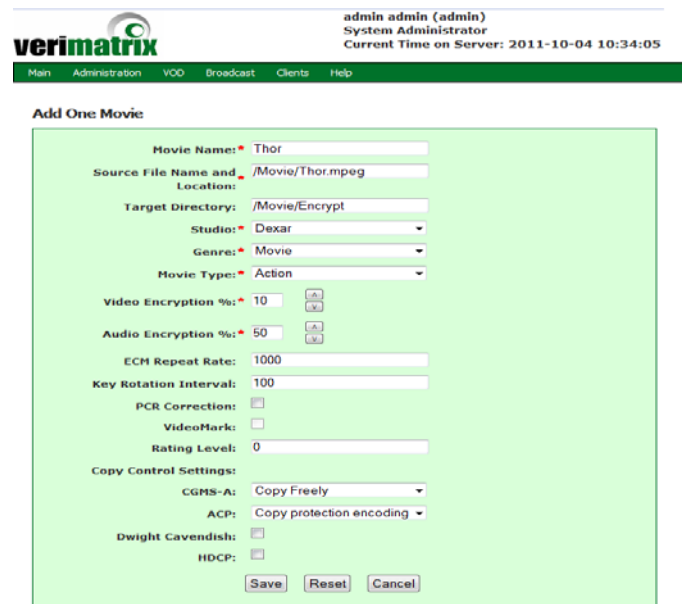


Figure 5-4 : Movie Adding On Verimatrix

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Figure 5-5: Encryption Page and Authorization to Encrypted Movies

After encryption process **VOD > Browse** is opened. Newly encoded movies are selected from Video Select section and they are activated by clicking to Authorize button. If this activation is not done; verimatrix server does not send keys to TVs for decryption. After authorization the icon will be green

```
[vmx@vm-vcas1 ~]$ cd /Movie/Encrypt/
[vmx@vm-vcas1 Encrypt]$ ls -al
total 11725232
drwxrwxrwx 2 root root      4096 Oct  4 10:43 .
drwxrwxrwx 3 root root      4096 Oct  4 10:32 ..
-rwxrwxrwx 1 vcas vcas 6701738648 Oct  3 10:54 1.RobinHood.ts.VPP.mpg
-rw-r--r-- 1 vcas vcas 5293148648 Oct  4 10:43 2.Thor.mpeg.VPP.mpg
```

Figure 5-6 : File Transfer to VOD With FTP from Verimatrix

File Transferring to VOD Server

Verimatrix server accessed with SSH and directory changed to /Movie/Encrypt like shown on Figure 5-7. Encrypted movies shown with order number and .VPP extension.

This encrypted files transferred to VOD Server by FTP.

In FTP folder indicator is changed to /Vod/Streams and files are transferred with "put" command. Depends to the file size it can take a while. Finally VM prefix added to encrypted movies' filenames.

Deleting Unnecessary Files

To prevent disk problems all the files under /Movie and /Movie/Encrypt folders are deleted.

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```
[vmx@vm-vcas1 Encrypt]$ ftp
10.0.0.241
Connected to 10.0.0.241.
220 (vsFTPD 2.0.7)
530 Please login with USER and PASS.
KERBEROS_V4 rejected as an
authentication type
Name (10.0.0.241:vmx): admin
331 Please specify the password.
Password: paris
230 Login successful.
Remote system type is UNIX.
```

Figure 5-8 : Encrypted Movie Files

```
SSH 10.0.0.250
cd /Movie/
rm -rf Thor.mpeg
cd /Movie/Encrypt
rm -rf 2.Thor.mpeg.VPP.mpg
```

Figure 5-9 : Removing Unnecessary Files

```
ftp> cd vod/streams
250 Directory successfully changed.
Put 2.Thor.mpeg.VPP.mpg
ftp> rename 2.Thor.mpeg.VPP.mpg
VM_Thor.mpeg
350 Ready for RNT0.
250 Rename successful.
```

Figure 5-7 : File Transfer and Name Change