



## Client Profile

Telestream specializes in products that make it possible to get video content to any audience regardless of how it is created, distributed, or viewed. Products range from desktop components and cross-platform applications to fully-automated, enterprise-class digital media transcoding and workflow systems.

*"Blast's combined expertise in the fields of conversion research, web analytics, and SEO, make them extremely useful as an outside resource that can lend multiple perspectives toward improving our website's performance. I particularly appreciated their efforts in understanding our business and markets rather than just applying cookie cutter solutions."*

### Chuck Whitlock

Creative Services and Web Development Manager



[www.BlastAM.com](http://www.BlastAM.com)

# Using Google Analytics and R to Forecast Revenue Impact

## Overview

Telestream sells software that enables Mac users to play Windows Media Files (.wma and .wmv) on their Mac using QuickTime or a web browser. Microsoft notified Telestream that they were removing the link from their website to the product.

The screenshot shows the Telestream website with the product page for Flip4Mac. The page features a large image of a Mac laptop displaying a Windows Media player interface. Text on the page includes "Flip4Mac", "Play Windows Media files (.wma and .wmv) on your Mac using QuickTime or a web browser", and "Supports Mac OS X 10.6.8 and later". A badge indicates "Downloaded more than 13 million times in 2013." Below the main image, there is a section titled "Product Features" with four options: "Flip4Mac Player" (\$5.95), "Flip4Mac Player Pro" (\$29), "Flip4Mac Studio" (\$49), and "Flip4Mac Studio Pro HD" (\$179). Each feature box includes a brief description and an "Add to Cart" button.

## Challenge

Since this link provided traffic to their product, and subsequent revenue, Telestream wanted to **quantify the impact** of the link removal. They reached out to Blast Analytics & Marketing to **devise a forecasting solution** that would provide a projection of the estimated loss in monthly revenue from this change.

## Solution

The first step was to understand if the backend revenue for Flip4Mac matched the revenue reporting numbers in Google Analytics. Once it was confirmed that the Google Analytics data was correct, Blast broke down the revenue for Flip4Mac into two components: revenue from the link, and all other revenue.

Blast then **created three possible revenue loss scenarios** for the link removal:

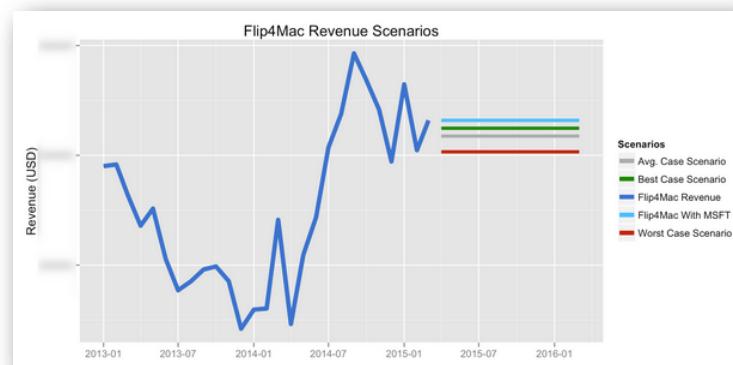
- Best Case Scenario: (25% loss of revenue from the link)
- Average Case Scenario: (50% loss of revenue from the link)
- Worst Case Scenario: (100% loss of revenue from the link)

Blast used the statistical package **R**, which is a programming language and software environment for statistical computing and graphics, to **forecast the revenue loss according to the outlined scenarios**. By manipulating the Google Analytics data within R, Blast was able to determine the impact the link removal would have upon overall monthly revenue.

## Results

The results were presented in two different formats:

- a presentation handout outlining the possible revenue impact of the link removal, and



- an R markdown file which would allow Telestream to **see the methodology and reproduce the analysis**, if necessary.



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To be able to understand this we first need to understand if the backend data matches closely with the Google Analytics.

```
library("fpp")
library("reshape")
library("ggplot2")
library("xts")
setwd("~/Desktop/Flip4Mac")
```

Below we are reading the backend data, transforming columns to rows and creating a timeseries of Flip4Mac backend data for the web channel.

```
# Read the CSV file with Flip4Mac sales data
backend = read.csv('flipmacbackend-data.csv',header=TRUE)

# Transpose Columns into Rows
backend <- melt(backend, id=c("Websales"))

# Name the headers properly
names(backend) <- c("Channel","Date","Value")

# Fix to Date Format
backend$Date <- gsub("X", "", backend$Date)
backend$Date <- gsub("\\\\.", "-", backend$Date)

# Segment only the Flip4Mac Web Data Backend
backend <- subset(backend,backend$Channel=="F4M Web $")
```

Now we are going to read a CSV file with product revenue data from Google Analytics and create a timeseries with it.

```
#Read CSV with file from Google Analytics.
ga = read.csv('flipmac-ga.csv',header=TRUE)
gats <- ts(ga$value, start=c(2013), end=c(2015,3), frequency=12)
```

Creating a timeseries with backend data.

```
#Read CSV with file from backend data.
bets <- ts(backend$value, start=c(2010,1), end=c(2015,3), frequency=12)
```

The Google Analytics lines (Red are in trend with Backend data). We are going to use this assumption to calculate the impact of Microsoft removing the link.

```
plot(bets, main="Flip4Mac Revenue - Backend vs Google Analytics", xlab="Time",ylab="Revenue")
lines(gats, col="red")
```

With a **forecasted loss of revenue between 2% and 8%**, Blast Analytics & Marketing provided Telestream with recommendations that helped address the forecasted loss of revenue, limiting its impact.