



Calculating Online Video GRP for Television Buyers

Background

Online video viewing is now a mainstream activity. In Q1 2010, 135 million users per month, or 70% of the online population, watched video online.¹ Major brand advertisers are investing more of their television advertising budgets in online video to take advantage of the growing audience sizes and potential to target specific segments. In order to shift more revenue to online video, the first phase is to produce audience information, such as an online video gross rating point, that is comparable to what planners and buyers use to evaluate television. Providing a comparable metric will help media buyers and planners include online video in their evaluation process.

The next phase is to develop more accurate reach and frequency measures within the online video marketplace.

Finally, developing a viable multi-channel approach that integrates online video with offline video will give planners and media buyers a powerful tool to measure cross platform video campaigns. YuMe's ad management system can deliver a campaign across platforms and can sequence ads based on whether a user is viewing on a PC, mobile device or IPTV and can optimize delivery based on performance.

Gross Rating Point (GRP) Definition and Calculation

GRP is the sum of ratings achieved by a specific media vehicle or schedule. It measures the total volume of delivery of an advertiser's message to the target audience. The formula is:

$$GRP = Reach \times Frequency \times 100$$

Frequency = the number of times that the average household or person is exposed to the advertising schedule

$$Reach = \frac{Unique\ Target\ audience\ segment}{Target\ Universe\ size}$$

The denominator for reach is the universe size based on the total US population for that given target. The numerator is the target audience reached or actual unduplicated impressions delivered.

Below is a simple GRP calculation using the reach x frequency formula:

A campaign delivers an average frequency of 4 to 100,000 adults 18-34 and there are 4,000,000 adults 18-34 in the US population.

$$GRP = 4 \times (100,000/4,000,000) \times 100 = 10$$

Another method of calculating a GRP is to use a specific number of impressions delivered to a target universe as outlined in the formula below:

$$GRP = \frac{Target\ Impressions}{Target\ Universe\ Size} \times 100$$

Below is a sample GRP calculation using the target impression formula:

¹ Nielsen Three Screen Report, Volume 8, 1st Quarter 2010



M 18-24 Impressions	US population M 18-24	GRP
40,000,000	15,675,000 ²	255

Let's review another example. Below is a chart that illustrates GRP calculation, reach and frequency. Each home shows which days the TV set was in use during the time when a commercial spot aired. Each home represents 10% of the universe of 10 homes, therefore, each represents a 10 rating every time the spot airs.

Sample GRP, Reach and Frequency Calculation



GRPS: Monday = 20 Rating
 Tuesday= 30 rating
 Wednesday = 40 rating
 Thursday = 30 rating
 Friday = 30 rating
 Total = 150 GRPs

Reach: Channel 10 households/Total TV households
 = 7/10 x 100 = 70

Frequency: GRPs/Reach
 =150/70 = 2.1

YuMe's Approach to GRP Calculations

YuMe will calculate GRPs for each of its network channels on a monthly basis. To increase the utility of its metrics forbuyers and planners, YuMe will calculate an online video GRP (iGRP) and provide ratings that are comparable to a television GRP by using total US target population.

YuMe will also work with media planners to calculate projected iGRPs for campaigns with specific target audiences. Below are examples of how YuMe will calculate comparable GRPs.

Calculating iGRP for YuMe using persons

² US Census Bureau



Campaign Reach	Online Population A 18-49	US Population A 18-49	Frequency	Online Universe GRP	A 18-49 GRP
22,854,000	107,089,000 ³	137,293,000 ⁴	7.9	169	132
15,560,000	107,089,000	137,293,000	7.9	115	90

To calculate a GRP that is comparable to television, YuMe can use households (or any target audience) as the universe. The previous example would be re-calculated as follows.

Calculating iGRP for YuMe using households

Campaign Reach	Online Households Universe	US households	Frequency	Online Universe GRP	HH GRP
15,442,494	95,656,566 ⁵	115,656,566	7.9	164	105
10,514,614	95,656,566	115,656,566	7.9	111	72

YuMe can provide estimates for many different target definitions.

YuMe’s Technology Impacts GRP Calculation

ACE, YuMe’s video monetization system, can optimize the ad experience based on a number of campaign success factors. ACE can determine the optimal number of ad slots, ad format type, ad frequency and the ad content duration relationship per channel, site or content. Taking into account these parameters will result in calculating a more precise GRP.

Ad Formats

YuMe is studying the effect of different ad formats on performance. For a particular content channel or video program, the ACE algorithm can determine the best ad format or combination of ad formats based on eCPM maximization, click through rate or conversions. The placement can also be optimized by the ad format. For example, 10 overlay ads in 10 slots may be more effective than 4 video ad rolls: 1 pre roll, 2 mid rolls, and 1 post roll for an episode of the *Daily Show*. Thus, the number of target impressions would change based on ACE’s algorithm and ultimately impacts the GRP number.

Ad Frequency

ACE can determine the optimal frequency level. An ad’s effectiveness typically declines with a frequency above 4. However, ACE can select the right frequency depending on factors like the content type and the state of the user in the purchasing cycle. For example, a frequency of 5 may be ineffective for the wrong

³ Nielsen Three Screen Report, Volume 8, 1st Quarter 2010

⁴ US Census Bureau

⁵ Park Associates



user segment but very effective in moving the right segment along the purchasing funnel. In this case, not only does the high frequency result in a higher GRP, but the same GRP on television would not be equivalent in effectiveness since YuMe is delivering the frequency to a user segment that responds positively.

Ad Content Duration Relationship

ACE can determine whether a 5 second, 15 second or 30 second ad is best for different placements depending on the length and type of content. The ad duration algorithm can also maximize the number of ad slots for a particular content, site or channel. For example, two 5 second midrolls in sequence instead of one 15 second mid roll may be preferable for the news channel versus the sports channel. The ad content duration is another parameter that ACE can consider when determining the maximum number of target impressions.

Ad format, ad frequency and ad content duration relationship are just some of the elements that YuMe can optimize in order to maximize both the reach and frequency variables of the GRP equation.

Changing the GRP Equation for the Internet

A significant percentage of ad impressions are wasted when trying to reach a specific demographic on television. Media buyers have created a targeted rating point (TRP) that takes into account a specific segment when calculating reach. However, TV is not able to determine or measure viewers that exhibit traits or behaviors that indicate they are in market for a specific product.

In the near future, we should include additional elements when calculating a GRP for the Internet or create a new measurement that takes into account targeting specific user profiles and interactivity. YuMe recently launched its behavioral targeting program which enables ad targeting to users who have demonstrated that they are in market for specific product categories. In addition, YuMe's ad management system is developing ways to utilize additional data feeds and based on correlation models, target ads to specific demographic and psychographic profiles. YuMe has developed very powerful identification tools that can't be replicated on television.

Online video advertising offers interactivity and engagement that far exceeds television. An Internet GRP calculation could include an "interactivity factor". Some of YuMe's ad formats allow users to interact for a more engrossing experience. For example, a user can mouse over an overlay ad, download a brochure or enter a zip code. This level of interactivity and interest is prized by the advertiser.

Measurements that take interactivity and targeting into account will help the advertiser measure reach among specific profile segments and activities. This results in calculating a more precise ROI on advertising campaigns.

Experiments

YuMe will work with media agencies and advertisers to conduct experiments on the following variables:

1. *Ad formats:* Test the performance of YuMe's video ad units including overlays, Tickerboy and Pointroll versus display banner advertising. While display banner ads may achieve high reach and frequency numbers, studies have shown that a high percentage of users ignore banner advertising. Click through rates for video ads are multiples higher than for display banner advertising. The results of this experiment will show the need for an interactivity factor in an updated GRP formula.



2. *Ad content duration*: Test the performance of different ad lengths in different placements. YuMe hypothesizes that the combination of the right ad length by placement results in maximizing target inventory numbers. This experiment will end the ad duration debate and result in a higher GRP.
3. *Content type*: Test the performance of premium versus mid tail versus user generated content at the category and publisher levels. YuMe hypothesizes that reach won't be impacted and frequency depends at the video program or episode level.
4. *Target*: Test the impact of demographic, behavioral and psychographic targeting on ad performance. The ability to target specific users eliminates the need to use content as a proxy for target. The results of this experiment will show the need for a new GRP calculation that incorporates target.

These future studies will amend the GRP calculation and help advertisers understand at a deeper level the reach and frequency of their campaigns.