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Let  $R$  be a Noetherian local ring with maximal ideal  $\mathfrak{m}$  and  $I \subset R$  be an ideal with maximal analytic spread. Our goal is to study the connection between the Rees valuations and various multiplicities that can be associated to  $I$  for non  $\mathfrak{m}$ -primary ideals. In particular, we show that the  $j$ -multiplicity of  $I$  is determined by the Rees valuations of  $I$  centered on  $\mathfrak{m}$ . (Received September 07, 2009)