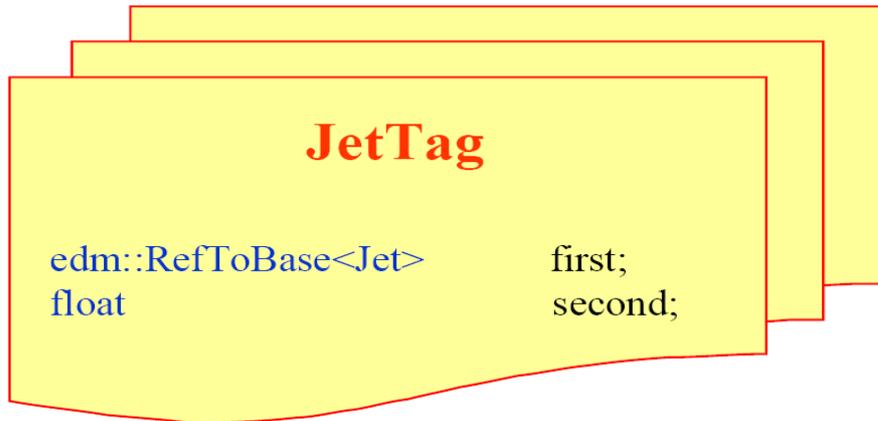


b Tag Data in CMSSW 1.7

The full data format is described **here** in the CMSSW Offline Guide. However, this section gives you an overview.

Each b tag algorithm produces a collection of JetTag and various kinds of TagInfo (Each collection has one entry for each jet, ordered as in the original jet collection). For most physics analyses, you will only need to access the JetTag object:

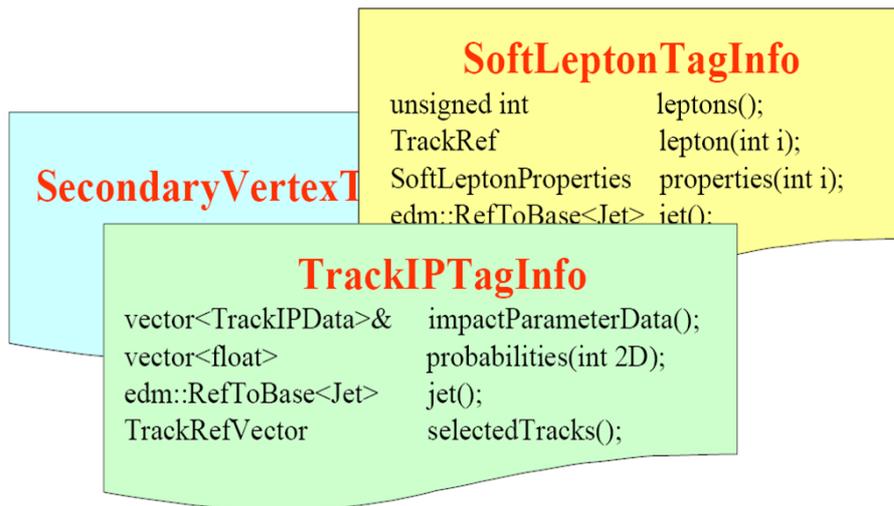


This gives the b tag discriminator value and a references (link) to the jet. The JetTag collections are labelled by the b tag algorithm that produced them. In CMSSW 1.7, the most important of these labels are:

- Track counting tag with N = 3: **trackCountingHighPurBJetTags**
- Track counting tag with N = 2: **trackCountingHighEffBJetTags**
- Jet probability tag: **jetProbabilityBJetTags**
- Soft electron tag: **softElectronBJetTags**
- Soft muon tag: **softMuonBJetTags**
- Soft muon tag, not using muon impact parameter significance: **softMuonNoIPBJetTags**
- Simple secondary vertex b tag: **simpleSecondaryVertexBJetTags**
- Combined SV b tag using likelihood ratios: **combinedSVBJetTags**
- Combined SV b tag using MVA: **combinedSVMVABJetTags**

For a full list of these labels in any CMSSW version, see the file `RecoBTag/Configuration/python/RecoBTag_EventContent.cff`.

The TagInfo contains the variables, such as track impact parameter significance, from which the b tag discriminator was calculated. It also gives you the jet and the tracks associated with it. There are several different types of TagInfo object, for the various b tag algorithms. The `TrackIPTagInfo` is shared by the Track Counting, Jet Probability and CombinedSV tags. Sophisticated b tags, such as the CombinedSV tag can use more than one TagInfo. (It also uses `SecondaryVertexTagInfo`).



The b tag algorithms also rely on the association of tracks with jets. This information is stored in [JetTracksAssociation](#). However, it can be accessed by the JetTag or TagInfo classes, so you should not need to worry about this.

-- IanTomalin - 31 Oct 2007

-- JyothsnaK - 17-Feb-2010

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Topic revision: r5 - 2010-02-17 - JyothsnaK



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