TriggerDecision

Trigger AOD discussion
13 December 2006

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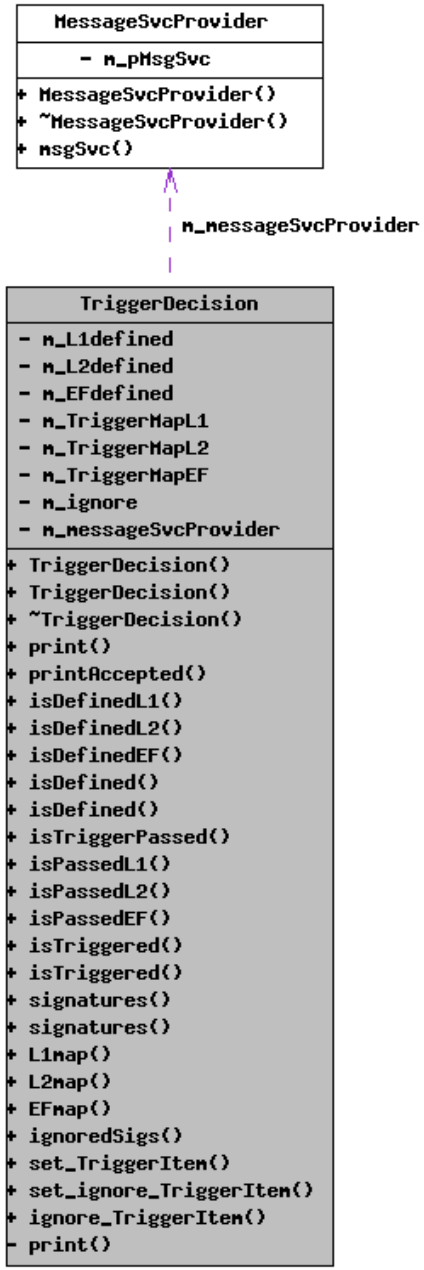
Mem Size	Disk Size	Nbr evts
128.849 kb	9.010 kb	100

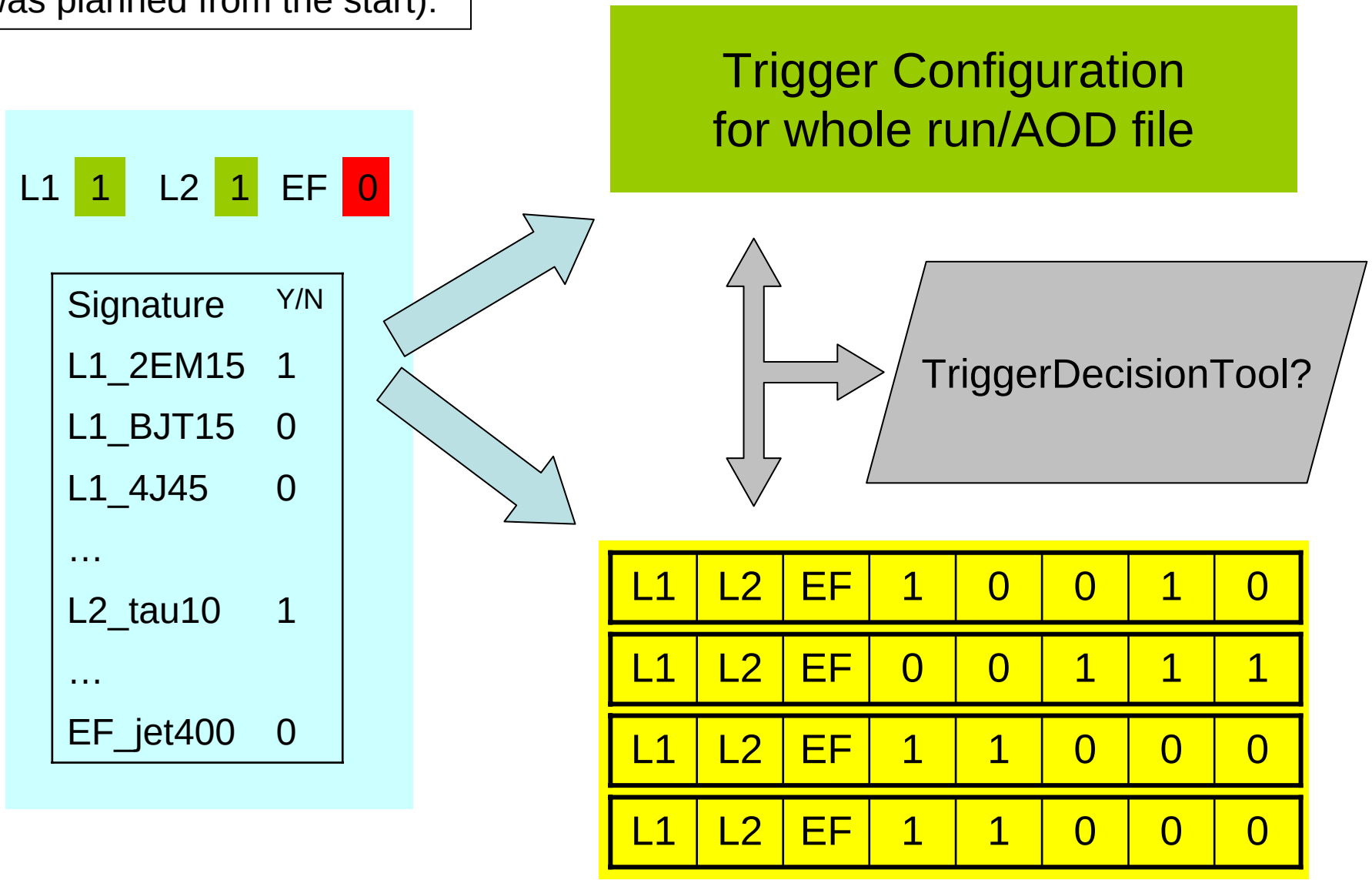
File size: 237551.835 kb

misal1.004100.T1_McAtNLO_top.dig12031.rec1204_nightly5_100_00011_ESD.pool.root

```
private:
void print(bool print_all) const;
// flags for trigger levels
bool m_L1defined, m_L2defined, m_EFdefined;
// signature maps for each level
std::map<std::string, bool> m_TriggerMapL1;
std::map<std::string, bool> m_TriggerMapL2;
std::map<std::string, bool> m_TriggerMapEF;
// signatures to ignore
std::vector<std::string> m_ignore;
// needed for printing out messages using the
message service MessageSvcProvider
m_messageSvcProvider;
```



What it should really be (this was planned from the start):



Backup

Default menu in 12.0.4

```
Signature summary:
Level   type    Sig. Name                                   passed
 L1    dummy    EM01   6
 L1  signature  L1_2EM15      6
 L1  signature  L1_2EM15I     0
 L1  signature  L1_2J45       6
 L1  signature  L1_2MU06      0
 L1  signature  L1_3J45       5
 L1  signature  L1_4J45       4
 L1  signature  L1_BJT15      6
 L1  signature  L1_EM25       6
 L1  signature  L1_EM25I      3
 L1  signature  L1_EM5        6
 L1  signature  L1_EM60       4
 L1  signature  L1_FJ30       0
 L1  signature  L1_J35        6
 L1  signature  L1_J45        6
 L1  signature  L1_MU06       0
 L1  signature  L1_MU08       0
 L1  signature  L1_MU10       0
 L1  signature  L1_MU11       0
 L1  signature  L1_MU20       1
 L1  signature  L1_MU40       0
 L1  signature  L1_TAU05      6
 L1  signature  L1_TAU10      6
 L1  signature  L1_TAU15I     4
 L1  signature  L1_TAU20I     4
 L1  signature  L1_TAU25I     4
 L1  signature  L1_TAU35I     3
 L1  signature  L1_XE100      1
 L1  signature  L1_XE20       5
 L1  signature  L1_XE200      0
 L1  signature  L1_XE30       4
 L1  signature  L1_XE40       3
 L1  signature  L1_XE50       2
 L2  signature  L2_Z(e10e10)  0
 L2    dummy    L2_e10        6
 L2    dummy    L2_e10L2_e10  0
 L2    dummy    L2_e10TRTxK   6
 L2  signature  L2_e15iL2_e15i       0
 L2  signature  L2_e25i       3
 L2  signature  L2_e60        3
 L2    dummy    L2_g10        0
 L2  signature  L2_g20iL2_g20i       0
 L2  signature  L2_g60        2
 L2  signature
L2_jet110L2_jet110L2_jet110L2_jet110
 L2  signature
L2_jet165L2_jet165L2_jet165
 L2    dummy    L2_jet20      6
 L2  signature  L2_jet20kt    6
 L2  signature  L2_jet350L2_jet350    4
 L2  signature  L2_jet400     6
 L2  signature  L2_mu20i      1
 L2  signature  L2_mu6        1
 L2  signature  L2_mu6I       1
 L2  signature  L2_tau10      3
 L2  signature  L2_tau10i     3
 L2  signature  L2_tau15      3
 L2  signature  L2_tau15i     3
 L2  signature  L2_tau20i     3
 L2  signature  L2_tau25i     3
 L2  signature  L2_tau35i     3
 L2    dummy    L2_tauNoCut   6
 EF  signature  EF_MuonTRTExt_mu6I 0
 EF    dummy    EF_e10        0
 EF    dummy    EF_e10TRTxK   0
 EF  signature  EF_e15iEF_e15i       0
 EF    dummy    EF_e10TRTxK   0
 EF  signature  EF_e15iEF_e15i       0
 EF  signature  EF_e25i       0
 EF  signature  EF_e60        0
 EF    dummy    EF_g10        0
 EF  signature  EF_g20iEF_g20i       0
 EF  signature  EF_g60        0
 EF  signature
EF_jet110EF_jet110EF_jet110EF_jet110
 EF_jet165EF_jet165EF_jet165   0
 EF    dummy    EF_jet20      0
 EF  signature  EF_jet20kt    0
 EF  signature  EF_jet350EF_jet350    0
 EF  signature  EF_jet400     0
 EF  signature  EF_mu20i      0
 EF  signature  EF_mu6        0
 EF  signature  EF_mu6I       0
 EF  signature  EF_tau10      0
 EF  signature  EF_tau10i     0
 EF  signature  EF_tau15      0
 EF  signature  EF_tau15i     0
 EF  signature  EF_tau20i     0
 EF  signature  EF_tau25i     0
 EF  signature  EF_tau35i     0
 EF    dummy    EF_tauNoCut   0
```

```
class TriggerDecision {
public:
 enum TrigLevel {L1=1,L2,EF};
TriggerDecision ();
TriggerDecision (bool,bool,bool);
~TriggerDecision ();
// methods
void print() const;
void printAccepted() const;
bool isDefinedL1() const { return m_L1defined; }
bool isDefinedL2() const { return m_L2defined; }
bool isDefinedEF() const { return m_EFdefined; }
bool isDefined(std::string) const;
bool isDefined(std::string, unsigned int) const;
bool isTriggerPassed() const;
bool isPassedL1() const;
bool isPassedL2() const;
bool isPassedEF() const;
bool isTriggered(std::string) const;
bool isTriggered(std::string, unsigned int) const;
std::vector<std::string> signatures() const;
std::vector<std::string> signatures(unsigned int) const;
std::map<std::string,bool> L1map() const;
std::map<std::string,bool> L2map() const;
std::map<std::string,bool> EFmap() const;
std::vector<std::string> ignoredSigs() const;
void set_TriggerItem(std::string, bool, unsigned int);
void set_ignore_TriggerItem(std::string);
bool ignore_TriggerItem(std::string);
private:
// private methods
void print(bool print_all) const;
// flags for trigger levels
bool m_L1defined, m_L2defined, m_EFdefined;

// signature maps for each level
std::map<std::string, bool> m_TriggerMapL1;
std::map<std::string, bool> m_TriggerMapL2;
std::map<std::string, bool> m_TriggerMapEF;
// signatures to ignore
std::vector<std::string> m_ignore;
// needed for printing out messages using the message service
MessageSvcProvider m_messageSvcProvider;

};
```

Documentation

- Wiki pages with information and example code for TriggerDecision:
  https://uimon.cern.ch/twiki/bin/view/Atlas/TriggerDecision
  and TrigDecisionMaker:
  https://uimon.cern.ch/twiki/bin/view/Atlas/TriggerDecisionMaker

- ATLAS Workbook:
  https://twiki.cern.ch/twiki/bin/view/Atlas/WorkBookTrigger