Here are the patterns from a run of the unsupervised algorithm that used a window of 24, p-value threshold of .001 and pruned events that occurred less than 50 times. Per the charts in the presentation that explain why pruning is necessary, these parameters were chosen to get it to run in a reasonable time. Even so, we found:

Total Patterns: 175

Length 2 Patterns: 105

Length 3 Patterns: 64

Length 4 Patterns: 4

Length 5 Patterns: 1

As you can see, without the supervised pruning we get meaningless patterns like ((((Vehicle 1,4 Vehicle) 1,4 Vehicle) 0,3 Vehicle) 1,4 Vehicle). Also, there are many like (ClaimReported 0,23 ClaimActivityLog) where all 176 instances of CLaimReported are followed by the ClaimActivityLog within 0 to 23 hours later. Statistically, 176/176 heads is “a pattern” (p-value<.00001) even when the chance of getting a heads was pretty high to begin with (95%). Clearly, this is an uninteresting automatic part of the internal process, though, right? What exactly do these mean?

Here are some of the patterns that have 100% occurrence like I described. Should we use these? If not, the rest are listed on the next pages.

(AssRouteToOffice 0,23 Outbound)

(ClaimReported 0,23 (COPSCarAsgSentCRP 0,23 Vehicle))

(ClaimSetup 0,23 (Vehicle 0,4 AudatexReceipt))

(COPSCarAsgSentCRP 0,23 (Vehicle 1,4 Vehicle))

(ClaimReported 0,23 (Vehicle 1,3 VehicleEdited))

(AssRouteToOffice 0,21 AssToFileHandler)

(AssRouteToOffice 1,23 ClaimActivityLog)

(AssRouteToOffice 0,23 ClaimEdited)

(AssRouteToOffice 0,23 InitialContact)

(AssRouteToOffice 0,23 Outbound)

(AssRouteToOffice 0,23 PerilActivity)

(AssRouteToOffice 0,23 SuspendedItem)

(AssRouteToOffice 0,23 Suspense)

(AssRouteToOffice 1,23 Vehicle)

(AssToFileHandler 0,7 ClaimActivityLog)

(AssToFileHandler 0,9 ClaimEdited)

(AssToFileHandler 0,7 COPSCarAsgSentCRP)

(AssToFileHandler 0,9 InitialContact)

(AssToFileHandler 0,9 LiabilityAnalysis)

(AssToFileHandler 0,7 Outbound)

(AssToFileHandler 0,9 PerilActivity)

(AssToFileHandler 0,9 SuspendedItem)

(AssToFileHandler 0,9 Suspense)

(AudatexReceipt 0,2 Vehicle)

(ClaimActivityLog 1,2 ClaimActivityLog)

(ClaimActivityLog 1,2 ClaimEdited)

(ClaimActivityLog 1,2 SuspendedItem)

(ClaimActivityLog 1,2 Suspense)

(ClaimEdited 0,3 SuspendedItem)

(ClaimEdited 1,5 Suspense)

(ClaimReported 0,23 AssToFileHandler)

(ClaimReported 0,23 AudatexReceipt)

(ClaimReported 0,23 ClaimActivityLog)

(ClaimReported 0,23 ClaimEdited)

(ClaimReported 0,23 COPSCarAsgSentCRP)

(ClaimReported 0,23 InitialContact)

(ClaimReported 0,23 LiabilityAnalysis)

(ClaimReported 0,23 Outbound)

(ClaimReported 0,23 PartyEdited)

(ClaimReported 0,23 PerilActivity)

(ClaimReported 0,22 ReviewRemFromInbox)

(ClaimReported 0,23 SuspendedItem)

(ClaimReported 0,23 Suspense)

(ClaimReported 0,23 Vehicle)

(ClaimReported 0,23 VehicleEdited)

(ClaimSetup 0,23 AssToFileHandler)

(ClaimSetup 0,23 AudatexReceipt)

(ClaimSetup 0,23 ClaimActivityLog)

(ClaimSetup 0,23 ClaimEdited)

(ClaimSetup 0,23 COPSCarAsgSentCRP)

(ClaimSetup 0,23 InitialContact)

(ClaimSetup 0,23 LiabilityAnalysis)

(ClaimSetup 0,23 Outbound)

(ClaimSetup 0,23 PartyEdited)

(ClaimSetup 0,23 PerilActivity)

(ClaimSetup 0,22 ReviewRemFromInbox)

(ClaimSetup 0,23 SuspendedItem)

(ClaimSetup 0,23 Suspense)

(ClaimSetup 0,23 Vehicle)

(ClaimSetup 0,23 VehicleEdited)

(COPSCarAsgSentCRP 0,19 AssToFileHandler)

(COPSCarAsgSentCRP 0,23 AudatexReceipt)

(COPSCarAsgSentCRP 0,23 ClaimActivityLog)

(COPSCarAsgSentCRP 0,23 ClaimEdited)

(COPSCarAsgSentCRP 0,21 InitialContact)

(COPSCarAsgSentCRP 0,23 Outbound)

(COPSCarAsgSentCRP 0,23 SuspendedItem)

(COPSCarAsgSentCRP 0,23 Suspense)

(COPSCarAsgSentCRP 0,23 Vehicle)

(COPSCarAsgSentCRP 0,23 VehicleEdited)

(Correspondencsent 0,3 ClaimActivityLog)

(Correspondencsent 0,7 ClaimClosed)

(Correspondencsent 0,6 PerilActivity)

(Correspondencsent 0,9 Vehicle)

(FYISent 0,4 ClaimActivityLog)

(FYISent 0,7 ClaimClosed)

(FYISent 0,6 PerilActivity)

(FYISent 1,3 SuspendedItem)

(FYISent 0,10 Vehicle)

(InitialContact 1,3 ClaimActivityLog)

(InitialContact 0,4 SuspendedItem)

(InitialContact 0,3 Suspense)

(IsoMatchRpt 0,6 SuspendedItem)

(LiabilityAnalysis 0,7 SuspendedItem)

(LiabilityAnalysis 0,6 Suspense)

(makePaymentSubmit 0,7 ClaimClosed)

(makePaymentSubmit 0,7 PerilActivity)

(makePaymentSubmit 0,7 Vehicle)

(Outbound 0,3 SuspendedItem)

(Outbound 0,3 Suspense)

(PartyEdited 0,2 SuspendedItem)

(PerilActivity 0,1 ClaimActivityLog)

(PerilActivity 0,4 SuspendedItem)

(PerilActivity 0,2 Suspense)

(RouteToInbox 0,4 ReviewRemFromInbox)

(SuspendedItem 1,2 FYISent)

(UnsuspendedItem 3,14 ClaimActivityLog)

(UnsuspendedItem 4,15 Outbound)

(UnsuspendedItem 0,22 SuspendedItem)

(UnsuspendedItem 0,19 Suspense)

(Vehicle 0,4 AudatexReceipt)

(Vehicle 1,4 ClaimClosed)

(Vehicle 1,2 ClaimEdited)

(Vehicle 0,1 PerilActivity)

(Vehicle 1,2 SuspendedItem)

(Vehicle 1,2 Suspense)

(Vehicle 1,4 Vehicle)

(Vehicle 1,3 VehicleEdited)

(VehicleEdited 0,23 SuspendedItem)

(VehicleEdited 7,21 UnsuspendedItem)

((AssRouteToOffice 0,21 AssToFileHandler) 0,23 SuspendedItem)

((AssRouteToOffice 0,21 AssToFileHandler) 0,23 Suspense)

(AssRouteToOffice 0,21 (AssToFileHandler 0,7 ClaimActivityLog))

(ClaimReported 0,23 (AssToFileHandler 0,7 ClaimActivityLog))

(ClaimSetup 1,23 (AssToFileHandler 0,7 ClaimActivityLog))

(AssRouteToOffice 0,20 (AssToFileHandler 0,9 InitialContact))

(ClaimReported 0,20 (AssToFileHandler 0,9 InitialContact))

(AssRouteToOffice 0,20 (AssToFileHandler 0,9 SuspendedItem))

(ClaimReported 0,22 (AssToFileHandler 0,9 SuspendedItem))

(ClaimSetup 0,22 (AssToFileHandler 0,9 SuspendedItem))

(AssRouteToOffice 0,21 (AssToFileHandler 0,9 Suspense))

(ClaimReported 0,21 (AssToFileHandler 0,9 Suspense))

(ClaimSetup 0,21 (AssToFileHandler 0,9 Suspense))

(Vehicle 1,3 (AudatexReceipt 0,2 Vehicle))

((ClaimActivityLog 1,2 ClaimActivityLog) 0,3 ClaimActivityLog)

(ClaimReported 1,22 (ClaimActivityLog 1,2 ClaimActivityLog))

(ClaimReported 0,23 (ClaimActivityLog 1,2 SuspendedItem))

(ClaimSetup 0,23 (ClaimActivityLog 1,2 SuspendedItem))

((ClaimReported 0,23 AssToFileHandler) 0,19 ClaimActivityLog)

((ClaimReported 0,23 AssToFileHandler) 0,23 SuspendedItem)

((ClaimReported 0,23 AssToFileHandler) 0,23 Suspense)

((ClaimReported 0,23 ClaimActivityLog) 0,23 SuspendedItem)

((ClaimReported 0,23 ClaimActivityLog) 1,23 Vehicle)

((ClaimReported 0,23 SuspendedItem) 0,23 Vehicle)

((ClaimReported 0,23 Suspense) 1,23 Vehicle)

((ClaimReported 0,23 Vehicle) 0,23 AudatexReceipt)

((ClaimReported 0,23 Vehicle) 0,23 SuspendedItem)

((ClaimReported 0,23 Vehicle) 0,23 Vehicle)

((ClaimReported 0,23 Vehicle) 0,23 VehicleEdited)

((ClaimSetup 0,23 AssToFileHandler) 0,9 ClaimActivityLog)

((ClaimSetup 0,23 AssToFileHandler) 0,23 SuspendedItem)

((ClaimSetup 0,23 AssToFileHandler) 0,23 Suspense)

((ClaimSetup 0,23 SuspendedItem) 0,23 Vehicle)

((ClaimSetup 0,23 Vehicle) 0,23 AudatexReceipt)

((ClaimSetup 0,23 Vehicle) 0,23 SuspendedItem)

((ClaimSetup 0,23 Vehicle) 0,23 Vehicle)

((ClaimSetup 0,23 Vehicle) 0,23 VehicleEdited)

((COPSCarAsgSentCRP 0,23 Vehicle) 0,23 AudatexReceipt)

(ClaimReported 0,23 (COPSCarAsgSentCRP 0,23 Vehicle))

((COPSCarAsgSentCRP 0,23 Vehicle) 0,23 Vehicle)

((COPSCarAsgSentCRP 0,23 Vehicle) 0,23 VehicleEdited)

((PerilActivity 0,4 SuspendedItem) 1,6 Vehicle)

((SuspendedItem 1,2 FYISent) 0,8 Vehicle)

(ClaimReported 0,23 (Vehicle 0,4 AudatexReceipt))

(ClaimSetup 0,23 (Vehicle 0,4 AudatexReceipt))

(COPSCarAsgSentCRP 0,23 (Vehicle 0,4 AudatexReceipt))

((Vehicle 0,4 AudatexReceipt) 1,2 Vehicle)

(Correspondencsent 0,9 (Vehicle 1,4 ClaimClosed))

(FYISent 0,8 (Vehicle 1,4 ClaimClosed))

(Correspondencsent 0,9 (Vehicle 0,1 PerilActivity))

(FYISent 0,6 (Vehicle 0,1 PerilActivity))

(ClaimReported 0,23 (Vehicle 1,2 SuspendedItem))

(ClaimSetup 0,23 (Vehicle 1,2 SuspendedItem))

((Vehicle 1,4 Vehicle) 0,4 AudatexReceipt)

(ClaimReported 0,23 (Vehicle 1,4 Vehicle))

(ClaimSetup 0,23 (Vehicle 1,4 Vehicle))

(COPSCarAsgSentCRP 0,23 (Vehicle 1,4 Vehicle))

((Vehicle 1,4 Vehicle) 1,4 Vehicle)

((Vehicle 1,4 Vehicle) 0,2 VehicleEdited)

((Vehicle 1,4 Vehicle) 1,2 (Vehicle 1,4 Vehicle))

((Vehicle 1,4 Vehicle) 1,2 (Vehicle 1,4 Vehicle))

(ClaimReported 0,23 (Vehicle 1,3 VehicleEdited))

(ClaimSetup 0,23 (Vehicle 1,3 VehicleEdited))

(COPSCarAsgSentCRP 0,23 (Vehicle 1,3 VehicleEdited))

(LiabilityAnalysis 1,23 (Vehicle 1,3 VehicleEdited))

((Vehicle 1,3 VehicleEdited) 0,23 SuspendedItem)

((Vehicle 1,3 VehicleEdited) 1,23 Vehicle)

(((Vehicle 1,4 Vehicle) 1,4 Vehicle) 0,3 AudatexReceipt)

(((Vehicle 1,4 Vehicle) 1,4 Vehicle) 0,3 Vehicle)

((((Vehicle 1,4 Vehicle) 1,4 Vehicle) 0,3 Vehicle) 1,4 Vehicle)