## N-Trace message generation examples v 0.1: The following cases are created to help illustrate the type of N-trace message generated for different scenarios using the RISCnable of trace V N-trace Specification Version 1.0 nter debug mode xit/Leave Debug mode Disable Trace eriodic Event rigger Event Case 1: Enable and Disable debug while tracing ΙD D trTeInstTracing Hart Status ΕN ProgramTraceSync<sup>1</sup> SYNC Trace Enable ED ProgTraceCorrelation (PCM) EVCODE Debug Mode Entry 0 rogramTraceSyn Debug mode Exit ogTraceCorrelation (PCM EVCODE Disable Trace Case 2: Enable trace while in debug ED LD trTeInstTracing Message SYNC Type EVCODE LD rogramTraceSyn SYNC Debug mode Exit rogTraceCorrelation (PCM EVCODE Disable Trace Case 3: Disable Trace while in debug ΕN trTeInstTracing Message FN rogramTraceSync SYNC Trace Enable ED rogTraceCorrelation (PCM) EVCODE Debug Mode Entry ogTraceCorrelation (PCM) Disable Trace Case 4: SYNC TRIGGER EVENT (External or Internal) trTeInstTracing FD ΙD T (SYNC TRIGGER) Hart Status Message SYNC Type EN ED ProgramTraceSync<sup>1</sup> SYNC Trace Enable ProgTraceCorrelation (PCM) EVCODE 0 Debug Mode Entry ProgramTraceSyn IndirectBranchHistSync OR LD Debug mode Exit ndirectBranchSync OR SYNC ProgramTraceSync ogTraceCorrelation (PCM) EVCODE Case 5: Enable and disable while in debug mode trTeInstTracing Hart Status lessage SYNC Type VCODE Disable Trace Case 6: Periodic Case trTeInstTracing Hart Status Message SYNC Type ProgramTraceSync<sup>1</sup> Trace Enable ΕN SYNC ndirectBranchHistSync OR Periodic SYNC ndirectBranchSync Synchronization rogTraceCorrelation (PCM VCODE Disable Trace OR Message SYNC Type EN ProgramTraceSvnc SYNC Trace Enable DirectBranchSync OR Periodic After ndirectBranchHistSync OR SYNC Synchronization<sup>3</sup> ndirectBranchSync

## Superscript notes:

 $<sup>^{1}\,</sup>Program Trace Sync\ message\ may\ be\ replaced\ with\ Direct Branch Sync,\ Indirect Branch Hist Sync,\ Indi$ 

<sup>&</sup>lt;sup>2</sup> ProgramTraceSync message may be generated for a SYNC trigger event, however, ICNT or history information will be lost. It is recommended to use the IndirectBranchHistSync or IndirectBranchSync message with SYNC=6 (Trace Event) to ensure no trace data is lost.

 $<sup>^{\</sup>rm 3}\,{\rm Next}$  available Branch message upgraded to Branch with SYNC