



インテル® VTune™ Amplifier XE 2017 for Windows® リリースノート

インテル コーポレーション

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インテル® VTune™ Amplifier XE 2017 for Windows® リリースノート

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はじめに

インテル® VTune™ Amplifier XE 2017 は、IA-32 またはインテル® 64 アーキテクチャー・ベースのシステムにおけるコード・パフォーマンスの解析を支援する、グラフィカル・ユーザー・インターフェイスを備えた統合パフォーマンス解析およびチューニング環境を提供します。

このドキュメントには、動作環境、問題と制限事項、著作権と商標についての情報が含まれています。

インテル® VTune™ Amplifier XE には、スタンドアロンのグラフィカル・ユーザー・インターフェイス (GUI) とコマンドライン・インターフェイス (CLI) が用意されています。

トレーニング・ビデオ、技術記事、ドキュメントおよびサポートについては、<https://software.intel.com/en-us/intel-vtune-amplifier-xe> (英語) を参照してください。

新機能

インテル® VTune™ Amplifier XE 2017

- インテル® Xeon Phi™ プロセッサ (開発コード名 Knights Landing) およびインテル® Xeon® プロセッサ E5 v4 ファミリー (開発コード名 Broadwell EP) をサポート。全般 (General Exploration)、メモリアクセス (Memory Access) (高帯域解析を含む)、および HPC パフォーマンス特性 (HPC Performance Characterization) 解析を含む。
- ディスク・サブシステム、CPU、PCIe バスの使用状況をモニターし、レイテンシーの長い I/O リクエストおよび I/O と計算操作間のインバランスを識別できるように支援する、ディスク I/O (Disk I/O) 解析 (プレビュー)。
- メモリアクセス解析の拡張:
 - システム DRAM の最大帯域幅の自動検出。このオプションは、利用可能な DRAM 帯域幅の利用状況を理解できるように支援します。
 - 正確にメモリー・オブジェクトを決定できるように支援する、メモリー割り当て API を利用したカスタム・メモリー・アロケーターをサポート
- HPC ワークロード・プロファイルの拡張:
 - アプリケーション・スケーラビリティのパフォーマンス考察 (MPI および OpenMP* の CPU 使用率と並列効率、基本的なベクトル化メトリックを利用したメモリアクセス効率と FPU 使用率) を調査する HPC パフォーマンス特性解析
 - 任意の MPI ランチャーと自然な構文でノードあたり複数のランクに対するイベントベースのサンプリング収集をサポートするように MPI 解析を拡張。MPI ランチャーオプションで任意のターゲットのコマンドライン設定を拡張。[**Copy Command Line to Clipboard (コマンドラインをクリップボードにコピー)**] ダイアログボックスを使用して、GUI から MPI 解析のコマンドラインを自動的に生成できるようになりました。
 - 一部の解析設定に、OpenMP* 領域解析を有効/無効にするオプションを追加。
 - 結果のファイナライズを制御する `finalization-mode` オプション。ターゲットでファイナライズを実行、遅延、またはスキップできます。遅延ファイナライズ・モードは、シングルスレッド・パフォーマンスがホストよりも低いターゲット・プラットフォームで特に便利です。このモードでは、インテル® VTune™ Amplifier XE は、ホストマシンのファイナライズのバイナリーと一致するバイナリー・チェックサムを計算します。
- 言語サポートの拡張:
 - Launch Application (アプリケーションの起動) やプロセスにアタッチ (Attach to Process) モードから実行した Basic Hotspots 解析で Python* アプリケーションをプロファイル
 - ハードウェア・イベントベース解析タイプで Go* アプリケーションをプロファイル
- GPU 解析の拡張:

- GPU バインドのアプリケーションをターゲットとし、OpenCL* カーネルとインテル® Media SDK タスクの実行を解析するオプションを提供する GPU hotspot 解析
- GPU 解析サマリーに、各エンジンの GPU 使用状況を推定し、ストールした/アイドルの実行ユニットを識別して、最も典型的な問題（低い占有状況や頻繁なサンプラーアクセス）を調査するメトリックのセットを追加
- 最もホットな GPU コンピューティング・タスク・サマリーから **[Graphics (グラフィックス)]** タブで提供される詳細へのナビゲーション
- インテル® Media SDK および OpenCL* プログラムで **[Attach To Process (プロセスにアタッチ)]** ターゲット解析をサポート
- カーネル・インスタンスごとの OpenCL* 2.0 共有仮想メモリー (SVM) 使用タイプの検出
- ユーザビリティの拡張:
 - Linux* の権限レベルの低い Java* デーモンのイベントベース・サンプリングで **[Attach To Process (プロセスにアタッチ)]** ターゲット解析をサポート
 - フィルタリング・オプションでカスタム・ハードウェア・イベントベース・サンプリング解析のイベント選択手法を拡張
 - 現在のホストからアクセスできないシステムのパフォーマンス解析用のコマンドラインを生成する、任意のターゲット GUI 設定
 - グリッドビューおよびパフォーマンス問題識別の UI を拡張
- インテル® VTune™ Amplifier XE の一部としてインテル® Performance Snapshot (プレビュー) の次のツールを利用可能:
 - Application Performance Snapshot ツールは、アプリケーションのパフォーマンスの初見をすばやく提供し、アプリケーションをチューニングするメリットがあるかどうか理解できるように支援します。アプリケーションがハードウェア・プラットフォームをどの程度有効に利用しているか識別し、基本的なパフォーマンス拡張の可能性を示します。
 - Storage Performance Snapshot ツールは、システムのストレージ、CPU、メモリー、ネットワーク使用状況を解析し、インテル® ハードウェアを使用しているシステムにおける基本的なパフォーマンス拡張の可能性を示します。

注:

プレビュー機能が正式リリースに含まれるかどうかはまだ未定です。皆様からのフィードバックを基に、今後の開発方針が決定されます。プレビュー機能で収集されたデータは、将来のリリースとの互換性が保証されません。プレビュー期間内に parallel.studio.support@intel.com までフィードバックをお寄せください。

- Windows® 10 RS1 (Redstone) および Windows Server® 2016 をサポート
- Microsoft® Visual Studio® 2015 Update 2 をサポート

動作環境

アーキテクチャー名についての説明は、<http://software.intel.com/en-us/articles/intel-architecture-platform-terminology/> (英語) を参照してください。

プロセッサ要件

- ユーザー・インターフェイスを利用した一般的な操作およびすべてのデータ収集 (ハードウェア・イベントベース・サンプリング解析を除く):
 - インテル® ストリーミング SIMD 拡張命令 2 (インテル® SSE2) 対応の IA-32 またはインテル® 64 アーキテクチャー・ベースのプロセッサ (インテル® Pentium® 4 プロセッサ以上、または互換性のあるインテル以外のプロセッサ) を搭載したコンピューター。
 - 機能を最大限に活用できるよう、マルチコアまたはマルチプロセッサ・システムの使用を推奨します。
 - インテル® VTune™ Amplifier XE はアセンブリー・レベルの命令に関する特定の情報を利用するため、プログラムにインテル以外の命令が含まれていると、解析が正しく動作しないことがあります。この場合、インテルの命令のみを含むターゲット実行ファイルで解析を実行します。解析が完了した後は、インテル以外の命令を含むアセンブラー・コードや最適化コンパイラー・オプションを使用できます。

- ハードウェア・イベントベース・サンプリング解析 (EBS):
 - EBS 解析は、オンチップ・パフォーマンス・モニタリング・ユニットを使用するため、収集はインテル® プロセッサが対象となります。EBS 解析は、インテル® Pentium® M プロセッサ、インテル® Core™ マイクロアーキテクチャ以上のプロセッサ (詳細は、下記のリストを参照) をサポートします。
 - インテル® Pentium® 4 プロセッサ・ファミリー (Intel NetBurst® マイクロアーキテクチャ) およびインテル以外のプロセッサではサポートされません。ただし、EBS で収集した結果を、より制限の少ない一般的な操作要件を満たす任意のシステムで解析することは可能です。
 - 仮想マシン内の EBS 解析は、VMware Fusion* 5 仮想環境でのみサポートされます。ほかの仮想マシン環境内ではサポートされません。

イベントベース・サンプリングとスタックを含むサンプリングのデータ収集は、仮想マシンではアーキテクチャ・イベントでのみ動作します。

サポートされるアーキテクチャ・イベントについては、<http://software.intel.com/file/30388/> にある「Performance Monitoring Unit Sharing Guide (パフォーマンス・モニタリング・ユニットの共有ガイド)」(英語、PDF ファイル) を参照してください。

インテル® VTune™ Amplifier XE は仮想環境を検出し、システムが不安定なるのを防ぐため、サンプリング・ドライバーを無効にします。

ハードウェア・イベントベース・サンプリング (EBS) 解析は、Linux* の Perf* ツールを利用してドライバーなしのサンプリング収集を実行します。

- サポートするプロセッサのリストは絶えず拡張されています。EBS 解析を実行できるプロセッサの一部を次にリストします。

モバイル・プロセッサ

- インテル® Atom™ プロセッサ
- インテル® Core™ i7 モバイル・プロセッサ エクストリーム・エディション (第 2 世代、第 3 世代、第 4 世代、および第 5 世代インテル® Core™ プロセッサを含む)
- インテル® Core™ i7/i5/i3 モバイル・プロセッサ (第 2 世代、第 3 世代、第 4 世代、第 5 世代、および第 6 世代インテル® Core™ プロセッサを含む)
- インテル® Core™2 Extreme モバイル・プロセッサ
- インテル® Core™2 Quad モバイル・プロセッサ
- インテル® Core™2 Duo モバイル・プロセッサ
- インテル® Pentium® モバイル・プロセッサ

デスクトップ・プロセッサ

- インテル® Atom™ プロセッサ
- インテル® Core™ i7 デスクトップ・プロセッサ エクストリーム・エディション (第 2 世代、第 3 世代、第 4 世代、および第 5 世代インテル® Core™ プロセッサを含む)
- インテル® Core™ i7/i5/i3 デスクトップ・プロセッサ (第 2 世代、第 3 世代、第 4 世代、第 5 世代、および第 6 世代インテル® Core™ プロセッサを含む)
- インテル® Core™2 Quad デスクトップ・プロセッサ
- インテル® Core™2 Extreme デスクトップ・プロセッサ
- インテル® Core™2 Duo デスクトップ・プロセッサ

サーバー/ワークステーション・プロセッサ

- インテル® Xeon® プロセッサ E7 ファミリー (v2 および v3 を含む)
- インテル® Xeon® プロセッサ E5 ファミリー (v2 および v3 を含む)
- インテル® Xeon® プロセッサ E3 ファミリー (v2、v3、および v4 を含む)
- インテル® Xeon® プロセッサ D ファミリー

- インテル® Xeon® プロセッサー 7000 系
- インテル® Xeon® プロセッサー 6000 系
- インテル® Xeon® プロセッサー 5000 系
- インテル® Xeon® プロセッサー 3000 系
- インテル® Xeon Phi™ コプロセッサー (開発コード名 Knights Corner)
- インテル® Xeon Phi™ プロセッサー (開発コード名 Knights Landing)
- クアッドコア インテル® Xeon® プロセッサー 7xxx/5xxx/3xxx 番台
- デュアルコア インテル® Xeon® プロセッサー 7xxx/5xxx/3xxx 番台

システムメモリー要件

2GB RAM 以上

ディスク空き容量要件

900 MB のディスク空き容量 (すべての機能およびすべてのアーキテクチャー)

ソフトウェア要件

- サポートするオペレーティング・システム (エンベデッド・エディションはサポートしていません):
 - Microsoft® Windows® 7 および SP1
 - Microsoft® Windows Server® 2008
 - Microsoft® Windows® 8 および 8.1 (Windows® ストア・アプリケーションを含む)
 - Microsoft® Windows Server® 2012
 - Microsoft® Windows® 10

注:

- 32 ビット GUI (グラフィカル・ユーザー・インターフェイス) のサポートは終了しました。インテル® VTune™ Amplifier XE グラフィカル・ユーザー・インターフェイスを使用して収集したプロファイル・データを解析するには、64 ビット・オペレーティング・システムのホストが必要です。コマンドラインでのプロファイルとレポートは、32 ビット・オペレーティング・システムのホストでサポートされます。32 ビット・オペレーティング・システムにインストールするには、コマンドライン・インストーラーを使用してください。
- Microsoft® Windows® 8 上の Windows® ストア・アプリケーションの解析は、Attach to Process (プロセスにアタッチ) および Profile System (システムのプロファイル) モードでサポートされます。Launch Application (アプリケーションの起動) モードではサポートされません。サポートされる解析タイプは、スタック収集を含む、基本 hotspot (Basic Hotspots) およびハードウェア・イベントベース・サンプリング解析です。コンカレンシー (Concurrency) 解析およびロックと待機 (Locks & Waits) 解析はサポートされません。

-
- サポートするコンパイラー:
 - インテル® C/C++ コンパイラー 11 以上
 - インテル® Fortran コンパイラー 11 以上
 - インテル® Parallel Composer
 - Microsoft® Visual Studio® C/C++ コンパイラー
 - Cygwin* (Cygwin* 1.7.17 + GCC 4.5.3 でテスト)
 - MinGW* (MinGW* + GCC 4.6.2 でテスト)
 - サポートする Microsoft® Visual Studio® バージョン:
 - Microsoft® Visual Studio® 2012
 - Microsoft® Visual Studio® 2013
 - Microsoft® Visual Studio® 2015 (Update 2 および Update 3 を含む)

- アプリケーション・コーディング要件
 - サポートするプログラム言語:
 - Fortran
 - C
 - C++
 - C#
 - Java*
 - OpenCL*
 - Python*
 - Go*
 - コンカレンシー (Concurrency) 解析およびロックと待機 (Locks & Waits) 解析は、次のスレッド化手法の構文を解釈できます。
 - インテル® TBB
 - Win32 スレッド (Windows®)
 - OpenMP*
 - インテルの C/C++ 並列言語拡張

注:

- インテル® VTune™ Amplifier XE は、.NET 3.5 を完全にサポートします。.NET 4.0 以上では、コンカレンシー (Concurrency) 解析およびロックと待機 (Locks & Waits) 解析で Task Parallel Library クラスの同期プリミティブと System.Threading.Tasks 名前空間のアルゴリズムを検出できない制限があります。.NET プロファイルに関する詳細は、こちらの記事 (英語) を参照してください。
- インテル® VTune™ Amplifier XE は、インテル® Fortran コンパイラー・プロフェッショナル・エディション 11.0 以上、インテル® C++ コンパイラー・プロフェッショナル・エディション 11.0 以上、Microsoft® Visual Studio® C/C++ コンパイラーでビルドされた OpenMP* アプリケーションの解析をサポートします。

- サポートする Java* 環境:
 - Oracle* JVM 6、7、8 – hotspot およびハードウェア・イベントベース解析タイプ
 - IBM* J9 – ハードウェア・イベントベース解析タイプのみ
- サポートする OpenCL* 環境:
 - インテル® SDK for OpenCL* Applications 2013 (バージョン 2013 以降)
- インテル® Xeon Phi™ コプロセッサのプロファイルをサポートするインテル® メニーコア・プラットフォーム・ソフトウェア・スタック (インテル® MPSS) のバージョン:
 - ハードウェア・イベントベース・サンプリング解析: インテル® MPSS 2.1、3.3.x、3.4.x、3.5.x、3.6.x、3.7.x。
 - スタックを含むハードウェア・イベントベース・サンプリング解析は、Windows® ホストでは利用できません。
- PDF を表示するには、Adobe* Reader* などの PDF リーダーが必要です。
- インテル® Software Update Manager による製品の自動アップデートを有効にするには、Java* 1.6 以上を使用してください。

フローティング・ライセンス・サービスの要件

インテル® Software License Manager バージョン 2.4 は、インテル® レジストレーション・センターから利用できます (正しいオペレーティング・システムとプラットフォームを選択してください; フローティング・ライセンス・ユーザーのみ、このリンクにアクセスできます)。

詳細は、<https://software.intel.com/en-us/articles/intel-software-license-manager-getting-started-tutorial> (英語) を参照してください。

テクニカルサポート

インストール時に製品の登録を行わなかった場合は、インテル® ソフトウェア開発製品レジストレーション・センターで登録してください。登録を行うことで、サポートサービス期間中 (通常は 1 年間)、製品アップデートと新しいバージョンの入手を含む無償テクニカルサポートが提供されます。

テクニカルサポート、製品のアップデート、ユーザーフォーラム、FAQ、ヒント、およびその他のサポート情報は、<http://www.intel.com/software/products/support/> (英語) を参照してください。

注:

代理店がテクニカルサポートを提供している場合は、インテルではなく代理店にお問い合わせください。

インストールの注意事項

オンラインの『インストール・ガイド』 (<https://software.intel.com/en-us/Intel-VTune-Amplifier-XE-Install-Guide-Windows> (英語)) も参照してください。

問題と制限事項

実行時間が次の命令に関連付けられる (200108041)

多くの時間を消費している実行領域のデータを収集するため、インテル® VTune™ Amplifier XE はターゲットスレッドの実行に割り込み、消費された時間をコンテキスト IP アドレスに関連付けます。

この収集メカニズムでは、実際に多くの時間を消費した命令ではなく、その後の命令の IP アドレスがキャプチャーされます。このため、[Assembly (アセンブリー)] ビューで、実行時間が実際の命令ではなく、次の命令 (場合によっては後の命令) のものとして誤って表示されます。まれに、ソースでも実行時間が誤って関連付けられ、実際のホット行の後のソース行のものとして表示されることがあります。

インラインモードが**オン**で、hotspot にインライン展開された複数の小さな関数が含まれる場合、次の命令は別の関数のインライン展開されたコードであるため、実行時間が間違った関数に関連付けられてしまいます。

大量のメモリーチャンクを割り当てるアプリケーションがインテル® VTune™ Amplifier XE で動作しない (200083850)

32 ビット・アプリケーションがヒープで (2GB に近い) 大量のメモリーチャンクを割り当てると、単独では動作しても、インテル® VTune™ Amplifier XE で起動に失敗することがあります。これは、インテル® VTune™ Amplifier XE がアプリケーションをプロファイルするときに追加のメモリーが必要になるためです。この問題を回避するには、より大きなアドレス空間を使用してください (例えば、プロジェクトを 64 ビットに変換します)。

特定のインテル® Core™ i7 プロセッサ・ベースのシステムでディープスリープ状態が有効なときにハードウェア・イベントベース解析を行うとシステムがクラッシュする (200149603)

C-ステートが有効な一部のインテル® Core™ i7 プロセッサ (開発コード名 Nehalem) ベースのシステムでサンプリングを行うと、既知のハードウェアの問題 (<http://download.intel.com/design/processor/specupdt/320836.pdf> (英語)) のエラータ AAJ134 を参照) により、システムがハングアップすることがあります。この問題を回避するには、インテル® VTune™ Amplifier XE でサンプリングを行う前に、"Cn(ACPI Cn) report to OS" BIOS オプションを無効にしてください。

「Instruction Set Reference (命令セット・リファレンス)」ドキュメントで適切な命令の説明箇所が表示されない (200091200)

アセンブリー命令のリファレンス情報は、あらゆる PDF ビューアーで表示することができますが、ドキュメント内の適切なページを表示するには、Adobe® Reader® が必要です。この機能を正しく動作させるために、最新バージョンの Adobe® Reader® をインストールすることを推奨します。

インテル® VTune™ Amplifier XE はデバッガーで起動したアプリケーションのプロファイルをサポートしない (200092508)

デバッガーで起動したアプリケーションを解析すると、基本 hotspot (Basic Hotspots)、コンカレンシー (Concurrency)、ロックと待機 (Locks & Waits)、メモリアクセス (Memory Access) とオブジェクト・トラック、ディスク I/O (Disk I/O) 解析タイプで正しくない結果が提供されます。インテル® VTune™ Amplifier XE は、プロファイルするアプリケーションにデバッガーがアタッチされているかどうか検出しません。インテル® VTune™ Amplifier XE でプロファイルするアプリケーションにデバッグツールがアタッチされていないことを確認してください。

[Timeline (タイムライン)] ペインにコンカレンシー (Concurrency)、ロックと待機 (Locks & Waits) 解析の一時停止領域のコンカレンシーおよびスレッド状態が正しく表示されない (200204715)

データ収集が一時停止された時間に対応する領域については、[Timeline (タイムライン)] ペインにコンカレンシーおよびスレッド状態データが正しく表示されないことがあります。結果を解析する際、一時停止領域のタイムライン・データは無視してください。

IBM® J9® JVM を使用したとき Java® コードに 1 つのスタックフレームしか表示されない (200227950)

現在、Java® のスタックの巻き戻し機能は IBM® J9® JVM ではサポートされていません。

TerminateProcess() で終了したプロセスの結果が収集されない (200108689)

別のプロセスにより TerminateProcess() で終了されたプロセスのプロファイル結果は表示されません。別の方法でプロセスを終了してください。

バージョン 13.0 よりも古いインテル® コンパイラーで /Qipo オプションを使用しない (200260765)

バージョン 13.0 よりも古いインテル® コンパイラーでインライン展開された関数のパフォーマンス・データを取得するには、/Qipo オプションではなく /debug:inline-debug-info オプションを使用します。現在、このコンパイラー・オプションを指定すると、インラインのデバッグ情報の生成が無効になります。Microsoft® Visual Studio® IDE に統合されたインテル® コンパイラーは、リリース構成で (デフォルトで) /Qipo を使用することに注意してください。

Oracle® JDK 6u25 x64 で Java® ソース行が正しく表示されない (200167001)

インテル® VTune™ Amplifier XE から Java® ソースコードにドリルダウンしたときに、ソース行が正しく表示されないことがあります。この問題は、Oracle® JDK 6u25 x64 でビルドされた Java® アプリケーションで発生します。これは JDK の問題です。Oracle のデータベースで JDK-7051767 および JDK-7047624 を参照してください。

結果がリモート・ネットワーク・ディレクトリーにある場合、結果のファイナライズに時間がかかる (200169322)

この問題は、ネットワーク・アクセスが遅いことが原因です。パフォーマンスを向上するには、結果をローカル・ディレクトリーに格納してください。

ret 命令がない関数からコールスタックを巻き戻せない (200263851)

解析したアプリケーションに ret 命令 (exit() の呼び出し) がない関数が含まれる場合、呼び出し元より上にコールスタックを巻き戻せません (スタックフレームは表示されません)。

インテル® VTune™ Amplifier XE をプロセスにアタッチするのに時間がかかる (200276420)

データ収集を開始する前にターゲット・アプリケーションが完了し、インテル® VTune™ Amplifier XE がエラーをレポートしている可能性があります。必要に応じて、テスト・アプリケーションの実行時間を長くしてください。

"status" コマンドはハードウェア・イベントベース解析タイプではサポートされない (200281661)

コマンドライン・オプション "\$ amplxe-cl -command status" は、ユーザーモード・サンプリングとトレースベースの解析タイプでのみサポートされます。EBS 解析タイプではサポートされません。

Sandy Bridge (開発コード名) マイクロアーキテクチャー・ベースのシステムでハードウェア・イベントベース解析を行うと予期しない動作が引き起こされる (200285401)

Sandy Bridge (開発コード名) マイクロアーキテクチャー・ベースのシステムでハードウェア・イベントベースのサンプリングを行うと、既知のハードウェアの問題

(<http://www.intel.com/content/dam/www/public/us/en/documents/specification-updates/2nd-gen-core-family-mobile-specification-update.pdf> (英語) のエラッタ BK105 を参照) により、予期しない動作を引き起こすことがあります。この問題を回避するには、エラッタに対応した BIOS が提供されない限り、これらのシステムで全般 (General Exploration) 解析や precise イベントを含むカスタム・ハードウェア・イベントベース (Custom Hardware event-based) 解析を実行しないことを推奨します。

インテル® Xeon® プロセッサ E5-xxxx 製品ファミリーで使用するタイマーソースをインテル® VTune™ Amplifier XE が正しく検出しない (200287361)

ユーザーモード・サンプリングとトレースベースの解析 (hotspot、コンカレンシー、ロックと待機) で、コマンドラインまたはデバッグウィンドウに次のメッセージが表示されることがあります。

Warning: Cannot load data file ``<path>\data.0\18385-18389.0.trace`' (SampleCallback: timestamps aren't ascended!) (警告: データファイル ``<path>\data.0\18385-18389.0.trace`' を読み込めません。 (SampleCallback: タイムスタンプが昇順ではありません!))

この問題を回避するには、`-run-pass- thru` オプションを使用してコマンドラインから結果を収集します。

```
amplxe-cl -collect hotspots -run-pass-thru=-timestamp=sys -- <application>
```

128 を超えるイベントを同時に収集するとハードウェア・イベントベース解析タイプが動作しない (200293868)

解析設定で PMU イベントの数を 128 以下にしてください。

結果を比較する前に結果を閉じる必要がある (200236090)

インテル® VTune™ Amplifier XE で、同じ結果を 2 つ開くことはできません。この制限により、すでに開かれている結果を ([Compare (比較)] ボタンを使用して) 比較することはできません。比較する前に、結果を閉じてください。

コレクターがアクティブでないときに ITT API タスク/フレームが終了するとタスク/フレームが結果に表示されない (200331811)

収集が一時停止した後、または detach/stop コマンドを実行した後に ITT タスク/フレーム終了通知が発生した場合、タスク/フレームは結果に表示されません。

アプリケーションをインテル® VTune™ Amplifier XE で実行するとスタック・オーバーフロー例外が発生する (200249394)

スレッドスタックで大量のメモリーチャンクを割り当てるアプリケーションは、単独で実行すると問題が発生しないのに、インテル® VTune™ Amplifier XE で実行するとスタック・オーバーフロー例外が発生して実行に失敗することがあります。これは、インテル® VTune™ Amplifier XE ではアプリケーションのスレッドスタックにプロファイル用の追加領域が必要になるためです。この問題を回避するには、より大きなスレッドスタック領域を使用してください。

.NET および Windows® ストア・アプリケーションのプロファイル

インテル® VTune™ Amplifier XE を使用した .NET および Windows® ストア・アプリケーションのプロファイルに関する要件、制限、ヒントは、こちらの記事 (英語) を参照してください。

スレッドのスタックサイズの制限 (200108571)

インテル® VTune™ Amplifier XE が次のエラーメッセージを表示してクラッシュすることがあります。Error: failed to create a sampling thread: not enough storage is available to process this command. (エラー: サンプリング・スレッドの生成に失敗しました。このコマンドの処理に必要なストレージが不足しています。)

この問題は、予約/コミットするスレッドのスタックサイズ (`link.exe /STACK:reserve[commit]` コマンドライン・オプション) に大きな値を指定してアプリケーションをプロファイルしたときに発生します。推奨する回避策は、予約/コミットするスレッドのスタックサイズを減らしてターゲットをプロファイルすることです。

32 ビット仮想マシンで実行したときにタイミングの結果が正しくない (200137061)

タイムスタンプ・カウンターの仮想化に問題がある仮想マシンでインテル® VTune™ Amplifier XE を実行すると、正しいタイミングデータの収集に失敗することがあります。この場合、インテル® VTune™ Amplifier XE は次の警告メッセージを出力します。

Warning: Cannot load data file '<path_to_a_trace_file>.trace' (syncAcquiredHandler: timestamps aren't ascended!)
(警告: データファイル '<path_to_a_trace_file>.trace' を読み込めません。 (syncAcquiredHandler: タイムスタンプが昇順ではありません!))

アンインストールの制限: デタッチした後も pin.exe が動作したままになる (200092295)

インテル® VTune™ Amplifier XE は、プロファイルするターゲットにアタッチした後、ターゲットの実行が完了するまで、アンインストールできません。原因は、ターゲットからデタッチした後も pin.exe が動作し続け、プロファイルしたアプリケーション/プロセスの実行が完了した後にのみ終了するためです。

同じアプリケーションに再度アタッチしてもエラーが表示されない/直ちに終了しない (200092650)

インテル® VTune™ Amplifier XE は、解析の実行中に別の解析を実行できますが、後から実行した解析のデータは保存されません。

結果ビューに短縮された .NET モジュール名が表示される (200199458)

.NET アプリケーションをプロファイルしたとき、結果ビューに短縮された .NET モジュール名が表示されることがあります。.NET アプリケーションをインストールした後、インテル® VTune™ Amplifier XE でプロファイルする前に、システムを再起動したことを確認してください。

リフレクション API により動的にロードされた .NET モジュールが "unknown" hotspot として表示される (200088121)

ターゲット・アプリケーションで (例えば、Assembly.LoadFrom でロードされた) ダイナミック .NET モジュールが使用されている場合、そのモジュールは hotspot リストで「unknown (不明)」関数およびモジュールとして表示されます。

'System' ユーザーが開始したプロセスに管理者としてアタッチすると失敗する (200259643)

<https://technet.microsoft.com/ja-jp/sysinternals/bb897553> のユーティリティーを使用すると、<product_install_dir>/bin32 の amplxe-cl.exe を使用して、コマンドラインからシステムサービス (例えば、w3wp.exe ベースのコード) をプロファイルすることができます。

次の操作を行います。

1. ログインに使用する権限で実行するように w3wp サービスを設定します。IIS マネージャーを開き、使用するアプリケーション・プールを右クリックして、[プロセス モデル] の [ID] を w3wp を実行する必要があるアカウントに設定します。
2. w3wp サービスを実行し、適切な認証情報で実行していることを確認して、PID を記録します。
3. データ収集を開始します。

```
psexec -i 0 /path/to/amplxe-cl.exe -c=hotspots -r /path/for/your/data_dir --target-pid=PID
```

4. ワークロードを実行します。
5. データ収集を停止します。

```
psexec -i 0 /path/to/amplxe-cl.exe -command detach -r /path/for/your/data_dir
```

6. GUI で /path/for/your/data_dir を開きます。

```
<product_install_dir>/bin32/amplxe-gui /path/to/your/data_dir
```

Windows® ストア・アプリケーションの限定サポート (200299329)

インテル® VTune™ Amplifier XE は、Windows® ストア・アプリケーションへのアタッチをサポートしていますが、起動はサポートしていません。ハードウェア・イベントベース解析タイプのみ利用できます。

Microsoft® Visual Studio® 2012 ヘルプが正しく表示されない (200300692)

Microsoft® Windows Server® 2012 システムで、Microsoft® Visual Studio® 2012 ヘルプの表示に問題がある場合は、Internet Explorer® で [ツール] > [インターネット オプション] > [セキュリティ] を選択して、[インターネット] ゾーンで [MIME スニффイングを有効にする] および [アクティブ スクリプト] を有効にします。

Verdasys Digital Guardian* ソフトウェアがインストールされたマシンでインテル® VTune™ Amplifier XE の解析に失敗する (200237470)

Verdasys Digital Guardian* ソフトウェアがインストールされているマシンでは、GUI からユーザーモード・サンプリングとトレースベースの解析タイプ (hotspot、コンカレンシー、ロックと待機) を実行できません。ただし、コマンドラインから収集を実行することはできます。

スタックを含む EBS 収集は、GUI またはコマンドラインから実行できます。

"Symantec Endpoint Protection Application and Device Control" ソフトウェアがインストールされていると、アプリケーションの解析中にクラッシュする (200237601)

この問題は、ユーザーモード・サンプリングとトレースベースの解析タイプ (hotspot、コンカレンシー、ロックと待機) で発生します。問題を解決するには、次の操作を行います。

- ユーザーモード・サンプリングとトレースベースの解析が必要な場合、"Symantec Endpoint Protection Application and Device Control" ソフトウェアの監視アプリケーションのリストから解析するアプリケーションを除外します。
- **[Collect stacks (コールスタック)]** オプションをオンにして Advanced Hotspots (高度な hotspot) 解析を使用します。

Windows Server® 2012 の Microsoft® Internet Explorer® 10 でドキュメントが表示されない (200340007)

この問題を修正するには、Microsoft® Internet Explorer® 10 のセキュリティ設定を変更します。[ツール] > [インターネット オプション] > [セキュリティ] を選択して、信頼済みサイトのリストに "about:internet" を追加します。

プロセスを "start" コマンドを使用してスクリプトから実行した場合、EBS 解析タイプの子プロセス解析が動作しない (200342928)

プロセスを "start" コマンドを使用してバッチから開始した場合、オリジナルのコマンド・インタープリターが親プロセスになりません。このため、新しいプロセスは子として識別されず、プロファイルされません。これは、すべてのハードウェア・イベントベース解析に当てはまります。回避策を次に示します。

- 代わりにユーザーモード・サンプリングとトレースベースの解析タイプを使用します。
- バッチファイルで "start" コマンドの代わりに "call" コマンドを使用します。
- プロセスにアタッチ (Attach to Process) 収集モードを使用してプロセスに直接接続します。

第 3 世代インテル® Core™ プロセッサでは一部の GPU 解析メトリックの収集を BIOS で有効にする必要がある (200342983)

一部のシステムでは、L3 ミス、メモリアクセス、サンプラーの稼働状況、SLM アクセスなどの拡張メトリックは BIOS で無効にされています。システムによっては、BIOS オプションを変更してこれらのメトリックを有効にすることができます。オプションの有無およびオプション名は BIOS ベンダー固有です。BIOS で "Intel(R) Graphics Performance Analyzers" のようなオプションがないか調べて、オプションを有効にします。

このオプションは BIOS ベンダー固有であり、オプションがない場合や、オプション名が異なる場合があることに注意してください。詳細は、システムの BIOS オプションを確認してください。

結果に含まれるプロセス名が 14 文字で切り捨てられる (200401361)

インテル® VTune™ Amplifier XE は、スタックを含む EBS 解析で収集した結果のプロセス名を 14 文字で切り捨てます。例えば、結果には find_hotspots.exe ではなく find_hotspots. が含まれます。これはオペレーティング・システムの制限です。

Windows® 7 および Windows Server® 2008 R2 で sepdrv および vtss ドライバーのインストール時に警告 "Unsigned driver" が表示される (200574645)

インテル® VTune™ Amplifier XE のハードウェア・イベントベース・サンプリング・ドライバー (sepdrv.sys と vtss.sys) は、Windows® 10 の要件に準拠するため電子証明書 SHA-2 で署名されています。

Windows® 7 および Windows Server® 2008 R2 上でインストールするには、Microsoft® セキュリティ更新プログラム 3033929 (<https://technet.microsoft.com/ja-jp/library/security/3033929>) を適用して、SHA-2 ハッシュ・アルゴリズムを追加してください。

Windows® でプロセッサ・グラフィックス・ハードウェア・イベントを解析するには互換インテル® グラフィックス・ドライバーが必要 (200586628)

インテル® VTune™ Amplifier XE で Render と GPGPU エンジンの使用状況をモニターするには、互換インテル® グラフィックス・ドライバーが必要です。

2016 年 7 月 30 日時点の Windows® 向けインテル® グラフィックス・ドライバーの最新バージョンは、**ベータ 15.40.12.4326** です。

なお、**ベータ 15.40.18.4380** 以降のバージョンでは解析に失敗することがあります。

Windows® でプロセッサ・グラフィックス・ハードウェア・イベントを収集するには、<https://downloadcenter.intel.com/product/80939/Graphics-Drivers> から最新の互換ドライバーをダウンロードするか、インテル® プレミアサポートで最新バージョンのインテル® グラフィックス・ドライバーを入手してください。

Attributions (英語)

The following are licenses for third party software that was used to develop the Intel® VTune™ Amplifier XE for Linux® OS. These licenses are listed due to attribution requirements in these license agreements. For the avoidance of doubt, the Intel VTune Amplifier is solely governed by the terms and conditions of the End User License Agreement for Intel® Software Development Product that accompanies the Intel VTune Amplifier.

Xulrunner

Modified source code and instructions for building the Xulrunner package shipped as a part of the Intel® VTune Amplifier are available at the following link:

<https://software.intel.com/en-us/articles/xulrunner-for-intel-vtune-amplifier-xe>

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Version 2.0

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