Accelerating IP telecom profitability

RADVISION* leverages Intel® Parallel Studio to dramatically accelerate the performance of IP-based applications on multicore platforms

Success Brief

Intel® Developer Products

Intel® Parallel Studio for Microsoft Visual Studio*

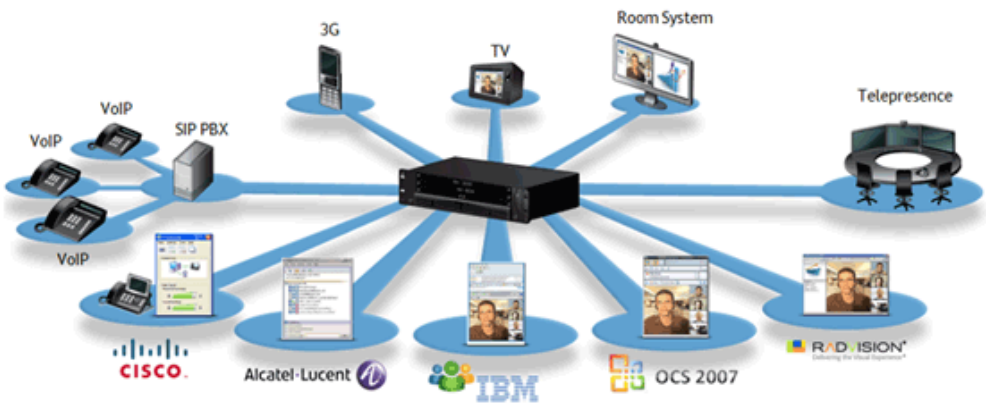
Telecommunications

RADVISION®
Delivering the Visual Experience®

"We are pleased to see that by using Intel's state-of-the-art multithreading optimization tools, we have managed to boost our products' performance significantly in a very short time."

Sagi Subocki
Products Manager
Technology Business Unit
RADVISION

Company	Begun in 1992, RADVISION* is the industry's leading provider of products and technologies for unified visual communications over IP and 3G networks. RADVISION offers the broadest and most complete set of standards-based video networking infrastructure and developer toolkits on the market today. These products enable customers and partners to deploy unified communication networks and services, and develop video network equipment and device solutions faster and more reliably than ever before. RADVISION is driving the unified communications evolution by combining the power of video, voice, data and wireless in-room videoconferencing systems, mobile video solutions, and highly scalable video-enabled desktop platforms for IP and emerging next-generation networks.
Mission	RADVISION is committed to providing products and services that reduce time and costs for Telecom Equipment Manufacturers (TEMs) and Systems Integrators (SI) developing, deploying, and marketing multimedia communications solutions.
Product	The award-winning SIP Toolkit (Session Initiation Protocol) is a powerful and highly versatile set of tools that dramatically accelerates development time of SIP applications. The SIP protocol stack provides all necessary SIP, RTP, and SDP functionality, such as encoding, sending, parsing, and receiving SIP messages over UDP, TCP, TLS, SCTP, and IPSec, as well as managing SIP calls and transactions and ensuring reliability.
Challenge	Scale up performance along with the number of cores/processors.
Results	RADVISION experienced a dramatic improvement in core utilization.
Impact	Server calls per second increased significantly for RADVISION.



Intel® Parallel Studio brings comprehensive parallelism to C/C++ Microsoft Visual Studio* application development.

Parallel Studio was created in direct response to the concerns of software industry leaders and developers. From the way the products work together to support the development life cycle to their unique feature sets, Parallel Studio makes parallelism easier and more viable than ever before.

The tools are designed so those new to parallelism can learn as they go, and experienced parallel programmers can work more efficiently and with more confidence. Parallel Studio is interoperable with common parallel programming libraries and API standards, such as Intel® Threading Building Blocks (Intel® TBB) and OpenMP*, and provides an immediate opportunity to realize the benefits of multicore platforms.

Build Applications for Multicore

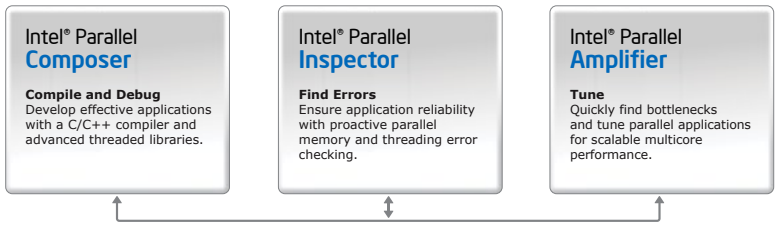
Intel® Parallel Composer is part of the larger Intel® Parallel Studio and brings an unprecedented breadth of parallelism development options for developers using Microsoft Visual C++*. Its combination of compilers, libraries, and an extension to the Microsoft Visual Studio debugger supports easier, faster multithreading of serial and parallel applications.

Easily Find Memory and Threading Errors

Intel® Parallel Inspector combines threading and memory error checking into one powerful error checking tool. It helps increase the reliability, security, and accuracy of C/C++ applications from within Microsoft Visual Studio*. Intel® Parallel Inspector uses dynamic instrumentation that requires no special test builds or compilers, so it's easier to test code more often.

Optimize Performance and Scalability

Intel® Parallel Amplifier makes it simple to quickly find multicore performance bottlenecks without needing to know the processor architecture or assembly code. Parallel Amplifier takes away the guesswork and analyzes performance behavior in Windows* applications, providing quick access to scaling information for faster and improved decision making.



Challenge: why RADVISION's products benefit from utilizing parallelism

The SIP Toolkit provides developers the ability to implement any type of application, including clients, servers, and testing tools, etc. Server applications are usually required to run on powerful platforms in very high-load situations and to concurrently serve thousands of sessions per second. With the growing popularity of multicore platforms, RADVISION needed to optimize its SIP Toolkit to run on platforms containing multiple cores that can carry a high load. It became extremely necessary to optimize the SIP Toolkit's performance, especially in multithreaded environments, to accommodate the growing demand for platforms with high processing power based on multicore technology. Performance improvement through parallelism utilization can help customers handle more sessions concurrently, thereby increasing revenue.

Results

RADVISION found a gap beyond the causes of IPCs and synchronizations, prompting an inspection of the code to see where it spends time and why. The company realized that it could decrease the time the code waits for synchronization objects without jeopardizing the objects' coherency or its critical sections. Several key sections were identified. Once the code was modified, another session of tests using the Intel tools was conducted to check the effects. This process continued until all major issues were resolved. Code performance dramatically increased over the original figures.

How Intel Parallel Studio Assisted

RADVISION used Intel Parallel Studio along with Intel® VTune™ Performance Analyzer with Intel® Thread Profiler for Windows* and Intel® Thread Checker to get a clear view of which process was waiting and why. It also acquired detailed information regarding the time the code spent in various sections, down to the exact location that needed to be investigated. Integration with the Microsoft Visual Studio IDE* also had a positive impact on the code analysis.

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