



Qt 4 to Qt 5

MIGRATION SERVICE

Qt 5 provides hardware accelerated graphics, simple declarative user interfaces, better platform abstraction, mobile support, and a host of other improvements that help companies keep their software beautiful, fast, and adaptable.

If your project already uses Qt 4, it should be simple to upgrade to Qt 5, right? Unfortunately while Qt 5 was designed to minimize the pain of upgrading from earlier versions, there are plenty of pitfalls that can turn it into a dreaded task.

With strapped resources, limited budgets, and shifting priorities, the right moment to move off a legacy framework never comes. Yet the pressure to migrate to a newer framework mounts week by week. Let us help.

Staying on old software releases creates a self-reinforcing cycle of rejecting new patches, improvements, and hardware.



While KDAB employees are experts in and active contributors to Qt 5, their expertise in legacy Qt systems is unparalleled.

Qt 4 turned 12 this year. While that may be young for a tortoise, it's ancient for a high-tech UI framework. If you're still using Qt4, you're lacking access to powerful and expressive technologies like QML, HTML5, Open GL, and new widgets that let your interface shine and improve your user experience. Without access to the latest Qt improvements – like faster hardware acceleration, newer compiler optimizations, or better abstraction models – you're limiting

the speed and efficiency of your team and your product. Finally, finding adequately trained engineers who understand the nuances of older variants of Qt is keeping you from growing your talent pool.

If you're in the embedded space, you're also dealing with support issues on legacy or deprecated hardware, putting your engineering team in a bind.

What if you're still on Qt 3 or you're using the Qt 3 support layer within Qt 4? Although it's a significantly more radical jump to get from Qt 3 to Qt 5, there's no

need to worry. We have specialized expertise in migrating Qt 3 customers, with a disciplined process that's as risk-free as possible.

SHOULD YOU UPGRADE TO QT 5?

The answer is yes if you need any of the following:

- 3D rendering, models, or visualization
- Easier platform migration
- HTML5 support
- iOS, Android, or Windows Phone mobile platforms
- Bluetooth or NFC support
- Hardware-accelerated rendering or 60 fps
- Declarative UI design
- Improved startup times
- Significantly improved debugging and profiling support
- Improved widgets
- IDE plug-ins and improved tooling
- Better compiler optimizer utilization
- Complete internationalization and Unicode support





We've migrated many customers from earlier Qt variants – Qt 4, Qt 3, even Qt 2 – to the present-day Qt 5 to ensure they can take advantage of the latest, greatest features with the least amount of effort. We properly and cleanly manage all the troublesome details that can impact every area of your code-base, like changes in headers, deprecated functions, altered string handling, removed modules, and narrowed access rights.

We have been involved with Qt since its inception. That, combined with a very low engineering turnover, means that we have one of the largest concentrations of engineers in the world that understands exactly why that old software worked as it did, what was changed in newer versions to improve it, and how to best make that transition.

A migration from Qt 4 is a one-time activity, which means you'd be spending a lot of your concentrated engineering time on something you'll never need again. We're happy to save you the pain of trial-by-error learning, and let your engineers do what they do best – expand your brand.

SEVEN STEPS TO A CLEAN QT 5 MIGRATION

- 1. Evaluation:** We start with a free migration evaluation to determine the scope, timeline, complexities, and cost of the project, ensuring that the porting process meets both needs and expectations
- 2. Discussion and design:** We discuss any specific coding standards and procedural guidelines particular to your organization and design the port with these in mind, as well as create a post-port plan for refactoring, rearchitecting, or making future UX changes
- 3. Building:** As the first implementation step, we make sure all compilers and tools are properly invoked in a new Qt 5 toolchain
- 4. Tooling:** We port over some of the legacy code using a proprietary Qt 4 transformation tool that automates a portion of the mindless work to save on overall development cost
- 5. Porting:** Our team of Qt 4 / Qt 5 experts performs the remaining migration, collaborating with your staff as desired
- 6. Testing:** We test the port against our own test scaffolding as well as any additionally required testing
- 7. Training:** We hold specialized workshops and/or training as needed to ramp up your engineering staff on the new Qt 5 frameworks and tools

For customers that prefer to learn Qt 5 by doing their own migration, we can provide workshops to educate staff on new features and best practices as well as offer on-call mentoring.

If your staff has started a Qt 4 migration effort but has under-estimated the workload, we're happy to help. We can take over partial migrations, clean up and complete the port.

Migration work is never fun – it's detailed, meticulous, and time consuming. More importantly, it doesn't contribute to your product. Considering the number of hours

it takes engineers to learn through trial-and-error how to move a product from Qt 4 to Qt 5, using KDAB is a great way to save on time, money, and stress toys.

Moving to Qt 5 will open up your product to the benefits of a modern, actively supported, comprehensive framework backed by a huge community:

- Qt 5 is continually updated through a regular release cadence with feature enhancements and bug fixes
- Qt 5 uses modern development methodologies and embedded-friendly C++, supporting C++11 features (C++14 coming soon)
- Qt 3D provides full 3D support with optional physics-based rendering (PBR)
- Qt 5 has components for graphics, IoT devices, Bluetooth, Sensors, and other peripherals
- Qt 5 supports comprehensive multimedia standards (including DRM)
- Qt Quick and QML provide a powerful but simple scriptable, declarative UX
- Qt Creator IDE allows closer collaboration between designers and developers
- Qt 5 offers better platform abstraction for multiple-target support
- Qt 5 supports all common mobile platforms



About the KDAB Group

The KDAB Group is the world's leading software consultancy for architecture, development and design of Qt, C++ and OpenGL applications across desktop, embedded and mobile platforms. KDAB is the biggest independent contributor to Qt. Our experts build run-times, mix native and web technologies, and solve hardware stack performance issues and porting problems for hundreds of customers, many among the Fortune

500. KDAB's tools and extensive experience in creating, debugging, profiling and porting complex applications help developers worldwide to deliver successful projects. KDAB's trainers, all full-time developers, provide market leading, hands-on, training for Qt, OpenGL and modern C++ in multiple languages. Founded in 1999, KDAB has offices throughout North America and Europe.



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