



## MKS Toolkit Case Study

### CogniSeis

CogniSeis is a leading maker of the software that petroleum companies use to locate and tap into new sources of oil.

When CogniSeis wanted to tap into a new source of revenue by porting one of its flagship products - called SeisX - onto the Microsoft Windows operating system, the software it used was MKS Toolkit for Enterprise Developers (formerly NuTCRACKER), from Microsoft Solution Provider MKS Inc. A powerful UNIX-to-Windows migration tool, NuTCRACKER helped CogniSeis port a staggering two million lines of code in just a few weeks - and get its new product to market in a mere three months.

#### Missing Out

Designed to support petroleum exploration and production operations, SeisX is an advanced, fully-integrated 2D/3D seismic interpretation system that helps geoscientists model the subsurface of the Earth. A powerful mapping and display tool, the software also comes with a complete set of horizon and fault interpretation utilities, and produces impressive hardcopy output.

Historically a UNIX-based product, SeisX is the leading seismic interpretation software in Canada and has been making in-roads with petroleum companies in the United States and Europe. However, many petroleum firms these days either do not use UNIX or are migrating away from it to the more cost-effective Microsoft Windows operating system. In addition, geoscientists and field engineers are making more and more use of laptop computers, due to the unprecedented mobility they offer. Most of those laptops run on Windows.

In short, by not supporting Microsoft Windows, CogniSeis was missing out on a large and rapidly-growing market segment. So the company decided to create a Windows version of SeisX, to be called SeisX NT, offering the same comprehensive functionality as the UNIX-based version. CogniSeis would have to act fast, though: many of its competitors were already offering Windows based seismic interpretation products.

Unfortunately, SeisX contains approximately two million lines of code. Manually porting a system that large and complex would not only take too long but cost more than potential earnings justified.

#### Three Months To Market

With a manual port out of the question, CogniSeis needed powerful automated assistance. And that's just what it got from NuTCRACKER.

CogniSeis selected NuTCRACKER based on its previous success with the product. When the company ported another of its geoscience products to Windows,

#### Company Profile

With offices around the world, CogniSeis is a leading supplier of interactive and production seismic processing, seismic interpretation, geologic interpretation, and modeling software technology for the petroleum industry.

#### Situation

SeisX, CogniSeis's flagship seismic interpretation product, was historically a UNIX-based system. But with more and more oil companies migrating from UNIX to the Microsoft Windows operating system, CogniSeis needed to create a Windows version of SeisX if it was to avoid missing out on an important market segment. And the company had to act fast, as many of its competitors were already offering Windows products.

#### Business Solution

A manual port of a system as large and complex as SeisX would have taken too much time and cost too much money. So CogniSeis automated the porting process instead, using NuTCRACKER, the powerful UNIX-to-Windows migration tool from Microsoft Solution Provider MKS Inc. With NuTCRACKER's help, creating the Windows version of SeisX, called SeisX NT, was simplicity itself: just compile, debug, and go to beta.



NuTCRACKER proved its speed, effectiveness, and ease-of-use.

Ease of use was particularly important this time. As CogniSeis's Rob Pynaker explains, "When we first considered developing SeisX NT, we were also under a tight deadline to bring out a new version of our UNIX-based product. SeisX 3.3 had to be released on March 15th. NuTCRACKER really expanded our abilities. We were able to proceed with the UNIX-to-Windows port simultaneously with the completion of SeisX 3.3. It would have been impossible without NuTCRACKER."

Automating the migration process with NuTCRACKER enabled CogniSeis to meet its demanding deadline. According to Pynaker, "we began building SeisX NT in February 1997. The beta version was completed in March. And we released the first version of SeisX NT in May. The whole process took just two to three months."

SeisX NT and its UNIX-based counterpart offer the same features and capabilities, and employ the same source code base. As a result, users can switch between SeisX and SeisX NT and never notice the difference, either in the look or operation of the software. Source code reuse is essential for companies that will continue to employ both versions.

## No Surprises

Developing SeisX NT was simplicity itself: just compile, debug, and go to beta.

The first step was compiling the two million lines of SeisX code onto Microsoft Windows. NuTCRACKER made this almost effortless. The developer then worked on getting a compiler link. As Pynaker notes, "once we got a compiler link, the new software was basically up and running. All we had to do was fine-tune it."

Interestingly, many of the bugs CogniSeis found turned out to have existed in the original UNIX code. CogniSeis had previously ported the UNIX-based version of SeisX onto six different UNIX platforms, so it was familiar with fixing UNIX-to-UNIX port bugs. Porting SeisX from UNIX to Windows turned out to be no more complicated, since NuTCRACKER kept new types of bugs to a minimum.

## Very Simple and Very Fast

NuTCRACKER enabled CogniSeis to develop SeisX NT in time to take advantage of a growing opportunity in a crowded marketplace. Two million lines of code were ported and the new product successfully released in less than three months - with limited resources. SeisX NT has been successfully introduced at industry trade shows, and customer interest is growing swiftly.

"We would never have even attempted this project without NuTCRACKER," says Pynaker. "It would have cost too much and might have taken years. With NuTCRACKER, we just ported it over to Windows, got it to compile, and brought up Windows. It was very simple - and very fast." SeisX NT makes CogniSeis a player in the rapidly expanding market for Windows solutions, and promises to generate a welcome stream of new revenue. The system will also help the company protect its current market share by enabling it to offer integrated seismic interpretation products for both the UNIX and Windows platforms. As its existing customers come to rely more and more on Windows, CogniSeis will be able to supply them with familiar products they already know and like. Plus, SeisX NT delivers substantial savings to

### Benefits

Using NuTCRACKER, CogniSeis was able to port a staggering two million lines of UNIX code onto Windows in just a few weeks, saving months and perhaps even years of valuable time. In fact, NuTCRACKER enabled CogniSeis to get SeisX NT to market in an incredible three months, allowing it to take quick advantage of a growing opportunity in a crowded marketplace.

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### Rob Pynaker

CogniSeis



CogniSeis's customers, as it offers all of the power and capabilities of the UNIX-based version, but runs on commodity-priced laptops and desktop PCs.

Thanks to NuTCRACKER, CogniSeis was able to adapt its sophisticated seismic interpretation system to the computing environments its customers are using today - and will continue to use in the years ahead.

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