

# THE Cruncher

## Create C/C++ Code from your MATLAB code using the MATLAB Coder Toolbox



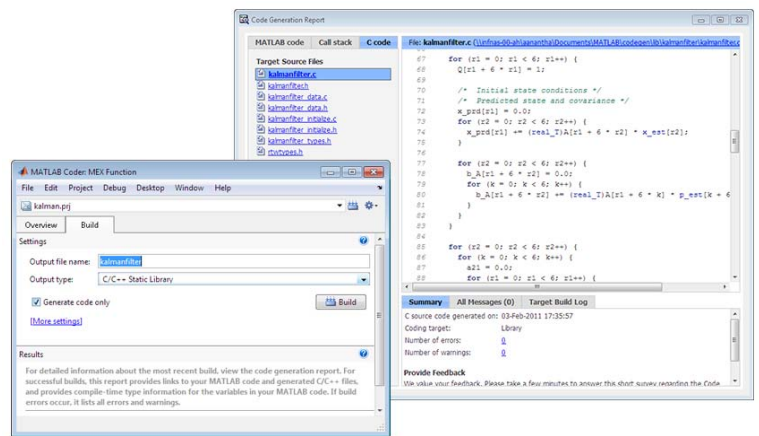
Automatically generate readable, portable C and C++ code directly from your MATLAB algorithms with the MATLAB Coder.

This new product eliminates the need to manually translate MATLAB algorithm code into C and C++ code for prototyping, implementation, and software integration. This automation results in a faster, more efficient system-development workflow.

The design of algorithm-intensive electronic and communications systems typically begins with MATLAB. The MATLAB algorithms eventually need to be converted into C code for integration into the final product. Manually converting from MATLAB to C can take from days to weeks, introduce design errors, and contribute to time-to-market delays. Now design engineers can use MATLAB to speed up development tasks, such as fixed-point design and prototyping, and then automatically generate C code with MATLAB Coder.

MathWorks have also released Simulink Coder and Embedded Coder. Learn more about all these time saving tools at: [www.mathworks.com/products/matlab-coder](http://www.mathworks.com/products/matlab-coder).

Contact Bruce



MATLAB Coder project manager interface (left) and code generation report (right) showing generated C code.

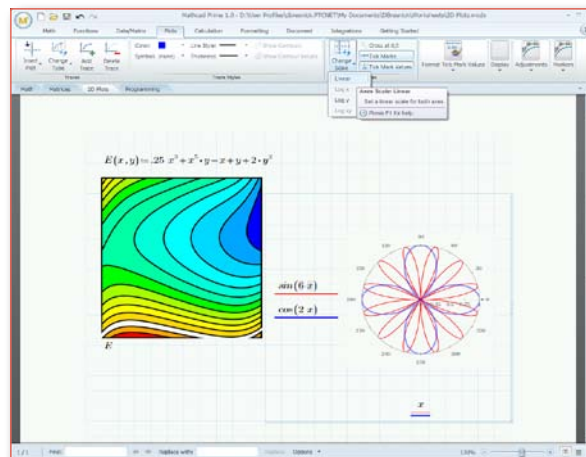


## Mathcad Prime 1.0

Mathcad Prime 1.0 is PTC's latest release of the industry standard software for engineering calculations. Completely re-designed, Mathcad Prime 1.0 provides a task-based interface for enhanced usability. It delivers powerful capabilities within a document-centric calculations environment for you to create complex, professional engineering design documents quickly and easily.

The result: you spend more time engineering and less time documenting.

To learn more about Mathcad Prime 1.0 view the short demo at [www.hrs.co.nz/mathcadprime1demo.aspx](http://www.hrs.co.nz/mathcadprime1demo.aspx) HRS will be presenting seminars on Mathcad Prime in Auckland, Wellington



Mathcad Prime is intuitive and powerful and enables you to spend more time engineering and less time documenting.

and Online. Find details about these seminars on the back page.

Contact Glen



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**New STATISTICA 10** Click back to TOC

STATISTICA 10 introduces numerous new features and capabilities that take full advantage of Intel multi-core processor technology regarding performance, data connectivity, graphics, and data analysis and predictive modelling, including:

- Significant performance and scalability improvements
- New modelling capabilities, e.g., procedures for credit and insurance risk modelling
- More flexible and scalable graphics
- Microsoft SharePoint integration
- Direct connection to OLAP cubes
- Significant performance and scalability improvements

A key performance goal for the STATISTICA 10 analytic platform was to utilise the capabilities of Intel's latest multi-core processor technology. STATISTICA software is built with the latest generation of software development tools, and all performance-critical data processing and data analysis/

	1998	1999	1998	1999	2000
Location of Child	Goal	Outcome	Goal	Outcome	Goals
1 Reunification with Parent(s) or Primary Caretaker(s)	220,428	155,267	239,006	145,341	228,932
2 Living with Other Relative(s)	19,230	24,194	23,327	24,019	22,961

STATISTICA imports directly native Office 2007 and 2010 files including the formatting information

modelling algorithms in STATISTICA have been redesigned to take full advantage of the Intel multicore architecture to ensure best-in-class performance against the exponentially growing data volumes expected over the next decade.

Asked what that means for StatSoft's clients, Dr. Thomas Hill, VP for Analytic Solutions, replies that "StatSoft's clients running the STATISTICA solutions on the latest Intel-based hardware can solve analytic and predictive modelling tasks three to four times faster, even on twice or three times the data volume, and this performance will only accelerate as Intel continues to chase Moore's law".

For a complete list of new STATISTICA features and capabilities, see [www.statsoft.com/products/statistica-10-new-features/](http://www.statsoft.com/products/statistica-10-new-features/).

Contact Glen

**New New Forecast Pro Products** Click back to TOC

**Forecast Pro Unlimited 7**

Whether you are forecasting sales, revenues, demand for service or any other important variable, Forecast Pro will make your work easier, quicker and more accurate. The program is extremely easy to use and does not require a background in statistics or forecasting. For new features for Forecast Pro Unlimited 7, visit [www.forecastpro.com/products/overview/unlimited.htm](http://www.forecastpro.com/products/overview/unlimited.htm)

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**Forecast Pro TRAC V2**

TRAC is the perfect solution for a broad range of business forecasting needs, including demand forecasting, team forecasting or forecasting and reporting in support of your organisation's S&OP process. Forecast Pro TRAC V2 is a significant revision of Forecast Pro TRAC V1. It is fully backwards compatible and can read your Forecast Pro TRAC V1 data files and projects without modification. Visit [www.forecastpro.com/products/overview/TRAC.htm](http://www.forecastpro.com/products/overview/TRAC.htm)

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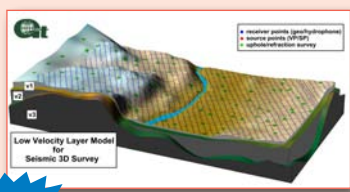
**New Grapher 9** Click back to TOC

Grapher 9 goes international with full unicode support. Other key features in the release include 64-bit Installation, Move Any Label, Ultimate Data Compatibility, Bar Chart Clipping, Fit Curves and Confidence Plot Clipping, Label All Plots, Improved Axis Date/Time, Enhanced Class Scatter Plot Legend, Improved Axis Worksheet Labels, and Edit Individual Objects in a Combined Object.



**New Surfer 10**

Surfer easily and accurately transforms your data into spectacularly colourful 2D and 3D maps in minutes! A sampling of Surfer 10 features includes Powerful Mapping, Map Projections and Superior Gridding. Contact HRS for a list of new features.



Click back to TOC [Click here to learn more about Grapher or Surfer](#)

**New Maple 15**

The world's most advanced symbolic and numeric computing engine, Maple 15, takes advantage of the full processing power of your computer, automatically detecting and using all available processor cores to perform many computations in parallel.

You do not need to do any special programming, change any options, or even know how many cores your computer has! In Maple 15, many fundamental operations can be done in parallel, so your results are available much faster and you can tackle larger problems.

With Maple 15 you can:

- Take advantage of over 270 new mathematical functions and hundreds of enhancements to existing algorithms
- Solve more complex problem faster than ever before
- Fully leverage the power of multi-core computing
- Compute symbolic solutions to differential equations that no other system can match
- Work more effectively with large data sets using new statistics functionality and the new interactive data table

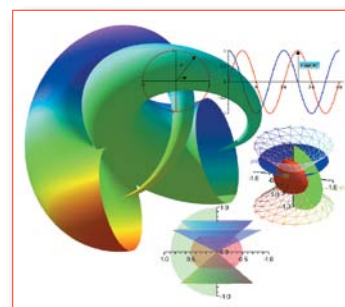
**Special Maple Upgrade Offer - Closes 30 June 2011** Click back to TOC

Upgrade your old Maple copy to version 15 and only pay the Maple 14 upgrade price. **Contact Glen**

- Gain greater control of your Maple sessions using the new variable manager
- Take advantage of the latest in Clickable Math tools, including dozens of new built-in demonstrations for illustrating common concepts in mathematics

Visit [www.maplesoft.com/products/maple/new\\_features](http://www.maplesoft.com/products/maple/new_features) for full details.

Contact Glen



Powerful Math - The Maple computation engine offers the breadth, depth, and performance to handle every type of mathematics.

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TOCClick  
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TOC**New**

## ModelRisk 4.0

ModelRisk, for risk analysis, comes in three versions; Standard, Professional and Industrial. Standard provides advanced Monte Carlo simulation in Excel and is free of charge; Professional adds 'objects' that greatly extend and simplify what you can model, plus optimisation and much more; and Industrial adds a range of advanced features to the Professional version that help solve common, more complex problems specific to various industries. Try the free Standard version and ask for a 15 day trial of the Professional or Industrial versions if you want the extra features. Talk to Glen about the new features in version 4.0.

**Contact Glen****New**

## What's New in MATLAB R2011a

**MATLAB Product Family Highlights:**

- MATLAB Coder, Simulink Coder, and Embedded Coder
- Improved performance for many linear algebra functions in MATLAB
- Large-scale interior-point solver for quadratic programming in Optimization Toolbox
- Object-oriented portfolio optimisation solver with turnover and transaction costs in Financial Toolbox
- Engle-Granger and Johansen co-integration tests and VEC parameter estimation in Econometrics Toolbox
- DSP System Toolbox, a new product that combines features of Signal Processing Blockset and Filter Design Toolbox
- Communications System Toolbox, a new product that combines features of Communications Toolbox and Communications Blockset
- Computer Vision System Toolbox, a new product that incorporates the functionality of Video and Image Processing Blockset

and adds new computer vision algorithms

- Phased Array System Toolbox, a new product for designing, simulating, and analysing phased array signal processing systems

**Simulink Product Family Highlights:**

- Signal Logging Selector to compare simulation results across models and runs in Simulink
- Merge capability for Simulink models from the XML text comparison in Simulink Report Generator
- FPGA-in-the-Loop, customisable I/O, and board support for Xilinx devices in Simulink HDL Coder, EDA Simulator Link, and xPC Target
- Custom component authoring using the Simscape language in SimDriveline
- Automatic detection of overflow and divide-by-zero design errors using Polyspace technology in Simulink Design Verifier

**Contact Bruce****New**

## DecisionTools Suite 5.7

The DecisionTools Suite is an integrated set of programs for risk analysis and decision making under uncertainty that runs in Microsoft Excel. The DecisionTools Suite 5.7 includes new versions of @RISK for Monte Carlo simulation, PrecisionTree for decision trees, and TopRank for 'what if' sensitivity analysis. In addition, the DecisionTools Suite comes with new versions of StatTools for statistical analysis and forecasting, NeuralTools for predictive neural networks, and Evolver and RISKOptimizer for optimisation. All programs work together better than ever before, and all integrate completely with Microsoft Excel for ease of use and maximum flexibility.

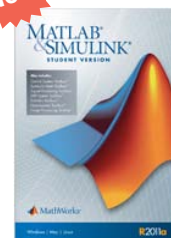
All products in the DecisionTools Suite 5.7 are fully compatible with 64-bit Excel 2010. This allows for vastly larger models and greater computational power.

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TOC*For a full list of features go to*[www.mathworks.com/products/new\\_products/latest\\_features.html](http://www.mathworks.com/products/new_products/latest_features.html)Click  
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## Otago University TAH MATLAB Site License

Otago University has acquired a site license of MATLAB with 27 add-ons that can now be accessed campus-wide by all staff and students. If your institution would like to know more about the benefits of a TAH site license, **contact Bruce**

## MATLAB Student Version



The latest MATLAB Student Version has been released. Student Version includes R2011a versions of nine products, and runs on Windows, Mac, and Linux. If you wish to purchase, **contact Bruce**.

**New**

## Maple T.A. 7.0

Maple Teaching and Assessment (T.A.) helps teachers and lecturers create tests and assignments, automatically assessing student responses and performance faster by providing an easy-to-use web-based system.

With Maple T.A. 7, instructors have more analysis capabilities and more flexible Maple questions.

**Key Features include:**

- Mathematical questions
- Access to the power of Maple
- Easy content creation
- Algorithmic questions
- Automatic grading
- Analysis of results
- Authentication and Administration

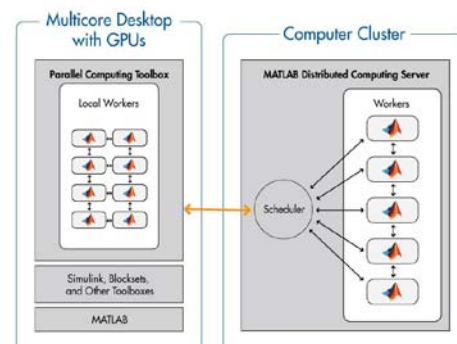
Visit [www.maplesoft.com/products/mapleta/new.aspx](http://www.maplesoft.com/products/mapleta/new.aspx) for a list of what's new in Maple T.A.7.

**Contact Glen**

## Parallel Computing with MATLAB

MATLAB's Parallel Computing Toolbox lets you solve computationally and data intensive problems using multicore processors, GPUs, and computer clusters. High-level constructs - parallel for-loops, special array types, and parallelised numerical algorithms - let you parallelise MATLAB applications without CUDA or MPI programming.

If you wish to learn how you can reduce your computing time for your research project, or use more memory on a 32 bit computer, come to a HRS seminar or visit [www.mathworks.com/products/parallel-computing/tutorials.html](http://www.mathworks.com/products/parallel-computing/tutorials.html). See seminar details on the back page.

**Contact Bruce**

Speed up your computational processing time with the MATLAB Parallel Computing Toolbox.

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## HRS Public Seminars

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### Cities

- Auckland – Tuesday, 26 July 2011
- Wellington – Thursday, 28 July 2011

### Seminar topics and times

- 10.00am - STATISTICA Environmental Analysis
- 01.00pm - MATLAB Parallel Computing
- 03.00pm - Mathcad Prime 1.0

## HRS MATLAB Parallel Computing Seminars

Massey University - 1pm on 09 Aug  
 University of Waikato - 1pm on 10 Aug  
 If your organisation would like a presentation on using MATLAB for Parallel Computing, please contact HRS today.

Contact Bruce

## HRS Public Webinars

### Wednesday, 3 Aug 2011

- 10.00am - Mathcad Prime 1.0
- 02.00pm - MATLAB Parallel Computing

### Thursday, 4 Aug 2011

- 10.00am - STATISTICA Environmental Analysis
- 02.00pm - Maple T.A

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Find details of all seminars and webinars at: [www.hrs.co.nz/seminars](http://www.hrs.co.nz/seminars) or contact Leon

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## HRS Public Training Courses in Auckland

### MATLAB Intro to Adv Courses

- 28 Sep - Introduction to MATLAB
- 29 Sep - Intermediate MATLAB
- 30 Sep - Advanced MATLAB

New Dates

### STATISTICA Course

- 10 Nov - STATISTICA for Data Analysis

### Mathcad Course

- 11 Nov - Design and documentation with Mathcad

### 2 Day Risk Training Course

- 17-18 Nov - Value, Risk and Quantitative Decision Making using ModelRisk

### Advanced MATLAB & Simulink Courses

- 21 Nov - Control Design using MATLAB
- 22 Nov - Simulation using Simulink
- 23 Nov - Optimisation using MATLAB
- 30 Nov - High Performance Computing using MATLAB

Dates Changed

New Course

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Find details of all training courses at: [www.hrs.co.nz/training](http://www.hrs.co.nz/training) or contact Leon

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## Conferences of interest to HRS Customers

Dates	Conference	Web site
29 June - 1 July	NZ Association of Economists Conference	<a href="http://www.nzae.org.nz/conferences/2011/Registration.html">www.nzae.org.nz/conferences/2011/Registration.html</a>
23-24 August	Next Generation Sequencing Conference	<a href="http://www.nzconferences.org.nz/NGS%20Conferences/NGS2011/index.html">www.nzconferences.org.nz/NGS%20Conferences/NGS2011/index.html</a>
20-23 Aug	NZ Psychological Society Conference	<a href="http://www.psychology.org.nz/conf2011">www.psychology.org.nz/conf2011</a>
28-31 Aug	NZ Statistics Association Conference	<a href="http://www.nzsa2011.org.nz/index.php">www.nzsa2011.org.nz/index.php</a>
29-31 Aug	The Queenstown Molecular Biology and Medical Sciences Congress Meetings	<a href="http://www.qmb.org.nz/">www.qmb.org.nz/</a>
28 Aug - 1 Sep	NZ Ecological Society Conference	<a href="http://www.nzecologyconference2011.com/">www.nzecologyconference2011.com/</a>
Nov	NZ Electronics Conference	<a href="http://enzcon.org.nz/">enzcon.org.nz/</a>
21-24 Nov	NZ Maths and Statistics Post Grad Conference	<a href="http://www.hrs.co.nz/nzmasp.aspx">www.hrs.co.nz/nzmasp.aspx</a>
23-25 Nov	NZ Microbiology Society Conference	<a href="http://www.nzms2011.org.nz/">www.nzms2011.org.nz/</a>
29 Nov - 1 Dec	Image and Vision Computing NZ Conference	<a href="http://www.ivs.auckland.ac.nz/ivcnz2011/">www.ivs.auckland.ac.nz/ivcnz2011/</a>
27 Nov - 2 Dec	DELTA Conference	<a href="http://www.delta2011.co.nz">www.delta2011.co.nz</a>
5-9 Dec	NZ Hydrological Society Conference	<a href="http://www.hydrologynz.org.nz/nzhs_symposia.php">www.hydrologynz.org.nz/nzhs_symposia.php</a>

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## Contacting Us ...

We are based in Hamilton, but supply, support and demonstrate our products throughout New Zealand and parts of the South Pacific.

Product Information:  
[www.hrs.co.nz](http://www.hrs.co.nz)

### Email Addresses

Bruce	<a href="mailto:bruce@hrs.co.nz">bruce@hrs.co.nz</a>	Engineering/Science sales
Glen	<a href="mailto:glen@hrs.co.nz">glen@hrs.co.nz</a>	Statistics/Mathematics sales
Leon	<a href="mailto:leon@hrs.co.nz">leon@hrs.co.nz</a>	Marketing
Ros/June	<a href="mailto:admin@hrs.co.nz">admin@hrs.co.nz</a>	Accounts and shipping
Ahmed	<a href="mailto:support@hrs.co.nz">support@hrs.co.nz</a>	Support
Ray	<a href="mailto:ray@hrs.co.nz">ray@hrs.co.nz</a>	Policy
	<a href="mailto:webmaster@hrs.co.nz">webmaster@hrs.co.nz</a>	Web site
	<a href="mailto:info@hrs.co.nz">info@hrs.co.nz</a>	Everything else

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