

# Tal2c

Moves applications from TAL to a C/C++  
environment with a minimum of effort and risk

# Fast, reliable TAL to C/C++ conversion to optimize your NonStop application performance and reduce support costs

TAL2C is a fast 32-bit TAL compiler with a C code generation backend that runs under Windows. It takes TAL source code and automatically converts it to C output code. Depending on CPU speed TAL2C can convert thousands of lines per minute.

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## Key features

- TAL2C can produce code that is targeted at standard ANSI C/C++ compilers with no NonStop language extensions. TAL2C also provides switches that let you use some NonStop features.
- TAL2C provides support for embedded NonStop Structured Query Language (SQL) statements and NonStop's Data Description Language (DDL).
- TAL2C lets you repeat a conversion so that it is possible to maintain a conversion thread in parallel with other development threads.
- TAL2C has a customizable configuration file used to control the conversion process. For example, you can specify any external procedures (library procedures, operating system procedures, and so on) that are to remain in TAL.

- TAL2C displays informative error and warning messages during conversion. When TAL2C encounters problematic code, these messages can help you to pinpoint the source of the problem.
- TAL2C retains the structure of the TAL source files and the appearance of the TAL code listing wherever possible. As a result, the C output code is recognizable by the original TAL programmer(s), and easily maintainable by C programmers.
- Tal2C preserves comments and preserves their location within the source code.

## Solution overview

TAL2C is more intelligent than a simple text converter. It understands TAL semantics including many of the subtle differences between TAL and C, enabling you to preserve the logic of your TAL code in the C output code. The C code it produces can be used directly by the NonStop C/C++ compiler.

For example, TAL2C:

- Converts subprocs into individual C procedures
- Supports the CASE expression, group comparisons, and virtually all standard TAL functions
- Supports TAL equivalencing as C unions
- Supports TAL's unsigned bit arrays
- Converts DEFINE names to uppercase and everything else to lower case

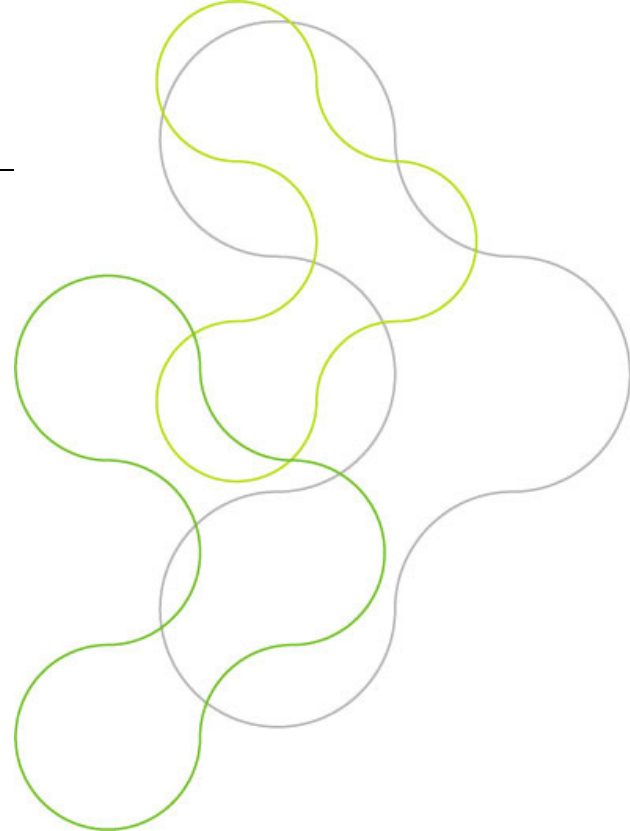
## Benefits

### Avoid Re-Coding

Avoid manual re-coding and save weeks or months of work. TAL2C can convert up to 3,000 lines of TAL code per minute.

### Access New NonStop Functionality

New features supported by C/C++, such as SQL/MX, are not supported by TAL. Converting your programs will preserve your code-base and provide access to new functionality.



```
LITERAL s = 10;
INT .a[0:s - 1] := [10,9,8,7,6,5,4,3,2,1];
INT PROC greater^than (a, b);
INT a, b;
BEGIN
  IF a > b THEN RETURN -1
  ELSE RETURN 0;
END;

PROC bubble^sort (array, size,
compare^function);
INT .array;
INT size;
INT PROC compare^function;
BEGIN
  INT i, j, temp, limit;
  limit := size - 1;
  FOR i := 0 TO limit - 1 DO
    FOR j := i + 1 TO limit DO
      IF compare^function (array[i], array[j])
THEN
        BEGIN
          temp := array[i];
          array[i] := array[j];
          array[j] := temp;
        END;
      END;
    END;
  END;
```



```
enum { s = 10 };
short a[s] = {10,9,8,7,6,5,4,3,2,1};
/* Tal procedure: greater^than */
short greater_than(short a, short b)
{
  if (a > b) return (-1);
  else return (0);
}

/* Tal procedure: bubble^sort */
void bubble_sort(short ^array,
short size,
short (^compare_function)())
{
  short i; short j; short temp; short limit;
  limit = size - 1;
  for ( i = 0; i <= limit - 1; i = i + 1 )
    for ( j = i + 1; j <= limit; j = j + 1 )
      if (compare_function(array[i], array[j]))
      {
        temp = array[i];
        array[i] = array[j];
        array[j] = temp;
      }
}
```

TAL2C Example

### Compile to RISC or Itanium

By converting to C you are able to compile your programs directly to the RISC or Itanium platform without acceleration allowing you to take full advantage of the available performance gains.

### Use HP'S Enterprise Toolkit

HP's Enterprise Toolkit has support for pTal, COBOL, C and C++. Only the C and C++ languages can leverage Visual Studio.Net functionality to provide full language support in the IDE (e.g. colour syntax highlighting).

### Tap Into C/C++ Skills

Tap into the larger C/C++ skill pool. TAL programmers are increasingly rare pushing up the costs of supporting TAL applications. By converting your programs you can more efficiently support applications across different platforms.

### Evaluation

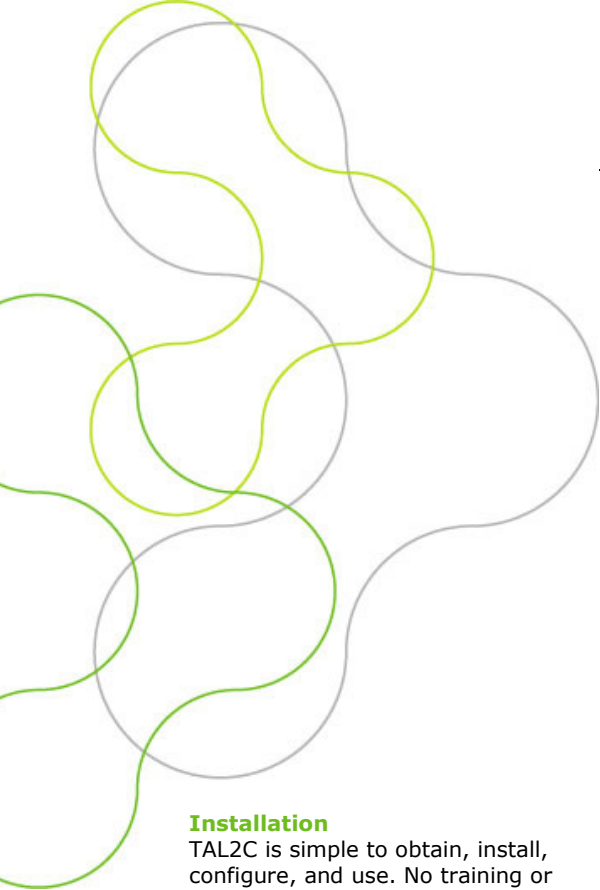
For evaluation purposes you can use TAL2C to convert a demonstration program distributed with the product. After assessing the results, you can use the product in a live environment to automatically convert thousands of lines of TAL code.

### Licensing

The TAL2C license is based on per line of code to be converted as determined by the TAL2C program.

To perform a conversion the options are:

- License TAL2C and perform the conversion yourself
- Send the TAL source code to Gresham and receive back C/C++ code ready to compile
- Have a Gresham consultant perform the conversion at your site



### Installation

TAL2C is simple to obtain, install, configure, and use. No training or consultancy services are necessary to make use of the product immediately.

### Support

TAL2C is fully supported worldwide by Gresham.

## System Requirements

### Workstation

- Microsoft Windows (Windows 95, 98, ME, NT4.0, 2000 or XP.)
- 64MB RAM
- 10MB disk space for TAL2C. In addition to the disk space required to install TAL2C, there must be sufficient disk space to convert the TAL program to a C program. As a rule ensure that for every 1MB used by TAL program files (and other required source files), ensure that there is at least an additional 2MB of free disk space.

### C Compiler Requirements

- TAL2C generates ANSI-compliant C source code. To compile your C output code you will need an ANSI-compliant C compiler.

### Free Download

Download the free trial, get the pricing and purchase TAL2C at:

<http://tal2c.gresham-computing.com>

Parts of TAL2C are built using Sather and Sather library classes.

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## About Gresham

Gresham Computing plc (LSE:GHT) specialises in the provision of real-time financial solutions to banks and corporates, and has a well-deserved reputation for technical excellence, reliability and a strong service culture. Our storage division helps the largest data users to better manage the unrelenting growth of data.

## Further information

For more information on how TAL2C can help your company visit [www.gresham-computing.com](http://www.gresham-computing.com) or you can email us at [tal2c@gresham-computing.com](mailto:tal2c@gresham-computing.com)

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