

16 November 1992

Release of TNT-MIPS V4.02

Introduction

TNT-MIPS V4.02 is being shipped to you on either 3.5" or 5.25" high density disks according to the preference expressed on your registration forms. The floppy disks which make up **TNT-MIPS V4.02** contain a common set of routines which are distributed to all current subscribers to **MIPS V3.31**. Installation of **TNT-MIPS** will not alter your current **MIPS V3.31** in any way. It will create a complete new **TNT-MIPS** structure on your drive and subsequently recreate or update it with future releases.

This release of **TNT-MIPS V4.02** is not a complete equivalent of **MIPS V3.31**. Conversion of all remaining, important **MIPS** processes is currently underway. **TNT-MIPS V4.10** will be shipped to you about 15 December 1992 and will complete 95 to 99% of the conversion of **MIPS** to **TNT-MIPS**.

The attached schedule indicates the status of conversion of each **MIPS** process. The principal purpose of providing it at this time is to provide an overview of how **TNT-MIPS** will operate on all computer platforms supported and the progress toward its completion. It will also get all of you either planning or experimenting with Microsoft Windows **V3.1** and the possible hardware changes you may need to make to accommodate it and **TNT-MIPS** in turn. MicrolImages is just about to begin to advertise and sell **TNT-MIPS**, although until **V4.10** is shipping, **MIPS V3.31** will be included in all shipments. After **TNT-MIPS** is shipping next month, all new customers will be shipped only **V4.10** unless they also specifically request a copy of **V3.31**.

Shipment for Other Platforms

TNT-MIPS V4.02 is being concurrently shipped to clients who have ordered it for their workstations on the media they have specified. Development stations for all 6 popular workstations are now part of the MicrolImages' compiling network. These include Sun, IBM, DEC, HP, Data General, and Silicon Graphics as well as Unix based Macintosh and PCs equipped with the latest versions of ESIX and SCO. No particular difficulties are being encountered in compiling **TNT-MIPS V4.02** processes for these platforms under their brands of Unix using their manufacturer's 32-bit ANSI standard C compilers.

Installation

Running **INSTALL** upgrades your key to authorize it for **V4.02**. It then decompresses and writes a copy of each licensed process from the disks containing **V4.02** into the selected directory on your hard drive. You must use the **INSTALL** routine on the installation disk supplied with this release to decompress the files during installation. Installing this **V4.02** will completely replace the earlier **V4.01B** if the same hard drive is selected.

The **TNT-MIPS INSTALL** program works just as it does with **MIPS V3.30** but will not alter **V3.30** or **V3.31** in any way. For example, it will check your hard drive to determine that space is available for the installation you are making.

V4.10 may be in your possession by the time many of you have worked through installing **MS W V3.1** and **V4.02**. Remember, **MS W V3.1** uses **DOS V5.0** and its addition to your system at this time will in no way will impair your continued use of **MIPS V3.31** or other **DOS** based software. Thus, assuming you have sufficient hard drive space available, you can have both **TNT-MIPS V4.02** and **MIPS V3.31** installed at one time.

It is our suggestion that anyone installing **TNT-MIPS** for the first time, choose menu selection "Install minimal test version of TNT-MIPS" offered by the **INSTALL** program. This approach will use about 5 megabytes of drive space. It will install only the **TNT-MIPS** display program and its associated support elements including the appropriate menu and the process to convert **RVF** project files into **RVC** project files. This comprehensive new display process is explained in detail in the printed reference material supplied earlier and in the on-line documentation and is the heart of **TNT-MIPS**.

When you experiment with the **TNT-MIPS** display process for the first time you will find that it is a much more comprehensive activity than in **MIPS V3.31**. It should be apparent that since the severe memory constraints of **MIPS** are being lifted by **MS W V3.1**, all our new processes will be considerably larger. Correspondingly, however, there will be fewer loading processes involved as many formerly independent processes are consolidated into fewer, more comprehensive procedures.

After you have familiarized yourself with the display process, choose menu selection "Install TNT-MIPS version 4.02" in the **INSTALL** program to complete the loading of all the other available processes. **TNT-MIPS V4.02** will require about 40 megabytes of your hard drive without illustrations and 56 megabytes with illustrations. Eventually this hard drive requirement will shrink somewhat as processes are further streamlined and integrated together.

The 5.25" version has 20 disks as follows: 16 containing processes, 3 containing documentation and illustrations, and 1 with the installation processes.

The 3.5" version has 17 disks as follows: 14 containing processes, 2 containing documentation and illustrations, and 1 with the installation processes.

An interesting note is that this is the first version of **MIPS** or **TNT-MIPS** which has shipped to more clients on 3.5" disks than on 5.25" disks.

On-Line Documentation

Approximately 250 printed pages of **TNT-MIPS** documentation are included with **V4.02** containing the new on-line illustration display feature in a preliminary form. At present there is no built-in printing capability for the **TNT-MIPS** documentation. Subsequently you will be able to print out the **TNT-MIPS** documentation on your laser printer just as with **MIPS** but with the addition of black and white illustrations (sample windows and images). Including on-line illustrations within **TNT-MIPS** will make it grow rapidly in hard drive storage requirements. As a longer range solution, it will be important that the illustrations be accessed directly from the CD-ROM disk eventually used to distribute each new **TNT-MIPS** upgrade. In the interim period, during the installation of the on-line documentation you will have the option of omitting the installation of the illustrations.

The documentation available for **V4.02** primarily covers the operation of **TNT-MIPS** as a system and the main display process. As the conversion of **MIPS** to **TNT-MIPS** approaches completion, all the processes will be checked and documented as rapidly as possible. However, the functionality of many application processes in **TNT-MIPS** are similar to those of the equivalent **MIPS** processes. Thus, the complete on-line documentation for **MIPS V3.31** has value to you until the **TNT-MIPS** documentation is complete. **V4.02** will also let you optionally load and use all the old documentation available with **MIPS V3.31** for possible reference.

RVF and RVC Details

Repeating the RVF to RVC Conversion. As indicated in a recent memo, you will need to reimport any **RVF** files into **RVC** files to accommodate changes made in the Project File data structure made in **TNT-MIPS V4.02**. This last minute change was to accommodate use of 2-byte UNICODE font standard which is also being adopted directly or indirectly by Apple, OSF/Motif, X System and other commercial packages to allow standardization of their products around the world. It is quite unlikely that any further changes in the **RVC** Project Files will be required. In the unlikely event that this should occur, a conversion routine to upgrade the **RVC** project files you create with **V4.02** will be provided.

RVC to RVF Conversion. **TNT-MIPS V4.10** will be shipped to you about 15 December 1992 and will complete 95 to 99% of the conversion of **MIPS** to **TNT-MIPS**. Based upon requests from several clients, a backward conversion process is now available to convert **RVC** Project Files to **RVF** Project Files. Such conversions can be only partially supported as **RVC** Project Files can be used to import or form new materials (for example, more complex relational attribute tables) which have no implementation in **MIPS** and the earlier **RVF** Project File structure. Thus if you go backward with objects in an **RVC** Project File, you may lose information which has to be stripped off. In general you will find that the prime objects can be moved backward to **RVF**. Those clients who have a special requirement for such backward conversions not accommodated by the process being provided should discuss its possible solution with MicroImages on a case by case basis.

RVF on Workstations. There is no MicroImages product that will create any form of an **RVF** Project File on any computer platform other than those **DOS** based systems running **MIPS**. Thus **RVF** to **RVC** or **RVC** to **RVF** conversion routines will not be provided other than within **TNT-MIPS** for **DOS** based microcomputers. Please plan to convert all your existing **RVF** Project Files to **RVC** Project Files on the **DOS** based microcomputer that created them.

Simple RVF Conversion. It is important to emphasize that the **RVF** to **RVC** conversion process can be run as a separate routine from a command line in **DOS** as long as the other files needed by it are available as well as the hardware key. The fastest way to set up this conversion process is to choose menu selection "Install only RVF/RVC file conversion utility" offered by the **TNT-MIPS INSTALL** process.

Application Note Outlines

Internationalization and Localization (I&L). There have been some additions to this **AN** Outline since its previous version, and a new copy is enclosed. The equivalent

MicrolImages Font Editor to that which occurred in **MIPS V3.31** is now available in **V4.02** to support this **I&L**. Its use to create your local fonts will be expanded in the next version of this **AN**.

Software Development Kit (**SDK**). The outline of a new Application Note being prepared on the MicrolImages' Software Development Kit (**SDK**) - formerly the "C Tools Library" - is enclosed. A detailed MicrolImages MEMO outlining the uses of the **SDK** to make external additions to **TNT-MIPS** is also enclosed. This **AN** will eventually be completed and printed similar to the Application Note you already have on the internal Spatial Manipulation Language (**SML**). It will place heavy emphasis on providing a sequence of progressively more complex sample programs with explanations. In this fashion it will illustrate how to prepare your own custom applications for **TNT-MIPS** with complete windows, Project File access and creation, display (if needed separately), and so on.

*Advanced User Workshop 5 (**AUW5**)*

The Fifth Advanced User Workshop (**AUW5**) will be held in Lincoln as usual on the bitter cold days of 12, 13, and 14 January 1993. At your request, this year January 15 (a Friday) will be scheduled as an additional "open day" for the workshop so you can all visit with your favorite programmer and technical support specialist. This year the fee for the 3 day formal workshop will increase to \$400 and the open day will be provided without charge. **AUW5** will find us all in the thick of using **TNT-MIPS** and planning the exciting new, advanced capabilities it will allow. Please make plans early for these dates if you are outside the U.S. and/or with a government agency requiring long range planning.

One new topic area for **AUW5** already suggested by you will be the demonstration and comparison of performance features of **TNT-MIPS** across a variety of platforms. MicrolImages will attempt to prepare and distribute performance information addressing this question on some sort of normalized basis such as performance per dollar spent. The "open" Friday session will provide an opportunity for a personal, close up, comparative examination of these platforms and their performance.

TNT-MIPS Release Schedule

Shipping as V4.00B

9 August development cut off date

19 August shipping date

General utility materials

Microlimages' wrapper to convert existing MIPS 8-bit display board drivers into Microsoft Windows V3.1 drivers.

Microlimages' 8-bit X server for Microsoft Windows V3.1

Conversion of RVF project files to RVC project files

Installation instructions for TNT-MIPS in Microsoft Windows V3.1 and on workstations.

Printed draft manual section on use of TNT-MIPS display and system processes

Object display and editing

Integrated composite display of raster, vector, and CAD objects [the graphic windows for designing a line's style and a symbol's style are not available. will display styles of existing lines and points created and imported from RVF files. try the bit pattern editor which is available to create fill patterns. see a list of other missing features scheduled for V4.01B below]

3D display of raster objects [create and manipulate a wireframe for the raster but the raster can not be subsequently draped or drawn on the wireframe]

Interactive editing of vector objects [will not allow line to be drawn across an existing line so as to intersect it]

Mosaicking of raster objects [complete except for trend removal, between frame color balancing, and abut method of seam formation]

Object utilities

Raster import/export [available for selected external formats]

Raster, vector, and CAD statistics

Copy raster utility

Database object import/export

Database object editor

Relational database object query operations

Object conversions

Raster to vector Conversion

Home range polygon finding

Surface fitting to swarms of data points
Viewshed computation from elevation object
Watershed properties from elevation object

Image and GIS processing

Fourier analysis of 2D images
Spatial filtering
Principal components on multispectral images
Multilinear regression on multispectral images
Classification of multispectral images (supervised and unsupervised)
Extract rectified DTM elevation models and orthophoto/images from SPOT images and stereo airphotos using a relative model [numerous advanced features included over MIPS V3.3]

Hardcopy Creation

Pen plotting
Raster printing [new color balance window is designed and is shown but does not yet function]

Additional features shipping as V4.01B

17 September development cut off date
29 September shipping date

General utility materials

MicrolImages' wrapper to convert existing MIPS 16 and 24-bit display board drivers into Microsoft Windows V3.1 drivers.
Final printed copy of Application Note on X-Y Digitizing
Final printed copy of Application Note on Map and Poster Layout
Outline of Application Note on Internationalization and Localization
On-line manual process [not manual but process, without illustrations]

Object display and editing

Interactive editing of CAD objects [no X-Y digitizer support, block manipulation, or smart line following]
Interactive editing of rasters [only existing binary, grayscale, and 8-bit color rasters with simple drawing tools and undo]
Additional display processes
Measurements [except protractor and flood fill boundary]
3D display of raster objects [wireframe design and output only to a raster object and not directly to screen]
Interactive editing of CAD objects [completed]

Object conversions

Raster import/export [available for additional formats]

Warping objects [only for raster objects]

CAD to vector object conversion

Vector to CAD object conversion

Georeferencing objects and changing object projections [only for raster objects]

Image and GIS processing

Extract rectified DTM elevation models and orthophoto/images from SPOT images and stereo airphotos using ground control to provide an absolute orientation model.

Hardcopy Creation

Pen plotting [no style by class (key field) or point symbols and scale can not be set, limited to solid color lines]

Raster printing [no bilinear interpolation only nearest neighbor resampling]

Plotting into a raster

Map and poster layout [no grid, scale bars, or text features]

Additional features shipping as V4.02

1 November development cut off date

10 November shipping date

General utility materials

Conversion of RVC project files to RVF project files [no CAD objects]

On-line manual process [partial manual with illustrations]

Completed sections of on-line manual

Editor for creating outline fonts

Available sections of Application Note on Internationalization and Localization

Available sections of Application Note on Software Development Kit

Object display and editing

Additional display processes

Line style editor

Interactive Contrast Enhancement

Attribute selection and display from vector elements

Object extents

3D display of raster, vector, and CAD objects to screen or file

Block manipulation in interactive editing of CAD objects [no X-Y digitizer support or smart line following]

Object utilities

Import/export of vector/CAD objects [most used formats]

Object analysis

Computing buffer zones for vector elements with database query

Hardcopy Creation

Additional Map and Poster Layout

Grids

Object placement

Additional features shipping as V4.10

5 December development cut off date

15 December shipping date

General utility materials

MicrolImages' 16- and 24-bit X server for Microsoft Windows V3.1

Completed sections of on-line manual

Slide show process

Object display and editing

Additional display processes

Pin mapping

Selection by database query

Histograms of raster objects

Profile raster objects

Object display and editing

HyperIndex and HyperIndex Linker

Capturing of live video

Mosaicking of raster objects [add trend removal, between frame color balancing, and abut method of seam formation]

Interactive editing of vector objects

X-Y digitizer support and smart line following in Editcad

Image and GIS processing

Progressive image transformation

Raster object creation

Import raster object from 8 mm and open reel tape

Scanning

Image and GIS processing

Feature Mapping

Spatial Manipulation Language

Intersection of vector objects