

CONVERGENT TECHNOLOGIES

RELEASE NOTICE FOR  
11.3 Math Server (SAA-3100)

Revised May 20, 1988

SECTION	TITLE	PAGE
1.0	Description of Programs.....	2
1.1	Hardware Math Server.....	2
1.2	Software Math Server.....	2
1.3	Selection and Installation.....	3
2.0	Changes from Prior Version .....	4
2.1	SPRs Closed in This Release.....	4
2.2	Changes from Previous Release.....	4
3.0	Contents of Distribution Diskette(s) .....	5
4.0	Installation Procedures .....	6
4.1	Stand-Alone and Master Hard Disks.....	6
5.0	Required Files .....	7
6.0	System Software Compatibility .....	7
6.1	Workstation Environment.....	7
7.0	Hardware Information .....	7
7.1	Hardware Configurations Supported.....	7
8.0	Resource Requirements/Utilization .....	8
8.1	Memory Requirements/Utilization.....	8
8.2	Disk Requirements/Utilization.....	8
9.0	Restrictions .....	8
10.0	Documentation .....	8
11.0	Known Errors and Omissions .....	8

## **1.0 Description of Programs**

This Release Notice describes version 11.3 of the Math Server. This section and the sections that follow provide a description of the product, contents of the Distribution Diskette, installation procedures, and other information pertinent to this release.

This release of the Math Server contains two sub-products, the Hardware Math Server and the Software Math Server. The first release of the Math Server incorporated only the Hardware Math Server. The Software Math Server is a new product.

### **1.1 Hardware Math Server**

The Hardware Math Server is used to switch numeric contexts among processes. The server is required for correct operation of floating point programs.

The Hardware Server is installed on NGEN Series 286+ and Series 386+ workstations, which have hardware math support.

### **1.2 Software Math Server**

The Software Math Server emulates 8087/80287 floating point instructions. A workstation running the server appears to have an 8087 or an 80287 except that performance is much lower. The Software Server runs on Series 186, 286, 286i, 386, 386i and CWS workstations which do not have hardware math support.

The Software Server replaces emulators which were previously linked into user programs. The advantages of the server approach are that

- 1) User programs are smaller.
- 2) All programs are linked the same way regardless of whether or not they are intended to run on machines with hardware floating point support. This was previously not true of Fortran-86 and C programs. Programs are now more portable and the link procedure is simpler.

In real mode, programs which have already been linked with emulators will continue to work on workstations which are running the Software Server. In particular, Pascal programs will continue to use the Pascal math emulator if the old emulator has been linked into the program. This may be of interest because the old emulator is faster than the Software Server.

### 1.3 Selection and Installation

MathServer.run determines the type of workstation and floating point hardware support. Either the Hardware Server or the Software Server is then installed. For Series 286 and Series 386 workstations, MathServer.run also determines whether or not protected mode is in use. If so, the protected mode version is installed.

## 2.0 Changes from Prior Version

### 2.1 SPRs Closed in This Release

### 2.2 Changes from Release 1.0

The Software Math Server has been added to the product and the Hardware Math Server has been ported to protected mode.

### 2.3 Changes from Release 11.2

The service will now install on the Series 386i processors.

### 3.0 Contents of Distribution Diskette(s)

The Math Server Distribution Diskette is your master copy, and has been shipped write-protected. It should not be write-enabled, nor should it be used as a working copy.

The Distribution Diskette contains the following files in the <CT> directory:

MathHWServer	MathServer.run
MathSWServer.run	RmMathServer.Run
RmMathSWServer.Run	

The distribution diskette contains the following file in the <ReleaseNote> directory:

ReleaseNotice

## 4.0 Installation Procedures

The Math Server may only be used on NGEN and CWS workstations, and SRP masters. The workstations may be equipped with a hard disk or they may exist in clusters where the master is equipped with a hard disk.

Use the installation procedures described below (after updating the Standard Software revision level, if required). Characters that you must type are shown in **boldface**. Special keys, such as RETURN and GO, are shown in upper case.

### 4.1 Stand-Alone and Master Hard Disk Systems

- A. Sign on and set path at the standalone workstation. If the Signon form is displayed, fill it in and press GO. Set the path as follows:

```
Command  Path  RETURN
Path
  [Volume]                Sys  RETURN
  [Directory]             Sys  RETURN
  [Default file prefix]  RETURN
  [Password]              (if any)  GO
  [Node]
```

If your hard disk has a volume password on [Sys], fill this password into the [Password] field before pressing GO.

- B. Insert the 11.3 Math Server Distribution Diskette in drive [f0].
- C. Enter the following command:

```
Command  Install  RETURN
```

- D. Remove the Distribution Diskette from drive [f0] and save it as an archive.

## **5.0 Required Files**

The server is self contained. No special files are required.

## **6.0 System Software Compatibility**

### **6.1 Workstation Environment**

The Hardware Math Server requires CTOS 9.7 or later.

The Software Math Server requires CTOS 9.7 or later if the server is to run on a Series 286 or Series 386 workstation. 186 NGEN and CWS products may use CTOS 9.6 or later.

On 186-based workstations, the Software Server will probably work with earlier versions of CTOS as well, but this has not been verified.

## **7.0 Hardware Information**

### **7.1 Hardware Configurations Supported**

The Hardware Math Server operates on Series 286+ and Series 386+ NGEN workstations. The Software Math Server operates on 186 NGEN, CWS, Series 286 and Series 386 products which do not have hardware floating point support.

The Math Server does not work on IWS and AWS products.

## **8.0 Resource Requirements/Utilization**

### **8.1 Memory Requirements/Utilization**

The Hardware Math Server typically requires between 7K and 9K bytes of memory. The Software Math Server typically requires between 22K and 27K bytes of memory.

The amount of memory varies with the maximum number of processes allowed on the workstation. This number is set when the operating system is configured.

### **8.2 Disk Requirements/Utilisation**

The Math Server run files require approximately 32K bytes of disk space.

## **9.0 Restrictions**

The Math Server will not run on AWS and IWS products because the 8086 processor does not support the 'Coprocesor Not Present' exception.

## **10.0 Documentation**

This Release Notice is currently the only documentation for this product.

## **11.0 Known Errors and Omissions**

A. CTOS/VM version 2.0 automatically runs [sys]<sys>MathServer.run when the system is bootstrapped. This may be a problem for master workstations which have limited available memory and do not require the Math Server.

If there are no diskless workstations in the cluster, the user may simply remove [sys]<sys>MathServer.run from the master.



It is not appropriate to remove [sys]<sys>MathServer.run if diskless workstations exist in the cluster. Those workstations will need the file if they are to install the Math Server.

Future versions of CTOS/VM will not automatically install the Math Server. Rather the user will install the server from the sysinit.jcl file, as with CTOS 9.7 and earlier versions.

