CRAY
RESEARCH, INC.

RELEASE NOTICE

AUGUST, 1988

UNIX STATION 3.02

This notice contains general release information,
feature descriptions, and their impact.

UNIX® Station 3.02
Release Notice

UX–3.02–BA–RN

Cray Research, Inc.

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1.   INTRODUCTION

The 3.02 version of the UNIX station is now released. This release supercedes all previous releases of the UNIX station product.

This version consists of fixes only. Highlights of this release are described on the following pages.

2. OVERVIEW

This section presents an overview of the UNIX station.

2.1 RELEASE PACKAGE CONTENTS

The UNIX station release 3.02 package consists of the following items:

- UNIX Station 3.02 Release Notice (this document), UX-3.02-BA-RN.

- UNIX Station 3.02 tape(s), generated with the tar (1) command, is available in either magnetic tape or tape cartridge format. Tape cartridges are available for Hewlett-Packard, Sun, and IRIS workstations. Available magnetic tape formats are 1600 BPI 9 track tar format and 1600 BPI 9 track expander format for Cray mainframes.

- UNIX Station 3.02 System Installation Bulletin, publication UX-3.02-BA-SIB

- UNIX Station 3.02 Test Summary Report

2.2 FRONT-END CONFIGURATIONS

The following configurations run the UNIX station:

Hardware	Operating System
AT&T 3B20	AT&T UNIX System V.2
Cray computer systems	UNICOS version 2.0 or higher (native or GOS mode)
	COS version 1.14 or higher
DEC VAX 11/7xx	AT&T UNIX System V.2
Hewlett-Packard Series 300 family	HP-UX 6.0
Pyramid 90x	OSx64 4.0
Silicons Graphics, Inc. IRIS 3030	SGI 3.6
Sun-3/xxx and Sun-4/xxx workstations	SunOS 3.x
Sun-2/xxx*	SunOS 3.x

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* The UNIX station supports only the user interface; a driver is not available.

3.   LICENSING REQUIREMENTS

Please ensure the required licensing is in place before ordering the UNIX station 3.02 release. If you have any questions, or if licensing is not in place, contact your regional contract administrator or Lois Olson, Software Licensing Coordinator at (612) 681-3008.

4.   NEW CONFIGURATIONS

The following systems are newly supported with release 3.02:

- Support for the Sun-4/xxx workstation

- Support for the Sun-3 and Sun-4 FEI-3S driver

- The FEI-3 connection provides Sun workstations with a new network media alternative to the NSC HYPERchannel.

  The FEI-3 consists of two VME cards connected to a VMEbus backplane and is cabled to a Cray 50Mbit/sec or a Cray 100Mbit/sec IOS channel.

  NOTE: The station must be run with an FEI-3S driver that can accept writes which are not multiples of 8. If the FEI-3 man page states that it cannot accept writes which are not multiples of 8, then you will need an updated driver.

- The HP-UX 6.0 operating system using socket interprocess communication (IPC) allows users to run the Network File System (NFS). On such a system, the UNIX station is distributed in the network, providing expanded user access.

- The station is supported for UNICOS running as a Guest Operating System (GOS). The GOS feature enables the Cray operating systems COS and UNICOS to run concurrently. Support for the UNIX station with GOS was retroactively announced for the UNIX station 3.01. It has in the past been referred to as the GOS station, GOS memory transfer facility, or the GOS memory link. This release officially supports this feature as the UNICOS to COS Link Software.

- Support for the Sun-3 and Sun-4 character-special HYPERchannel driver

  The HYPERchannel (hy) driver on Sun workstations previously used a "raw-socket" interface. Release 3.02 of the station adds support for a "character-special file" interface driver for a Sun workstation.

  The hy driver provides access to a 50Mbit/s HYPERchannel network.

5. SOFTWARE ENHANCEMENTS

The following section describes software enhancements in release 3.02.

5.1 USER SOFTWARE

The following enhancements were made to the UNIX station software.

- The strstat batch station command displays a Cray mainframe's stream status. The following information is displayed: dataset name, sequence number, job sequence number (OJSQ), number of streams, station log ID, rate (Mbit/s), disposition code (staged, input, etc.), data format (UNIX data, etc.), duration (length of time the stream has been active), total size of the transferring dataset (if known), and the current block number being transferred. Refer to the example below.

DATASET	SEQ	OJSQ	STREAM	ID	RATE	DC	DF	DURATION	SIZE	CBLK
data01	12823	12816	2 in	A8	0.061	ST	UD	00:00:16	0	136
data00	12829	12817	3 in	A8	0.065	ST	UD	00:00:08	0	18
iojob	12830	12815	4 out	A8	0.000	IN		00:33:38	0	0

- The cs batch user interface can now differentiate between the station not responding and the Cray not responding. In previous releases of the station, the only message that was returned to the user was "Station not responding". With release 3.02, three messages can be returned to the user: "Station not responding", "Cray not responding", and "Cray down".

- Interactive graphics capability is now supported on a Hewlett-Packard HP-9000. Use of this feature, however, requires libraries under COS. For additional information, contact the CRI Applications department in Mendota Heights.

- This release of the UNIX station continues to support the two binary blocking options (BB and OB) introduced in the previous release. Users on COS systems should specify DF=option and users on UNICOS systems should specify -f option, where option is either BB or OB.

  NOTE: The OB option is not documented in the UNIX station manuals; therefore, please share this information with your user community. This option is used with the COS FETCH, DISPOSE, and ACQUIRE job control statements and the UNICOS fetch, dispose, and acquire commands.

BB Use this option when dealing with unformatted Fortran data files.

The UNIX station running on Sun, VAX, Pyramid, HP 9000, or 3B20 front-end systems deals with unformatted Fortran data in the standard UNIX fashion: each record has a 4-byte header and trailer, each indicating the length of the record in bytes. The UNIX station running on SGI IRIS workstation and Cray ststems running UNICOS deviate from this standard. In the case of a Cray system running UNICOS, the data is already created in a binary blocked format, so no special handling is required; the transfer is treated as if it were transparent. In the case of the IRIS workstation, the BB type of binary blocking is not supported, due to the different way that Fortran files are formatted on that system.

When sending a file to a Cray system, specifying DF=BB for COS or -f BB for UNICOS causes the blocking type to be specified as BB in the dataset header; on all front-end systems, except Cray systems running UNICOS, the file will be blocked as per the standard explained above. In cases where the file does not conform to the standard and a conflict is found between the record length in the header and that in the trailer, the transfer will be aborted and a message entered in the station log. On Cray systems running UNICOS, the station does not have to perform any blocking, as explained above, but the dataset format will still be given as BB.

When receiving a file from a Cray system where BB has been specified, the station will use the record control words to determine the length of each record and then will write out the file, inserting the appropriate record headers and trailers, as per the UNIX Fortran standard. Again, Cray systems running UNICOS require no special treatment.

Note: When using the BB dataset format under UNICOS, the file will be blocked before transfer; using the TB dataset format will not cause the file to be blocked. In either case, the station will unblock the dataset. Users should be aware that unformatted Fortran files are generated as blocked under UNICOS; this implies that the TB dataset format should be used on these files.

OB The previous implementation of binary blocking is still available as the OB option (which stands for "old blocking"); it was previously referred to as DF=BB or -f BB. In fetches or acquires of this format, end-of-record record control words (RCWs) will be inserted at the end of each Cray block of data; in disposes, the end-of-record record control words will be discarded.

5.2   ADMINISTRATOR (SYSTEM) SOFTWARE

The following enhancements were made to the UNIX station software:

. The following configuration file parameters were added:

- ST_HYBEGIN and ST_HYEND are parameters that are relevant only for those systems which use a character-special file interface to the underlying driver. These parameters are the lower and upper limits for the numbers which the station appends to ST_HYPREFIX when attempting to open the driver. The station generates a series from ST_HYBEGIN to (ST_HYEND-1). The standard values for these parameters are 0 and NCHAN, respectively. NCHAN is the number of logical paths to the driver, as defined by the driver.

- ST_MAXSLINT is the default maximum time interval between each logon attempt. The station may attempt to logon in smaller intervals if users are trying to use the station. If there are no users, ST_MAXSLINT is the maximum amount of time between attempts.

- ST_DEFDF is the parameter specifying the default dataset format that the station and user interfaces will use. Generally, character-blocked (CB) will be the default dataset format for COS, and UNIX data (UD) for UNICOS

. The station will exit if an error occurs before the station is logged on to a Cray mainframe. In previous releases some errors were not obvious to the administrator, thus the station would appear to be up when actually it was continually looping on an error.

. A new backoff algorithm was implemented.

In previous releases of the UNIX station, if the station was not logged on, it would attempt to log on every ST_SLEEPINT seconds. There were two drawbacks to this. First, during that that interval of time, no administrator or user could communicate to the station. Second, it was not advisable to set ST_SLEEPINT to any large interval which would relieve the traffic generated when trying to log on. In release 3.02, if the station is not logged, it will attempt to log on every ST_MAXSLINT minutes. However, if an administrator or user attempts to communicate with the station, they can. This will reduce the traffic generated to log on and will provide better service for the administrators and users.

6.   DOCUMENTATION

The following documentation was revised for the UNIX station release 3.02:

- UNIX Station Command Reference Manual, publication SU-0105 C

- UNIX Station Administrator's Guide, publication SU-0106 C

- UNIX Station User's Guide, publication SU-0107 C

The following station-related documentation is available:

- HYPERchannel Connection to a Front-end System Running the UNIX Operating System, publication SN-0293

- Configuring the UNIX Station in GOS Mode, publication SN-3026

7.   PROBLEMS FIXED

All problem corrections were tested and were found to resolve the documented problems. An effort was made to verify that new problems were not introduced into related areas. The SPRs closed for this release are described below:

SPR Number	Description
25147	Two statid environment variables needed
24770	Cannot submit jobs from a remote node running NFS
24960	Graphics are not supported for the HP-9000
25124	An interactive fetch causes a batch station to crash and not be able to logon
25743	Data not removed when dispose fills file system
20678	No error message for missing text field of 'CS Message' command
24763	Some console commands garbled from remote node
24915	Statinit will try forever
24959	Dispose to shell may leave defunct processes hanging around
24961	Interactive users logged off without warning
25369	Two stations with same ID get started at the same time
25370	Kill signal not causing the station to terminate
25720	Build script won't accept GRHP

The following changes were provided to problems without SPR numbers.

. Interactive stability has been improved.

. In previous releases of the UNIX station, the station could only be terminated when the station was actually logged on to the Cray. Now the station can be terminated whenever there is a station process running.

8.   UNRESOLVED PROBLEMS

The operator command does not support the **id, tid** or **npw** arguments. Only the **pw** argument is functional.

A crayid longer than 5 characters will cause problems on systems with a 14-character file name limit. It is recommended that crayid be limited to 5 characters.

UNICOS unsupported commands will cause a station to relog. A work-around is availabe for UNICOS sites. Contact ISTS for more information.

On page 6-17 of the UNIX Station Administrator's Guide the references to the **statinit** scripts are incorrect. New **statinit** scripts were planned for this release but were not implemented.

9. TESTING

The field test for the UNIX station release 3.02 was conducted at Cray Research, Inc. in Mendota Heights, MN.

A description of the station field test is in the Test Summary Report, included in the release package.

CONFIGURATIONS TESTED DURING THE UNIX STATION TEST CYCLE

SOFTWARE	HARDWARE	INTERFACE
SunOS 3.5	Sun-2 Workstation	HYPERchannel
SunOS 3.5	Sun-3 Workstation	HYPERchannel
SunOS 3.5	Sun-3 Workstation	FEI-3S
SunOS 3.5	Sun-4 Workstation	HYPERchannel
UNICOS 3.0/4.0	CRAY X-MP	HYPERchannel
GOS 4.0/1.17	CRAY X-MP	Memory Link
HP-UX 6.0 BSD	HP 9000	HYPERchannel
IRIS 3.6 System V	IRIS Workstation	HYPERchannel
UNIX System V	DEC VAX 7XX	HYPERchannel
UNICOS 4.0	CRAY-2	HYPERchannel
OSx 4.0	Pyramid 90X	HYPERchannel

10.   SUPPORT CONSIDERATIONS

The previous release of the UNIX Station is version 3.01. It will be supported until December 3, 1988.

The general policy for support of standard software is as follows:

Standard software, as defined, includes all COS and associated product set software, all UNICOS and associated product set software, and all software written by CRI to support the CRI stations. In general, corrective and critical release support for major release "n-1" will be provided for at least 4 months after the shipment of major release "n".

The following chart provides a summary of currently supported Cray standard linking software products. It identifies the current level of each product and indicates which previous level, if any, is still supported. Dependencies for the current level, if any, are also indicated for each product.[1]

Product	Previous Supported Level	Support Expires	Current Level	Software Requirements[2]
Apollo Station	2.01	03/10/87 (Expired)	2.02	COS 1.12 or later UNICOS 2.0 or later AEGIS 9.0 or later
MVS Station	2.02	–	2.03	COS 1.11 or later UNICOS 2.0 or later
NOS Station	1.16	04/30/87 (Expired)	1.17	COS 1.13 or later UNICOS 2.0 or later NOS 2.4.3, L647 NOS/VE 1.1.4, L649 University of Mn Pascal 4.0 is required

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[1] This table indicates the latest base release levels of software and is meant to show current corrective code software releases unless specifically stated as for SUPERLINK/ISP.

[2] The "Software Requirements" category indicates supported levels of Cray and vendor software. To determine which levels were actually tested, reference the "Testing Status" section within the Release Notice for the respective software product.

Product	Previous Supported Level	Support Expires	Current Level	Software Requirements[2]

NOS/BE Station	1.14	09/01/87 (Expired)	1.15	COS 1.13 or later
				UNICOS 2.0 or later
				NOS/BE 1.5
				   (L627, L650, L664)
				NOS/VE 1.2.1
				University of Mn
				   Pascal 4.0 is required

NOS/VE Link	none	–	1.0	
RDOS local Station	1.14	08/03/87 (Expired)	1.15	COS 1.13 or later
Remote Apollo Link	none	–	1.01	COS 1.12 or later UNICOS 2.0 or later VMS Station 3.04, 3.05, AEGIS 9.0 or later
DEC VMS Station	3.04, 3.05	03/13/88	3.07	COS 1.13 or later UNICOS 2.0 or later VAX: VMS 4.0 or later MicroVAX: VMS 4.2 or later
VM Station	4.01	–	4.02	COS 1.14 or later UNICOS 2.0 or later IBM VM/SP 3.0 PUT level 8401 or later
UNIX	3.01	12/03/88	3.02	COS 1.14 or later UNICOS 2.0 or later
SUPERLINK/ ISP	none	–	1.00	COS 1.14BF2 or later

UNIX STATION 3.02 ORDER FORM

To: Cray Research, Inc.
             Distribution Center
             2360 Pilot Knob Road
             Mendota Heights, MN 55120
             U.S.A.
             Attention: Distribution Center - Order Desk

From: _____

Site Code: _____

Subject: UNIX Station 3.02 Release

Please send me the items checked below:

_____   UNIX station 3.02 release package with expander tape format

** OR **

_____   UNIX station 3.02 release package with 1600 BPI tape,

** OR **

_____   UNIX station 3.02 release package with (Sun, IRIS, or HP) tape
cartridge   (circle one)

_____   Additional copies of the UNIX Station 3.02 Release Notice (specify
        desired number)

_____   Additional copies of the UNIX Station 3.02 System Installation bulletin
        (specify desired number)

Sites, order above items plus:

_____   UNIX station manuals:

    • UNIX Station Command Reference Manual, publication SU-0105 C

    • UNIX Station Administrator's Guide, publication SU-0106 C

    • UNIX Station User's Guide, publication SU-0107 C

_____   HYPERchannel Connection to a Front-end System Running the UNIX Operating
        System, SN-0293

_____   Configuring the UNIX Station in GOS Mode, SN-3026

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