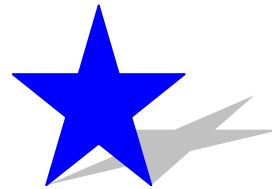# *STAR-1100*

SYSTEM FOR TAPE ADMINISTRATION AND REPORTING

STAR-1100 Level 8R2
Release Announcement
Software Version: 8R2

February 2023

Formula Consultants Inc.

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Contents

STAR-1100 Level 8R2 Release Announcement

General

Formula Consultants is pleased to announce that Level 8R2 of our System for Tape Administration and Reporting (STAR-1100) is now available for general distribution. As a normal FCI policy, this release will be provided at no additional cost to all STAR-1100 users with current maintenance contracts, as well as to users with licenses still within the initial warranty period.

Release Description

Minor Enhancement Release

STAR-1100 level 8R2 is a stability update and minor enhancement release.

✎ **Note**   *Even though STAR 8R2 consists of minor enhancements, you still need to exercise care when installing STAR 8R2 because of compatibility and migration issues related to new data formats.*

⚠ *CAUTION*   *STAR-1100 Level 8R2 has a specific required migration path from STAR-1100 software levels prior to 8R1. Please read the topic on Migration carefully.*

Product Enhancements

TDATE$ Remediation for CP 20.0

Level 8R2 supports STAR-1100 TDATE$ Remediation for CP OS2200 20.0 EXEC Level 50R1 and MMGRSWTIME=TRUE.

The STAR-1100 product has been enhanced to remove the use of TDATE$ and to support the EXEC configuration parameter MMGRSWTIME being set to TRUE and or running CP OS2200 20.0 EXEC Level 50R1.

All dates and times used internally or saved in control files will be in MODSWTIME$ format. All Dates and times stored in the TIF will depend on the setting of the EXEC configuration tag MMGRSWTIME. When MMGRSWTIME=TRUE all dates saved in the TIF will be in MODSWTIME$ format.

CAUTION   *STAR-1100 Level 8R2 must be installed on all peers in an SLS environment before any peer can set MMGRSWTIME=TRUE or be migrated to CP OS2200 CP20.0. Please read the topic on Migration carefully.*

STAR-1100 Utility STARDATE

The STAR-1100 product has been enhanced to include a new utility, STARDATE, for reporting the date types in the TIF and for converting the dates from one format to another.

CAUTION   *STAR-1100 Level 8R2 must be installed on all peers in an SLS environment before using the STARDATE utility convert dates in the TIF. The conversion of Date formats should be done as part of the TIFMRG process. Please read the topic on Migration Section.*

Improved Integration with VTH

The STAR-1100 product has been enhanced to include a reconciliation program, VTHRECON, similar to MFDRECON, which can be used to reconcile VTH tape information between the TIF, MFD and the VTH$POOL file.

Additionally, the SANDCRUN will optionally update the Virtual Container Size (VCSIZE) field for VTH tapes when the parameter VTHSIZE=YES is specified. VCSIZE is displayed by the STAR processor in tracks.

New Physical Media Recognition and Reporting

All programs and processors have been updated to recognize and report the different cartridge media types LTO5, LTO6, LTO7. These newer media

types will be reported with DENCOD values of L5, L6 and L7 respectively. The RPTDEF generation and runtime parameters will also enable report page-breaking on the new density types.

New STAR Background Run Parameters

The STAR-1100 Background Run has been enhanced to implement new parameters for improved flexibility. The new STAR Background run parameters are:

SERVCOMM   Determines which ComAPI install mode to use for the STAR Scratch Server which LIBMGR (STAR Library Manager) will connect to. Possible values are: COMAPIA, COMAPIB, COMAPIC, COMAPID. The default is COMAPIA.

SERVMSG   Determines if messages should be displayed on the console when a LIBMGR client connects to or disconnects from the STAR Scratch Server. The default is 0 (no messages).

New STAR SANDCDATE Parameter MASDLMTYPE

The SANDCDATE parameter element in the runstream STAR-1100 SANDCRUN has a new parameter, MASDLMTYPE, that will select the utility program to be used to synchronize scratch requests with the DLm. The options are either the STARMASUTIL program or the STARDLMUTIL program. The default value is DLM, to select STARDLMUTIL.

The syntax within a directive in the SANDCDATE element is:

```
MASDLMTYPE=DLM   or
MASDLMTYPE=MAS.
```

Enhanced Diagnostics

Changes to STARBG (the STAR-1100 Background program) its corresponding runstream, STARBGRUN, introduce greater flexibility into STAR's diagnostic capabilities.

The trace-file is now separate from the print file. Operators and administrators can use a new command, CYCLE, to close the TRACE-FILE and open a new cycle of that file.

The BRKPT command is used to close the PRINT-FILE and open a new cycle.

New STAR-1100 Runstreams

The following runstreams have been added to the product:

Runstream	Description
DLMSYNCHRUN	Synchronize all DLm tapes with the DLm Virtual Tape System.
STARDATERUN	Report dates and formats in the Tape Inventory File.
STRDLMINIRUN	Initialize all DLm scratch tapes with a DLm Virtual Tape System.
STRDLMSCRRUN	Synchronize DLm tapes that have just scratched with the DLm Virtual Tape System. Intended to be used when SANDCDATE parameter MASAUTOADD=NO.
STRKEYCHKRUN	Used to report STAR License Key information.
VTHRECONRUN	Reconcile TIF with MFD and VTH$POOL file.

New TIF Fields to Support Library Manager

STAR Library Manager is closely integrated with STAR-1100. The following fields have been added to the TIF to support the Library Manager VTLUTILITY, when exporting virtual volumes to physical tape.

TIF Field	Description
LBMGRMD	The LIBMGR Install mode (A, B, C, D) under which the VTLUtility was executed to export virtual volumes.
LBRYNUM	The logical Library number or coded library number in which the virtual volume that was exported resides.
XPRTCPY	A flag indicating that the exported volume was copied from the VTL and still remains in the VTL.
XPRTDT	The date the volume was exported.
XPRTMOV	A flag indicating that the exported volume was moved and deleted from the VTL.
XPRTVOL	The physical volume that a virtual volume is exported to.
XPRTVSQ	The logical sequence number of the virtual volume which is stacked onto the physical volume.

New QLP and TIFSDF fields

The STARQLP Subsystem and TIFSDF file have been enhanced to include the following new fields, determined at time of TIFSDF execution.

TIFSDF Field	Description
CRTDAYS	Days Since Creation Date.
USEDAYS	Days Since Last Used.
UPDDAYS	Days Since Last Updated.
TOTERR	Total combined Read and Write Errors

Discontinued Features

TIFMAP MAPPER Interface

The STAR TIFMAP MAPPER interface is no longer supported. The TIFMAP-L element is still provided in the installation file, however it is no longer supported.

Media Manager

You should contact Unisys to obtain the most recent EMU level of the MMGR (Media Manager).

STAR-1100 Notes Of Interest

STAR-1100 corrections described by Notes of Interest through number 135 are included in level 8R2.

Restrictions and Limitations

The non-flagging version of the ACOB compiler (Level 7 or above) is required to generate this release of STAR-1100.

You must terminate the following processes and STAR-1100 runs prior to installing the STAR product or the URTS product:

- the STAR background run,
- the SLS process,
- LABELPRINT,
- LIBSYNCH / TIFSYNCH, and
- any other STAR-1100 runs.

Compatibility

Registering and BUILDing STAR

The STAR-1100 level 8R2 Release Tape must be registered and built with COMUS.

The STAR-1100 level 8R2 Generation requires that the:

- STRSSDFLE and STRFLE parameters must be different,
- IBANK generation parameter must be set to at least 037000,
- DBANK generation parameter must be set to at least 0145000,
- SLS$ENT generation parameter must be set to at least 070000

When STAR level 8R2 is registered and built in the same COMUS database as previous STAR levels it will automatically convert the previous parameters to the new default values and add any new parameters, set to their defaults.

⚠ *CAUTION* *When you generate STAR-1100 on a CP19 system with ComAPI Level 9R1, and want STAR to be compatible with CP20 EXEC 50R1, you must install the following Unisys ComAPI PLE's <u>before</u> BUILDing STAR.*

- ComAPI 9R1 PLE 19339246 prevents a ComAPI 9R1 Application zoom (STARBG) abort under EXEC Level 50R1 or higher.
- ComAPI 9R1 PLE 19329500 prevents a ComAPI 9R1 abort under EXEC Level 50R1 or higher.

SLS and TIF Management Compatibility

STAR-1100 Level 8R2 SLS is completely compatible with STAR-1100 level 8R1A SLS.

The format of the Sorted TIF, created from the TIFCOPY absolute and used by the TIFMRG programs, has changed in 8R2 to support the TDATE$ remediation.

The STAR-1100 Level 8R2 TIFMRGRUN is compatible with STDBKRUN TIFSAVE tapes from peers that are on STAR Level 8R1A. This means that when a TIFMRG is required before all systems have been upgraded, the TIFMRGRUN must be run on the 8R2 system.

The STAR-1100 Level 8R2 Automated TIF Merge process (ATIFMRGRUN) is compatible with peers that are on STAR Level 8R1A. This means that when a TIFMRG is required before all systems have been upgraded, the ATIFMRGRUN must be run on the 8R2 system.

Testing and Verification of STAR Release 8R2

Release 8R2 is generated under CP OS 2200 CP19 and tested under CP OS 2200 CP19 configured with Security Option 1 and Security Option 2.

STAR-1100 Migration

The migration to STAR level 8R2 from previous STAR levels requires several steps to be performed prior to the installation.

Step 1.   Release Tape Recreation

Follow the instructions in the "Release Tape Recreation Instructions" document to recreate the release tape on the media of your choice from the DVD download of your STAR Level 8R2 release.

Step 2.   Register the Release Tape in COMUS.

Assign the release tape and Register it with COMUS in your existing COMUS database where you have previously generated STAR. If you need to register in a new COMUS database and still have access to the old COMUS database file COMFIL, then perform the following statement so that your old configuration can be migrated.

If the current STAR level is 8R1 or 8R1A:

```
@COPY,S <old qualifier>*COMFIL.DEFSET/STAR8R1,<new qualifier>*COMFIL.
```

⚠ *CAUTION*   *Do not change the version name of the DEFSET element. The old version of the DEFSET will be automatically converted to the new name.*

Step 3.   Build STAR level 8R2.

Perform a COMUS Build of STAR level 8R2, entered as:

```
BUILD STAR,8R2
```

Your previous parameter values will be automatically migrated. At the "Update Type 2 SGS parameters" prompt answer Yes to review the parameters. Then start the COMUS Build.

Step 4.   Install STAR level 8R2.

Use either the INSTALLPKG runstream or SOLAR to register the STAR 8R2 product.

Install the STAR 8R2 Output master taped created in Step 3.

Step 5.   Repeat Step 4 on all SLS peer systems.

STAR Level 8R2 must be installed on all systems before migrating to CP OS2200 release 20 or before turning MMGRSWTIME=TRUE on any system.

STAR QLP Interface

If your site uses the STAR QLP Interface, you must run TIFSDFRUN to create a new TIFSDF file and use the new STAR-1100 schema that is installed. By using both the new TIFSDF and STAR-1100 schema, any field definition mismatches will be avoided for fields that have been added.

Date Formats in the TIF

The STAR TIF (Tape Inventory File) has 2 types of dates:

- A whole word date-time format, which was previously TDATE$ and now (STAR 8R2) will be in MODSWTIME$ formats. These whole word date fields are: CRTDT, VCRTDT, USEDT, UPDDT and PUPDDT.

- Half-word formats which contain the date only. These dates are manually entered or changed and do not perform nor are affected by ER TDATE$. These half word date formats will be addressed in a release after STAR 8R2. These half word dates are: BTHDT, CLNDT, OUTDT and XPRTDT.

The old manually entered half-word date-only formats were in the same format as the first half of a TDATE$ format. The new format for half word dates will be based on the number of days since 1900.

✎ **Note** *STAR-1100 and the TIF are designed to allow the half-word date formats to <u>change to the new format over time,</u> as tapes are used or updated.*

At some point in time, a site can decide to convert all the STAR TIF whole word dates to the new format by using the utility STARDATE. STARDATE is designed to run in an offline mode and can be run as part of TIFREORGRUN, TIFMRGRUN or ATIFMRGRUN.

⚠ *CAUTION   STAR-1100 Level 8R2 must be installed on all peers in an SLS environment before using the STARDATE utility convert dates in the TIF. The conversion of Date formats should be done as part of the TIFMRG process.*

STAR Local Code and Local STAR Programs

If your site has local code in any STAR-1100 programs, we strongly encourage you to send your local code to FCI for review before attempting to upgrade to STAR Level 8R2. Some of the STAR-1100 programs and subprograms have been rewritten in UCOB/UC to facilitate some of the date conversion.

Further, if you have local or custom utilities that use any of the STAR relocatables or object modules to read or update the TIF, we also encourage you to contact us and let us know the STAR routines your programs are accessing. We want to help you ensure that your local utilities are compatible with the all the changes in STAR 8R2.

STAR-1100 Fallback

New format for STAR License Key File
The STAR License Key file has changed format in STAR Level 8R2 from a flat file to a program file. During the SOLAR installation of STAR, the current License key file is saved to SYS$*OLDKEYFILE and the file is converted to a STAR Level 8R2 format.

In order to fallback to STAR Level 8R1A, the License Key file should be restored to the old format immediately after falling back to STAR level 8R1A. This is done easily by issuing the following statement:
```
@COPY SYS$*OLDKEYFILE.,SYS$LIB$*STAR$KEYFILE.
```

CP OS2200 EXEC Migration

Migrating to CP OS2200 20.0

Before migrating to CP OS2200 20.0 EXEC Level 50R1 and/or setting MMGRSWTIME=TRUE on any system, STAR-1100 Level 8R2 must be installed on all systems first.

As soon as the EXEC with MMGRSWTIME=TRUE is booted, the Media Manager will start saving dates in TIF records, depending on the update type:

TIF Field	Tape Write	Tape Read	Program update
CRTDT	Yes	No	No
VCRTDT	Yes	No	No
USEDT	Yes	Yes	No
UPDDT	Yes	Yes	Yes
PUPDDT	Yes	Yes	Yes

STAR-1100 and the TIF are designed to allow the date formats to change to the new format over time as tapes are used or updated. The fields that have new date formats will show the 3 character time zone initials after the date in the STAR Processor volume displays.

⚠️ **CAUTION**   *STAR-1100 Level 8R2 must be installed on all peers in an SLS environment before any peer can set MMGRSWTIME=TRUE or be migrated to CP OS2200 20.0.*

Future Considerations

This topic identifies software, functions, support, etc. that will be changed or removed in a future release.

Change of Format for Manual Date Input

In the next release of STAR-1100, when dates are manually entered into the TIF for CRTDT, VCRTDT, USEDT with the STAR Processor and TIFUTIL Processor, they will be in MODSWTIME$ format.

Format Change for Half Word Date

In the next release of STAR-1100, the internal format of BTHDT, CLNDT, OUTDT and XPRTDT will require a subroutine to encode and decode.

Notice of Intent to Remove Features

In the next release of STAR-1100, the following subsystem and components will be removed:

- the Automated Library Subsystem (ALS) used for synchronizing with Oracle/StorageTek Tape Libraries,

- the Expert Library Management Subsystem (EXLM) used for synchronizing with Oracle/StorageTek Tape Libraries,

- the MAPPER TIF interface, and

- the old unused GASIF, NETEX SLS communication modules.

Previous Level Support

Prior levels of STAR-1100 currently supported include 8R1A.

STAR-1100 level 8R1A will be supported through February 29, 2024.

Documentation

Documents provided with release 8R2 include:

- *STAR-1100 Installation Guide*, FP-102-R15

- *STAR-1100 Operations Guide*, FP-103-R15

- *STAR-1100 Programmer's Guide*, FP-104-R13

- *STAR-1100 Shared Library Subsystem User Guide*, FP-098-R9

- *STAR-1100 Expert Library Manager Subsystem User Guide*, FP-166-R4

- *STAR-1100 Utilities Subsystem User Guide*, FP-167-R5

- *STAR-1100 Conversion Utilities User Guide*, FP-168-R3

If your site has a DSI Virtual Tape Library and is using STAR Library Manager, you will find the following document helpful:

- *STAR Library Manager Installation and Administrator Guide*, FP-161-2R2.

FCI Website

For general information about Formula Consultants, Inc. and its products see www.formula.com. After you register with the site and receive a userid and password, you can download PCRs, Notes of Interest, and documentation.

Ordering Instructions

To order your site's copy of STAR-1100 8R2, contact a sales representative at Formula Consultants Inc., at **714-778-0123**

or complete the attached Product Order Form and fax it to 714-778-6364, or mail your order to:

Formula Consultants Incorporated
P.O. Box 544
Anaheim, CA 92815
Attn: Product Sales

or Order STAR-1100 8R2 electronically by addressing your e-mail to:

sales@formula.com

or Order STAR-1100 8R2 through pir website at: **www.formula.com**

Product Order Form

PRODUCT: **STAR-1100 8R2** _____

CUSTOMER: _____

DELIVERY ADDRESS: _____

                             _____

CITY, STATE: _____

ZIP CODE: _____

CONTACT: _____

TELEPHONE NUMBER: _____

LAST STAR-1100 LEVEL RECEIVED: _____

General Releases

The OS 2200 Software for STAR-1100 is available electronically on DVD format and is available for download on the FCI support web site.

Corrections

All minor corrections are available for download on the FCI support web site.

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