

NonStop NET/MASTER Tips and Techniques
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Introduction

This is an ongoing column with NonStop NET/MASTER tips and techniques. Each column is also accessible from <http://www.greshamsoftwarelabs.com.au/> (Gresham Software Labs). Please send all comments and suggestions to John New at jnew@greshamsoftwarelabs.com.au.

Biography

John New is a technical writer. He has written and updated various Tandem manuals. He currently writes hard-copy, online, and web documents for a variety of software products.

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NonStop NET/MASTER Tips and Techniques
Defining User Subsystems to NonStop NET/MASTER
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Introduction

This article discusses some of the difficulties caused by not defining user subsystems in the system template file, describes how NonStop NET/MASTER displays messages from unknown user subsystems, and outlines the steps to define user subsystems to NonStop NET/MASTER.

Unknown User Subsystems

User subsystems on Tandem systems can generate event messages that are read by tools such as the EMS printing distributor. Various factors determine how messages are displayed, including the extent to which they are tokenized. Some subsystems may generate messages without tokens (with text-only EMS0512 messages), other subsystems may generate messages that are partially tokenized (with text in the ZEMS-TKN-TEXT token), and other subsystems may generate messages that are fully tokenized.

For user subsystems that generate fully tokenized messages, it is good practice to define the subsystem and install the EMS event templates in the system template file. This includes subsystems associated with third-party and internally developed software. If not, the unknown subsystem may generate messages that are difficult to decipher and time-consuming to resolve. For example, some tools may display events from unknown subsystems with the subsystem owner, a subsystem identifier (SSID), and version number, followed by unhelpful text such as "No template and no TEXT token for event. ...".

Unknown User Subsystems and NonStop NET/MASTER

NonStop NET/MASTER displays events from unknown subsystems with a message ID of `???nnnn`, followed by the text (where "???" indicates an unknown subsystem and "nnnn" is the event number). These events are difficult to identify by NonStop NET/MASTER operators and automation routines.

When you explicitly define subsystems that generate events to NonStop NET/MASTER, the "???" is replaced by a three-character subsystem name that is meaningful to operators and automation. Additionally, Network Control Language (NCL) procedures within NonStop NET/MASTER can generate unique events using the EMSSEND verb, which sends event messages from an NCL procedure to the EMS collector.

If a subsystem does not have any of its own tokens, then you can define the subsystem to NonStop NET/MASTER without the original DDL source. Only the subsystem number is required, and you can create a simple DDL source file (described later).

If a subsystem has text-only events (that is no embedded tokens in the event text), then you do not require the original template source. You can create a dummy template source file (described later).

Defining User Subsystems to NonStop NET/MASTER

The subsection called "Mapping User-Defined Tokens to MDOs" in Section 12, "Maintaining the Map File," of the NonStop NET/MASTER MS System Management Guide (order number 115414) discusses how to define user subsystems to NonStop NET/MASTER. However some steps are just mentioned. These include the steps for creating DDL and Template source for the subsystem, compiling the DDL and Template source, and merging the Template object with the system Template.

The following steps supplement the information in the NonStop NET/MASTER MS System Management Guide. Each numbered step below corresponds to a step with the same number in the subsection in the Guide. Therefore it is advisable to read the rest of this article in conjunction with the Guide.

Note: These steps assume that you understand NonStop NET/MASTER mapping concepts, such as Mapping Services, maps, mapped data objects (MDOs), and map files.

1. Define your subsystem and its tokens in DDL. You must use the SSID clause in each token you define. Build your dictionary.

If the DDL for the subsystem is already available, you should use this DDL; otherwise, you must create a DDL source file.

To create the DDL you must determine the subsystem number, either by inventing one for a new user subsystem or by viewing events using EMSDIST for an existing user subsystem.

The following example DDL source is for subsystem number 42, version A00, owned by "XYZCORP":

```
?DICT $DATA.PR1DDL!  
?SOURCE $SYSTEM.ZSPIDEF.ZSPIDDL  
?SOURCE $SYSTEM.ZSPIDEF.ZEMSDDL  
  
CONSTANT SUBSYS-OWNER          VALUE IS "XYZCORP ".  
CONSTANT SUBSYS-NUM            VALUE IS 42.  
CONSTANT SUBSYS-VER            VALUE VERSION "A00".  
  
DEF PR1-VAL-SSID TACL SSID.  
  02 Z-FILLER                  TYPE CHARACTER 8 VALUE SUBSYS-OWNER.  
  02 Z-OWNER REDEFINES Z-FILLER TYPE ZSPI-DDL-CHAR8.
```

```
02 Z-NUMBER                TYPE ZSPI-DDL-INT VALUE SUBSYS-NUM.
02 Z-VERSION                TYPE ZSPI-DDL-UINT VALUE SUBSYS-VER.
END.
```

Note that the subsystem number need only be unique among subsystems owned by XYZCORP.

You must create the DDL dictionary by compiling the DDL, for example:

```
DDL /IN ddl-source-file/
```

2. Create a template source file describing at least one message, and include on the SSNAME line a three-character subsystem name.

If the template for the subsystem is already available, then you should use it; otherwise, you can create a dummy template source file.

The following example template source refers to the SSID definition created by the above DDL and defines the subsystem name as PRODUCT1 with short subsystem name PR1:

```
VERSION: "1.0"
DICT:    $DATA.PR1DDL
SSID:    PR1-VAL-SSID
SSNAME:  "PRODUCT1","PR1"
MSG:     ZEMS-TKN-EVENTNUMBER,0 ""
```

Note that the MSG entry above is a dummy event. A minimum of 1 event definition is required but it does not have to be a real event. This template supports any event numbers but only if their text does not contain embedded tokens.

3. Create a template object file using the TEMPL program.

The following example creates an object file from the template source above:

```
TEMPL /IN <template-source-file>/ PR1TMPL
```

4. Use the TEMPLI program to merge your template object with the current template file used by NonStop NET/MASTER.

The template object created above must be merged with the system template that is used by NonStop NET/MASTER. Create an edit file for use as input to the TEMPLI utility, for example:

```
FILE PR1TMPL
FILE $SYSTEM.SYS00.TEMPLATE
```

Run TEMPLI as follows:

```
TEMPLI /IN templi-in-file/ RES, NONRES
```

This creates the files RES and NONRES, the resident and non-resident template files respectively. The NONRES template is the one required by NonStop NET/MASTER, and can be renamed to TEMPLATE.

5. Create a SPI-to-MDO conversion file, which is a simple edit file.

The NonStop NET/MASTER MDMAINT utility program requires a SPI-to-MDO conversion file, called the OWNER file. Using the previous examples the owner file should contain the following:

```
XYZCORP 1
```

You can list multiple subsystem owners in this file. Each owner must have a unique number within the file.

6. Use a COUP or ADD DEFINE command to enable NonStop NET/MASTER to use the nonresident template file created in Step 4 as the source template file used by the MDMAINT program.

Do not use the resident template file.

7. Update the NonStop NET/MASTER map file using MDMAINT.

In the following example n is the NonStop NET/MASTER process character used when NonStop NET/MASTER is started:

```
RUN $VOL.ZNNM.MDMAINT $VOL.ZNNMDATA.nMAPFILE <owner-file>
```

8. If you used the ADD DEFINE command in Step 6 and have changed your template source, you must restart NonStop NET/MASTER.
9. If you did not restart NonStop NET/MASTER in Step 8, update the maps from the updated map file as described in the NonStop NET/MASTER MS System Management Guide.

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