

# Natural User Area Size Considerations

The following topics are covered:

- Using the MAXSIZE Parameter
  - Defining the Size of the Individual Natural Buffers
  - Possible Error Messages
  - Displaying the Aggregate Size of All Buffers
  - Calculating the Maximum Buffer Size
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## **Natural Swap Pool** - Other Topics:

Purpose of a Natural Swap Pool | Natural Swap Pool Operation | Swap Pool Initialization | Dynamic Swap-Pool Reorganization | Defining the Natural Swap Pool | Swap Pool Data Space | Global Restartable Swap Pool under UTM | Terminating the Global Swap Pool

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## Using the MAXSIZE Parameter

The overall size of the Natural user area is determined by the MAXSIZE parameter in the swap-pool parameter module. Therefore the MAXSIZE must be set large enough to contain the aggregate size of all buffers that are required by Natural and also by possibly used subsystems (Connect, TRS, etc.). The buffer requirements of Natural and subsystems are met by the TP driver. When a Natural application is started, a user thread with a size of MAXSIZE is created. This is done by a physical request memory to the operating system.

The buffer requests of Natural to the TP driver cause only "logical" GETMAINS; that is, the Natural user thread is then divided into "logical" units: the Natural buffers.

## Defining the Size of the Individual Natural Buffers

The size of the individual Natural buffers is either explicitly defined in the Natural parameter module (with the parameters ESIZE, CSIZE, etc.) or is implicitly determined by the definitions of the parameters PS, LS, etc.

The maximum sizes of the Natural buffers can be displayed with the function "Buffer Usage Statistics" of the Natural utility SYSTP. SYSTP also offers functions for ascertaining for all users of a specific application the overall maximum Natural buffer sizes used.

## Possible Error Messages

When the Natural error message "NOT ENOUGH MEMORY" or "BUFFER SIZES EXCEED MAXSIZE" appears, this indicates that the MAXSIZE has not been defined large enough.

## Displaying the Aggregate Size of All Buffers

The aggregate size of all buffers requested by Natural (that is, the amount of MAXSIZE actually used by the users of an application) can be obtained via the Natural swap-pool manager function of the SYSTP utility.

## Calculating the Maximum Size

A standard way of calculating the MAXSIZE is:

Add all explicitly defined buffer sizes (for example, ESIZE) and 40 KB (the sum of the internal Natural buffer sizes).

This gives you roughly the required size for MAXSIZE.