Datasheet
Fujitsu Software BS2000
SDF-P Version 2.5

Programming in the Command Language

Topics

Product characteristic

SDF-P expands the BS2000 command language to produce a programming language in which structured programming can be performed just as it is using high-level programming languages. Thus, it significantly improves the runtime security and maintainability of larger, more complex procedures. At the same time, it allows the user to generate smaller procedures quickly and easily. The syntax of the SDF- P language has been adapted to SDF syntax but is also oriented toward the familiar syntax of standard programming languages.

Product description

SDF-P is activated by a procedure call; it then reads in the entire procedure. The same applies to blocks in dialog (e.g. /FOR, .../END-FOR). The interpreter executes the control flow commands and forwards other commands to BS2000. Thus, SDF-P represents a filter between the input and the rest of the BS2000 system.

SDF-P contains a variable handler that stores the data in the Class 5 memory or in job variables. An expression evaluator and various built-in functions are available for processing the contents of S variables

and can also serve to obtain environmental data and be used in any commands through variable substitution.

An option for rerouting user data (SYSOUT) to a compound S variable (list) with a list structure guaranteed in the long term is also available in order to allow the processing of output information from commands in SDF-P procedures. This function is supported across-the-board for all (relevant) SHOW commands. The associated S variable stream concept is used to record structured output data and forward it to subsequent entities, e.g. FHS for presentation in screen masks.

As always, it is also possible to read data and SDF statements from the command stream (SYSCMD). This means that SDF-P commands can also be used for programming and for generating data and statements.

SDF-P procedures can be converted into an interim format before execution. The procedures compiled in this way can then also be executed in installations in which SDF-P is not loaded. This guarantees that they can be freely swapped between BS2000/OSD installations in the same way as the old non-S procedures.

Functional description

Flow control

Procedures that are formed using SDF-P are called by means of an upwardly compatible expanded /CALL-PROCEDURE command to which S variables can also be passed as output parameters. Existing procedures can be called without having to be modified.
/BEGIN-BLOCK, …/END-BLOCK can be used for structuring command sequences in blocks within procedures.
/IF, …/ELSE-IF, …/END-IF can be used for branching, as a function of conditions.
/FOR, …/END-FOR is used for processing a value list or loop with control variable.
/WHILE, …/END-WHILE and /REPEAT, …/UNTIL are used for repeating a command sequence until a specified condition is met.
/CYCLE, /EXIT-BLOCK and /GOTO can be used for generating branches. Branch destinations must be

located within the same block or in a surrounding block on a lower nesting depth.

S variables

SDF-P expands the variable options available in BS2000. S variables are described by the following attributes:

- Life
  S variables can be created as task-global or procedure-local. In the first instance, they can be accessed in all procedures; in the second, they are known only in the procedure in which they were declared. When linked to job variables, S variables have the life of the job variable.
  It is also possible to set up permanent variables by storing variable containers in special PLAM library elements.
- Type
  S variables have a type. The types supported are STRING, INTEGER and BOOLEAN. When variables are declared, however, the type can be left open and subsequently determined by the relevant assignment.
- Aggregation
  S variables of the same type can be combined in arrays (as understood in conventional programming languages) or lists. Any S variables can be combined in structures (as in other programming languages, similar to "records" in PASCAL). These structures can have a fixed layout or can be declared as dynamically expandable.

Expressions

Expressions can be formed for the purpose of defining the value of S variables and for use in conditions. SDF-P offers concatenation operators, elementary arithmetic operators, relational operators and logical operators.

Built-in functions

A number of string functions, such as SUBSTRING, INDEX, LENGTH, WILDCARD, etc., are provided as built-in functions. Functions for querying the attributes of S variables, conversion functions, etc., are also provided. The functions for environmental information correspond somewhat to the system job variables. The system administrator can also define computer-center-specific built-in functions.

Variable replacement

The escape character "&" can be used to trigger the replacement of S variables, as was already possible with procedure parameters and job variables. SDF-P expands this process and also allows expressions in the replacement information.

Error handling

SDF-P offers block-specific error handling. If an error occurs, the system branches to the next error handling routine belonging to the block (identified by /IF-BLOCK- ERROR, .../END-IF). In the event of an error, the system commands return a differentiated error code that can be queried by means of built-in functions in the error handling routine.

S variable streams

The S variable streams concept represents an alter-native or adjunct to the SYSOUT system output file, to provide system or program information in structured form for further processing as appropriate. The user can initiate structured output either for individual system commands with the metacommand /EXECUTE-CMD or generally with ASSIGN-STREAM. To this end the system provides the standard variable streams SYSINF (for output of system commands or programs), SYSMSG (for output information for the messages which are guaranteed) and SYSVAR (as a combination of SYSINF and SYSMSG). It is also possible to define users' own streams.

For further processing, the S variable streams are linked to a server, e.g. FHS for presentation in screen masks.

Technical Details

Requirements	
Technical Requirements Hardware	Fujitsu Server BS2000
Technical Requirements Software	OS DX V1.0 and OSD/XC V11.0
User Requirements	Knowledge of BS2000

Installation	
Operating Mode	Interactive and batch mode
Implementation Language	C, SPL
User Interface	Commands English Message texts English/German (optional)
Installation	By the user, in accordance with the user guide

Documentation and Training	
Documentation	SDF-P User guide See: **Manuals**
Training	See course offer (German): **Courses**

Purchase and Delivery	
Conditions	This software product can be purchased by the customer against a single payment or leased in accordance with the conditions for the use of software products.
Order and Delivery	This software product may be obtained from your local Fujitsu Technology Solutions GmbH regional office.

Fujitsu Platform Solutions

In addition to Fujitsu Software BS2000, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio Built on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions, and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offerings. This allows customers to select from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

Computing Products
www.fujitsu.com/global/products/computing/

Software
www.fujitsu.com/software/

More Information

Learn more about Fujitsu Software BS2000, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.

www.fujitsu.com/emeia/bs2000

Fujitsu Green Policy Innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at https://www.fujitsu.com/global/about/environment

Contact

Fujitsu
BS2000 Services
Email: bs2000services@fujitsu.com
Website: www.fujitsu.com/emeia/bs2000
2023-01-30 EM EN