masc-oas

Online Archive for SAP
General Information
✳✳✳

MVS
Version 2.1.

MOAS-GI210-1-E

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MVS	International Business Machines Corporation
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SAP	SAP AG, D-Walldorf
VSE	International Business Machines Corporation

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ILLUSTRATION DIRECTORY

1. *masc-oas* DOCUMENTATION OVERVIEW

The following documentation and manuals are available for **masc-oas**:

- `MOAS-HO210-1-E`   **masc-oas** *"Online Archive for SAP: Handout"*
- `MOAS-GI210-1-E`   **masc-oas** *"Online Archive for SAP: General Information"*
- `MOAS-UG210-1-E`   **masc-oas** *"Online Archive for SAP: User's Guide"*
- `MOAS-IN210-1-E`   **masc-oas** *"Online Archive for SAP: Installation Guide"*

A complete set of the **masc-oas** documentation is included with the software package. Additional sets can be obtained by using the order request form.

2. INTRODUCTION

The following chapter gives an introduction into the problems posed by storage retention times, i.e. document life times, and describes the application potential of **masc-oas** within your Company.

2.1. General Problems encountered with the Storage of Documents

All transactions executed in a SAP System create a document during processing which is stored in the ABEZ document dataset. Thus, within a shorter or longer time span, depending on the size and type of company involved, a huge amount of data is created and accumulated, all of which has to be maintained within the system. Basically, the administration of such large datasets does not present a problem. There are, however, technical restrictions that limit the size of the datasets (i.e. 4 Gigabytes under VSAM or IMS) and consideration should also be given as to whether it makes economic sense to store large numbers of completed transactions on the most expensive storage media, i.e. the disc. Furthermore, a large ABEZ document dataset increases the run times for document selections as well as the time spent for the daily back up of the SAP System data, - both are negative factors in operating costs.

To avoid 'overflowing' the ABEZ dataset, the SAP System offers a document reorganisation facility - that archives all documents from completed business transactions. As a rule, this reorganisation (SAPB80U, etc.) is undertaken on tape. However, it must be born in mind that to the user, the archived documents are no longer available online in the SAP System. It follows that where the visual inspection of an archived document is essential, it requires a batch search with document selection, during which the archive tapes are read sequentially. This results on the one hand in a loss of time whilst the request is executed and on the other, increases the cost of selection because very large amounts of data have to be searched.

Determining the document life time, i.e. the time during which the documents are available online on the SAP System, has therefore to take account of the following parameters and evaluate them against each other:

Information Requirements

Use of Resources   User Friendliness
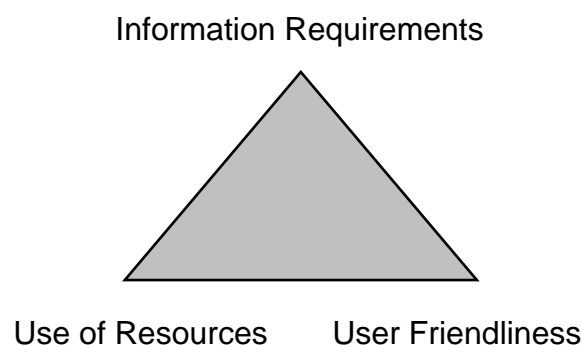
2.2. Solution

Where problems with the size of the ABEZ dataset arise, SAP AG advises the use of the COMPRESS/SAP utility, which reduces the physical storage requirement through the use of compression algorithms. Should the resulting storage space still not be sufficient, then the document dataset can be enlarged by the SBEZ dataset. These solutions, however, are only aimed at solving the technical limitations, i.e. the physical 4 Gigabytes restrictions of VSAM and IMS. All of the above mentioned problems relating to increased run times for the selection of documents and the backing up of stored data remain.

By using *masc-oas*, **the Online Archive for SAP,** you can entirely bypass these dilemmas in an **economically viable, efficient and user friendly** way. *masc-oas* is building on your existing SAP system and requires **no changes whatsoever** to the **source** of your existing SAP modules. Through a skilful combination of operating system aids and SAP options, all that is needed to give you full online access to your archived documents, is a few tables and DB definitions plus the installation of the programs supplied into your SAP system and TP monitor.

Using *masc-oas* you are now able to implement a solution which satisfies everyone:

- The user can **satisfy** his **information requirements in full**, despite having previously archived documents.

- The DP center is able to use the available **resources** more **efficiently and economically.**

Access to the document archives is **totally transparent to the user**, because it occurs in his usual environment. **The display** of the archived documents **corresponds with the familiar SAP layout** of document display transactions**.** The SAP program components are programmed in ABAP/4, are supplied in source code and are comprehensively documented. This makes it possible to **easily** undertake **problem free customer specific adaptations** at any time.

The only effort incurred by the **DP center** occurs during installation and periodic document reorganisation. However, as they are based on operational system aids, they can be carried out without **any problems.** *masc-oas* not only solves the **problem of the technical limitations,** but also considerably **reduces the time** taken for daily **data back up** and restore **by cutting the document life times significantly**. Along with the reduction in run times, the volume of document selection is also significantly reduced, something which results in a considerable **reduction of the load on the batch window**.

3. *masc-oas*, THE ONLINE ARCHIVE FOR SAP

The following chapter gives you a comprehensive overview of the structure of *masc-oas* and describes its implementation in your Company.

3.1. The Components of *masc-oas*

masc-oas, **the Online Archive for SAP,** is structured in a modular format and consists of the following components:

Base Component:	The Base Component contains all of the definitions and programs which form the basis for the implementation of *masc-oas*. Apart from implementation of the online/batch interface, it also contains all definitions and administrative programs for the necessary SAP databases.
Archive Components:	The archive components are supplied in accordance with the desired SAP document archive. They contain all programs that are directly dependant on the type of archive, such as indexing programs and display of the requested documents.

masc-oas archive components will be provided for the following SAP document archives:

- Accounts documents (logical database BSF)
- Commission archive (logical database AAM)
- Purchasing archive (logical database EAM)
- Orders (logical database ESM)
- Contracts (logical database KAM)
- Distribution (logical database VAV)
- Cost Accounting Line Items (logical database KEK)
- in addition to any other archives

Technically speaking *masc-oas* can be split into the following components:

- The SAP document archive
- The *masc-oas* index datasets
- The *masc-oas* indexing programs
- The *masc-oas* administration programs for the index datasets.
- The *masc-oas* online/batch interface
- The *masc-oas* transactions for request and display

The SAP document archive is created during the periodic reorganisation of the SAP document database. It is usually stored on tape and serves as input for the *masc-oas* indexing

programs. *masc-oas's* only requirement from the document archive is that the datasets are catalogued. Generation datasets (GDGs) are obviously also supported.

The *masc-oas* **index datasets** form the actual base data of *masc-oas*. Apart from information relating to the physical storage location of a document, they also contain some information related to the content of the document itself. These so called 'Short-Infos' cover around **90% of all information requirements**, so that in all these instances, physical access to the database of the document archives, which usually takes longer, can be eliminated.

The *masc-oas* **indexing programs** process the SAP document archives and extract all of the necessary data from them. To reduce the data volume of the index datasets, several selection parameters are available. Thus for example, only documents which relate to resident accounts can be included in indexing. Furthermore, the well thought through structure of the indexing program also allows for the problem free indexing of older archive tapes at a later stage. Archives do **not** have to be processed in chronological sequence.

The *masc-oas* **administration programs for the index datasets** enable the indices to be maintained. Through their use it is possible to remove archive tapes from *masc-oas*, or to merge several SAP archive tapes together to a new archive tape (e.g. to combine monthly tapes to an annual tape). Thus the administration programs allow you to subsequently alter the database without having to rebuild the entire archive index.

The *masc-oas* **online/batch interface** is the heart piece of *masc-oas*. It is what enables the user to be able to access to the archived documents. Technically speaking, it is the initiation of a batch run from the online environment.

The *masc-oas* **request and display transactions** are possibly the most important features for the user. They enable him in a totally transparent and user friendly way to access the archived documents, in a way similar to the already familiar transactions of the SAP system. Great importance is attached to the conformity of all *masc-oas*-transactions to those of the original SAP document display transactions. Of course the same access restrictions and security checks apply for the document archive as are defined for the resident documents using the original transactions.

3.2. The Solution Step by Step

masc-oas is built on the well known SAP aids for the reorganisation of the SAP ABEZ document database. As a first step a normal SAP document reorganisation (SAPB80U, etc.) is executed. The "archive tape", which is created as a consequence of the document reorganisation is subsequently indexed for each document archive, using the *masc-oas* ABAPs. The thus created index datasets facilitate both direct requests for documents using the document number and requests for documents belonging to a particular account. As unique function of *masc-oas* the 'Short-Infos' deserve a mention. They are data that are stored in the index datasets. The data stored within the index contains sufficient information to satisfy approximately 90% of all enquiries. This ensures that the actual document from the document archive need only be retrieved in a few instances.

The following illustration shows the relationships.

Structural model

Online Archive for SAP

SAP DATA

SAP Document reorganisation

SAP DOCUMENT RESIDENCE

SAP DOCUMENT ARCHIVE

OAS-Indexing

OAS Index

Online User
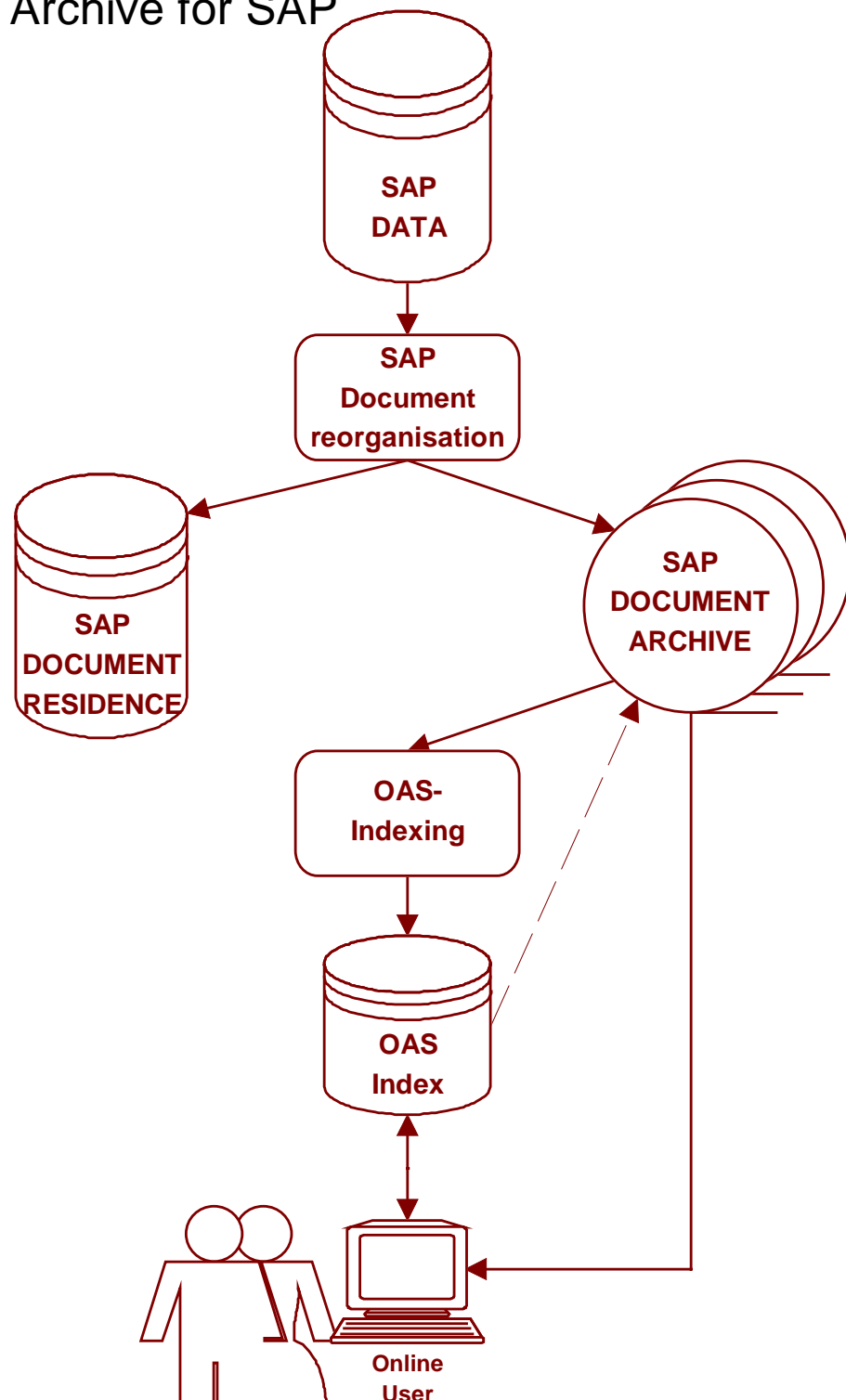
Illustration 1:   Online Archive for SAP, Structural model

3.2.1. Indexing

As explained in the previous chapter, the SAP document archives are indexed using **masc-oas** ABAPs. For technical reasons, this indexing must be executed for each document archive (logical database). The indexing ABAPs determine the name of the physical dataset of the document archive to be indexed and enter it into a SAP table, where it is linked with the archive index. Simultaneously, the necessary entries are made for each document in the **masc-oas** index datasets, YYJD (document headers), YYJE (document positions), and YYJB (documents accessed via accounts). These entries not only encompass the logical linking of documents to dataset names, but also the previously mentioned "Short Infos" which contain practically all of the information required by the user, so that access to the actual document by batch runs can be avoided. The structure of the **masc-oas** ABAPs allows for various selections of the documents to be indexed. Thus, for example, only those documents which point to resident accounts can be indexed. Or the number of document positions stored in the 'short info' can be limited according to the document age. The user is given complete freedom in the selection of the document archives to be indexed. For example, additional document archives can be added to the **Online Archive for SAP** at any time, or alternatively, can be removed again by using the maintenance program.

The following illustration shows the process of an indexing run:

Illustration 2:   Indexing Runs, Flowchart

3.2.2. Requests for archived documents

In the following, both the request for archived documents as well as their display will be illustrated by using an example of an archived document from 'Accounts' of the archive BSF:

For the user the request for an archived document is fully transparent as it is executed within his familiar SAP environment. If, for instance, a document cannot be displayed by using the transaction **TB03** (E107 Document is not available for display....), then the user can request the document from the archive by initiating the ***masc-oas*** transaction **YB03.** The values of account group and document number are passed directly and therefore, do not have to be re-typed.

```
Request Short-Info of Archived Document
----------------------------------------------------------------------------

DOC NUMBER.................... 04343296
COMPANY CODE.................. 01
DOC TYPE...................... __
ACC PERIOD (YYYYMM)........... ____
ACC TYPE...................... _
ACCOUNT....................... _




OK _                                                              1 -38136
```
Illustration 3:   Archived document request, transaction YB03

In addition to the direct search with the use of the document number, the user can also display all archived documents belonging to a particular account. It is obtained by simply entering the appropriate entry fields in the ***masc-oas*** request transaction **YB03**. This function corresponds with the normal enquiry options from the original SAP transactions **TB10, TB12 and TB14.**

In the following some archived documents will be shown with their 'Short Infos' in accordance with the requests.

```
CL CC Doc. no  Doc type                  Doc date Posted    Curr  Reference  Lin
T Account  Text                  Posting key          Amount CLR  ALLOC
--------------------------------------------------------------------------------
01 01 04343296 BT BANK TRANSFER           01.06.93  01.06.93  SFR            003
      Total Amount:                      529.62 SFR      Exch Rate: 1,00000
      Total VAT:                           0.00 SFR
S 00063210 SUPPLIER ACCOUNT     50 N Credit Entry  10.59  000
K 00018988 OBELIX & CO.         25 N Debit Paymen  529.62 133
S 00101321 SKA SFR DISPENSE-ACCOUNT 50 N Credit Entry 519.03  000








OK _     PF: 3=Back 11=Search String 12=Print List              01/01
```
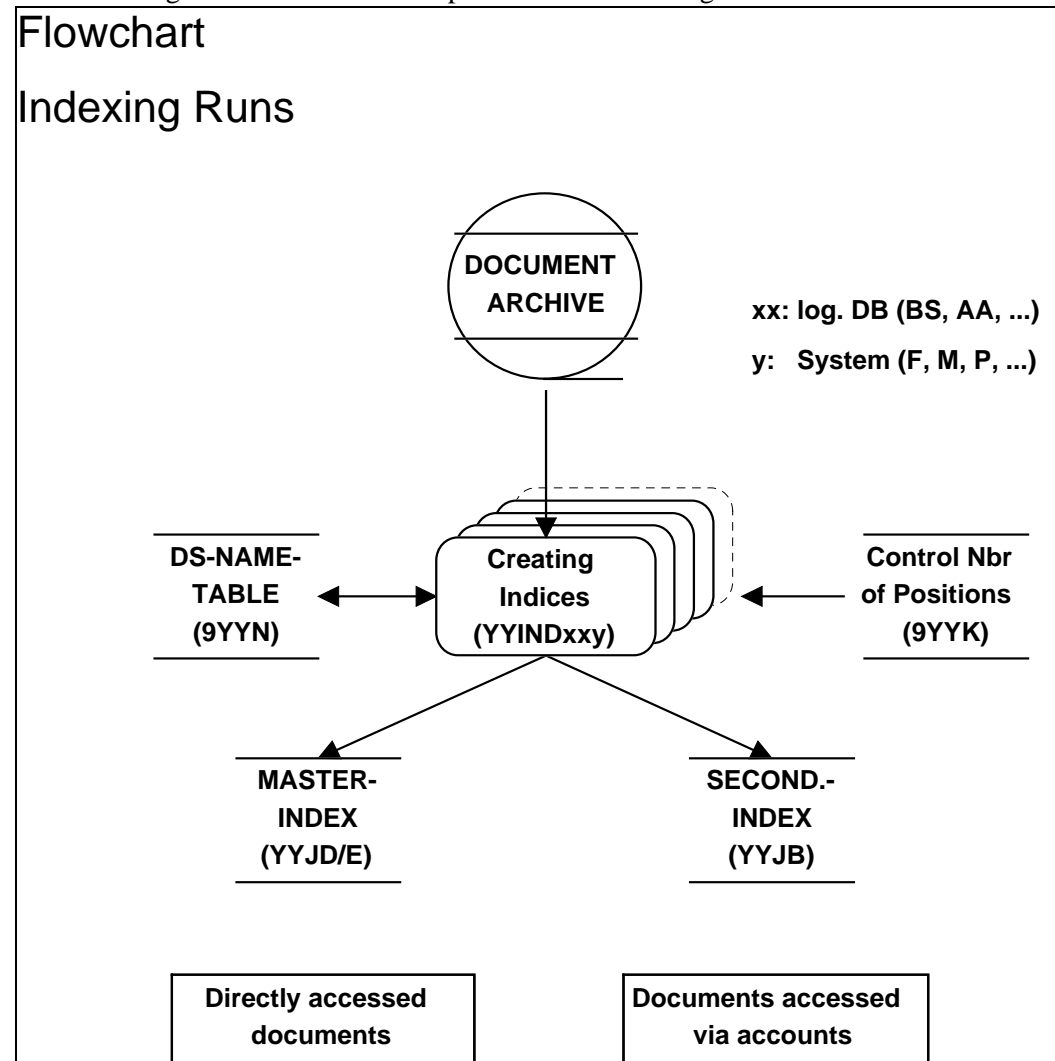Illustration 4:   'Short Info' Display

3.2.3. Document Search

If the 'Short Infos' offered by *masc-oas* do not provide sufficient information, then the original document from the document archive can be retrieved simply by pressing the PF2 function key. The physical storage medium is thereby completely irrelevant to the user. The only criteria for successful processing is the utilization of the catalog of the operating system.

When the user requests access to the archived document by pressing the function key, then *masc-oas* establishes the physical dataset name of the corresponding archive dataset and then creates and initiates a batch job with additional parameters. The located document is written to a 'transfer' database, which is available both to the online environment as well as to batch runs. For CICS users, the last step informs the user directly on his display screen in the SAP system of the successful retrieval of the desired document. Now the document can be displayed as described above using the transaction **YOAS.**

The *masc-oas* transaction **YOAS** shows the user all the archived documents that he retrieved today

```
You have retrieved from the archive the documents:
  CC   DT    Doc. num      Doc. date
--------------------------------------------------------------------------------
A 01   BT    04343296      01.06.93
B 01   CR    00490032      28.02.92
C 01   CR    00491294      15.03.92




 OK _     PF: 3=Back 11=Search String 12=Print List            01/01
```
Illustration 5:   Requested documents selection list, transaction YOAS

By making a simple selection, the user can now inspect the desired document. The display corresponds almost completely with the original TB03 transaction for document display. This layout, too, can be modified using the ABAP source supplied; e.g in order to display company specific fields in the document database.

The following illustrations show the document heading and the individual account entry lines of the requested original document.

```
    --------------------------------------------------------------------
    Display Arch. Docum.       BT BANK TRANSFER         01 L & G Business Support
    --------------------------------------------------------------------
    Posting date. 01.06.93     Doc. no..... 04343296    Currency. SFR
    Doc. date.... 01.06.93     Ref. no.....              Ref. doc.
    Acc. period.. 0993         Text......
    Input date... 02.06.93     User-Id... F111          Changes.. 000
    --------------------------------------------------------------------
    LNO PK  BV ACCT.     TITLE                  DEB/CRED              VAT

A 001 50N 00 00063210 SUPPLIER ACCOUNT                     10.59         00
B 002 25N 00 00018988 OBELIX & CO.             529.62                    00
C 003 50N 00 00010321 SKA SFR DISPENSE-ACCOUNT 519.03                    00




OK _     PF: 3=Back 11=Search String 12=Print List                  01/01
```

Illustration 6:   Displaying Archive Document; Document Header

Of course the user has also available all of the accounts entry lines which belong to the document.

```
 Display document   04343296   Account Entry Line 001   BT BANK TRANSFER
 ------------------------------------------------------------------------------
 S 00063210-01-93           SUPPLIER ACCOUNTS
 50N Credit Entry           00 not allocated
 ------------------------------------------------------------------------------


 LC-Amount      10.59




 ------------------------------------------------------------------------------
 Allocation                                              000
 Text.....


 OK _     PF: 3=Back 11=Search String 12=Print List              1-01/01
```

Illustration 7:   Displaying Archived Document; Entry Line 001

```
 Display Document   04343296   Account Entry Line 002   BT BANK TRANSFER
 ------------------------------------------------------------------------------
 K 18988   -01-93           OBELIX & CO.
                            HINKELSTEIN-VERTRIEB
 H 00021111                 9546      GALLISCHES DORF
 ------------------------------------------------------------------------------
 25N Payment                00 not allocated
 ------------------------------------------------------------------------------

 Amount...     529.62       VAT-Ind.. 00


 ------------------------------------------------------------------------------
 Discount-Basis      0.00   Discount-Red.      10.59
 BDPP-Date       00.00.00   Paym. cond.
 Paym. Abr..        0       Paym. terms  0 / 0,0   0 / 0,0   0 Due dt.
 ------------------------------------------------------------------------------
 Allocation                 Control acc                 Fin.bd   000
 Text.....
 Settlement   01.06.93 133

 OK _     PF: 3=Back 11=Search String 12=Print List              1-01/01
```

Illustration 8:   Displaying Archived Document; Entry Line 002

```
Display Document  04343296  Account Entry Line 003   BT BANK TRANSFER
----------------------------------------------------------------------
S 00010321-01-93            SKA SFR DISPENSE ACCOUNT
50N Credit-Entry            00 not allocated
----------------------------------------------------------------------

LC-Amount.....   519.03
Effective date 01.06.93




Settlement    07.06.93 251
Allocation    930601                                          000
Text.....


OK _     PF: 3=Back 11=Search String 12=Print List            1-01/01
```

Illustration 9:   Displaying Archived Document; Entry Line 003

3.3. Implementation

Implementation of **masc-oas** takes approximately a day and requires no in depth system knowledge. The installation tape contains all programs, ABAPs, data definitions and job control, which are necessary to install and implement **masc-oas.**

The complete installation JCL is supplied along with the product, and the entire procedure is described in detail in the **masc-oas Installation Guide.** All supplements and Job Control Statements are based on SAP recommended methods and procedures.

For the implementation of the online/batch interface a few assembler programs in the appropriate TP monitors have to be defined, and for each online environment, the job necessary to read the document archive has to be generated. As a rule, this generation has only to be carried out once, at the installation of **masc-oas,** and its operation is largely automated. Finally, all necessary definitions in the job control of the appropriate TP monitor are added.

In a further step the SAP objects of **masc-oas** are loaded into the desired SAP environment and customized. All **masc-oas** SAP objects follow the SAP naming conventions for user modifications and the data files are set up as SAP databases, thus greatly simplifying maintenance of the system. Furthermore, all ABAPs are supplied in source code making it possible to adapt it to company specific requirements at any time.

To create the **masc-oas** Index datasets, the supplied indexing job has to be added to the existing sequence for the reorganisation of the SAP data.

4. SOFTWARE REQUIREMENTS

masc-oas, **the Online Archive for SAP** is available for the following system's environments:

- **Operating System:**   All current versions of MVS,VSE
- **TP Monitor:**   CICS/MVS, CICS/ESA, or IMS/DC
- **SAP Release:**   4.3 and 5.0
- **Supported DB Systems:**   VSAM, IMS/DB, ADABAS, DB2

5. DELIVERY/INSTALLATION OPTIONS

masc-oas, **the Online Archive for SAP** is built in a modular structure and is distributed by components.

The following components will be made available:

● Base Component

● Archive Component BSF (RF, RA, RM)

● Archive Component VAV (RV)

● Archive Component EAM (RM)

● Archive Component KEK (RK)

● Archive Component AAM (RM)   planned

● in addition to any other archives

Software distribution occurs as follows:

● *masc-oas* is supplied on cartridge.

● The complete documentation is supplied together with the Software

● The trial period for a free trial installation is 30 days.

● Maintenance is undertaken by *masc ag*, Rotkreuz and is free for the first year.

● Installation is undertaken by the customer or by staff of *masc ag*, Rotkreuz.

● Training is done by staff of *masc ag*, Rotkreuz.

6. ADDITIONAL SERVICES

As a Swiss Software House *masc ag* supports and advises leading companies with high demands for security and quality.

masc-oas, **the Online Archive for SAP** is an example of a customer oriented solution by *masc ag* and has, after careful evaluation, been developed in close co-operation with the company Landis & Gyr, Business Support AG, Zug, to solve the problems posed by document life times within the SAP Systems.

Within the SAP environment *masc ag* offers the following additional services:

- **SAP Performance increase**
- **ABAP Reference List**
- **Table Tuning**
- **etc.**