

Personnel Record Example

[0030] The structure of an exemplary personnel record and its value for a particular individual is informally detailed in TABLE 1 below.

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Name:	John P Smith
Title:	Director
Employee Number:	51
Date of Hire:	17 September 1971
Name of Spouse:	Mary T Smith
Number of Children:	2
Child Information	
Name:	Ralph T Smith
Date of Birth:	11 November 1957
Child Information	
Name:	Susan B Jones
Date of Birth:	17 July 1959

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TABLE 1. Informal Description of Personnel Record

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[0031] The structure of each such personnel record can be formally described as shown in TABLE 2 below using standard ASN.1 *type* notation for data types:

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PersonnelRecord ::= [APPLICATION 0] IMPLICIT SET
    { Name,
      title           [0] VisibleString,
      number          EmployeeNumber,
      dateOfHire      [1] Date,
      nameOfSpouse    [2] Name,
      children        [3] IMPLICIT SEQUENCE OF
                       ChildInformation
                       DEFAULT { } }

ChildInformation ::= SET
    { Name,
      dateOfBirth    [0] Date }

Name ::= [APPLICATION 1] IMPLICIT SEQUENCE
    { givenName      VisibleString,
      initial         VisibleString,
      familyName     VisibleString }

EmployeeNumber ::= [APPLICATION 2] IMPLICIT INTEGER

Date ::= [APPLICATION 3] IMPLICIT VisibleString --YYYYMMDD
    
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TABLE 2. ASN.1 Type Notation of the Record Structure

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[0032] This example illustrates an aspect of parsing ASN.1 syntax. The syntactic construct "DEFAULT" can only be applied to an element of a "SEQUENCE" or a "SET"; it cannot be applied to an element of a "SEQUENCE OF". Thus the null default, "DEFAULT { }" in "PersonnelRecord" applies only to the variable "children" and not to the variable "Child-