ABS Tech Note: DAL08 DAL Size Limitations (10/92)

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TOPIC ---

This technical note describes certain size limitations inherent to DAL.

DISCUSSION --

DAL is designed so that it has no limits on the number of rows returned.
DAL does have a limit of 255 on the number of columns in a rowset. With
the current implementation of DAL (1.3) there are some limits on the
transmission of data values to the client and fetching data from the DBMS.
A single row fetch'ed or print'ed should not be greater than 2000
characters, and a single value fetched or printed should not be greater
than 255 characters. DAL should not be used to fetch data from DBMS
columns defined as VARCHAR or CHAR larger than 255.

As an example, you can have a table named offices with 200 columns, 20,000
rows and send the statement:

```
    select * from offices;
    printall;
```

All the data will be returned to your client as long as any single data
value is not greater than 255 characters, and any single row has not more
than 2000 characters (in this example with 200 columns the average column
size for each row would have to be less than 10 characters; 200 columns *
10 characters = 2000 the limit). In actual use DAL may print data values
and rows that exceed these limits; however, these limits should not be
exceeded and you should not depend on them in your program.

Other limitations

Developers have periodically asked questions concerning the maximum size of
variables, transactions, and query results that DAL can handle. Below are
the questions with answers:

Q: How many DAL statements can I send to the DAL Server at one time?
A: There is no limit to the number of DAL statements that can be passed to
   the DAL Server.

Q: How big can a single DAL statement be?
A: There is no limit to the size of a single DAL statement. There are
   certain limitations, however, the size of an Execute statement which
   passes its argument directly through to the DBMS's.

Q: How large can the command string be in an EXECUTE statement?
A: The command string can be as long as than 1000 characters, although this
   limit is system-dependent.

Q: How big can DAL query results be?
A: • DAL does not support print'ing or fetch'ing VARCHAR or CHAR data
     values larger than 255 characters or bytes.
   • DAL does not support more than 254 columns in a query result.
     Consequently, DAL commands such as SELECT cannot have more than 254
     columns in a query.
   • The maximum size for any row fetch'ed or print'ed 2000 bytes.

Q: Are there limitations on datatype conversions in DAL?
A: Yes, among the limitations you might run into are:
   • You cannot convert INT to SMINT. The code:
       integer int1 = 100; smint smi1= smint int1;
     will return an error.
   • You cannot convert a timestamp into a float or smfloat. The code:
       timestamp ts1=varchar dt1+" "+varchar tm1; smfloat smf1=smfloat ts1;
     will return an error.
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