

# IDL

Read-only interface to a “SQL database”

```

interface Database
{
    Data executeQuery(in string sqlQuery)
        raises (DatabaseAccessError, DataNotFound);

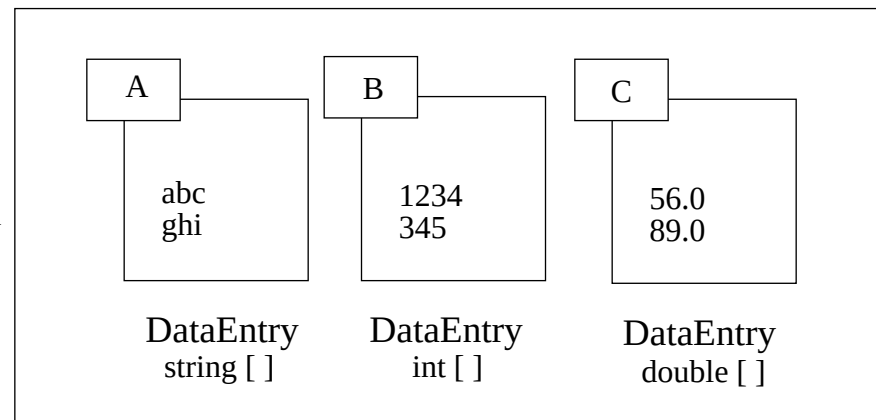
    readonly attribute long execTime;
};
  
```

Oracle

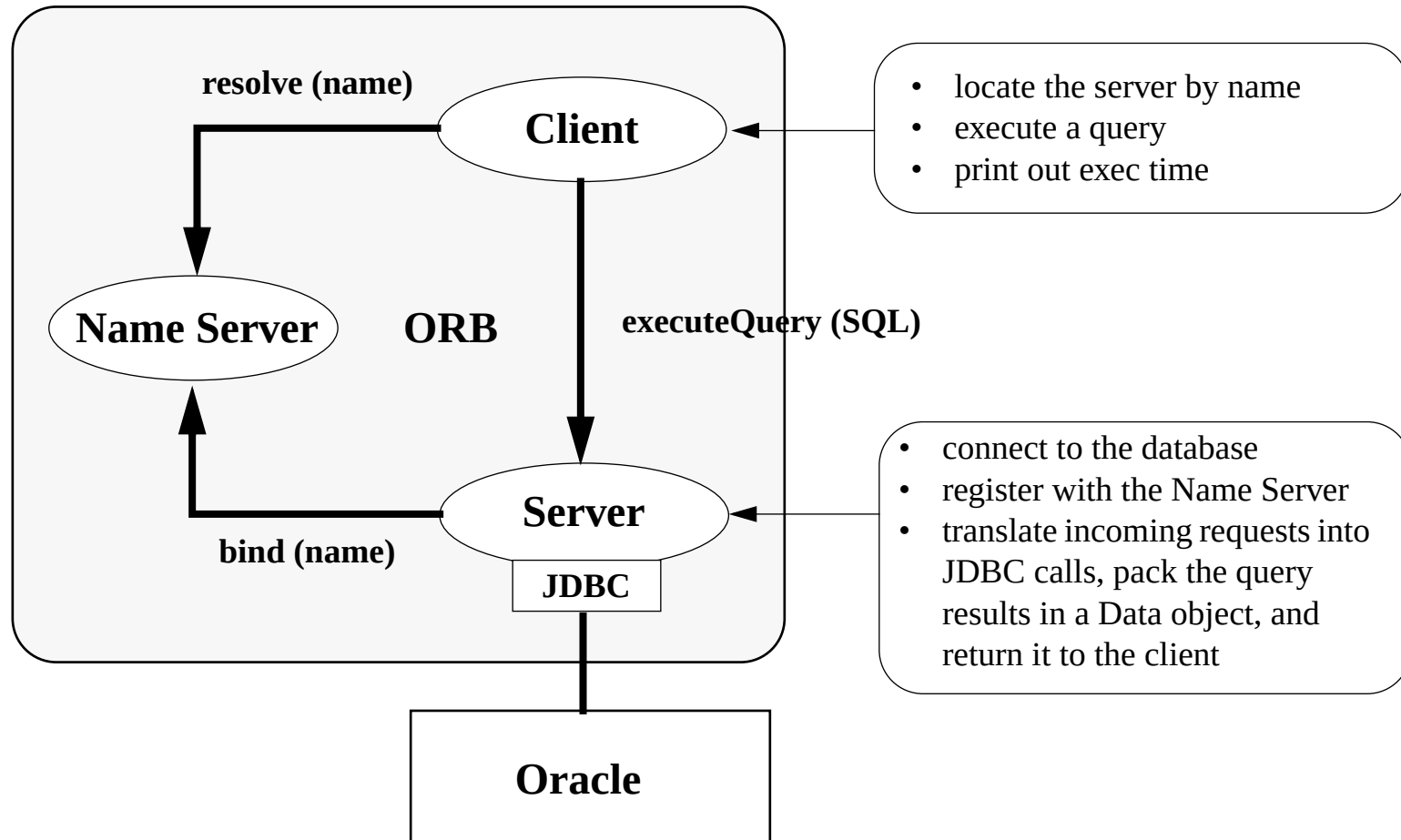
| A<br>string | B<br>int | C<br>double |
|-------------|----------|-------------|
| abc         | 1234     | 56.0        |
| ghi         | 345      | 89.0        |
|             |          |             |
|             |          |             |



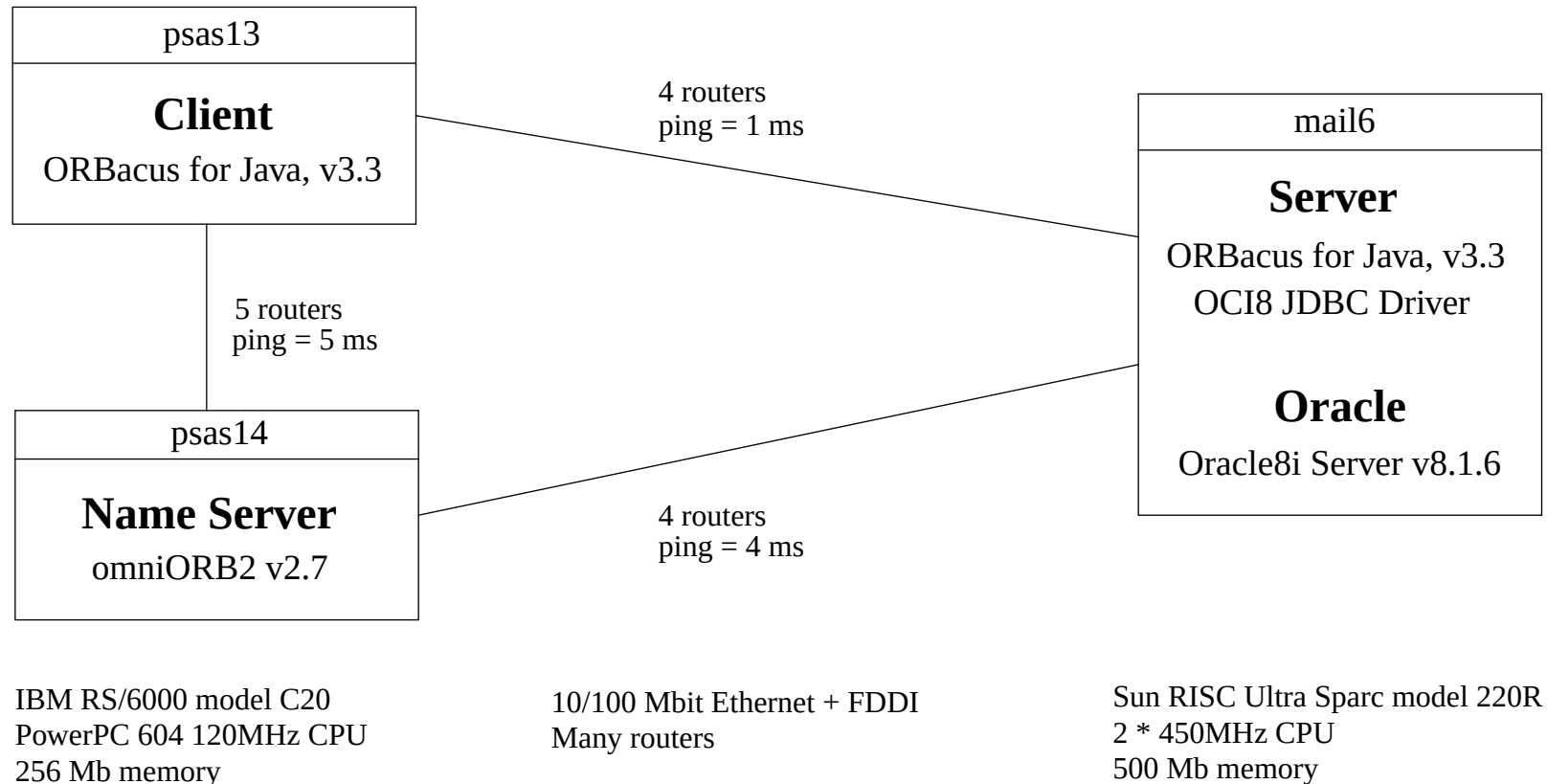
Result Data



## Implementation (Java)



## Deployment



### Also tried out:

- Oracle JServer + Aurora ORB --> interoperability problems with Oracle “session IIOP”
- the “Thin” JDBC driver in place of the OCI driver --> far worst performance

## Test cases and results

### Extracting data from the EQUIPMENT table

The table describes all devices (14256) in the PS control system.

11 columns: device name, class name, class number, member number, DSC name, ...

1. Extracting a Device Server configuration:

**select EQNAME, CLASSNAME, CLASSNO, MBNO from EQUIPMENT where DSCNAME = 'dcpsvac1'**

2. Obtaining the class name for a given device:

**select CLASSNAME from EQUIPMENT where EQNAME = 'PR50.VPS42'**

3. Extracting all information available on a given device:

**select \* from EQUIPMENT where EQNAME = 'PR50.VPS42'**

4. Setting up the ServerLocator routing map:

**select EQNAME, DSCNAME from EQUIPMENT**

| Test case | N rows | N columns | N bytes | CORBA time, ms | Server time, ms | Total time      |
|-----------|--------|-----------|---------|----------------|-----------------|-----------------|
| 1         | 385    | 4         | 8344    | 64 ... 69      | 60 ... 63       | 120 ... 130 ms  |
| 2         | 1      | 1         | 5       | 1 .. 3         | 1 .. 3          | 3 ... 5 ms      |
| 3         | 1      | 11        | 72      | 11 ... 21      | 3 ... 4         | 15 ... 25 ms    |
| 4         | 14256  | 2         | 260557  | 1455 ... 1501  | 1559 ... 3199   | 3.0 ... 4.5 sec |