

z/TPF EE V1.1

z/TPFDF V1.1

TPF Toolkit for WebSphere® Studio V3

TPF Operations Server V1.2



IBM Software Group

## *TPF Users Group Spring 2006*

### SDO Access to z/TPFDF Databases

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**Venue: Data Access Task Force**

**AIM Enterprise Platform Software**

IBM z/Transaction Processing Facility Enterprise Edition 1.1.0

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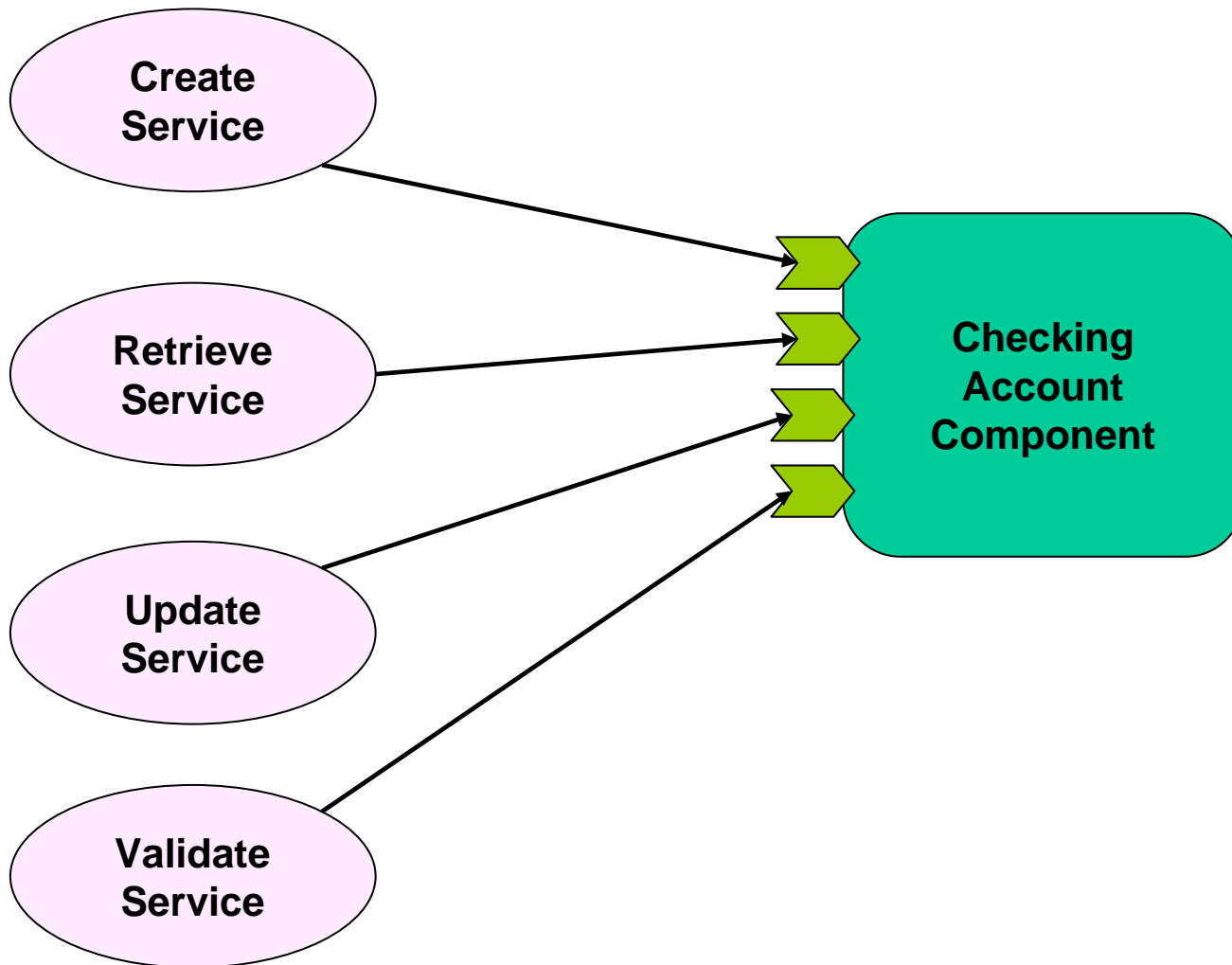
# Agenda

- Services Oriented Architecture (SOA)
- Service Data Objects (SDO)
  - Advantages
- What about SQL?
- What's Next?

# Services Oriented Architecture (SOA)

- Breaks a company's business tasks (such as opening a new bank account) and the underlying IT into reusable *services* which can be combined and recombined as business needs change.
  - These *services* can interoperate no matter how different their supporting systems
  - *Services* are implemented as *components*

# Component Example



# Services Oriented Architecture (SOA)

- Much more on SOA throughout the conference:
  - Theme presentation this afternoon
  - Discussion table at IBM's Hospitality Suite
  - SOA presentations at the Distributed Systems Subcommittee tomorrow

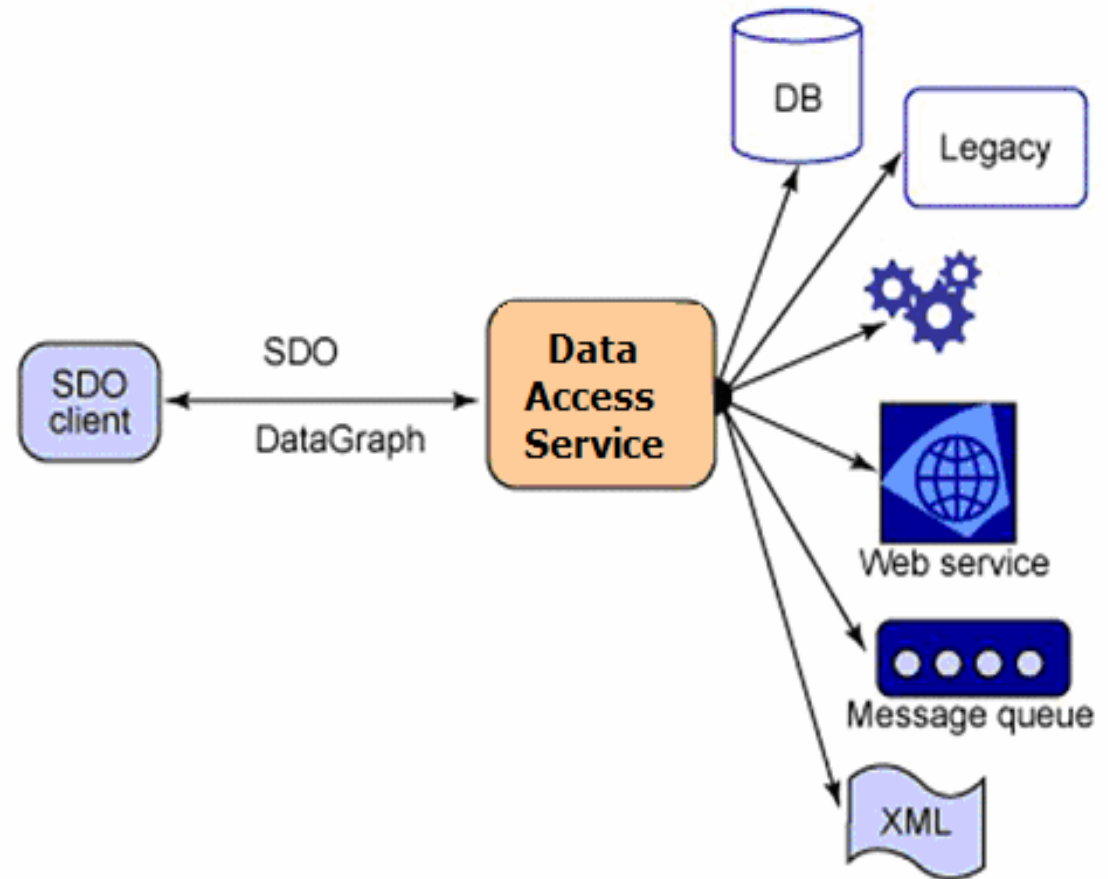
# Service Data Objects (SDO)

- An aspect of SOA that allows a common access method to heterogeneous data sources
- Joint specification developed by IBM and BEA now being adopted by vendors
- A useful overview can be found at:
  - <http://www-128.ibm.com/developerworks/java/library/j-sdo/>
- IBM is actively investigating a JAVA based SDO implementation for z/TPFDF databases



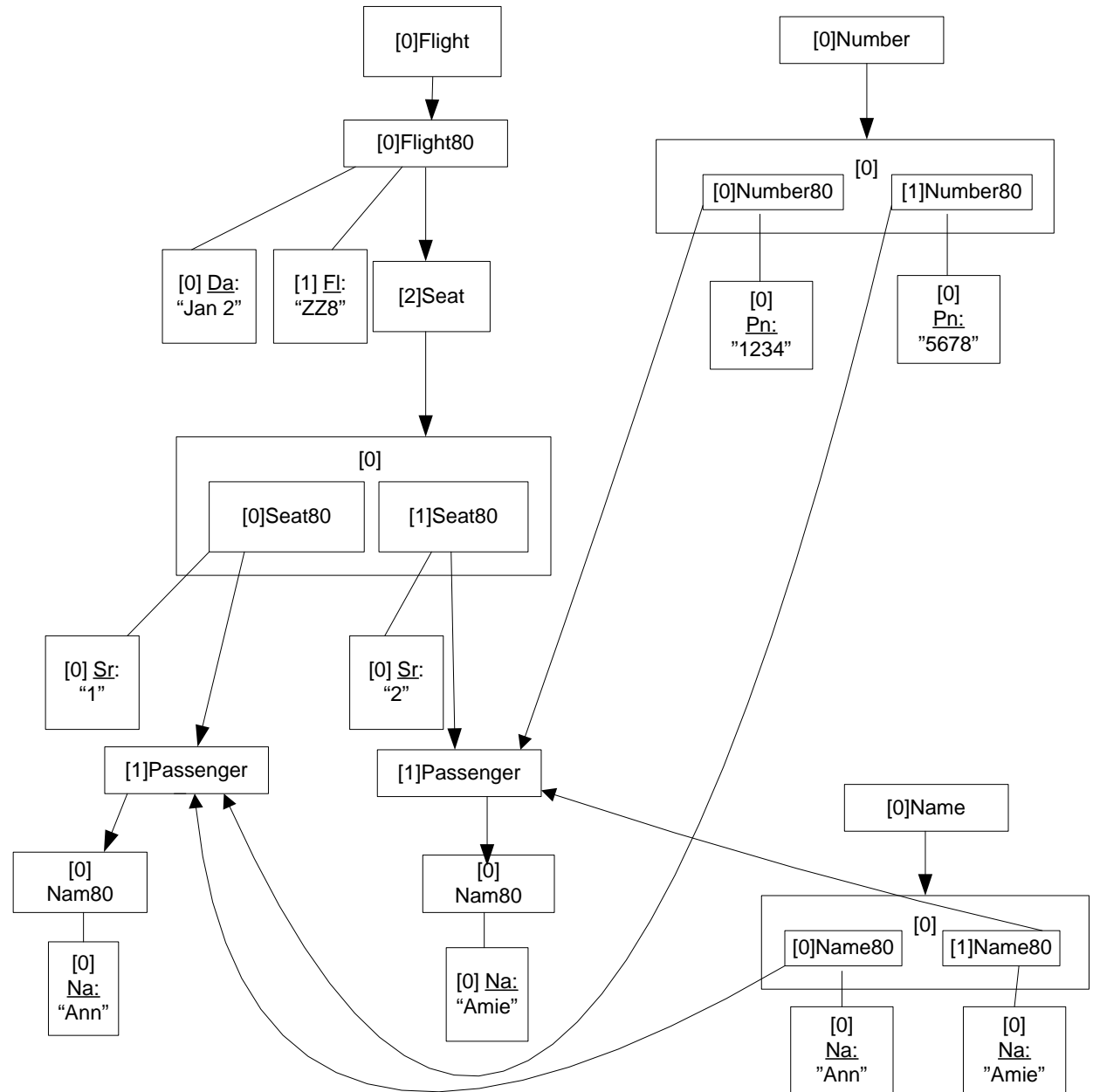
# Service Data Objects (SDO)

- Clients retrieve data graphs from Data Access Services (DAS)
- Standard SDO APIs are then used to access and manipulate the Data Graph
- Change Histories are used to apply updates back to the Data Source



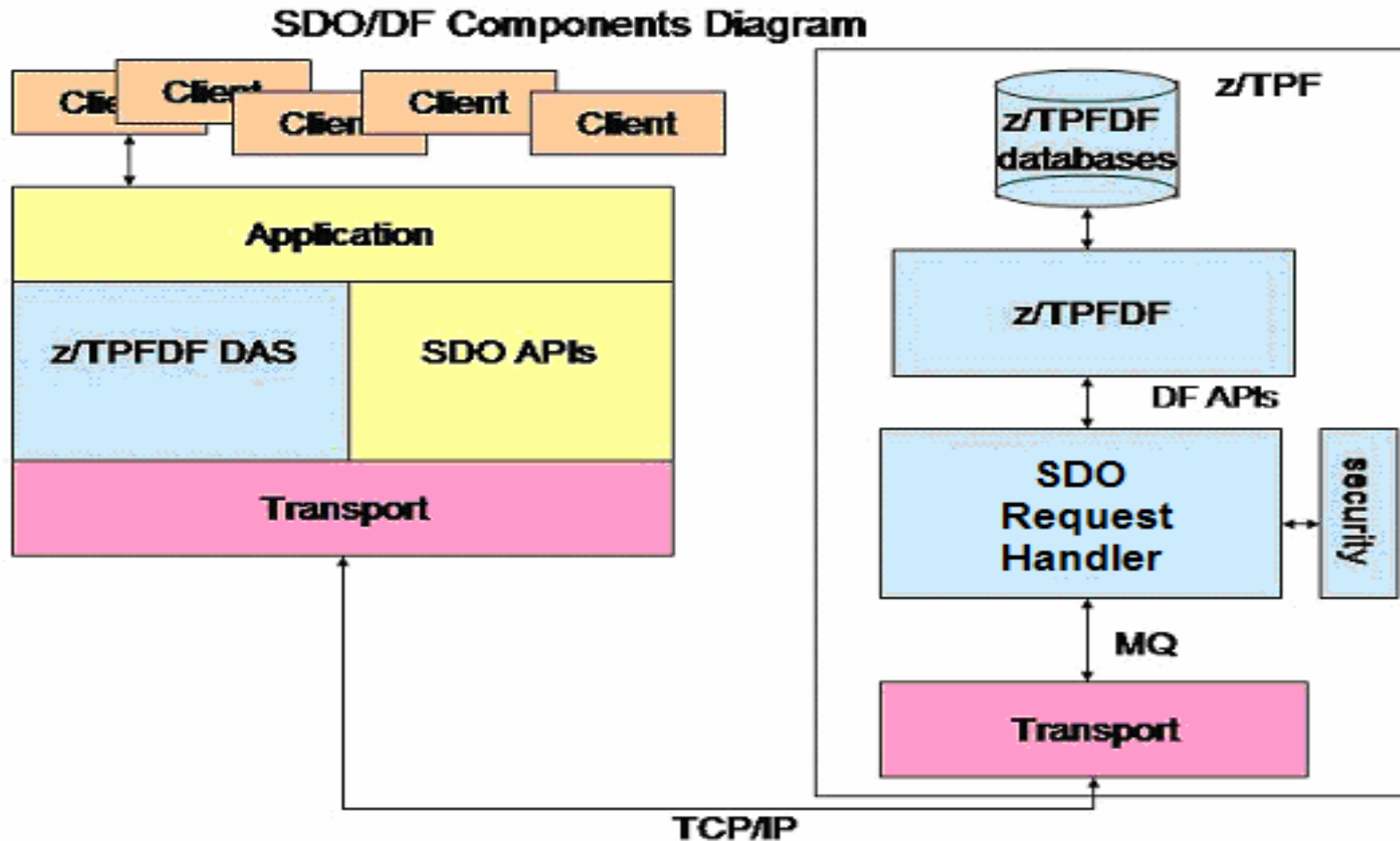
## Sample Data Graph

*Data Graphs map well to z/TPFDF hierarchical databases!*





## Possible z/TPFDF Configuration



**More on a proposed z/TPFDF implementation tomorrow at the Database Subcommittee!**

# SDO Advantages

- SDO is not tied to the physical organization of the database (for example, relational tables)
  - The same programming model used with many different types of data sources can also be used for z/TPFDF databases
  - Only two z/TPFDF specific APIs are used to access and update data through the DAS
- SDO allows z/TPFDF data to be accessed and updated in an SOA framework

# SDO Advantages

- Metadata presented to the z/TPFDF DAS can also be used for data modeling
  - More information on z/TPFDF metadata at the Data Modeling Task Force tomorrow
- SDO support can be extended:
  - Add z/TPF Data Sources such as the File System or MySQL
  - Access to z/TPFDF databases from any remote application (not just SDO applications)

# What About SQL?

- IBM has previously proposed an implementation of SQL access to z/TPFDF databases
- Investigation has found that SDO is a better approach
  - SDO is designed for any database, but maps especially well to hierarchical databases such as z/TPFDF
  - SQL does not map well to z/TPFDF given it's relational nature
    - SQL relations are defined by the database
    - z/TPFDF relations are only partially defined by DBDEFs, the rest is defined by the applications

# What's Next?

- Should a formal SDO requirement be submitted from this Task Force?
  - IBM is marking requirement DF05184F (SQL access to z/TPFDF databases) as “likely”
    - the requirement for remote database access is being met, but
    - IBM does feel SDO is a more viable alternative than SQL



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