Sparkassen-Informatik-Services West GmbH

Germany

Database in a 24-hours update environment

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

RETURN TO INDEX

The software used by the S/390s

OS/390 2.6

OMEGAMON, BETA-Systems, CA, Parallel Sysplex

IMS 7.1

DBTools, Delta/IMS, OTTO2, OMEGAMON/IMS

DB2 5.1

DB2PM, CA, BMC Fast Load

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

swest

Databases in a 24 hours update environment

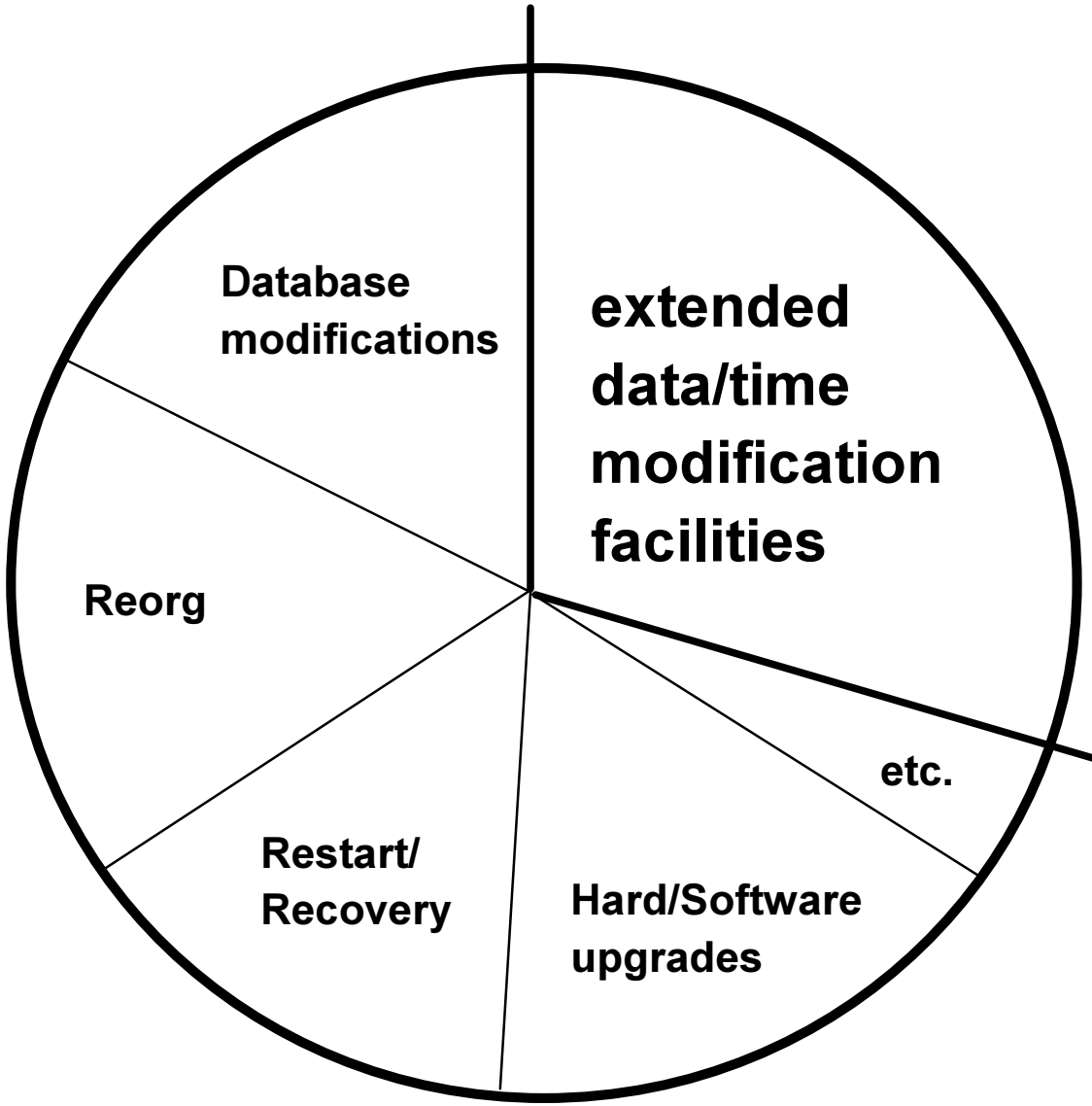
(Home Banking)

A solution for new and existing applications without significant modifications.

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

swest

Database in a 24-hours update environment



requirements

- *consistent inquiry on historical data*
- *consistent mass data modifications*
- *mgmt of history of modified data*
- *system provided data reporting facility*

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

Examples at SIS-West

DB for KIS (Customer Information System)

In Production since Fall 1997

DB for Savings-accounts

partially in Production since November 1998

DB for repeatable orders

under development

DB for cards management system

under development

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

swest

not a new Database technique,
the foundation is
DB2 and DLI

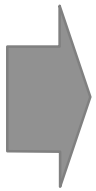
an overlaying interface is required
to manage additional functions

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

swest

A Database in 24 hours environment requires that no interrupts occur due to:

problems from the Database point of view



REORG, moving of Databases, removing of disks, restructuring activities, etc.

problems from the application point of view

revisable reporting is not possible

mass modifications for any point in time are impossible

general solution for a point in time reconstruction of data is difficult or impossible

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

mistakes of the early days of data processing must be corrected.

back to the roots, to the orderly book keeping. Invented by the Lombards (Italy) centuries ago.

from update mode to sequencing mode

point in time mass modifications due to "expected" sequencing mode

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

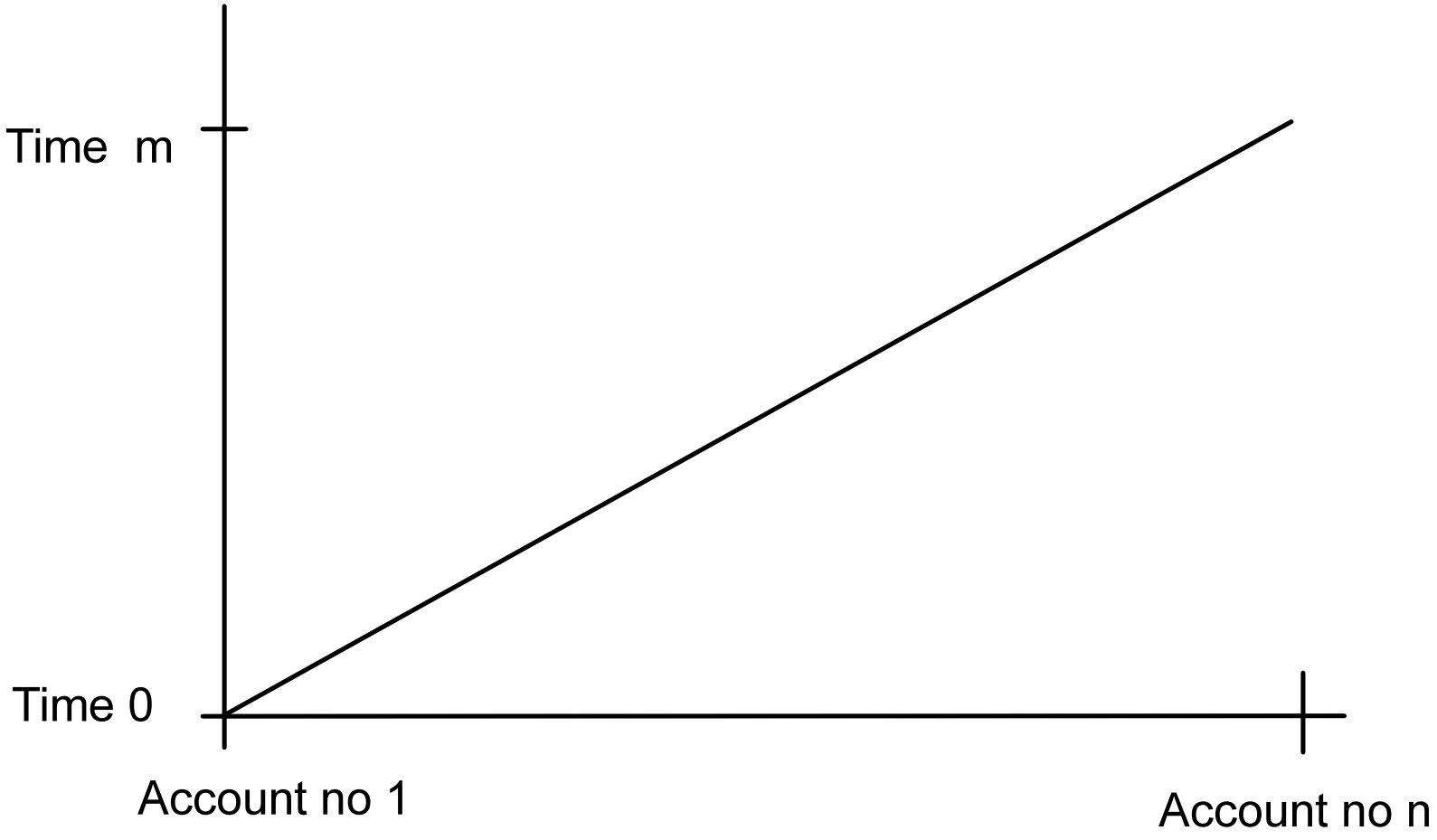
swest

Goals

- 24 hours update availability for existing applications without major changes
- simplified Database Management due to integrated history and near future.
- mass modifications for any point in time
- new applications can use the history for information
- uninterrupted correction of databases due to application errors.

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

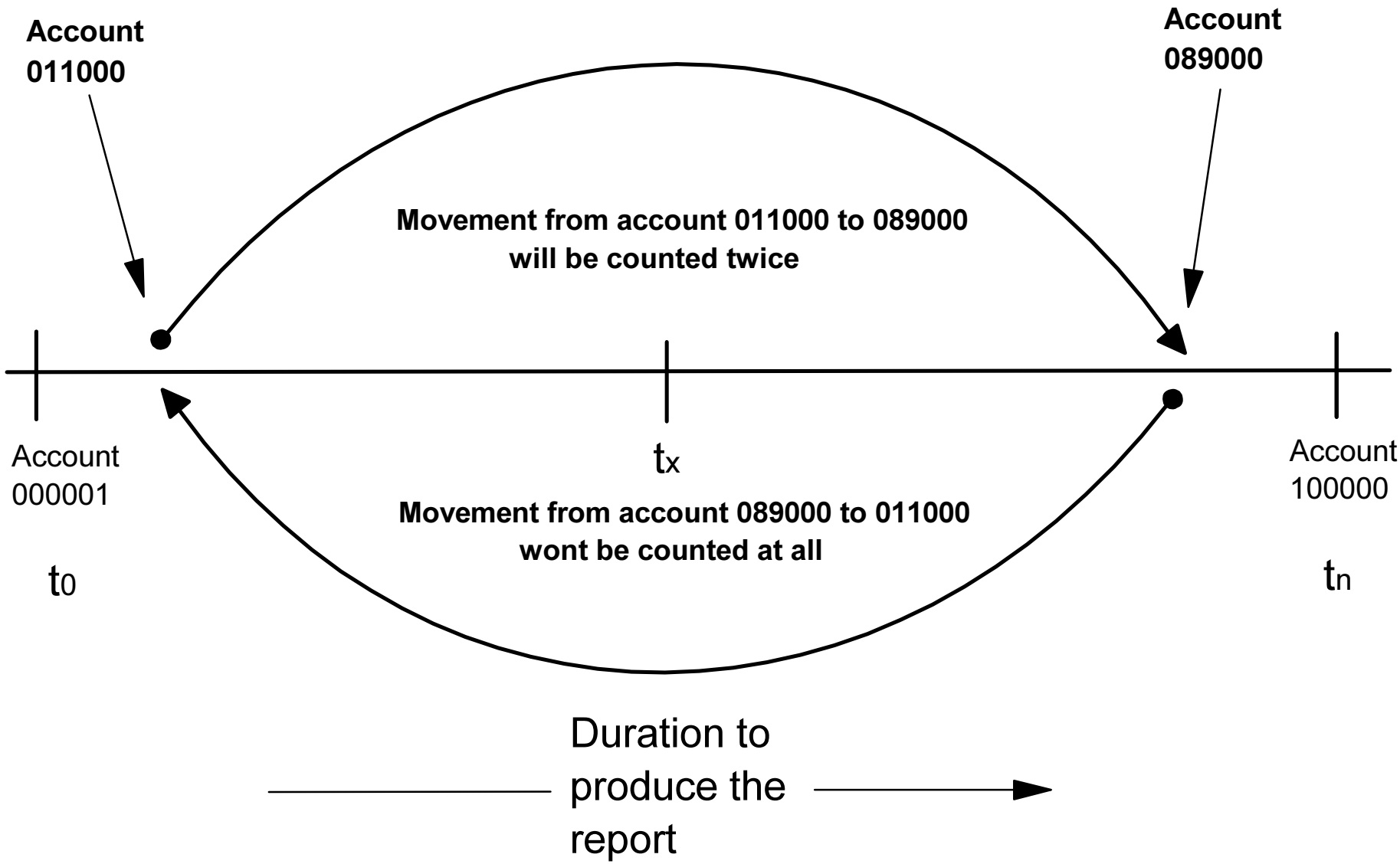
Current account DB changes at a time period



current account database

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

inconsistencies



Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

swest

Examples at the SIS-West/swest

DB Customer Information System

keeps 7 month of history

DB Savings account

keeps 6 month of history

DB Repeatable Order

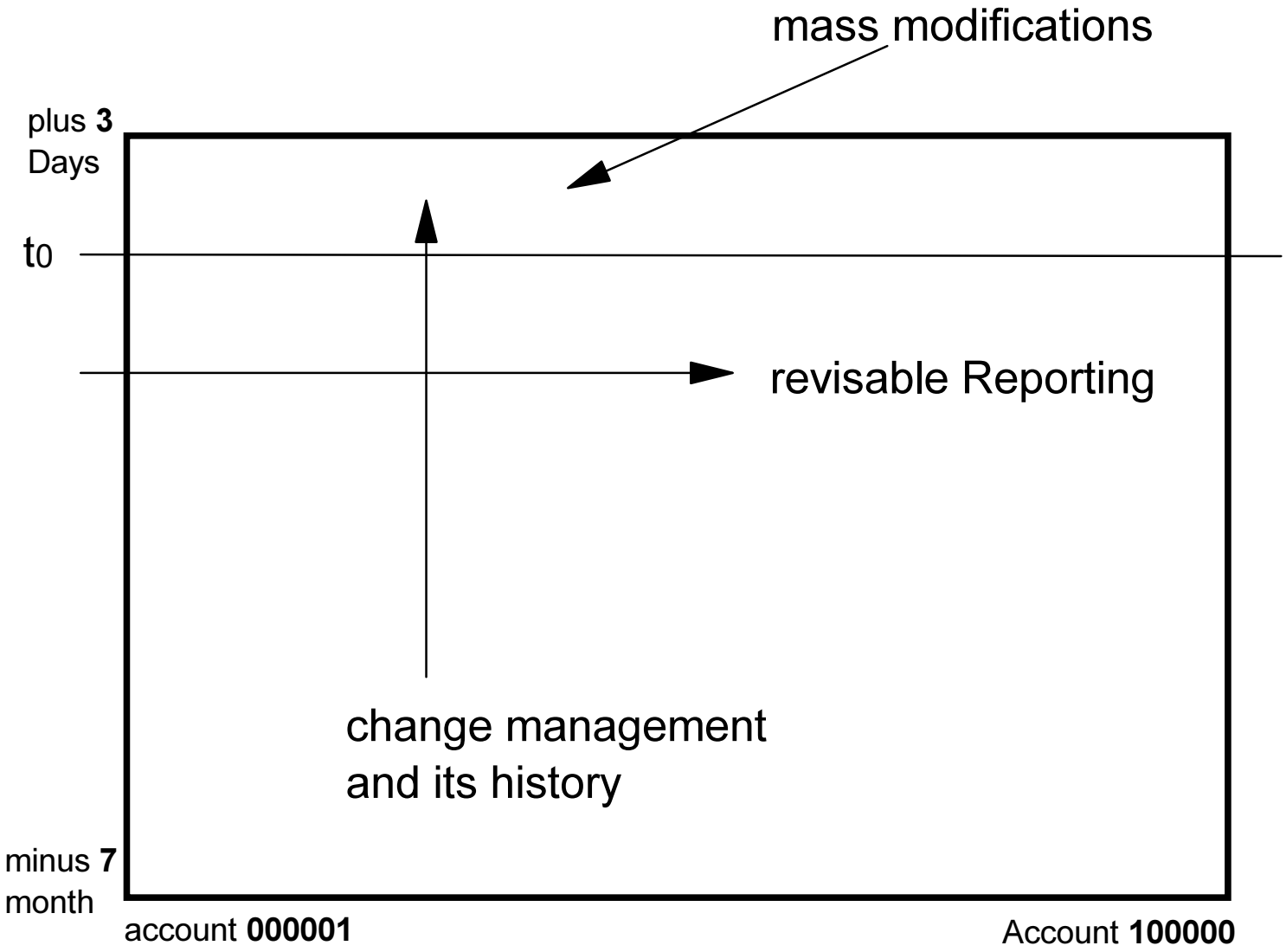
keeps 10 days of history

DB Card Management System

keeps 6 years of history

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

sequencing instead of updating creates Databases with "time dimension"



--- Savings accounts DB ---

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

swest

disk space implications

In total, the new DBs require less disk space than previous solutions.

The DBs become larger (ca 1.5) than traditional designed databases

but

no additional copies are required for historical reporting

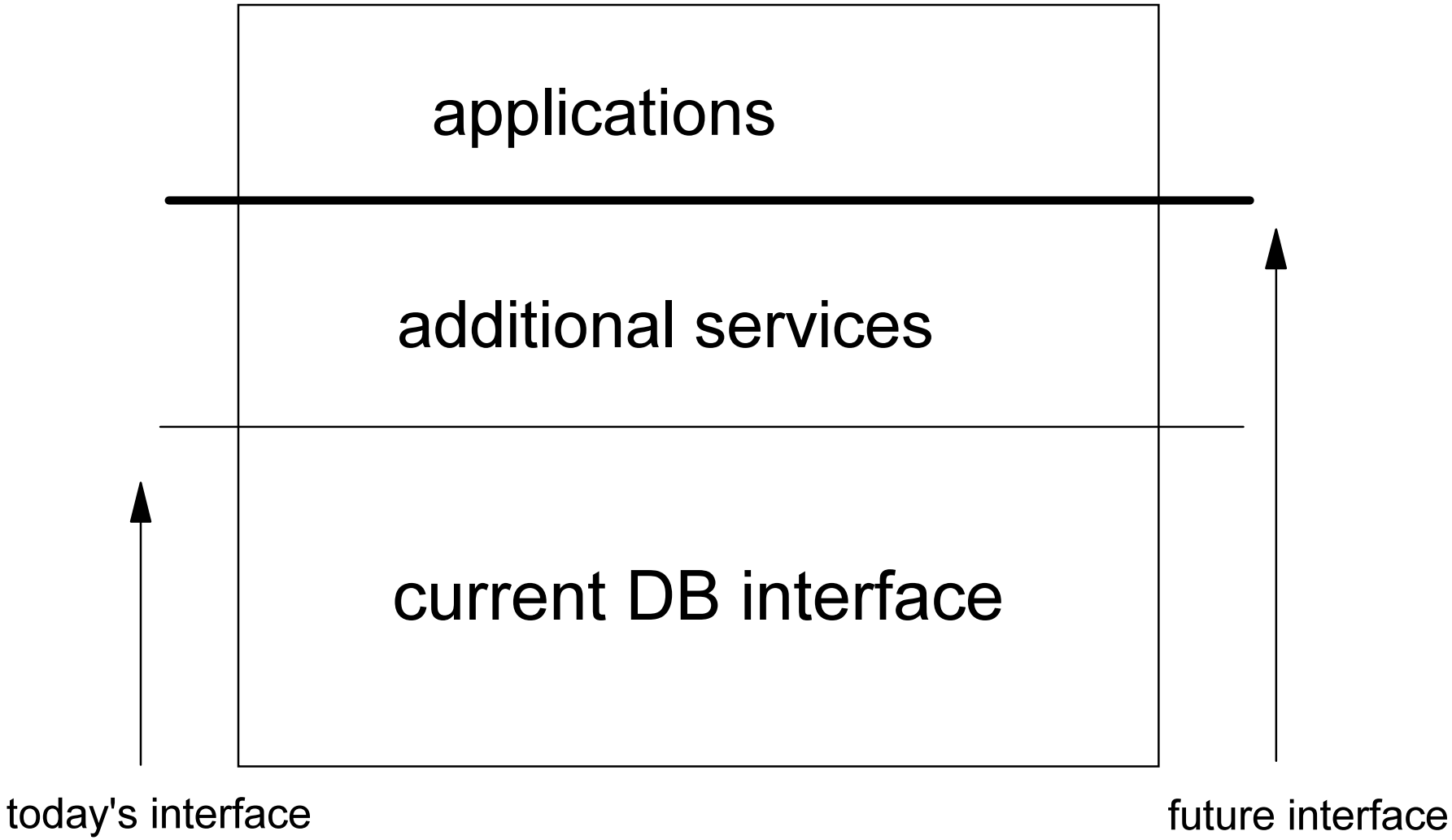
Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

Database Management

- less space management activities
- less mistakes due to wrongly used DBs
- recovery in time by a fingertip
- foundation for forward recovery

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

requests towards DLI and DB2



Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

swest

requests towards DLI and DB2

- sequencing Database management tools
- presenting point in time data
- presenting the sequence of modifications
- future mass modifications at a point in time.

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

swest

nice to have / required

- management of synonym list for timestamps

- utilities to remove obsolete history

Heinz Lemmen
IBM Deutschland GmbH FS ISU SKO Duesseldorf

RETURN TO INDEX