EpicsOra and I/O hardware

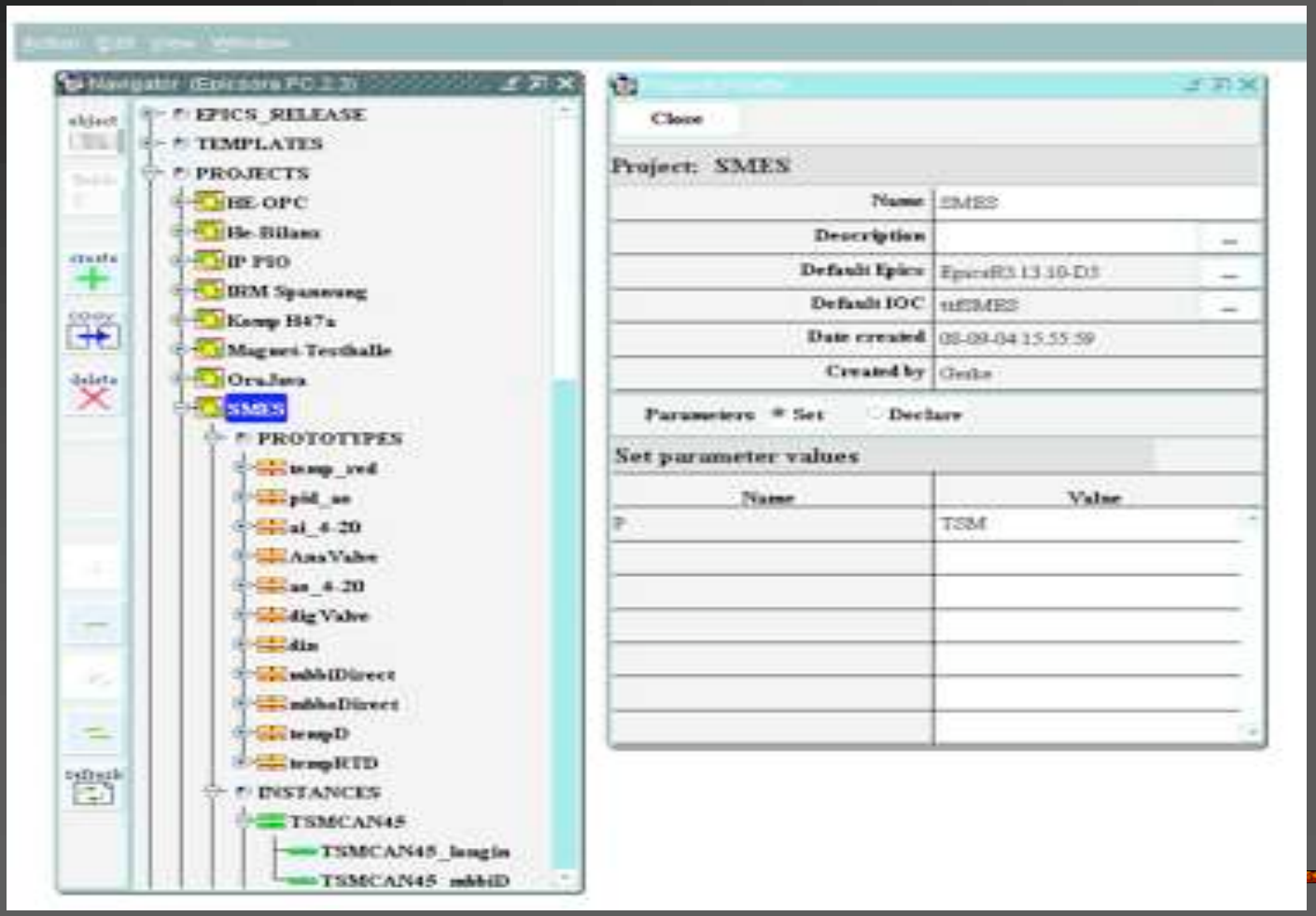
Judith Rock, Anatoli Khvorostianov

EpicsOra

Tool for building EPICS databases

- Oracle 9i database
- Oracle Web Forms UI
- Plans to link with hardware data

Project


EPICS_RELEASE
TEMPLATES
PROJECTS
BE-OPC
Be-Bilanz
IP PSO
BRM Spannung
Kamp B47a
Magnet-Testhalle
OraJava
SMES
PROTOTYPES
temp_red
pid_ao
ai_4-20
AnaValve
ao_4-20
digValve
din
mbbiDirect
mbboDirect
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tempRTD
INSTANCES
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SMES
Description
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Created by
Parameters
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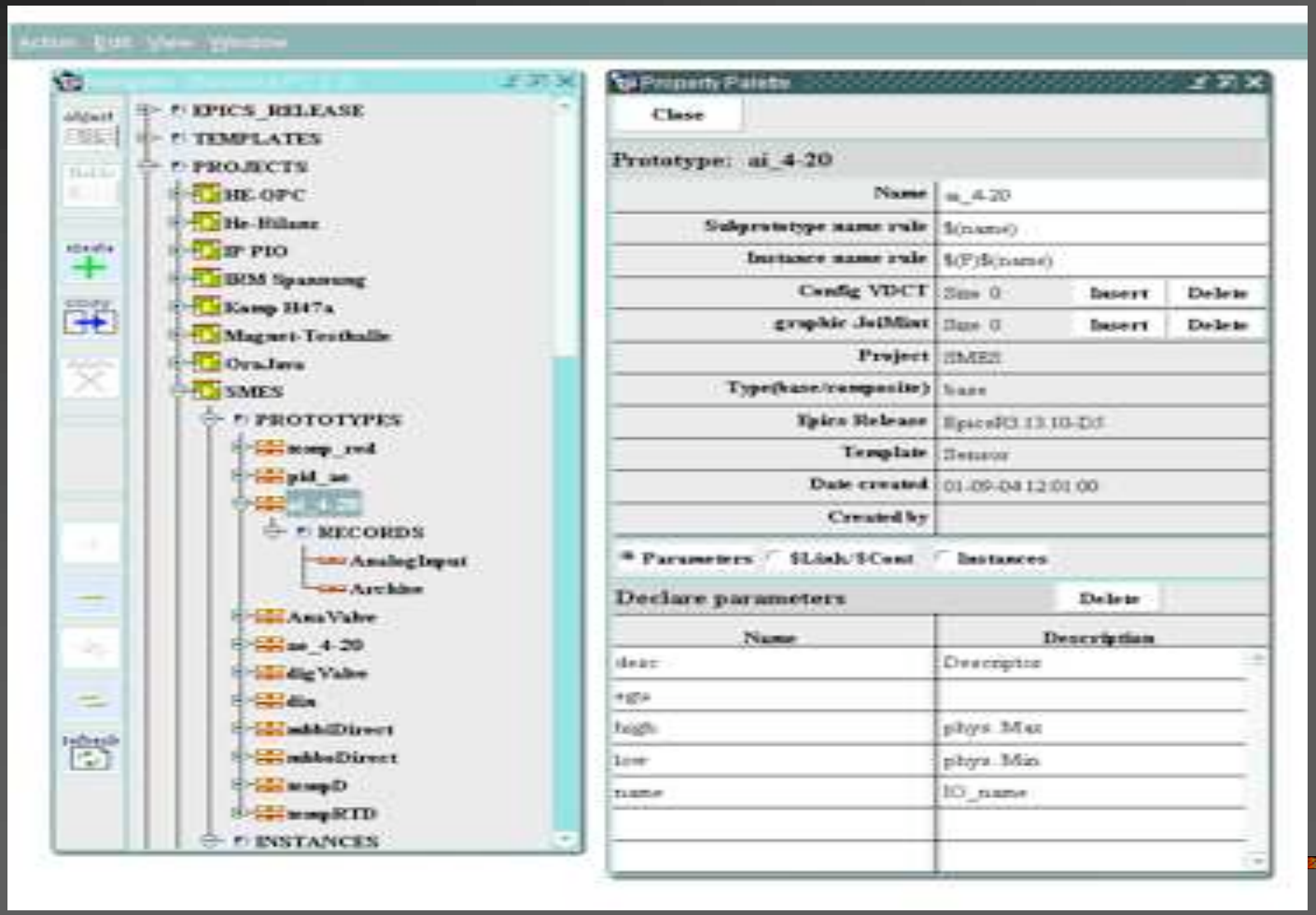
Prototype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AnalogInput
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tempD
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INSTANCES
Property Palette
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Prototype: ai_4-20
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Epics Release
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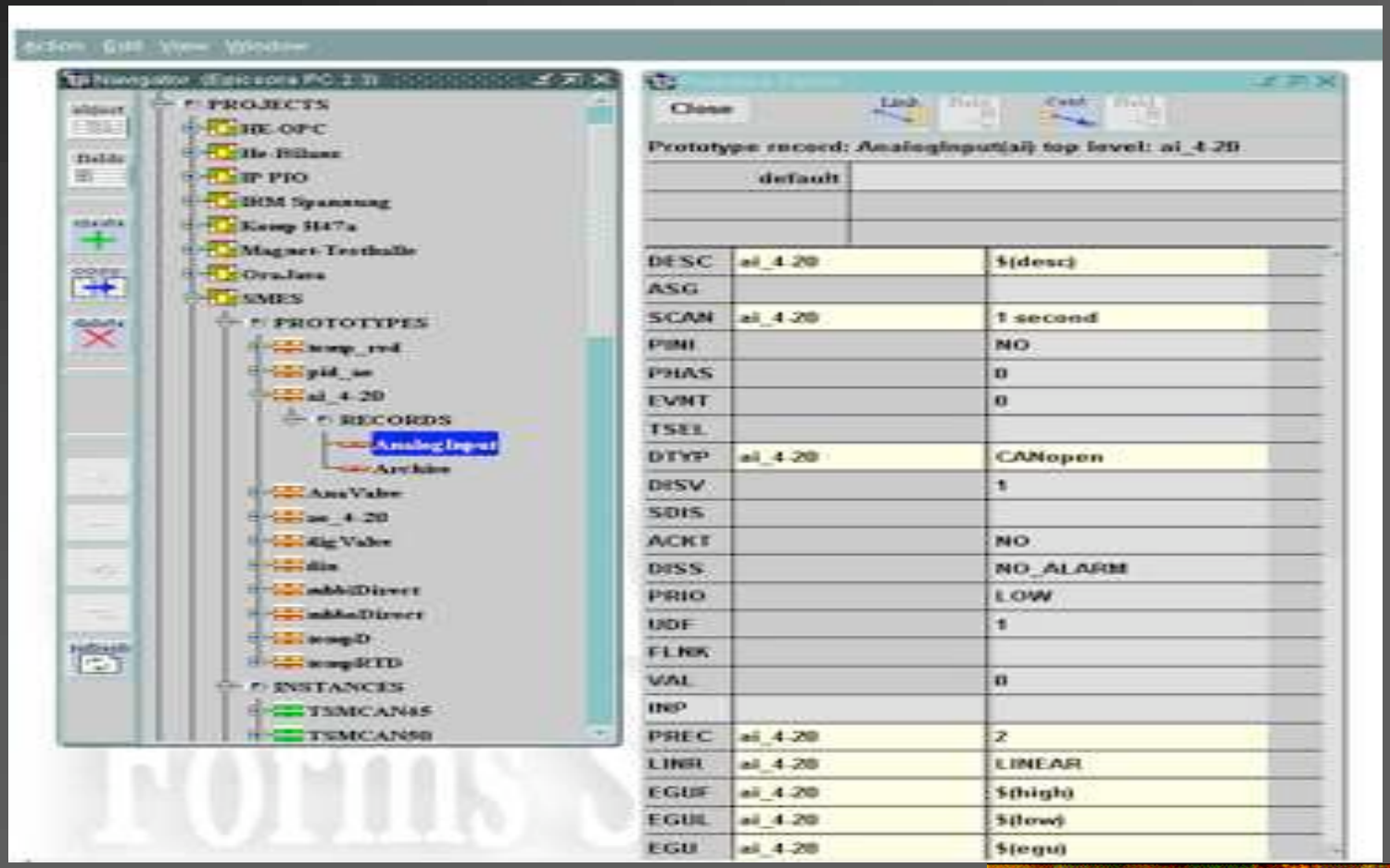
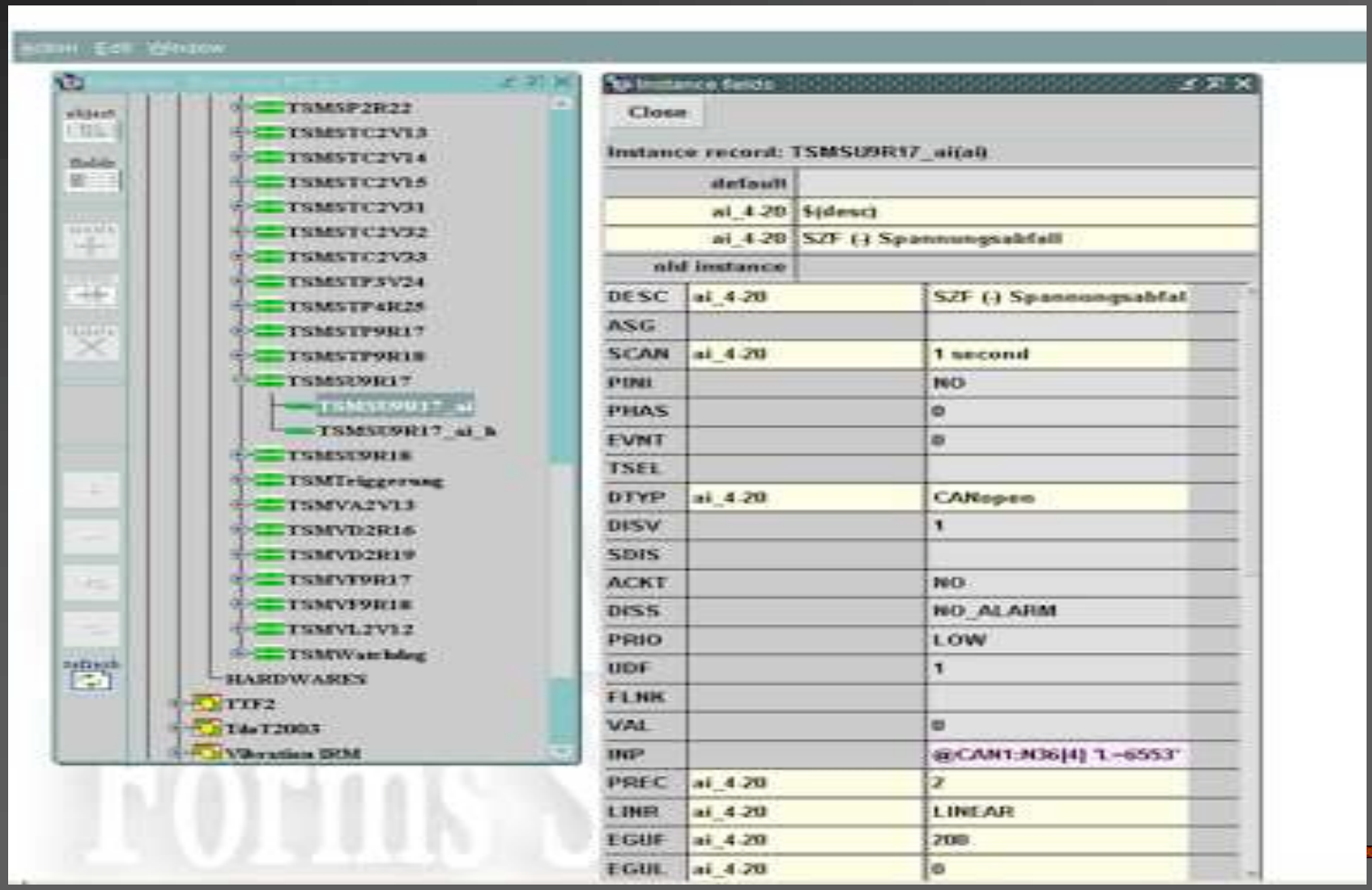
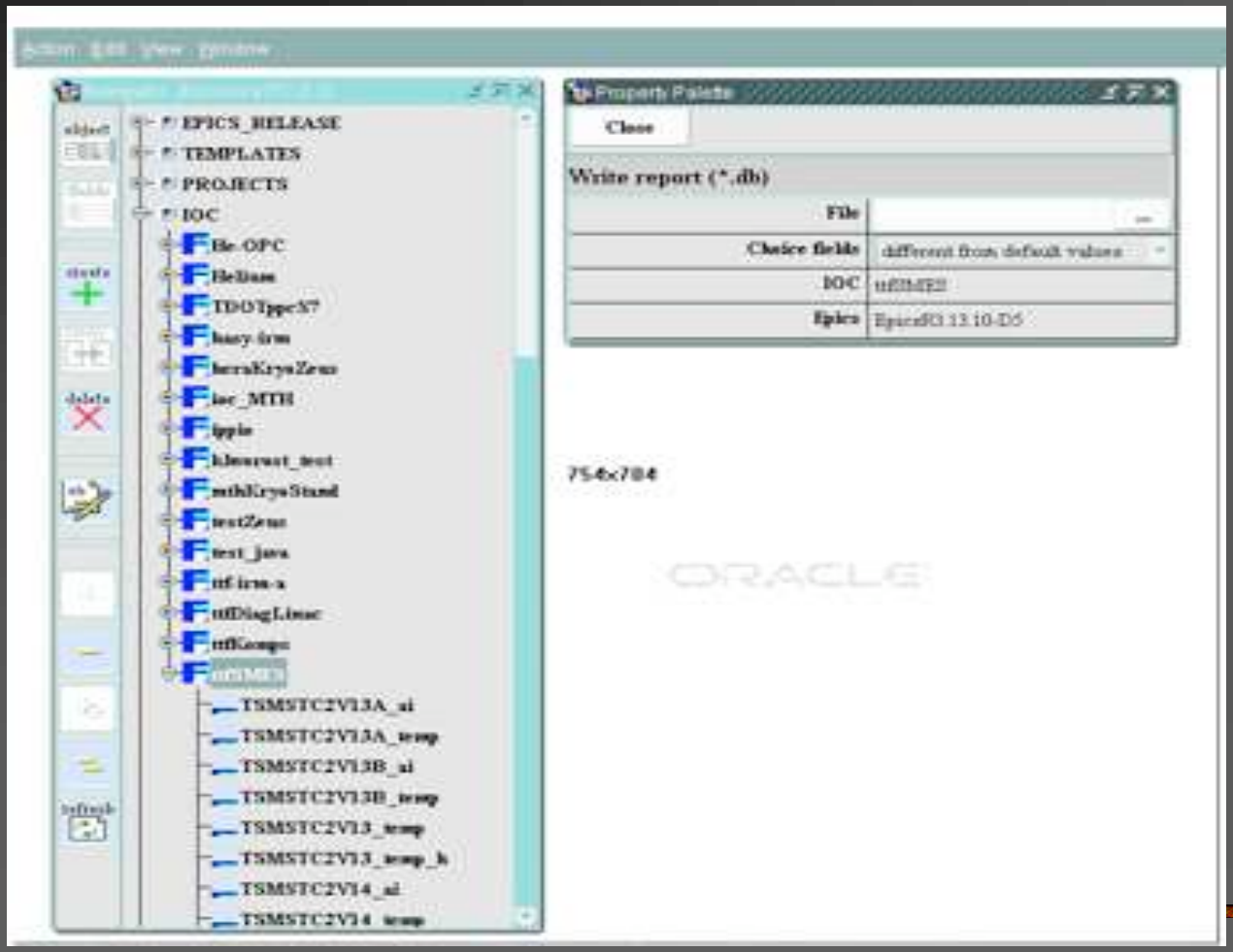
Prototype Records



Instantiated Records



.db file for IOC



Link with hardware: EPICS fields

- e.g. INP
- Device-specific formatted string, e.g. @CAN1:N36[4] ‘L=6553’
- Parameters in string are device attributes, node, channel, limits…etc

Goals

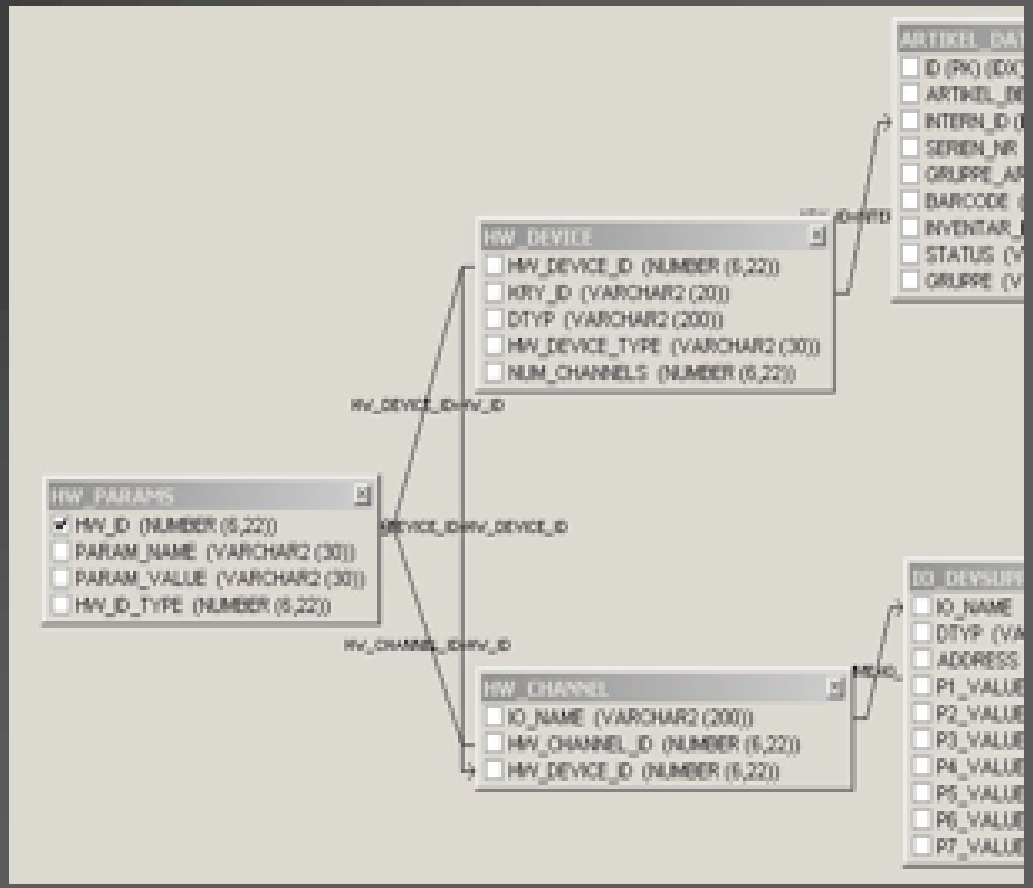
- Keep device data separate from EpicsOra database (can change devices with minimal changes to EpicsOra)
- Link EPICS PV to hardware device data
- Link hardware device to its EPICS PVs
- Link with assets database, other device data
- Pull EPICS address string parameters and values from device data
- Automatically generate formatted address string

IO_NAME

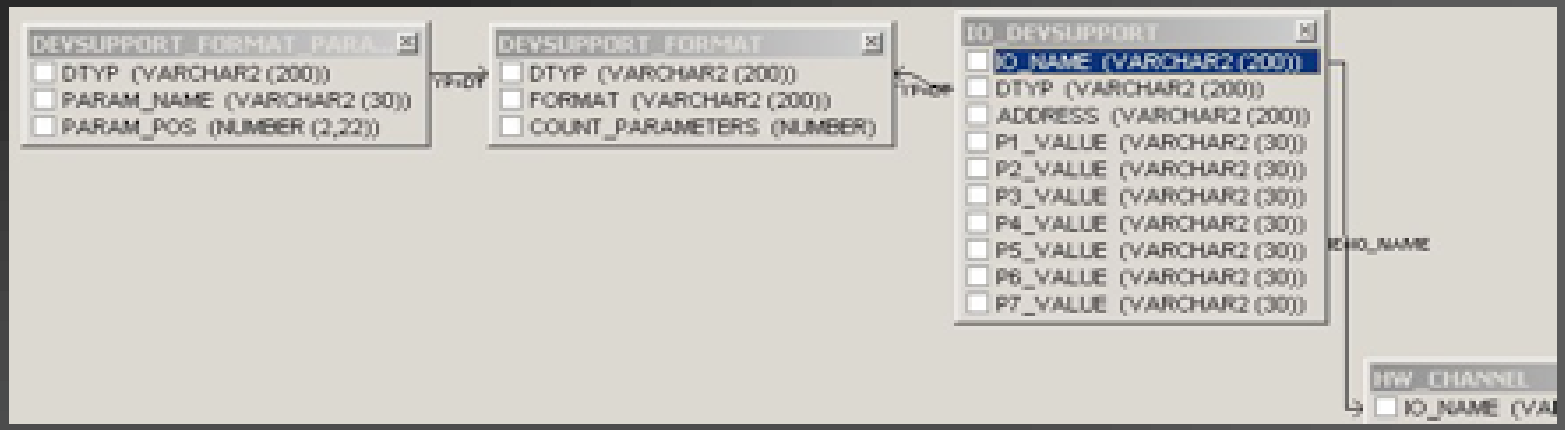
- Unique name associated with hardware channel
- Used by EpicsOra as a link to device data
- Can change device used by EPICS PV by moving the IO_NAME to another channel

Hardware device schema

- One device to many channels
- HW_PARAMS has list of device and channel parameter names + values
- Link to EpicsOra via HW_CHANNEL IO_NAME
- Link to assets db via HW_DEVICE. KRY_ID

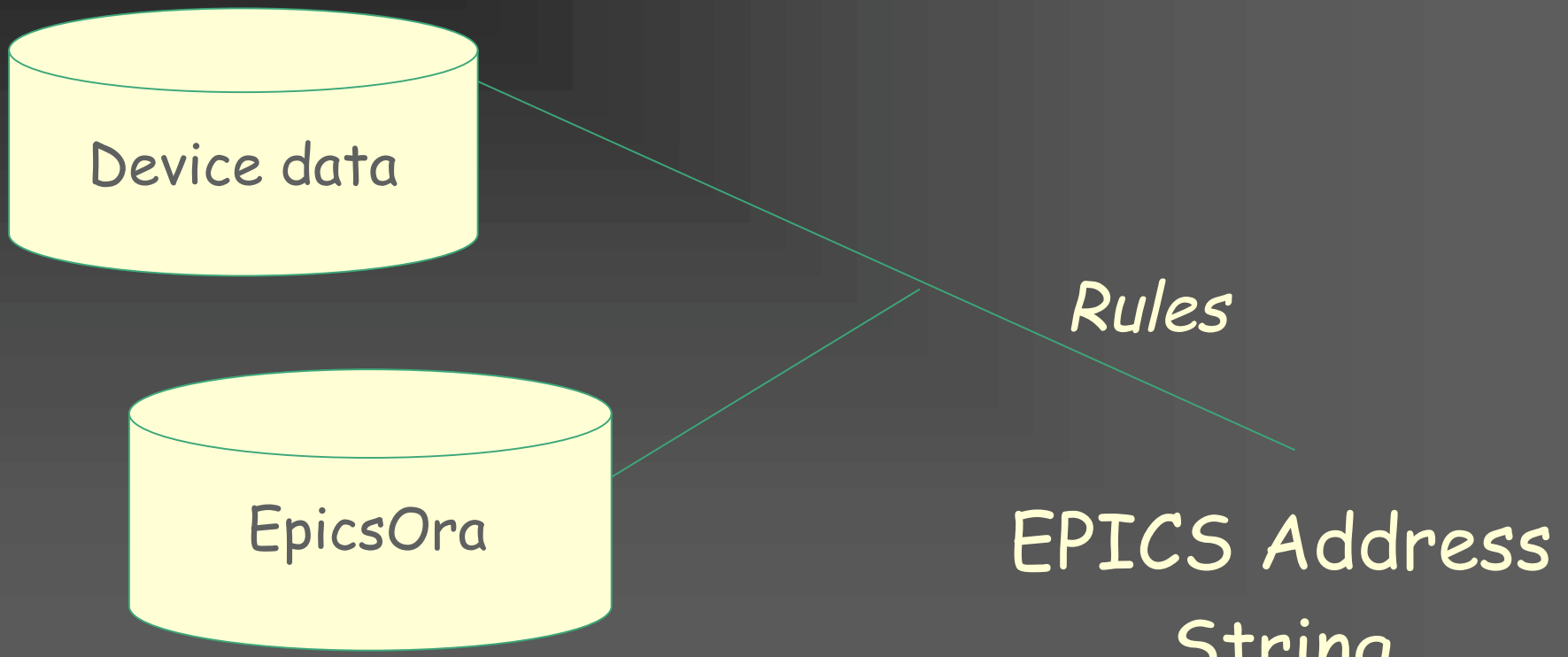


EpicsOra device schema

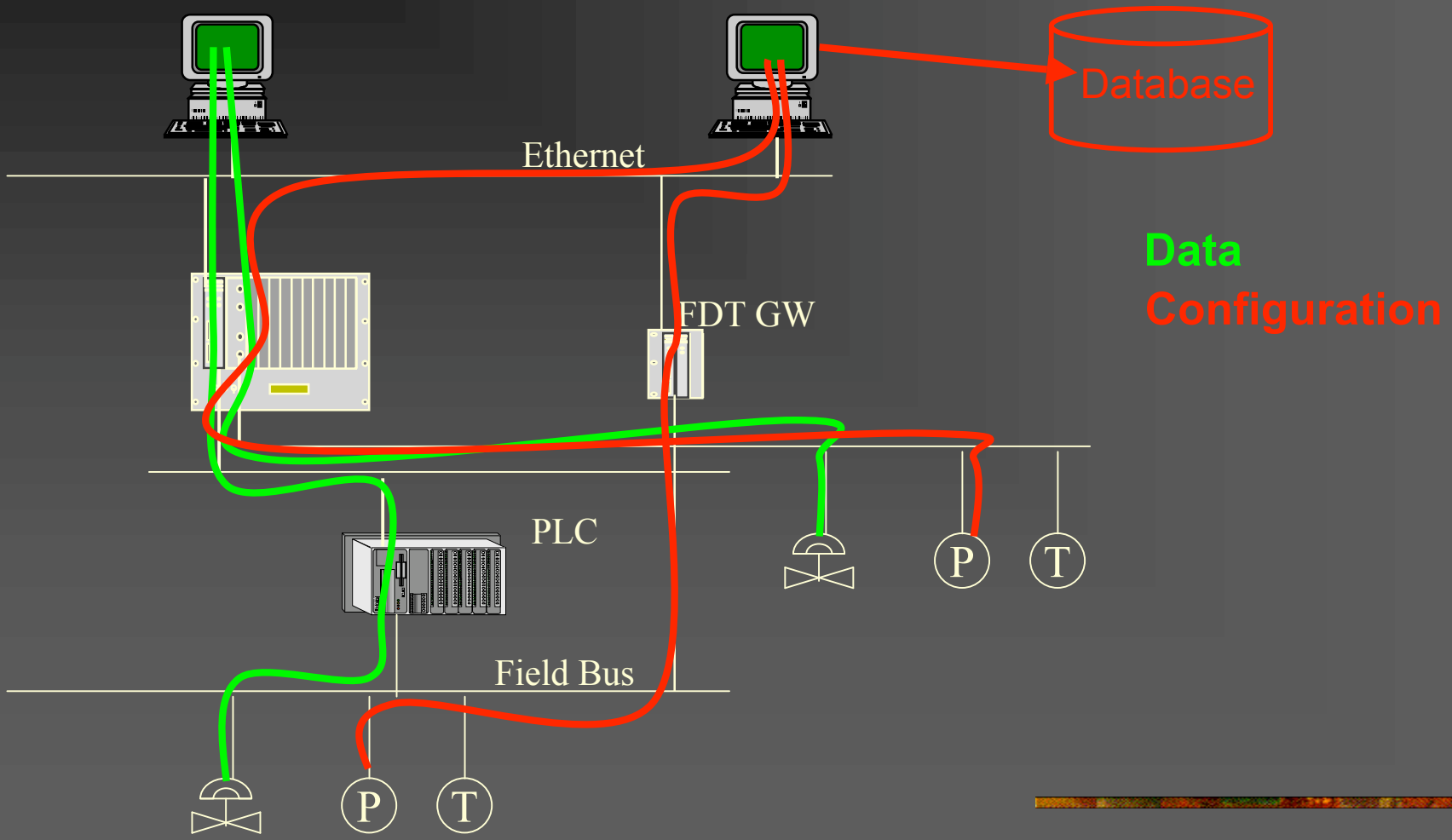


- DEVSUPPORT_FORMAT has format string
- IO_DEVSUPPORT links to hardware channel with IO_NAME; triggers assemble EPICS address strings with param values
- Param names and values from HW_PARAMS table

Putting them together



Integrating Intelligent Devices



Further work…

- Add sensor data and scaling parameters and functions to the device schema
- Add generic device class definitions to the device schema
- MS Excel used for device data; may use Excel VB macros as interface to Oracle
- Stored procedures, Oracle Forms code for managing the schemas
- Import flat EPICS .db files into EpicsOra