



Application Description

7

Terminal Unit Functional Blocks

13

Interworking of Functional Blocks

Summary

This document is a part of the HVAC Application Interworking Standard for HVAC applications. This Chapter describes the Interworking of the Functional Blocks.

Version 02.02.01 is a KNX Approved Standard.

This document is part of the KNX Specifications v2.1.

Document updates

Version	Date	Modifications
001.21	2001.08.07	Excerpt from former document TU_FB_18C Adapted to the Template Partly adapted to other documents
001.22		
2.00	2002.11.29	Header and footer adapted Version adapted Completed
2.01	2003.10.15	---
2.02	2004.01.15	---
2.2	2009.06.17	Update in view of publication in the KNX Specifications v2.0.
02.02.01	2013.10.29	Editorial updates for the publication of KNX Specifications 2.1.

References

None.

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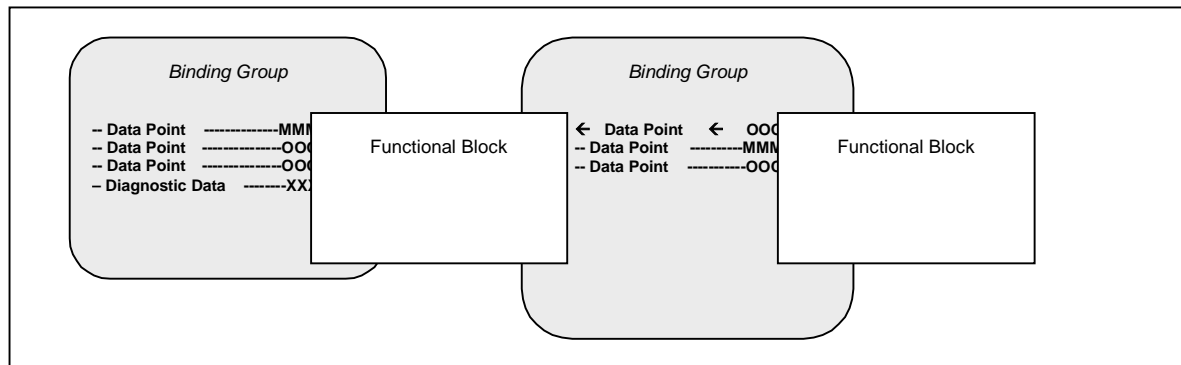
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1 General Remarks

The purpose of this document is to verify the co-operation of the different Functional Blocks. Where is the information coming from, where is it going to.

For details of the Functional Blocks, please refer to the corresponding documents (see 1.1).

1.1 Description



The grey fields represent a Binding Group with different Datapoints.

The white fields represent the Functional Blocks with the corresponding Datapoints.

Normally the information flow is from left to right, although some exceptions are especially marked with arrows←.

–**MM** represents a mandatory “connection” of the “variable”

–**OO** represents an optional “connection” of the “variable”

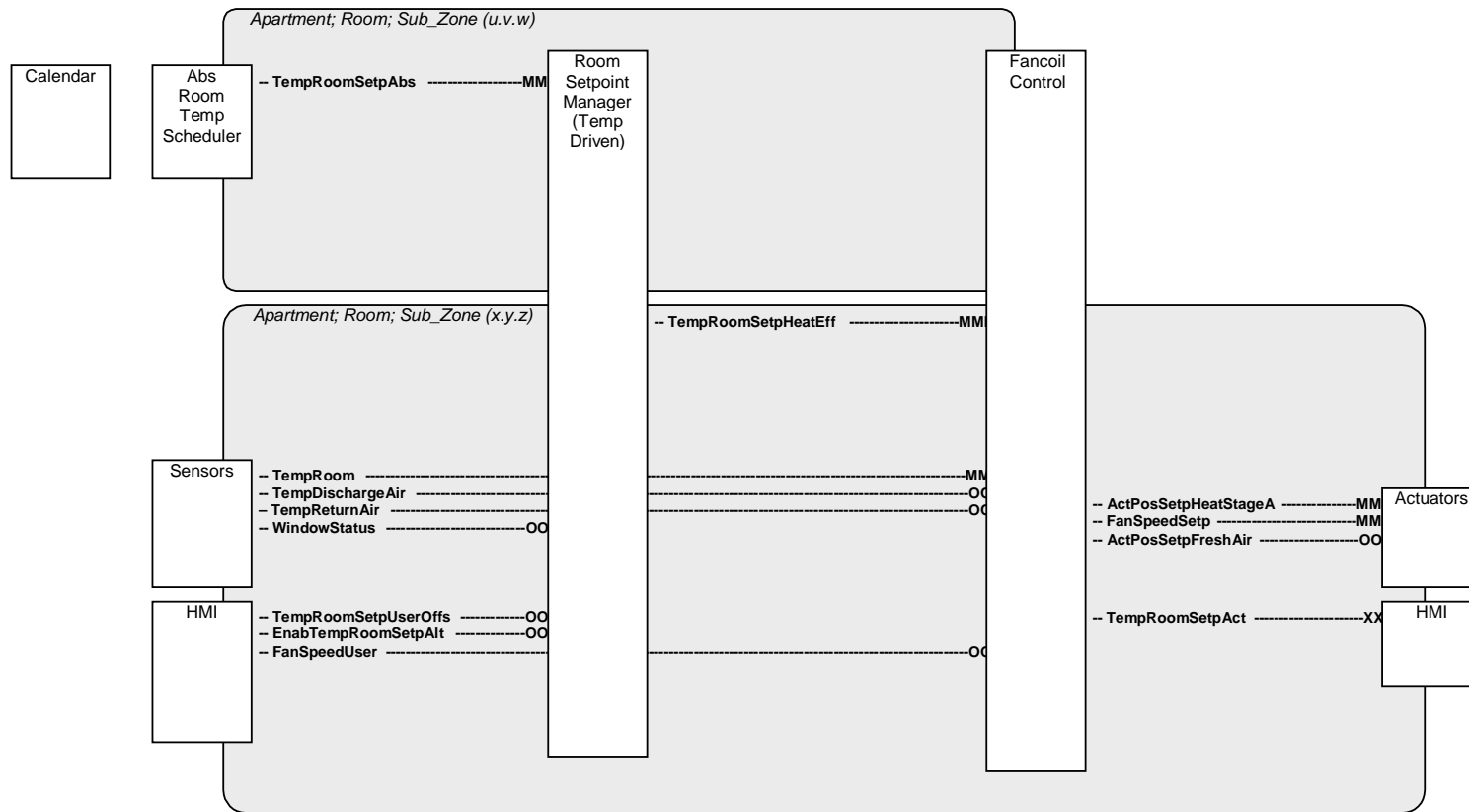
–**XX** represents diagnostic data

2 Examples

See following pages

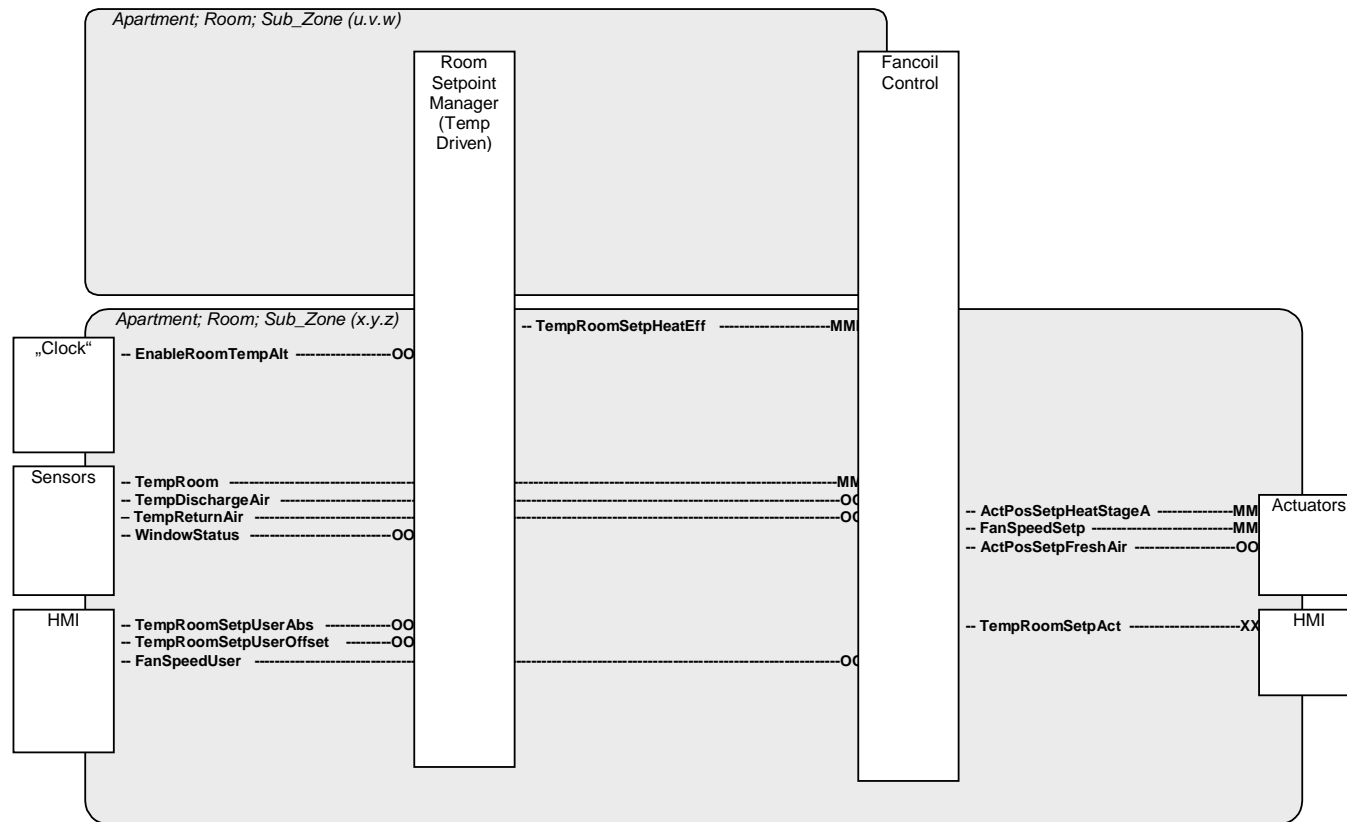
2.1 Simple Fancoil (Heating only, Temperature Driven)

Simple Fancoil (Heating only, Temperature Driven)



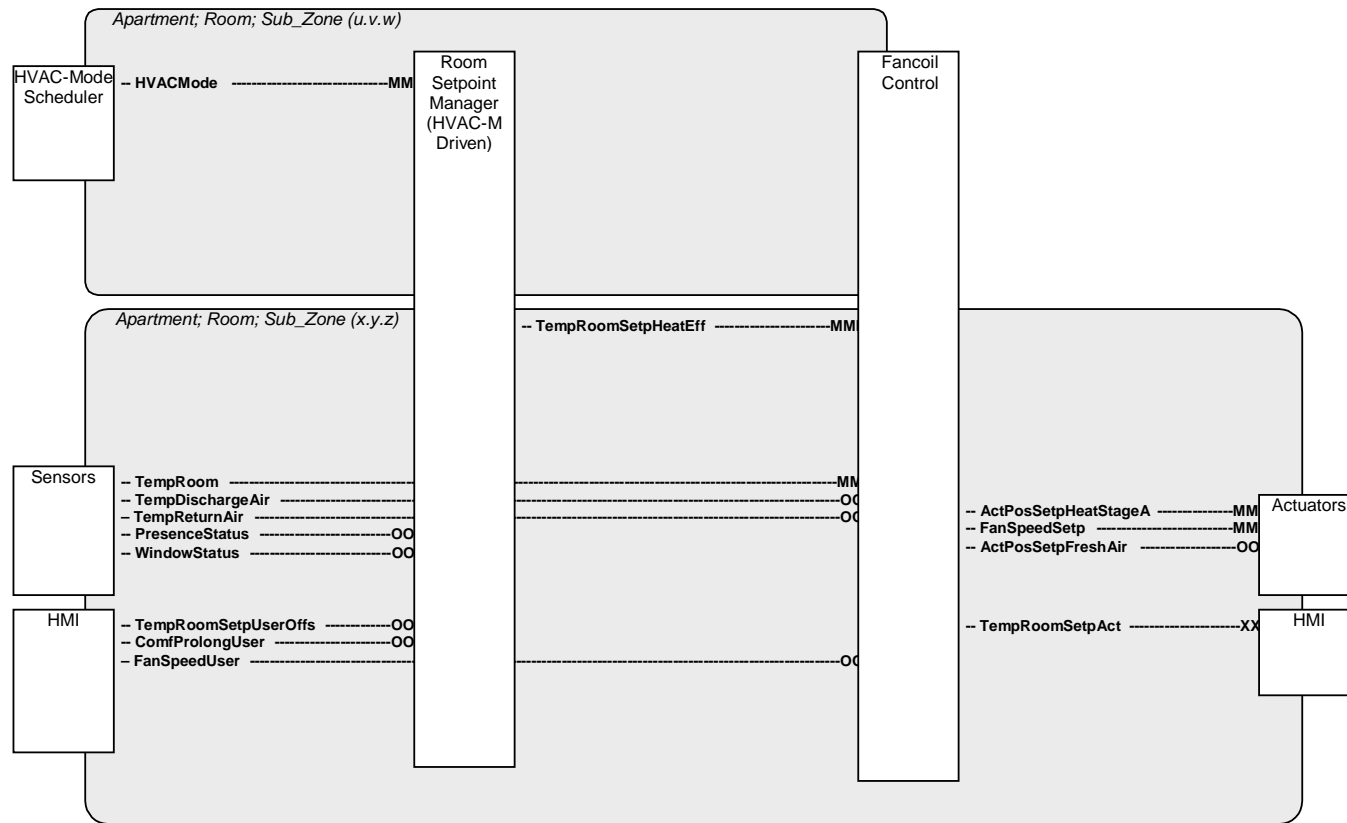
2.2 Simple Fancoil (Heating only, "Clock" Driven)

Simple Fancoil (Heating only, „Clock“ Driven)



2.3 Simple Fancoil (Heating only, HVAC-Mode Driven)

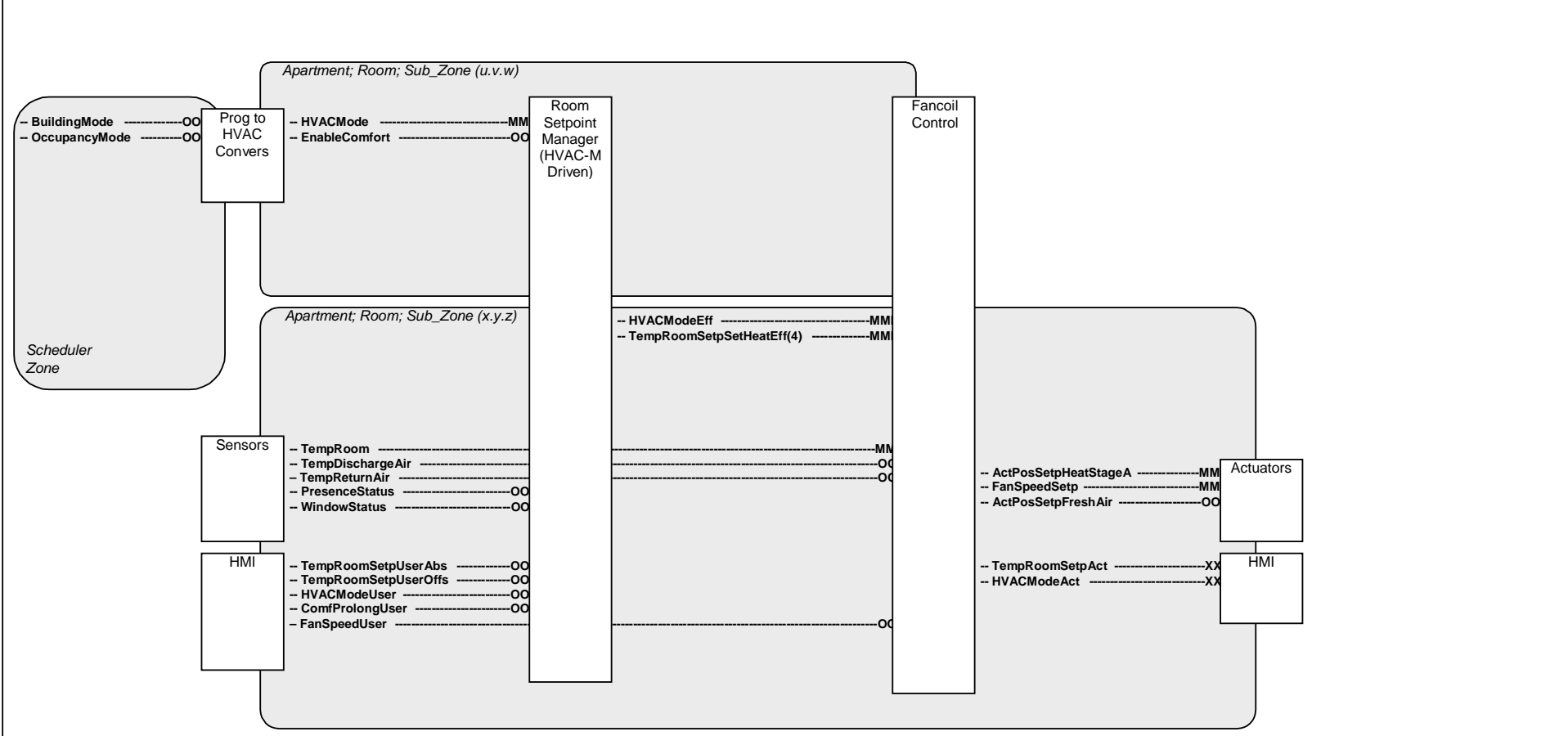
Simple Fancoil (Heating only, HVAC-Mode Driven)



2.4 Simple Fancoil (Heating only, with "Management Station")

Simple Fancoil

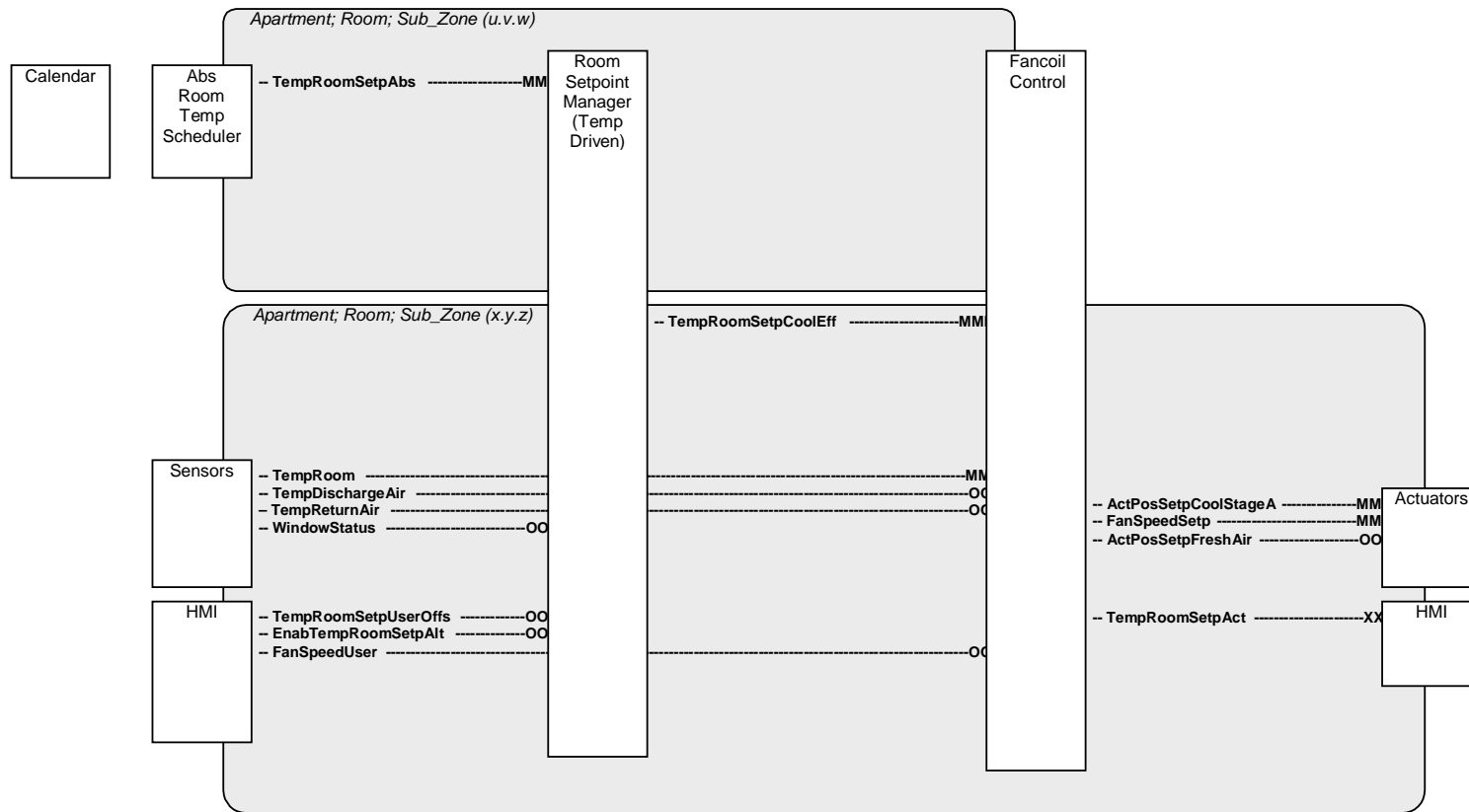
(Heating only, with „Management Station“)



2.5 Simple Fancoil (Cooling only, Temperature Driven)

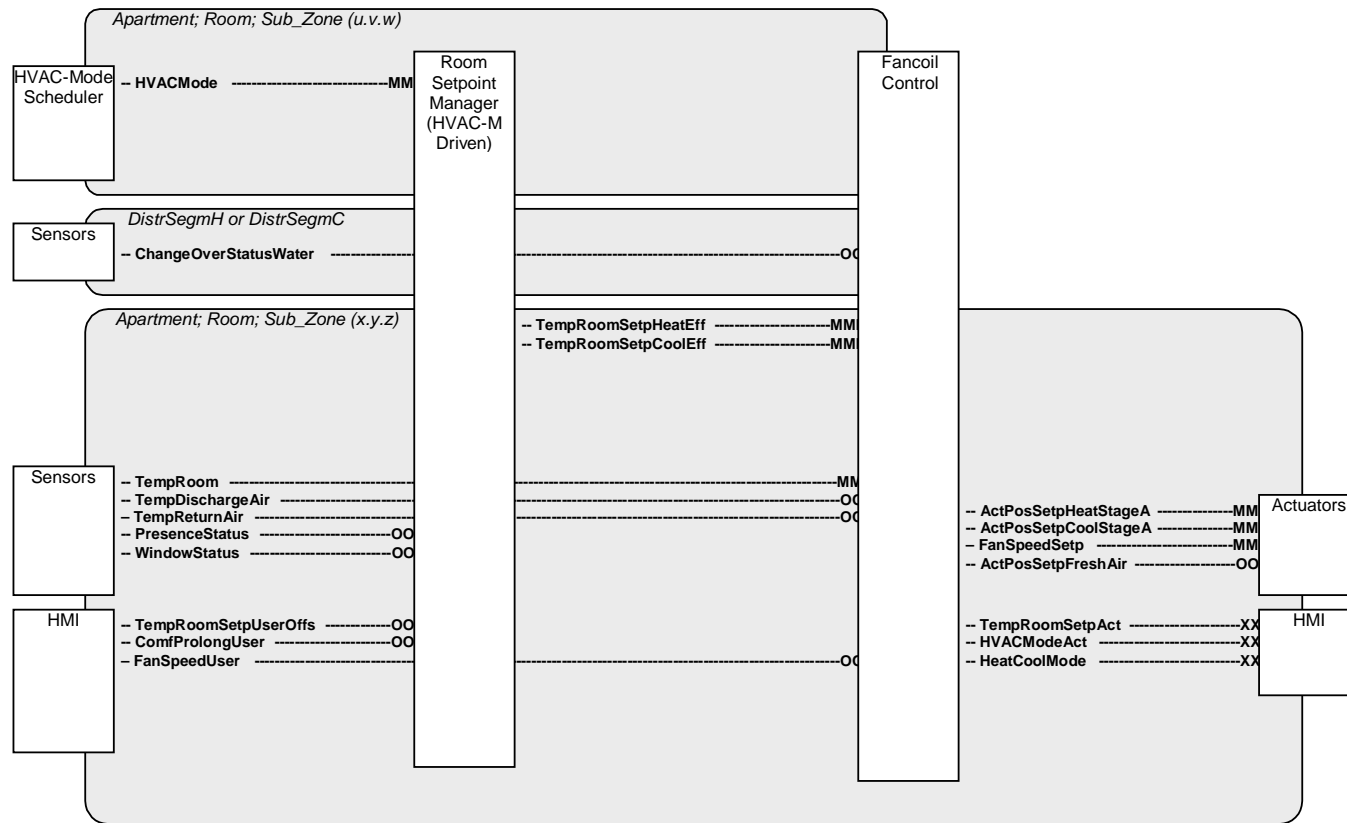
Simple Fancoil

(Cooling only, Temperature Driven)

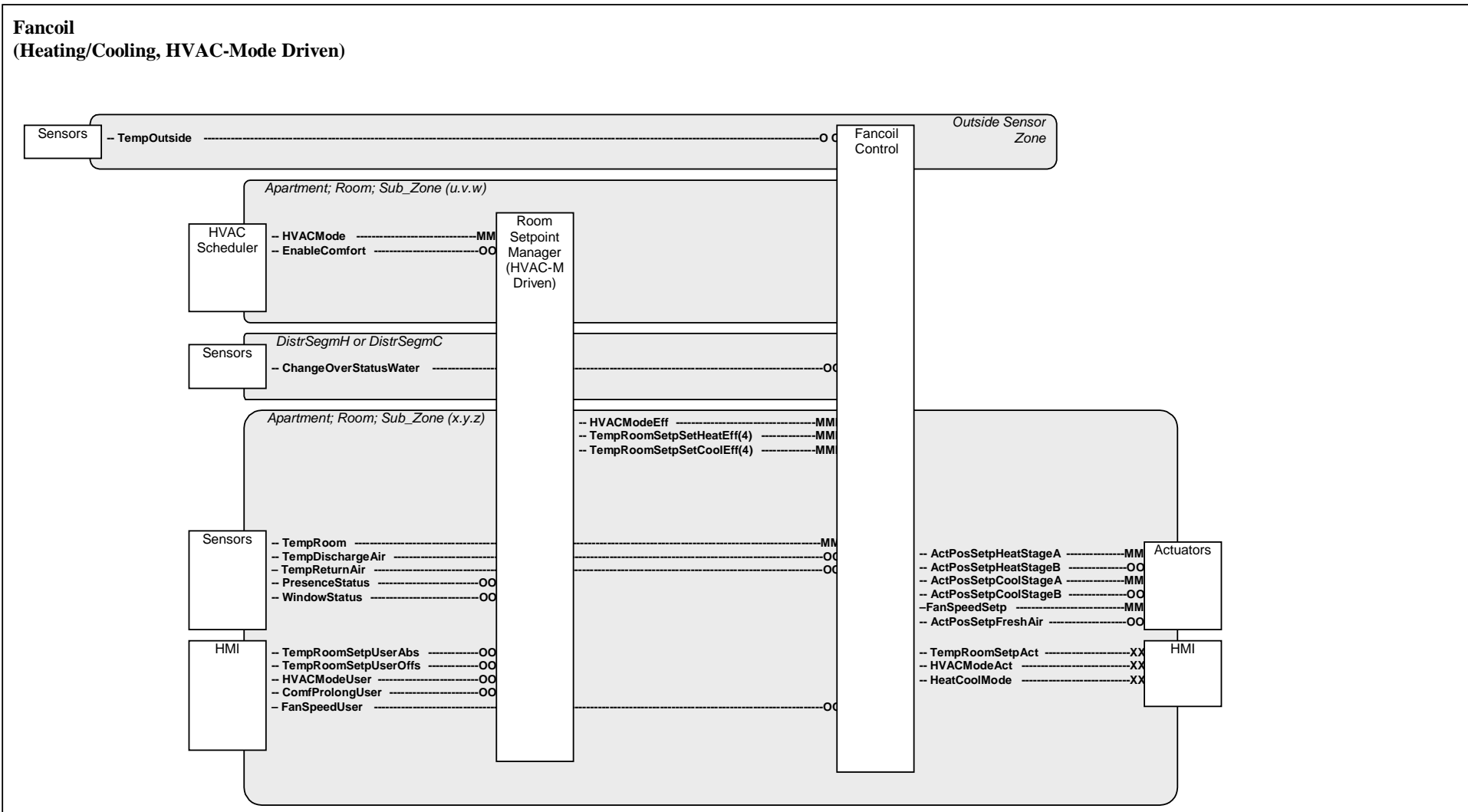


2.6 Simple Fancoil (Heating/Cooling, HVAC-Mode/Temperature Driven)

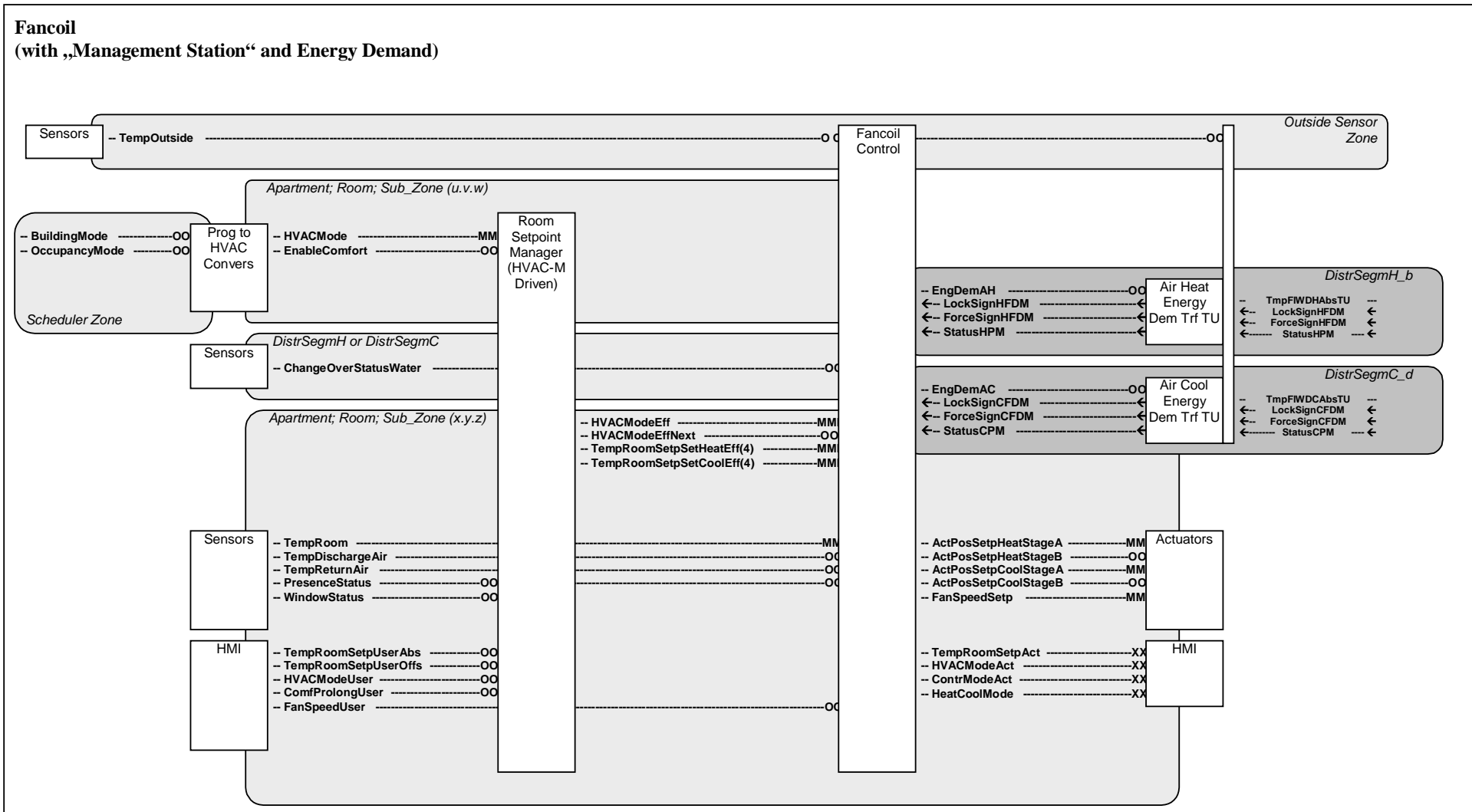
Simple Fancoil (Heating/Cooling, HVAC-Mode/Temperature Driven)



2.7 Fancoil (Heating/Cooling, HVAC-Mode Driven)

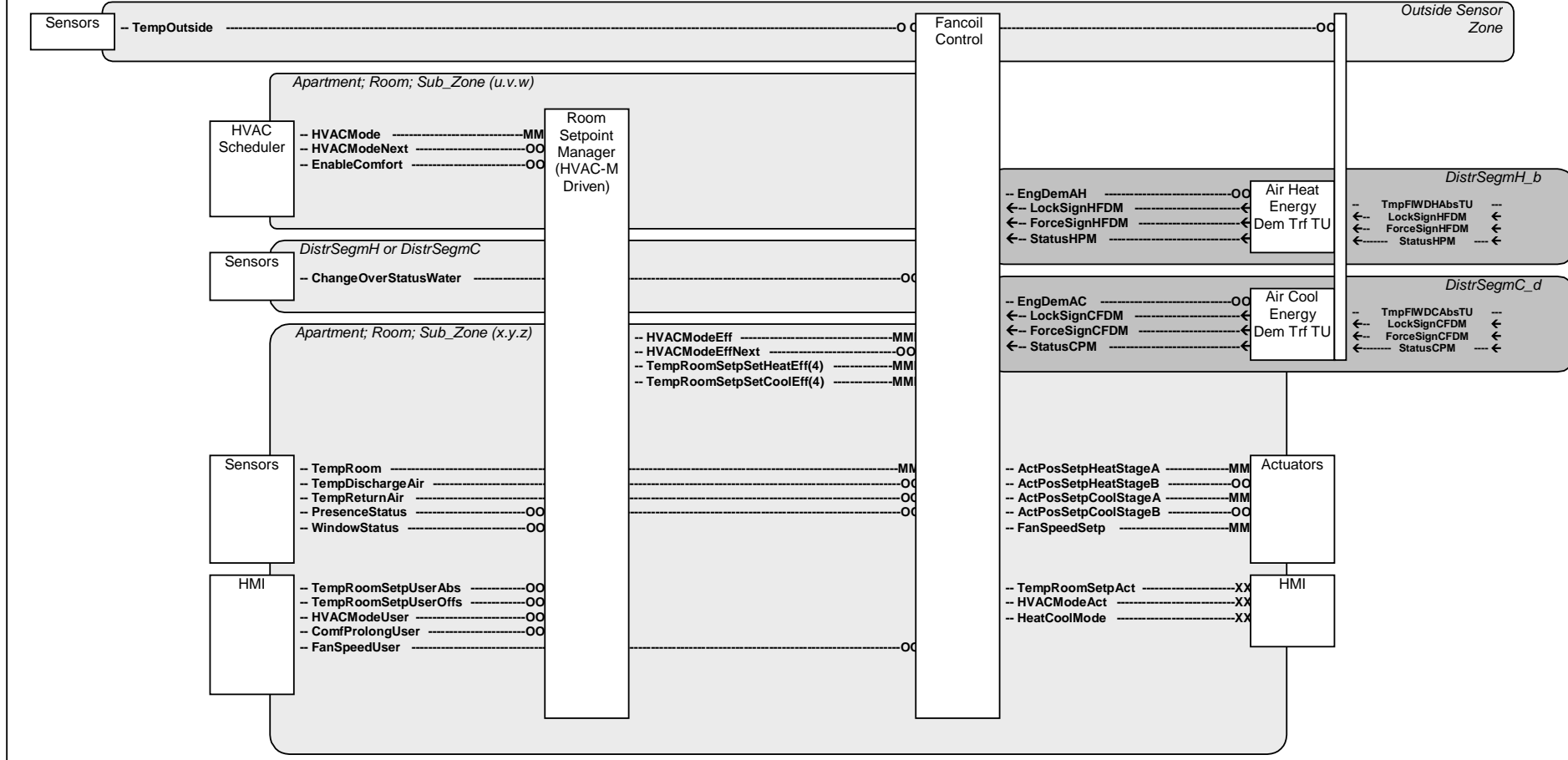


2.8 Fancoil (with "Management Station" and Energy Demand)

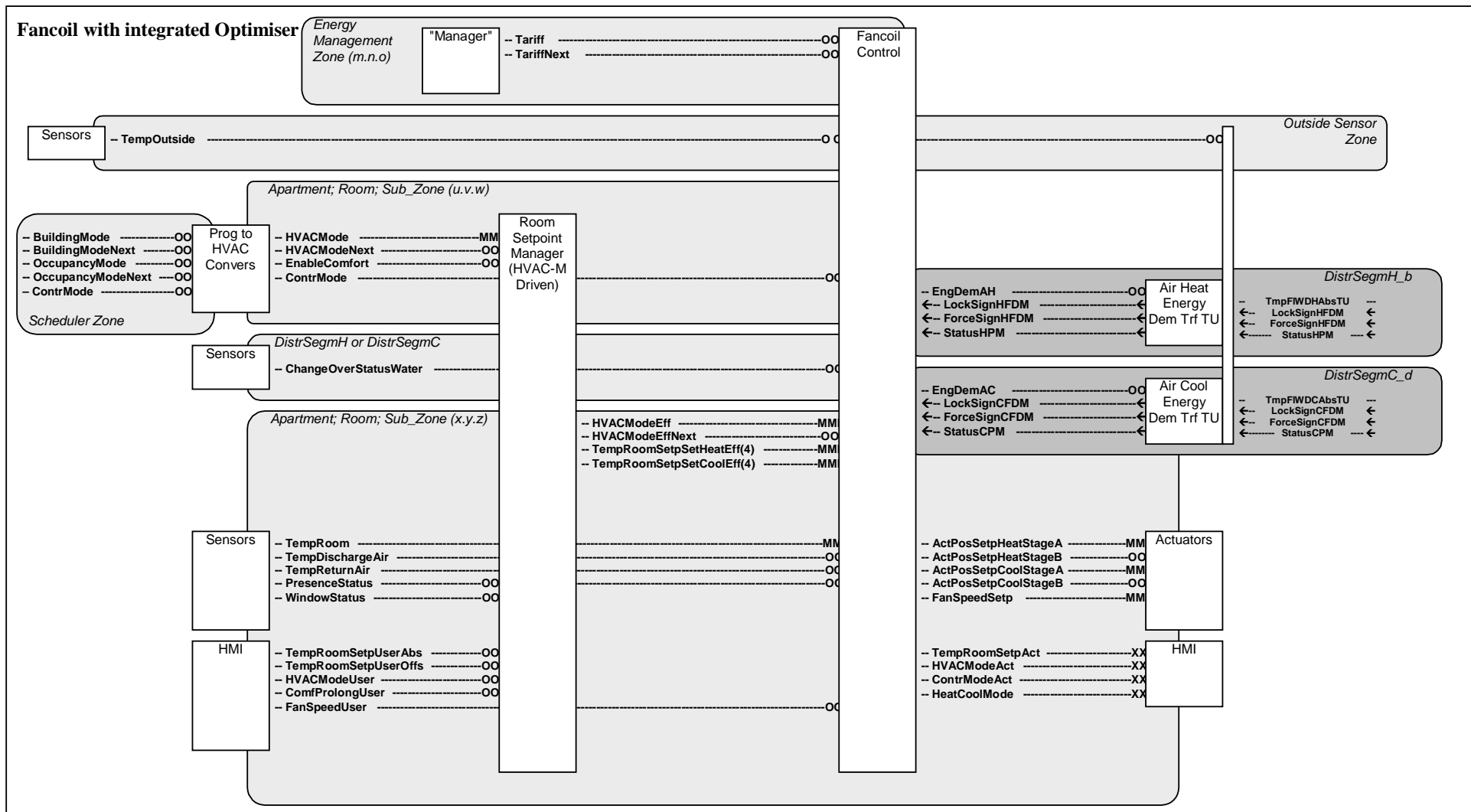


2.9 Fancoil with Optimiser (HVAC-Mode Driven, with Energy Demand)

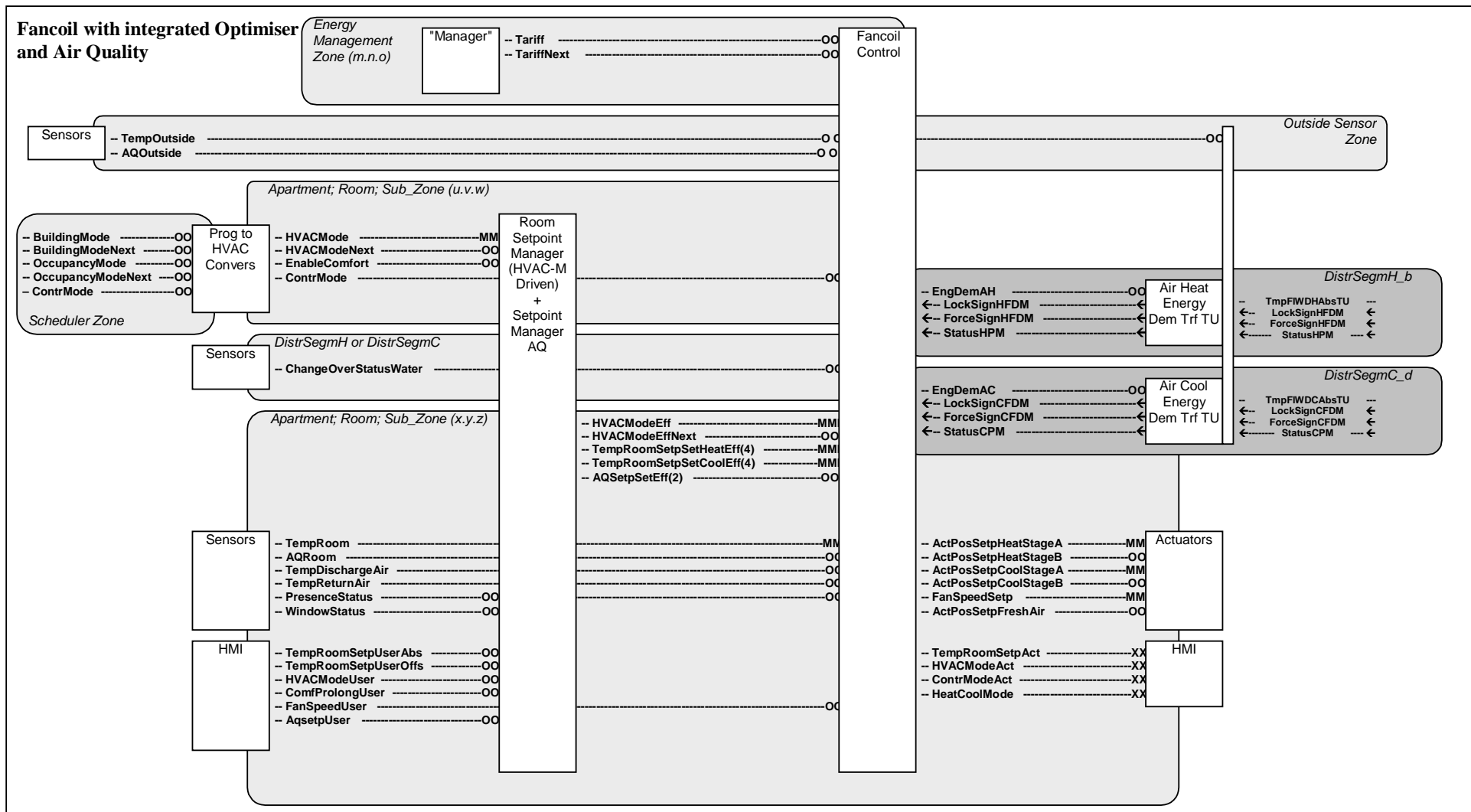
Fancoil with integrated Optimiser (HVAC-Mode Driven with Energy Demand)



2.10 Fancoil with Optimiser (with "Mgmt Station", Tariff Opt. and Energy Demand)

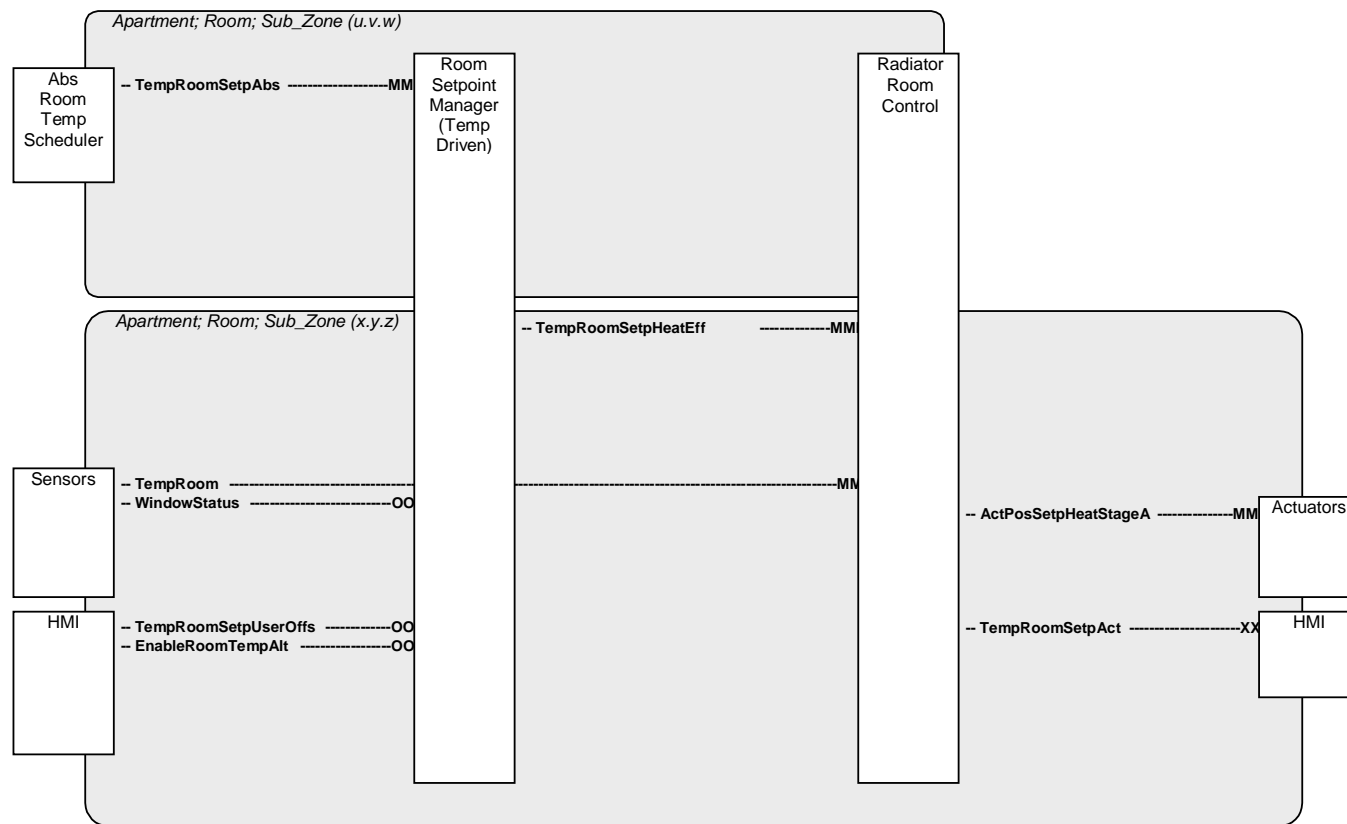


2.11 Fancoil with Optimiser and Air Quality



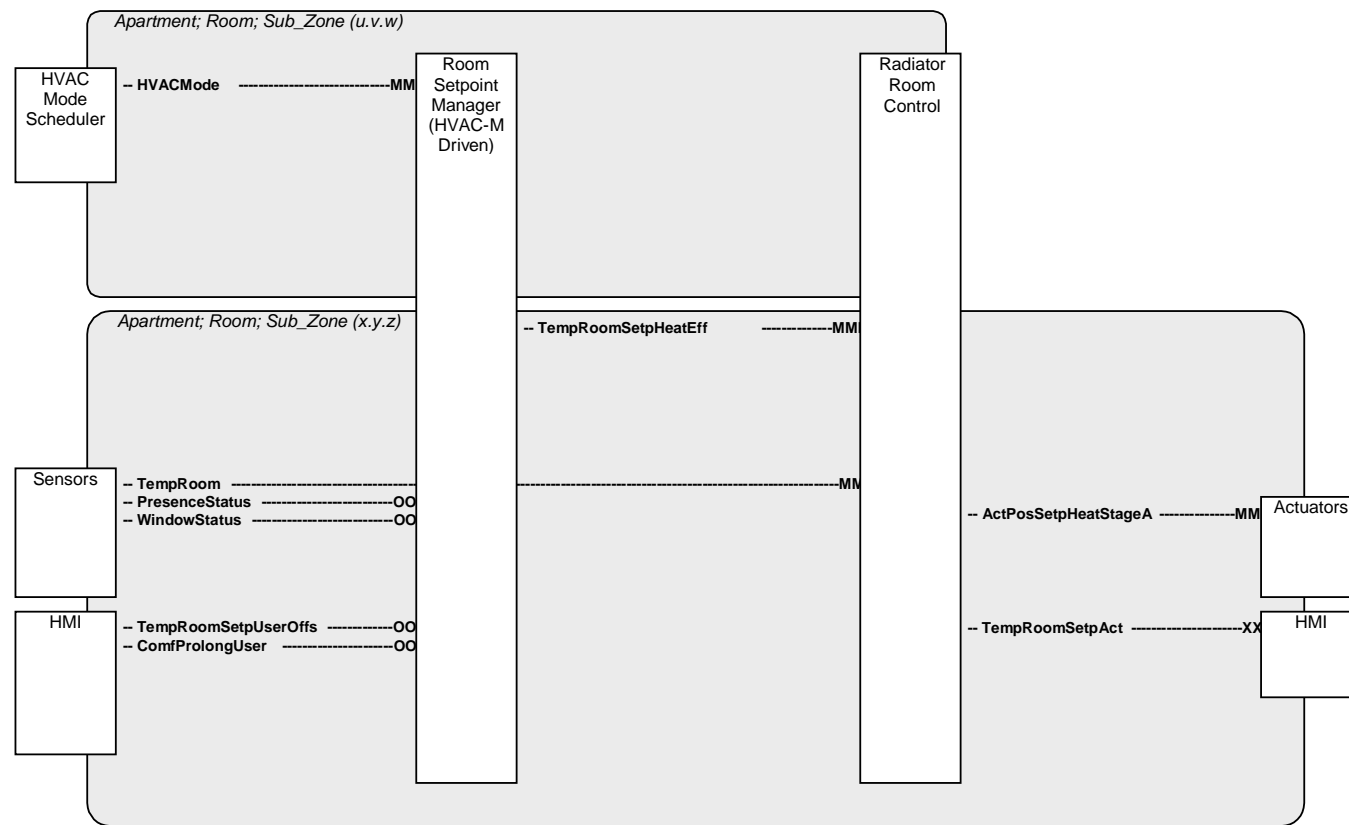
2.12 Simple Radiator Heating (Temperature Driven)

Simple Radiator Heating (Temperature Driven)

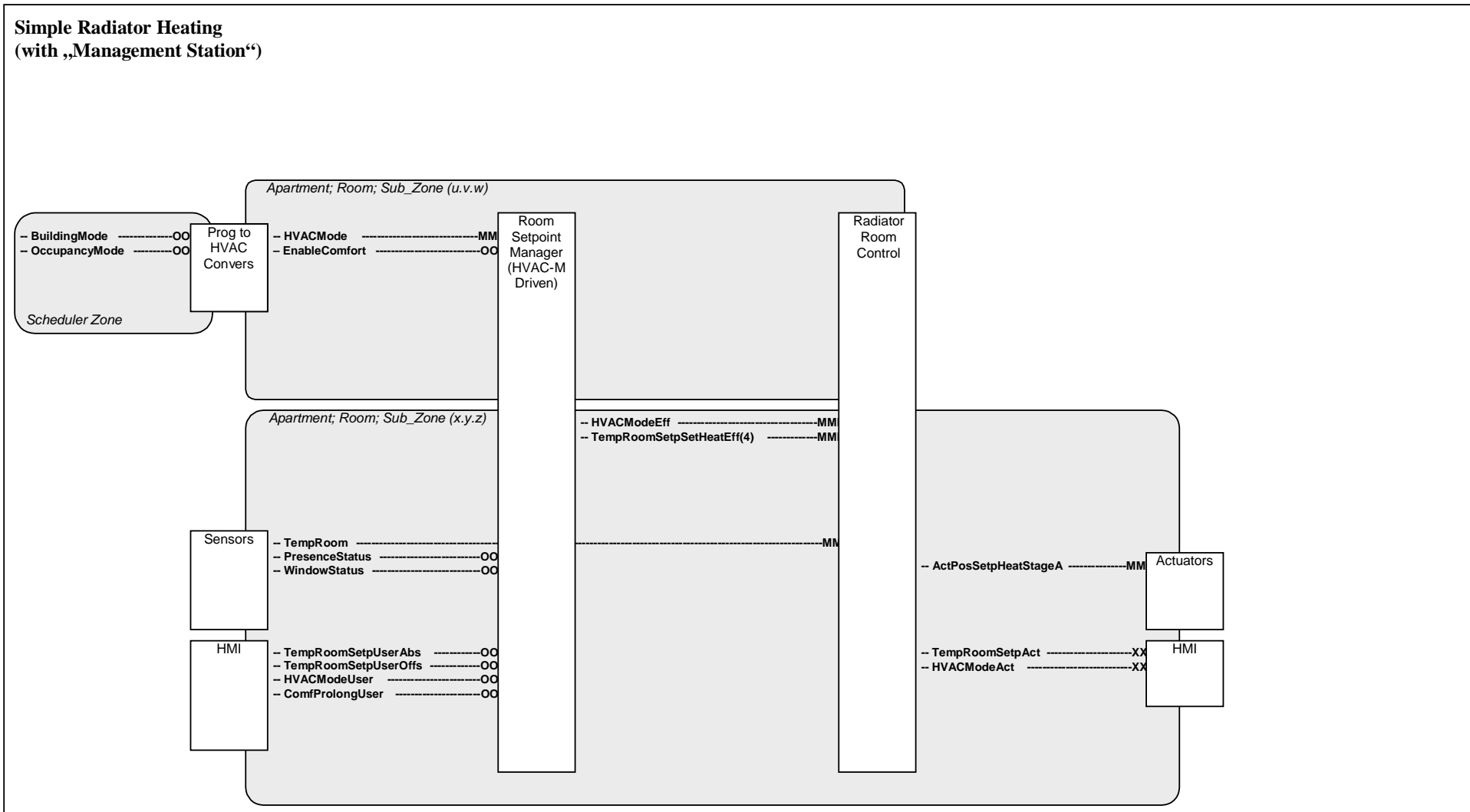


2.13 Simple Radiator Heating (HVAC-Mode Driven)

Simple Radiator Heating (HVAC-Mode Driven)

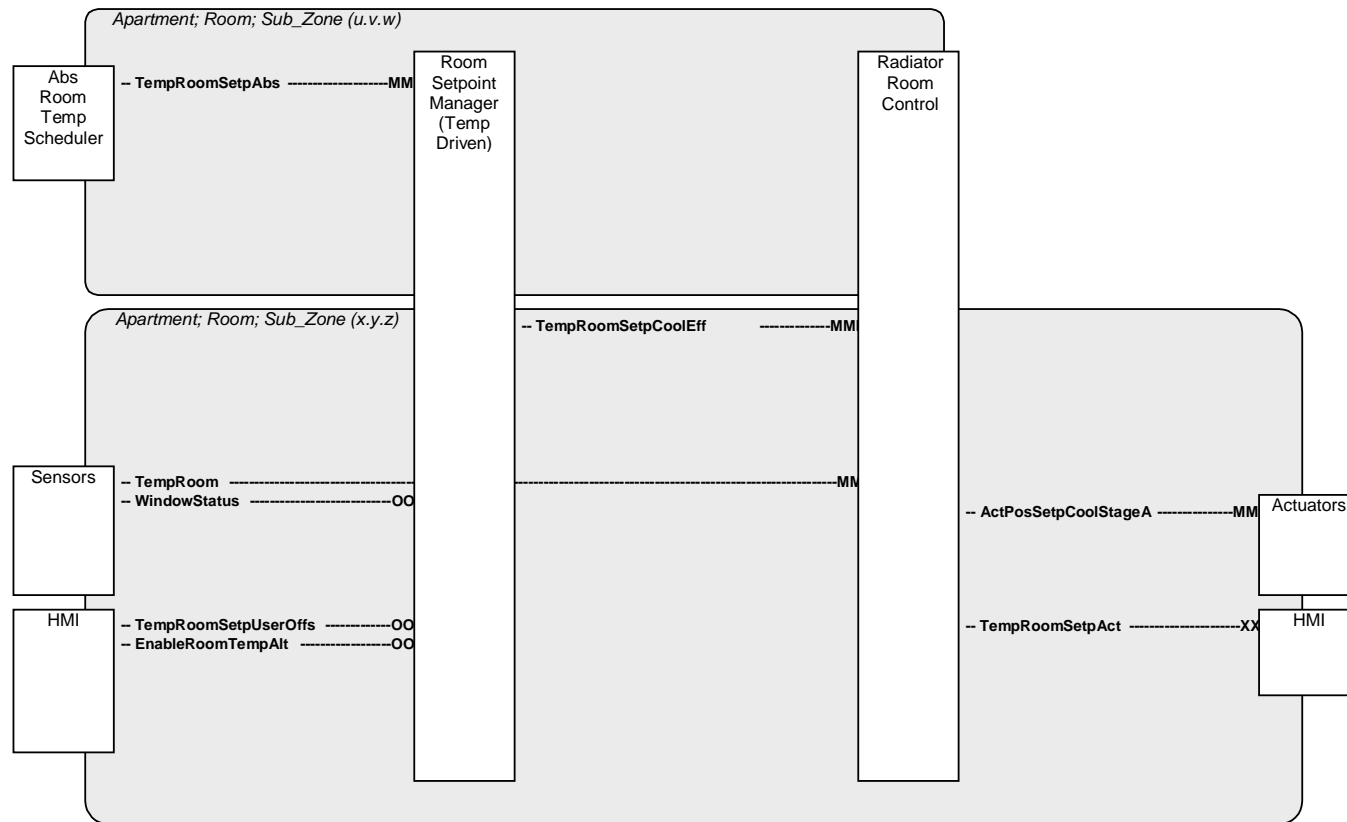


2.14 Simple Radiator Heating (with "Management Station")

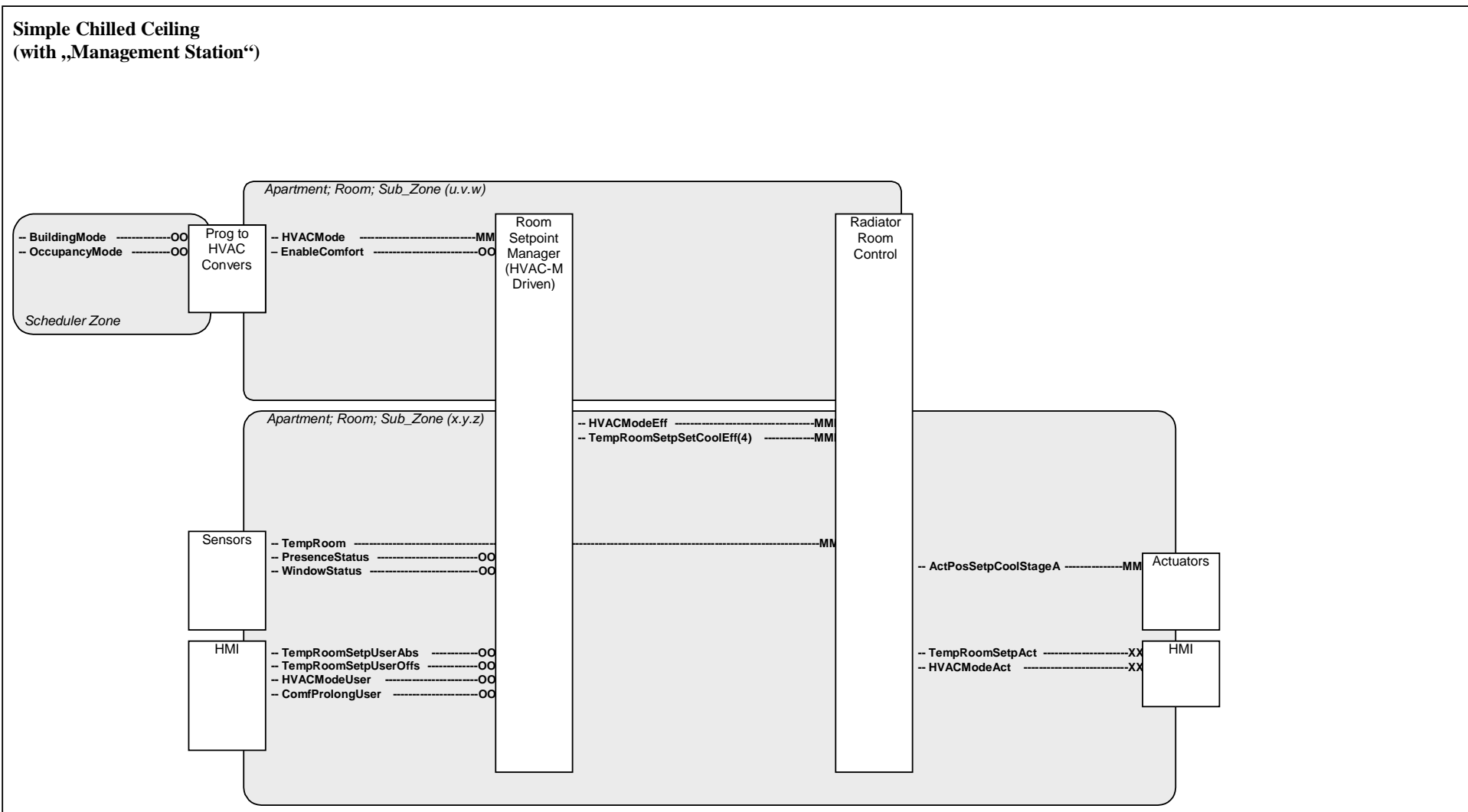


2.15 Simple Chilled Ceiling (Temperature Driven)

Simple Chilled Ceiling (Temperature Driven)



2.16 Simple Chilled Ceiling (with "Management Station")



Radiator and Chilled Ceiling with integrated Optimiser

Energy Management Zone (m.n.o)

- Manager
 - Tariff
 - TariffNext

Sensors

- TempOutside

Scheduler Zone

- BuildingMode
- BuildingModeNext
- OccupancyMode
- OccupancyModeNext
- ContrMode

Prog to HVAC Convers

- HVACMode
- HVACModeNext
- EnableComfort
- ContrMode

Room Setpoint Manager (HVAC-M Driven)

DistrSegmH or DistrSegmC

- ChangeOverStatusWater

Apartment; Room; Sub_Zone (x.y.z)

- HVACModeEff
- HVACModeEffNext
- TempRoomSetpSetHeatEff(4)
- TempRoomSetpSetCoolEff(4)

Sensors

- TempRoom
- PresenceStatus
- WindowStatus
- DewPointStatus

HMI

- TempRoomSetpUserAbs
- TempRoomSetpUserOffs
- HVACModeUser
- ComfProlongUser

Radiator & Chilled Ceiling Control

Outside Sensor Zone

DistrSegmH_a

- EngDemRD
- LockSignHFDM
- ForceSignHFDM
- StatusHPM

RAD Heat Energy

- Dem Trf TU

DistrSegmC_c

- EngDemCC
- LockSignCFDM
- ForceSignCFDM
- StatusCPM

CLC Cool Energy

- Dem Trf TU

ActPosSetpHeatStageA

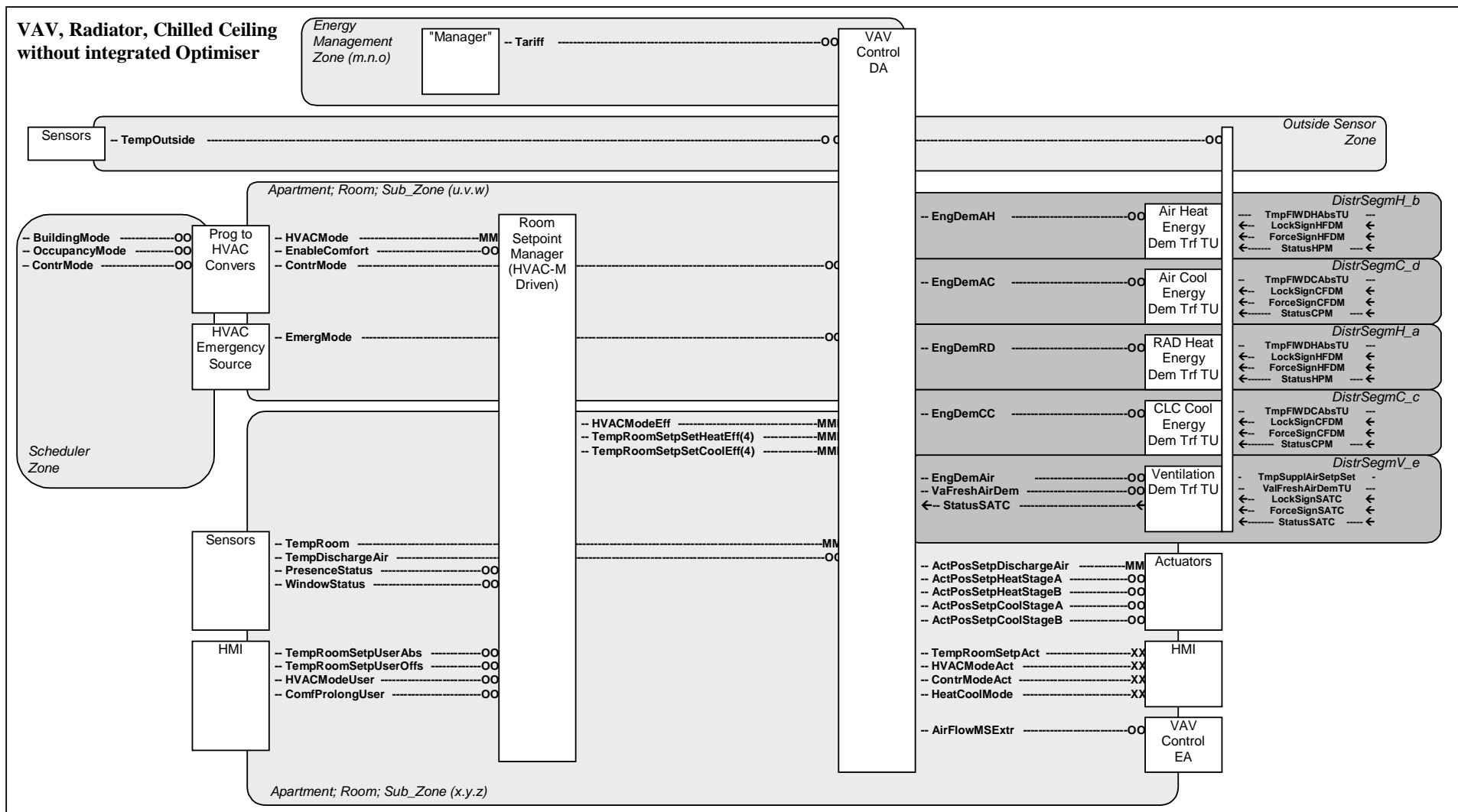
- ActPosSetpHeatStageB
- ActPosSetpCoolStageA
- ActPosSetpCoolStageB

Actuators

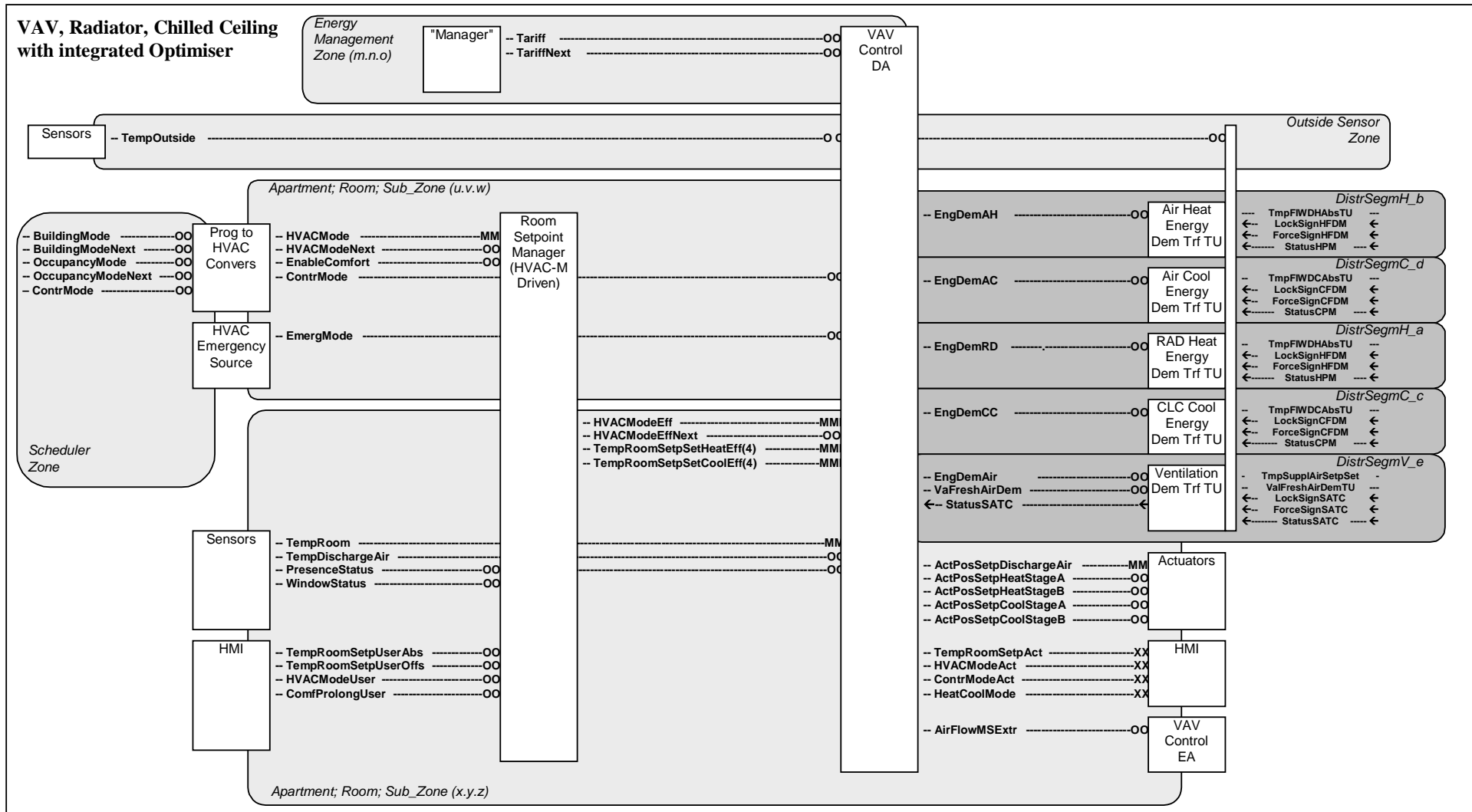
HMI

- TempRoomSetpAct
- HVACModeAct
- ContrModeAct
- HeatCoolMode

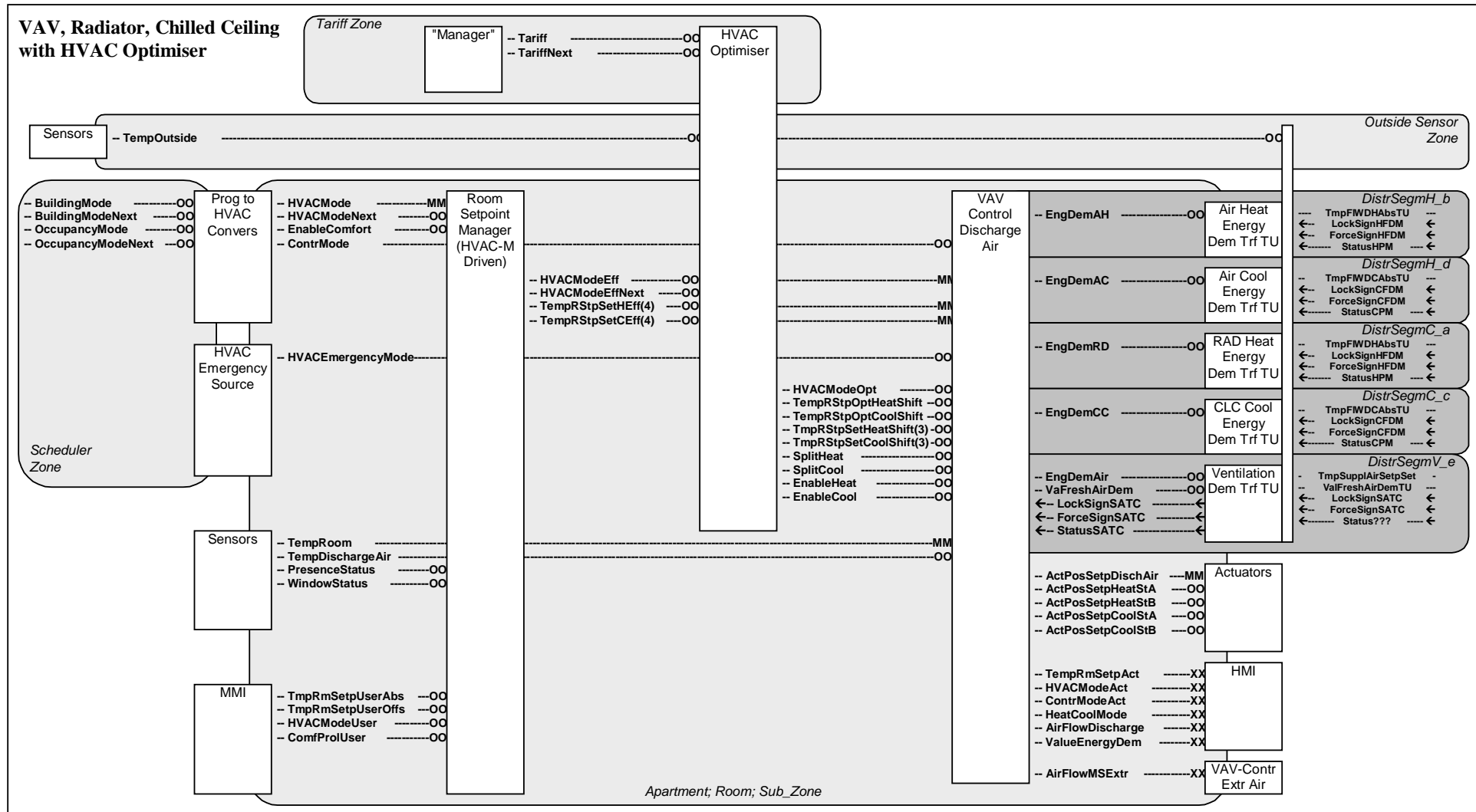
2.18 VAV, Radiator, Chilled Ceiling without integrated Optimiser



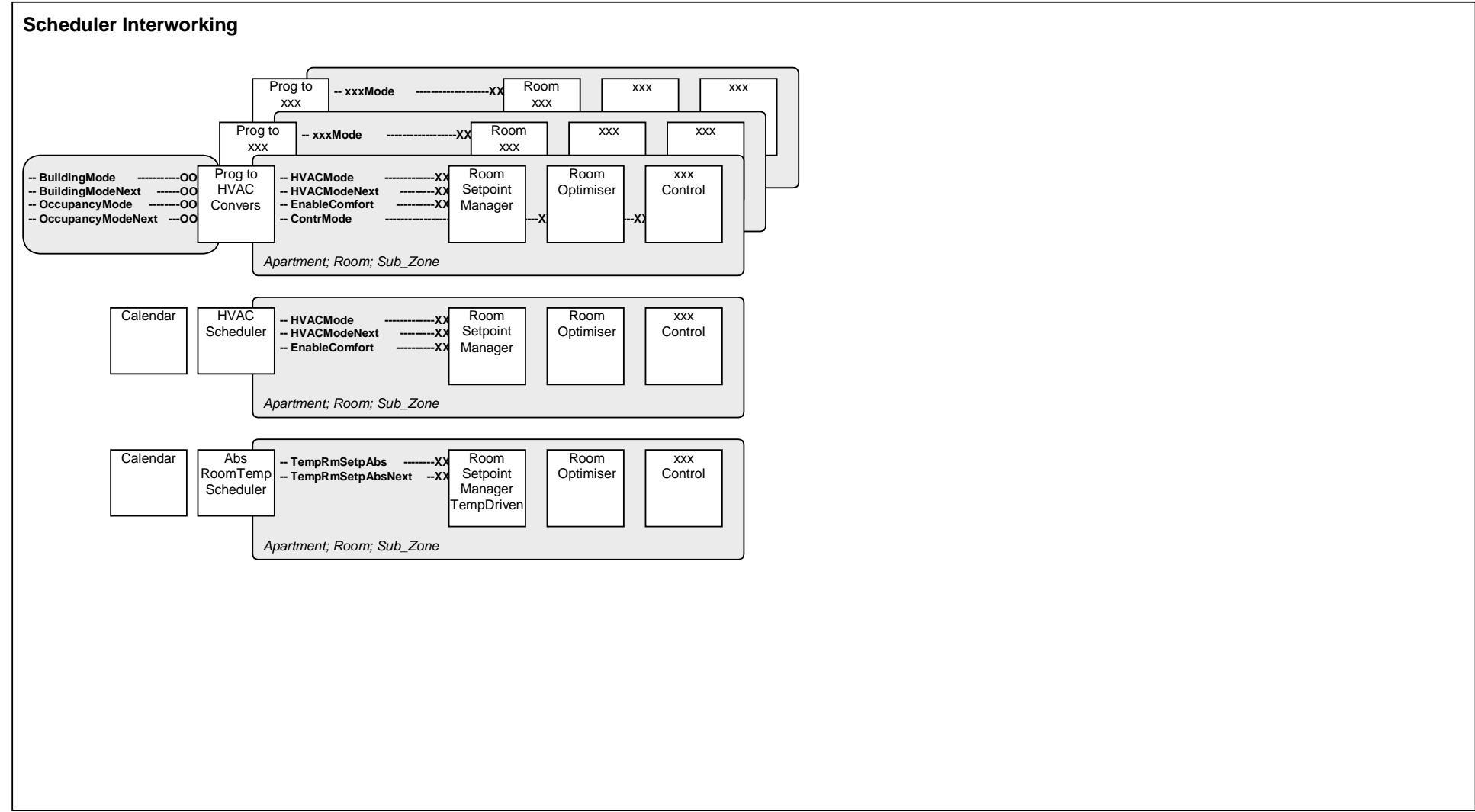
2.19 VAV, Radiator, Chilled Ceiling with integrated Optimiser



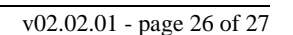
2.20 VAV, Radiator, Chilled Ceiling with HVAC Optimiser



Scheduler Interworking



3.1 Temperature Setpoints from Rooms, Relative Humidity and Air Quality centralised.



3.2 Temperature and Air Quality Setpoints from Rooms, Relative Humidity centralised.

Setpoint Interworking

