

Maintenance of Operation models

Maintenance of models in Operation based on a Model Manager topology follows a few basic principles described below. The maintenance of a model deals with typical changes performed in GIS environment like new registered objects, deleted objects, changed geometry and changed attributes assigned to objects.

The basic principles are as follows:

- Changes in GIS have in general precedence compared to changes in Operation.
- Objects are identified by a unique ID coming from GIS. ID changes in GIS will cause potential update problems.

The following sections outline the maintenance procedure more detailed.

Constraints on model object ID's

Object recognition during model update is based on object ID.

Object ID may be modified in Operation, Original ID from GIS will be used for object recognition.

Object ID cannot be modified in GIS as recognition then will fail leading to possible object update failure.

Objects created in Operation

Objects created in Operation will be left unchanged in the Operation model. If object created in Operation appears in next update from GIS, object will then become GIS.

Objects created in GIS

Objects created in GIS since last model update will be included in the Operation model.

Objects removed from Operation

Objects removed from the Operation model since last model update will re-appear during model update from GIS, unless objects are removed from GIS as well.

Objects removed from GIS

Objects removed from GIS will be removed from the Operation model.

Objects changed in GIS or Operation

Depending on the nature of the changed object properties different actions will apply.

The attached tables show the model properties and their model update status.

Object attributes will be grouped in 1 of the following 3 categories:

GIS Wins

Properties from GIS will overwrite values in Operation. If property was changed in Operation, this value will be overwritten.

GIS Changes

Properties from GIS will overwrite values in Operation only if values actually did change in GIS compared to first import or latest maintenance. If a property value is not changed in GIS, the current property value will remain as is in Operation.

GIS Looses

Properties from GIS will only be used in Operation at initial import. Changes in GIS will be ignored.

Object status after model update

During model update, each model object will have its "Update Status" and "Update Status Sub" updated to reflect the changes. You may read more about this in the manual: "[How To: Update Existing Model Using Model Manager](#)"

TERMIS Operation	Nodes
Shape	GIS Changes
Comment	GIS Changes
FlowControlZone	GIS Wins
Z	GIS Wins
Type	GIS Wins
HeatFactor	GIS Wins
TemperatureRet	GIS Wins
TemperatureDiff	GIS Wins
Bypass Temperature	GIS Wins
Bypass Diameter	GIS Wins
Bypass Max Flow	GIS Wins
Bypass Deadband	GIS Wins
PressureSupMinTO	GIS Wins
PressureSupMaxTO	GIS Wins
PressureRetMinTO	GIS Wins
PressureRetMaxTO	GIS Wins
TemperatureSupMinTO	GIS Wins
Power	GIS Looses
Flow	GIS Looses

TERMIS Operation	Pipes
Shape	GIS Changes
Comment	GIS Changes
FlowControlZone	GIS Wins
Z	GIS Wins
TypeSup	GIS Wins
TypeRet	GIS Wins
DiameterSup	GIS Changes
DiameterRet	GIS Changes
LengthSup	GIS Changes
LengthRet	GIS Changes
ClosedSup	GIS Changes
ClosedRet	GIS Changes
RoughnessSup	GIS Looses
RoughnessRet	GIS Looses
HeatCoeffSup	GIS Looses
HeatCoeffRet	GIS Looses
SingleLossSup	GIS Looses
SingleLossRet	GIS Looses
AmbientTemp	GIS Looses

TERMIS Operation	Plants
Shape	GIS Changes
Comment	GIS Changes
FlowControlZone	GIS Wins
Z	GIS Wins
StaticPS	GIS Wins
StaticPR	GIS Wins
StaticP	GIS Wins
PercDiffP	GIS Wins
IniE	GIS Wins
IniQ	GIS Wins
IniTS	GIS Wins
ControlNode	GIS Wins
PControlSup	GIS Wins
PControlRet	GIS Wins
DPControl	GIS Wins
MinDPControl	GIS Wins
FlowSupMinTO	GIS Wins
FlowSupMaTO	GIS Wins
PressureSupMaxTO	GIS Wins
PressureRetMinTO	GIS Wins
TemperatureSupMinTO	GIS Wins
TemperatureSupMaxTO	GIS Wins
TemperatureMaxChangeTO	GIS Wins
DefinitionSpeedSup	GIS Wins
PumpCurveSup	GIS Wins
NoOfPumpsSup	GIS Wins
PumpTypeSup	GIS Wins
PumpCost	GIS Wins
ECost	GIS Wins
NOCost	GIS Wins
COCost	GIS Wins
SOCost	GIS Wins

TERMIS Operation	Valves	Pumps
Shape	GIS Changes	GIS Changes
Comment	GIS Changes	GIS Changes
FlowControlZone	GIS Wins	GIS Wins
Z	GIS Wins	GIS Wins
Location	GIS Wins	GIS Wins
ClosedSup	GIS Changes	GIS Changes
ClosedRet	GIS Changes	GIS Changes
ValveTypeSup	GIS Wins	
ValveTypeRet	GIS Wins	
PumpTypeSup		GIS Wins
PumpTypeRet		GIS Wins
ValveCurveSup	GIS Looses	
ValveCurveRet	GIS Looses	
PumpCurveSup		GIS Wins
PumpCurveRet		GIS Wins
ActualOpeningSup	GIS Wins	
ActualOpeningRet	GIS Wins	
ActualSpeedSup		GIS Wins
ActualSpeedRet		GIS Wins
PressureChangeSup	GIS Wins	GIS Wins
PressureChangeRet	GIS Wins	GIS Wins
ControlNodeSup	GIS Wins	GIS Wins
ControlNodeRet	GIS Wins	GIS Wins
SupPControlSup	GIS Wins	GIS Wins
SupPControlRet	GIS Wins	GIS Wins
RetPControlSup	GIS Wins	GIS Wins
RetPControlRet	GIS Wins	GIS Wins
DPControlSup	GIS Wins	GIS Wins
DPControlRet	GIS Wins	GIS Wins
DefinitionSpeedSup		GIS Wins
DefinitionSpeedRet		GIS Wins
NoOfPumpsSup		GIS Wins
NoOfPumpsRet		GIS Wins
EnergyCostSup		GIS Wins
EnergyCostRet		GIS Wins
FlowMaxTOSup		GIS Wins
FlowMaxTORet		GIS Wins
PDirRet		GIS Wins

TERMIS Operation	Shunts
Shape	GIS Changes
Comment	GIS Changes
FlowControlZone	GIS Wins
Z	GIS Wins
DesiredTSup	GIS Wins

TERMIS Operation	Heater
Shape	GIS Changes
Comment	GIS Changes
FlowControlZone	GIS Wins
Z	GIS Wins
Location	GIS Wins
ClosedSup	GIS Changes
ClosedRet	GIS Changes
ECostSup	GIS Wins
ECostRet	GIS Wins
NOCostSup	GIS Wins
NOCostRet	GIS Wins
COCostSup	GIS Wins
COCostRet	GIS Wins
SOCostSup	GIS Wins
SOCostRet	GIS Wins

TERMIS Operation	HeatExchanger
Shape	GIS Changes
Comment	GIS Changes
FlowControlZone	GIS Wins
Z	GIS Wins
PrimaryNode	GIS Looses
StaticPS	GIS Wins
StaticPR	GIS Wins
StaticP	GIS Wins
PercDiffP	GIS Wins
IniE	GIS Wins
IniQ	GIS Wins
IniTS	GIS Wins
ControlNode	GIS Wins
PControlSup	GIS Wins
PControlRet	GIS Wins
DPControl	GIS Wins
MinDPControl	GIS Wins
dTminS	GIS Wins
dTminR	GIS Wins
NoOfPumpsSup	GIS Wins
PumpCost	GIS Wins

TERMIS Operation	Accumulators
Shape	GIS Changes
Comment	GIS Changes
FlowControlZone	GIS Wins
Z	GIS Wins
PlantID	GIS Looses
IniThot	GIS Looses
IniTcold	GIS Looses
IniVolhot	GIS Looses
Ctank	GIS Looses
IniTamb	GIS Looses
IniVol	GIS Looses
IniEplant	GIS Looses
IniEaccu	GIS Looses