SPATIAL*net*™ 3.0
SPATIALnet FM Extra Attributes

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Issue 1.0
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Issue History

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Contents

1. INTRODUCTION

1.1 Purpose

The purpose of this document is to show how to manage extra user defined attributes in SPATIALnet FM.

1.2 Scope

The scope of this document includes:

user interface discussion

1.3 Intended Audience

SPATIAL*info* development staff. This document can be integrated into the user manual.

2. REQUIREMENTS

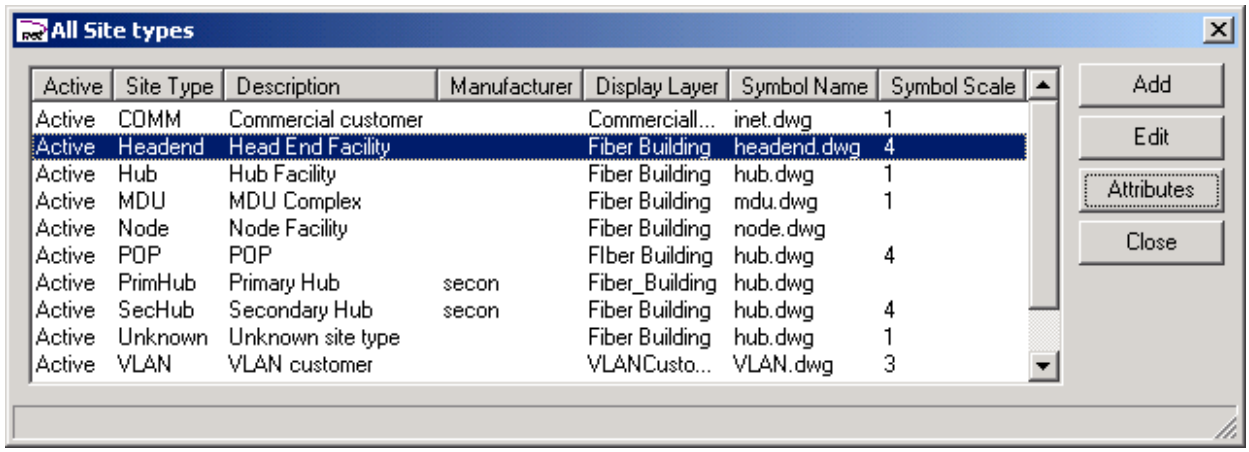
The user community requires the ability to capture entity attributes beyond the ones already provided in SPATIAL*net* FM and to render those attributes as AutoCAD attributes associated with AutoCAD block references.

This document describes how this requirement is met for nodal entities that are displayed using an AutoCAD block reference. These entities are sites, that is, head end and hub facilities, commercial customers, MDU complex, etc., miscellaneous nodes, that is risers, storage loops, junctions, etc. and splice enclosures.

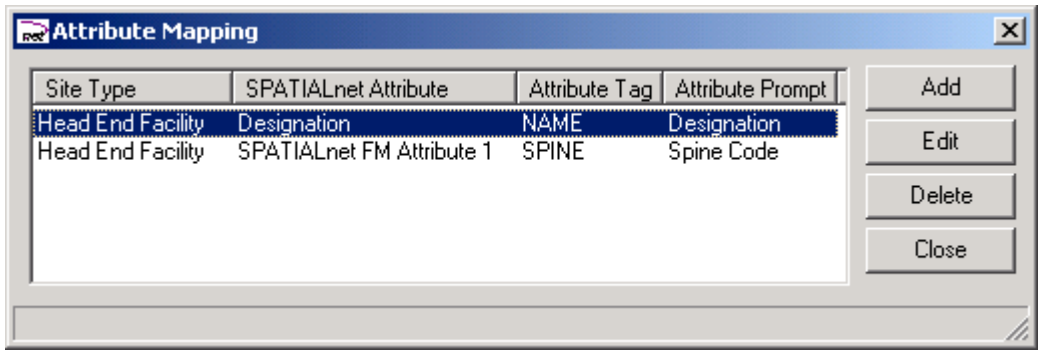
3. SOLUTION

3.1 Sites

The configuration dictionary for sites now has an extra button labelled "Attributes" which allows the configuration of extra attributes and their mapping to AutoCAD attribute tags of the block used to display the site entity.



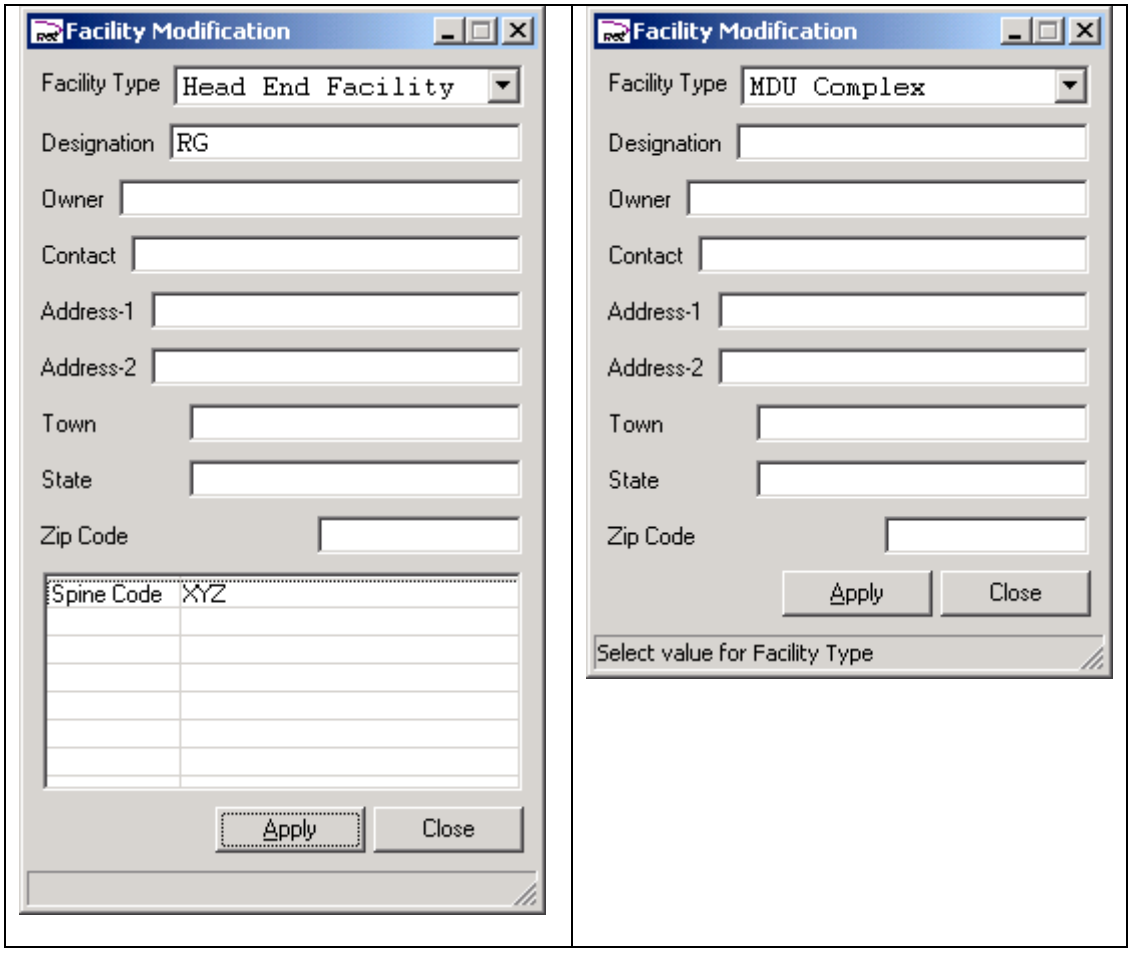
Pressing the "Attributes" button launches this panel:



In this example, the SPATIALnet FM attribute "Designation" will populate the AutoCAD attribute with tag "NAME". A "general purpose" attribute "SPATIALnet FM Attribute 1" will capture a value that will populate the AutoCAD attribute with tag "SPINE". The label to prompt for the attribute in editpanels is "Spine Code" as shown below. 15 general purpose attributes are available.

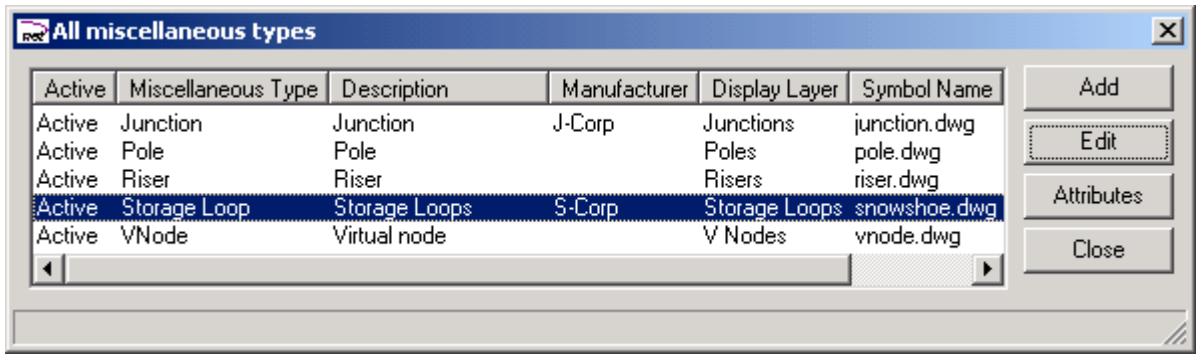
"Add", "Edit" and "Delete" buttons on this panel allow the user to administer attribute mappings.

When for example a head end facility is edited, the extra attributes will be displayed in the editpanel as shown below. Sites that don't have additional attributes configured don't show the extra attributes:

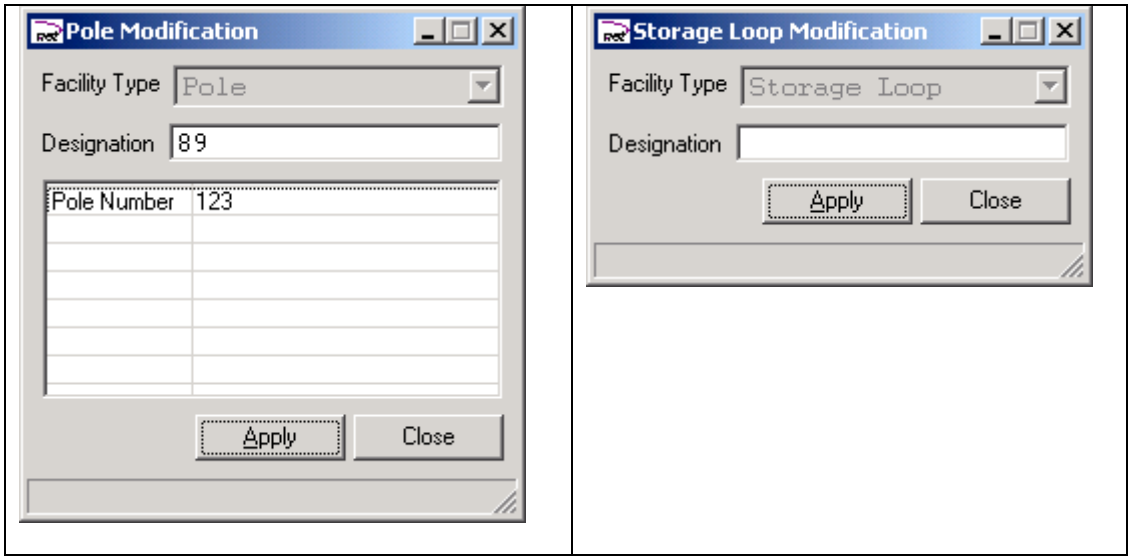


3.2 Miscellaneous Nodes

The same facility that exists for sites also exists for miscellaneous nodes. The configuration dictionary looks like this:

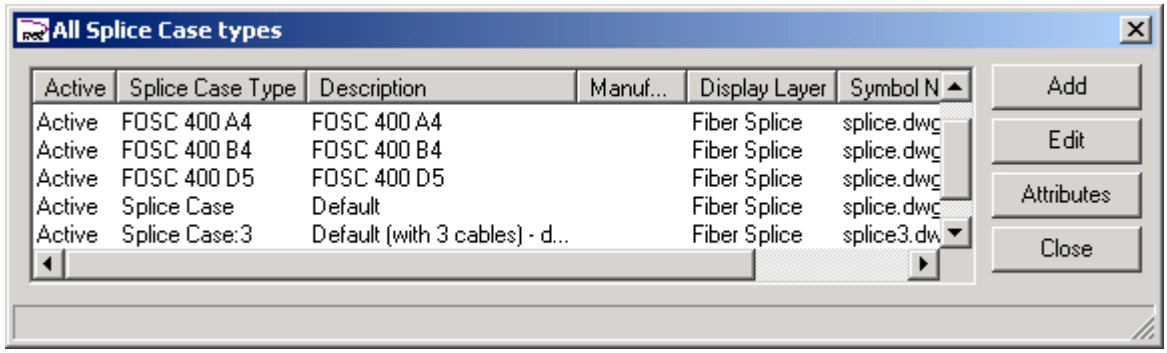


Editpanels look like this:

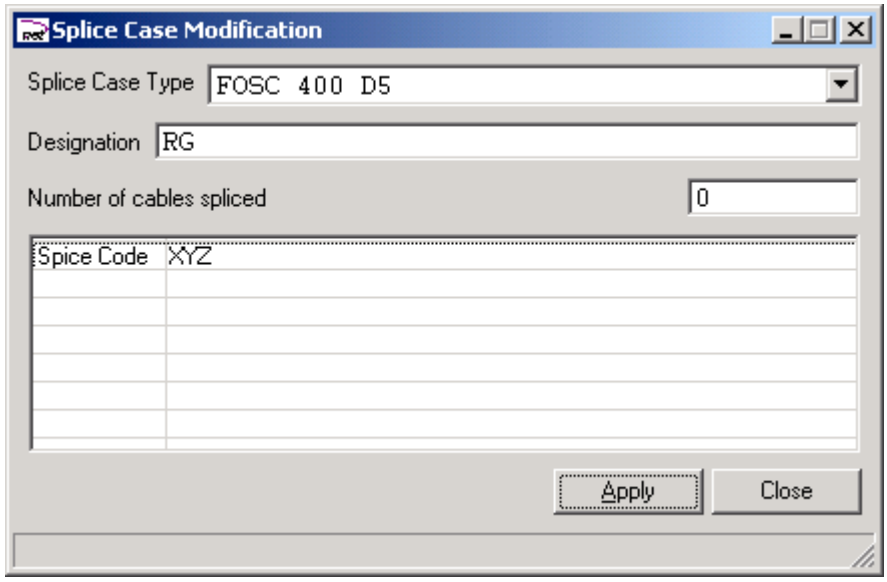


3.3 Splice Cases

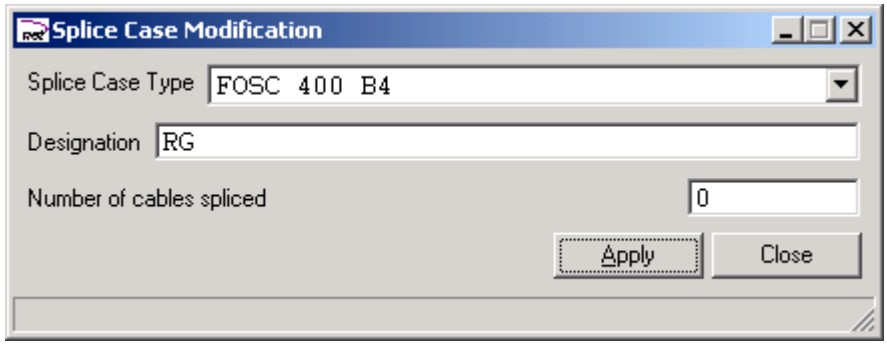
The same facility that exists for sites and miscellaneous nodes also exist for splice cases. The configuration dictionary looks like this:



Editpanels look like this:



Or where no extra attributes are defined:



4. IMPLEMENTATION DETAILS

4.1 Storage of attributes

To support the 15 user definable attributes, the SPATIALnet FM node housing class `fdm_nh` has 15 extra attributes defined like this:

```
attribute snfm_attr_01 {
    datatype character storage variable character (256);
    label <<SPATIALnet FM Attribute 1>>;
    title <<SPATIALnet FM Attribute 1>>;
}
```

These attributes are all of type character with a maximum length of 256 characters. They are stored in the `ALL_NH` RDBMS table using columns `ATTR_1`, etc.:

```
attributes {
    rdbms_table "ALL_NH" JMS_controlled inherits {
        ...
        snfm_attr_01 rdbms_column "ATTR_1";
        snfm_attr_02 rdbms_column "ATTR_2";
```

```
snfm_attr_03 rdbms_column "ATTR_3";
snfm_attr_04 rdbms_column "ATTR_4";
...
```

4.2 Custom SQL Queries

Customers can query the nodehousing table by using the extra columns. In the example where a "spine code" is stored for a head end site in SPATIALnet FM Attribute 1, the query to retrieve head end sites with spine code XYZ can be qualified like this:

```
select ... from ALL_NH where SITE_TYPE='Head End Facility' and ATTR_1='XYZ'
```

5. LIMITATIONS

The following limitations apply to the current implementation:

- The extra attributes can only be edited using the SPATIALnet editpanels. The attributes must not be edited using native AutoCAD command like `attedit`. Changes made with native AutoCAD commands will not be stored in the SPATIAL*net* database and will be lost the next time the symbol is rendered.

- Where the attribute display is moved, rotated, etc. with native AutoCAD commands these changes will not be stored in the SPATIAL*net* database and will be lost the next time the symbol is rendered.