Trust Visitor – Location Manager

# Summary

The Location Manager allows the administrators of Trust Visitor to map the physical real-estate assets onto the logical real-estate assets defined by Windows Active Directory. It further allows the mapping of the Physical Access Control Systems Access Levels to the real-estate assets. The result is a topological hierarchy of all of the real-estate assets and the set of PACS access levels required to access a given location

## Document History

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| --- | --- | --- | --- |
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| 0.1 | 6/2/16 | Trevor Freeman | First draft |
| 0.2 | 6/3/16 | Trevor Freeman | Second draft. Largely complete. |
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# Requirements

## Trust Visitor Location Object Hierarchy

The Trust Visitor needs a hierarchy of location objects to represent the real-estate assets managed by the system.

### Country

For v2, there is only one country = US. This could be expanded later to support organizations managing facilities abroad.

Child of = None

Children = Region

### Region

A region is made up of one or more principal sub-divisions of a country. These are defined in ISO 3166-2. For the US that means the 50 states, DC and the 6 outlying areas. For Canada, it would be the 10 provinces and 3 territories. The objective of the region is to group the list of areas to a more manageable number. States with large concentrations of managed locations can be a separate region e.g. CA. states with smaller numbers of managed locations can be grouped together e.g. Pacific NW = OR+WA.

Child of = Country

Children = Campus, Building

### Campus

A campus object represents the grounds and a group of buildings owned or leased by the organization. It optionally may have a secured perimeter e.g. military camp or base.

Child of = Region

Children = Building

### Building

A building object represents a building partly or holey controlled by the organization. The organization may occupy the entire building, of just a room or suite in the building. A building may be secure or not i.e. it may or may not have all entrances controlled by a PACS system.

Child of = Region or Campus

Children = Floor

Buildings are represented in AD. They are used as an aggregator for meeting rooms. The Building object also needs to map the AD object to the TV object.

### Floor

A floor object represents all the room and area at the same level in a building. Floors can be above or below ground level. Buildings may also have a mezzanine floor. A Floor may have separate physical security to the building. The existence of the floor can be deduced from the building metadata i.e. # floors, # sub floors etc. Floor objects only need to be physically created if there is some data about the floor needs to be persisted.

Child of = Building

Children = Room, Suite, Zone

### Suite

A suite object represents a collection of rooms on a floor in a building which are managed as a discreet area. Suites may be physically secured interpedently of the floor.

Child of = Floor

Children = Room, Zone

### Room

A room object is the smallest sub division of an area on a floor. It may be physically secured independent from else ware on the floor. The existence of rooms can de deduced from user locations in AD, however they need not be persisted unless some data about the room needs to be persisted.

Child of = Floor

Children = None

### Zone

A zone object represents a physically controlled area whose boundary does not align with an intrinsic object e.g. it may occupy part of a floor. It would contain a number of rooms or suites.

Child of = Floor

Children = Room, Suite

## Location Manger

The location Manager should show the hierarchy of objects. By default, it would show the hierarchy down to the building level.

It should be possible to expand or collapse nodes in the hierarchy.

Each node type should be distinct.

When a node is selected, the set of allowed tasks the user is allowed to perform on the node should be visible.

There should be a separate area for notifications i.e. messages to the user they need to take action on.

Country Node Actions

New Region

This action is possible if there are unassigned states or territories for the country.

Region Node Actions

Edit Region

Split Region (if region has multiple states)

Merge Regions (if two regions are selected)

Remove Region

New Campus

New Building

Campus Node Actions

Edit Campus

New Building

Remove Campus

Building Node Actions

Edit Building

Remove Building

Floor Actions

Edit Floor

Add Room

Add Suite

Add Zone

Suite Actions

Edit Suite

Remove suite

Room Actions

Edit Room

Remove Room

Zone Actions

Edit Zone

Remove Zone

## Location Manager Pages

### New Region Page

Region Name is the name the user what to assign to the region. Mandatory.

States are one or more states to assign to the region. The user picks from the unassigned states. Mandatory.

### Edit Region Page

Region Name is enabled for editing

States is visible but disabled

### Split Region Page

Three sections

Existing region name and state in one section

Two new regions with Region Name and States. States is a selection list of the states in the original region. States cannot be split across regions.

### Merge Region Page

Three Sections

Two existing regions showing Region Name and States

New Region with Region Name and States where States is populated with merged list of states and disabled.

### Remove Region Page

This is just an “Are you sure” Confirmation Page

### New Campus Page

Name is the name the administrator is giving to the Campus. Mandatory.

City is the nearest city to the campus. Mandatory.

State is an enum selection of one of the states from the parent region. If Region has only one state, then the field is set to the value and disabled.

Security Level is enum of SP800-116 levels (Public, Controlled, Limited, Exclusion). Default is public. Mandatory.

PACS ID is an enum of the PACS names discovered by the Multi PACS. It is the PACS the controls the physical access to the campus

Access Group is an enum of the access groups from the the PACS ID. The enum is specific to the PACS ID selected so is only populated one the PACS ID is selected. It is the access group needed to access the location. These are a pair so once we have a PACS ID we must have an Access Group.

If security Level = Public, then PACS ID and Access Group fields are disabled.

Campus Administrator is a Windows User or group and it therefore picked from AD. Mandatory. This user or members of this group can administer this object and all child objects.

Campus Approvers is a Windows User or DL and is therefore picked from AD. If the security level <> Public, it is the user(s) would would provide manual approves for visitors i.e. all rules failed to approve the visitors and where a rule had not assigned approval to someone else. Mandatory if access Level <> Public.

### Edit Campus Page

Same as New Campus page except State is disabled.

### Remove Campus Page

This is just an “Are you sure” Confirmation Page.

### New Building Page

Name is the name of the building. It is either manually input of picked from the building names from AD. Mandatory

Abbreviation is the short name given to the building for used in the AD Location string (Location = building\room).

Address 1 is the first line of the building address. Mandatory

Address 2 is the second line of the building address.

City is the city of the building address. Mandatory

State is an enum of the States from the Region object. If a single state, the value is set and disabled. Mandatory

Zip code is the zip code of the building address. Mandatory

Building Opens is the time the building opens i.e. the earliest someone can normally enter (excluding maintenance work)

Building Closed is the time the building closes i.e. the time after which someone cannot normally enter (excluding Maintenance work)

# Floors is the number of above ground floors in the building. Integer. Default = 1. Mandatory

# Basement floors is the number of floors below ground. Integer. Default = 0. Mandatory

Room number template is the mask for the actual room number. Integer default = 2 i.e. room number is last 2 number. This is to interpret room locations from AD where we would get a number and have to know which is floor and which is room number. i.e. is 1306 on the 1st or 13th floor.

Default Request Group is the Windows group to use for rooms dynamically discovered from AD to control which users are allowed to request to use the location. Default is Authenticated Users. Mandatory.

PACS ID is an enum of the PACS names discovered by the Multi PACS. It is the PACS the controls the physical access to the building

Access Group is an enum of the access groups from the the PACS ID. The enum is specific to the PACS ID selected so is only populated one the PACS ID is selected. It is the access group needed to access the location. These are a pair so once we have a PACS ID we must have an Access Group.

Building Administrators. Same as campus administrators except just this building.

Building Approvers. Same as campus approvers except just this building.

### Edit Building Page

Same as New Building page except State is disabled

### Remove Building Page

This is just an “Are you sure” Confirmation Page.

### Edit Floor Page

Floor# is enum based on # floors in building

Default Request Group is same as building except applies to floor. If absent, the parent group applies. If set, the object needs to be persisted.

Security Level is inherited from parent. If changed the object needs to be persisted.

PACS ID(s) is an enum of the PACS names discovered by the Multi PACS. It is the PACS the controls the physical access to the floor. The floor PACS ID is multi-valued in case we need more than one to get to the location.

Access Group(s) is an enum of the access groups from the the PACS ID. The enum is specific to the PACS ID selected so is only populated one the PACS ID is selected. It is the access group needed to access the location. These are a pair so once we have a PACS ID we must have an Access Group.

Floor Administrators. Same as campus administrators except just this floor. Inherited from parent

Floor Approvers. Same as campus approvers except just this building. Inherited from parent.

### New Zone Page

Name is the name of the zone. Zone names are purely for administration.

Security Level is inherited from parent.

PACS ID(s) is an enum of the PACS names discovered by the Multi PACS. It is the PACS the controls the physical access to the floor. The floor PACS ID is multi-valued in case we need more than one to get to the location.

Access Group(s) is an enum of the access groups from the the PACS ID. The enum is specific to the PACS ID selected so is only populated one the PACS ID is selected. It is the access group needed to access the location. These are a pair so once we have a PACS ID we must have an Access Group.

Default Request Group is same as building except applies to the zone. If absent, the parent group applies. If set, the object needs to be persisted.

Rooms is the list of rooms in the zone. Can be individual room (701) number or ranges (710-735)

Zone Administrators. Same as campus administrators except just this zone. Inherited from parent

Zone Approvers. Same as campus approvers except just this zone. Inherited from parent.

### Edit Zone Page

Same as New Zone page

### Remove Zone Page

This is just an “Are you sure” Confirmation Page.

### New Room Page

Name is the name or number for the room. Typical use case for creating rooms would be for rooms with names that don’t indicate location. Administrator may assign the room names or pick a conference room name from AD list.

Security Level is inherited from parent.

Room Type is an enum. The enum is a mix of system and administrator defined value. System values are Office, Meeting Room, Conference Room, Contractor Room, Mobile User room.

PACS ID(s) is an enum of the PACS names discovered by the Multi PACS. It is the PACS the controls the physical access to the room. The floor PACS ID is multi-valued in case we need more than one to get to the location.

Access Group(s) is an enum of the access groups from the the PACS ID. The enum is specific to the PACS ID selected so is only populated one the PACS ID is selected. It is the access group needed to access the location. These are a pair so once we have a PACS ID we must have an Access Group.

Default Request Group is same as building except applies to the room. If absent, the parent group applies. If set, the object needs to be persisted.

Zone Administrators. Same as campus administrators except just this room. Inherited from parent

Zone Approvers. Same as campus approvers except just this room. Inherited from parent.

### Edit Room Page

Same as New Room.

### Remove Room Page

This is just an “Are you sure” Confirmation Page.

# Dependencies

# Open Issues