AUTOMATING DYNAMIC POPULATION OF A CONTACT MANAGER FP V12.1.X

GOAL

In FP v12.1, there isn't an inherent way of locating a manager's email address or user ID when a customer is named on a ticket. When setting up an external Address Book that connects to LDAP, the AD attribute for manager is returned in a Distinguished Name(DN) format. To identify the managers user ID and/or email address, a process must be configured to allow matching of the manager DN field from the customers address book record to the DN of the manager in a SQL view. Once this configuration is complete, then by naming a customer on the ticket and that populates a customer field (User ID) on the ticket, the manager will be automatically selected.

The solution used in this case is an exercise that can be formulated to fit any environment. The solution is based on matching the DN of the manager in a customer address book record to the manager DN in a SQL view.

Applicability

FootPrints Service Core version 12.1.x running on Microsoft Windows Server 2008 R2/2012 R2 with Microsoft SQL 2012 running on Microsoft Windows Server 2008 R2/2012 R2

Prerequisites

- ☐ Administrator access to FPSC v.12.
- ☐ A workspace container with a ticket item and an address book container item including relationships, email templates, link fields, etc. complete.
- ☐ Dynamic SQL that is Enabled in the FootPrints service desk license.
- ☐ A table or view in the FootPrints database via a linked ADSI server.
- ☐ LDAP connection information which includes the LDAP Server Address, LDAP Server Port, LDAP Base DN's, Distinguished Name of a user with permissions to read all Base DN's, Password of the Distinguished Name user. There must be a general familiarity with LDAP attributes.
- ☐ Active Directory with the manager field / attribute populated for ALL users.

BACKGROUND

The challenge is the ability to dynamically select a manager of a customer named on a ticket. This is not an out of the box feature in FootPrints v 12.1. The importance of customer users having the responsible manager, as named in Active Directory, automatically selected is a process and security issue faced by many organizations.

THE SOLUTION

THE ADDRESS BOOK CONTAINER ITEM

FIELDS

Within the Address Book container, create a Simple Text field named Manager DN and add the field to the Agent Web form. Adding the Manager DN field to the Customer Web form is optional. Create a Simple Text field named User ID and add to the Agent Web form and Customer Web form (assuming the Primary Key is User ID field). Add additional address book fields as necessary and place those on the appropriate web forms. The permission may be set to either Optional, Required, or Read Only as the Address Book Option of LDAP will be used.

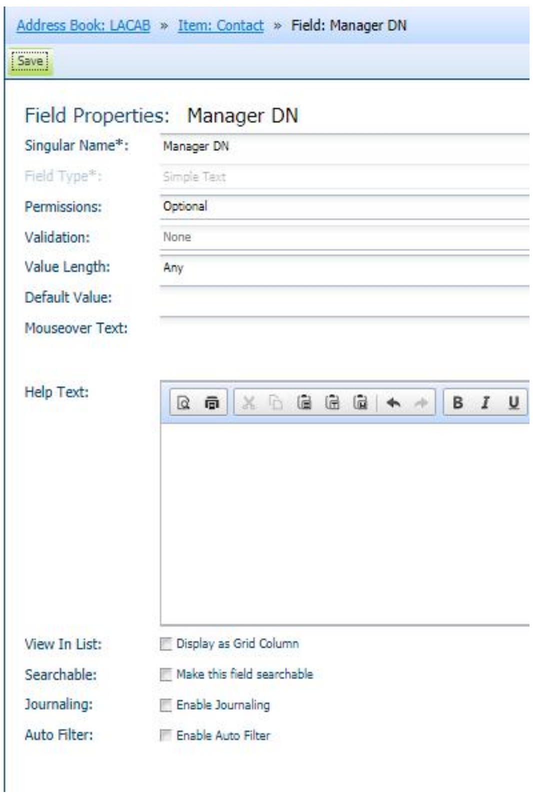

Figure 1

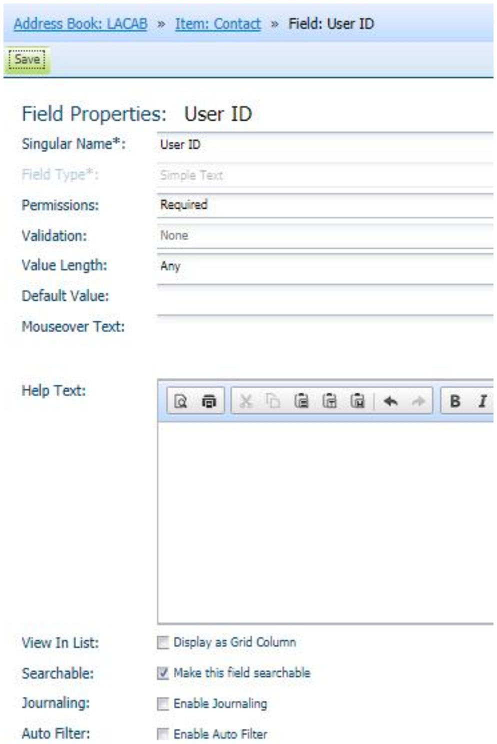

Figure 2

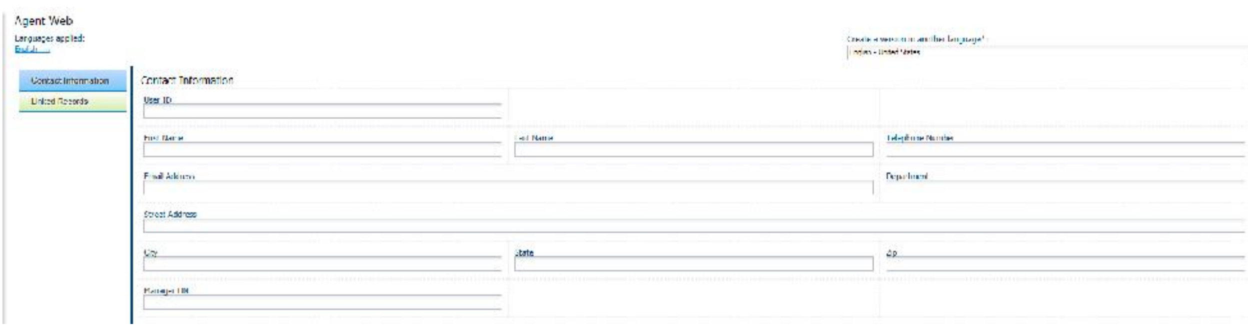

Figure 3

VIEW OF THE AGENT WEB FORM

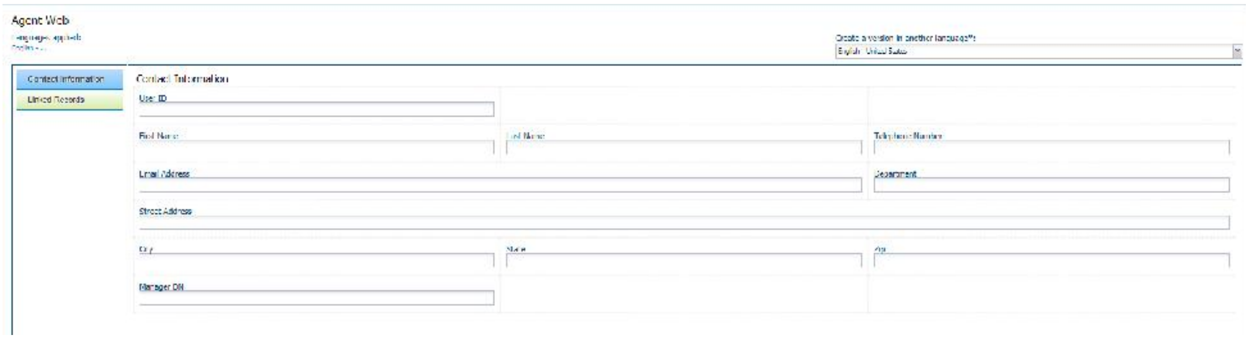

Figure 4

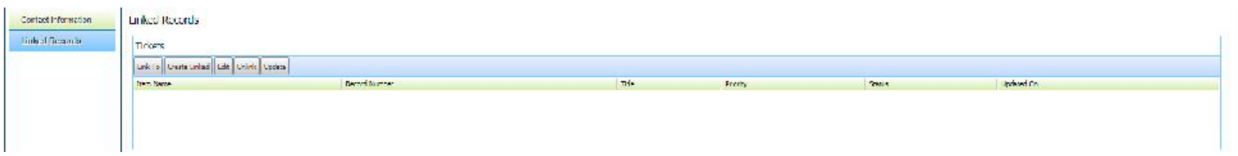

Figure 5

VIEW OF THE CUSTOMER WEB FORM

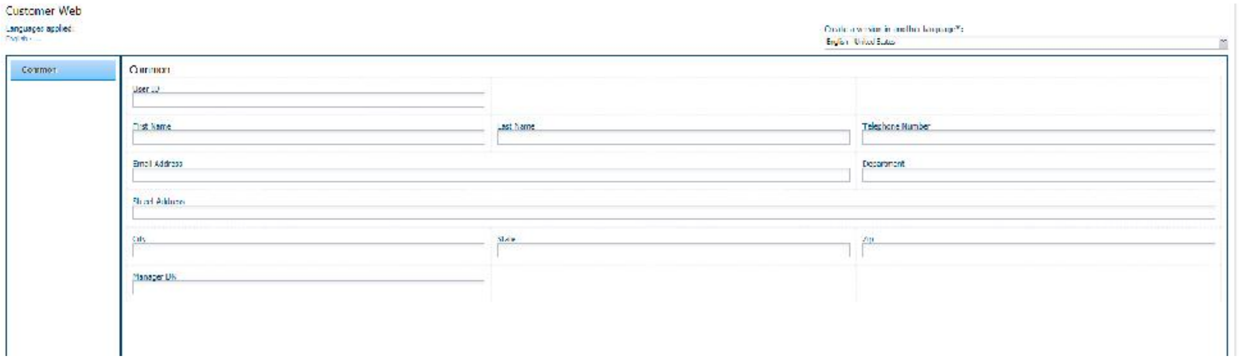

Figure 6

In the Address Book Options section for the Contact item, select LDAP and then define all the LDAP connectivity settings and click Connect. Once the LDAP connection is established the available LDAP/Exchange/Active Directory Attributes can be mapped to the Address book fields. Go ahead and map the FootPrints Address Book Fields to the LDAP Fields. Below is an example of is:

Map LDAP Fields

FootPrints Address Book Fields	LDAP Fields
City	l
Department	department
Email Address	mail
First Name	givenName
Last Name	sn
Manager DN	manager
State	st
Street Address	streetAddress
Telephone Number	telephoneNumber
User ID	sAMAccountName
Zip	postalCode

Figure 7

Save the Address Book Option settings.
Then Save and Publish the Address Book.

THE WORKSPACE CONTAINER TICKET ITEM

RELATIONSHIPS

Relationships necessary for this process to work in the Workspace Container: Ticket/Contact

Relationships necessary for this process to work in the Address Book Container: Ticket/Contact

FIELDS

Create four fields to represent the customer's manager. The field names are Manager DN, Manager Email Address, Manager Name, Manager User ID. The fields will be placed on the Agent Web and Customer Web form along with the existing contact customer fields.

Manager DN is a Simple Text field with Optional permissions and will be Searchable.

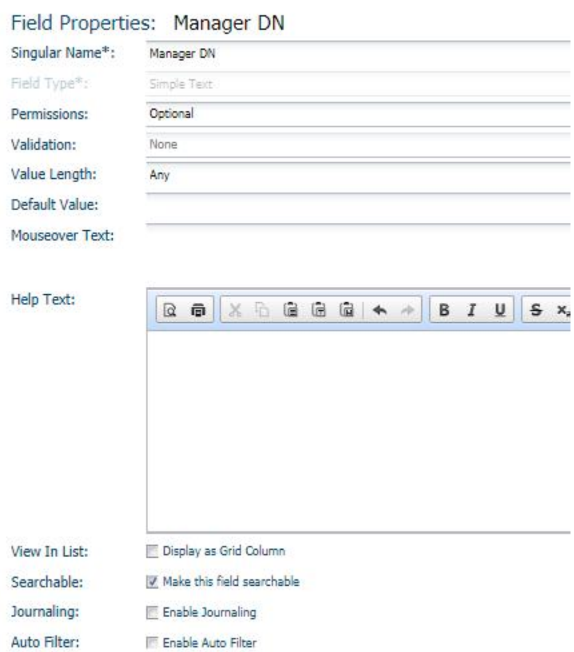

Figure 8

Manager Email Address is a Simple Text field with Read Only permissions and will be Searchable. Validate as Email.

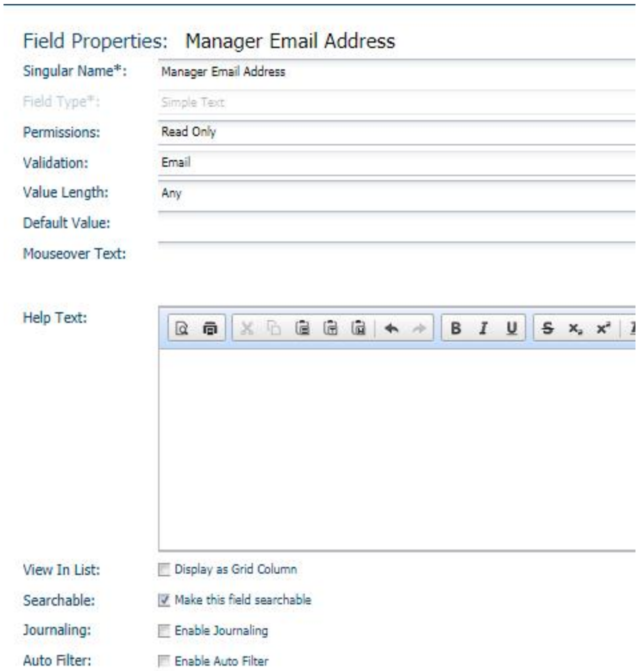

Figure 9

Manager Name field is a Simple Text field with Read Only permissions and will be Searchable.

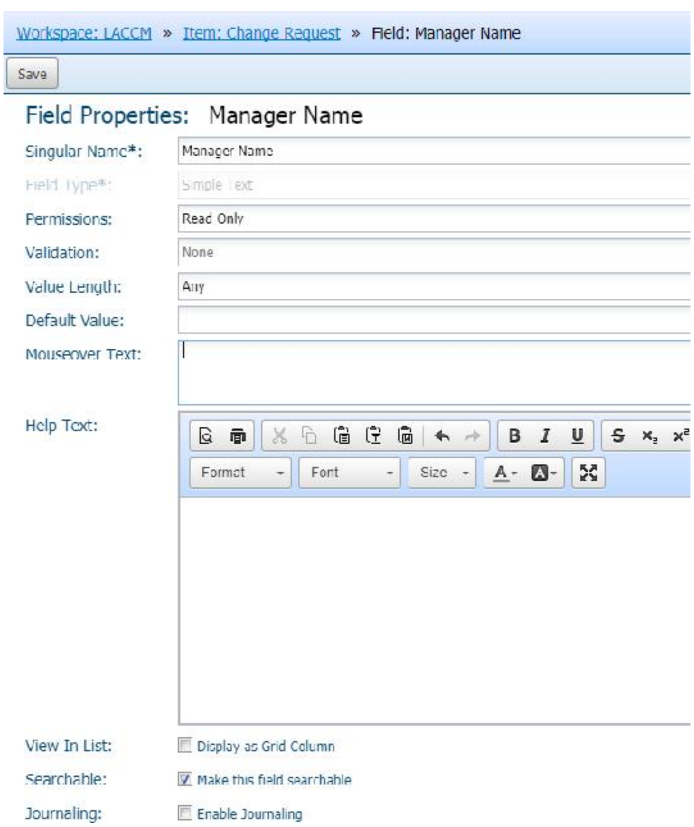

Figure 10

Manager User ID field is a Simple Text field with Read Only permissions and will be Searchable.

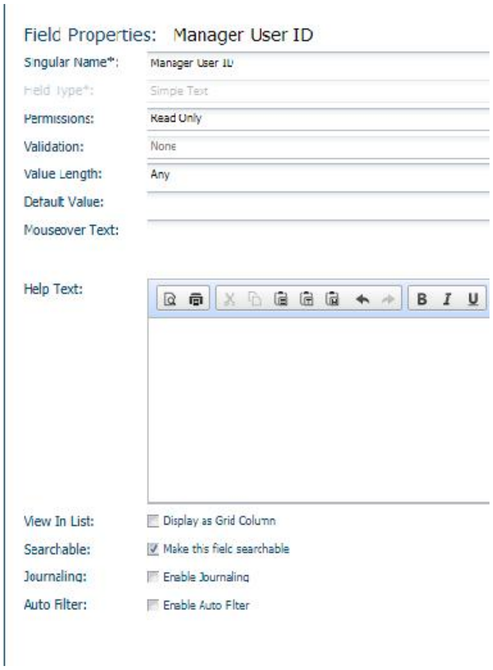

Figure 11

Additional fields created as Simple Text fields for the contact search include: User ID (Required), First Name (Optional), Last Name (Optional), Email Address (Optional) and (Email Address validated as Email). A link control field will exist to link customer contacts as well. The Grid Columns are; Common.First Name, Common.Last Name, Common.Email Address, Contact.Telephone Number. The Linked Fields are: Email Address, First Name, Last Name, User ID, Manager DN. All fields are to be placed on the Agent Web and Customer Web form. The finished Ticket Issue section appears as:

VIEW OF AGENT WEB LINK CONTROL SETUP

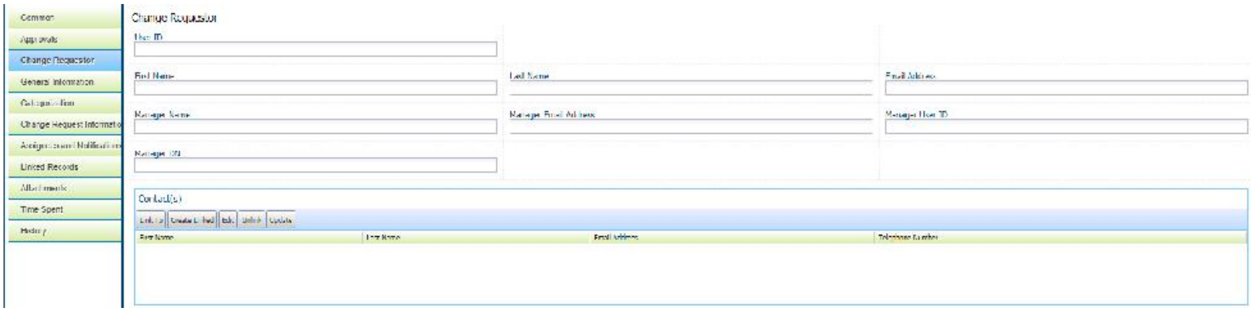

Figure 12

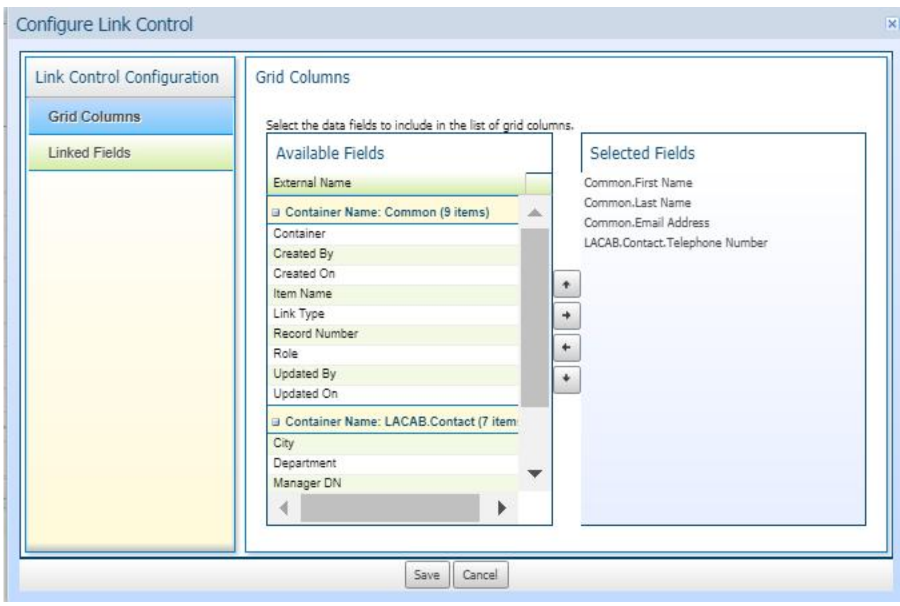

Figure 13

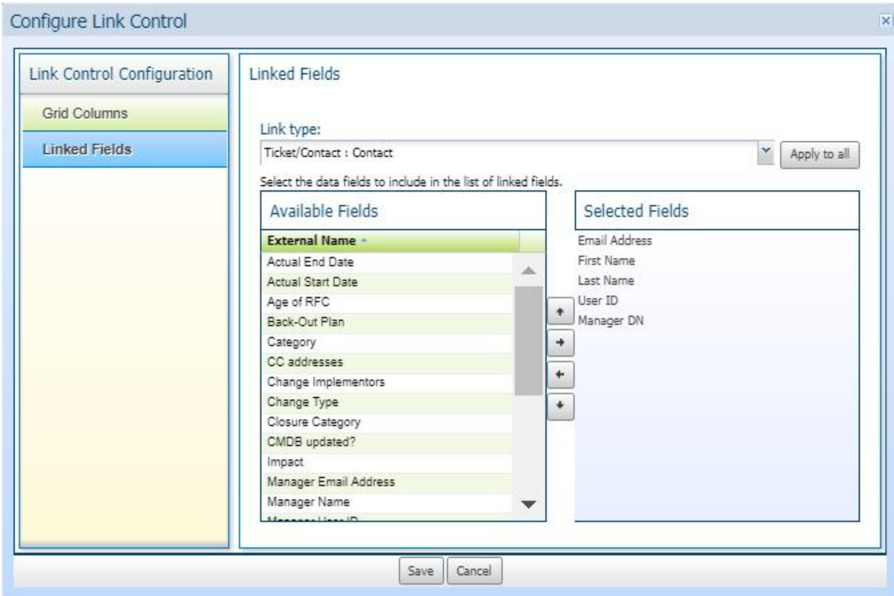
Configure Link Control
Link Control Configuration
Grid Columns
Linked Fields
Linked Fields
Link type:
Ticket/Contact : Contact
Apply to all
Select the data fields to include in the list of linked fields.
Available Fields
External Name
Actual End Date
Actual Start Date
Age of RFC
Back-Out Plan
Category
CC addresses
Change Implementors
Change Type
Closure Category
CMDB updated?
Impact
Manager Email Address
Manager Name
Selected Fields
Email Address
First Name
Last Name
User ID
Manager DN
Save
Cancel

Figure 14

VIEW OF CUSTOMER WEB LINK CONTROL SETUP

Figure 15

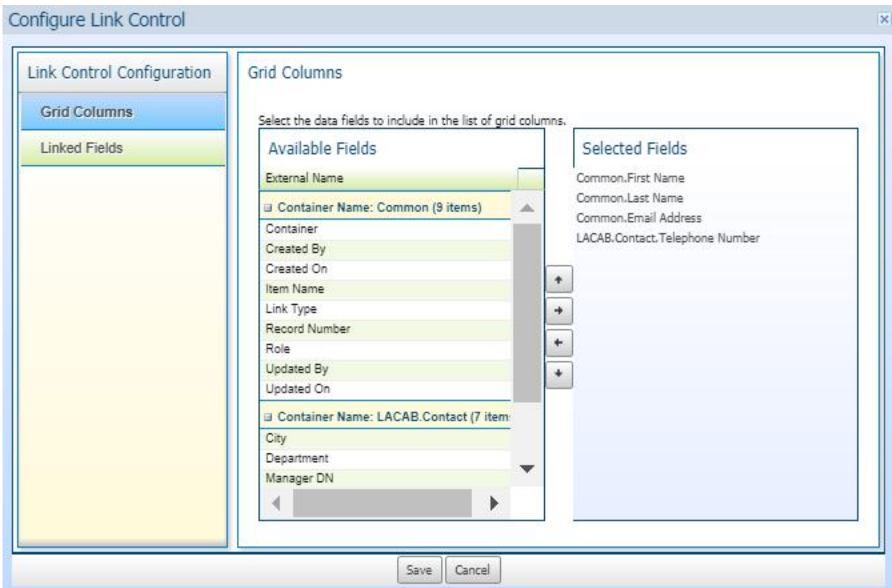

Figure 16

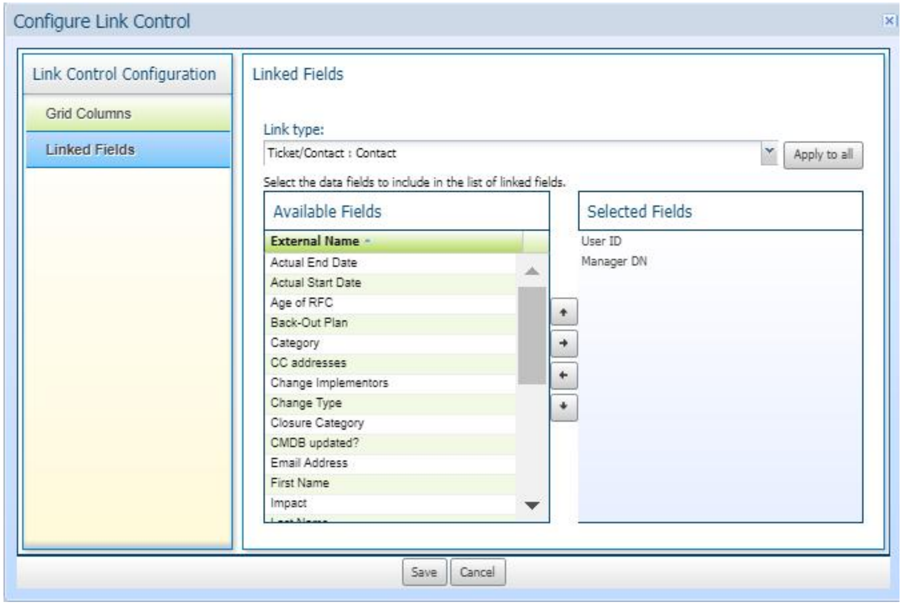
Configure Link Control
Link Control Configuration
Grid Columns
Linked Fields
Linked Fields
Link type:
Ticket/Contact : Contact
Apply to all
Select the data fields to include in the list of linked fields.
Available Fields
External Name
Actual End Date
Actual Start Date
Age of RFC
Back-Out Plan
Category
CC addresses
Change Implementors
Change Type
Closure Category
CMDB updated?
Email Address
First Name
Impact
Selected Fields
User ID
Manager DN
Save
Cancel

Figure 17

FORMS

The Agent Web form will contain all the Linked contact user search fields of Email Address, First Name, Last Name, and User ID as well as the manager search fields of Manager DN, Manager Name, Manager Email Address, and Manager User ID

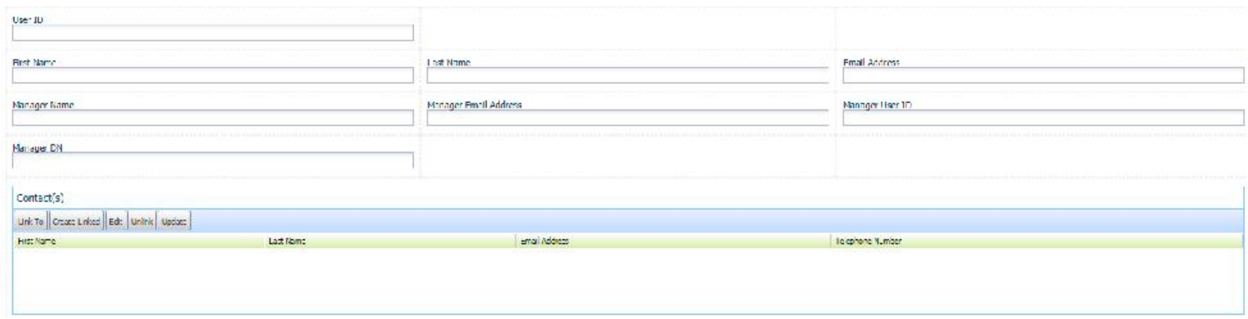

Figure 18

The Customer Web form will contain the Linked contact user filed of User ID as well as the manager search fields of Manager DN, Manager Name, Manager Email Address, and Manager User ID

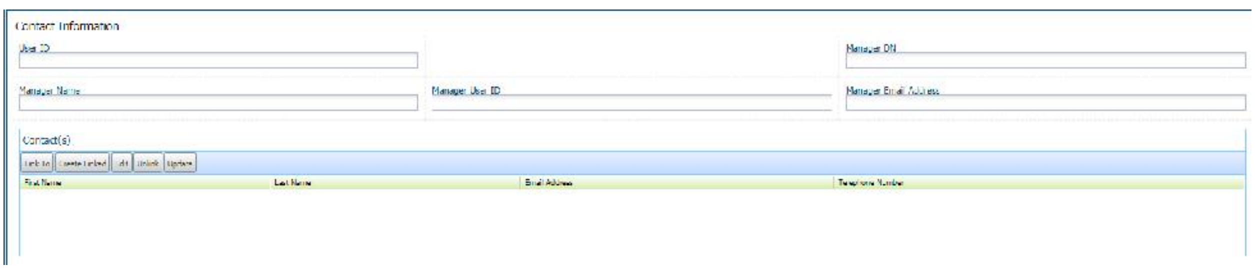

Figure 19

Once all fields and forms are complete, Save and Publish the workspace container.

CREATE A TABLE OR VIEW WITH ADSI LINKED SERVER

On the FootPrints SQL database (i.e.: fpscdb001) to create a table or view from Active Directory. The view is derived from an ADSI linked server within the same database. The view will contain Active Directory data for the attributes of displayName (Manager Name), mail (Manager Email Address), distinguishedName (Manager DN), and sAMAccountName (Manager User ID). The process to create the ADSI linked server is a Microsoft SQL process, therefore, not documented in this document. ADSI linked servers may be built by a SQL Administrator.

LINK TO SQL VIEW DATA SOURCE

Now that the fields have been created and placed on the Agent Web and Customer Web forms, the next step is to link a field to a data source so that Active Directory data can be pulled in. In the workspace Ticket Item field list, click on the Manager DN field and then click on the Link to Data Source button. A pop-up will appear and on that page; enter the name of the SQL server in the Server Address field, the Server Port value (default is port 1433) in the Server Port field, the Database Type of SQL Server, the FootPrints Database name that could have a name of fpscdb001 or fpdb001, depending on the FootPrints version, the FootPrints Administrator DB User name of fpdb001_adm or fpscdb001_adm, depending on the FootPrints version, the FootPrints Database Administrator DB password of the fpdb001_adm account in the Server Password field.

Set Enable Lookup Triggers for to Both.

Set Trigger Lookups Automatically to: When a customer submits a record and When a user links a contact and the field value is populated automatically.

Click on the Connect button.

Select the Table or View and map the following fields:

Manager DN to distinguishedName

Manager Email Address to mail

Manager Name to displayName

Manager User ID to sAMAccountName

Sort Order for Multiple Results are Primary Sort of Manager Name and Secondary Sort of Manager User ID.

VIEW OF LINKED MANAGER DN

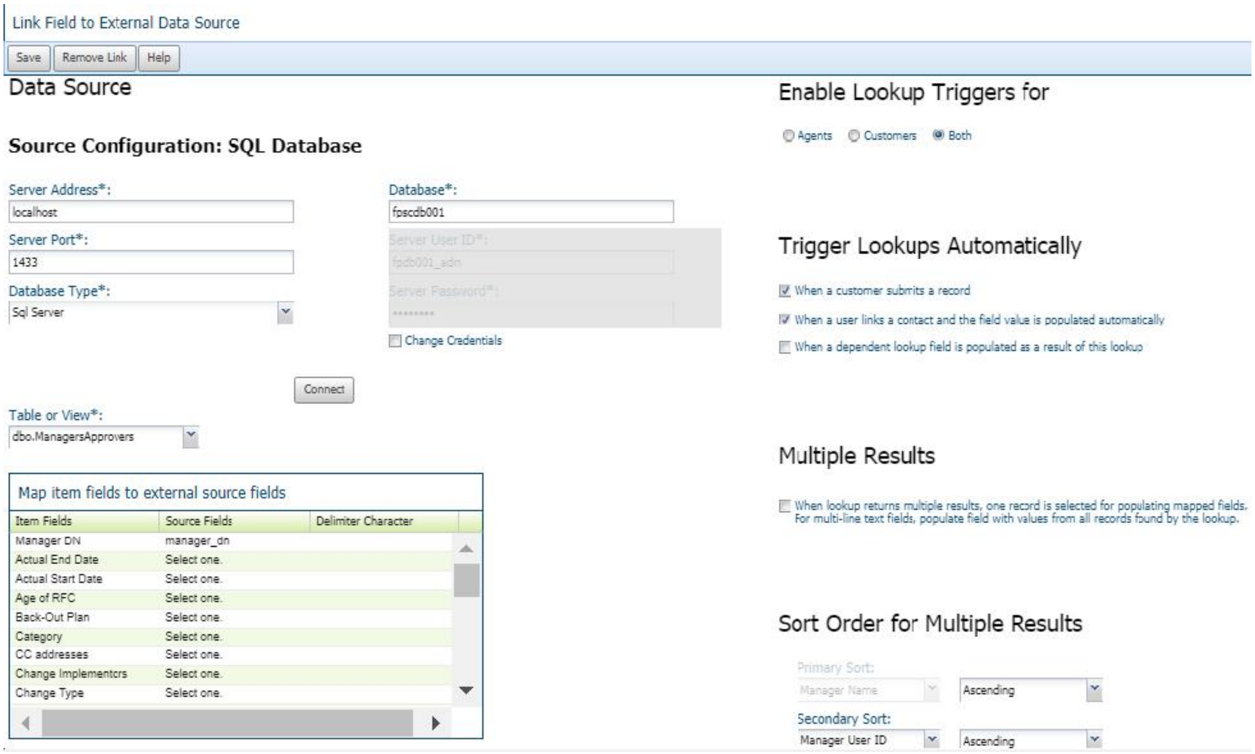

Figure 20

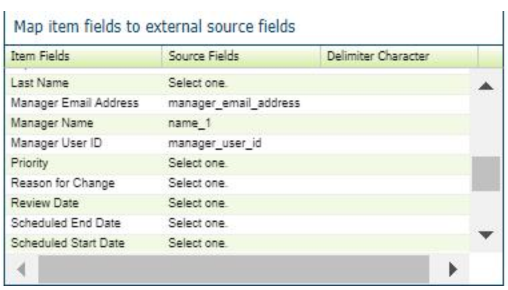

Figure 21

BUSINESS RULES

A business rule is created to hide the Manager DN once the other Manager (read only) fields are populated.

Business Rule Type is On Screen

Business Rule Name is Hide Manager ID

State is Active

Business Rule Schedule is Run Any Time

Triggers – There are two (2)

- On Screen: On Create and On Update

OR (as the operator)

- On Page Load: On Update

Criteria – There are two (2)

- Manager Name set to any value

AND (as the operator)

- Manager User ID set to any value

Actions

- Change field visibility of Manager DN to Hide field

ROLES

ADDRESS BOOK CONTAINER

REQUEST READ

Role Information

- Select Contact

Item Permissions

- Viewing set to All Items

Field Permissions

- Set all custom fields to Edit. Default fields will remain View

WORKSPACE CONTAINER

AGENT

Role Information

- Select the Ticket Item

Item Permissions

- Viewing set to All Items or by Items as desired
- Create set to Yes
- Copy/Move is set as desired
- Edit Item set to Assigned to Team's Items, Assigned Items, Linked to user, Organizational Unit, Submitted Items. Global Items is set as desired. Or set as desired
- Unlock is set as desired
- Delete is set as desired
- Subscribe to global items set as desired

Field Permissions

- Set all custom fields to Edit. Default fields will remain View

Common Permissions set as desired

Workflow Permissions set as desired

Save the Role

REQUEST READ/SUBMIT/EDIT

Role Information

- Select the Ticket Item

Item Permissions

- Viewing set Yes for Linked to user, Organizational Unit, Submitted Items, with Global items and Pending approval by user set as preference
- Create set to Yes
- Edit Item set to Linked to user, Organizational Unit, Submitted Items or set as desired
- Delete is set as desired
- Subscribe to global items set as desired

Field Permissions

- Fields are set as desired and based on the fields on the Customer Web form with exception to the following fields set to Edit:
    - Manager DN
    - Manager Email Address
    - Manager Name
    - Manager User ID
    - User ID

Common Permissions set as desired

Workflow Permissions set as desired

Save the Role

APPROVAL PROCESS USING THE DYNAMIC MANAGER AS APPROVER

GOAL

Continuing from the Automating Dynamic population of a contact Manager fp v12.1.x, the Manager User ID field will be used as the Approver. A Workflow Process will be built using an Approval State. Whether the managers user ID or email address is used for an approval state depends on which is set as the Primary Key. If the user ID field is set as the Primary Key, then the user ID is what will be in the process for approvals. The same is true if the email address field is set as the Primary Key. Once configuration is complete, then by entering a value in a customer field (User ID) on the ticket, the manager will be automatically selected for approvals as noted in the workflow of the ticket.

BACKGROUND

The challenge is the ability to dynamically select a manager of a customer named on a ticket. This is not an out of the box feature in FootPrints v 12.1. The importance of customer users having their manager (as named in Active Directory) automatically selected as an approver is a process and security issue faced by many organizations.

THE SOLUTION

THE WORKSPACE CONTAINER TICKET ITEM

FIELDS

The status choices used in this sample process can vary if there is one state set as Approval State. Status is built with choices that can be modified to fit any environment. For this process, status will be updated to include:

Pending Approval

Accepted

Rejected

Scheduled

Implemented

Closed

FORMS

Both the Agent Web and Customer Web form will have the Approvals section added.

WORKFLOW PROCESS

The workflow process will be created with the Workflow State field of Status. Name the workflow process as desired. The transition of status is:

From Value	To Value
Pending Approval	Rejected, Accepted
Rejected	Closed
Closed	End
Implemented	Closed
Scheduled	Implemented
Accepted	Scheduled
Start	Pending Approval

Visual of Workflow Process

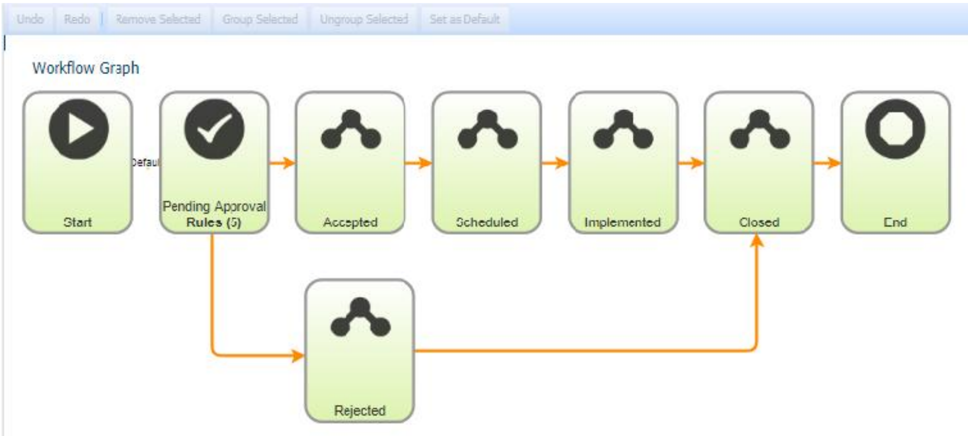

Figure 22

Pending Approval will be selected as the Approval State.

Approval Next State is set to Accepted

Rejection Next State is set to Rejected

Expiration Next State is set as desired

Approvers are set with Dynamic Field, Manager User ID. When selecting a Dynamic Field, a Fallback voter must also be selected.

Require Approval Password is set as desired

Set Deadline is set as desired

Work Schedule is set as desired

There are four (4) Business Rules created when the Approval State is selected. As there is only a need for one approver, no modification is made the business rules. Notification business rules may be engineered as desired

Save the Workflow Process

Save and Publish the Workspace Container

ROLES

WORKSPACE CONTAINER

AGENT

Role Information

- Select the Ticket Item

Item Permissions

- Viewing set to All Items or by Items as desired
    - o Expand the Workflow and select the Status where a Ticket Item may be viewed. This example shows all Status as viewable

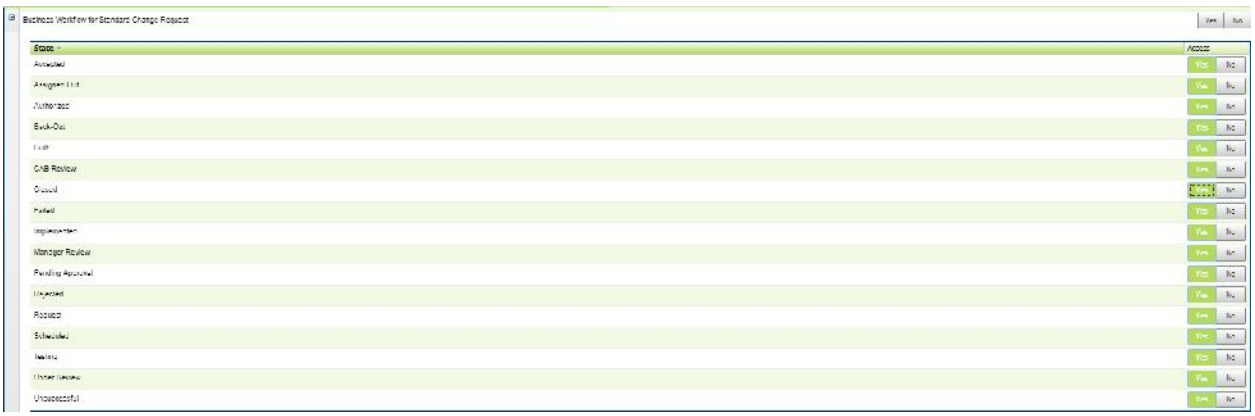

Figure 23

- Create set to Yes
- Copy/Move is set as desired
- Edit Item set to Assigned to Team's Items, Assigned Items, Linked to user, Organizational Unit, Submitted Items. Global Items is set as desired. Or set as desired
    - o Expand the Workflow and select the Status where a Ticket Item may be edited. This example shows all Status but Closed as viewable

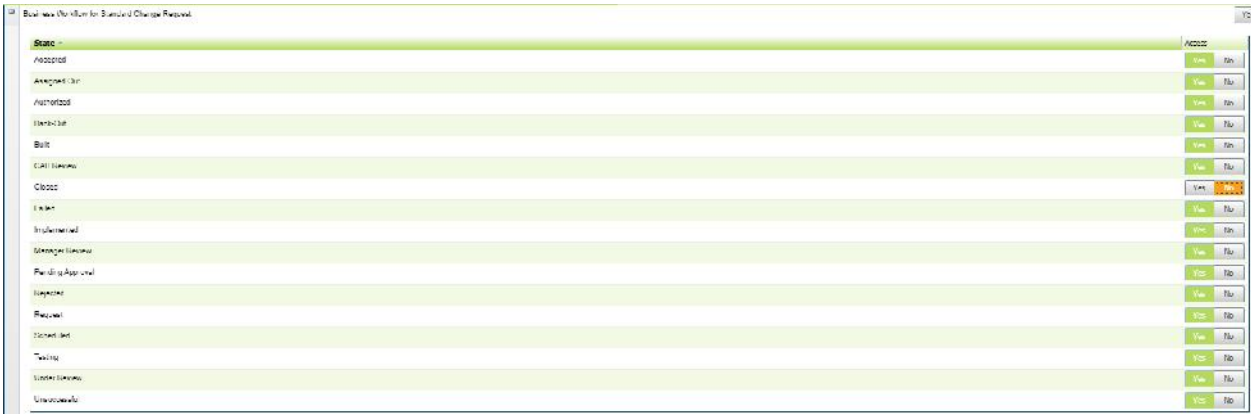

Figure 24

- Unlock is set as desired
- Delete is set as desired
- Subscribe to global items set as desired

Field Permissions

- Set all custom fields to Edit. Default fields will remain View

Common Permissions set as desired

Workflow Permissions

- Expand the Workflow and select the Status where a Ticket Item may be transitioned. Where an Approval is warranted, select No, as the Approval State status will be the catalyst for changing the state or status. This example shows the transitions from Pending Approval to Rejected and Pending Approval to Accepted set to No

Figure 25

Save the Role

REQUEST READ/SUBMIT/EDIT

Role Information

- Select the Ticket Item

Item Permissions

- Viewing set Yes for Linked to user, Organizational Unit, Submitted Items, with Global items and Pending approval by user set as preference
    - o Expand the Workflow and select the Status where a Ticket Item may be viewed. This example shows all Status as viewable

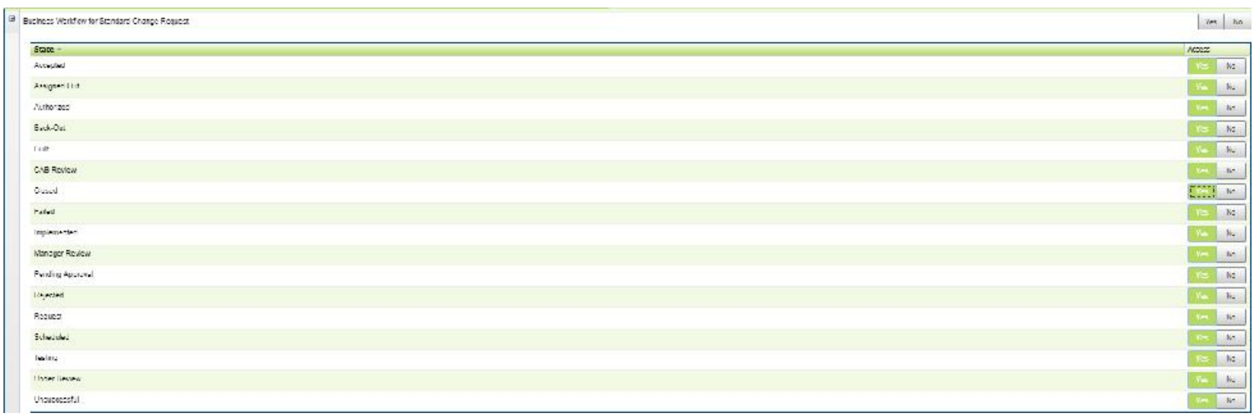

Figure 26

- Create set to Yes
- Edit Item set to Linked to user, Organizational Unit, Submitted Items or set as desired
    - o Expand the Workflow and select the Status where a Ticket Item may be edited. This example shows all Status but Pending Approval as editable

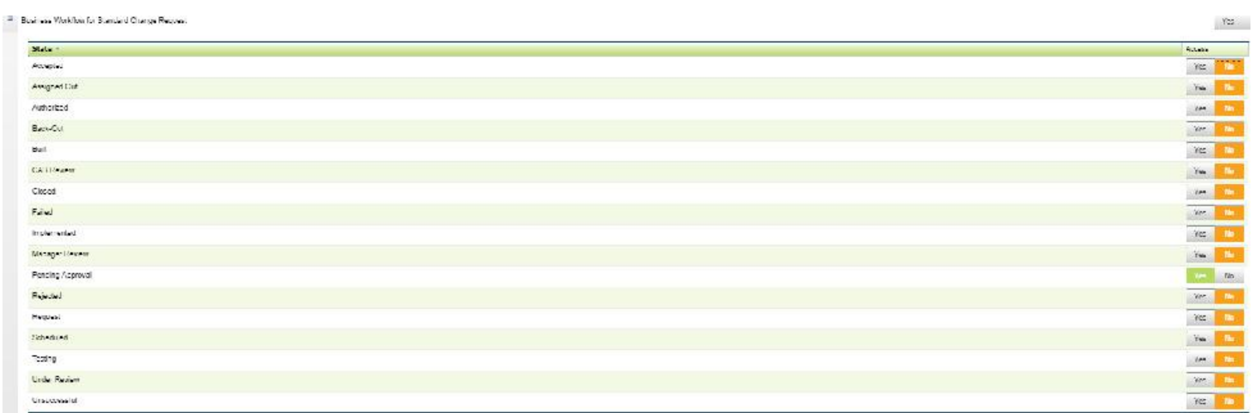

Figure 27

- Delete is set as desired
- Subscribe to global items set as desired

Field Permissions

- Fields are set as desired and based on the fields on the Customer Web form with exception to the following fields set to Edit:
    - Manager DN
    - Manager Email Address
    - Manager Name
    - Manager User ID
    - User ID

Common Permissions set as desired

Workflow Permissions

- Expand the Workflow and select the Status where a Ticket Item may be transitioned. Where an Approval is warranted, select No, as the Approval State status will be the catalyst for changing the state or status. Best practice is to set all transitions to No with the exception of the Start to Pending Approval transition which allows the customer to create the Ticket item. This example shows the transitions from Start to Pending Approval set to Yes

Figure 28

Save the Role

CAVEATS

The User ID field and the Manager User ID field must be on the Customer Web form to allow a customer to perform the SQL lookup. The customer will need to enter a valid User ID which will then be used to perform the search to populate the manager fields. The agent may use any of the contact search fields to perform the search to populate the manager fields.

Since the Manager DN field is an editable search field, any user may enter the beginning portion of the manager Active directory attribute (ie: CN=John Smith) and locate any other user that is on the ADSI view; considering the user performs this action prior to entering a valid User ID. However, once that user enters a valid User ID, the Search Lookup window will appear with no choices. If the user discards the search criteria, then all users in the view will be available as choices. The user selected from that list will populate the customer contact fields and the manager of that user will populate the manager fields. If the user selects their own user entry, then that users' information will populate the customer contact fields and their manager's information will populate the manager fields. Therefore, the User ID field is the driving factor of who the manager approver will be.