

**Integral Enterprise Viewer** <sup>TM</sup>  
A member of the  
**Integral Enterprise Data Access Series** <sup>TM</sup>

Sample Solutions

**Designing Multi-Site Inquiries**



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## Designing Multi-Site Inquiries

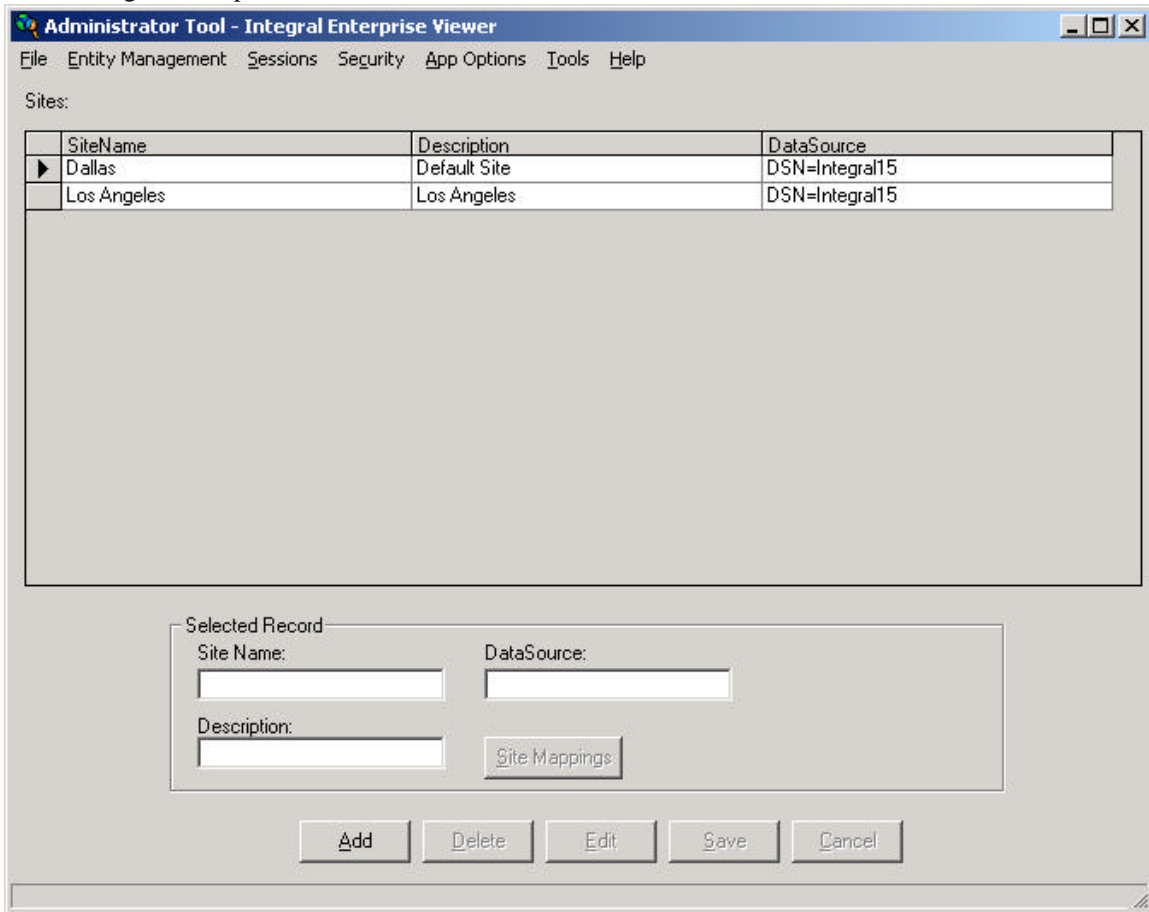
**Problem:** A customer running SyteLine wants to develop the ability to inquire into data across multiple sites in SyteLine. SyteLine includes some very powerful multi-site capabilities with excellent visibility of cross-site data in select areas of SyteLine multi-site functionality. Unfortunately, it can be somewhat difficult to view additional data within SyteLine that is stored in separate sites.

**Solution:** With Integral, any data that can be viewed within any Integral inquiry can easily be extended to operate across multiple sites. Different users may set up SyteLine multi-site functionality in different ways, so Integral provides quite a bit of flexibility with respect to how its multi-site capabilities can be configured – but once that’s been done, extending any Integral inquiry to work across multiple sites is very easy. With additional work, this technique can even be extended to permit users to design multi-site inquiries across sites that may even be running different underlying application packages or that store their data within different database management systems.

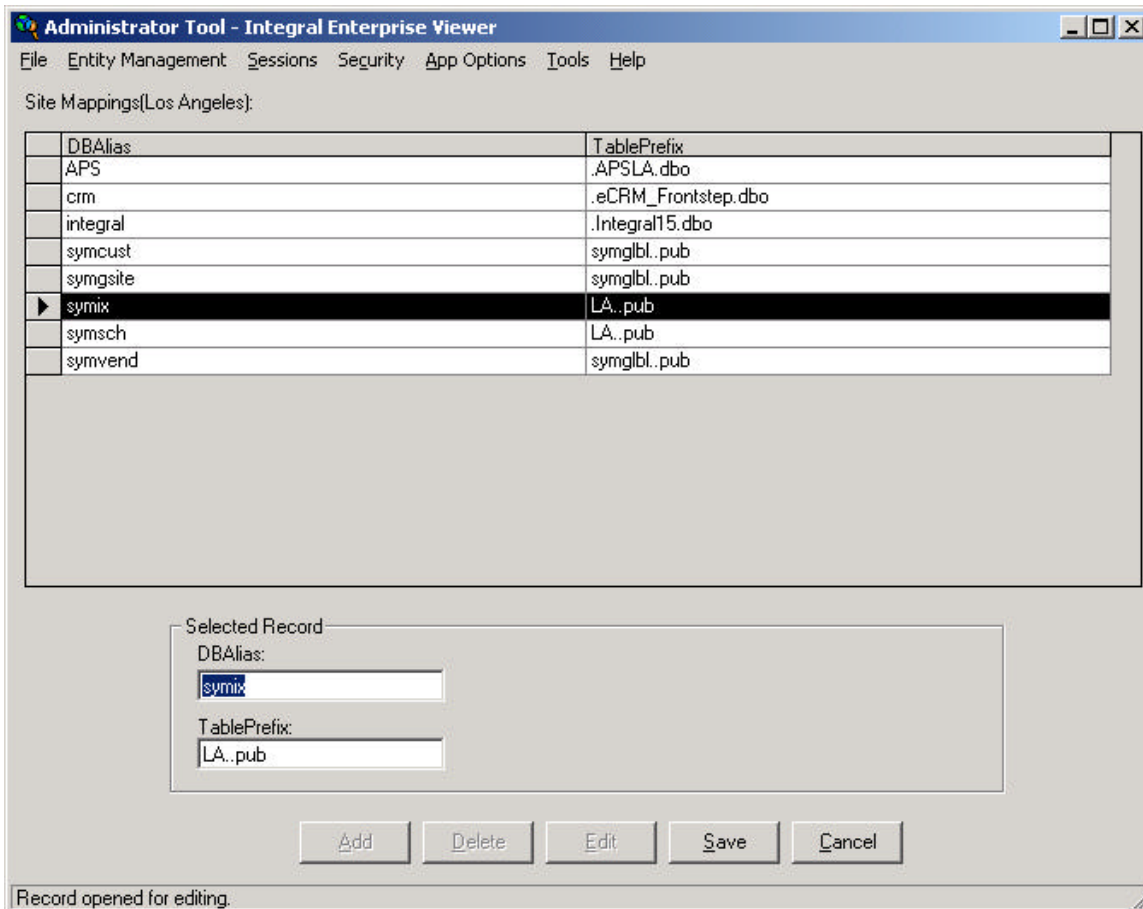
### Detailed Screen Shots of the Solution:

In our example we will begin by reviewing some of the factors that must be configured properly by a user employing Integral in a multi-site situation. Then we will show how an Employee inquiry can easily be extended to operate across sites. Finally, we will provide insight as to how you could extend this approach to include an employee file from an additional site, which might not store its data in SyteLine, or even in a Progress database.

- a. First call up the Integral Administrator Tool, select the “Entity Management” menu bar and choose the “Site Management” option.



Each of your sites will be listed here. There is an important subsidiary screen for each site that is selected by clicking “Edit” to configure a particular site, and then clicking the “Site Mappings” button:

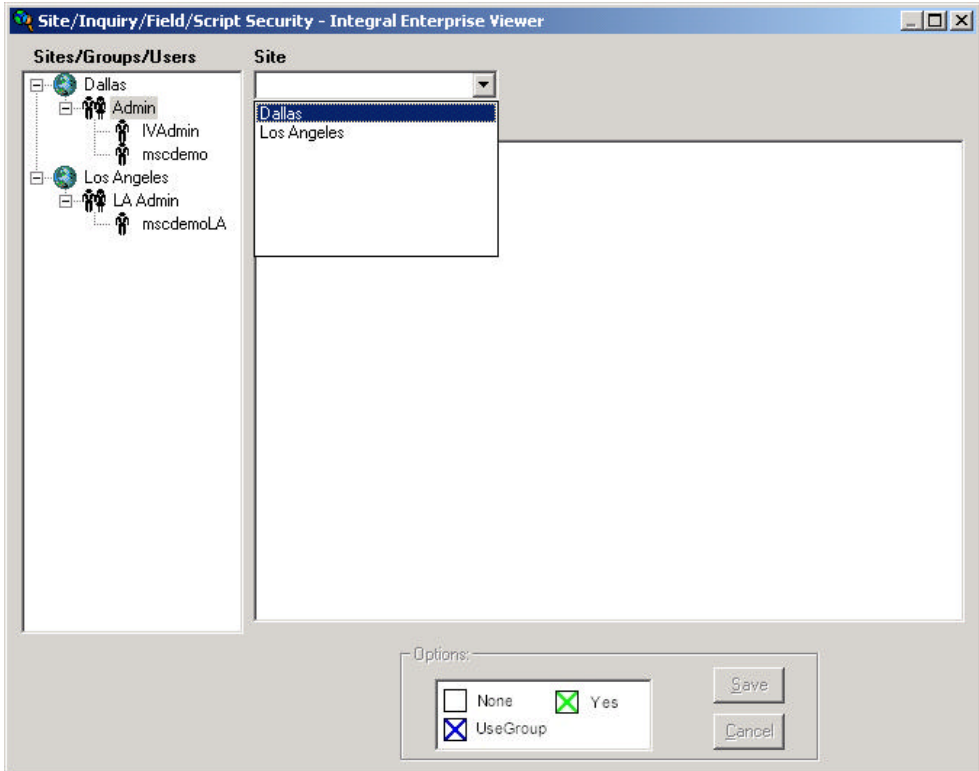


This is where you configure which “Table prefixes” are associated with each “DBAlias.” When you develop an inquiry in the Integral Developer Tool it is designed to pull its data from various DB Alias names, and (based on the site you are currently working with), this table tells Integral what Table Prefix to build into the SQL inquiries that Integral runs to gather your data. These table prefixes, themselves, were defined when you set up Linked Server names when you set up Integral (under “App Options”, “Manage Linked Servers”).

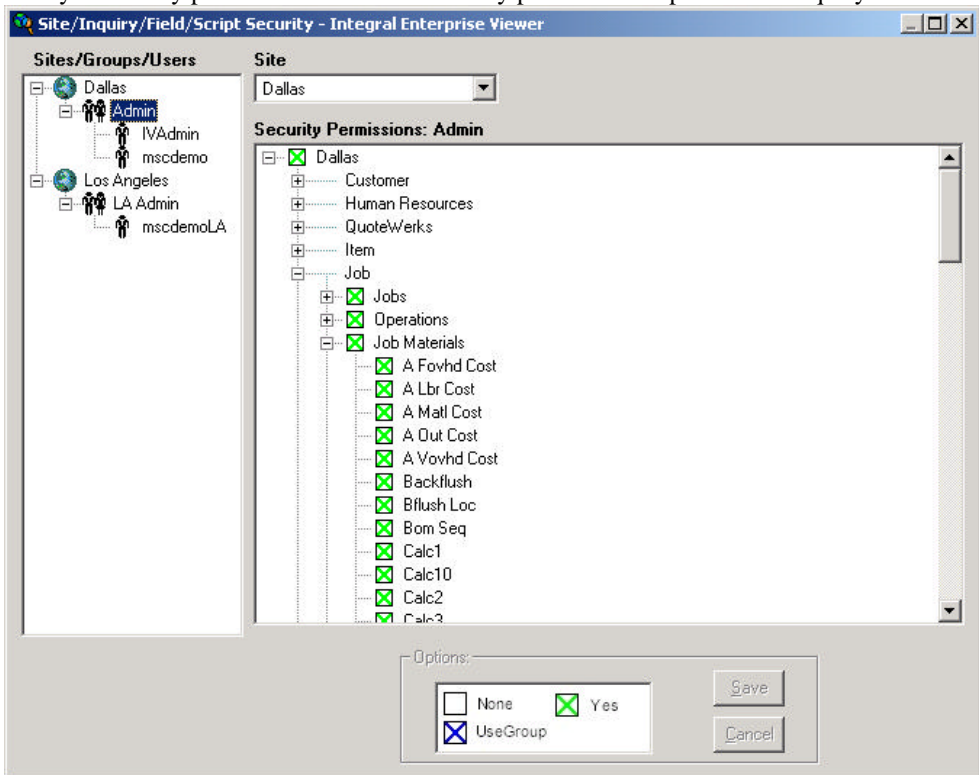
When SyteLine is installed in a multi-site configuration, you make many configuration choices. An important one is, for each SyteLine site, whether you use local customer names and addresses (stored in that site’s particular SyteLine Progress database), or whether that site uses global addresses (stored in your SyteLine “symglbl” global Progress database). The above mapping definitions make it easy to accommodate these various configurations; guidelines as to how to do this are contained in the Integral Installation documentation and in the Integral Administrator’s Tool Help File.

**b.** When you set up Integral, you also created Groups of users that are assigned to particular Integral Sites, and each Integral User that you create belongs to a particular Group. The separation of Users into Groups servers primarily as a means of organizing users into separate classifications for security administration purposes. Most Integral Users find it most convenient to assign each User to a Group that belongs to the Site in which that user normally works – but since Integral Users can be granted permissions by an Integral administrator to run inquiries in any site, you are actually free to organize your User and Group Hierarchies in whatever way works best for your business.

**c.** After your Users, Groups, and Sites have been set up, you will need to ensure that you have set up your Users’ “Site/Inquiry/Filed/Script Security” (under the “Security” menu bar option in the Administrator Tool). The Screen where this is done looks like:



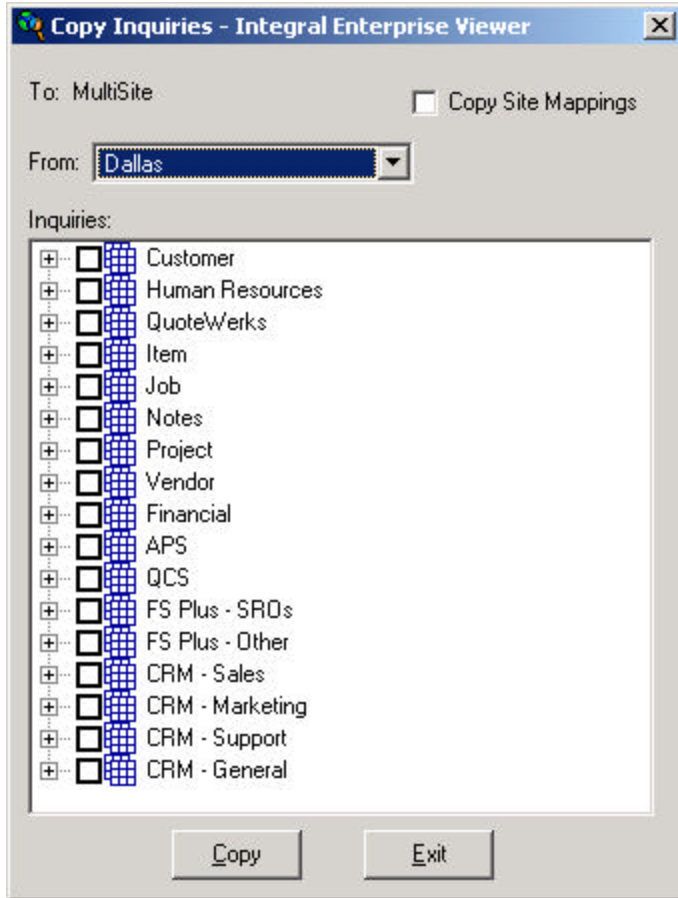
For each User and/or Group, and for each Site in which they can run inquiries, you can configure their ability to see any particular field and/or run any particular Script for each inquiry:



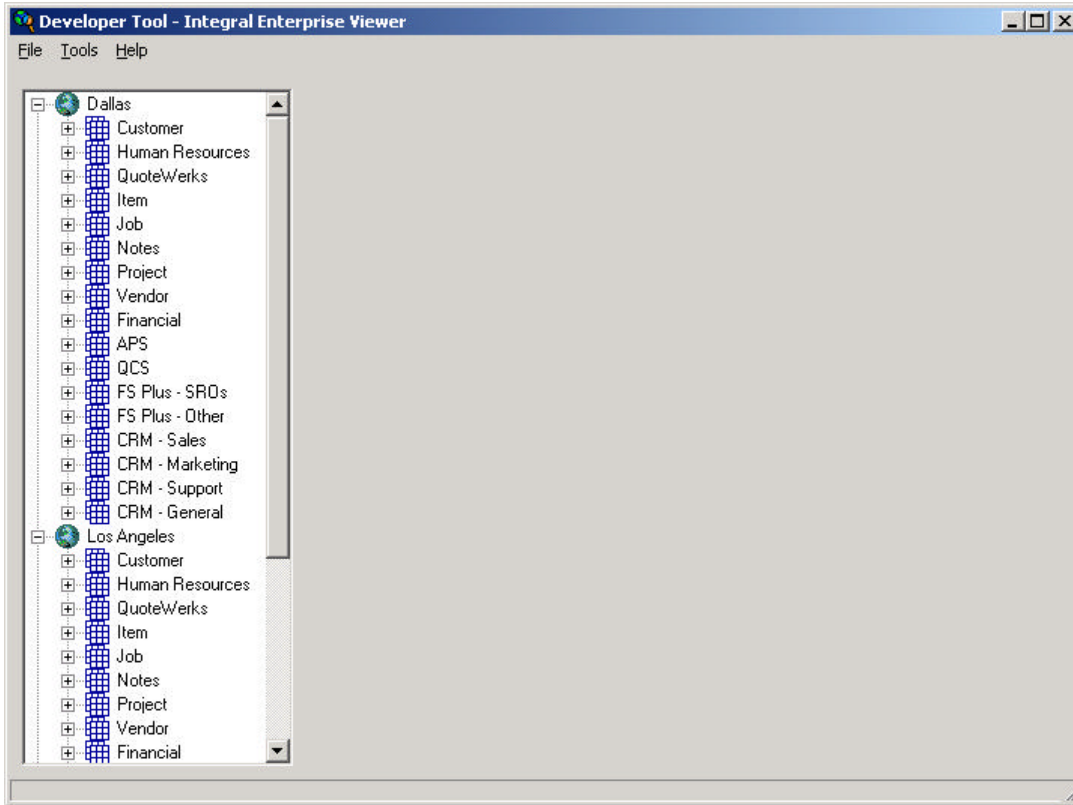
Note that Users may be specifically assigned (Yes) or denied (None) rights to things, but that often it eases administration to assign them “UseGroup” rights, which bases their rights upon the rights you

provided to the group under which the user has been entered. There are several tools within Integral that make it easy to assign “UseGroup” privileges as a default for users.

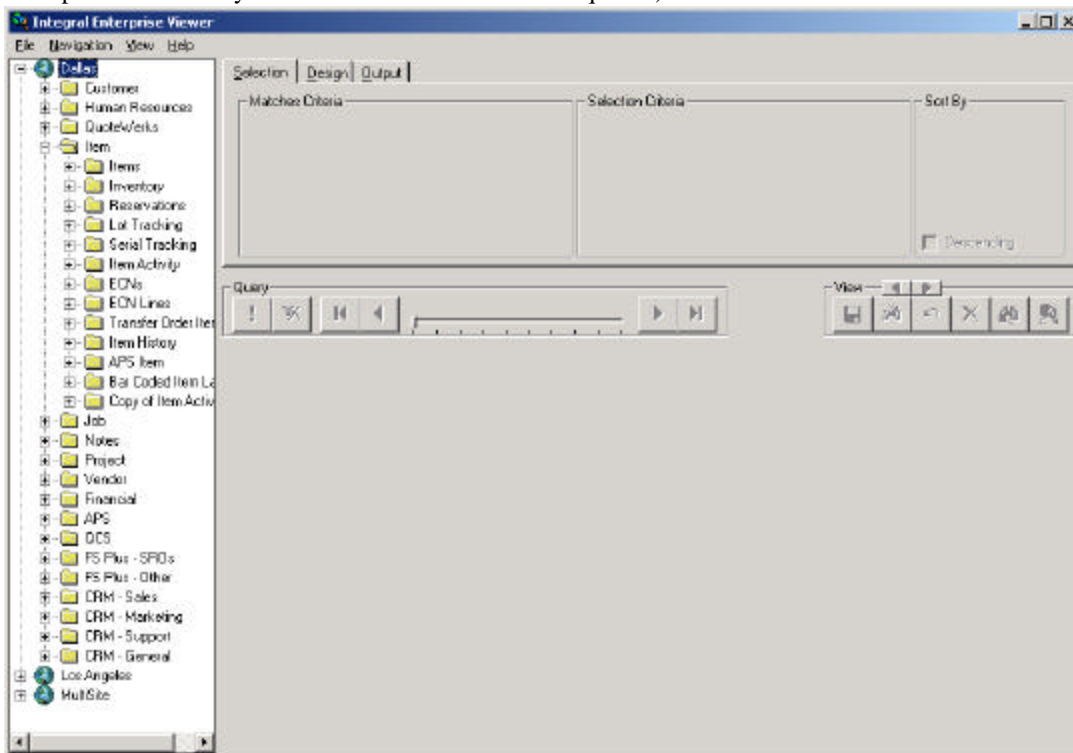
d. When you first set up a new site within Integral, there is a capability within the Integral Developer tool that can expedite the process of setting up Inquiries for the new site. Under “Tools” option on the Integral Developer Menubar, the first choice is “Copy Inquiries from Another Site.” This option invokes the tool show below. This provides you the opportunity to copy some or all of the inquiries for another site to the new site you are setting up. It also provides you the opportunity to copy the site mappings (mappings between DBAliases and TablePrefixes) from the existing site to the new site. Keep in mind that if you do copy site mappings, you will typically need to fine-tune the actual settings for the Table Prefixes to values that are appropriate for the new site to which you are copying.



e. As discussed earlier, each site within an Integral configuration can contain its own set of Integral inquiries. These are initially set up within the Developer tool, and the organization of these Inquiries by site, is controlled by the Inquiry tree-view illustrated below:



Then, when an Integral user logs into the LAN or Web client software, their inquiry menu is initialized to be the one for that user's login site, but users can easily select inquiries from other sites (assuming they were provided security authorization for those other inquiries):

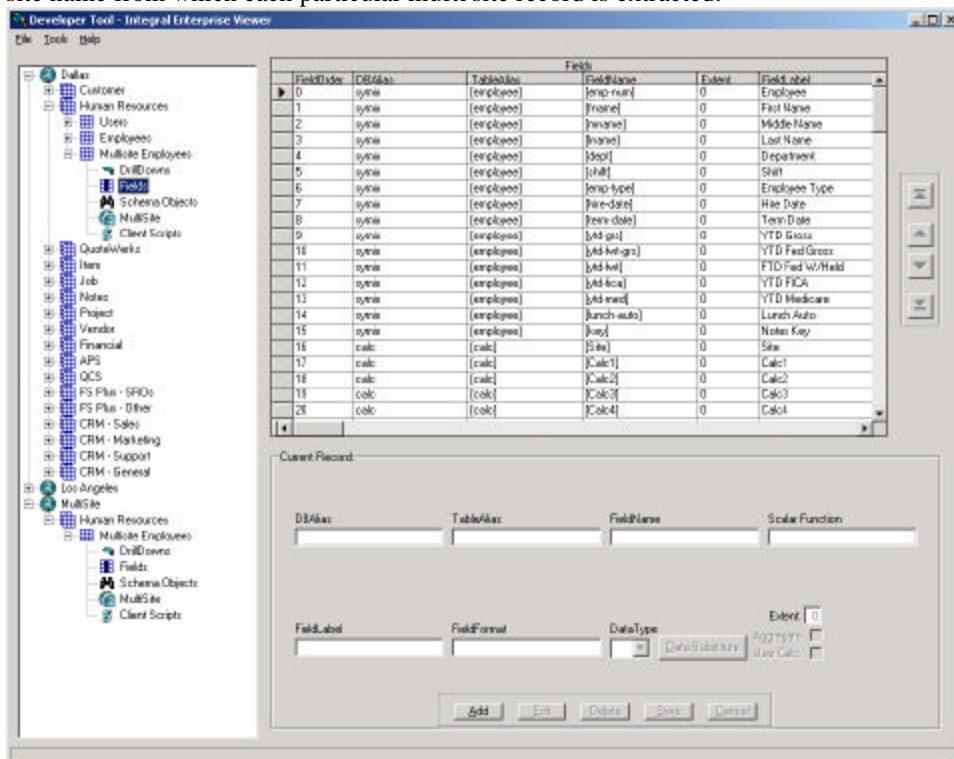


This actually provides several different options of how multi-site inquiries can be added to the Integral inquire tree view menu at a particular company. One option that some users elect is to copy a standard single-site inquiry into a new multi-site definition under each site in their SyteLine configuration. These inquiries can then be linked to each other (as described in the next section), creating multi-site inquiries under each site's inquiry menu. Other users elect to add the definitions of new multi-site inquiries under just one primary site, and still other users may even create a brand new site, simply as an organizational point to locate new multi-site inquiries. The choice is up to the user, based upon the organization they feel will work best for their users. Just one additional fact that should be kept in mind, however, in deciding under which sites you wish to provide access to new multi-site inquiries, and that is that if you provide drill-down capabilities from a multi-site inquiry, those drill-downs can only invoke/drill-down to other inquiries defined in the same site as the original multi-site inquiry was defined.

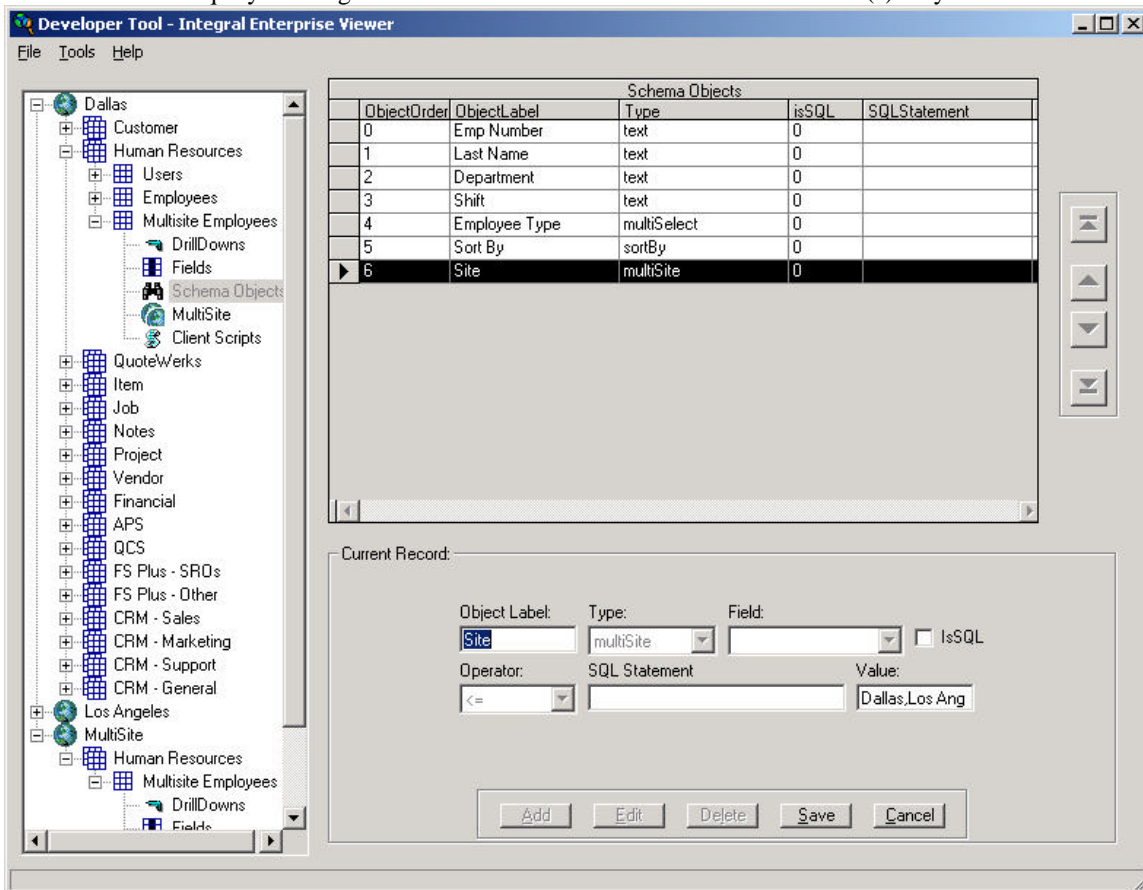
**f.** We have discussed at length many of the options and features that you can choose to take advantage of and/or that you may wish to consider in setting up multi-site inquiries. Notwithstanding all those options and choices, the actual process for taking an existing Integral inquiry and turning it into a multi-site inquiry is actually very quick and simple. We will detail the process below, step-by-step.

**I.** First – in our test example, we will assume that we are running SyteLine in a multi-site environment, and that we have some employees who may work at more than one of our sites. Often this gives rise to a need to review total amounts of year to date pay and withholding amounts, in order to ensure that payroll has been set up in an enterprise-wide optimal function. Given that this is an area where standard SyteLine offers only limited multi-site support, this is a good illustration of how the power of Integral can extend SyteLine's native multi-site capabilities.

We will begin our example by copying the Employees inquiry for our Dallas site to a new inquiry that we will name "Multisite Employees." We will then add to the standard fields in the Employee inquiry some additional payroll related fields that we are going to want to analyze, total, and report on across sites. In this case, the new fields will be year-to-date gross pay and federal withholding amounts (ytd-grs, ytd-fwt-grs, ytd-fwt, ytd-fica, ytd-med). We also will also add a new calculated field that we will name "[Site]" – as this field name has a special meaning in multi-site inquiries and at run-time it is replaced by the Integral site name from which each particular multi-site record is extracted.



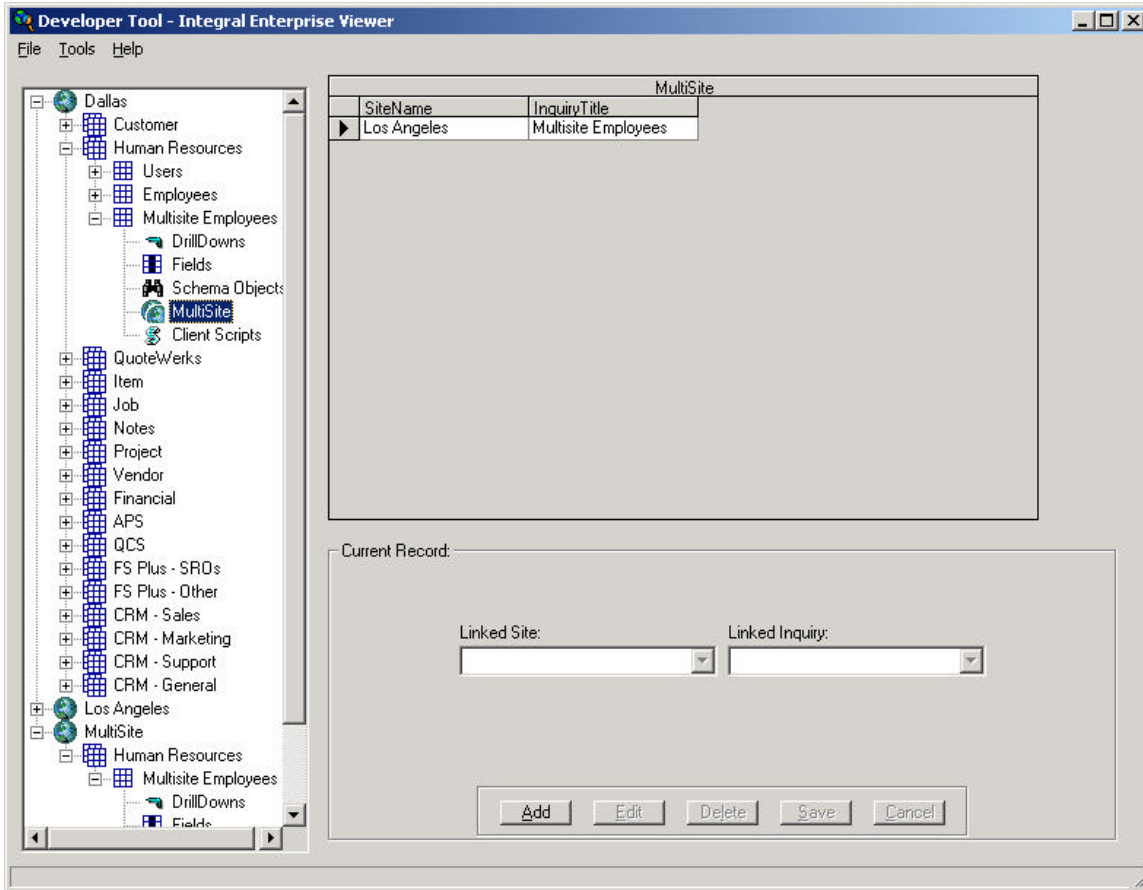
**II.** Second – Next we will go in under the “Schema Objects” collection for our inquiry, and add a new schema object called “Site” of type “multiSite.” Creating this puts a list of sites to select from on the screen when the inquiry is being run – so that the user can select from which site(s) they want to see data.



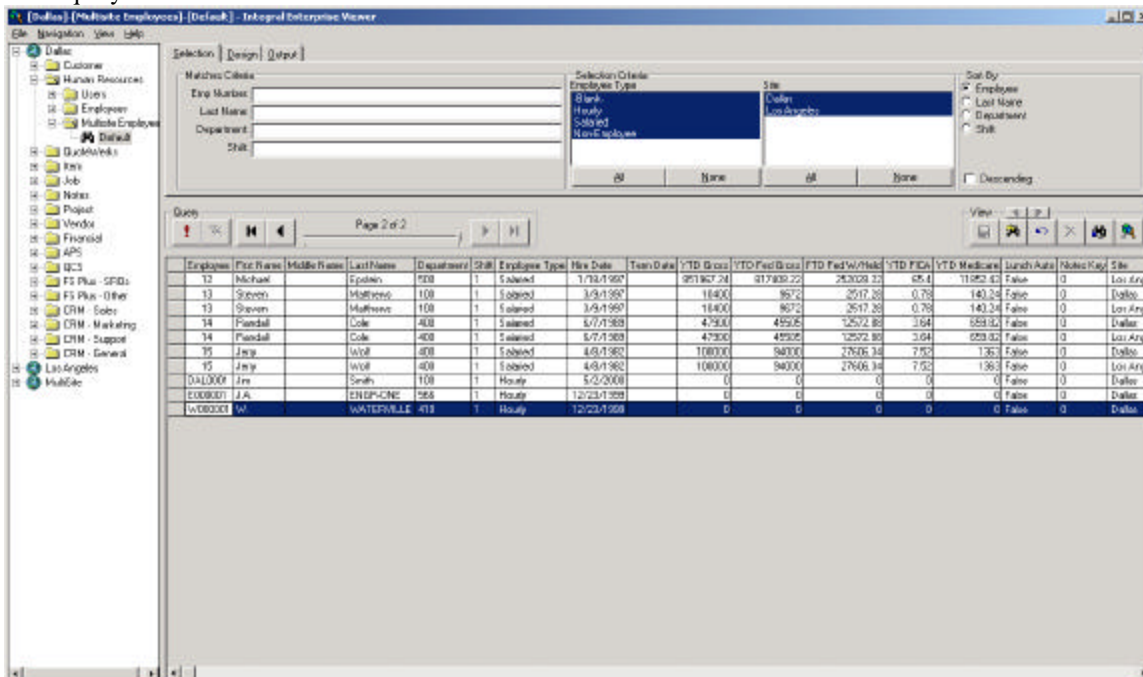
Note that the “Value” field for this Schema Object is filled in by a comma separated list of the sites that the user will be permitted to select from. These names must match with how the Sites were named in Integral.

After this inquiry has been set up, we copy it to our other site, “Los Angeles.”

**III.** Third – Users need to ensure that inquiries they plan together into a multi-site inquiry have been defined in/ and/or copies to all relevant sites, that they each have the same SQL join in their definitions, and that they have the same field names and types defined. The simplest way to accomplish this is to define an inquiry in one site, and then to copy it to the other sites. Once the compatible inquiries exist in multiple sites, they can be joined together via the “MultiSite” collection, defined within the Integral Developer tool. Note below that we have linked out “Multisite Employees” inquiry in our Dallas site to another inquiry of the same name in our Los Angeles site:



IV. That's it – we're now ready to run our multi-site inquiry. Log into the Integral LAN Client, and select our inquiry from the Dallas site:



Note that site "Site" is listed with each row, and that the user can select which sites they want to report from in the multiple selection list-box at the top of the screen.

**g.** As we just saw, setting up multi-site SyteLine inquiries in Integral is both fast and easy to do. This provides an extremely valuable capability to extend SyteLine's multi-site capabilities too all areas of a company's extended ERP system. Integral is even more versatile, however; and even companies who might be running different systems for some sites or parts of sites, can utilize Integral to create unified multi-site views across data housed in separate systems, even separate types of databases.

The key to accomplishing multi-site inquiries across disparate applications packages involves three steps. First a user must ensure that the define appropriate Linked Servers within the Microsoft SQL Server Enterprise Manager (of the Integral Administrator tool) for the databases/packages that they are working with. Second, the user must analyze what are the common data elements across those packages which the user wants to combine into a multi-site inquiry (for example fields may have different names, whether data is in a single table or a join of tables may vary package-to-package, and what one package stores in a single field may require an expression based upon multiple fields in another package). Third, the user needs then to go in and to create T-SQL-based views against the data sources for each package that return in a view (for each package) exactly those fields that the user wants to analyze in Integral on a multi-site basis.

Once those steps have been done, the separate inquiries for each site (which will be pulling data from separate packages and databases) will simply be defined based upon the common view-definitions that we set up as described in the preceding paragraph. Once these inquiries are created for each site, based upon common view definitions, constructing the multi-site inquiries across packages is just as easy as was our previous example of creating SyteLine-specific multi-site inquiries.

Bottom line, Integral's multi-site capabilities are power and flexible – but still quick and easy to set up. They provide an excellent tool for extending SyteLine's multi-site capabilities, and even to permit users who are running hybrid extended ERP systems across their sites, for creating unified multi-site views across their enterprises.