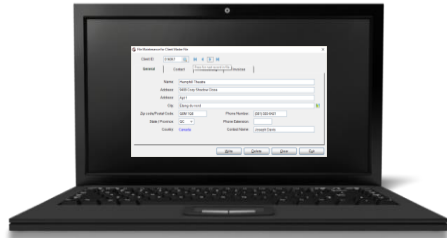# What's New in Nomads

PxPlus 2016 (v13)

**DireXions 2016**

# New in Nomads - Introduction

- New NOMADS features that can enhance the user experience of your application:

  - Achieve a more responsive application design, automatically presenting an optimum viewing experience using *Resizing*, enhanced *Alternate Panels* and *Substitute panels* to display your application on multiple devices

**DireXions 2016**

# New in Nomads - Introduction

- New NOMADS features that can enhance the user experience of your application:
  - Experience a cleaner, simpler and more user-friendly display with the *Drop Query*.

| Code | Sales Rep Name | Department Name |
|------|----------------|-----------------|
| AN | Austin (Bunny) Ninja | Eastern Canada Sales |
| BM | BeeBee Martinez | Ontario Sales |
| BT | Buns Thompson | Eastern Canada Sales |
| CM | Chiquita Magna | Western Canada Sales |
| DK | Dora King | Ontario Sales |
| GT | Gordon Twiddy | Quebec Sales |
| HK | Heidi King | Ontario Sales |
| OB | Oliver Black | Large Account Sales |
| PG | Pinto Gonzalez | Western Canada Sales |
| RL | Robert (Bob) LeChat | Quebec Sales |

**DireXions 2016**

# New in Nomads - Introduction

- New NOMADS features that can enhance the user experience of your application:
  - Use enhanced *Info Tips* to provide additional formatted information when needed, without taking up precious screen real estate.



Product code:SUV-2412-VIO
City Car SUV - Violet

Price $9.25

**DireXions 2016**

# New in Nomads - Introduction

- New NOMADS features that can enhance the user experience of your application:
  - Learn how new *File Link* interfaces will help the user (*and the developer*) draw upon data from multiple related data sources in your application.

**DireXions 2016**
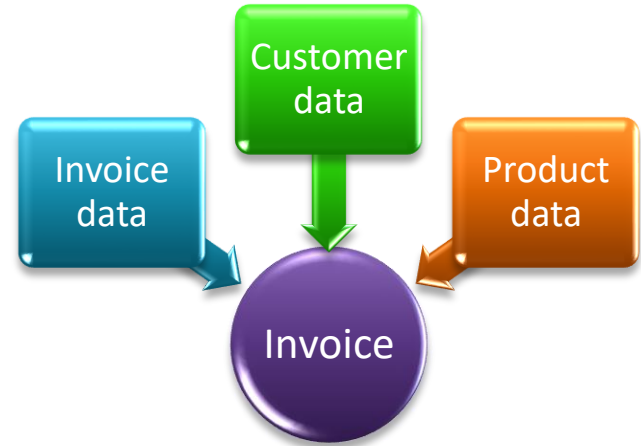
# New in Nomads - Agenda

- Responsive Application Design
- Drop Query
- Enhanced Info Tips
- File Linking

DireXions 2016

# Responsive Application Design

Optimize your viewing experience

**DireXions 2016**

# Responsive Application Design

- Responsive Design
  - Makes use of flexible screen layouts to adapt to devices ranging from desktop monitors to tablets to mobile phones
  - The underlying concept is to detect screen size/orientation and change the layouts accordingly

**DireXions 2016**

# Responsive Application Design

- Approaches to responsive design:
  - Resizing & Persistence
  - Enhanced Alternate Panels
  - Substitute Panels

# Responsive Application Design

- Panel Resizing

  - User can resize the panel to suit their needs
  - PxPlus will automatically resize panels when devices are re-oriented using the actual device width
  - Settings
    - Resizable/Auto Size
      - All controls are resized and moved proportionally
    - Resizable/Custom
      - Selected controls are resized - Autosize (2 way) or Stretch (1 way)
      - Fixed sized controls may be anchored to the edge
  - Embedded panels may be *Stretch*ed as well, to create a banner effect
  - Panel persistence can store off the size/location of your panel

# Responsive Application Design

- Panel Resizing
  - Panel must be dialogue, with maximize box
  - Resizable/Custom setting allows for the best flexibility
    - Select the controls to be resized – Autosize (2 way) or Stretch (1 way)
    - Control location of Fixed size controls by anchoring them
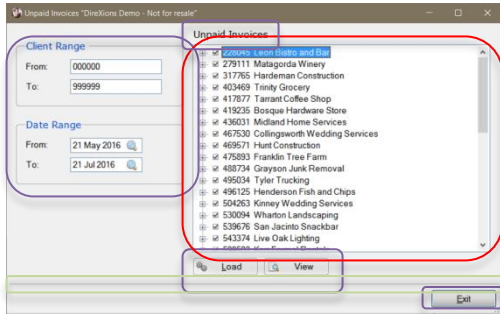


Fixed/Anchored

Autosize

Stretch

**DireXions 2016**
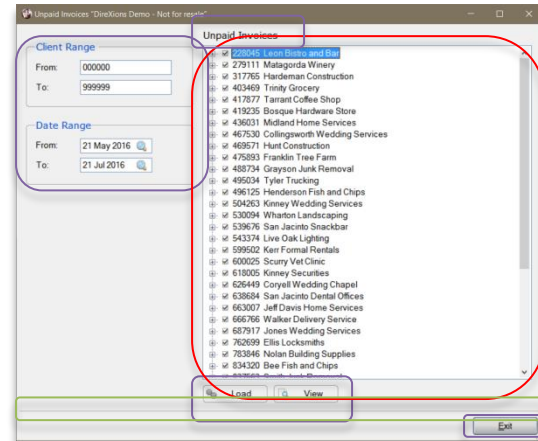
# Responsive Application Design

- Resizing Controls – Size Adjustment
  - Set *Size Adjustment* on panel header to enable size adjustments on individual input controls
    - Multi-lines, listboxes, grids

**Attributes**

| | |
|---|---|
| ☑ Dialogue | ☑ Minimize Box |
| ☐ Child Window | ☑ Maximize Box |
| ☑ Suppress .VAL | ☑ Close Box |
| ☐ Always on Top | ☑ Size Adjustment |
| ☐ Menu Bar | ☐ Synchro-Lock |
| ☐ No Title Bar | ☑ Auto Refresh |
| ☐ Status Bar | ☐ Auto Close Files |

Status Bar Segments:

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# Responsive Application Design

- Resizing Controls - Report View Listbox and Grid
  - Auto Column Size (listbox) or AutoColSize (grid Presets)
  - Turn on to force the automatic adjustment of column sizes so that the total space occupied by the columns will fill the control width.
  - Proportional adjustment of all columns except those with ColumnSizeLock set
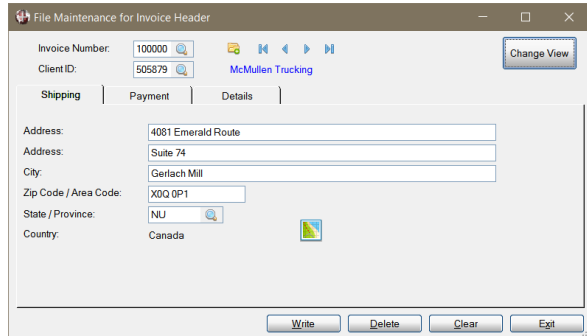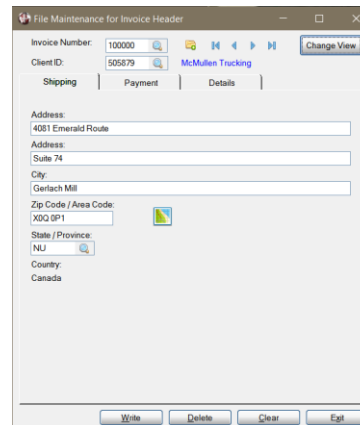
PxPlus 9.10 (Nomads)
PxPlus 2014 FP1 (*i*Nomads)

# Responsive Application Design

- Alternate Panel Layouts Overview

  Alternate panels are interchangeable panels that contain the same controls but have different layouts. The controls on the panels differ only in size, location and resizing attributes.

# Responsive Application Design

- Alternate Panel Layouts Overview
  - Purpose
    - To offer differing layouts that can be switched dynamically at run time
  - Layouts can be switched
    - Programmatically based on a user cue
    - Automatically based on a Resize event

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# Responsive Application Design

## Alternate Panels

- Designing Alternate Panel Layouts
  - Two or more panels created in the Panel Designer with identical controls* whose sizes and locations may differ
  - If a panel has a folder, additional sub-panels may require corresponding alternate panels
  - Original and alternate panels must be in the same library

*Note on identical controls:

The text value of *Fonted Text* and *Frame* controls can be different on the various panels, with the text of the panel currently in use being displayed, allowing you to shorten/lengthen the text displayed based on available space. In addition, various *Shapes* and their attributes and static (i.e. non-dynamic) *Images* may be different on the various panels. All other controls will maintain their current values.

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# Responsive Application Design

Alternate Panels

- Switching Panels Programmatically  <span>Providex 7.71</span>
  - Requires a trigger event, such as a button click
  - When processing the event, set two variables:
    - ALTERNATE_PANEL$ - Name(s) of the panel(s) to be displayed
    - ALTERNATE_PANEL_TYPE$ - "M" (main), "F" (folder), "MF" (both)

# Responsive Application Design
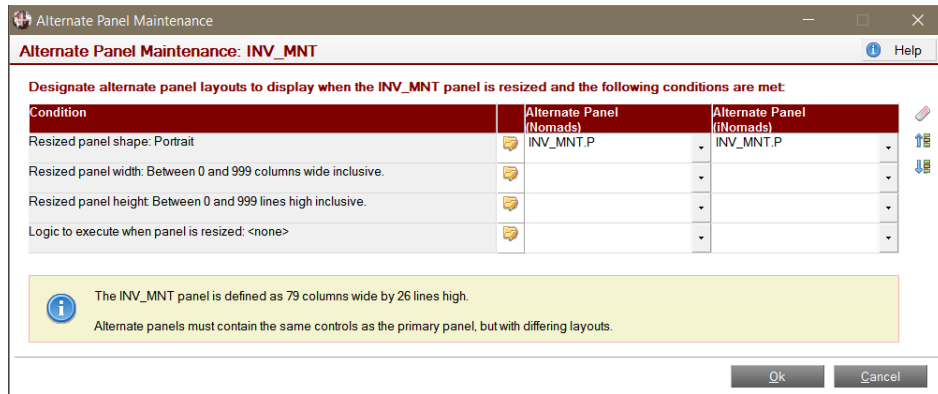
Enhanced Alternate Panels

- Switching Panels Automatically on a Resize Event
  - Panels must be defined as Resizable/Custom or Resizable/AutoSize
  - Assign conditions in the *Alternate Panel Maintenance* utility to determine when an alternate panel should be displayed
  - When a resize event occurs, a check is performed to see if any of the assigned conditions are true, and the associated alternate panel is displayed. If none are true, the original panel is displayed

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# Responsive Application Design

## Enhanced Alternate Panels

- *Alternate Panel Maintenance*
    - Invoked by selecting *Assign Alternate Panels* from the *Utilities* menu in the Nomads Panel Designer
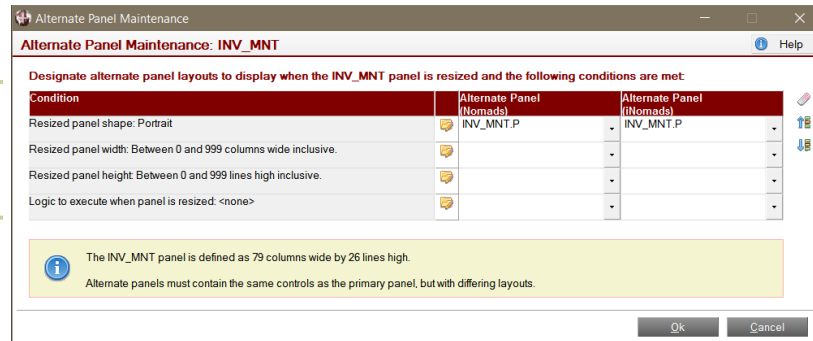
# Responsive Application Design

## Enhanced Alternate Panels

- *Alternate Panel Maintenance*
  - Specify conditions to apply when resizing the panel being defined in the Panel Designer. (Specify conditions for the original panel being designed, not for the alternate panels)
  - Specify the alternate panel to display in Nomads and $i$Nomads (panels are in the same library) when the condition is true

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# Responsive Application Design

Enhanced Alternate Panels

- *Alternate Panel Maintenance*
  - Conditions
    - *Resized panel shape: Portrait (or Landscape)*
    - *Resized panel width: Between 0 and 999 columns wide inclusive*
    - *Resized panel height: Between 0 and 999 lines high inclusive*
    - *Logic to execute when panel is resized*
      - User logic sets Alternate_Panel$
      - Special variables available to user logic:
        pnlWidth (columns), pnlHeight (lines), w (pixels), h (pixels)

**DireXions 2016**

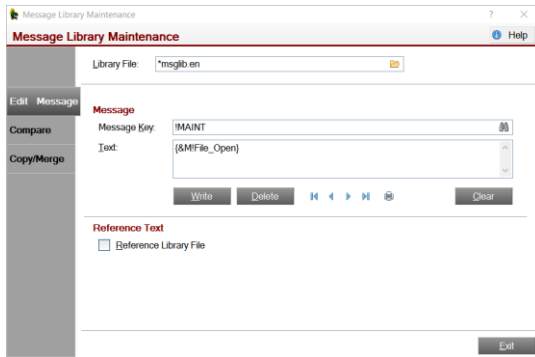# Responsive Application Design

- Substitute Panels Overview
  - Panels that are processed instead of the originally specified panel when certain conditions are met
  - Useful when you want unique panel designs based on different environments:
    - Nomads vs *i*Nomads
    - Different screen resolutions, display sizes
    - Different users, departments, etc.

**DireXions 2016**

# Responsive Application Design

- Substitute Panels Overview
  - For example, to attain a different look-and-feel for web applications

Nomads
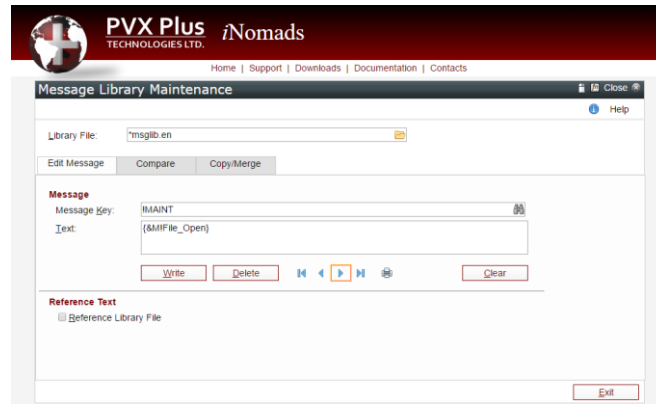
# Responsive Application Design

- Substitute Panels Overview
  - For a particular panel, you can configure various conditions, which result in a different panel being processed rather than the one named
  - Unlike Alternate panels, substitute panels can have different controls and different logic

**DireXions 2016**

# Responsive Application Design

- *Substitute Panel Maintenance*
  - This utility allows you to specify the conditions to apply when loading the panel currently being defined in the Nomads Panel Designer, and what panel/library to substitute when a condition is true
  - Select *Assign Substitute Panels* from the *Utilities* menu in the Nomads Panel Designer

**DireXions 2016**
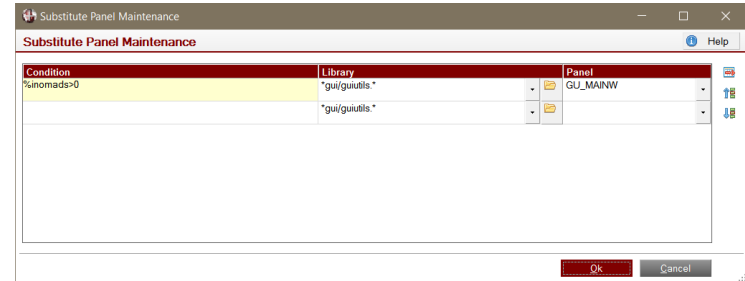
# Responsive Application Design

- *Substitute Panel Maintenance*
  - The *Condition* consists of a valid PxPlus conditional expression to be evaluated to determine if a substitute panel will be used instead of the originally specified panel
  - Multiple conditions may be specified
    - The order in which the conditions are displayed is the order in which they are evaluated
  - Any panel from any library may be selected as the substitute panel associated with a condition

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# Responsive Application Design

- *Substitute Panel Maintenance* - Specifying Conditions
  - Conditions are evaluated prior to any logic associated with the original panel
    - Global variables used in the conditions must be set up prior to the processing of the original panel
    - Use %iNomads>0 to check for *i*Nomads environment
    - Special %NOMADS properties such as 'DisplayHeight and 'DisplayWidth can be used (Number of lines/columns on monitor (Nomads) or browser (*i*Nomads)

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# Responsive Application Design

- Substitute Panels and Alternate Panels
  - Substitute panels can be used in conjunction with Alternate Panels
  - A substitute panel can have alternate panels associated with it, but alternate panels do not support substitute panels

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# Responsive Application Design

- Substitute Panels - Other uses
  - Create custom panels and logic for customers with minimal change to your application
    - Create a custom panel and program in separate custom directories
    - Simply add a substitute panel definition to the original panel definition

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# The Drop Query

Is it a query or a dropbox?

**DireXions 2016**

# Drop Query

- Overview

  - Emulates an enhanced drop box that can display multiple columns with sortable headers

**DireXions 2016**
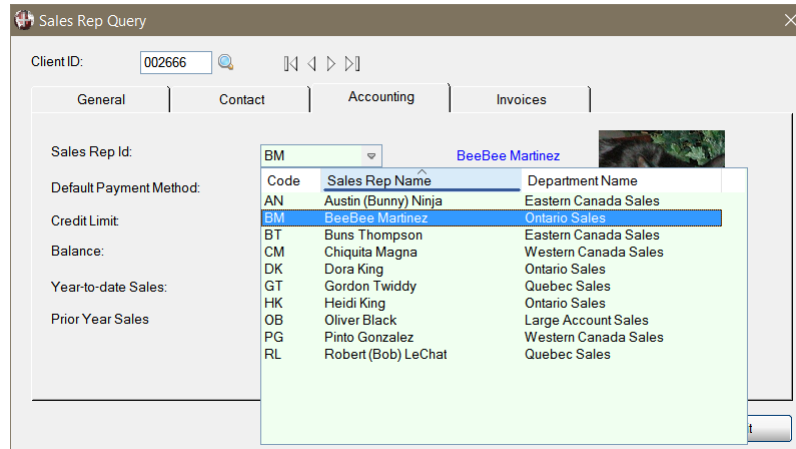
# Drop Query

- Overview
  - Cleaner display
    - Just the data
    - No toolbar or buttons
    - Still supports all the right-click options (*except for autochart*)
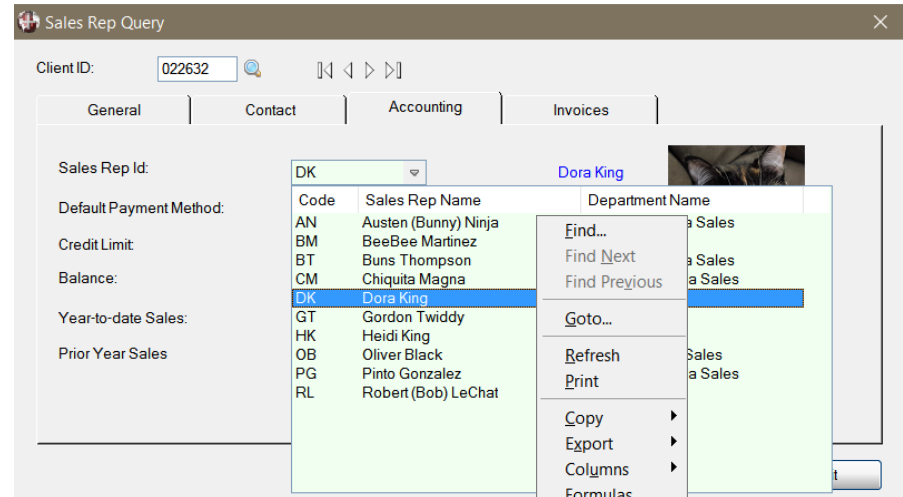
# Drop Query

- Overview
  - More user friendly
    - Display is adjacent to the multi-line
    - Not disconnected from the multi-line in a separate window, or even hiding it
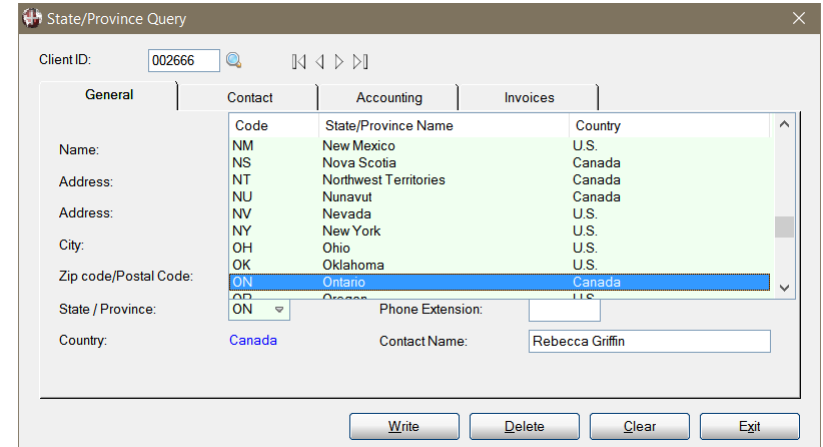
# Drop Query

- Usage
  - Instead of a standard dropbox for a more complex display
    - But minimize the number of columns shown so you don't overwhelm the display
      - Hidden columns simplify display but are available to be viewed
  - For small datasets
    - Uses a report view list box to display the data
    - The entire dataset is loaded up front, so the user must wait until the load is finished before proceeding

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# Drop Query

- Setting up Drop Queries
  1. Establish the default usage
     - `%nomads'Drop_Qry_All=1` sets the Drop Query as the default query display
     - In *i*Nomads, set the Drop Query option in the Template Configuration (on the Misc tab)

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# Drop Query

- ## Setting up Drop Queries

  2. Query Header Definition - Options
     - Individual queries have an option to use the *Default* setting, or to ignore the default and either *Always* or *Never* display that query as a Drop Query

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# Drop Query

- ## Setting up Drop Queries

  - ### You can also set %nomads'Drop_Qry_Color$ to override the default background color

Default is RGB:240,255,240

%nomads'Drop_Qry_Color$=
"RGB:255,255,180"

# Drop Query

- Emulating an enhanced variable drop box
  - Query button
    - Down arrow bitmap
    - Embedded and Flat/No border attributes

| BT ▽ | | |
|------|--|--|
| **Code** | **Sales Rep Name** | **Department Name** |
| AN | Austin (Bunny) Ninja | Eastern Canada Sales |
| BM | BeeBee Martinez | Ontario Sales |
| BT | Buns Thompson | Eastern Canada Sales |
| CM | Chiquita Magna | Western Canada Sales |
| DK | Dora King | Ontario Sales |
| GT | Gordon Twiddy | Quebec Sales |
| HK | Heidi King | Ontario Sales |
| OB | Oliver Black | Large Account Sales |
| PG | Pinto Gonzalez | Western Canada Sales |
| RL | Robert (Bob) LeChat | Quebec Sales |

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# Drop Query

- Emulating an enhanced drop box (not variable)
  - Must choose from list (i.e. multiline locked)
  - Query button
    - Down arrow bitmap
    - Embedded and Flat/No border attributes
  - PermaLock attribute on the multiline

| ON ▼ | | |
|------|------------------------|--------|
| Code | State/Province Name | Country |
| NM | New Mexico | U.S. |
| NS | Nova Scotia | Canada |
| NT | Northwest Territories | Canada |
| NU | Nunavut | Canada |
| NV | Nevada | U.S. |
| NY | New York | U.S. |
| OH | Ohio | U.S. |
| OK | Oklahoma | U.S. |
| ON | Ontario | Canada |
| OR | Oregon | U.S. |

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# Drop Query

- Activation
  - Requires the same activation level as Query+:

    PxPlus Base license with SmartControl package (20005)
    or
    PxPlus Professional Bundle
    or
    PxPlus e-Commerce Bundle
    or
    PxPlus *i*Nomads Wayfarer Pack

# Info Tips

Tooltips on steroids

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# Info Tips

General review or summary

Overview

**Overview**
An overview is a general review or summary.
See details here

- Tips help users understand unknown or unfamiliar objects that aren't described directly in the user interface

- They are displayed automatically when users hover the pointer over an object, and removed when users click the control or move the mouse, or when the tip times out

**Product code:SUV-2412-VIO**
City Car SUV - Violet

Price $9.25

**DireXions 2016**

# Info Tips

- Defining Tips in Nomads
  - Tips are defined for Buttons, Radio Buttons, Check Boxes, List Boxes, Drop Boxes, Multi-Lines, Grids and Charts on the *User Aid* tab for the control definition in the Nomads Designer
  - Grid cell tips are defined in Grid *Presets*
  - Tips can be defined as a fixed value, expression or Message Library reference

# Info Tips

- Simple Tip
  - Fixed value or Expression or Message Library reference

# Info Tips

- HTML Tip
  - Create your own HTML to display
  - Use the HTML string as the tip value
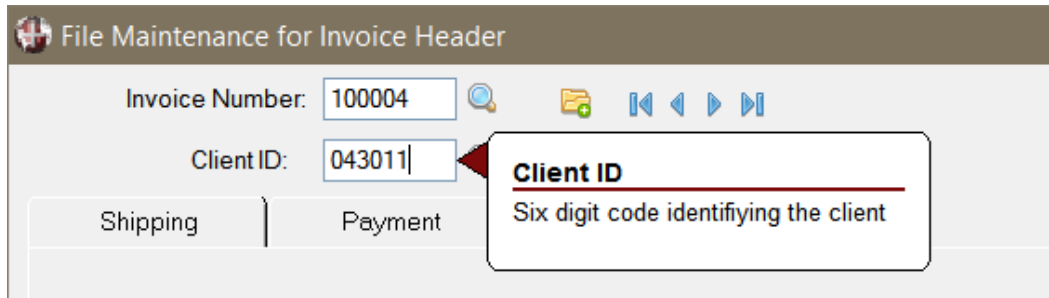
**DireXions 2016**

# Info Tips

- *Define Info Tip* Utility
  - User Aids *Floating Tip* – Select *Expression*
  - Click 💬 button next to the input control to invoke the *Define Info Tip* utility.
  - Specify title and text with optional embedded hyperlink

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# Info Tips

- Info Button
  - If there's a chance that the tips could become annoying or distracting, consider associating the tip with an info button so you only see it when you want to



**More Info...**

This is how you can put more information on your panel without taking up any space.
And since it's attached to a separate button, you only see the info when you want.
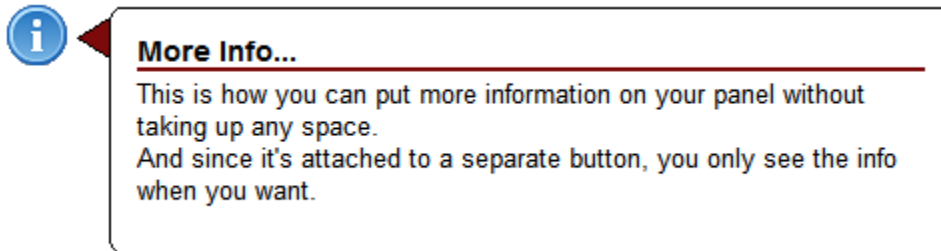
# Info Tips

- ‘TC’ parameter
  - Remember, the formatted info tips only work as advertised if the ‘TC’ parameter is set to -2 (default)
  - Alternate ‘TC’ settings will override the tip display

**Client ID**
Six digit code identifiying the client

*Client ID*
Six digit code identifiying the client

‘TC’=-2                    ‘TC’=2

**DireXions 2016**
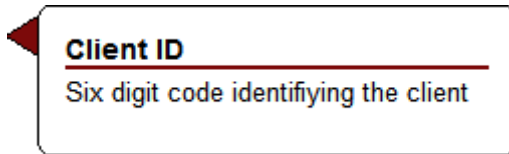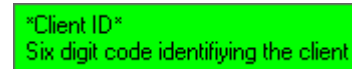
# File Linking

Making the complex simple

# File Linking

- Overview
  - Application data is spread across multiple files with cross-reference linkages to bind the relationships

| | | | |
|---|---|---|---|
| Clients | Invoices | Salesreps | Products |
| Inventory | Departments | Employees | Accounting |

Etc.

# File Linking

- Overview
  - When presenting information to the user, the content is generally made up of bits and pieces from many files
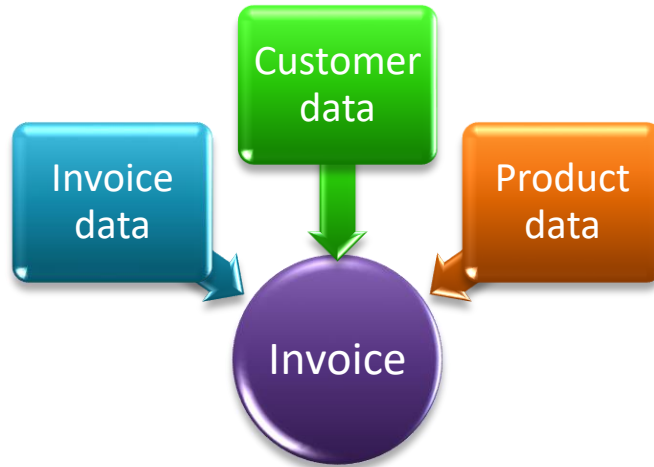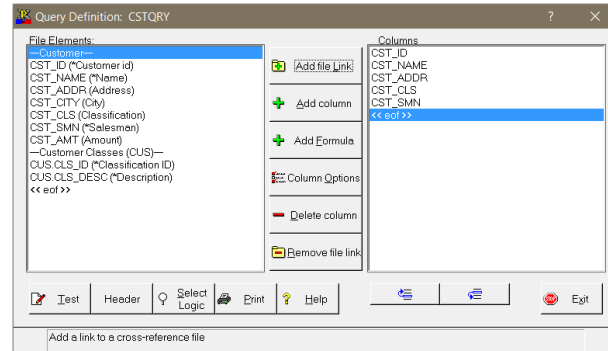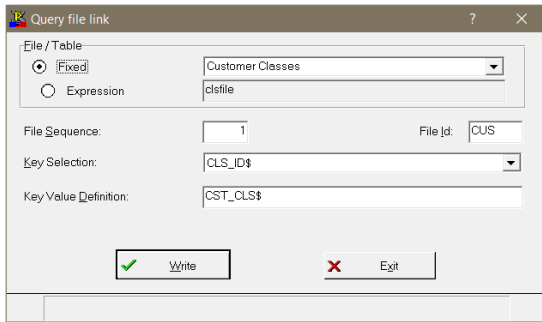
# File Linking

- Overview
  - The challenge is coming up with simple ways to present the complex datasets to the user, keeping in mind that they have no prior in-depth knowledge of the data files, fields, and their relationships as they exist in the application

**DireXions 2016**
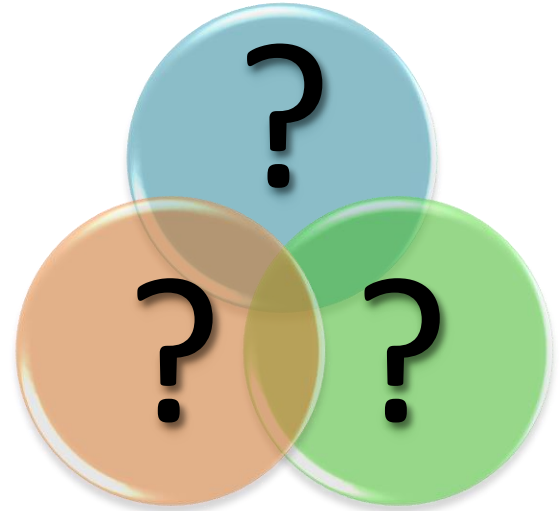
# File Linking

In the beginning...

- The *Query System* allows you to display complex datasets
    - File links are set up in the query definition for simple one-to-one relationships

# File Linking

Then…

- *Views*
  - Allow you to present and retrieve customized end-user views of various application data
  - System designer defines logical representations of datasets that are relevant and accessible to end-users, regardless of the original physical layout
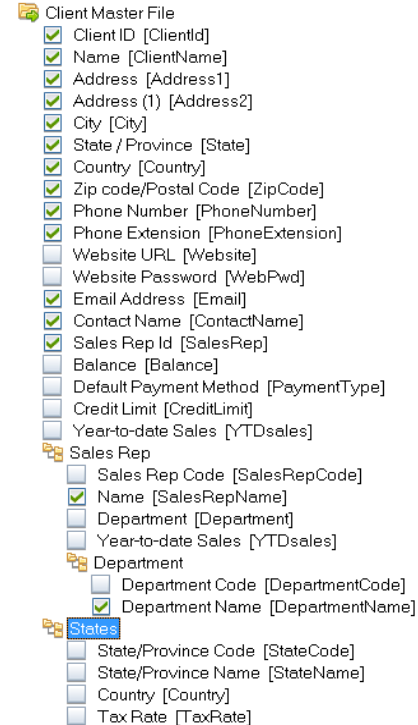
Providex 5.10

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# File Linking

Then…

- *Views*
  - The end-user can extract specific data elements for display and reporting purposes — without the need for prior in-depth knowledge of the data files, fields, and their relationships as they exist in the application

```
Client Master File
  ☑ Client ID  [ClientId]
  ☑ Name  [ClientName]
  ☑ Address  [Address1]
  ☑ Address (1)  [Address2]
  ☑ City  [City]
  ☑ State / Province  [State]
  ☑ Country  [Country]
  ☑ Zip code/Postal Code  [ZipCode]
  ☑ Phone Number  [PhoneNumber]
  ☑ Phone Extension  [PhoneExtension]
  ☐ Website URL  [Website]
  ☐ Website Password  [WebPwd]
  ☑ Email Address  [Email]
  ☑ Contact Name  [ContactName]
  ☑ Sales Rep Id  [SalesRep]
  ☐ Balance  [Balance]
  ☐ Default Payment Method  [PaymentType]
  ☐ Credit Limit  [CreditLimit]
  ☐ Year-to-date Sales  [YTDsales]
Sales Rep
  ☐ Sales Rep Code  [SalesRepCode]
  ☑ Name  [SalesRepName]
  ☐ Department  [Department]
  ☐ Year-to-date Sales  [YTDsales]
Department
  ☐ Department Code  [DepartmentCode]
  ☑ Department Name  [DepartmentName]
States
  ☐ State/Province Code  [StateCode]
  ☐ State/Province Name  [StateName]
  ☐ Country  [Country]
  ☐ Tax Rate  [TaxRate]
```

# File Linking

And now…

- File Linking
  - Define and maintain the cross-reference linkages that exist between application data files
    - Based on files defined in Data Dictionary Maintenance
    - Specify the related files and the fields that can be used to populate keys to read the related file
    - A one-to-one relationship is supported between the files, where the fields from one file match the key for the cross-referenced file

# File Linking

- Why do we need another approach?
  - Define the relationship once, and apply in multiple locations
    - Query links
    - Views relationships
  - Results in a more flexible drill-down approach to selecting data for the Report Designer

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# File Linking

- File Linking in Query Definitions
  - Can be used to define file links in query definitions

# File Linking

- File Linking in Views
  - Can be used to define data source relationships in Views

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# File Linking

- File Linking in the Report Designer
  - Can be used in the Report Designer to select the input data

# File Linking

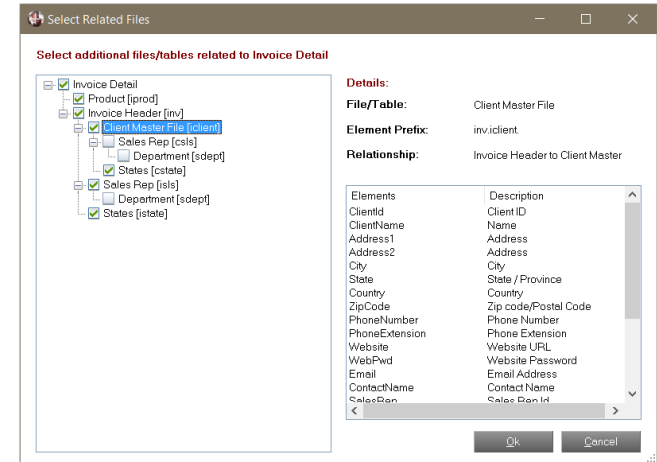- File Linking in the Report Designer

  - Select *Table Name* or *File Path* as *Input Source* (Files must have embedded dictionaries)

  - If the *Input Source* has links defined in **Link File Maintenance**, then you can *Select Related Data Sources* (from *Data* menu or right-click in the data pane)
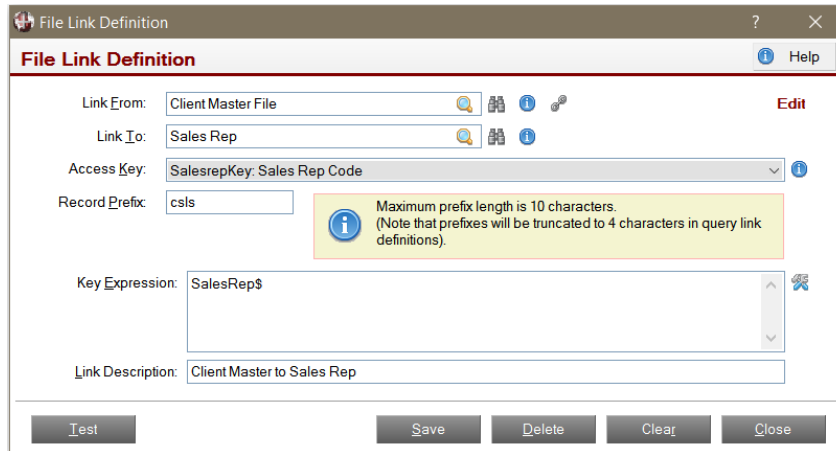
# File Linking

- *File Link Maintenance*
  - Maintains the File Link Definitions
    - Display, Add, Edit, Delete definitions

**DireXions 2016**
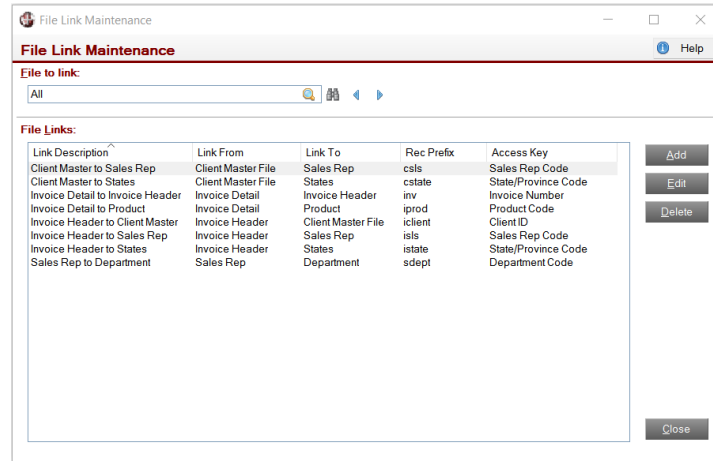
# File Linking

- *File Link Definition*
  - Set up the link information
    - Specify the related files and the key expressions to access the related file

# File Linking

- Views vs File Linking

| Views | File Linking |
|---|---|
| One-to-one, One-to-many relationships (one-to-many option reduces file access) | One-to-one relationships only (one-to-many requires re-reading linked file) |
| Only selected fields are available (secure/less flexibility) | All fields are available (Flexible, less secure) |
| Views must be created ahead of time. If fields are added to a file, Views must be updated to include them. | Data sets are created on the fly. If a file definition changes, the fields are automatically available. |

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# File Linking

- ## Views vs File Linking

| Views | File Linking |
|---|---|
| In the Report Designer, the list of View fields appears as a logically flat dataset where the links and field origins are not apparent. | In the Report Designer, the File Links are presented in a hierarchical display where you drill down to select the data you want to want to include. The files are then listed separately in the data pane with the links described. |
| Support for virtual fields | No virtual fields (not required in Report Writer due to Formulas and Calculated Fields) |

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# File Linking

- ## Views vs File Linking

| Views | File Linking |
|---|---|
| Built-in interfaces the developer can use to allow the end-user to define or select a View:<br>`PROCESS "View_Main","*views/views.en",v$,type$`<br>`PROCESS "Select_View","*views/views.en",v$,grp$` | Currently there are no interfaces the developer can use to present the File Links to the end-user in their application, other than in the Report Designer |
| Views definition requires Views or Report Writer package, or Professional or e-Commerce Bundle, or iNomads Wayfarer Pack | Base activation only required |

# Additional Resources

The help link(s) below refer to the current on-line help pages.  The functionality may have been further updated since the PxPlus 2016 (version 13) release.

- [Projects & the IDE](#)
- [Adding Tasks to Project](#)
- [Project Maintenance](#)

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# Additional Resources

- Query Subsystem

  NOMADS Graphical Application » Dictionary-Based Development » Query Subsystem

- Info Tips

  NOMADS Graphical Application » Creating Panel Controls » Defining an Info Tip

- File Linking

  Data Dictionary » File Link Maintenance

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# Additional Resources

- Panel Resizing and Persistence

  NOMADS Graphical Application » Panel Designer » Resizing and Persistence

- Alternate Panels

  NOMADS Graphical Application » Program Interaction » Alternate Panel Layouts

- Substitute Panels

  NOMADS Graphical Application » Program Interaction » Substitute Panels

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