

Responsive Application Design

PxPlus 2016 (v13)



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



Responsive Application Design

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



Responsive Application Design

● Panel Resizing

Providex 5.00

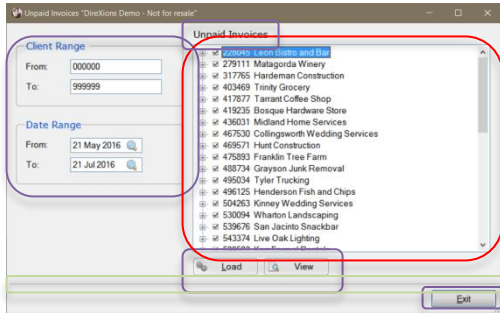
- User can resize the panel to suit their needs
- PxPlus will automatically resize panels when devices are re-oriented using the actual device width
- Settings
 - Resizable/Auto Size
 - All controls are resized and moved proportionally
 - Resizable/Custom
 - Selected controls are resized - Autosize (2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



Responsive Application Design

● Panel Resizing

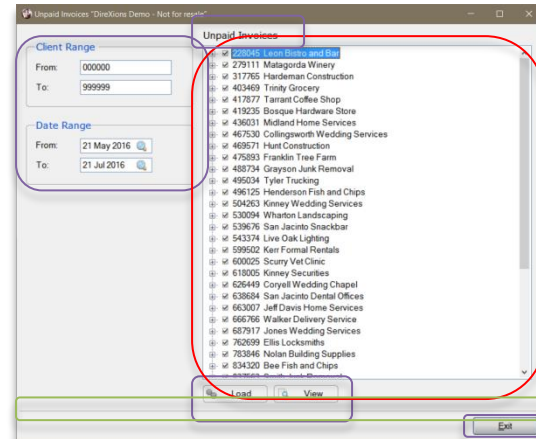
- Panel must be dialogue, with maximize box
- Resizable/Custom setting allows for the best flexibility
 - Select the controls to be resized – Autosize (2 way) or Stretch (1 way)
 - Control location of Fixed size controls by anchoring them



Fixed/Anchored

Autosize

Stretch



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

Providex 5.10

Attributes

<input checked="" type="checkbox"/> Dialogue	<input checked="" type="checkbox"/> Minimize Box
<input type="checkbox"/> Child Window	<input checked="" type="checkbox"/> Maximize Box
<input checked="" type="checkbox"/> Suppress .VAL	<input checked="" type="checkbox"/> Close Box
<input type="checkbox"/> Always on Top	<input checked="" type="checkbox"/> Size Adjustment
<input type="checkbox"/> Menu Bar	<input type="checkbox"/> Synchro-Lock
<input type="checkbox"/> No Title Bar	<input checked="" type="checkbox"/> Auto Refresh
<input type="checkbox"/> Status Bar	<input type="checkbox"/> Auto Close Files

Status Bar Segments:



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

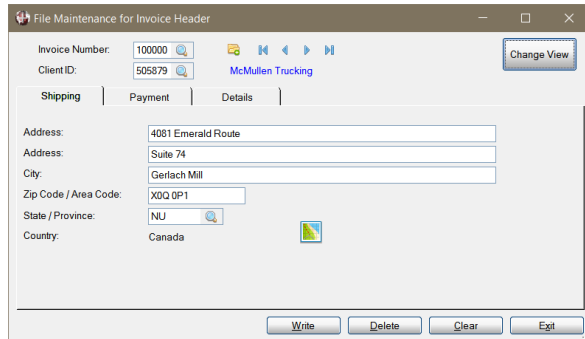
PxPlus 9.10 (Nomads)
PxPlus 2014 FP1 (iNomads)



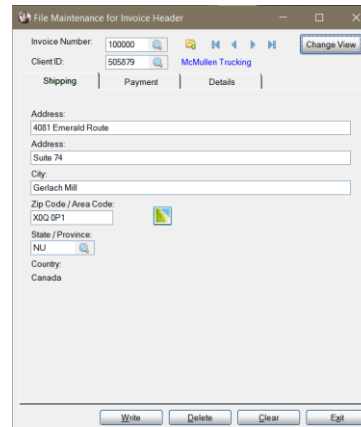
Responsive Application Design

● 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.



This screenshot shows the 'File Maintenance for Invoice Header' window in a wide layout. The window title is 'File Maintenance for Invoice Header'. It features a header section with 'Invoice Number: 100000', 'Client ID: 505879', and 'McMullen Trucking'. Below this is a tabbed interface with 'Shipping', 'Payment', and 'Details' tabs. The 'Shipping' tab is active, displaying a form with fields for 'Address' (4081 Emerald Route), 'Address' (Suite 74), 'City' (Gerlach Mill), 'Zip Code / Area Code' (X0Q 0P1), 'State / Province' (NU), and 'Country' (Canada). A 'Change View' button is located in the top right corner. At the bottom, there are 'Write', 'Delete', 'Clear', and 'Exit' buttons.



This screenshot shows the same 'File Maintenance for Invoice Header' window in a narrow layout. The window title is 'File Maintenance for Invoice Header'. The header section is compact, showing 'Invoice Number: 100000', 'Client ID: 505879', and 'McMullen Trucking'. The tabbed interface is also compact, with 'Shipping', 'Payment', and 'Details' tabs. The 'Shipping' tab is active, displaying a form with fields for 'Address' (4081 Emerald Route), 'Address' (Suite 74), 'City' (Gerlach Mill), 'Zip Code / Area Code' (X0Q 0P1), 'State / Province' (NU), and 'Country' (Canada). A 'Change View' button is located in the top right corner. At the bottom, there are 'Write', 'Delete', 'Clear', and 'Exit' buttons.



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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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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Alternate Panels

● Switching Panels Programmatically

Providex 7.71

- 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)



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Enhanced Alternate Panels

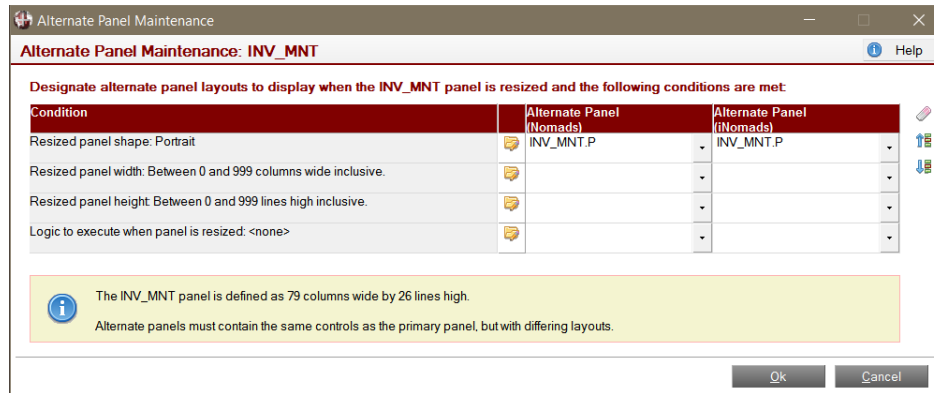
- Switching Panels Automatically on a Resize Event
 - Panels must be defined as Resizable/Custom or Resizable/AutoSize
 - Assign conditions in the *Alternate Panel Maintenance* utility to determine when an alternate panel should be displayed
 - When a resize event occurs, a check is performed to see 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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Enhanced Alternate Panels

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

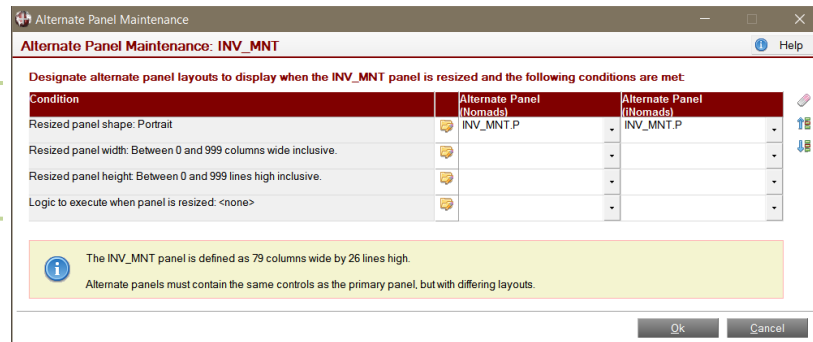


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Enhanced Alternate Panels

● *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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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)



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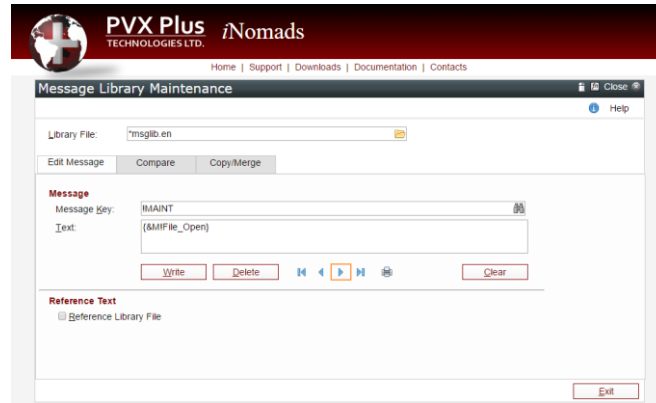
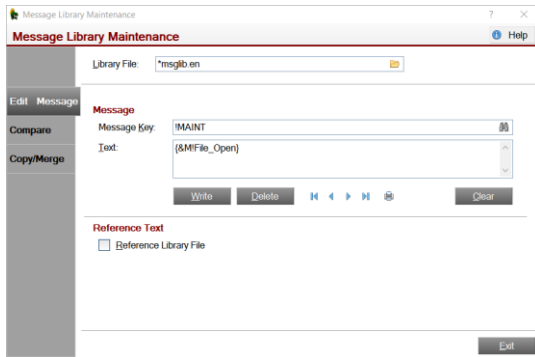
- Substitute Panels Overview
 - Panels that are processed instead of the originally specified panel when certain conditions are met
 - Useful when you want unique panel designs based on different environments:
 - Nomads vs *i*Nomads
 - Different screen resolutions, display sizes
 - Different users, departments,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



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

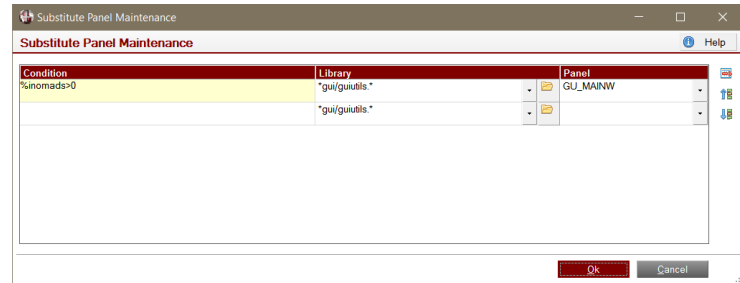


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- *Substitute Panel Maintenance*

- 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



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● *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



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 *iNomads* environment
 - Special `%NOMADS` properties such as `'DisplayHeight` and `'DisplayWidth` can be used (Number of lines/columns on monitor (Nomads) or browser (*iNomads*))



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



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



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.

- [Panel Resizing and Persistence](#)
- [Alternate Panels](#)
- [Substitute Panels](#)

