



# OrgPublisher Premier Formulas

Version: 1.0  
July 7, 2009

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**OrgPublisher 9 Training**  
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## 1 Formulas

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Formula fields allow users to define and populate a new custom field based on values provided in other fields or using other criteria. Years of employment; days until an appraisal is due; percentage of sales quota met; or new salary based on a percentage increase are some of the possible uses for formula fields.

OrgPublisher supports formula fields by using the Windows Scripting Host to process VBScript. Formula fields will contain a VBScript function that references values in custom fields.

### 1.1 Formula Processing

Formulas are processed when a chart is opened and when closing the custom field dialog. Future versions will have more intelligence as to when to process formulas. Here are some limitations:

- Formulas are only processed by the OrgPublisher application or Web Administration.
- Formulas are processed when opening a chart and when dismissing the custom field dialog. They will not refresh in response to a data edit or structure change.
- Formulas are not processed in any planning charts.
- Formulas are not processed in the PluginX or ECharts. They'll show the data as calculated before publishing. This limitation only applies to formulas that reference the current date.

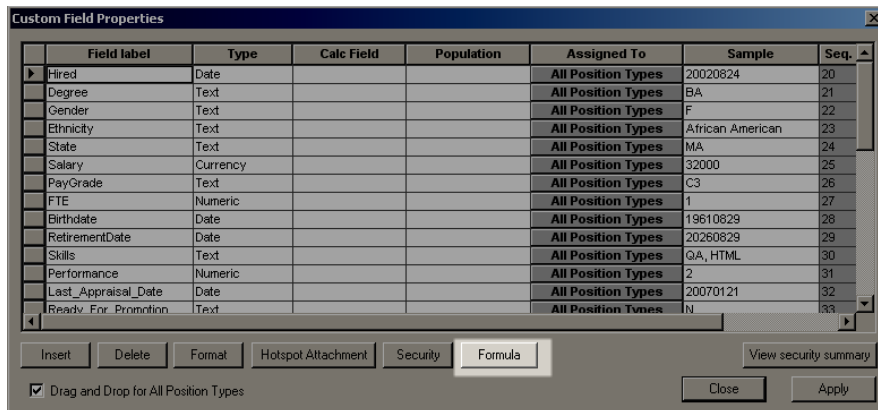
### 1.2 Performance Considerations

A fast computer can process about 5000 formula calculations per second. This means that a chart with 100k records would take about 20 seconds to process each formula field.

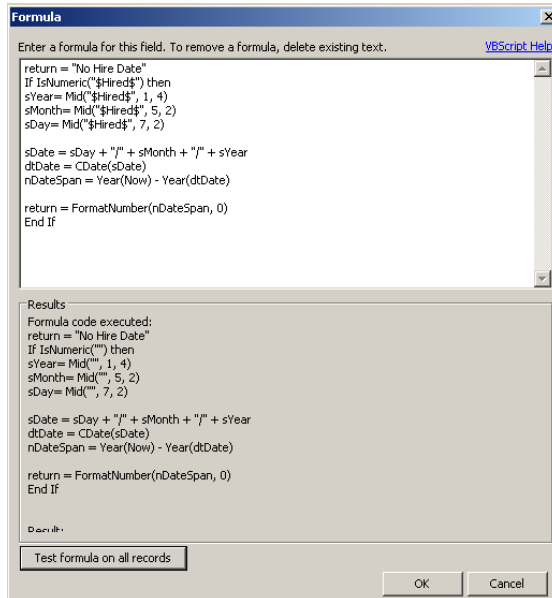
### 1.3 Inserting a Formula

1. Open the Custom Fields Properties dialog box.
2. Add a new field at the end of your existing Custom Fields.

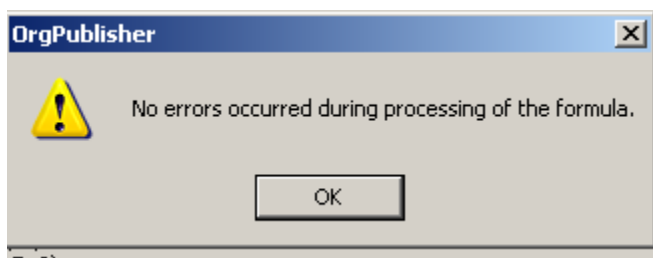
3. Type in the Field label, type of data and then click the Formula button.



4. You can type the formula directly into the Formula dialog or copy and paste it from a text file.



5. Click on the Test formula on all records. If the formula works, you will see the No errors information dialog box.

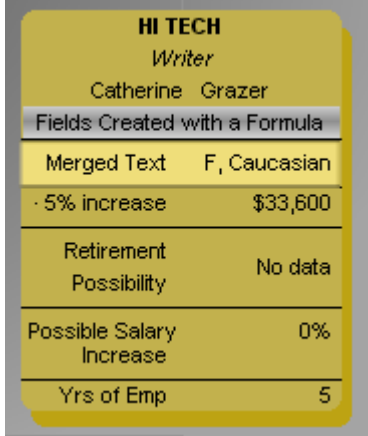


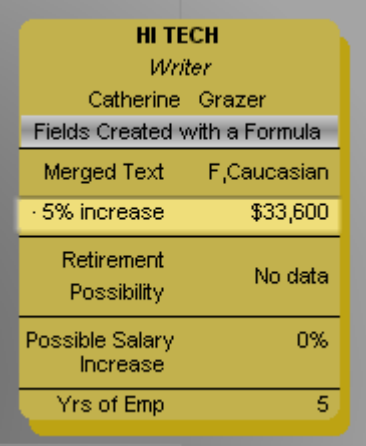
6. If errors are found, you will need to modify the formula.

## 1.4 Formula Syntax

Formulas are VBScript with text substitution tags. Fields are referenced by putting a dollar sign (\$) before and after the field name. For example, \$Salary\$ would reference a custom field named 'Salary'

**Please Note:** Sample Scripts are highlighted in red.

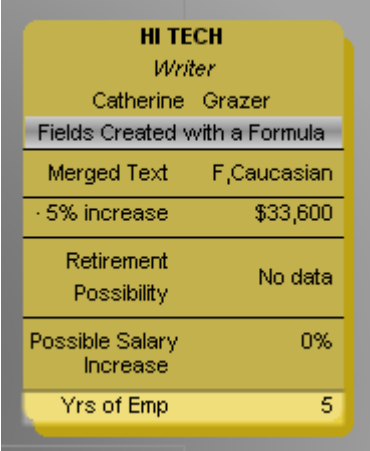
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<p>Concatenation</p> <p>The highlighted formula field shows the concatenation (or merging) of the data from 2 fields into 1 field. A comma (text string) separates the data from the two fields.</p> <p>Example: You want to show the city and state fields as one field.</p> <p>CityField, StateField = Dallas, TX Gender, Ethnicity = F, Caucasian</p> <p>Sample Script: Concatenate City &amp; State</p> <p><b>return = "\$City\$" + "," + "\$State\$"</b></p>	 <p>The screenshot shows a software interface with a yellow background. At the top, it says "HI TECH" and "Writer". Below that, it lists "Catherine Grazer". A section titled "Fields Created with a Formula" is highlighted. It contains several rows of data:</p> <table border="1"> <tr> <td>Merged Text</td> <td>F, Caucasian</td> </tr> <tr> <td>5% increase</td> <td>\$33,600</td> </tr> <tr> <td>Retirement Possibility</td> <td>No data</td> </tr> <tr> <td>Possible Salary Increase</td> <td>0%</td> </tr> <tr> <td>Yrs of Emp</td> <td>5</td> </tr> </table>	Merged Text	F, Caucasian	5% increase	\$33,600	Retirement Possibility	No data	Possible Salary Increase	0%	Yrs of Emp	5
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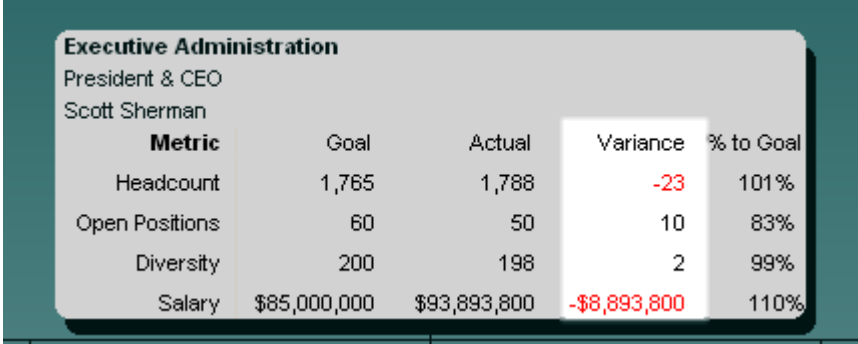
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<p>Calculation with a Fixed Variable</p> <p>Any numeric field can be used to calculate a new result with a fixed variable.</p> <p>Example: The salary field for all employees is increased by 5%. The displayed field shows the new salary with the increase.</p> <p>CurrentSalary * 1.05 to show 5% increase            CurrentSalary * .95 to show 5% decrease            CurrentSalary + or - 100 to show salary + or - \$100</p> <p>Sample Script: Salary + 5% Increase</p> <pre>return = 0 ' Set to Zero if Salary field is non numeric or blank If IsNumeric ("Salary") then return = "Salary" * 1.05 End If</pre>	 <p>The screenshot shows a window titled "HI TECH" with a "Writer" field containing "Catherine Grazer". Below this is a section titled "Fields Created with a Formula" containing a table:</p> <table border="1"> <tr> <td>Merged Text</td> <td>F,Caucasian</td> </tr> <tr> <td>5% increase</td> <td>\$33,600</td> </tr> <tr> <td>Retirement Possibility</td> <td>No data</td> </tr> <tr> <td>Possible Salary Increase</td> <td>0%</td> </tr> <tr> <td>Yrs of Emp</td> <td>5</td> </tr> </table>	Merged Text	F,Caucasian	5% increase	\$33,600	Retirement Possibility	No data	Possible Salary Increase	0%	Yrs of Emp	5
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<p>If, Then, Result</p> <p>The highlighted example displays results from comparing fields of data and returning a value.</p> <p>Example: If someone is over 55 and has 10 or more years in the company, they are shown as:</p> <ul style="list-style-type: none"> <li>• "Y" for retirement possibility</li> <li>• "N" if they don't meet the criteria</li> <li>• "No data" if the hire date or birthdate fields are empty.</li> </ul> <p>Sample Script: Retirement Eligibility</p> <pre>' Retirement possibility calculation return = "No data" If IsNumeric("\$Hired\$") then sYear= Mid("\$Hired\$", 1, 4) sMonth= Mid("\$Hired\$", 5, 2) sDay= Mid("\$Hired\$", 7, 2) sDate = sDay + "/" + sMonth + "/" + sYear dtDate = CDate(sDate) nDateSpan = Year(Now) - Year(dtDate)  If IsNumeric("\$Age\$") then If "\$Age\$" &gt;= 55 and nDateSpan &gt;= 10 Then return = "Y"</pre>	<table border="1"> <thead> <tr> <th colspan="2">HI TECH <i>Writer</i> Louis R Gift</th> </tr> <tr> <th colspan="2">Fields Created with a Formula</th> </tr> </thead> <tbody> <tr> <td>Merged Text</td> <td>M,Caucasian</td> </tr> <tr> <td>· 5% increase</td> <td>\$40,950</td> </tr> <tr> <td>Retirement Possibility</td> <td>N</td> </tr> <tr> <td>Possible Salary Increase</td> <td>5%</td> </tr> <tr> <td>Yrs of Emp</td> <td>15</td> </tr> </tbody> </table>	HI TECH <i>Writer</i> Louis R Gift		Fields Created with a Formula		Merged Text	M,Caucasian	· 5% increase	\$40,950	Retirement Possibility	N	Possible Salary Increase	5%	Yrs of Emp	15	<table border="1"> <thead> <tr> <th colspan="2">HI TECH <i>Writer</i> Kirk M Spudder</th> </tr> <tr> <th colspan="2">Fields Created with a Formula</th> </tr> </thead> <tbody> <tr> <td>Merged Text</td> <td>M,Caucasian</td> </tr> <tr> <td>· 5% increase</td> <td>\$47,250</td> </tr> <tr> <td>Retirement Possibility</td> <td>Y</td> </tr> <tr> <td>Possible Salary Increase</td> <td>3%</td> </tr> <tr> <td>Yrs of Emp</td> <td>11</td> </tr> </tbody> </table>	HI TECH <i>Writer</i> Kirk M Spudder		Fields Created with a Formula		Merged Text	M,Caucasian	· 5% increase	\$47,250	Retirement Possibility	Y	Possible Salary Increase	3%	Yrs of Emp	11	<table border="1"> <thead> <tr> <th colspan="2">HI TECH <i>Writer</i> Catherine Grazer</th> </tr> <tr> <th colspan="2">Fields Created with a Formula</th> </tr> </thead> <tbody> <tr> <td>Merged Text</td> <td>F,Caucasian</td> </tr> <tr> <td>· 5% increase</td> <td>\$33,600</td> </tr> <tr> <td>Retirement Possibility</td> <td>No data</td> </tr> <tr> <td>Possible Salary Increase</td> <td>0%</td> </tr> <tr> <td>Yrs of Emp</td> <td>5</td> </tr> </tbody> </table>	HI TECH <i>Writer</i> Catherine Grazer		Fields Created with a Formula		Merged Text	F,Caucasian	· 5% increase	\$33,600	Retirement Possibility	No data	Possible Salary Increase	0%	Yrs of Emp	5
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<p>If, Then, Result</p> <p>The highlighted example displays results from comparing fields of data and returning a value.</p> <p>Example: Performance and Potential fields were compared and a suggested salary increase is returned.</p> <p>A new salary was calculated using an allowed increase based on potential and performance.</p> <p>Sample Script: Potential Increase %</p> <pre>' Set Possible % Salary increase  return = "No data" If IsNumeric("\$Performance\$") Then  Select Case "\$Performance\$" Case "1"     return = "0%" Case "2"</pre>	<table border="1"> <thead> <tr> <th colspan="2">HI TECH Writer Louis R Gift</th> <th colspan="2">HI TECH Writer Kirk M Spudder</th> <th colspan="2">HI TECH Writer Catherine Grazer</th> </tr> </thead> <tbody> <tr> <td colspan="2">Fields Created with a Formula</td> <td colspan="2">Fields Created with a Formula</td> <td colspan="2">Fields Created with a Formula</td> </tr> <tr> <td>Merged Text</td> <td>M, Caucasian</td> <td>Merged Text</td> <td>M, Caucasian</td> <td>Merged Text</td> <td>F, Caucasian</td> </tr> <tr> <td>· 5% increase</td> <td>\$40,950</td> <td>· 5% increase</td> <td>\$47,250</td> <td>· 5% increase</td> <td>\$33,600</td> </tr> <tr> <td>Retirement Possibility</td> <td>N</td> <td>Retirement Possibility</td> <td>Y</td> <td>Retirement Possibility</td> <td>No data</td> </tr> <tr> <td>Possible Salary Increase</td> <td>5%</td> <td>Possible Salary Increase</td> <td>3%</td> <td>Possible Salary Increase</td> <td>0%</td> </tr> <tr> <td>New Salary</td> <td>\$40,950</td> <td>New Salary</td> <td>\$46,350</td> <td>New Salary</td> <td>\$32,000</td> </tr> <tr> <td>Prior Salary</td> <td>\$39,000</td> <td>Prior Salary</td> <td>\$45,000</td> <td>Prior Salary</td> <td>\$32,000</td> </tr> <tr> <td>Yrs of Emp</td> <td>15</td> <td>Yrs of Emp</td> <td>11</td> <td>Yrs of Emp</td> <td>5</td> </tr> </tbody> </table>	HI TECH Writer Louis R Gift		HI TECH Writer Kirk M Spudder		HI TECH Writer Catherine Grazer		Fields Created with a Formula		Fields Created with a Formula		Fields Created with a Formula		Merged Text	M, Caucasian	Merged Text	M, Caucasian	Merged Text	F, Caucasian	· 5% increase	\$40,950	· 5% increase	\$47,250	· 5% increase	\$33,600	Retirement Possibility	N	Retirement Possibility	Y	Retirement Possibility	No data	Possible Salary Increase	5%	Possible Salary Increase	3%	Possible Salary Increase	0%	New Salary	\$40,950	New Salary	\$46,350	New Salary	\$32,000	Prior Salary	\$39,000	Prior Salary	\$45,000	Prior Salary	\$32,000	Yrs of Emp	15	Yrs of Emp	11	Yrs of Emp	5
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<pre> return = "2%" Case "3" return = "3%" Case "4" return = "5%" Case "5" return = "8%" End Select  If IsNumeric("\$Potential\$") Then If "\$Performance\$" = 5 and "\$Potential\$" &gt;= 80 Then return = "10%" End If End If  End If  Sample Script: Salary + Increase ' Set Possible % Salary increase  return = "No data" If IsNumeric("\$Performance\$") Then  Select Case "\$Performance\$" Case "1" return = "\$Salary\$" * 1.0 Case "2" return = "\$Salary\$" * 1.02 Case "3" return = "\$Salary\$" * 1.03 </pre>	

Description and Sample Script	Example
<p>Case "4"  return = "\$Salary\$" * 1.05  Case "5"  return = "\$Salary\$" * 1.08  End Select</p> <p>If IsNumeric("\$Potential\$") Then  If "\$Performance\$" = 5 and "\$Potential\$" &gt;= 80 Then  return = "\$Salary\$" * 1.10  End If  End If</p> <p>End If</p>	
<p>Calculation with Dates</p> <p>The highlighted example compares the hire date to the current date and calculates the years of employment.</p> <p>Additional Suggestions:</p> <ul style="list-style-type: none"> <li>• Years to Retirement</li> <li>• Days or months to the next performance appraisal</li> <li>• Time in the current position</li> <li>• Time since the last pay increase</li> <li>• Time remaining for a certification</li> </ul> <p>Sample Script: Years of Employment</p>	 <p>The screenshot shows a yellow-highlighted data card for Catherine Grazer, a Writer at HI TECH. It lists several calculated fields: 'Merged Text' (F,Caucasian), '5% increase' (\$33,600), 'Retirement Possibility' (No data), 'Possible Salary Increase' (0%), and 'Yrs of Emp' (5).</p>

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<pre> return = "No Hire Date" If IsNumeric("\$Hired\$") then sYear= Mid("\$Hired\$", 1, 4) sMonth= Mid("\$Hired\$", 5, 2) sDay= Mid("\$Hired\$", 7, 2)  sDate = sDay + "/" + sMonth + "/" + sYear dtDate = CDate(sDate) nDateSpan = Year(Now) - Year(dtDate)  return = FormatNumber(nDateSpan, 0) End If                     </pre>																																									
<p>Calculations - Difference</p> <p>The highlighted column shows the variance between Goal (Budget) and Actual.</p> <p>Example: The difference was calculated by subtracting Goal – Actual values.</p> <p>Sample Script: Calculate the difference in 2 numeric fields</p> <pre> return = 0 If IsNumeric (\$Headcount\$)and IsNumeric ("\$Headcount Goal (Box)\$") then return = CDbI("\$Headcount Goal (Box)\$")                     </pre>	 <table border="1"> <thead> <tr> <th colspan="5">Executive Administration</th> </tr> <tr> <td colspan="5">President &amp; CEO</td> </tr> <tr> <td colspan="5">Scott Sherman</td> </tr> <tr> <th>Metric</th> <th>Goal</th> <th>Actual</th> <th>Variance</th> <th>% to Goal</th> </tr> </thead> <tbody> <tr> <td>Headcount</td> <td>1,765</td> <td>1,788</td> <td>-23</td> <td>101%</td> </tr> <tr> <td>Open Positions</td> <td>60</td> <td>50</td> <td>10</td> <td>83%</td> </tr> <tr> <td>Diversity</td> <td>200</td> <td>198</td> <td>2</td> <td>99%</td> </tr> <tr> <td>Salary</td> <td>\$85,000,000</td> <td>\$93,893,800</td> <td>-\$8,893,800</td> <td>110%</td> </tr> </tbody> </table>	Executive Administration					President & CEO					Scott Sherman					Metric	Goal	Actual	Variance	% to Goal	Headcount	1,765	1,788	-23	101%	Open Positions	60	50	10	83%	Diversity	200	198	2	99%	Salary	\$85,000,000	\$93,893,800	-\$8,893,800	110%
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<p>Calculation – Percentage</p> <p>The highlighted column shows the percentage each metric is over the Goal (Budget).</p> <p>Example: The formula divides the Actual value by the Goal Value and then multiplies by 100 to display the percentage.</p> <p>Sample Script: Calculate the difference in 2 numeric fields</p> <pre>return = 0 ' If IsNumeric (\$Headcount\$)and IsNumeric (" \$Headcount Goal (Box)\$") then return = Round(Cdbl(\$Headcount\$) / Cdbl(\$Headcount Goal (Box)\$)*100) End If</pre>	 <table border="1"> <thead> <tr> <th colspan="5">Executive Administration</th> </tr> <tr> <td colspan="5">President &amp; CEO</td> </tr> <tr> <td colspan="5">Scott Sherman</td> </tr> <tr> <th>Metric</th> <th>Goal</th> <th>Actual</th> <th>Variance</th> <th>% to Goal</th> </tr> </thead> <tbody> <tr> <td>Headcount</td> <td>1,765</td> <td>1,788</td> <td>-23</td> <td>101%</td> </tr> <tr> <td>Open Positions</td> <td>60</td> <td>50</td> <td>10</td> <td>83%</td> </tr> <tr> <td>Diversity</td> <td>200</td> <td>198</td> <td>2</td> <td>99%</td> </tr> <tr> <td>Salary</td> <td>\$85,000,000</td> <td>\$93,893,800</td> <td>-\$8,893,800</td> <td>110%</td> </tr> </tbody> </table>	Executive Administration					President & CEO					Scott Sherman					Metric	Goal	Actual	Variance	% to Goal	Headcount	1,765	1,788	-23	101%	Open Positions	60	50	10	83%	Diversity	200	198	2	99%	Salary	\$85,000,000	\$93,893,800	-\$8,893,800	110%
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