



Tips & Tricks



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Things I Do All The Time

- Builder : Skip_Build
- Diver : Setting Column Widths

Not Necessarily Documented

- DivePort : Working with Pages
- Diver : Comparisons

Recent Additions / Changes

- Integrator : RANK
- Diver : External DivePlans
- DivePort : v6.1 to v6.2

The Future Begins Now

- Model Design : Diver vs DivePort
- Tunnel : Getting Started
- .MDL : Model vs Canister

Features You May Have Overlooked

- QuickViews : DiveBook Topics
- Diver : Working with Years
- Diver : Detail Models
- Integrator : Error Handling





Builder : Skip_Build



Tips & Tricks
Things I do all the time
Builder : Skip_Build



skip_build

skip_block_factor

- More control of Block Factor
- Block Factor determines level of summarization performed by Builder
- Faster builds and smaller Models
- Dimensions with "L" distributions
 - *CHAIN*
 - *DRG*
- Use dimension values not expected to be dived on frequently
 - *CHAIN:_Independent*
 - *DRG:n.a.*



`skip_build={"dimension:value", ...}`

- Specifies set of dimension values to be skipped when summarizing data in Phase 6
- When Builder summarizes data for given dimension value, it will use a large Block Factor, optionally given by *skip_block_factor*
- Reduces amount of preprocessing builder does for these data values. Diving into these values will be slower.



`skip_build={"dimension:value",...}`

- `skip_build={"*:"}`, all Dimensions, blanks
- `skip_build={"*:"}`,
`skip_block_factor=10000000`,
- `skip_build={"CHAIN:_Independent"}`,
- `skip_build={ "DRG:n.a.",
"CPT:_Missing" }`,



Diver : Setting Column Widths



Tips & Tricks
Things I Do All The Time
Diver : Setting Column Widths



Diver : Setting Column Widths

Need to set multiple columns to same width

Customer Chain		TOT	YTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
KAHNE/EATWELL (054)	Last Yr	79.7	38.6	6.9	5.3	7.7	11.4	7.3	2.1	11.0	4.5	8.1	9.5	3.6	2.2
	This Yr	23.4	23.4	5.5	3.7	4.1	7.3	2.8							
	Pct Var	-70.7%	-39.5%	-21.1%	-30.8%	-46.9%	-35.4%	-61.7%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%
BARBER'S (005)	Last Yr	72.5	36.5	7.9	3.0	14.6	3.2	7.8	1.3	4.6	9.9	2.3	4.2	7.2	6.3
	This Yr	24.7	24.7	3.0	7.1	1.4	6.3	7.0							
	Pct Var	-66.0%	-32.5%	-62.1%	134.0%	-90.5%	93.8%	-10.6%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%
PICADILLY (082)	Last Yr	70.6	28.9	3.8	4.2	3.6	5.8	11.4	17.6	3.0	4.2	3.5	8.4	1.6	3.5
	This Yr	29.7	29.7	5.1	8.6	8.0	4.4	3.6							
	Pct Var	-57.9%	2.9%	33.6%	102.2%	123.1%	-23.4%	-68.6%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%

- Manually column-by-column
- Edit the marker (.mrk) or report template (.rep)



Edit the marker (.mrk)

- Open Marker (in editor)
- Edit Marker
- Save Marker

Edit the report template (.rep)

- Open Marker (in Diver)
- Save report template
- Open report template (in editor)
- Edit report template (scroll to bottom)
- Apply report template
- Save Marker



Integrator : RANK



Tips & Tricks
Recent Additions / Changes
Integrator : RANK



New Integrator object

Columns calculated

- Ranks
- Medians
- Percentiles

Based on entire input data flow

Output contains

- All input rows
- One new column per column & statistic requested

Can be resource intensive (memory, disk, time)



Rank & Median

```
rank_columns      = { "Age" },  
median_columns   = { "Age" },
```

Phys_ID	Age	Age rank	Age median
1	21	6	23.5
1	22	5	23.5
1	23	4	23.5
2	24	3	23.5
2	25	2	23.5
2	27	1	23.5



Percentile Rank

```
percentile_rank_columns = { "Age" },
```

PhysID	Age	Age percentile rank
1	21	8
1	22	25
1	23	42
2	24	58
2	25	75
2	27	92

Note: percentile rank is the percentage of values which are lower or equal to it.

$$\left(\text{num_below} + (\text{num_equal} * 0.5) \right) / \text{num_rows} * 100$$

$$\text{So for age 24, percentile_rank} = (3 + 0.5) / 6 * 100 = 58$$



Percentile

```
percentile_columns = { "Age", "Age", "Age" },  
percentile_values  = { 25, 50, 75 },
```

PhysID	Age	Age 25th percentile	Age 50th percentile	Age 75th percentile
1	21	22.25	23.5	24.75
1	22	22.25	23.5	24.75
1	23	22.25	23.5	24.75
2	24	22.25	23.5	24.75
2	25	22.25	23.5	24.75
2	27	22.25	23.5	24.75

Note: 50th percentile is equivalent to the median



Use to categorize your data (e.g. quartiles)

Data flow controlled by developer

- Read and execute RANK
- Join RANK output to original data and create Quartile column

PhysID	Age	Age 25th percentile	Age 50th percentile	Age 75th percentile
1	21	22.25	23.5	24.75
1	22			
1	23			
2	24			
2	25			
2	27			

PhysID	Age	Quartile
1	21	1
1	22	1
1	23	2
2	24	3
2	25	4
2	27	4



Create statistics (e.g. Median house price)

- Info field
 - *by county; by year; by housing type*
- Model in multi-model diveplan
 - *by county, year, housing type*
- “Canister” model for Measures portle
 - *median house price*
 - *new/existing home sales*
 - *mortgage interest rates*



Integrator : RANK

Sub-setting of data controlled by developer

- Read and split data, create split report file
- Read split report file and iterate each file
- Execute RANK and append output
- Work with RANK file
 - *info field - lookup table, join to original file*
 - *model for multi-model diveplan*
 - *one input for "canister" model*

PhysID	Age
1	21
1	22
1	23
2	24
2	25
2	27

PhysID	Age
1	21
1	22
1	23

PhysID	Age
2	24
2	25
2	27

```
filename
../temp/rank_PhysID_1.txt
../temp/rank_PhysID_2.txt
```

PhysID	Age	median
1	22	

PhysID	Age	median
1	22	
2	25	





Diver : External DivePlans



Tips & Tricks
Recent Additions / Changes
Diver : External DivePlans



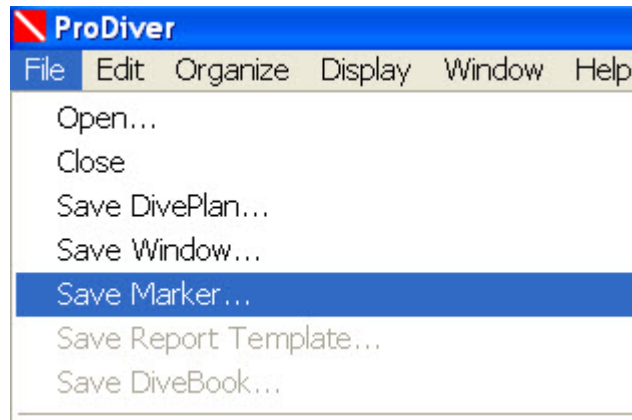
Diver : External DivePlans

- Model  DivePlan  Marker
- Each Marker file contains a DivePlan
- A Marker can reference a DivePlan external to Marker
- Multiple Markers can share the same external DivePlan file
- Changes to external DivePlan are reflected when each Marker is opened
- Does not apply to Report Palette Markers

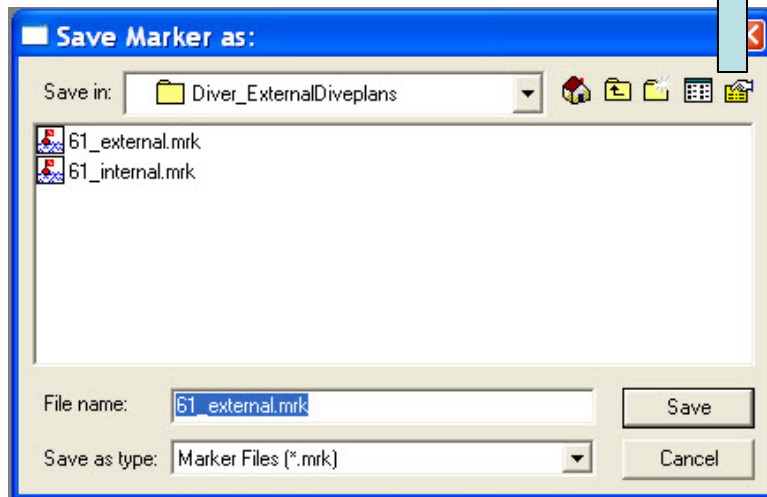


Diver : External DivePlans

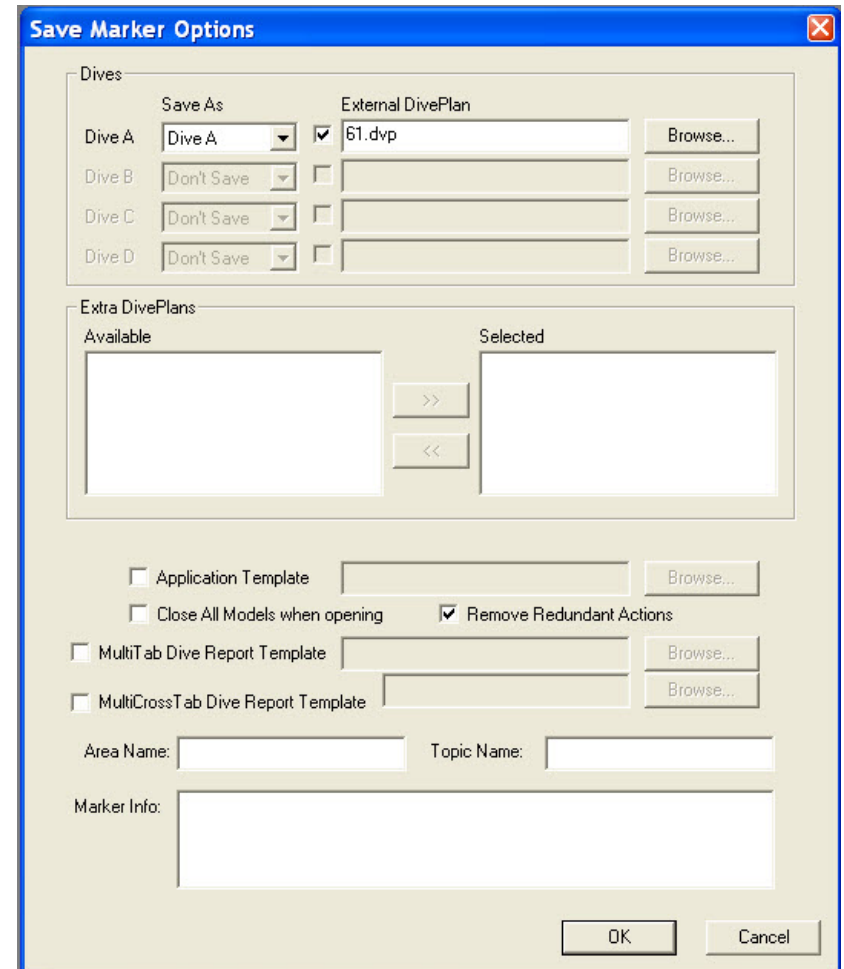
1. <File><Save Marker>



2. <Options>



3. Check External DivePlan





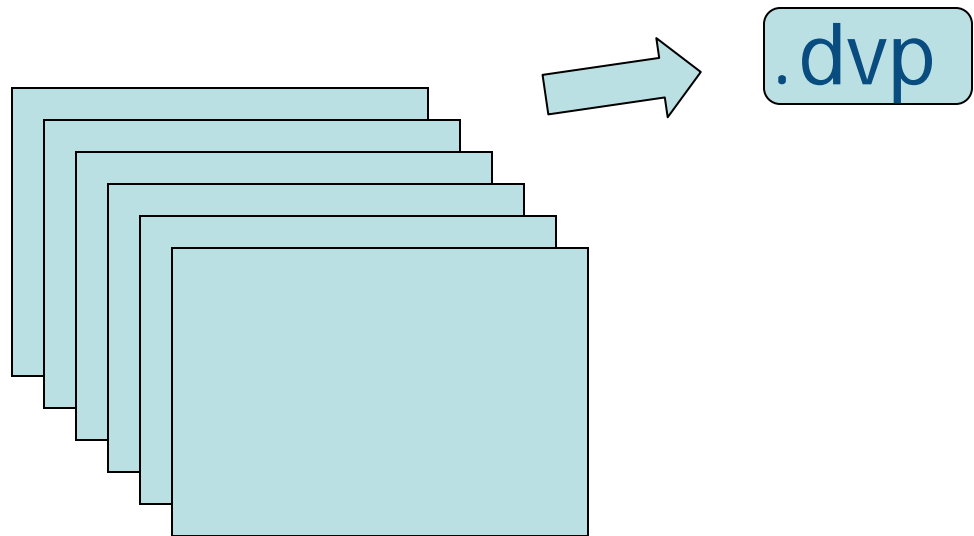
Diver : External DivePlans



Internal



External





Old Behavior

- External DivePlan always wins !
- Changes to Marker using external DivePlan are saved in Marker but not used when opened
- Useful in centralized, controlled environment
 - *InterReport*



New and Improved !

Diver v 6.2(6) +

New Behavior

- Merging of internal Marker DivePlan and external DivePlan file occurs in memory
- Local vs Global
- Worth a second look



Dynamic Dimensions

- External (global) + internal (local)

Columns

- Definitions - external (global)
- Formatting - internal (local)
- Selected columns - internal (local)

Named Groups

- Membership - external (global)

Time Series

- Default Definitions - internal (local)

User Defined Dimensions

- Default Definitions - internal (local)



Caution - Conversion

- Display of more Columns or Named Groups than expected
- Modify Marker and resave
- Look before you leap !
- Test, Test, Test



DivePort : v6.1 to v6.2



Tips & Tricks
Recent Additions / Changes
DivePort : v6.1 vs v6.2



Major Changes to DivePort

- Conversion not Upgrade !!
- Allocate time
 - Test
 - Make changes as appropriate
 - Re-test if necessary





Major Changes to DivePort

- **AJAX** (Asynchronous JavaScript and XML)
 - quick, incremental updates
 - background server communication
- **Enhanced Dashboards and Scorecards**
 - manual page layout
 - Indicator & measures portlets
- **Actionable Reports**
 - Click-actions
 - Pop-up crosslink
- **Improved Navigation**
 - tree view
 - breadcrumbs
 - scroll bars





Preparation

- DI Documents
 - Diver 6.2 Solution Changes
 - DivePort 6.2 Administrator
 - Converting to DivePort 6.2
- Software Requirements
- Install a Test DivePort
- Scan Environment





Conversion Checklist

- Skins
- Top-Level Tabs and SideBar
- Page Groups
- Click Actions
- Marker Portlet Sizing
- Prompted QuickViews
- Graph Colors
- Browser Security
- Other Considerations





QuickViews : DiveBook Topics



Tips & Tricks
Features You May Have Overlooked
QuickViews : DiveBook Topics



QuickViews : DiveBook Topics

Scenario :

DivePort - Marker or Measures Portlet -
for each row provide ability to display 3 reports

Option 1

3 marker portlets

3 click actions

SUPPLIER	REVENUE	CASES
SCHIEFFELIN/S (164)	1,228,793	4,264
VAN MUNCHING (192)	1,047,632	50,536
LATROBE BREW (111)	1,032,082	75,379
ADOLPH COORS (093)	979,587	66,473
HIRAM WALKER (090)	865,676	3,864
SEAGRAM - CLA (166)	663,569	5,753
GUINNESS IMPO (080)	594,299	10,767
HEUBLEIN, INC (087)	554,757	3,585
ANHEUSER BUSCH (013)	499,274	35,522
THE PADDINGTON (185)	418,102	1,248

- Revenue by Month
- Revenue and Cases by Brand
- Top 10 Customers by Premise

Option 2

1 marker portlet

1 click action

SUPPLIER	REVENUE	CASES
SCHIEFFELIN/S (164)	1,228,793	4,264
VAN MUNCHING (192)	1,047,632	50,536
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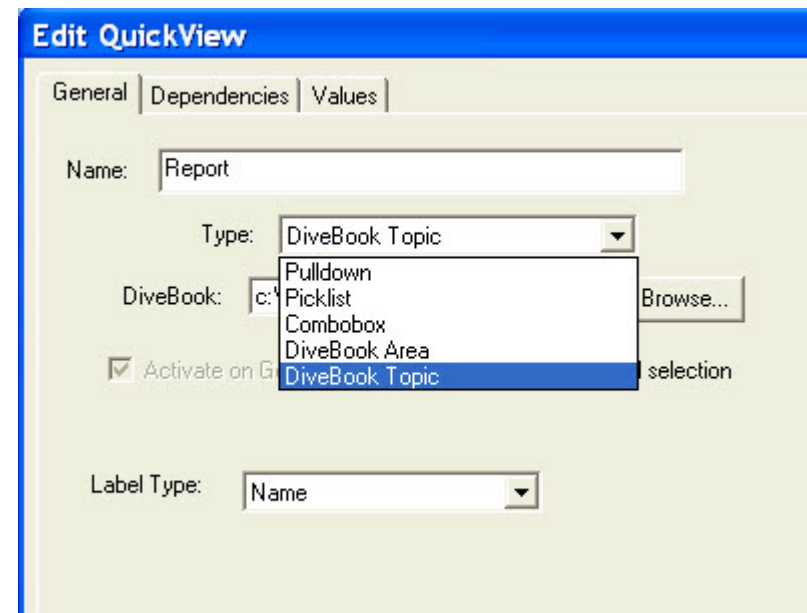
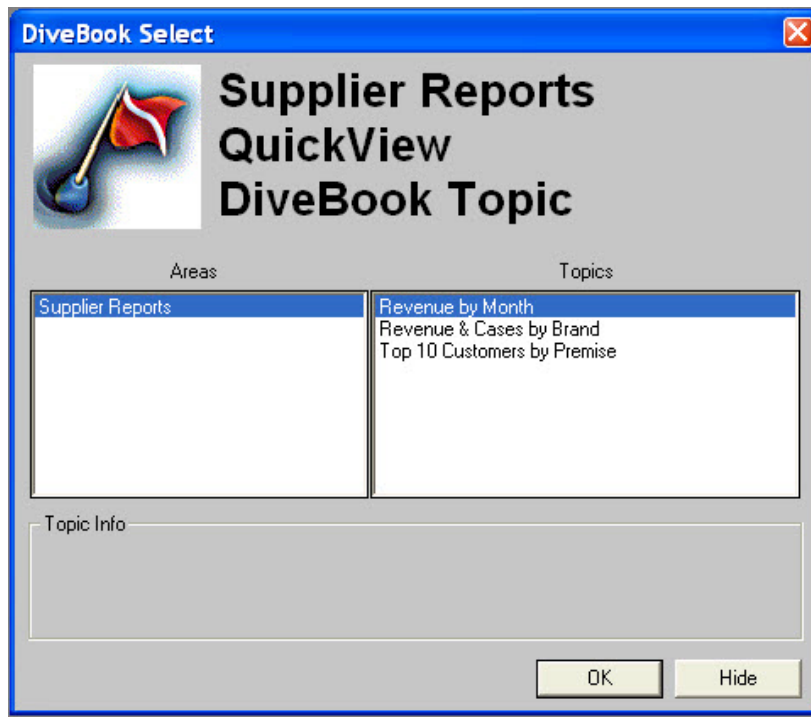
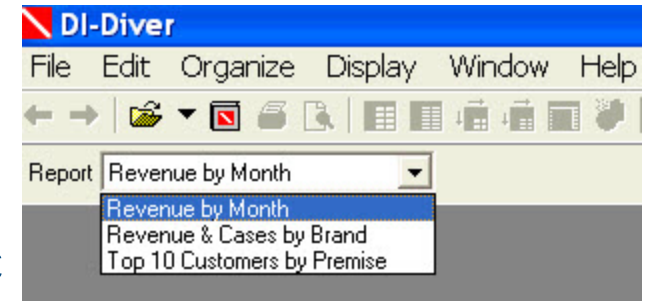
- Detail Reports



QuickViews : DiveBook Topics

Option 2

1. Create 1 DiveBook with 1 Area
2. Create 3 Markers and save as DiveBook Topic
3. Add DiveBook Topic QuickView to each Marker

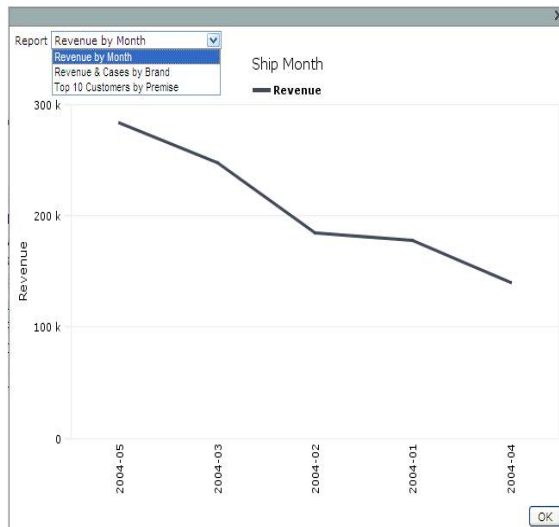
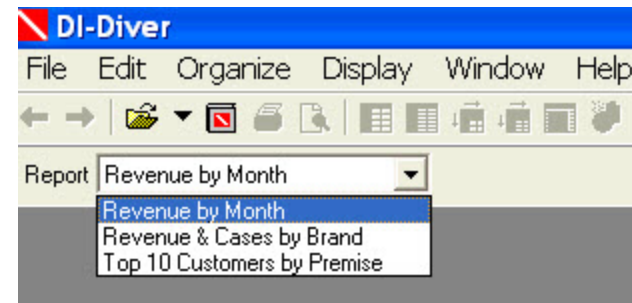




QuickViews : DiveBook Topics

Option 2

Each "Report" now contains a DiveBook Topic QuickView which allows you to switch between reports without going back to the DiveBook.



Report: Revenue & Cases by Brand

Label	Revenue	Cases
Group	Revenue & Cases by Brand	75,379
Group	Top 10 Customers by Premise	73,763
ROLLIN		
ROLLING ROCK DRAFT	43,209	981
ROLLING ROCK LIGHT BEER	7,788	575
ROLLING ROCK LIGHT DRAFT	2,722	60

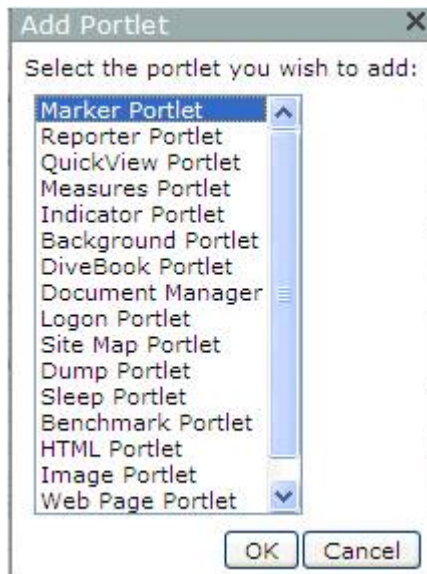
Report: Top 10 Customers by Premise

Customer Premise	Customer	Revenue	Cases
Off	ISLAND OAK INC (02539)	23,552	1,783
	J T J CORP (02593)	23,075	1,749
	AMBISCO, INC (00191)	20,068	1,607
	ROLES (04379)	19,375	1,547
	GALWAY INC (02088)	17,000	1,281
	85 WEST ST INC (00040)	12,415	934
	CZ'S INC (01394)	12,414	938
	MARGHERITA INC. (03222)	10,578	832
	BOBBY HORSE, INC (00618)	8,186	612
	C T G INC. (00856)	7,102	554
On	THAT'S ENTERTAINMEN (05055)	69,698	5,361
	DRUID RESTAURANT IN (01601)	36,804	2,885
	AUDITORIUM CAFE INC (00369)	30,463	2,297
	ATLANTIC HOUSE ENT (00361)	29,016	2,221
	RIDGEWOOD STREET PA (04307)	28,982	2,197
	ALLEY ENTERTAINMENT (00172)	20,414	1,558
	58 MERCHANTS ROW (00022)	16,286	1,229
	FANTASY'S IN TOWN B (01824)	14,468	1,098
	RAMA ENTERTAINMENT (04209)	14,235	1,080
	SPIRIT OF NEW YORK (04752)	13,509	864

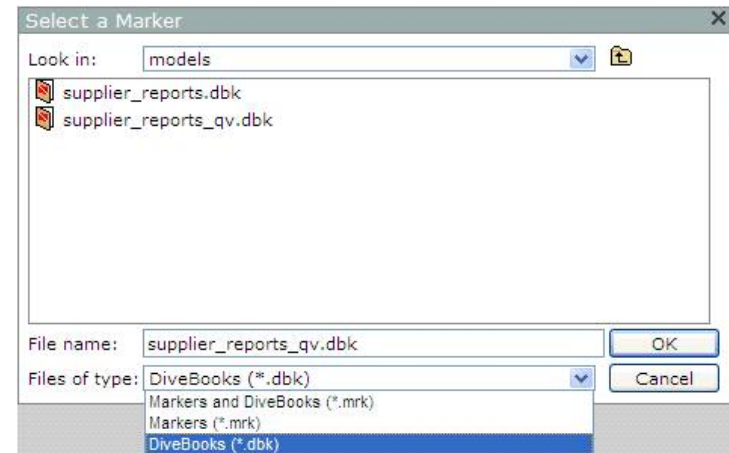


QuickViews : DiveBook Topics

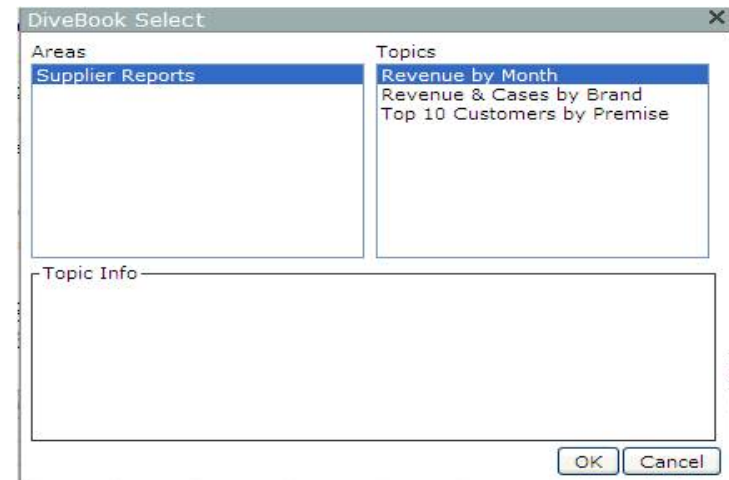
1. Add Marker Portlet



2. Select DiveBook



3. Select DiveBook Topic





Change Dive Dimension

- Provide the user with 1 marker which allows them to select the Dive Dimension
 - *DRG vs AP-DRG*
 - *State vs County*
- The reports are the same except for the Dive Dimension
- Create multiple markers and add the DiveBook Topic QuickView to each

Canister Model

- Tailor-made to do multiple reports triggered by a single DivePort click action (Measures Portlet)



Diver : Working with Years



Tips & Tricks
Features You May Have Overlooked
Diver : Working with Years



Dimension Column Options

- Changing the Format of a Dimension changes how Diver treats the Dimension
- Formatting a column to "Date" or "Period" makes that column available for time-based functions in other features of Diver :
 - Time Series Control Panel
 - Period Comparison
 - Named Groups (Date / Period Range)
 - Find (Period Range)



Valid Formatting options for Period are :

- Month
- Fiscal Month
- Quarter
- Fiscal Quarter
- Week
- Fiscal Week
- Half
- Fiscal Half

YEAR is not a valid option.

So...just treat YEAR as the period "Month."



Diver : Working with Years

Year (yyyy)
CAN NOT
be formatted
as a Period

The dialog box shows the 'Year' column selected. The 'Format' section has 'None' selected, and the 'Period' option is disabled.

Year	Qty
Totals	1,720
2008	450
2009	780
2010	490

Year-01 (yyyy-mm)
CAN
be formatted
as a Period

The dialog box shows the 'Year-01' column selected. The 'Format' section has 'Period' selected, with 'Month' chosen as the type and 'yyyy-mm' as the format.

Year-01	Qty
Totals	1,720
2008-01	450
2009-01	780
2010-01	490



Create Info field

```
Year-01 = concat(Year, \"-01\")
```

Format to "Period" (yyyy-mm) and the column is now available for time-based functions in other features of Diver :

- Time Series Control Panel
- Period Comparison
- Named Groups (Date / Period Range)
- Find (Period Range)



Year-01 (yyyy-mm)

- Named Groups

- *Cur Year, Pri Year, Pre Year*
- *Total[Qty, Year-01="Cur Year"]*

Year	Qty Cur Year	Qty Pri Year	Qty Pre Year
Totals	490	780	450
2008			450
2009		780	
2010	490		

- Period Comparison

- *calc[Qty, Year-01="ts Period Comparison p Last YTD"]*

- Time Series Control Panel

- *calc[Qty, Year-01="ts Time Series p YTD"]*

Year	Qty YTD	Qty Last YTD	Qty Delta YTD vs. Last YTD	Qty % Change YTD vs. Last YTD
Totals	490.00	780.00	-290.00	-37.18
2008				
2009		780.00	-780.00	-100.00
2010	490.00		490.00	



Diver : Detail Models



Tips & Tricks
Features You May Have Overlooked
Diver : Detail Models



Special two-part Model

- Core Model
- Memory Model

Dimension hierarchy

- CORE dimensions
- DETAIL dimensions

Only CORE Dimensions are fully indexed

Multi-purpose

- Diver
 - *ad hoc analysis*
 - *move data to another product (e.g. Access, Excel)*
- Integrator & Tunnel (Indexed Models)
 - *access smaller amounts of data fast*



Diver

- Limit of 32 CORE Dimensions
- Cumbersome CORE Dimensions moved to DETAIL
 - *Invoice Number*
 - *Medical Record Number*
 - *Contract Number*
- Emphasis on CORE Dimensions
- Dive on DETAIL Dimensions when necessary

Integrator & Tunnel

- Access "indexed" data quickly
- CORE Dimensions are a means to get to the DETAIL
- few CORE Dimensions



Building a Detail Model

- New Attributes :

- *detail_dimensions* = DETAIL fields;
ALL CORE model dimensions and infos
- *detail_summary* = ALL CORE model summaries
- *detail_infos* = no benefit; not required

- *Shared Attributes*

- string, sum_types, dates, formats

- Journal File

Field information:

14 dimensions, 12 summaries, 25 infos

67 detail dimensions, 12 detail summaries, 0 detail infos



Diving in a Detail Model

1. User must dive on CORE Dimensions until they have filtered the data set to 256,000 records or less
2. Once the data is narrowed down, the DETAIL portion of the Console is activated
3. When the user selects a DETAIL Dimension then the Builder feature of Diver creates a MEMORY Model of the DETAIL data
4. Once a dive has been done on DETAIL Dimensions, one cannot switch between DETAIL Dimensions and CORE Dimensions



Features of Diving in a Detail Model

- DETAIL Dimensions behave in the same way as CORE Dimensions using the DETAIL area of the Console
 - *diveable*
 - *cascadable*
 - *support various report types*
- QuickViews (includes TS) cannot be created from DETAIL Dimensions
- CORE Model calcs & MEMORY Model calcs are independent
 - *duplicate calcs are required*
 - *duplicate Named Groups*
 - *duplicate Time Series*
- Detail Dump



DETAIL Dump

Q: I have a customer that wants to be able to dump a larger amount of data into reports or Excel sheets. They do this by multi-tabbing then exporting to Excel, but this can take many hours.

Is there a way to do these large dumps more efficiently?

A: Here are a few ways.

- *Dial script*
- *Integ using the model input*
- *Create markers and use ProDiver in batch with command-line options to create text files*
- *Create DETAIL models and use DETAIL DUMP feature*



DETAIL Dump

- Faster than multi-tabbing CORE Dimensions
 - *ex: 9 fields; 1364 rows - 120 seconds vs 2 seconds*
- Move data from Diver to another product - Excel
- CANs
 - *Ability to display all “selectable” DETAIL columns*
 - *Double-click **green box** next to Detail: in Console*
 - *Sortable Multi-tab*
- CAN NOTs
 - *Not diveable*
 - *Can not change display type (always a multi-tab)*



DETAIL Dump - Console

Console

- Models
 - trendstar.mdl
 - Hospital: Community Medical Center
 - DRG Type : Patient Type: (8)
 - Product Name: (25)
 - Discharge Status: (21)
 - Severity Of Illness: (5)
 - DRG: (380)
 - Principal Diagnosis Group: (571)
 - Principal Procedure Group: (255)
 - Attending Physician: (506)
 - Primary Physician: (320)
 - Payor: (2)
 - Sex : Age Group: (20)
 - Discharge Year-Month: (3)
 - Detail: (15458)

Detail Model

CORE dimensions

CORE Infos
DETAIL fields

Active & Diveable

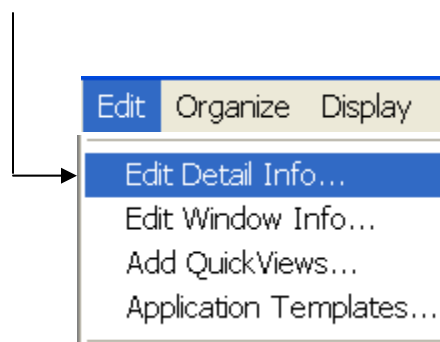
Console

- Detail: (15458)
 - Hospital
 - DRG Type : Patient Type
 - Product Name
 - Discharge Status
 - Severity Of Illness
 - DRG
 - Principal Diagnosis Group
 - Principal Procedure Group
 - Attending Physician
 - Primary Physician
 - Payor
 - Sex : Age Group
 - Discharge Year-Month
 - Patient
 - Patient ID
 - Patient Name
 - Patient Type
 - Sex
 - Age Group
 - Age
 - Zipcode

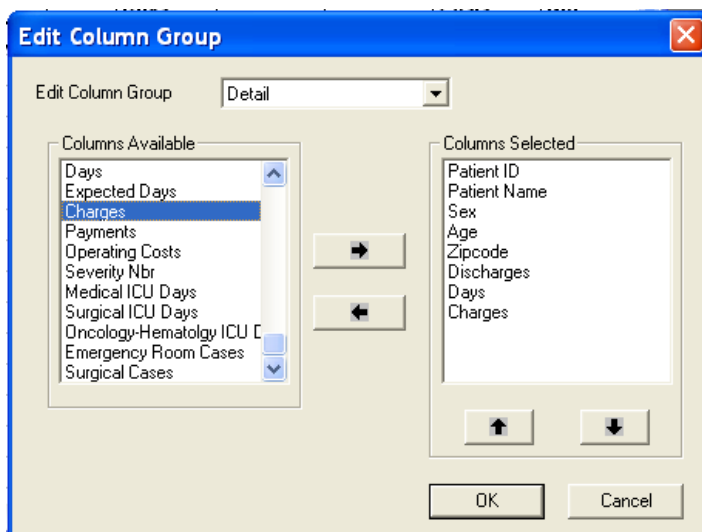
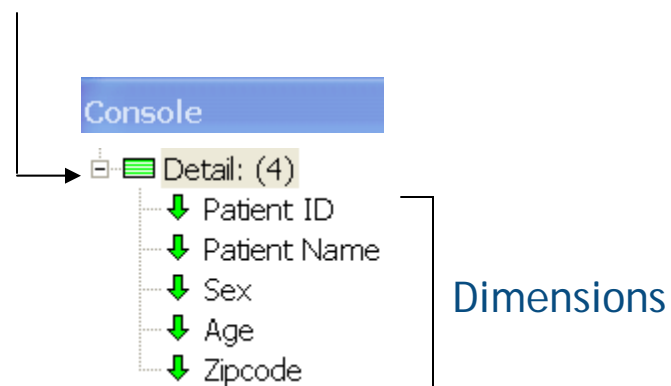


DETAIL Dump

Columns are selectable



Double-Click "Detail (4)"



Patient ID	Patient Name	Sex	Age	Zipcode	Discharges	Days	Charges
					4	27	112,229
100684	Lester, M	M	68	49125	1	24	101,691
109537	Hudson, R	M	69	60008	1	1	6,863
118214	Wynn, K	M	74	60402	1	1	722
123255	Parrish, K	F	68	60005	1	1	2,953

Dimensions

Summaries



Integrator : Error Handling



Tips & Tricks
Features You May Have Overlooked
Integrator : Error Handling



Types of Errors

- Dates
 - *Invalid*
 - *Future*
- Values not in reference tables
 - *names*
 - *descriptions*
- Invalid/missing fields
 - *blanks, nulls or zero*
 - *obviously wrong*
 - Age = 145
 - Length of Stay = 345
- Integrator & Builder warnings



No good answer !

- Be consistent with other systems
- Try to be correct (or at least better)

A few options :

- Do nothing
- Identify errors
 - *do nothing*
 - *do something*
 - try to correct
 - eliminate them
- Notify someone of errors



Identify Errors using Integrator

- OUTP object w/ split
- TRACE object

Identify Errors using Diver

- Markers

Notify Users

- Create files
- E-mail using DIAL



TRACE object

- Designed for de-bugging
- Writes column values to files
- Can limit rows and columns
- Does not eliminate rows from data flow

No Trace

Reading ../data/trace.dat...

66 records written to file ../temp/trace.txt.

With Trace

Reading ../data/trace.dat...

2 trace records written to file ../temp/trace_dups.txt

66 records written to file ../temp/trace.txt.



Attributes : file & structure

- Filename = file to contain trace records
- Format = "column_headers"
- Verbose = "false"

Attributes : content

- Columns = columns to be output
- Qual_str = row selection criteria

```
object 'PROC' "trace" {  
  input          = "break"          ,  
  process_type   = "trace"          ,  
  filename       = "../temp/trace_dups.txt",  
  format         = "column_headers" ,  
  verbose        = "false"          ,  
  qual_str       = "QuotaGroupRow > 1" ,  
  columns        = { "Product ID" } ,  
};
```



OUTP object w/ split

- Designed to divide a data flow into separate output files for different sets of data
- Data column in input flow defines sets of data
- Report file can be generated
 - *each file created*
 - *# of records written*
- Can limit columns
- ALL rows output

Without Split

Reading ../data/split.dat...

8 records written to file ../temp/split.txt.

With Split

Reading ../data/split.dat...

8 records written to 3 files.



Attributes : file & structure

- `file_type` = "column_headers"
- `filename_column` = column to determine split
- `filename_prefix` = prepended to `filename_column`
- `filename_extension` = appended to `filename_column`

```
object 'OUTP' "out" {  
  input          = "calcs",  
  output_type   = "split",  
  file_type     = "column_headers",  
  filename_prefix = "../temp/split_2/split_",  
  filename_column = "error_check",  
  filename_extension = ".txt",  
},
```



filename_column

- contained in data
- created in Integrator PROC calc object

Error file

- 1 file for all error types w/ error type column
- 1 file for each error type

Filename should have a useful naming convention

- Integrator
 - *split_error_date_future.txt*
 - *split_error_date_invalid.txt*
 - *split_valid.txt*
- Builder
 - *starname = split_*.txt*
 - *starname = split_error_*.txt*
 - *input = split_valid.txt*



Integrator : Error Handling

Example : Dealing with Dates

Row number may be useful

```
column    = "Row",  
calc_str  = "row_num()"
```

Convert date to DI Standard Date Format

```
column    = "_SaleDate",  
calc_str  = "format_date(SaleDate, \"yyyy-mm-dd\")"
```

Convert date to DI Standard Date Integer

```
column    = "_DateValue",  
calc_str  = "date_value(_SaleDate)"
```

Create filename_column

```
column    = "error_check",  
calc_str  = "if(_SaleDate > today(), \"error_date_future\",  
            \"if(_DateValue < 0, \"error_date_invalid\",  
              \"valid\")\"))"
```



DivePort : Working with Pages



Tips & Tricks
Not Necessarily Documented
DivePort : Working with Pages



DivePort 6.2 supports various click actions

- Markers
- Products
- HTML/URL

HTML/URL

- Move / jump within the DivePort app (to a page)
- Pop-up window containing
 - *text*
 - *DivePort app page*
 - *new browser page*



WebPage Click Action

- A click opens a new browser tab to the specified Uniform Resource Locator (URL) address on the Web
- When this URL is a DivePort Page, the user will “JUMP” to that Page (without a new browser tab)

Info & Help Click Actions

- Same functionality; just different icons
- provide the ability to add text that is presented to the user in a separate window
- HTML is accepted here and recommended for suitable formatting
- HTML can be more than text (e.g. <iFrame>)
- “POP-UP” page



Portal Variables

- DivePort macros
- DivePort / DiveLine related
- User Selections
 - *QuickView values*
 - *Row values*

URL Query Strings

- Substitute Portal Variables in URL
- Change QuickView and Dive selections while loading page

DivePort Administrator Manual

- Appendix A - Portal Variables
- Appendix B - URL Query Strings



Portal Variables

- All capitals
- Enclosed in parentheses
- Preceded by a dollar sign
- \$(BASE_URI)
 - *DivePort App URL*
- \$(ROW_DATA "column name")
 - *Value of "column name" on row clicked*
 - *Portlet setting : Scope=Row*
 - *v6.2 : Measures and Indicator Portlets*
 - *v6.3 : Measures, Indicator, Marker, and Reporter*



URL Query Strings

- Begins with a "?"
- Consists of pairs of attributes :
 - *dive-key=<Dimension>*
 - *dive-value=<Dimension Value>*
- Multiple pairs of attributes allowed
 - *question mark ("?") only appears once*
 - *ampersand ("&") separates each parameter pair*
- Usually spaces are replaced by "+"



WebPage Click Action - JUMP

- Will obtain/pass current selections before opening (JUMP) Page "a0014"

```
$(BASE_URI)
?dive-key=Company&dive-value=$(QUICKVIEW_VALUE "Company")
&dive-key=Sales+Manager&dive-value=$(QUICKVIEW_VALUE "Sales Manager")
&dive-key=Salesperson&dive-value=$(ROW_DATA "Salesperson")
#page=a0014
```

- Spaces are replaced by "+" except within Portal variables



Info & Help Click Actions - POP-UP

- Will obtain/pass current selections before opening (POP-UP) Page "a0014"

```
<iframe style="width:950px;height:500px"  
src="$ (BASE_URI) /  
#page=a0014  
&embed=true  
&dive-key=Company&dive-value=$(QUICKVIEW_VALUE "Company")  
&dive-key=Sales+Manager&dive-value=$(QUICKVIEW_VALUE "Sales Manager")  
&dive-key=Salesperson&dive-value=$(ROW_DATA "Salesperson")  
></iframe>
```

- Query string does not begin with "?"



Jump

- Change “view”
- Must navigate back (could add click action)

Pop-up

- No need to navigate back; just close pop-up
- Can reduce # portlets on a page; easier to administer
- Can be in different environment not viewable by user
- Replace complex marker with multiple simple markers



Diver : Comparisons



Tips & Tricks
Not Necessarily Documented
Diver : Comparisons



Comparisons are good !

Compare a number to a total :

- Region sales as a percent of total

Compare one group to another :

- Physician charges compared to Peer charges

What to compare

- Totals
- Percentages
- Averages
- Standard Deviations
- Indexes
- Other calcs

Diver Functions :

- % Total[_x_] _x_ = sum col
- Pct_Var(_a_,_b_) _a_,_b_ = sum col or calc
- Parent(_x_) _x_ = sum col or calc



Compare :

Revenue Total by Region & Annual Revenue Total

Annual Revenue Total
repeats the column total
for Revenue Total by Region :
parent(Total[Revenue])

Revenue % by Region :
can be a function or a calc:

%Total[Revenue]

Total[Revenue] / parent(Total[Revenue])

Sales Region	Revenue Total By Region	Annual Revenue Total	Revenue % By Region	
Totals	761,765,141.51	761,765,141.51	100.00	
Boston	213,736,971.77	761,765,141.51	28.06	
North	107,068,264.43	761,765,141.51	14.06	
Rhode Island	150,127,475.22	761,765,141.51	19.71	
South Shore	125,336,156.71	761,765,141.51	16.45	
Southwest	95,360,815.40	761,765,141.51	12.52	
West	70,135,457.98	761,765,141.51	9.21	



Parent() function operates on

- Summary Columns : Total[], Min[], Max[]
- User-defined calcs

Parent() function does not operate on

- Summary Columns : Average[], Std Dev[]

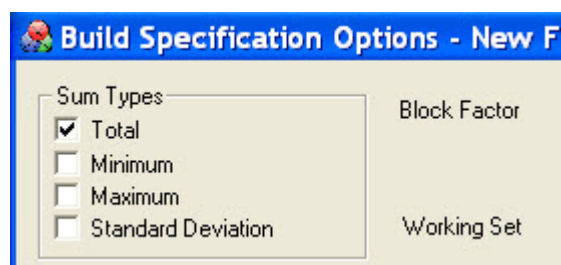
Create user-defined calcs

- Average = Total[_x_] / Count
- Std Dev = a little more complicated

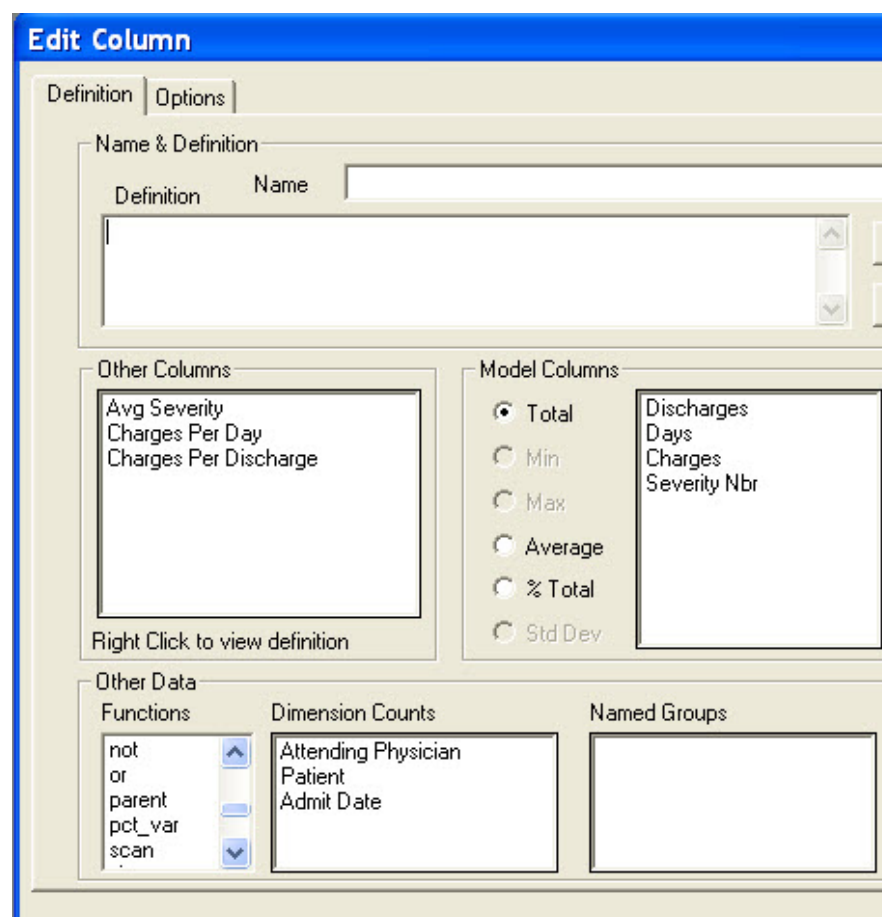


Diver : Comparisons

Minimum, Maximum and Standard Deviation must be specified in Builder ...



... to be available in Diver as Min, Max and Std Dev.





Std Dev[_x_]

- “X Squared” available along with Std Dev -- Totalx2[_x_] ; where _x_ = summary column
- Std Dev can be calculated :

$$\sqrt{\frac{1}{(count - 1)} \left[\text{Sum } (X^2) - \frac{1}{count} (\text{Sum } (X))^2 \right]}$$

`sqrt((Totalx2[_x_] - ((Total[_x_] * Total[_x_]) / Count)) / (Count - 1))`

- Parent() of calculated column



Model Design : Diver vs DivePort



Tips & Tricks
The Future Begins Now
Model Design : Diver vs DivePort



Diver Pro/Net

- Ad Hoc
- Product Focus
- Data analysis and Reporting
- Self-directed "data mining"
- Bottom-up approach
- User-controlled
- Response Less Issue
- Diver training

DivePort

- Targeted
- Solution Focus
- Information delivery
- "Just-in-time" info
- Top-down approach
- Developer-controlled
- Response Issue
- Application training



Diver Pro/Net

- Fewer Models
- Larger Models
- Many Dimensions
- Many Infos
- More Memory

DivePort

- More Models
- Smaller Models
- Fewer Dimensions
- Fewer Infos
- Less Memory



DivePort Today

- Reports-on-line
- Column page layout
- Ad Hoc models
- External QuickView Models
- Traditional Model re-design
 - *dimensions*
 - *block factor*
 - *skip_build*
- Rely on external links to Pro/Net Diver
- Same old, same old



DivePort Tomorrow

- Applications
 - *Dashboards*
 - *Scorecards*
- Manual page layout
- Non-traditional Model design
 - *More, smaller Models*
 - *Canisters*
 - *Tunnel*
 - *Parameters*
- Less attention paid to Pro/Net Diver
- New learning curve



Tunnel : Getting Started



Tips & Tricks
The Future Begins Now
Tunnel : Getting Started



Tunnel : What is it?

- Integrator script initiated by a DI Client, executed on a DiveLine server which returns a model
- Integrator-based provides wide range of functionality and possibilities



Tunnel : Getting Started

Models built on demand

- "Dynamic" Memory Model
- "Static" Physical Model
- Properties identical to regular Model

Integrator Enabled

- Embedded within DiveLine
- ".tnl" script executed by DiveLine directly
- object_type="tunnel" attribute in OUTF object

Understood by DiveLine Clients

- Pro/Net/Cell Diver can open ".tnl" script
- "diveref=" links can reference ".tnl" scripts
- All DiveLine clients can open Tunnel Markers



How is Tunnel implemented ?

- Integrator script (.tnl) defines data source, model structure
- DiveLine Client ProDiver, DivePort, NetDiver, etc
- Open .tnl like a DivePlan ProDiver, DiveBook
- Open .mrk with ref to .tnl ProDiver, DiveBook, DivePort
- Diveref link Report, Report Paletted



Create a Marker using a Tunnel Script

- Create a TUNNEL script
 - *INPT*
 - *OUTP - Tunnel*
- Open .tnl
- Create a Marker

Examples:

../models/tunnel.tnl

../models/tunnel.mrk

```
object 'INPT' "in" {
    file_type      = "column_headers",
    filename       = `tunnel.dat`      ,
};

object 'OUTP' "out" {
    output_type    = "tunnel",
    input          = "in",
    dimensions     = {
        "Supplier",
        "Brand"    ,
        "Product"  ,
    },
    summary        = {
        "Cases OnHand"    ,
        "Inventory Value",
    },
    info           = {
        "Size:Product" ,
    },
};
```



Add DiveRef Link to Existing Model Marker

Step 1 - Create a Marker using a Tunnel Script

- Create a TUNNEL script
 - *PARM*
 - *INPT*
 - *PROC - filter w/ PARM*
 - *OUTP - tunnel*
- Open .tnl
- Create a Marker
- Copy Window Dive Reference String

Examples:

../models/diveref.tnl

../models/diveref.mrk

```
object 'PARM' "parms" {
    parms = {
        { name      = "supplier" ,
          default  = "xxx"      }
    }
};

object 'PROC' "filter" {
    process_type = "Filter",
    action       = "keep",
    input        = "in",
    filters      = {
        {column = "Supplier",
          values = {`$(SUPPLIER)`}
        },
    }
};
```



Add DiveRef Link to Existing Model Marker

Step 2 - Modify existing Marker

- Open Marker
- Copy Window Dive Reference String from Step 1 into report item Link
- Modify DiveRef as indicated

Examples:

../models/sales.mrk

../models/sales_diveref.mrk

DiveRef Before:

```
diveref:table["..\models\sales.mdl".  
Brand,  
_Tab_type=Tabular]
```

DiveRef After :

```
diveref:table["..\models\sales.mdl"  
{Supplier="TEXT"}.  
Brand,  
_Tab_type=Tabular]
```



Add DiveRef Link to Existing Model Marker

Step 3 - Test

- Open .mrk from Step 2
- Click on a Supplier
- Marker from Step 1 is displayed showing Brands for Supplier selected

Examples:

`../models/sales.mrk`

`../models/sales_diveref.mrk`



.MDL : Model vs Canister



Tips & Tricks
The Future Begins Now
.MDL : Model vs Canister



Model

- unique, patented cross-indexing technology allowing large amounts of data to be summarized, indexed and transformed into a 'free-form' multidimensional data structure.
- optimized for rapid querying and reporting while still allowing total freedom of navigation within the data.
- multiple models combined together
- Builder does all the work
- Summary fields are "additive"
- No dimension hierarchy
- Easily understood and used by Diver User



Canister

- Data is summarized and transformed prior to Builder (e.g. Integrator)
- Store results
- Reduced “freedom of navigation”
- Summary fields not additive in a “meaningful sense”
- Dimension hierarchy
- Overcome speed of access issues
- Not intended for “adhoc” Diver user
- Ideal for :
 - *DivePort measures portlet*
 - *Diver multiple time-frames*



.MDL : Model vs Canister

Canister - DivePort Measures Portlet

- Limited data on screen
- Used for “first-level click actions
- 1 record per measure per “analysis level”
- Limited Cores / Infos
 - *Measure*
 - Measure Category
 - Measure Type
 - Good Direction
 - Unit
 - Measure Label
 - Low Threshold
 - High Threshold
 - *Physician*
 - *Year-Month*
- Non-traditional summaries
 - *Numerator*
 - *Denominator*
 - *Rate Multiplier*
 - *Abbrev Divisor*
 - *Measure Count*
 - *Order*

- Numerator and Denominator

Measure	Unit
Attending Cases	#
Readmits, 30D	#
Avg LOS	days
Charges per Case	\$
Cost Opportunity	\$
Complication Index	decimal
Negative Letters	integer
Complication Rate	%



.MDL : Model vs Canister

Canister - Diver Multiple Time-frames

- 1 record per “unique” dimension(s)
- Traditional Cores / Infos
 - *Premise Type*
 - *Salesman*
 - *Customer*
 - *Supplier*
 - *Brand*
 - *Product*
 - *Time-frame*
- Time-frame
 - *summarized dates & periods*
 - *no Diver timeseries or Period Named Groups*
- Traditional and Non-traditional summaries
 - *Bottles, Cases, Revenue, Profit*
 - *MTD_LY, MTD_TY, R12_CUR, R12_PRI*
- Time-frame values (sample)
 - Calendar Year
 - Fiscal Year
 - Rolling 12 Months
 - CFAprMay
 - LFAprMay



Tips & Tricks



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