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# Human Interface Guidelines for BI

Version 1.0  
Initial Draft

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Produced By:  
Business Intelligence

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Revision History

Date	Version	Description	Author
4.17.17	0.1	Initial Draft	Korina Lim

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## Appendix

Appendix A - Agreement Between Customer and Contractor

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## 1 Introduction

- Purpose

This Design Guideline provides a common reference for Graphical User Interface development of business intelligence products. This style guides offer application usability and consistency look and feel of corporate. The use of guideline is to customizing MicroStrategy Web platform give many benefits to user and developer to follow standards design guide. Moreover, in the document could be constructed and become candidates for Re-Usability. This document also contains examples and descriptions of good practices defines a dashboard for MicroStrategy Report Services and suit business needs. As “a User Interface that, somewhat resembling an organizes and presents information to in a way that is easy to use and making it more readily acceptable to users to view the entire document in single display of online.

- Scope

This document is the Graphical Interface Design Document for the Business Intelligence system. The purpose of this document is to present the design approach for the graphical interface of the MicroStrategy Report Services system web application. The document may need to be updated later to incorporate possible changes during development. The current version of the document incorporates the design changes part of concerning the BI Graphical Interface changes to accommodate the additional groups regarding the Items.

### 1.1 Objectives

- GUI implementation company internally and externally make better when Products look and feel the same.
- User-Centered perspective on how to design an application and how the application design fits with the framework of process development.
- The UI specifications requirements product modification making, effective and quickly, reduced development times, and fewer modification requests.
- Be easily code being re-Used the productively of developers increases as well.
- Design Simplicity, Easier To Learn, And Easier To Work With Interfaces, And Less Complexity Ones.

### 1.2 Overview

- The following guide cover user interface (UI) graphics for BI Microstrategy platform. All visual user interface elements created for BI tools follow a common style called the BI visual style or BI style. Any product, tool, or visualization D-3 plug-in based on the and above should follow these guidelines to help ensure constituency of visual user interface elements. Consistency includes visual style, meaning, and implementation conventions.

### 1.3 Audience

- These guidelines are for anyone creating BI user interface graphics or seeking best practices for their use. Thesis are not a how-to guide, but you will find instructions for some tasks and a number of resources to assist in making the graphics. If you are a designer you will be interested in the Design Specification, and Implementation sections. If you are a developer, the Specification and Implementation sections will be of most value to you.
- This guide is designed for all users who need to design and create dashboards, a type of interactive document.
- Document design is the process of building documents that are used widely by other users on the business intelligence platform and throughout the enterprise.

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- For an introduction to documents, review the Report Services Document Analysis Guide, which provides a basic understanding of how to manipulate the data in a document or dashboard to analyze business information

#### 1.4 General UI Guidelines

- Visual Design: Goal is to keep the Simplicity.
- Style & Design:
  - 1) This style guide successful branding involves adding brand asset to your BI platform.
  - 2) Dashboard Main background color give soft focus, they are lightweight ad low-contrast, they don't interfere with the readability of the text.
- Flat Design or Flay UI: Keep the simplicity, clarity, and honesty.
  - 1) The BI platform provides a Web user interface, also known as Flat Look, design alternative for implementing content editors.
- Branding: corresponding with color of background with brand image.
  - 1) Light color scheme



- 2) Dark color scheme

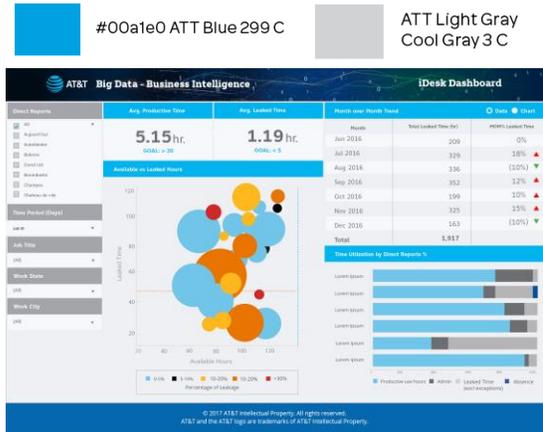


#### 1.5 Color Palette & Themes:

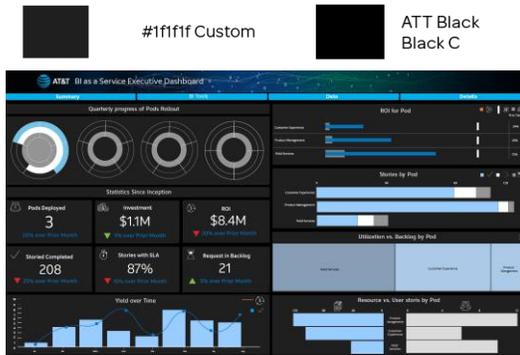
- This style guide successful branding involve adding brand asset to your BI platform.
- Main background color give soft focus, the are lightweight ad low-contrast, they don't interfere with the readability of the text.
- BI supports color and provide visual continuity of look an entire set of graphical elements, such as icons, user assistance graphics, requires a consistent, family-like appearance across the user interface (UI); contrarily, individual and sub-families of graphics require differentiation.
- To achieve a consistent appearance in graphics across the UI, use a common color palette as the basis for creating your graphical elements.
- BI based graphics tend to use a common or dominant set of colors:
  - 1) **Avoid using the same color.**
  - 2) ATT Blue are the Signature color on our main branding color to give visual looks of ATT branding.
  - 3) ATT Blue works equally well in dark and light environments. Blue is the color customers most associate with ATT brand and we can use it everywhere we can.

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- 4) ATT Light Gray to emphasize the visual grouping elements to organizing to make simpler. The color should be work well together, not conflict or distract each other.
- 5) ATT Blue Indigo and ATT Light Gray color gives the balance on the page and gives visual weight affected user to identified easily.
  - Light color scheme



- Dark color scheme



Most secondary colors ATT black, ATT white, and ATT orange are support signature color. You can use ATT black and ATT white this color for background. ATT orange you can use it emphasize hierarchy.



Most pleasing to visual look of Accent colors to supporting and selected to help create visual hierarchy or differentiation when necessary. These are the only approved accent colors, any colors not seen here should not be used.



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You should not be using Red, Yellow, Green.

- Table: Customizing Table Cells, Headers and Footer

While graphs allow us to see the shape of data, tables allow us to perform precise lookups and comparison between small numbers of values.

Here are a few addition design tips to consider when creating tables:

- Use lines or whitespace to separate areas that are conceptually different
- Display the smallest amount of numbers that you can to support the needs of the table.
- Use consistent column and row spacing to create horizontal and vertical rhythm

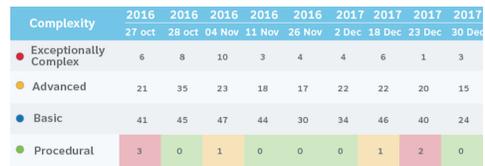
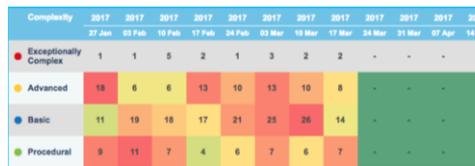
- Subtitle:

A left-aligned title on one line and a left-aligned subtitle on the next. This style works well in a table where rows are visually similar. The additional subtitle helps distinguish rows from one another.

### Plain Table View

SR Number	Order Number	Order SA Number	Region	Customer Reference Number	Order Create Date	Completed Order?	Site Customer Name	Shipped Date (Actual)	Part Delivered Date	Product Part Number
681564898	87629532	94392318	US		Jan 13 2017 10:04:28 AM	N	RAYTHEON COMPANY	Jan 13 2017 10:13:00 AM	Jan 13 2017 05:30:00 PM	PWR-C45-2806ACV+
681568000	87629373	92649310	US		Jan 13 2017 02:10:08 PM	N	TIAA	Jan 13 2017 02:56:00 PM	Jan 13 2017 03:58:00 PM	ASR1013+
681568500	87629390	92649310	US		Jan 13 2017 02:16:20 PM	Y	TIAA			ASR1013+
681430319	87630213	92649309	US		Jan 13 2017 09:25:03 PM	N	WIPRO LTD	Jan 13 2017 09:50:00 PM	Jan 16 2017 02:39:00 PM	WAVE-MLN-GE-BT+
681568000	87632398	92649310	US	87629390	Jan 16 2017 06:48:49 PM	N	TIAA	Jan 19 2017 03:54:33 PM		ASR1013+
681621013	87623801	2434787	US		Jan 17 2017 10:03:44 AM	N	AT&T	Jan 17 2017 03:49:00 PM		WS-92754-SFP+
681610795	87634766	92764947	US		Jan 17 2017 02:38:35 PM	N	GE HEALTHCARE	Jan 17 2017 03:46:13 PM	Jan 18 2017 08:49:00 AM	CTS-5K-CBL-8784
680005006	87634827	92646481	WOW		Jan 17 2017 06:29:36 PM	N	BP CORPORATION	Jan 18 2017 07:53:40 AM	Jan 18 2017 09:00:00 AM	CTS-CODEC-SEC+
681430319	87635462	92649309	US		Jan 17 2017 11:36:56 PM	N	PITNEY BOWES	Jan 17 2017 11:45:00 PM	Jan 18 2017 01:54:00 AM	WAVE-MLN-GE-BT+
681430319	87637654	92649309	US		Jan 18 2017 07:29:34 PM	N	PITNEY BOWES	Jan 18 2017 08:01:00 PM	Jan 18 2017 09:01:00 PM	WAVE-7541-K3
681430319	87637668	92649309	US		Jan 18 2017 10:20:13 PM	N	PITNEY BOWES	Jan 18 2017 09:22:47 PM	Jan 19 2017 09:15:00 AM	WAVE-MLN-GE-BT+
681430319	87638172	92649309	US		Jan 19 2017 02:02:16 AM	N	PITNEY BOWES	Jan 19 2017 07:25:00 AM	Jan 19 2017 07:30:00 AM	LABOR
681619538	87638091	2434787	US		Jan 19 2017 06:18:32 AM	N	AT&T	Jan 19 2017 07:25:00 AM	Jan 19 2017 07:30:00 AM	N2200-PAC-400W+
681621013	87638081	2434787	US		Jan 19 2017 01:11:42 PM	N	AT&T	Jan 19 2017 03:30:00 PM	Jan 19 2017 03:37:00 PM	GLC-SX-MM+

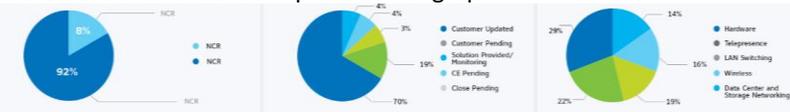
### Color Grouped Table View



- Visualization Data (Visual Perception Theory):

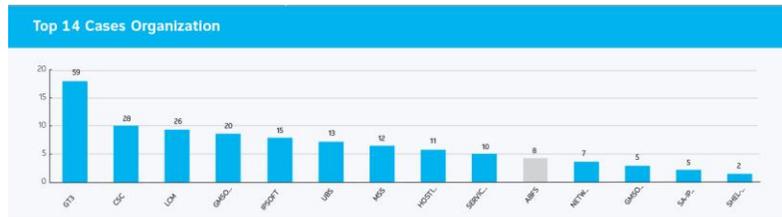
1. Try to look and feel of consistency for graph and how to using the color implication is important on Visualization Data

2. Create a look and feel of implication for graph.

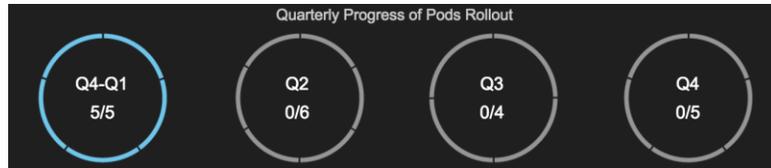


3. Use Law of Focal Point on the visualization data.

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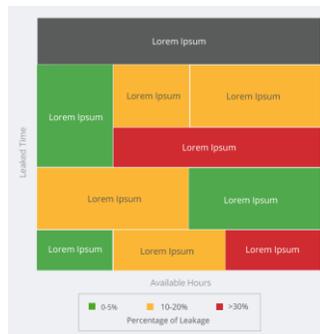


4. D-3 Customization:

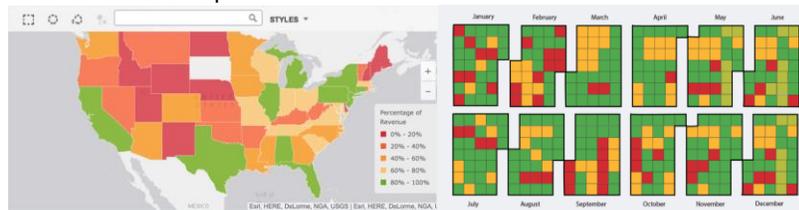


5. Resources for advanced dashboard features

Tree maps : Visualization of hierarchical data  
 Use measures that add-up for box size (e.g. sales); use rates or percentages for box color (e.g. change in sales) The data layers need to have a hierarchical structure



Calendar : Heat maps



1.6 Typography: We like to set the our font to default;  
 Font-family: Sans-serif: Arial, Tahoma, Verdana;

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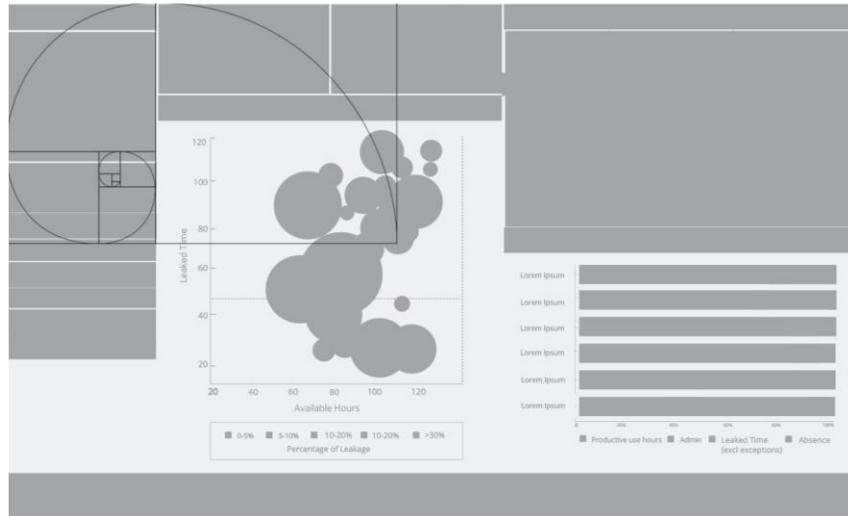
	Purpose	Size	Font	Style
Headline	Separate and name major sections of your writing	9 pt	Sans-serif: Arial, Tahoma, Verdana	Bold, 1.2 line spacing
Body	Clean readable text, 50-80% of your text will look like this.	7 pt	Same as Headline	Bold
Subhead	Separate and name major sections of your writing less than headline	8 pt	Same as Headline	Bold
Notes	Additional things a user should be aware of, data sources, metric calculation. "Fade into the background"	8pt	Same as Headline	Bold
Emphasis	Draw the eye to key points you need to make	12pt	Same as Headline	High impact Bold or Italic color

### 1.7 Layout (Simplicity):

- Consistent

Across applications, consistent interface design supports positive transfer of training and reduces the time required to learn a new application.

- 1) We apply the Golden ratio in layout and use principles of form and layout.
- 2) Golden ratio-1:1.618



- Web parts that look similar are perceived as being grouped together or related.

- Dashboard

- a. Uniform allows to see blue column and gray column.
- b. Uniform is a common organizing device in interfaces
- c. Uniformity, enclosure, and proximity help to distinguish groups.

The screenshot shows a dashboard titled "AT&T Big Data - Business Intelligence" with a "Cisco R..." logo on the right. The main content is a table titled "SR Count: Case Complexity vs Organization". The table has columns for "Organization", "Procedural", "Basic", "Advanced", "Exceptionally Complex", and "Not Available". The rows list various organizations and their corresponding counts for each complexity level. A sidebar on the left contains filters for "Open Cases", "Complexity", "SR Type", "Unique", "SR Closed Timestamp", "SR Complexity", "SR Resolution", and "Organization".

Organization	Procedural	Basic	Advanced	Exceptionally Complex	Not Available
#N/A					12
ABFS	2	6	5		
ACSN		1			
ADVCEC TECH SUPPORT			1		
ATT GROUP ID'S	2	4	1		
AVP-TECHNOLOGY		1			
CERT - ATS		1	1		
CHIEF SECURITY ORGANIZATION				1	
CISCO	9	32	10	4	2
CSC	23	50	11	3	13
END CUSTOMER	4	5	1		
FED GOV	2	8		1	
FW	3	3	1		
GCSC	14	10	3	1	1
GMSO-COMM-GSSI	9	28	11		
GMSO-IGA/GTM/CLCM	3	13	6		
GTS	38	86	64	9	
GVM		1	1		
HOSTING	2	18	12		2
IP & INFRA	1		2		
IPSOFT	5	17	6	3	
IRS		4	13	3	
LATAM		4	1		
LCM	14	38	34	7	1
LOGISTICS	2	1			
MANAGED HOSTING CYBERJAY	5	6			2
MSS	4	20	10	1	2
NCR	3	6			2,833
NETWORK ENGINEERING		2			

- Banner Graphics: Style Characteristics

- 1) Like the BI icons, wizard banner graphics have a clean presentation that is achieved by using rich but not overpowering color more complex lighting.
- 2) Dashboard Main Header Title: We will supply the Dashboard header meanwhile you can put the title of dashboard on right side "Font-style: sans-serif: Arial, Tahoma, Verdana; Font-Weight: Bold; Vertical-Align: right; Font-Size:9pt; Color: White;"



### 1.8 Consistency & Reuse

This section encourages consistency and reuse of existing graphical elements, and shows the core icon and wizard concepts currently in the tools.

In the development of the BI style graphical elements, a visual language was formed to describe a variety of concepts in the user interface. These concepts are now represented by a large selection of tiny visual signs that many have come to know through using BI-based tools.

In order to ensure a consistent visual experience, a common understanding of concepts across the tools, and to minimize confusion, we encourage you to re-use BI-style graphical elements whenever possible.

### 1.9 Re-using graphical elements

A great many icons and wizard graphics have already been created in the BI visual style, so there is a good chance that the elements you might need already exist. Samples of existing core concepts for icons and wizard graphics are shown below. Each of these elements carries with it a specific meaning, so care should be taken when using them to ensure consistent meaning is maintained. A more extensive collection of common visual elements can be found on the t-space page.

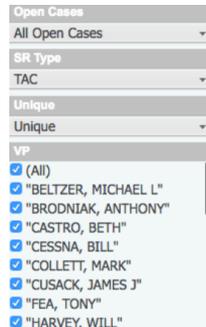
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2.0 User Interface Elements Implementation:  
UI Components Include In Front-End Style guides.

1. Vertical lists (Filtering):

1) User configuration to set the scope of the values in the dashboard

- Use small visualizations in filters to show the size or frequency of the selectable dimension display the filter selections in the title of the dashboard so a printed copy accurately describes the data



2. Date and time pickers:

A date picker allows users to select a date and/or time. By using the picker, the information is consistently formatted and input into the system.



3. Checkboxes:

Checkboxes allow the user to select one or more options from a set. It is usually best to present checkboxes in a vertical list. More than one column is acceptable as well if the list is long enough that it might require scrolling or if comparison of terms might be necessary.



4. Radio buttons:

Radio buttons are used to allow users to select one item at a time.



5. Drop-down menus:

Dropdown lists allow users to select one item at a time, similarly to radio buttons, but are more compact allowing you to save space. Consider adding text to the field, such as 'Select one' to help the user recognize the necessary action.

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6. List boxes:

List boxes, like checkboxes, allow users to select a multiple items at a time, but are more compact and can support a longer list of options if needed.



7. Tabs/ Navigational menus (and sub navigation):

It's hard to appreciate a site if you're lost, which is why navigation is mandatory when discussing web UI design

- Users should always know their current place in the site — Known as orientation, this is instrumental in making your users feel comfortable, and streamlines the site on their end. Ways to orient your user involve highlighted menu items and headings.
- The navigation system remains consistent — In other words, don't move your menu bar around. Imagine how frustrating it would be if you were lost in a city, and streets signs switched between posts, the sides of buildings, the sidewalk, etc.

UI components:

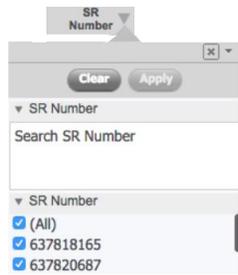
1. Navigation (Tab): "Background: #00afeb R:0G:175B:235; Font-Size:7pt;
2. Font-Weight:Bold; Color:White; hover-Color:# 70c4e7 R:112G:196B:231;"



8. Search box:

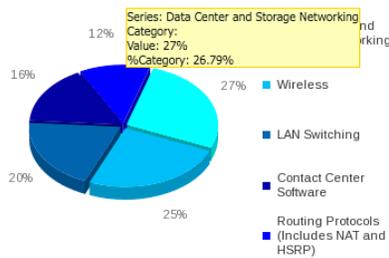
A search box allows users to enter a keyword or phrase (query) and submit it to search the index with the intention of getting back the most relevant results. Typically search fields are single-line text boxes and are often accompanied by a search button. For example: if you type certain SR number it display results and you can display the data table or visualization.

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9. Tooltips:

A tooltip allows a user to see hints when they hover over an item indicating the name or purpose of the item.

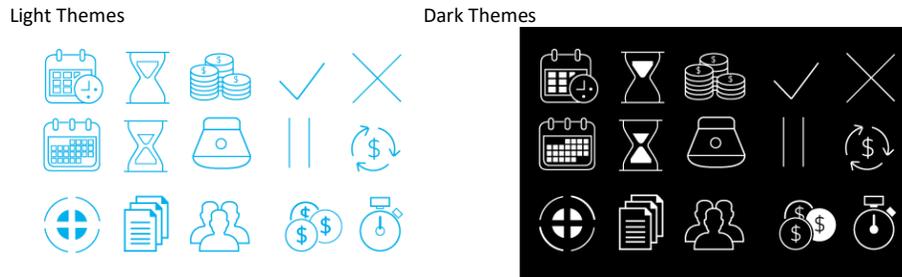


10. KPI: The Key Performance Indicator (KPI) graphs appear at the bottom of the dashboards in the Controller UI. For most types of dashboards, the KPIs are:



11. Icons: custom design it visually represent individual title you request.

An icon is a simplified image serving as an intuitive symbol that is used to help users to navigate the system. Typically, icons are hyperlinked.



12. Arrows icons: red and green are metrics up and down button are indicators of status. The status of arrow indicators are actually a composite of several metrics. For example, the performance indicator is comprised of metrics such as Average Execution Time and Number

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of % Violations. Using this detailed information, you can quickly determine the reason behind an abnormal status.

Red Arrow	A violation threshold that triggers on high.
Green Arrow	A cautionary threshold that triggers on low.

Month	Total Leaked Time (hr)	MOM% Leaked Time
Jun 2016	209	0%
Jul 2016	329	18% ▲
Aug 2016	336	(10%) ▼
Sep 2016	352	12% ▲
Oct 2016	199	10% ▲
Nov 2016	325	15% ▲
Dec 2016	163	(10%) ▼
<b>Total</b>	<b>1,917</b>	

13. Section Title: The obtain or display supplemental information related to the objects in the primary window. The title bar identifies the program currently running. It displays in the title bar depends on the Header Display Mode setting in Control. Based on that setting, you may see any of the following elements:



14. Table Title and dropdown for Table:

Click arrow icon's to Drill-down browses display, filter, or print data.

The field values in the browse can come from a table or a view. A view is a table that has selected values from one table or several joined tables.

SR Number ▼	Order Number ▼	Order SA Number ▼	Region ▼	Customer Reference Number ▼
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15. Report Header Titles:

"Font-Weight:Bold;Vertical-Align:Middle;Font-Size:10pt;color: #000;"

Select Date	20-Oct-16 To 20-Apr-17	Current Open Cases
-------------	------------------------	--------------------

16. Accordion: An accordion is a vertically stacked list of items that utilizes show/ hide functionality. When a label is clicked, it expands the section showing the content within. There can have one or more items showing at a time and may have default states that reveal one or more sections without the user clicking.

Orders - New Start (High Speed)				
NPS				
	Description	Definition	File	Source
	NPS	NPS category	Branded NPS 2015 Survey.csv	Q1 (Column AV)
	Unique SVIDs	Unique SVIDs	Ethernet_Data_HSSD_Combined.csv	SVID (Column DE)
Order Cycle Times				
	Description	Definition	File	Source
	<input checked="" type="checkbox"/> All	NPS category	Branded NPS 2015 Survey.csv	Q1 (Column AV)
	<input type="checkbox"/> Access Circuit Complete	Unique Orders	Ethernet_Data_HSSD_Combined.csv	SVID (Column DE)
	<input type="checkbox"/> EZE (end to End)			
	Order Handoff Cycle Time	Determine difference between the time an order is submitted (SD_Comp) and when an order is entered into the system by an agent (APP_Date)	Ethernet_Data_HSSD_Combined.csv	SD_Comp (Column BS) - APP_Date (Column AA)
	Order Submitted to Access Circuit Due Date	Determine difference between the time an order is processed (FOC - Firm Order Complete) and when an order is entered into the system by an agent (APP_Date)	Ethernet_Data_HSSD_Combined.csv	FOC_Newest_FOC_Complete (Column AW) - APP_Date (Column AA)
	Access Circuit Complete	Determine difference between the when an installation was promoted (PON_Newest_EAD_SCD) and when the installation was completed (CTA_Comp)	Ethernet_Data_HSSD_Combined.csv	CTA_Comp (Column BM) - PON_Newest_EAD_SCD (Column AT)
	EZE (End to End)	Determine total end-to-end (EZE) taken to install service from when order was entered into the system by an agent (APP_Date)	Ethernet_Data_HSSD_Combined.csv	SD_Comp (Column W) - APP_Date (Column AA)
	Submit to ATT Ready	Determine scenarios when ATT was ready for installation before customer was ready to prepare for installation	Ethernet_Data_HSSD_Combined.csv	CTA_Comp (Column BM) - APP_Date (Column AA)

## 2.1 Specifications

- Design Principles of Simplicity.
- User-Centered Design
- Graphical Interfaces philosophy