

Paper SAS1722-2015

HTML5 and SAS® Mobile BI—Empowering Business Managers with Analytics and Business Intelligence

Murali. Nori, SAS Institute Inc.

ABSTRACT

Business managers are seeing the value of incorporating business information and analytics in daily decision-making with real-time information, when and where it is needed during business meetings and customer engagements. Real-time access of customer and business information reduces the latency in decision-making with confidence and accuracy, increasing the overall efficiency of the company. With SAS® Visual Analytics 7.2, SAS is introducing new HTML5 based web viewer interface and adding advanced features in the SAS® Mobile BI native mobile application, to enhance the reach and experience of business managers to SAS® analytics and dashboards from SAS® Visual Analytics. This presentation focuses on both the new HTML5 based web viewer and the new advancements made with SAS® Mobile BI that empowers business users. I will present in detail, the new features that are offered with the HTML5 based viewer and with SAS® Mobile BI. Since the new HTML5-based viewer and SAS® Mobile BI are the viewer options for business users to visualize and consume the content from SAS® Visual Analytics, in this presentation I will discuss the scope of what interface can be used for a given business scenario.

INTRODUCTION

In most enterprises a vast majority of the people are information consumers with a smaller number of people analyzing the data and creating professional dashboards. A typical mix of the number of analyst to IT dashboard developers to information consumers is around 10% to 20% to 70%. Business executives, line of business managers, operations managers all depend on the dashboards made available to them by the analysts and IT teams for decision making. The important necessity for all the business people at office or on the move is the availability of the best and often the latest information, where they are.

As per IDC, the worldwide smartphone market share grew by 28.2% YOY in the 4th quarter of 2014, with shipments of 377.5 million units. The total smartphones shipments totaled to 1.3 billion units compared to a 7.2% growth and a total of 235.7 million tablets.

Period	Android	iOS	Windows Phone	BlackBerry OS	Others
Q4 2014	76.6%	19.7%	2.8%	0.4%	0.5%
Q4 2013	78.2%	17.5%	3.0%	0.6%	0.8%
Q4 2012	70.4%	20.9%	2.6%	3.2%	2.9%
Q4 2011	52.8%	23.0%	1.5%	8.1%	14.6%

Source: IDC, 2014 Q4

Display 1. Smartphone OS market share

Worldwide Tablet/2-in-1 Shipments, Market Share, Year-Over-Year Growth, and 5-Year CAGR by Operating System, 2014-2018
(shipment volumes in millions)

Operating System	2014* Shipment Volumes	2014* Market Share	2014* YoY Growth	2018* Shipment Volumes	2018* Market Share	2018* YoY Growth	2014-2018 CAGR
Android	159.5	67.7%	16.0%	183.1	64.0%	2.2%	5.9%
iOS	64.9	27.5%	-12.7%	70.1	24.5%	2.2%	-1.1%
Windows	10.9	4.6%	67.3%	32.6	11.4%	17.9%	38.1%
Other	0.5	0.2%	-70.6%	0.1	0.0%	-11.3%	-43.0%
Total	235.7	100.0%	7.2%	285.9	100.0%	3.8%	5.4%

Source: IDC Worldwide Quarterly Tablet Tracker, November 25, 2014

Display 2. Tablet market share

The growth rate of Smartphones and tablets still exceeds the overall sales of PC and laptops. Fueled by this explosive growth of these mobile devices and the advanced technology and computing power these devices offer, many people buy them and use them for personal and office work, making way for the concept of BYOD (Bring your own devices). This market trend is important for all companies and drive the need to provide good solutions that will deliver information to business users.

SAS® Mobile BI is supported on tablets for both iOS and Android platforms. With the SAS® Mobile BI 7.2, SAS is adding the support for smartphones for both iOS and Android platforms. With the expansion of the mobile support to smartphones, SAS increases its presence and meets the market trend.

Another technology trend in web based development is the use of HTML5 for delivering web applications that can be used more seamlessly across platforms and devices. HTML5 is getting wide acceptance as a choice of technology for web development. This approach also has a convergence to developing applications that work with multimedia and support responsive layout for mobile devices.

SAS® Visual Analytics is introducing a new Web Viewer built on HTML5 with the new release of 7.2. With the new introduction, there is new functionality and some limitations. In this presentation I will demo the HTML5 web viewer and SAS® Mobile BI products. I will also discuss the scope for each of these products.

HTML5 BASED WEB VIEWER

In this section, I will explain the important points related to the new HTML5 based web browser.

The HTML5 based viewer will be the default web viewer in new release of SAS® Visual Analytics. The Flash based web viewer will exist but is optional to the user or to the administrator. This issue is covered in more detail in the “Switch between Classic and Modern web viewers” topic below.

OPENING PAGE

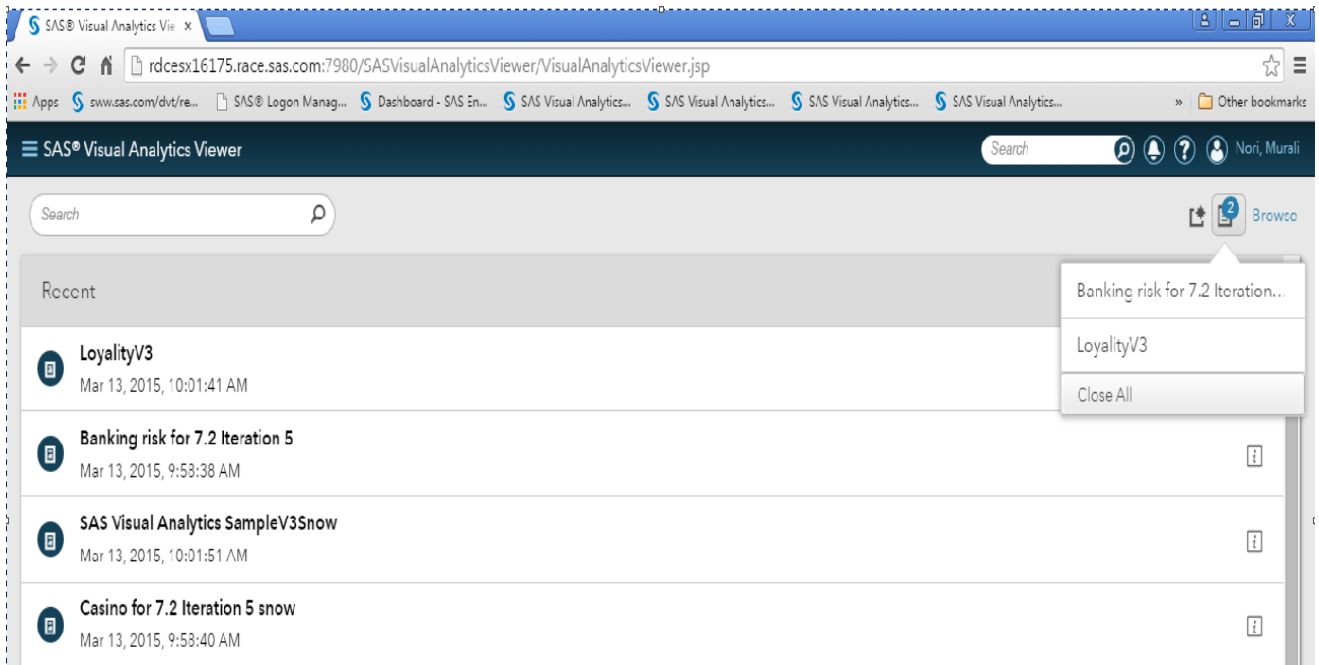
When you login to SAS® Visual Analytics and open the Viewer interface from the Home Page, you see the HTML5 based viewer. This interface will show the list of all the recent reports you opened. You can select and open any report from the list displayed. This feature is new in the HTML5 Viewer compared to the Flash web Viewer. This opening page provides a button “[i]” which allows users to see the details of the report, like the author, path etc..



Display 3: Opening page in HTML5 web viewer

OPEN REPORTS IN MEMORY

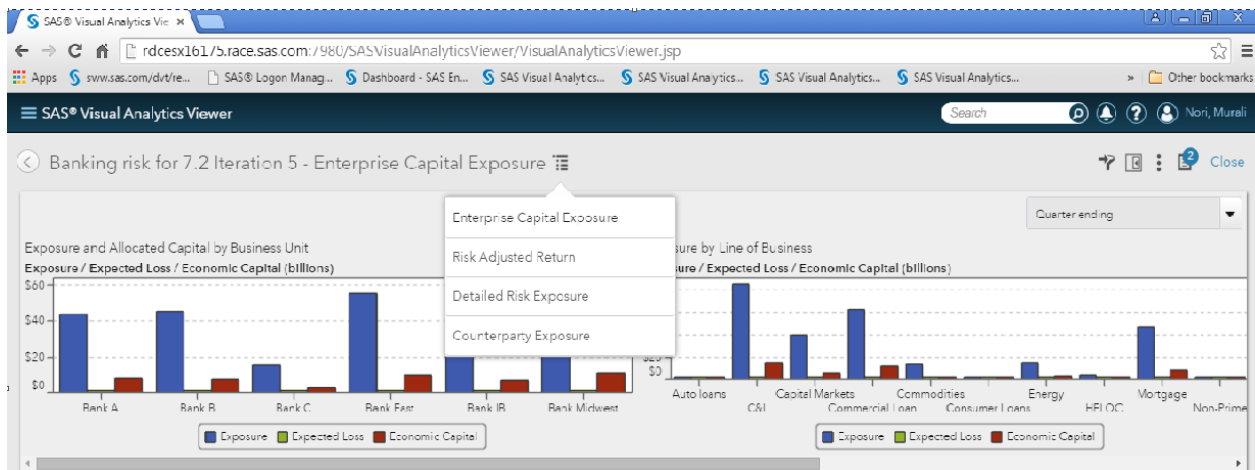
There is a new feature in the HTML5 web viewer to access the previously opened reports from memory. In the viewer, when the reports are opened, they are maintained in the browser cache. So if the report is not closed, they are retained in browser memory and they can be opened very quickly.



Display 4: In-Memory reports

SECTION NAVIGATION

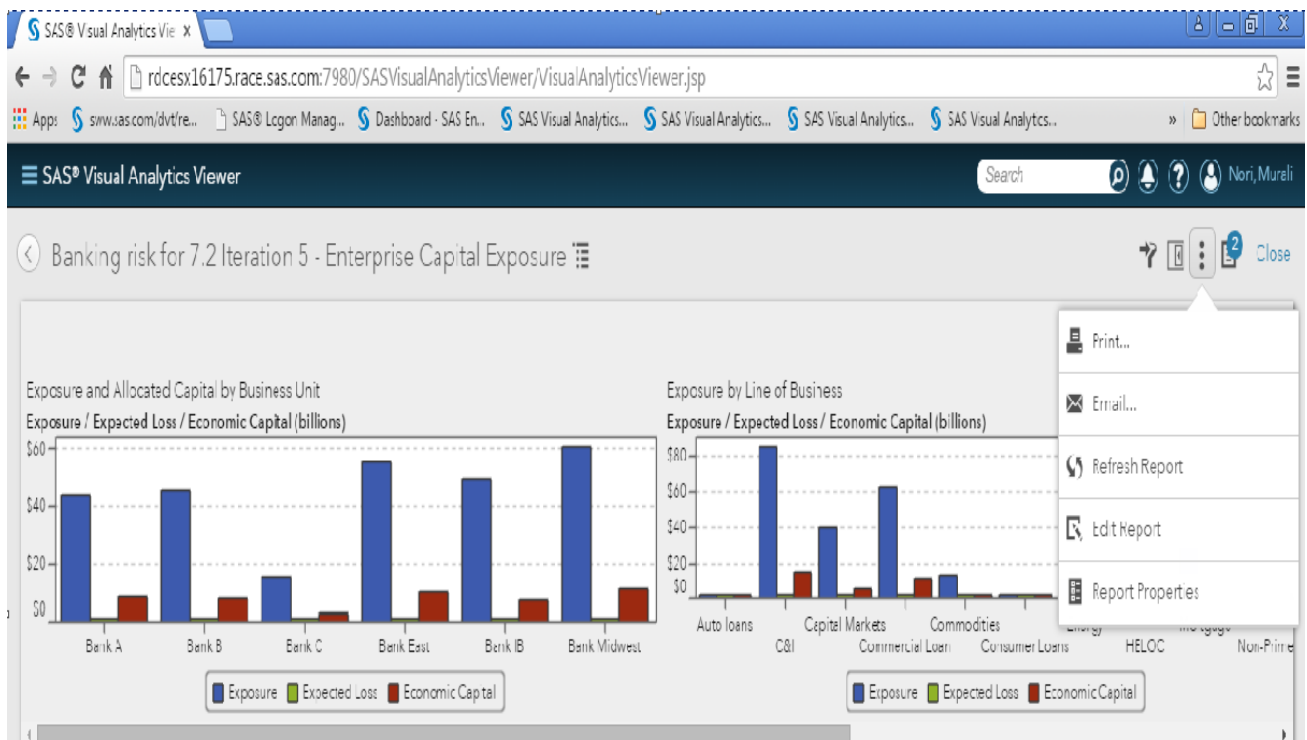
Once the report is opened, you can navigate through different sections of the report using the drop down in the menu bar in the top left.



Display 5: Section Navigation

ACTION MENU

In the viewer there is an action menu which allow you to access different actions that a user can take. Print, Email, Refresh Report, Edit Report and Report Properties are the different options in the action menu.



Display 6: Actions menu

AUTOMATIC REFRESH OF THE REPORT

In the new HTML5 based viewer, the user has the ability to set the viewer in an automatic refresh mode. The user can set anywhere from 1 to 30 minutes. This feature will allow the use of the viewer in some kiosk scenarios.

SWITCH BETWEEN CLASSIC AND MODERN WEB VIEWERS

In Visual Analytics 7.2, users have the ability to switch between HTML5 based web viewers or a Flash based web viewer. This can be managed by setting by the user in the web viewer or by the admin.

The three choices are

- Modern
- Classic.
- Administrator setting

The Modern setting refers to the HTML5 based viewer, the Classic refers to the Flash based viewer and the Administrator setting refer to the ability for the Visual Analytics administrator to force a setting between the classic or modern, for all the users of the system.

BROWSER LIMITATIONS FOR HTML5 VIEWER

The HTML5 based web viewer in the first release in SAS Visual Analytics 7.2, is supported in the following browsers:

- Chrome, latest
- FireFox, latest
- Safari
- IE 11 (only). Not on IE 9, 10

In the following releases, we will expand the support as required by market conditions and customer requirements.

EXPERIENCE ON MOBILE DEVICE

In SAS Visual Analytics 7.2 release, the plan on mobile devices is to redirect to the native application SAS Mobile BI. When a user tries to use the browser and open the report, the viewer JSP will re-direct the request to the native SAS Mobile BI application. In case the application is not on the device, it will direct to the app store to download the application and after the app is installed, the report will be subscribed to the native app and will be opened in the native app.

SAS MOBILE BI ON SMART PHONES

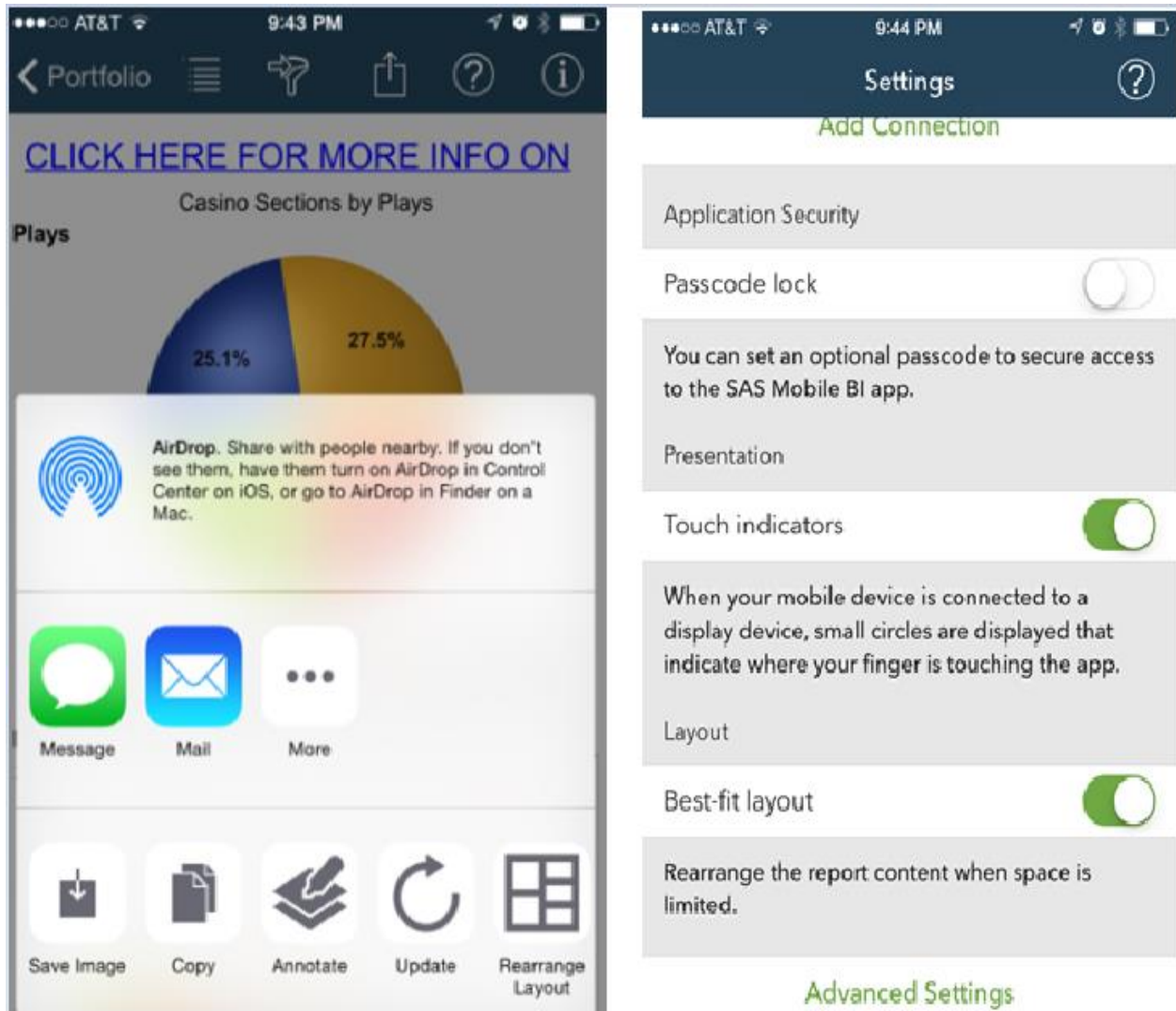
SAS® Mobile BI 7.2, users can download the native application to the smart phones. The native application on phones will support the complete set of capability that are available on tablets. Apart from matching the features, we support additional features that will make SAS® Mobile BI the best experience on phones.

BEST-FIT-LAYOUT WITH REFLOW

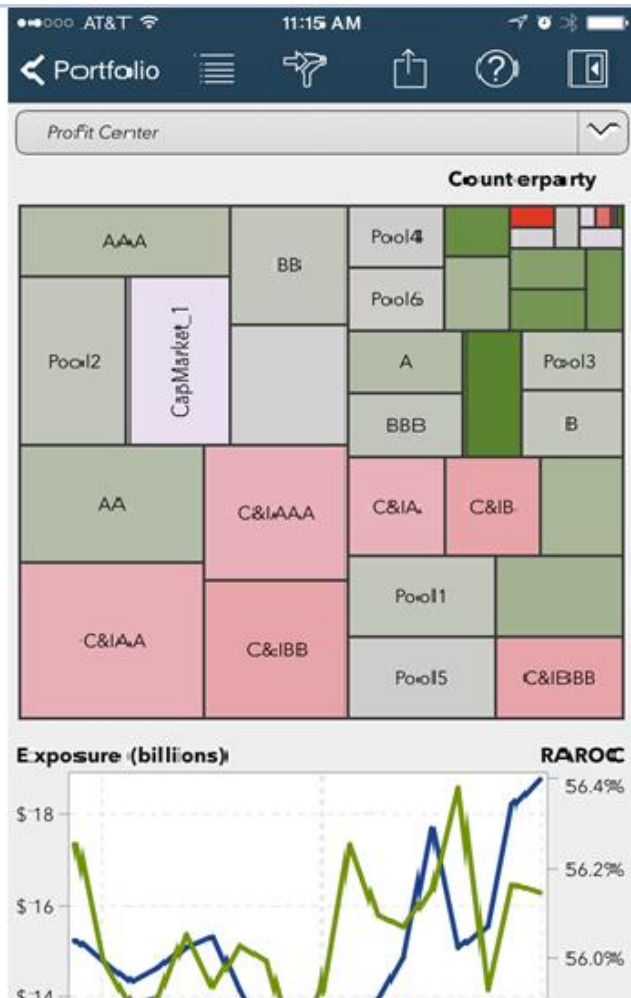
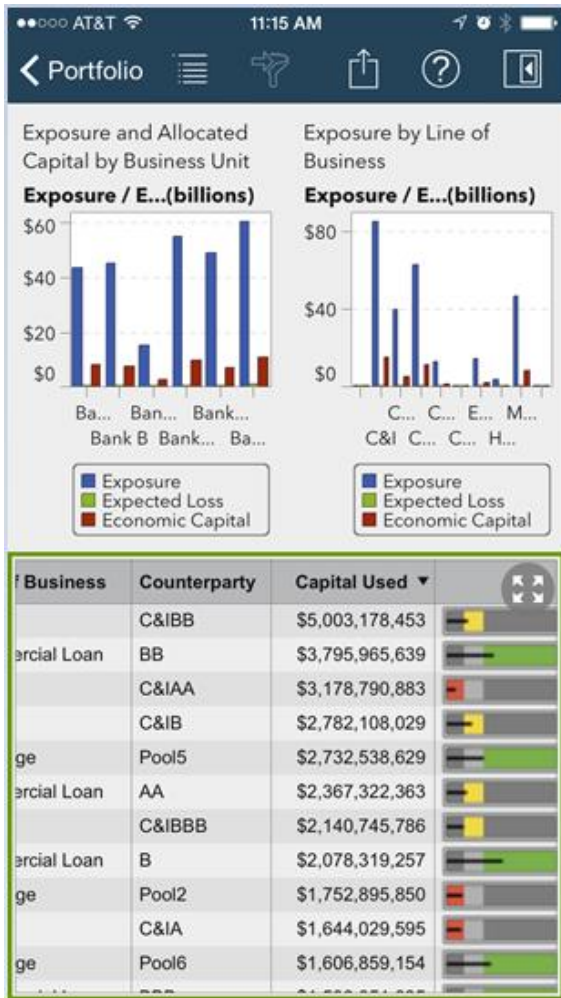
On phones the real-estate becomes very challenging for sophisticated reports with multiple sections (or pages) with filters and interactions that are very common to enterprise class BI reports.

SAS® Mobile BI on phones will support a setting named “Best fit layout”. This capability will allow the report to reflow depending on the form factor of the device. The report visuals will be sized and laid out to make all the visuals of the report accessible to the user.

In the actions menu there is an option which mobile user can use to switch between best-fit reflow layout and the original report layout as designed by the report author. This one-touch option at the fingertips of the users gives more flexibility in viewing the reports.



Display 6: Rearrange icon in the actions and in the Settings dialog



Display 7: two different reports on iPhone 6

PUBLISH REPORTS TO MOBILE USERS USING COLLECTIONS

The process in place for users to subscribe reports in SAS® Mobile BI is to subscribe them from the folder. To subscribe the report, the users need to know the location of the reports. The burden is on the business users. In SAS® Mobile BI we solved the problem by allowing business users to receive a collection of reports automatically when they subscribe to the collection in the Hub. With this capability, users need to select a collection and add reports to the collection and reports are subscribed to them.

Following is the process for using and receiving reports using collections automatically.

- In Hub, create a collection
- Add reports to the collection
- Using the settings in the collection, publish the collection
- Save the collection.

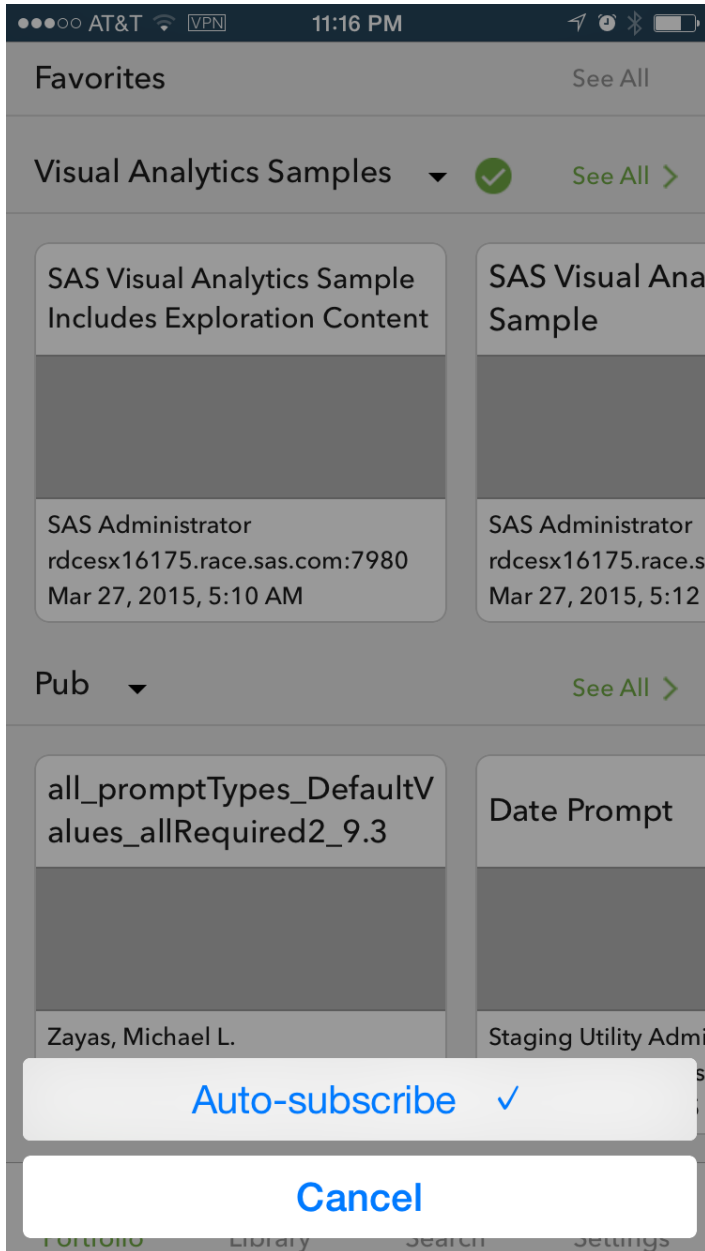
With these steps the collection is available to the SAS® Mobile BI application.

On the mobile application, user can see the collection and Auto-Subscribe to the collection. For there on, the reports will be subscribed automatically. When the user turns-off the auto subscription these reports are deleted from the subscribed.

PUBLISH REPORTS TO MOBILE USERS USING COLLECTIONS

Very often, people change their jobs or roles within the company. Also, consultants come and go in a company. With these scenarios, it is important to protect the information and data from the reports. When users subscribe a report to their devices and change their job or role, the reports and data need to expire, meaning they should be unusable and preferably deleted from the device.

SAS® Mobile BI 7.2, a new feature named “Server Set Time-Out” is added. This allows SAS® Visual Analytics Administrator to set time in days. After this set time, if a user does not open the report or connect to the server, the report connection becomes stale. The user will be prompted to reenter the credentials. Without re-authenticating, the report will not open. After 5 failed attempts, the report will be completely erased from the device. This ensures the report is protected.



Display 8: Auto-subscribe to a report collection

CONCLUSION

Mobile device adoption is very high in enterprises. This is helped by the release of the new iPhone 6, 6 Plus by Apple and S5 and S6 (in the pipe line) by Samsung, to make a compelling need for the support on Mobile devices. With SAS® Mobile BI 7.2, SAS will release native support on smartphones and add new functionality for business users to receive report content through collections. SAS will also add new functionality for the administrator to secure the content on mobile devices.

SAS® Visual Analytics will introduce a HTML5 based web viewer which is intended to replace the current flash based web viewer. Apart from being a fully functional web viewer, the HTML5 based web viewer will add additional functionality to the viewer experience.

REFERENCES

SAS® Visual Analytics 7.2: Users Guide.

SAS® Mobile BI help in the mobile application

ACKNOWLEDGMENTS

I want to thank the teams that have done a great job in the development of the SAS® Mobile BI and HTML5 based web viewer.

CONTACT INFORMATION

Your comments and questions are valued and encouraged. Contact the author at:

<Murali Nori>
<SAS Inc>
<919-531 5094>
<Murali.Nori@sas.com >

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration.

Other brand and product names are trademarks of their respective companies.