

# Snapshot Use Cases: Compliance, Governance, and Security

#### Introduction

Snapshot documents every aspect of the change and release management process. This information is useful for administrative governance during the release process and is also available as a permanent record for compliance. These documents can be stored as custom objects in your Salesforce account, saved as local files, or stored as Salesforce Content.

Snapshot also provides two dozen automated reports that are hugely beneficial for release management as well as corporate compliance, governance and security. These reports are available in CSV, HTML, and PDF format. They can be branded with a corporate logo and additional information. They can be sent as email attachments or Chatter Content. All of these reports can be scheduled and automated. Many of them have conditional triggers and are sent out only when problems are detected.

This whitepaper discusses common use cases for improving compliance, governance, and security at your company. This information should be helpful for Salesforce administrators, compliance managers, and security professionals.



# Compliance, Governance, and Security

Here is an overview of the different documents and reports that Snapshot provides. Each individual report is discussed in detail in the sections below:

#### **Compliance Documentation**

- Time Series Snapshots
- Deployment History

#### **Comparison Reports**

- Time Series Differences
- Metadata Differences

#### Metadata Reports

- Asset History
- Similar Assets
- Data Dictionary
- Relationship Matrix
- Fields Vs Page Layouts
- Record Types Vs Picklists
- Controlling Vs Dependent Picklists

#### **Data Usage Reports**

- Field Usage
- Picklist Usage
- Last Activity Date
- Apex Code Coverage

#### Security Reports

- Record Level Security
- User Activity Timeline
- Security Health Check
- Profiles and Permission Sets
- Combined Security



# **Time Series Snapshots**

Each time a metadata snapshot is taken, the information is added to a time series. By virtue of simply using the Snapshot product, an administrator creates a time series record of all of the metadata changes in an org over time. The snapshots in the time series can be compared on a line by line basis, and you can run reports on any of the snapshots in the time series.

Each snapshot file contains a wealth of information about the state of a Salesforce account. The Metadata API, the Data API, the Tooling API, and the Force.com REST API are all used to collect information. The Metadata API captures the selected metadata assets. The Data API gathers Describe data on the selected Custom Objects. The Tooling API downloads additional information about creation and modification dates. The Force.com REST API records the organizational limits.

This information is automatically maintained on the client desktop computer where Snapshot is installed. All of the data is in the "storage" folder next to the snapshot.mzoa file. Each item on the Snapshot desktop has a corresponding folder that contains the time series data. The snapshot file can be automatically sent in email or saved to a repository as part of the scheduling and automation process. This information provides a foundation for compliance, and is also a necessary resource for the backup and recovery of the Salesforce org.

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# **Deployment History**

When a deployment is made, Snapshot adds all of the information about the deployment to two Custom Objects that are installed by our Managed Package in the licensed org. The Deployment History objects are used by administrators to verify that a given snapshot is up to date, to review historical deployments, and to work with previously used Create and Delete Job Lists. There is also a Deployment Report that is created for any deployment. This is a text version of the Deployment History objects. The Deployment Report is often sent as a human readable email when a deployment succeeds, fails, etc.

The name of the Custom Objects is **metazoa3\_\_snapshot\_push\_\_c** and **metazoa3\_\_snapshot\_asset\_\_c**. The **snapshot\_push** object is the Master, and the **snapshot\_asset** object is the Detail. The **snapshot\_push** Master Object contains all of the information about the push: the source org, the destination org, the person conducting the deployment, the Create Job List, the Delete Job List, and all of the various settings for the push. The **snapshot\_asset** Child Object contains all of the individual assets contained in the Create and Delete Job List.

The Deployment History can be searched and reported on in the Salesforce HTML interface. Workflow triggers can be created to alert administrators that a deployment has occurred when these objects are created. These objects capture any push by the Snapshot product between any two orgs, and so they contain a complete picture of all administrative activity with Snapshot. Below is a picture of the **snapshot\_push** object in the Salesforce HTML interface.

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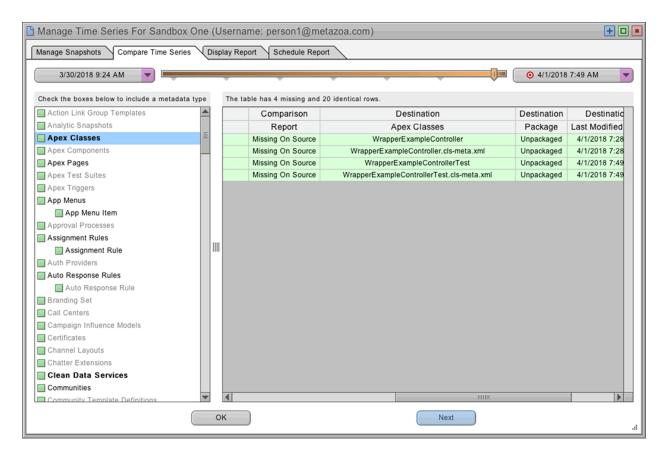


## **Time Series Differences**

Each time a metadata snapshot is taken, the information is added to a time series. The Time Series Differences report can compare any two snapshots in the time series. This provides a complete picture of all metadata changes in the org over time. The report can drill down into sub-types as well. This can show, for example, the date and time that an admin added individual Fields to an Object. This report is available for any Salesforce org or any developer project stored in a repository.

The Time Series Difference report can be scheduled. For example, the report might calculate metadata differences after a nightly snapshot of the org is taken. The report can be sent out to administrators as an email attachment or Chatter Content. The Schedule Report tab has an option to make this conditional, and only send the message if differences are detected. Used in this manner, the Time Series Differences report can automatically document metadata changes in an org and notify administrators.

There are a variety of compliance and governance use cases for this capability. First, if a group of developers are working on a particular project, the differences report documents all progress as assets are added to the org or developer repository. Second, the developers might use this report to catch unwanted or accidental changes to any section of metadata. Perhaps another development team changed something, or an employee used the Setup Menu. Lastly, any compliance organization wanting a dynamic update on metadata changes could use these report for that purpose.



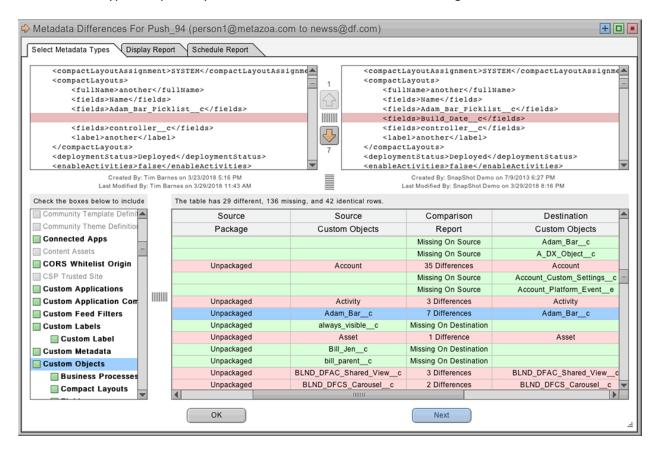


## Metadata Differences

The Metadata Differences report is similar to the Time Series Differences report, but instead of looking at one org over time, this report looks at the differences between two orgs connected by a deployment arrow. The report specifies the number of differences for each metadata type, and the top slide down panel allows an administrator to drill down into the line by line details.

This report can be used to explore the exact differences between two Salesforce orgs, or a developer project and a Salesforce org. For example, if an administrator is getting ready to migrate a Sandbox into Production, then they could use this report to explore and document the differences before migration.

In the example below, you can see all of the differences between the Custom Objects in two connected Salesforce orgs. The Custom Object **Adam\_Bar\_\_c** is showing a total of 7 differences. Slide down the top panel, and you can drill down into every difference on a line by line basis. The first difference shows that the destination org has the extra field **Build\_Date\_\_c** defined in a compact layout. You could select the metadata sub type Compact Layouts from the lower left list to further target those differences.





## Asset History

Think for a second about your production Salesforce account. Most orgs will have Custom Tabs, Page Layouts, Custom Objects, Profiles, Visualforce Pages, and many other configurations. The Metadata API currently supports about 150 different types. And for each type, there are many individual assets. An Unlimited Edition org can have up to 2000 Custom Objects, each with a maximum of 500 fields. There can be hundreds or even thousands of Roles, Profiles, Dashboards, and other assets.

Now think about this. Where did all that stuff come from? Who deployed it? When was it deployed? Was it tested in a Sandbox? Was it modified with the Setup Menu? What was the chain of custody from the original developer who created it down through various Sandboxes and other staging orgs before it ended up in your production account?

The new Asset History Report can answer these questions. This report mines the "meta metadata" that Snapshot stores in the licensed org along with additional information from the Salesforce Metadata, Tooling, and Data API. As a result, the Asset History Report can tell you *where* each metadata asset was originally created, *what* changes were made to the asset, *who* made these changes, *which* orgs the asset moved through, and *when* the asset was last modified. This is a game-changing report for compliance, security, and governance.

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		Asset	AccountId	Tim Barnes	4/1/2018 7:49 AM	Tim Barnes
List Views		Asset	AssetLevel	Tim Barnes	4/1/2018 7:49 AM	Tim Barnes
Record Types		Asset	AssetProvidedById	Tim Barnes	4/1/2018 7:49 AM	Tim Barnes
Sharing Reasons		Asset	AssetServicedById	Tim Barnes	4/1/2018 7:49 AM	Tim Barnes
Validation Rules		Asset	ContactId	Tim Barnes	4/1/2018 7:49 AM	Tim Barnes
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Record Types		Asset	ParentId	Tim Barnes	4/1/2018 7:49 AM	Tim Barnes



#### Similar Assets

The Similar Assets report shows the number of differences between assets of the same metadata type. For example, you might find that some Reports are identical in your org. This report is often used to find duplicate Custom Objects, Profiles, and Page Layouts as well. The top slider provides line by line detail of all differences. The Similar Assets report is useful for cleaning up duplicate assets and understanding the metadata structure of your account.

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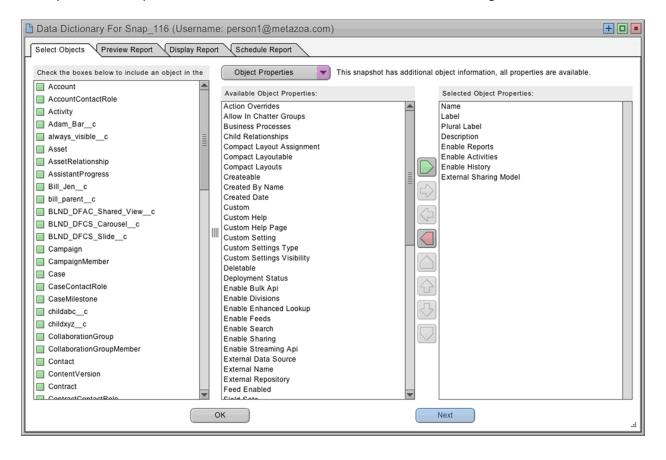


#### **Data Dictionary**

The Data Dictionary report is used to provide complete documentation on the state of Custom and Standard Objects in your org. Any number of Objects can be selected for the report. Then the report can be customized to include Summary Statistics, Organization Limits, Object Properties, Field Properties, Object Relationships and Field Relationships.

The Organization Limits include 20+ limits such as Daily API Requests and Daily Storage MB. The Object Properties include 50+ different Object properties such as Label and Description. The Field Properties include 80+ Field properties such as Inline Help Text and Formula. The Object and Field Relationships show how the given Object or Field is related to any of the other metadata types.

The Data Dictionary is a key report for compliance and documentation. Companies often archive this report to document the state of their org over time. All of the columns in the report can be customized to provide only the information that a company deems relevant for compliance. System Integrators often present this report to customers to document the current state of the org.





# **Relationship Matrix**

The Relationship Matrix report is mainly designed to provide an interactive understanding of the metadata structure of an account. How do Reports relate to Custom Objects? How do Dashboards relate to Reports? All of these questions can be explored and documented. This report is often used to untangle complex relationships between metadata assets in the org.

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# **Fields Vs Page Layouts**

The Fields Vs Page Layouts report documents which fields are on which page layout. Each field can be required, editable, read only, or missing. This is a useful report for compliance and documentation. When looking at any column, you can see all of the status of every Field on the Page Layout. When looking across any row, you can see which layouts an individual Field appears on. This report is often used to verify that a particular Field appears on some Page Layouts but not on others.

check the boxes below to include an ob	je	This table shows a preview of the selected	l object.		
<ul> <li>DocuSign For Salesforce</li> <li>DreamFactory</li> </ul>		Unpackaged Account	Unpackaged Account-Account (Sales) Layout	Unpackaged Account-Account (Support) Layout	Acc
DX Package	=	A_Formula_Fieldc	Read Only	Read Only	
Field Trip	≣	A_Long_Numberc	Edit	Edit	
Salesforce1 Polling Application		AA_Fieldc	Edit		
Snapshot		Account Depth c	Edit		
Test Package		AccountNumber	Edit	Edit	
<ul> <li>Unpackaged</li> </ul>		AccountSource			
A_DX_Objectc		Active_c	Required	Edit	
Account		Adam_Testc			
Account_Custom_Settingsc		AnnualRevenue	Edit	Edit	
Account_Platform_Evente		BillingAddress	Edit	Edit	
AccountContactRole		CreatedByld	Read Only	Read Only	
Activity		CustomerPriority c	Edit	Edit	
Adam_Barc		Description	Edit	Edit	
Asset		Fax	Edit	Edit	
AssetRelationship		Industry	Edit	Edit	
AssistantProgress		IsActive c	Read Only	Read Only	
BLND_DFAC_Shared_Viewc BLND_DFCS_Carouselc		LastModifiedByld	Read Only	Read Only	
BLND_DFCS_Carouserc		Multi select Picklist c			
BLND_DFDT_Action_Itemc		My Picklist field c	Edit	Edit	
BLND_DFDT_Discussion_c		Name	Required	Required	
BLND_DFDT_Highlight_c		Number picklist c	Edit	Edit	
BLND_DFDT_Issue_c		NumberOfEmployees	Edit	Edit	
	-		111111		



# **Record Types Vs Picklists**

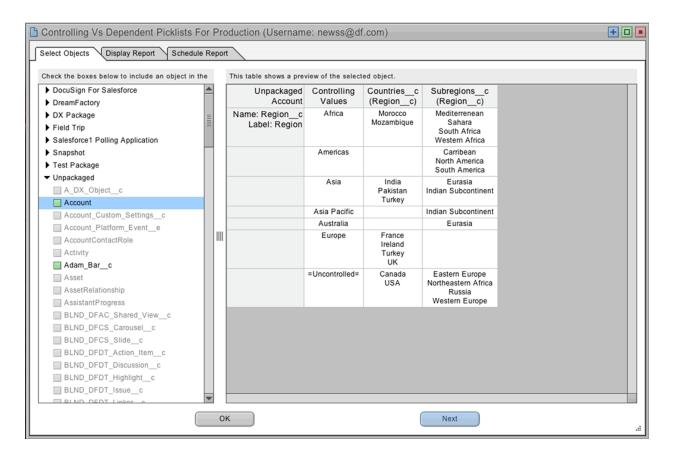
The Record Types Vs Picklists report shows how the Picklists for any object are modified by all of the Record Types for that Object. On the first column, you can see all of the Picklist values, and then on each Record Type column after that, toy can see how the Picklist changes. This is helpful in understanding the metadata structure of your org and preventing errors when Record Types and Picklists get complex.

eck the boxes below to include an c	This table shows a preview of the selected object.			
DocuSign For Salesforce	Unpackaged: Account	All Values	Account_Rec_Type1	Account_Rec_Ty
DreamFactory	Name: Account_Depthc	Deep	Deep	Deep
DX Package	Label: Account Depth	Deeper Deepest	=Deeper=	Deeper
Field Trip		=Shallow=	Shallow	=Shallow=
Salesforce1 Polling Application		Super Deep	Super Deep	Super Deep
Snapshot	Name: AccountSource	Advertisement Cold Call		
Test Package	LeadSource	Employee Referral		
Unpackaged		External Referral		
A_DX_Objectc		Partner Public Relations		
Account		Web Seminar		
Account_Custom_Settings		Trade Show Web	Web	Web
Account_Platform_Evente	m	Word of mouth	web	web
AccountContactRole		Other		Other
Activity	Name: Activec	No		No
Adam_Barc	Label: Active	Yes	=Yes=	
Asset	Name: CorporateDesktopHWStandard_c	HP IBM		
AssetRelationship	Label: Corporate Desktop HW Standard	Compaq		
AssistantProgress		Dell		
BLND_DFAC_Shared_View_	Numero Companya Depidence On Other depidence	Other Windows 98		
BLND_DFCS_Carouselc	Name: CorporateDesktopOSStandard_c Label: Corporate Desktop OS Standard	Windows 98 Windows 2000		
BLND_DFCS_Slidec	Labor outporate brokkop oo olandard	Windows XP		
BLND_DFDT_Action_Item		Mac OS Other		
BLND_DFDT_Discussionc		Windows 95		
BLND_DFDT_Highlightc	Name: Countriesc	Canada	Canada	Canada
BLND DFDT Issue c	Label: Countries	France	France	France



# **Controlling Vs Dependent Picklists**

This report places information about controlling and dependent Picklists in an easy to read tabular format. This is helpful in understanding the metadata structure of your org and preventing errors when controlling Picklists get complex. Both the controlled values and the uncontrolled values are listed in the report.





## Field Usage

The Field Usage report examines a set of records from any Standard or Custom Object. The set can include all records, records chosen by name, or records selected with a filter. Then the report examines each field in the selected Object. The report shows the total number of fields, how many fields are equal to the default value, how many fields are empty, and how many fields have distinct values.

The Field Usage report can also interactively list the least and most popular values for any selected field. On the one hand, this capability helps an administrator drill down on unique or aberrant field values, and on the other hand, this capability provides an easy way to see overused or duplicate values.

This report is extremely useful for finding rarely used or misused fields in any object. Fields that are less distinct (and therefore more uniform) should be looked at closely. Sometimes they are mainly empty. Other times they might be rarely used, forgotten, or neglected. In other cases, a lack of Distinct values might be appropriate. For example, company zip codes will be less distinct than company names.

This information could suggest policy problems, corrective actions, or administrative changes. Perhaps an unused field should simply be deleted. The sales team almost never fills in the Customer Website Field when a new account is created. Should this be a required Field? Missing or empty data can also point to upstream data entry, external integration, or website problems.

This table shows a previe	w of the selec	ted objec	t on the fir	st tab.					Show Most Popular Value	S	
Account Labels	Type	Total 115	Default 4	Empty 109	Distinct	Default % 3.47%	Empty % 94.78%	Distinct %	Show Least Popular Valu	es	
Upsell Opportunity	picklist	115	4	109	4	90.43%	94.78%	3.47%	Select a row from the table	at laft tr	o caa tha val
ng Geocode Accuracy	picklist	115	59	59	4	90.43% 51.30%	90.43% 51.30%	4.34%	Denver	1	0.86%
SLA	picklist	115	104	104	5	90.43%	90.43%	4.34%	Columbus	1	0.86%
SLA Shipping City		115	104	104	5	90.43%	90.43%	6.08%	colombo	1	0.86%
	string	115	109	109	7	• • / •	94.78%	6.08%	Chicago	1	0.86%
pping Zip/Postal Code Ticker Symbol	string	115	109	109	7	94.78%	94.78%	6.08%	Centennial	1	0.86%
Account Type	string	115	32	32	7	27.82%	27.82%	6.08%	Cary	1	0.86%
Silling Country Code		115	85	12	10	73.91%	10.43%	8.69%	Cambridge	1	0.86%
SIC Code	picklist	115	104	104	10	90.43%	90.43%	8.69%	Burlington	1	0.86%
SLA Serial Number	string	115	104	104	10	90.43%	90.43%	10.43%	Broussard	1	0.86%
Account Number		115	104	104	12	90.43%	90.43%	11.30%	Bradentown	1	0.86%
Billing Country	string	115	103	103	13	10.43%	10.43%	11.30%	Billerica	1	0.86%
illing State/Province		115	20	20	13	17.39%	17.39%	12.17%	Beaverton	1	0.86%
0	string	115	101	101	14	87.82%	87.82%	13.04%	Aylesbury	1	0.86%
Shipping Street	textarea int	115	99	99	15	86.08%	86.08%	14.78%	Andover	1	0.86%
Employees		115	99	99	20	66.95%	66.95%	17.39%	Atlanta	1	0.86%
Industry	picklist								Austin	2	1.73%
Account Fax	phone	115	93	93	23	80.86%	80.86%	20.00%	San Mateo	2	1.73%
Website	Inu	115	60	60	54	52.17%	52.17%	46.95% 53.04%	San Francisco	2	1.73%
Iling Zip/Postal Code	string	115	53	53	61	46.08%	46.08%	58.26%	Portland	2	1.73%
Billing City	string	115	38	38	67	33.04%	33.04%		Dallas	2	1.73%
Billing Street	textarea	115	43	43	73	37.39%	37.39%	63.47%	New York	2	6.08%
Account Phone	phone	115	9	9	107	7.82%	7.82%	93.04%	INEW FOR	38	33.04%
Company Name	string	115	0	0	115	0.00%	0.00%	100.00%	Total Distinct Values		
Photo URL	url	115	0	0	115	0.00%	0.00%	100.00% 🔽	Total Distinct Values	67	100.00%



## **Picklist Usage**

The Picklist Usage report examines a set of records from any Standard or Custom Object. The set can include all records, records chosen by name, or records selected with a filter. Then the report examines each Picklist in the selected Object. The report shows the total number of Picklist values, and how many times each Picklist value is being used in the record set. The report can also be expanded to break down Picklist usage by each Record Type in the Object.

This report is extremely useful for finding rarely used or misused values in any Picklist. The Other Values column (pictured below) shows miscellaneous values that are not actually in the Picklist. This is useful for discovering new values that should be incorporated into the Picklist, and also for cleaning up Picklist data that contains with the wrong value.

This information could suggest policy problems, corrective actions, or administrative changes. Perhaps an unused Picklist value should simply be deleted, or maybe one of the Other Values needs to be added to the list. Examining Picklist usage by Record Type is also useful. You can see which Record Types are using what Picklist values.

	the selected object on the first					 
Account Fields	Picklist Values	Other Values	Total		Percent	
Account_Depthc	Deeper		115	2	1.73%	
	=Shallow=		115	100	86.95%	
		empty	115	13	11.30%	
AccountSource		empty	115	115	100.00%	
Active_c	No		115	1	0.86%	
	Yes		115	13	11.30%	
		empty	115	101	87.82%	
BillingCountryCode	AU		115	3	2.60%	
	BD		115	1	0.86%	
	BR		115	1	0.86%	
	CA		115	5	4.34%	
	FR		115	1	0.86%	
	DE		115	1	0.86%	
	LK		115	1	0.86%	
	GB		115	5	4.34%	
	=US=		115	85	73.91%	
		empty	115	12	10.43%	
illingGeocodeAccuracy	Address		115	27	23.47%	
	Block		115	7	6.08%	
	Street		115	1	0.86%	
	Zip		115	21	18.26%	
		empty	115	59	51.30%	
BillingStateCode	AB		115	2	1.73%	
	AZ		115	3	2.60%	
	CA		115	90	78.26%	



# Last Activity Date

The Last Activity Date report allows an administrator to select a set of Dashboard, Report, or Email Template records. The set can include all records, records chosen by name, or records selected with a filter. Then the report calculates when each Dashboard, Report, or Email Template was first created and most recently used. This information can be used to weed out old and stale assets that are clogging up your org. Any Dashboard, Report, or Email Template that has not been used in years is also likely to contain inaccurate information.

Reports have information about last run date. Dashboard have information about Last Refresh Date. Email Templates have information about Last Used Date and the number of Times Used. All of these objects have Created Date and Last Modified Date. All of these dates are used to calculate the First Activity and the Last Activity dates on the right-hand side of the report. Taken together, an administrator can use this information to figure out which the old assets should be deleted.

ast Activity Date for Obje	ct Dashboa	ard						
Object Name	Reco	rd ID		Folder	Namespace	C	reated By	Last
Snapshot Push Actions	01Zi000000		Snapshot	Push Actions Dashboard			com (SnapShot Demo)	newss@df.co
DocuSign for Salesforce	01Zi00000			cuSign Dashboard	dsfs	-	com (SnapShot Demo)	newss@df.co
Service Executive Overview	01Zi000000	VWPTEA4		tice Service Dashboards		-	com (SnapShot Demo)	newss@df.co
Sales Executive Dashboard	01Zi000000	WPWEA4	Example Sales	s and Marketing Dashboards		-	com (SnapShot Demo)	newss@df.co
Marketing Executive Dashboard	01Zi000000	WPVEA4		s and Marketing Dashboards		-	com (SnapShot Demo)	newss@df.co newss@df.co
Service KPIs	01Zi000000	VWPUEA4	Best Pract	tice Service Dashboards		newss@df.c	om (SnapShot Demo)	
Sales Manager Dashboard 01Zi00000		WPYEA4	Example Sales	s and Marketing Dashboards		newss@df.c	com (SnapShot Demo)	newss@df.co
		WPXFA4	Example Sale	s and Marketing Dashboards		newss@df.com (SnapShot Demo)		newss@df.co
			Example Gales	s and marketing Dashboards		1104135@01.0	oni (ShapShot Denio)	1104133@01.00
Agent Supervisor Overview	01Zi000000			tice Service Dashboards		-	com (SnapShot Demo)	-
	01Zi000000	VWPSEA4		•		-	,	newss@df.co
Agent Supervisor Overview ast Activity Date for Obje	o1zi0000000	OVWPSEA4	Best Pract	tice Service Dashboards		newss@df.c	com (SnapShot Demo)	newss@df.co
Agent Supervisor Overview ast Activity Date for Objec Object Name	01Zi0000000 ect Report	NWPSEA4 Reco	Best Pract	tice Service Dashboards Folder	ons	newss@df.c	com (SnapShot Demo) Created E	newss@df.co By Shot Demo)
Agent Supervisor Overview ast Activity Date for Obje Object Name All Unsuccessful Changes Tod	01Zi0000000 ect Report lay By User week by src	00000000000000000000000000000000000000	Best Pract	tice Service Dashboards Folder Snapshot Push Acti	ons	newss@df.c	com (SnapShot Demo) Created E newss@df.com (Snap	newss@df.co By oShot Demo) oShot Demo)
Agent Supervisor Overview ast Activity Date for Objec Object Name All Unsuccessful Changes Tod Usage:# pushes this month by	01Zi0000000 ect Report lay By User week by src h by week	Recc 000i000000 000i000000 000i000000	Best Pract ord ID D3BXnqEAG D3BXnzEAG	tice Service Dashboards Folder Snapshot Push Acti Snapshot Push Acti	ons ons ons	newss@df.c	com (SnapShot Demo) Created E newss@df.com (Snap newss@df.com (Snap	newss@df.co By oShot Demo) oShot Demo) oShot Demo)
Agent Supervisor Overview ast Activity Date for Objec Object Name All Unsuccessful Changes Tod Usage:# pushes this month by Usage: # of pushes this mont	01Zi0000000 ect Report lay By User week by src h by week h by type	Recc 0001000000 0001000000 0001000000 0001000000	Best Pract ord ID 03BXnqEAG 03BXnzEAG 03BXnyEAG	tice Service Dashboards Folder Snapshot Push Acti Snapshot Push Acti Snapshot Push Acti	ons ons ons ons ons ons	newss@df.c	Created E newss@df.com (Snap newss@df.com (Snap newss@df.com (Snap	newss@df.co By OShot Demo) OShot Demo) OShot Demo) OShot Demo)
Agent Supervisor Overview ast Activity Date for Objec Object Name All Unsuccessful Changes Tod Usage:# pushes this month by Usage: # of pushes this mont Usage:# of pushes this mont	01Zi0000000 ect Report lay By User week by src h by week h by type by success	Recc 0001000000 0001000000 0001000000 0001000000	Best Pract ord ID 03BXnqEAG 03BXnzEAG 03BXnyEAG 03BXnyEAG 03BXnxEAG	tice Service Dashboards Folder Snapshot Push Acti Snapshot Push Acti Snapshot Push Acti Snapshot Push Acti	ons ons ons ons ons	newss@df.c	Created E newss@df.com (Snap newss@df.com (Snap newss@df.com (Snap newss@df.com (Snap	newss@df.cc By DShot Demo) DShot Demo) DShot Demo) DShot Demo) DShot Demo) DShot Demo)
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# Apex Code Coverage

The Apex Code Coverage report allows an administrator to select any number of test classes on the Select Apex Tests tab, and then see all of the test results on the Display Report tab. The Code Coverage tab displays the line by line coverage details for the Apex Tests, Apex Classes, and Apex Triggers in the report. Lastly, the Schedule Report tab can be used to automate this report, and conditionally send the report out only if Low or Medium coverage is detected.

The Select Apex Tests tab can be used to examine the effect of running a single test class. The Apex Classes and Triggers that are covered will be displayed, and the coverage results will be detailed. You can also select multiple Test Classes to run, and see the aggregate results on the Display Report tab. This is useful if you want to focus on a group of classes and see their code coverage without running other tests. If all Apex Tests are selected, then the Display Report tab shows the Apex Classes and Triggers that are covered, but also includes other Classes and Triggers which are not covered by any test class.

The Manage Coverage button at upper right allows an administrator to edit the code coverage levels used for report colorization and the conditional threshold. The use case here is that a development team can set up the report to watch a set of Apex Classes and Triggers they are working on. If the nightly code coverage for any script falls below the desired standard, then they are automatically notified. The report could also be run on a production org and document compliance with code coverage standards after each metadata update.

			🔀 Hide Lines 🛛 🔀 Hide Messages	🔀 Co	olor Coding		Manage	Coverage
aht-click the	table to ex	roort the	report in a variety of formats.		Ū			
Result	Time	Туре	Asset Name	Total Locations	Not Covered	Covered	Not Covered %	Covered %
Success	17 ms	Test	MyProfilePageControllerTest	Total Locations	NOL COVERED	Covered	Not Covered %	Covered %
Success	99 ms	Test	MyProfilePageControllerTest					
Success	14 ms	Test	SiteLoginControllerTest					
Success	15 ms	Test	SiteRegisterControllerTest					
Failure	42 ms	Test	SetActiveWhenNewAccountCreates Test					
Coverage	12 110	Class	ChangePasswordController	6	0	6	0.00%	100.00%
Coverage		Trigger	chatter answers question escalation to case trigger	18	12	6	66.66%	33.33%
Coverage		Class	ChatterAnswers	4	0	4	0.00%	100.00%
Coverage		Class	ChatterAnswersAuthProviderRegistration	31	31	0	100.00%	0.00%
Coverage		Class	CommunitiesLandingController	3	2	1	66.66%	33.33%
Coverage		Class	CommunitiesLoginController	5	0	5	0.00%	100.00%
Coverage		Class	CommunitiesSelfRegConfirmController	1	0	1	0.00%	100.00%
Coverage		Class	CommunitiesSelfRegController	39	9	30	23.07%	76.92%
Coverage		Class	ConcurrentSessionsPolicyCondition	26	26	0	100.00%	0.00%
Coverage		Class	DataLoaderLeadExportCondition	11	11	0	100.00%	0.00%
Coverage		Class	ForgotPasswordController	9	1	8	11.11%	88.88%
Coverage		Class	MyContactListController	4	4	0	100.00%	0.00%
Coverage		Class	MyProfilePageController	41	5	36	12.19%	87.80%
Coverage		Class	MyScheduledClass	1	1	0	100.00%	0.00%
Coverage		Class	SiteLoginController	6	0	6	0.00%	100.00%
Coverage		Class	SiteRegisterController	27	5	22	18.51%	81.48%
Summany	649 ms			232	107	125	46.12%	53.87%



# **Record Level Security**

The Record Level Security report examines a set of records from any Standard or Custom Object. The set can include all records, records chosen by name, or records selected with a filter. Then the report calculates which users have access to each record, what kind of access, and the reason why.

Because some large orgs have many thousands of users, the report details access by Profile, Permission Set, Sharing Rule, Object Ownership, Group Membership, and Role Membership. The Preview Report tab allows an individual record to be selected and will interactively display the entire set of users with access to that record, along with a more detailed reason as to why access was granted.

The value of this report for security and compliance can't be overstated. Any object that contains sensitive information can be analyzed. The set of people with access to that object are displayed. If one particular record has been compromised, then the entire set of users with access to that specific record will be generated. Instead of wading through the sharing rules, permission sets, manual shares, and role hierarchy at your company, this report provides a machine generated method of verifying and explaining object visibility across any group of users.

Sort By Name 💌 Sel	ect a menu item to sort the t	able.					Color Coding	
		000.					Eg color county	
ht-click the table to export th	e report in a variety of forma	ts.						
ecord Level Security for	or Object criteria_visib	lec						
Object Name	Record ID	Users	Ad	ccess	Reas	on		
All Records	All Records	With Profile (Admin)		Access	Adm	in		
All Records	All Records	With Profile (Custom Profile)	Full	Access	Adm	in		
All Records	All Records	With Profile (Special Profile)	Full	Access	Adm	in		
Created by Person 1	a091W00000eRWV6QAO	person1@metazoa.com (Tim Barnes)	Full	Access	Own	er		
Created in Eastern Region	a091W00000eRWVLQA4	person3@metazoa.com (Karen Logan)	Full	Access	Own	er		
Created in Western Region	a091W00000eRWYcQAO	In Role (Eastern Region)	Rea	ad Only	Rul	e		
Created in Western Region	a091W00000eRWYcQAO	person2@metazoa.com (Bob Smith)	Full	Access	Own	er		
Created with Shareme	a091W00000eRWVaQAO	In Group (special_group)	Rea	ad Only	Rul	e		
Created with Shareme	a091W00000eRWVaQAO	person3@metazoa.com (Karen Logan)	Full	Access	Own	er		
ecord Level Security for	or Object manual visil	ale c						
Object Name	Record ID	Users		Acces		Reason		
All Records	All Records	With Profile (Admin)		Full Acc		Admin		
All Records	All Records	With Profile (Custom Profile)		Full Acc		Admin		
All Records	All Records	With Profile (Special Profile)		Full Acc		Admin		
created by person 3	a041W00000Yr513QAB	person3@metazoa.com (Karen Logan		Full Acc	0.000.000000	Owner		
created by person 4	a041W00000Yr518QAB	person4@metazoa.com (Suzy Jones)		Full Acc		Owner		
created by person 5	a041W00000Yr51IQAR	person5@metazoa.com (Bill Anderson		Full Acc		Owner		
shared with person 2	a041W00000Yr4oGQAR	In Role And Subordinates (Western Reg	10000	Read O	201. <b>1</b> . 11	Manual		
shared with person 2	a041W00000Yr4oGQAR	person1@metazoa.com (Tim Barnes)	)	Full Acc		Owner		
shared with person 3	a041W00000Yr4oaQAB	In Group (special_group)		Read O	nly	Manual		

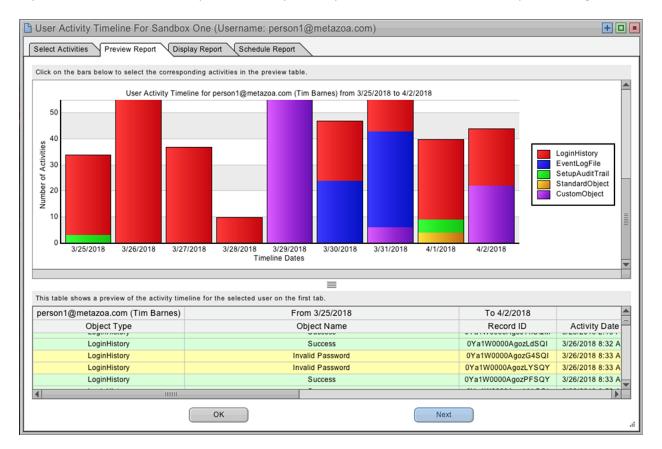


# **User Activity Timeline**

The User Activity Timeline report shows all of the activities that a given user performed during a specified time frame. This report mines information from many different Salesforce objects and systems in order to paint a complete picture of user activity. This information can be used to monitor user activities and trigger alerts if problems are detected, or the report can be used forensically to investigate an incident in the past for security or governance purposes. The User Activity Timeline report is a key security capability for any Salesforce org.

An administrator can select different Objects for the report, a group of Users, and a start and stop date for the timeline. The Objects include the EventLogFile, LoginHistory, SetupAuditTrail, Standard Objects, and Custom Objects. The EventLogFile is a special capability that must be purchased from Salesforce. This Object has over 40 different types of event logs, including data exfiltration information. The LoginHistory Object documents user logins and failed attempts. The SetupAuditTrail Object records over 40 different types of administrative user actions performed with the Setup Menu. The Standard and Custom Objects show when the user created or last modified an Object during the time frame.

An administrator can set the risk level of each activity to Low, Medium, or High. If any activity exceeds the threshold, a report is sent out documenting the user activity for the given time frame. The use cases here are compelling. The activities of a troubled employee can be monitored before and after termination. The activities of an employee that leaves unexpectedly can be evaluated in retrospect. This report can also be used to keep a watchful eye on any external consultant or developer with org access.





# Security Health Check

The Security Health Check is the same as the Salesforce report available in the Setup Menu. However, this report can be can scheduled, and trigger exceptions if a Medium Risk or High Risk event is detected. If an unacceptable security problem is detected after metadata changes then an administrator can be alerted to the problem automatically.

Security Health Check Fo	Sandbox One (Usernam	ne: person1@metazoa	.com)	+ 0
Select Security Group Display	Report Schedule Report	\		
Uida Laur Diala	Ulida Madium Diak	Uide Web Diek		_
Hide Low Risk	Hide Medium Risk	Hide High Risk	🔀 Color Codin	9
Right-click the table to export the	report in a variety of formats.			
Security Group		Security Setting		Standard Value
CertificateAndKeyManageme	nt	cooling coning	Certificate Expiration	
CertificateAndKeyManageme			Key Size	
FileUploadAndDownloadSecur		Number of security risk file ty		0 security risk file types with Hy
LoginAccessPolici			Can Log in as Any User	
PasswordPolici	es	Passwo	ord question requirement	Cannot cont
PasswordPolici	es		Lockout effective period	
PasswordPolici	es	Maximu	um invalid login attempts	=
PasswordPolici	es	E	Enforce password history	3 passwords ≡
PasswordPolic	es	N	linimum password length	
PasswordPolic	es	Obscure secret and	swer for password resets	
PasswordPolic	es	Password	d complexity requirement	Must mix alpha, numeric, and spec
PasswordPolic	es	Require a minimum	1 day password lifetime	
PasswordPolici	es	L	User passwords expire in	
RemoteSiteSettin	gs		Remote Site Settings	No remote sites with the Disable Protocol Security or
SessionSettin	gs Enabl	e clickjack protection for non-	Setup Salesforce pages	_
SessionSettin	gs	Enable clickjack pro	otection for Setup pages	
SessionSettin	gs Enable (	Content Security Policy prote	ction for email templates	
SessionSettin	gs Enable C	SRF protection on GET requ	ests on non-setup pages	
SessionSettin	gs Enable CSI	RF protection on POST requ	ests on non-setup pages	
SessionSettin	gs	Enable the SMS method	od of identity verification	
SessionSettin	gs Require identity ve	erification during two-factor a	uthentication registration	
SessionSettin	gs	Require secu	re connections (HTTPS)	
SessionSettin			Session Timeout	
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# **Profiles and Permission Sets**

The Profiles and Permission Sets report shows all of your Profiles or Permission Sets down the left-hand column and the selected metadata sub types across the top. The sub types include: Apex Page Accesses, Apex Page Accesses, Application Visibility, Field Permissions, Layout Assignments, Object Permissions, Record Type Visibility, Tab Visibility, User Permissions, and Custom Permissions.

These reports document all of the characteristics of your Profiles and Permission Sets in a single easy to read tabular report. Looking down any column will show the permissions for a single metadata asset by Profile or Permission Set. Reading across any row will show the permissions for a single Profile or Permission Set by each metadata asset. The report can be saved either in HTML, PDF, or CSV. As usual, all of these reports can be scheduled and automated for archive or email purposes.

heck the boxes below to includ	e a	This table shows a preview of the selected p	rofile or permission set	t	
<ul> <li>Profiles</li> </ul>		Object Permissions	A_DX_Objectc	Account	Account_Custom_Settingsc
Apex Class Accesses		Admin	Full Access	Full Access	No Access
Apex Page Accesses		Chatter External User	No Access	No Access	No Access
Application Visibility		Chatter Free User	No Access	No Access	No Access
Field Permissions		Chatter Moderator User	No Access	No Access	No Access
Layout Assignments		ContractManager	No Access	Create, Delete, Edit, Read	No Access
Object Permissions		Cross Org Data Proxy User	No Access	Read	No Access
Record Type Visibility		Custom: Chatter External	No Access	No Access	No Access
Tab Visibility		Custom: Chatter Free	No Access	No Access	No Access
User Permissions		Custom: Contract Manager	No Access	Create, Delete, Edit, Read	No Access
Custom Permissions	=	Custom: Contract Manager2	No Access	Create, Delete, Edit, Read	No Access
Permission Sets		Custom: Contract Manager3	No Access	Create, Delete, Edit, Read	No Access
Apex Class Accesses Apex Page Accesses		Custom: Contract Manager4	No Access	Create, Delete, Edit, Read	No Access
Application Visibility		Custom: Contract Manager5	No Access	Create, Delete, Edit, Read	No Access
Field Permissions		Custom: Cross Org Data Proxy User	No Access	Read	No Access
Object Permissions		Custom: Cross Org Data Proxy User2	No Access	Read	No Access
Record Type Visibility		Custom: Cross Org Data Proxy User3	No Access	Read	No Access
Tab Visibility		Custom: Cross Org Data Proxy User4	No Access	Read	No Access
User Permissions	_	Custom: Cross Org Data Proxy User5	No Access	Read	No Access
Custom Permissions		Custom: Force.com - App User	No Access	Create, Delete, Edit, Read	No Access
Combined Security		Custom: Marketing Profile	No Access	Create, Delete, Edit, Read	No Access
Apex Class Accesses		Custom: Marketing Profile2	No Access	Create, Delete, Edit, Read	No Access
Apex Page Accesses		Custom: Marketing Profile3	No Access	Create, Delete, Edit, Read	No Access
Application Visibility		Custom: Marketing Profile4	No Access	Create, Delete, Edit, Read	No Access

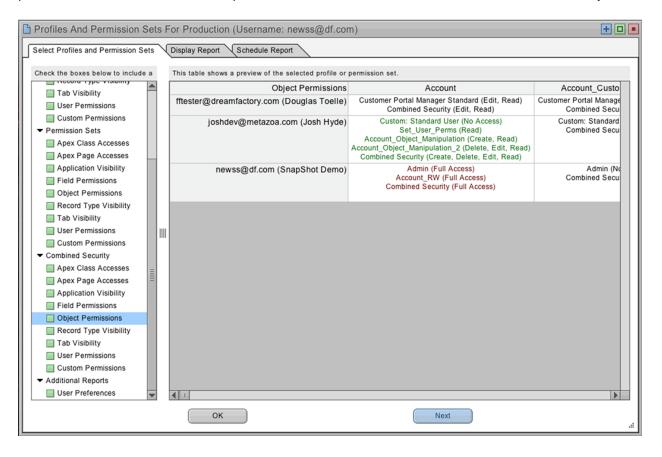


# **Combined Security**

The last section of the Profiles and Permission Sets dialog provides additional information about the Combined Security permissions granted to individual users. The administrator can select any set of Users in the org. The Users will be listed down the left-hand side of the report table. The metadata sub types are displayed across the top, just like the Profiles and Permission set reports.

The Combined Security report starts with the base Profile and then overlays the various Permission Sets assigned to each user. The combined permissions, shown at the bottom of each cell, represent the actual privileges that are being granted. Green cells show where the Permission Sets have changed the base Profile privileges, and Red cells show where the Permission Sets did not change anything.

In the example below, an administrator has selected the Combined Security Object Permissions report. The Profile assigned to user Josh Hyde does not grant any access to the Account object. But Josh has also has been assigned three Permission Sets that overlay additional privileges. The Combined Security permissions shown that Josh actually has Create, Delete, Edit, and Read access to the Account Object.





# Conclusion

This whitepaper has discussed some of the common ways that companies use Snapshot to enhance compliance, governance, and security on the Salesforce platform. Snapshot provides a best-of-breed solution to enable effective release management through streamlined deployments. Over two dozen reports are available to improve compliance, governance, and security at any company.

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