

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
- Org Dictionary
- 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

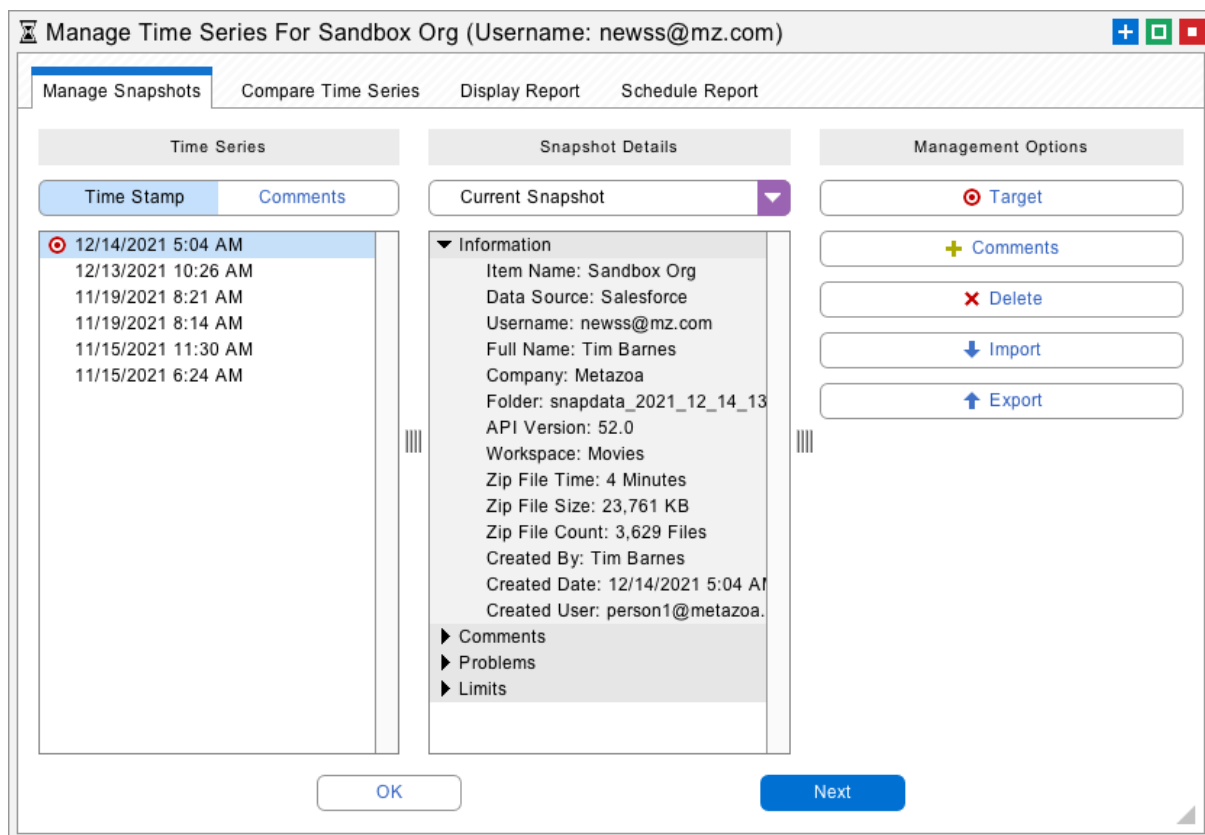
- Record Level Security
- User Activity Timeline
- Security Health Check
- Profiles and Permission Sets
- Combined Security

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.

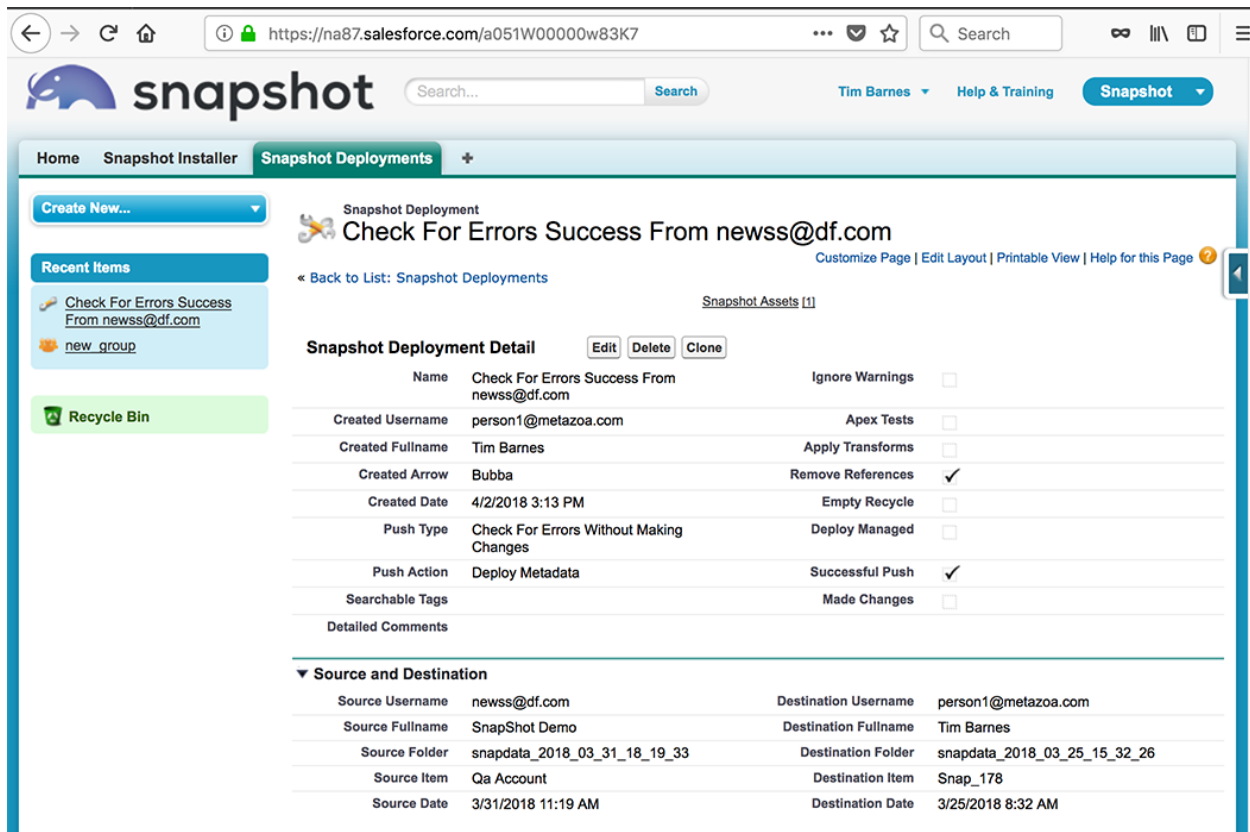


Deployment History

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.



The screenshot shows the Salesforce interface for the Snapshot product. The top navigation bar includes the Snapshot logo, a search bar, and user information (Tim Barnes). The main content area is titled 'Snapshot Deployments' and displays a list of recent items. The selected item is 'Check For Errors Success From newss@df.com', which is shown in detail below. The details include a table of deployment settings and a section for source and destination information.

Snapshot Deployment Detail				
Name	Check For Errors Success From newss@df.com		Ignore Warnings	<input type="checkbox"/>
Created Username	person1@metazoa.com		Apex Tests	<input type="checkbox"/>
Created Fullname	Tim Barnes		Apply Transforms	<input type="checkbox"/>
Created Arrow	Bubba		Remove References	<input checked="" type="checkbox"/>
Created Date	4/2/2018 3:13 PM		Empty Recycle	<input type="checkbox"/>
Push Type	Check For Errors Without Making Changes		Deploy Managed	<input type="checkbox"/>
Push Action	Deploy Metadata		Successful Push	<input checked="" type="checkbox"/>
Searchable Tags			Made Changes	<input type="checkbox"/>
Detailed Comments				

Source and Destination			
Source Username	newss@df.com	Destination Username	person1@metazoa.com
Source Fullname	SnapShot Demo	Destination Fullname	Tim Barnes
Source Folder	snapdata_2018_03_31_18_19_33	Destination Folder	snapdata_2018_03_25_15_32_26
Source Item	Qa Account	Destination Item	Snap_178
Source Date	3/31/2018 11:19 AM	Destination Date	3/25/2018 8:32 AM

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.

Manage Time Series For Sandbox Org (Username: newss@mz.com)

Manage Snapshots

Compare Time Series

Display Report

Schedule Report

<valueSet>

<restricted>true</restricted>

<valueSetDefinition>

<sorted>>false</sorted>

<value>

<fullName>one</fullName>

<default>>false</default>

<label>one</label>

</value>

<value>

1

↑

↓

5

<valueSet>

<valueSetDefinition>

<sorted>>false</sorted>

<value>

<fullName>one</fullName>

<default>>false</default>

<label>one</label>

</value>

<value>

11/19/2021 8:14 AM

12/14/2021 5:04 AM

Check the boxes below to include a m

Quick Find Metadata Types

☐ Custom Label
 ☐ Custom Metadata
 ☐ Custom Notification Types
 ☒ Custom Objects
 ☐ Action Overrides
 ☐ Business Processes
 ☐ Compact Layouts

The table has 2 different and 235 identical rows.

Source	Asset	Destination
Custom Objects	Comparison	Custom Objects
Adam_Bar__c	Some Differences	Adam_Bar__c
Adam_Child__c	Some Differences	Adam_Child__c

OK

Next

Metadata Differences For Winter Release (person1@metazoa.com to newss@mz.com)

Select Metadata Types Display Report Schedule Report

```
<actionName>View</actionName>
<type>Default</type>

</actionOverrides>
```

Created By: Tim Barnes on 11/30/2021 10:15 AM
Last Modified By: Tim Barnes on 11/30/2021 10:15 AM

1
↑
|||||
↓
276
|||

```
<actionName>View</actionName>
<comment>>Action override created by
<content>Account_Record_Page</conten
<formFactor>Large</formFactor>
<skipRecordTypeSelect>>false</skipRec
<type>Flexipage</type>

</actionOverrides>
```

Created By: Tim Barnes on 12/14/2021 5:06 AM
Last Modified By: Tim Barnes on 12/14/2021 5:06 AM

Check the boxes below to include a m

Quick Find Metadata Types

- ☐ Custom Label
- ☐ Custom Metadata
- ☐ Custom Notification Types
- ☒ Custom Objects
 - ☐ Action Overrides
 - ☐ Business Processes
 - ☐ Compact Layouts
 - ☐ Fields
 - ☐ Field Sets
 - ☐ History Retention Policies

The table has 33 different, 152 missing, and 80 identical rows.

Source	Asset	Destination
Custom Objects	Comparison	Custom Objects
DX_Object__c	Some Differences	A_DX_Object__c
Account	Many Differences	Account
	Missing On Source	Account_Platform_Event__e
	Missing On Source	AccountBrand
	Missing On Source	AccountRelationship
	Missing On Source	ActiveScratchOrg
Activity	Some Differences	Activity
Adam_Bar__c	Some Differences	Adam_Bar__c

OK
Next

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.

Asset History For Sandbox Org (Username: newss@mz.com)

Select Metadata Types

Display Report

Schedule Report

Check the boxes below to include a me

Quick Find Metadata Types

☐ Account Relationship Share Rules
 ☐ Action Link Group Templates
 ☐ Action Plan Templates
 ☐ AI Application Configs
 ☐ AI Applications
 ☐ Analytic Snapshots
 ☐ Animation Rules
 ☒ Apex Classes
 ☒ Apex Components
 ☒ Apex Email Notifications
 ☒ Apex Pages
 ☒ Apex Test Suites
 ☒ Apex Triggers
 ☐ App Menus
 ☐ Appointment Scheduling Policies
 ☐ Approval Processes
 ☐ Assignment Rules
 ☐ Audience

This table shows a preview of the selected metadata type.

Apex Classes		Asset
Package	Folder	
Unpackaged		ca_collab_2_0_CommunitiesPackageInstallTest
Unpackaged		ca_collab_2_0_CommunitiesPackageInstallTest
Unpackaged		ca_collab_2_0_CommunitiesPackageInstallTest.cls-meta.
Unpackaged		ca_collab_2_0_CommunitiesPackageInstallTest.cls-meta.
Unpackaged		ChangePasswordController
Unpackaged		ChangePasswordController
Unpackaged		ChangePasswordController.cls-meta.xml
Unpackaged		ChangePasswordController.cls-meta.xml
Unpackaged		ChangePasswordControllerTest
Unpackaged		ChangePasswordControllerTest
Unpackaged		ChangePasswordControllerTest.cls-meta.xml
Unpackaged		ChangePasswordControllerTest.cls-meta.xml
Unpackaged		ChatterAnswers
Unpackaged		ChatterAnswers
Unpackaged		ChatterAnswers.cls-meta.xml
Unpackaged		ChatterAnswers.cls-meta.xml
Unpackaged		ChatterAnswersAuthProviderRegistration

OK

Next

Similar Assets For Sandbox Org (Username: newss@mz.com)

Select Metadata Types Display Report Schedule Report

```
<CustomApplication xmlns="http://soap.sforce.com/2015/04/metadata">
  <defaultLandingTab>standard-AppLauncher</defaultLandingTab>
  <formFactors>Large</formFactors>
  <isNavAutoTempTabsDisabled>>false</isNavAutoTempTabsDisabled>
  <isNavPersonalizationDisabled>>false</isNavPersonalizationDisabled>
  <tabs>standard-AppLauncher</tabs>
  <tabs>standard-Quote</tabs>
</CustomApplication>
```

Row Asset: standard__AppLauncher
Created By: Tim Barnes on 4/19/2014 8:36 PM

```
<CustomApplication xmlns="http://soap.sforce.com/2015/04/metadata">
  <defaultLandingTab>standard-home</defaultLandingTab>
  <formFactors>Large</formFactors>
  <isNavAutoTempTabsDisabled>>false</isNavAutoTempTabsDisabled>
  <isNavPersonalizationDisabled>>false</isNavPersonalizationDisabled>
  <tabs>standard-Chatter</tabs>
  <tabs>standard-Workspace</tabs>
</CustomApplication>
```

Column Asset: standard__Content
Created By: Tim Barnes on 7/9/2013 1:24 PM

Check the boxes below to include a metadata type:

- ☐ Community Theme Definitions
- ☐ Connected Apps
- ☐ Content Assets
- ☒ CORS Whitelist Origins
- ☒ CSP Trusted Sites
- ☒ Custom Applications
- ☐ Custom Application Components
- ☐ Custom Feed Filters
- ☐ Custom Help Menu Section
- ☐ Custom Labels

The table has 149 different, 104 similar, and 23 identical items.

Custom Applications	Chatter	standard__Community	standard__Content
footprint__Field_Footprint	100%	Similar (60%)	Similar (70%)
metazoa3__Snapshot	8%	Different (43%)	Different (50%)
metazoa3__Snapshot_Lightning	2%	Different (30%)	Different (33%)
new_light_app_dev	9%	Different (36%)	Different (40%)
sfsiPoll__Polls	1%	Similar (62%)	Similar (73%)
standard__AppLauncher	100%	Similar (54%)	Similar (64%)
standard__Chatter	100%	Similar (63%)	Similar (72%)
standard__Community		Identical (100%)	Similar (65%)
standard__Content			Identical (100%)
standard__LightningInstrumentation			

OK Next

Org Dictionary

The Org Dictionary can be used to report on all 250 different metadata types. The elements in each metadata type can be selected and the columns can be ordered depending on your business process. Individual cells can also be color coded by value. The Org Dictionary is a very powerful solution for compliance reporting on all the metadata types in an org. The Data Dictionary has specialized capabilities for reporting on Custom Objects and Custom Fields. The Data Dictionary is discussed in the next section.

Org Dictionary For Sandbox Org (Username: newss@mz.com)

Select Metadata Types Preview Report Display Report Schedule Report

Check the boxes below to include a metadata type

Quick Find Metadata Types

- ☐ Account Relationship Share Rules
- ☐ Action Link Group Templates
- ☐ Action Plan Templates
- ☐ AI Applications
- ☐ AI Application Configs
- ☐ Analytic Snapshots
- ☐ Animation Rules
- ☒ Apex Classes
- ☒ Apex Components
- ☒ Apex Email Notifications
- ☒ Apex Pages
- ☒ Apex Test Suites
- ☐ Apex Triggers
- ☐ App Menus
- ☐ Appointment Scheduling Policies
- ☐ Approval Processes
- ☐ Assignment Rules
- ☐ Audience

Available Elements:

Quick Find Available Elements

- Full Name
- Asset Folder
- Asset Package
- Created By Name
- Created Date
- Last Modified By Name
- Last Modified Date
- Metadata Note
- Object Data Id
- Content
- Api Version
- Package Versions
 - Major Number
 - Minor Number
 - Namespace
- Status

Selected Elements:

Quick Find Selected Elements

- Full Name
- Asset Folder
- Asset Package
- Created By Name
- Created Date
- Last Modified By Name
- Last Modified Date
- Metadata Note
- Object Data Id
- Content
- Api Version
- Package Versions / Major Number
- Package Versions / Minor Number
- Package Versions / Namespace
- Status

OK Next

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.

Data Dictionary For Sandbox Org (Username: newss@mz.com)

Select Objects

Preview Report

Display Report

Schedule Report

☐ Include All Standard Fields

Object Properties

This snapshot has additional object information, all proper

Check the boxes below to include an o

Quick Find Custom Objects

☐ Account
☐ Account_Custom_Settings__c
☐ Account_Platform_Event__e
☒ AccountBrand
☒ AccountContactRole
☒ AccountRelationship
☒ AccountTeamMember
☒ ActiveScratchOrg
☒ Activity
☒ ActivityRecurrence2Exception
☒ Adam_Bar__c
☒ Adam_Child__c
☐ AgentWork
☐ AgentWorkSkill
☐ always_visible__c
☐ another_test_article__kav

Available Object Properties:

Quick Find Available Properties

Action Overrides
Allow In Chatter Groups
Associate Entity Type
Associate Parent Entity
Business Processes
Child Relationships
Custom Help
Custom Help Page
Custom Setting
Custom Settings Type
Custom Settings Visibility
Data Translation Enabled
Deletable
Deployment Status
Description
Enable Activities
Enable Bulk API
Enable Divisions
Enable Enhanced Lookup
Enable Feeds

Selected Object Properties:

Quick Find Selected Properties

Compact Layout Assignment
Compact Layoutable
Compact Layouts
Createable
Created By Name
Created Date
Custom

OK

Next

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.

Relationship Matrix For Sandbox Org (Username: newss@mz.com)

Select Related Assets

Preview Matrix

Display Report

Schedule Report

Custom Objects related to Apex Classes

Select a common relationship from the menu at left, or create a custom relation

Display Custom Objects related to the Apex Classes below.

Custom Help Menu Section

Custom Labels

Custom Metadata

Custom Notification Types

Custom Objects

Custom Object Translations

Custom Page Web Links

Custom Permissions

Custom Sites

Choose specific assets or select none to include all.

Unpackaged

A_DX_Object__c

Account

Account_Custom_Settings__c

Account_Platform_Event__e

AccountBrand

AccountContactRole

AccountRelationship

AccountTeamMember

Display Apex Classes that reference the Custom Objects above.

Account Relationship Share Rules

Action Link Group Templates

Action Plan Templates

AI Applications

AI Application Configs

Analytic Snapshots

Animation Rules

Apex Classes

Apex Components

Choose specific assets or select none to include all.

Unpackaged

Another

billiscool

ca_collab_2_0__CommunitiesPackageInstall

ca_collab_2_0__CommunitiesPackageInstallTest

ChangePasswordController

ChangePasswordControllerTest

ChatterAnswers

ChatterAnswersAuthProviderRegistration

OK

Next

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.

Fields Vs Page Layouts For Sandbox Org (Username: newss@mz.com)

Select Objects

Display Report

Schedule Report

Check the boxes below to include an object

Quick Find Custom Objects

Unpackaged

☐ A_DX_Object__c
 ☒ Account
 ☐ Account_Custom_Settings__c
 ☐ Account_Platform_Event__e
 ☐ AccountBrand
 ☐ AccountContactRole
 ☐ AccountRelationship
 ☐ AccountTeamMember
 ☐ ActiveScratchOrg
 ☐ Activity
 ☐ ActivityRecurrence2Exception
 ☒ Adam_Bar__c
 ☒ Adam_Child__c
 ☐ AgentWork
 ☐ AgentWorkSkill
 ☒ always_visible__c
 ☐ another_test_article__kav

This table shows a preview of the selected object.

Unpackaged Account	Unpackaged Account-Account (Marketing) Layout	Unpackaged Account-Account (Sales) Layout
Formula_Field__c	Read Only	Read Only
Long_Number__c	Edit	Edit
AA_Field__c		Edit
Account_Depth2__c	Edit	Edit
Account_ID__c		
AccountNumber	Edit	Edit
AccountSource		
Active__c	Edit	Required
AnnualITBudget__c		
AnnualRevenue	Edit	Edit
BillingAddress	Edit	Edit
controls_menu__c	Edit	Edit
Countries__c		
CreatedById	Read Only	Read Only
CurrencyIsoCode	Required	Required
Id	Read Only	Read Only

OK

Next

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, you 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.

Record Types Vs Picklists For Sandbox Org (Username: newss@mz.com)

Select Objects

Display Report

Schedule Report

Check the boxes below to include an object

Quick Find Custom Objects

▼ Unpackaged

☐ A_DX_Object__c
☒ Account
☐ Account_Custom_Settings__c
☐ Account_Platform_Event__e
☐ AccountBrand
☒ AccountContactRole
☒ AccountRelationship
☒ AccountTeamMember
☐ ActiveScratchOrg
☐ Activity
☐ ActivityRecurrence2Exception
☐ Adam_Bar__c
☐ Adam_Child__c
☐ AgentWork
☐ AgentWorkSkill
☐ always_visible__c
☐ another_test_article__kav

This table shows a preview of the selected object.

Unpackaged: Account	All Values	Account_Rec_Type1
Name: Account_Depth2__c Label: Account Depth	Bill Deep Deeper Deepest =Shallow= Deeper & Deeper Demo Deep Super Deep Super Shallow	Deep =Deeper= Shallow
Name: AccountSource Label: LeadSource	Advertisement Cold Call Employee Referral External Referral Partner Public Relations Web Seminar Trade Show Web Word of mouth Other	Web
Name: Active__c Label: Active	No Yes Maybe	=Yes=

OK

Next

Controlling Vs Dependent Picklists For Sandbox Org (Username: newss@mz.com)

Select Objects

Display Report

Schedule Report

Check the boxes below to include an ol

Quick Find Custom Objects

Unpackaged

☐ A_DX_Object__c
 ☒ Account
 ☐ Account_Custom_Settings__c
 ☐ Account_Platform_Event__e
 ☐ AccountBrand
 ☐ AccountContactRole
 ☐ AccountRelationship
 ☐ AccountTeamMember
 ☐ ActiveScratchOrg
 ☐ Activity
 ☐ ActivityRecurrence2Exception
 ☒ Adam_Bar__c
 ☐ Adam_Child__c
 ☐ AgentWork
 ☐ AgentWorkSkill
 ☐ always_visible__c
 ☐ another_test_article__kav

This table shows a preview of the selected object.

Field: controls_menu__c Label: controls_menu Object Type: Checkbox	Field: depends_checks__c Label: depends_checks Regular Value Set: Account
checked	five
	four
	three
unchecked	three
	two
	one
=Uncontrolled=	spec text ; ! / charactcers
	no control
	six
Field: global_picklist__c Label: global_picklist Global Value Set: Text_based_value_set	Field: depends_global__c Label: depends_global Regular Value Set: Account
Bill	
New	

OK

Next

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.

Field Usage For Sandbox Org (Username: newss@mz.com)

Select Objects

Preview Report

Display Report

Schedule Report

This table shows a preview of the selected object on the first tab.

Account Labels	Type	Total	Used	Empty	Default	Distinct	Used %	Empty
Billing State/Province	string	1018	71	947	947	24	6.97%	93.0
Billing State/Province Code	picklist	1018	71	947	947	17	6.97%	93.0
Industry	picklist	1018	80	938	938	29	7.85%	92.1
Shipping Country	string	1018	91	927	927	8	8.93%	91.0
Shipping Country Code	picklist	1018	91	927	80	8	8.93%	91.0
Billing Zip/Postal Code	string	1018	98	920	920	93	9.62%	90.4
Billing City	string	1018	123	895	895	94	12.08%	87.9
Website	url	1018	127	891	891	122	12.47%	87.5
Company Billing Street	textarea	1018	129	889	889	128	12.67%	87.3
Account Type	picklist	1018	206	812	812	14	20.23%	79.8
Billing Country	string	1018	213	805	805	32	20.92%	79.0
Billing Country Code	picklist	1018	213	805	92	28	20.92%	79.0
Account Phone	phone	1018	274	744	744	264	26.91%	73.1
Active	picklist	1018	372	646	646	2	36.54%	63.5
Region	picklist	1018	378	640	375	3	37.13%	62.9
Account Depth	picklist	1018	600	418	565	4	58.93%	41.1
Number picklist	picklist	1018	997	21	997	2	97.93%	2.1
Record Type ID	reference	1018	998	20	20	4	98.03%	1.9
A Formula Field	currency (fx)	1018	1018	0	0		100.00%	0.0
AA_Field	boolean	1018	1018	0	596	2	100.00%	0.0
Account	double (fx)	1018	1018	0	0		100.00%	0.0
Account Hierarchy Tier	double (fx)	1018	1018	0	0		100.00%	0.0
Child Account	boolean (fx)	1018	1018	0	0	2	100.00%	0.0

Compliance information:

Business Status: Active

Security Classification: Confidential

Compliance Group: HIPAA, GDPR, CC

Edit Compliance

Show Most Popular Values

Show Least Popular Values

Value distribution:

Value	Count	Percent
3D Geo GmbH	1	0.09%
Financial Services	1	0.09%
Zonar	1	0.09%
ed.i.solutionsinc	1	0.09%
Zazzle	1	0.09%
ygint	1	0.09%
nders Global Ltd	1	0.09%
XTM Inc.	1	0.09%
WSI	1	0.09%
chhead Inc. (TX)	1	0.09%
e Kids Company	1	0.09%
sdom University	1	0.09%

OK

Next

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.

Picklist Usage For Sandbox Org (Username: newss@mz.com)

Select Objects Preview Report Display Report Schedule Report

This table shows a preview of the selected object on the first tab.

Account Fields	Picklist Values	Other Values	Master	Account_Rec_Type1	Account
Account_Depth2__c	Bill				
	Deep				
	Deeper			34	
	Deepest				
	=Shallow=		12	3	
	Deeper & Deeper				
AccountSource		empty	8	330	
		Demo Deep		1	
	Advertisement				
	Cold Call				
	Employee Referral				
	External Referral				
	Partner				
	Public Relations				
	Web Seminar				
	Trade Show				
	Web				
	Word of mouth				

OK Next

Select Objects

Preview Report

Display Report

Schedule Report

Manage Activity

Smart Deploy

Right-click the table to export the report in a variety of formats.

DocuSign_Connect_for_Salesforce	01Zi00000000d4TEAA	DocuSign eSigna
Marketing_Executive_Dashboard	01Zi00000000VWPVEA4	Unpa
Salesperson_Dashboard	01Zi00000000VWPYEA4	Unpa
Sales_Executive_Dashboard	01Zi00000000VWPWEA4	Unpa
Snapshot_Pushes04t40000000Fuso	01Zi00000000aef0EAA	Unpa
billtestdash	01Z1Y000000VjgsUAC	Unpa
Sales_Manager_Dashboard	01Zi00000000VWPXEA4	Unpa

Last Activity Date for Object Report

Object Name	Record ID
All_Successful_Changes_Made_Today	000i0000003BXnnEAG
Asset_Pushes_This_Month_By_Success	000i0000003BXnrEAG
All_Successful_Changes_Today_By_User	000i0000003BXnoEAG
All_Unsuccessful_Changes_Made_Today	000i0000003BXnpEAG
Today_s_Changes_With_Details	000i0000003BXntEAG
Today_s_Changes_by_Type	000i0000003BXnuEAG
All_Unsuccessful_Changes_Today_By_User	000i0000003BXnqEAG
All_Field_Analyses	000i0000003BYMTEA4

OK

Next

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.

Apex Code Coverage For Sandbox Org (Username: newss@mz.com)

Select Apex Tests

Code Coverage

Display Report

Schedule Report

☒ Hide Tests
 ☒ Hide Lines
 ☒ Hide Messages
 ☒ Color Code

Manage Levels

Right-click the table to export the report in a variety of formats.

Type	Status	Apex Name	Total Locations	Not Covered	Covered
Class	Untested	Another	1	1	0
Class	Untested	billiscool	2	2	0
Class	Tested	ChangePasswordController	6	0	6
Trigger	Tested	chatter_answers_question_escalation_to_case_trigger	18	12	6
Class	Tested	ChatterAnswers	4	0	4
Class	Untested	ChatterAnswersAuthProviderRegistration	31	31	0
Class	Tested	CommunitiesLandingController	3	0	3
Class	Tested	CommunitiesLoginController	5	0	5
Class	Tested	CommunitiesSelfRegConfirmController	1	0	1
Class	Tested	CommunitiesSelfRegController	39	9	30
Class	Untested	ConcurrentSessionsPolicyCondition	26	26	0
Class	Untested	DataLoaderLeadExportCondition	11	11	0
Class	Tested	ForgotPasswordController	9	1	8
Class	Untested	hello	3	3	0
Class	Tested	LightningForgotPasswordController	18	9	9
Class	Tested	LightningLoginFormController	33	11	22

OK

Next

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.

Record Level Security For Package Testing (Username: person1@metazoa.com)

Select Objects

Preview Report

Display Report

Schedule Report

This table shows a preview of the selected object on the first tab.

Object criteria_visible__c	Record ID	Users
All Records	All Records	With Profile (FactoryTestKeyword)
All Records	All Records	With Profile (No_Pack_License)
All Records	All Records	With Profile (Special User Profile)
All Records	All Records	With Profile (Mangled Admin)
All Records	All Records	With Profile (Two_Factor)
All Records	All Records	With Profile (Admin_Cloner)
All Records	All Records	With Profile (Clone_Custom_Profile)
All Records	All Records	With Profile (Custom Profile)
Created by Person 1	a091W00000eRWV6QAO	person1@metazoa.com (Tim Barnes)
Created by Person 1	a091W00000eRWV6QAO	In Role (Eastern Region)
Created in Eastern Region	a091W00000eRWVLQA4	person3@metazoa.com (Karen Loger)
Created in Western Region	a091W00000eRWYcQAO	person2@metazoa.com (Jennifer Smit)
Created with Shareme	a091W00000eRWVaQAO	person3@metazoa.com (Karen Loger)
Created with Shareme	a091W00000eRWVaQAO	In Group (special_group)

Here are all of the users that can

Username	Full Name
person3@metazoa.com	Karen Loger
person3@metazoa.com	Karen Loger
person7@metazoa.com	Su

OK

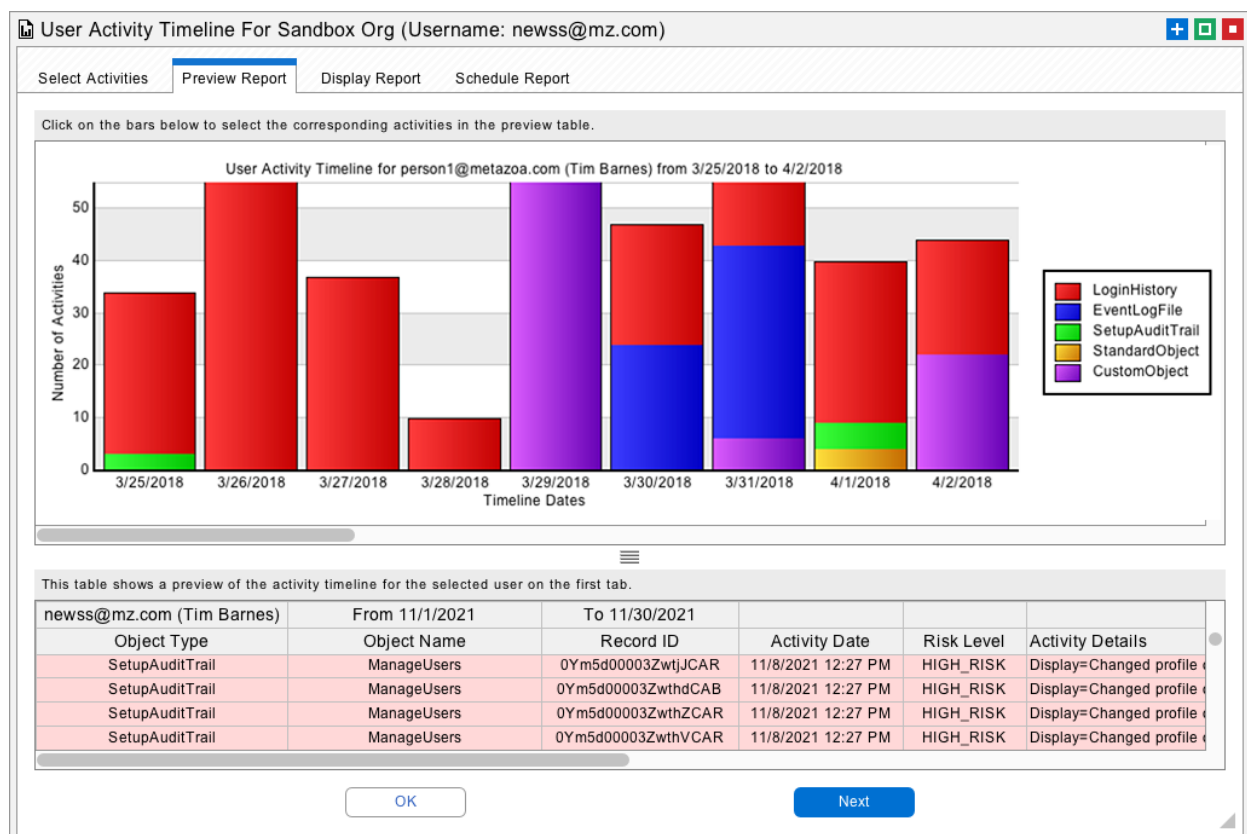
Next

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 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 For Package Testing (Username: person1@metazoa.com)

Select Security Group

Display Report

Schedule Report

Check the boxes below to include a Se:

☒ CertificateAndKeyManagement

☒ FileUploadAndDownloadSecurity

☒ LoginAccessPolicies

☒ PasswordPolicies

☒ RemoteSiteSettings

☒ SessionSettings

This table shows a preview of the selected Security Groups.

Security Group	Security Setting	Standard
PasswordPolicies	Password question requirement	
PasswordPolicies	Lockout effective period	
PasswordPolicies	Maximum invalid login attempts	
PasswordPolicies	Enforce password history	
PasswordPolicies	Minimum password length	
PasswordPolicies	Obscure secret answer for password resets	
PasswordPolicies	Password complexity requirement	Must include alpha, num
PasswordPolicies	Require a minimum 1 day password lifetime	
PasswordPolicies	User passwords expire in	

OK

Next

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.

Profiles And Permission Sets For Sandbox Org (Username: newss@mz.com)

Select Profiles and Permission Sets

Display Report

Schedule Report

Check the boxes below to include a profile or permission set.

▼ Profiles

☐ Apex Class Accesses
 ☐ Apex Page Accesses
 ☐ Application Visibility
 ☐ Custom Metadata
 ☐ External Data Sources
 ☐ Field Permissions
 ☐ Flow Accesses
 ☐ Layout Assignments
 ☒ Object Permissions
 ☐ Record Type Layouts
 ☐ Record Type Visibility
 ☐ Tab Visibility
 ☐ User Permissions
 ☐ Custom Permissions

▼ Permission Sets

☐ Apex Class Accesses
 ☐ Apex Page Accesses
 ☐ Application Visibility

This table shows a preview of the selected profile or permission set.

Object Permissions	A_DX_Object__c	Account
AAA_Clone_Admin	No Access	No Access
Admin	No Access	Create, Delete, Edit
Admin - Non SSO	Full Access	Create, Delete, Edit, Read
Bill_Test1	Read, View	Create, Delete, Edit
Bill_Test2	Read, View	Create, Delete, Edit
Chatter External User	No Access	No Access
Chatter Free User	No Access	No Access
Chatter Moderator User	No Access	No Access
Clone_Custom_Profile	Read, View	Create, Delete, Edit
ContractManager	No Access	Create, Delete, Edit
Cross Org Data Proxy User	No Access	Read
Custom: Chatter External	No Access	No Access
Custom: Chatter External User	No Access	No Access
Custom: Contract Manager	No Access	Create, Delete, Edit
Custom: Contract Manager2	No Access	Create, Delete, Edit, Read
Custom: Contract Manager3	No Access	Full Access
Custom: Contract Manager4	No Access	Create, Delete, Edit

OK

Next

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.

Profiles And Permission Sets For Sandbox Org (Username: newss@mz.com)

Select Profiles and Permission Sets

Display Report

Schedule Report

Check the boxes below to include a pro

☐ Object Permissions

☐ Record Type Visibility

☐ Tab Visibility

☐ User Permissions

☐ Custom Permissions

▼ Combined Security

☐ Apex Class Accesses

☐ Apex Page Accesses

☐ Application Visibility

☐ Custom Metadata

☒ External Data Sources

☒ Field Permissions

☒ Flow Accesses

☒ Object Permissions

☐ Record Type Visibility

☐ Tab Visibility

☐ User Permissions

☐ Custom Permissions

☐ User Preferences

This table shows a preview of the selected profile or permission set.

Object Permissions	Account
billnewss@mz.com (Bill Appleton)	Custom: Standard User (Read, View) Account_Object_Manipulation (Create, Read) Set_User_Perm (Read) Account_Object_Manipulation_2 (Delete, Edit, Combined Security (Create, Delete, Edit, Read
joshdev@metazoa.com (Josh Hyde)	Force.com - Free User (No Access) Combined Security (No Access)
newss@mz.com (Tim Barnes)	

OK

Next

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.

support@metazoa.com

1-833-METAZOA

1-833-638-2962

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