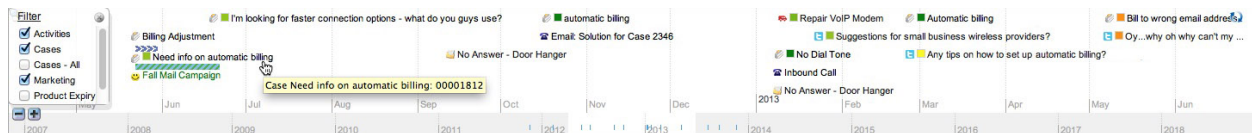




UNIVERSAL TIMELINE

Contextually Related Records for Salesforce.com Objects



v1.38

October 8, 2015



Salesforce Labs

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Table of Contents

Introducing the Timeline.....	1
An essential tool for customer interactions	1
What are the overall features of the Timeline?	3
Which objects are supported by the Timeline?	3
Does the Timeline require the Sales/Service Cloud Console?	4
Can I change the height of the Timeline?	Error! Bookmark not defined.
What kinds of events can I track in the Timeline?.....	5
Can I track External Objects (via Lightning Connect) in the Timeline?.....	7
Can I track Facebook or Twitter social posts in the Timeline?.....	8
What other packages does the Timeline work with?.....	9
Does the Timeline work with mobile devices?	9
Installation and Basic Setup	10
Adding the Timeline Inline to Record Detail Views without the Console	12
Adding the Timeline to Account, Contact, Lead, Case and Opportunity Page Layouts	12
Adding the Timeline to Custom and Other Object Page Layouts	14
Adding the Timeline to Custom Visualforce Pages.....	16
Adding the Timeline to the Sales/Service Cloud Console	17
Adding the Timeline Inline to Record Detail Views	17
Adding the Timeline as a Custom Console Component	18
Creating your own Timeline Console Panels	20
Defining Timeline Events and Categories	21
Category Definition	22
Timeline Event Definition	23
Personalizing Timeline Behavior	26
Using the Timeline	27
Basic Navigation	27
Overall Customer Satisfaction (CSAT) or “Health”	29
Creating a Custom Customer Satisfaction Event Listener (Console Only)	31
Accessing the Overall Customer Satisfaction Without a Listener	35
Timeline Integration (Console Only)	36
<i>Force reload timeline data from Salesforce.....</i>	<i>36</i>
<i>Request Customer Satisfaction/Health Score.....</i>	<i>37</i>
<i>Center the Timeline on a particular date/time.....</i>	<i>37</i>
Power Tips: Getting the Most From Your Timeline	38
Formula Fields Are Your Friend.....	38
Change the Default Zoom Level	39
Customize Your Timeline Categories	39
Supply Your Own Icons and Images.....	39
Calculate Icons, Images and Colors Dynamically	40
Troubleshooting the Timeline and Timeline Events	41

Introducing the Timeline

An essential tool for customer interactions

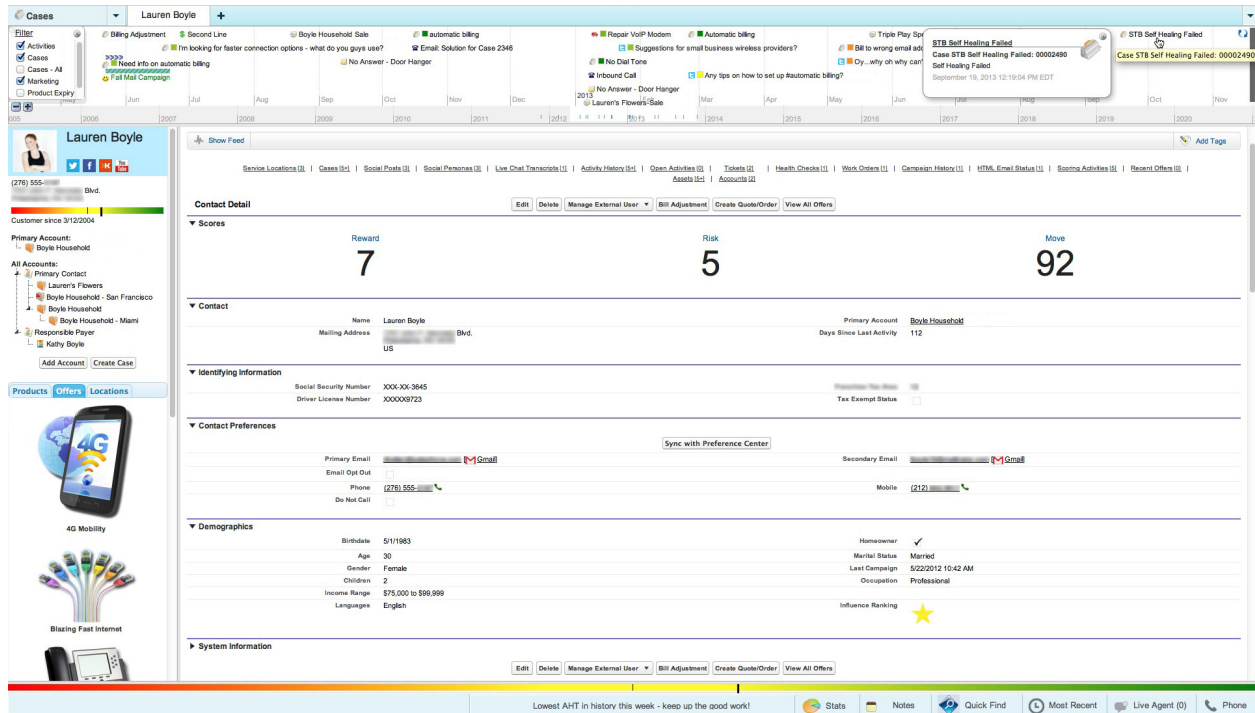
As Salesforce continues to evolve the vision of the connected company, the idea of the “customer platform” is essential: that every actor that touches the customer is a participant on a common, customer-centric platform. Salesforce becomes the customer lifecycle and interaction layer for the underlying transactional systems.

With all channels and contact points on the same platform, every person that touches the customer along their lifecycle has a clear picture of the customer and their activities to date. Each touch point captures more information that contributes to a better experience on each subsequent interaction. The more participants on the customer platform, the richer and more actionable the customer information, the more power the company has to innovate new ways to leverage that information to transform the customer experience. Customer satisfaction is higher when the customer does not need to repeat themselves across channels. The value of each customer interaction is higher.

In a traditional Salesforce implementation, we would typically access related interactions as items in related lists: Activities, Cases, Emails, Campaign History, etc. The richer the customer data collected in the interaction layer, the more related items. Unfortunately, the more types of related items there are, finding the “most recent” interaction typically involves hunting through increasingly large numbers of related lists. This dilutes the impact of an inherently powerful Salesforce capability.

The use of a timeline is a tremendously powerful way to show interactions and events across the dimension of time, where the most recent event is clearly visible, no matter what type of object it is or which related list it comes from. For a company representative engaging with a customer, that level of visibility dramatically shortens the amount of time to begin the conversation, reduces repetition and average handle time, and makes cross-channel interactions more seamless.

To make this happen, the Timeline package combines the rich capabilities of the Force.com platform with a heavily modified version of the SIMILE Timeline widget library, open-source software licensed under the BSD license (details visible on the Timeline Events tab). The SIMILE Timeline widget library software was originally sponsored by The Andrew W. Mellon Foundation as part of the SIMILE project. Its original author is David François Huynh. Now the widget library is being maintained and developed by many members of this open-source community.



Timeline shown in a Service Cloud console, shown here in conjunction with additional user-created custom console components

What are the overall features of the Timeline?

Features include:

- an interactive scrolling and zooming timeline to track related items of a given object
- works both in the Sales/Service Cloud Console as a custom top or bottom component, and in Sales Cloud detail records as an inline detail view/page layout Visualforce component
- create Timelines for nearly any objects you like; includes sample Timeline Events and ready-made Timeline pages for customers (Contacts/Accounts), Leads, Cases and Opportunities
- hover over events to see more information, click to see even more, click again to open the related record
- use as a replacement for related lists to de-clutter record detail pages
- configure any standard or custom objects to track in the Timeline using a declarative field-chooser
- organize events into categories for real-time filtering in the Timeline
- vertical scrolling in the Timeline allows you to see densely concentrated events that would otherwise stack outside the visible area
- custom icons, images and colors for event displays
- events may be configured for conditional inclusion by field value and/or record type
- overlapping Timeline Events and evaluation order allow you to display events of the same record differently
 - (for example, you could configure three Case Timeline Events to display certain Cases in the Timeline with different colors/icons or filtered by different categories: define higher-priority Case Timeline Events to capture certain Cases by record types and/or field values, and lower-priority Case Timeline Events as catch-alls)
- calculate total Customer Satisfaction (CSAT) or “Health” based on user-defined numeric Customer Disposition fields on various objects, with different scales, weightings and half lives
- future improvements could include plotting of line graphs over time

Which objects are supported by the Timeline?

The Timeline is currently designed to show events and interactions related to most standard and custom base objects that may be viewed directly (in other words, that can have a Tab associated with them).

As for the types of objects that may be tracked relative to these objects, almost any child object type is supported—even descendant objects two or more levels deep. The exception to this is any abstract object, like Activity History, that may not be queried directly and must be accessed as a sub-query of the parent object (as is the case with Activity History, Open Activities, Email Status, etc). This type of abstract object is supported, but only as a direct child of the base object (for example, you could track the

Activity History for a record, but not the Activity History for a subordinate record of that object). In some cases, you may find a suitable workaround simply by going directly to the queryable equivalent (Task and/or Event instead of Activity History and open Activities). In other cases, you may define additional Timelines so that the child/subordinate objects have their own Timeline views, and then drill down as appropriate.

Does the Timeline require the Sales/Service Cloud Console?

No. The Timeline works well in both the Service Cloud console and the traditional (“Aloha”) tabbed user experience.

There is also now experimental support for touch-based devices such as in the Salesforce1 mobile app. At the time of this writing, the Timeline is functional in Salesforce1 when embedded as a mobile-ready Visualforce component of a page layout. But all Visualforce components, upon touch, open in a separate window, at which point they become interactive. We are actively investigating ways that Visualforce components may be interactive while embedded directly on the page.

When used in the Service Cloud console, the Timeline may be configured to appear in its own frame as a custom console component, as a top or bottom panel of the primary tab or subtab for a given object (see the section “Adding the Timeline to the Sales/Service Cloud Console”). Alternatively, it may be configured as an inline element of an object’s record detail view, using page layout Visualforce components.

When used with the traditional UI, the Timeline must be configured as a Visualforce component of the page layout (see the section “Adding the Timeline Inline to Record Detail Views without the Console”).

What kinds of events can I track in the Timeline?

You can track almost anything related to base object record that has a Date or Date/Time field populated. A number of good examples are included with the package upon installation, and may also be reconfigured by clicking the “Configure Sample Timeline Events” button after deleting all Timelines and Categories. These examples currently include:

Customer (Account/Contact) Timeline:

- Cases – two example Timeline Events are provided, one to track Cases related to the Contact/Account in question and the other to track all Cases (only relevant when used with a (currently internal-only) package called People First)
- Emails and Activities – four examples leverage the Task and/or Event ID and the abstract Activity History, Open Activities and Email Status objects to show emails sent, HTML emails opened, completed/prior Tasks and Events, and upcoming Tasks and Events such as logged calls, site visits, meetings, etc.
- Attachments – files and notes attached to the Contact or Account record
- Asset Expiration – useful for subscriptions, track the Usage End Date of related Assets to show when a product went or will go out of service (useful for proactive retention and renewals)
- Opportunities – track won, lost and active opportunities against Accounts or Contacts
- Campaign History – track the Campaign Member to see when a Contact was included in a given Campaign, and whether or not they responded (example Timeline Events use inclusion fields)

Lead Timeline:

- Emails and Activities – four examples leverage the Task and/or Event ID and the abstract Activity History, Open Activities and Email Status objects to show emails sent, HTML emails opened, completed/prior Tasks and Events, and upcoming Tasks and Events such as logged calls, site visits, meetings, etc.
- Attachments – files and notes attached to the Lead record
- Campaign History – track the Campaign Member to see when a Lead was included in a given Campaign, and whether or not they responded
- Lead creation – track the origination date of a Lead

Opportunity Timeline:

- Activities – two examples leverage the Task and/or Event ID and the abstract Activity History and Open Activities objects to show completed/prior Tasks and Events and upcoming Tasks and Events such as logged calls, site visits, meetings, etc.
- Attachments – files and notes attached to the Opportunity record
- Opportunity milestones – five examples track Opportunity created date, stage changes, and won, lost, or expected close date

Case Timeline:

- Activities – two examples leverage the Task and/or Event ID and the abstract Activity History and Open Activities objects to show completed/prior Tasks and Events and upcoming Tasks and Events such as logged calls, site visits, meetings, etc.
- Case Comments – comments entered against a Case record
- Solutions – Solution records attached to the Case record
- Attachments – files and notes attached to the Case record
- Case dates – two examples track the Case Created and Case Closed dates
- Child Cases – Cases to whom the Case record is a parent
- Child Case Comments – Case Comments for Child Cases
- Child Case Solutions – Solutions attached to Child Cases

Other possibilities include:

- Social Posts – see “Can I track Facebook or Twitter social posts in the Timeline?”, below
- Live Agent Chats – track chats held via Live Agent (track the Live Chat Transcript object)
- Work Orders – track any work orders, service dispatches or truck rolls on a custom object
- Contract dates
- Asset Cases and dates
- Campaign Members and dates
- RemedyForce Incidents – track all incidents and trouble tickets issued on behalf of the customer
- Project milestones and events
- Patient exams, medications, etc.
- Questions and Answers, Ideas
- Case Entitlement Process Milestones, Knowledge Article attachments
- other custom objects

Can I track External Objects (via Lightning Connect) in the Timeline?

Yes! Lightning Connect supports the use of External Objects (“xObjects”) whose data live outside of Salesforce. These are accessed on demand in real-time using the OData protocol. The ability to display External Objects on a Timeline without having to replicate data in Salesforce is an enormously powerful and useful capability.

To track these objects on a Timeline, they must be related to the Timeline’s primary base object in question (Account/Contact, Case, custom, etc). This is done by changing the Field Type of an identifier field (typically synced initially as a text field) to either a Lookup Relationship or an Indirect Lookup Relationship.

When using Lookups, the external data contains a reference to a 15- or 18-digit Salesforce ID for the object in question. In this case, you may easily define a Timeline Event for the External Object using the Lookup Relationship field as the Base ID Field (or alternatively choose to define the Timeline Event to “Execute as Subquery”).

When using Indirect Lookups, the external data contains a non-Salesforce ID that is correlated with an internal Salesforce record via a field on that Salesforce object that is marked both as Unique and as an External ID. When defining a Timeline Event related by Indirect Lookup, you will notice that the Indirect Lookup Relationship field does not appear in the Base ID Field pick list. This is because it is not a Salesforce ID and not as easily related to the base object. However, by checking “Execute as Subquery” on the Timeline Event, the reverse relationship is easily identified. For now, you must use “Execute as Subquery” to plot indirectly related xObjects, but we are exploring future ways to support both approaches.

Can I track Facebook or Twitter social posts in the Timeline?

Soon! In the near future, Salesforce will support standard API access for core social objects such as Social Posts automatically.

At the time of writing, social object access is a pre-release capability and may be enabled on a per-instance basis by special request from Salesforce.com Marketing Cloud support (please log a case with Marketing Cloud support to request turning on social object accessibility, along with a description of the use case and why you want early access). Once this is approved, it is simple to configure Timeline Events for Social Posts, and even to use different icons for Facebook and Twitter posts.

When you have access to the social objects, configure two Timeline Events similar to the following:

Twitter:

- Object Type: Social Post
- Descriptive Name: Twitter Posts
- Base Contact ID Field: Social Post > Who ID
- Start Time Field: Social Post > Posted Date (Posted)
- Record ID Field: Social Post > Social Post ID
- Event Title Field: Social Post > Headline
- Secondary/Hover Field: Social Post > Sentiment
- Description Field: Social Post > Content
- Record Types: Twitter
- Timeline Icon Image: Twitter icon (included in Sample Icons dropdown menu)
- Event Bubble Image: Twitter image (included in Sample Images dropdown menu)

Facebook:

- Object Type: Social Post
- Descriptive Name: Facebook Posts
- Base Contact ID Field: Social Post > Who ID
- Start Time Field: Social Post > Posted Date (Posted)
- Record ID Field: Social Post > Social Post ID
- Event Title Field: Social Post > Headline
- Secondary/Hover Field: Social Post > Sentiment
- Description Field: Social Post > Content
- Record Types: Facebook
- Timeline Icon Image: Facebook icon (included in Sample Icons dropdown menu)
- Event Bubble Image: Facebook image (included in Sample Images dropdown menu)

If you have sentiment ratings for your Social Posts, and would like to track the sentiment in the Timeline, you should create a custom formula field of type Number on the Social Post object, called something like “Sentiment Number”. Allow one decimal place, and define a numeric formula field with one decimal place similar to the following:

```
CASE(Sentiment, "Negative", -1.0, "Somewhat Negative", -0.5, "Neutral",  
0, "Somewhat Positive", 0.5, "Positive", 1.0, null)
```

Please verify that the current sentiment name picklist values on the Social Post object match what you have in the formula.

Treat empty values as blank. Field-level security should be visible to internal users, but the field does not need to be on any page layout. Once this field is defined, configure your Twitter and Facebook Timeline Events with these additional settings:

- Customer Disposition Field: Social Post > Sentiment Number (Sentiment_Number__c)
- Customer Disposition Range: Worst Value: -1.0
- Customer Disposition Range: Best Value: 1.0
- Customer Disposition Half Life (Days): *leave blank or pick a value such as 30, 60, 90, 120, 365, etc*
- Customer Disposition Weighting: *leave blank or pick a value such as 50, 100, etc*
- Empty Value = Neutral: *optional for posts with no identified sentiment*
- Disposition Tracker Only (No Timeline): *leave unchecked (probably)*

For more details on the meaning of any of the above fields, see the contextual help or refer to the section “Defining Timeline Events: Timeline Event Definition.”

What other packages does the Timeline work with?

The Timeline takes up a small footprint, and works well alongside most other packages. Many packages include custom objects that may also be added to the Timeline. Among these, one useful package is Radian6 for Salesforce.com, which, when Social Objects are publicly available, allows the Timeline to track and display captured Social Posts.

Does the Timeline work with mobile devices?

There is now experimental support for touch-based devices, such as in the Salesforce1 mobile app. At the time of this writing, the Timeline is functional in Salesforce1 when embedded as a mobile-ready Visualforce component of a page layout. But all Visualforce components, upon touch, open in a separate window, at which point they become interactive. We are actively investigating ways that Visualforce components may be interactive while embedded directly on the page.

Installation and Basic Setup

The Timeline can be installed and configured in a matter of minutes by following the below steps:

1. Install the latest version of the package to your Salesforce instance per the Timeline package listing on the AppExchange. In most cases, on Step 2 of the package install wizard, you will want to grant access to all users and then fine-tune the permissions as described in step 4 below.
2. Create a local version of the TimelineEvents Visualforce Page (if you plan to use the Timeline with objects other than the ones included in the package). This should take less than 30 seconds of copy and paste work and is described in the section “Adding the Timeline to Custom and Other Object Page Layouts”, below.
3. Sample Timeline Events will be set up automatically for customer (Account/Contact), Case, Lead and Opportunity objects. Follow the instructions contained in this document to edit or delete these Timeline Events, or to define your own.
4. Configure the organization-wide or group/individual display preferences for the Timeline in the Timeline Display Preferences custom settings (see the section “Personalizing Timeline Behavior”).
5. Ensure that the proper user Profiles or Permission Sets have access to the Timeline package’s Tabs, Objects, Apex classes and Visualforce pages:

Timeline administrators:

- i. Tabs
 - Timeline Events
- ii. Objects (Read, Create, Edit, Delete permissions)
 - Timeline Events (slt__EIT__c)
 - Timeline Categories (slt__Category__c)
- iii. Apex classes
 - slt__Config
 - slt__Install
- iv. Visualforce pages
 - Timeline Events List View (slt__List)
 - Timeline Event Edit View (slt__Edit)

(continued on next page...)

Timeline users (viewers and administrators):

- i. Apex classes
 - slt__Timeline
- ii. Objects (Read permission)
 - Timeline Events (slt__EIT__c)
 - Timeline Categories (slt__Category__c)
- iii. Visualforce pages
 - Timeline JSON Event Data (slt__TimelineEvents)
 - Your “local” Timeline JSON Event Data, if created in Step 2 above (TimelineEvents)
 - Timeline for Console (slt__Timeline, for Sales/Service Cloud console users)
 - CSAT Meter for Console (slt__CSATMeter, for Sales/Service Cloud console users)
 - Timeline for Console with CSAT Meter (slt__TimelineCSAT, for Sales/Service Cloud console users)
 - Contact Timeline (slt__Timeline_Contact, for inline Contact layout use)
 - Contact Timeline w/CSAT Meter (slt__Timeline_Contact_CSAT, for inline Contact layout use)
 - Account Timeline (slt__Timeline_Account, for inline Account layout use)
 - Account Timeline w/CSAT Meter (slt__Timeline_Account_CSAT, for inline Account layout use)
 - Case Timeline (slt__Timeline_Case, for inline Account layout use)
 - Case Timeline w/CSAT Meter (slt__Timeline_Case_CSAT, for inline Account layout use)
 - Lead Timeline (slt__Timeline_Lead, for inline Account layout use)
 - Lead Timeline w/CSAT Meter (slt__Timeline_Lead_CSAT, for inline Account layout use)
 - Opportunity Timeline (slt__Timeline_Opportunity, for inline Account layout use)
 - Opportunity Timeline w/CSAT Meter (slt__Timeline_Opportunity_CSAT, for inline Account layout use)
 - any other custom Timeline pages you create yourself

Adding the Timeline Inline to Record Detail Views without the Console

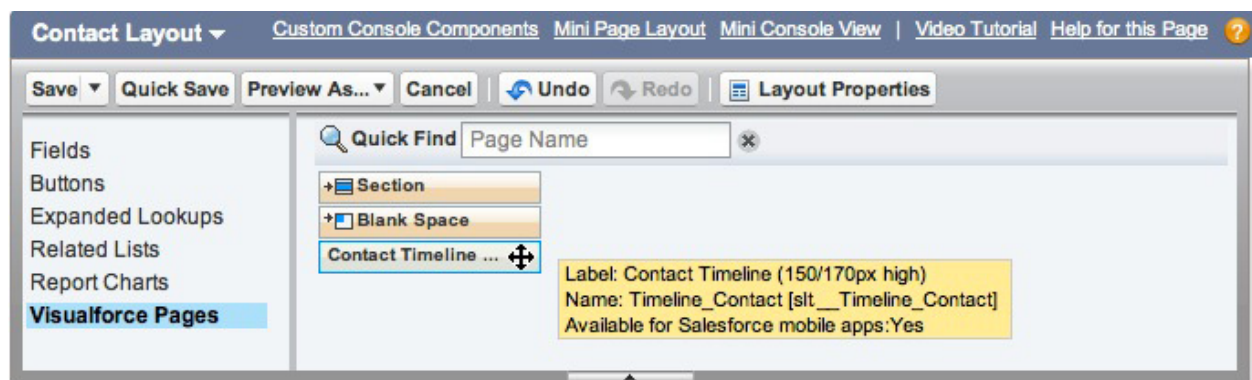
The Timeline may be embedded directly inline on record detail views by adding it as a Visualforce page to the Page Layout in the Page Layout editor. The Timeline package installs with Visualforce pages preconfigured for Account, Contact, Lead, Case and Opportunity objects. It is also very simple to create your own Visualforce pages to embed the Timeline on other object page layouts, custom or standard, using the Timeline Visualforce component.

Adding the Timeline to Account, Contact, Lead, Case and Opportunity Page Layouts

As an administrative user, edit the Page Layout(s) for the desired objects and record types by clicking the [Edit Layout](#) link of a record detail view, or by going to Setup > App Setup > Customize > (Object) > Page Layouts and clicking to Edit the intended layouts.

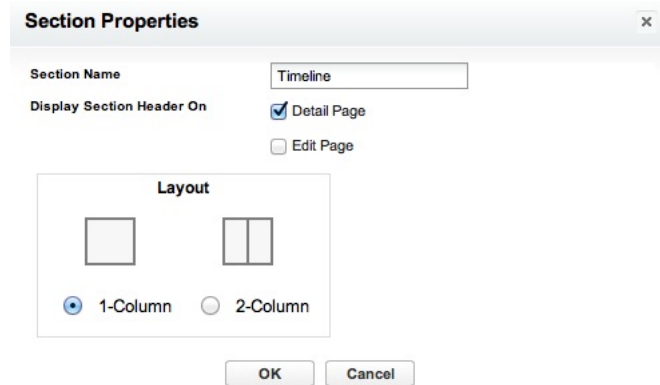


In the Layout palette, click on the Visualforce Pages section. If this is not available, you will need to create a Visualforce page as described in the next section.



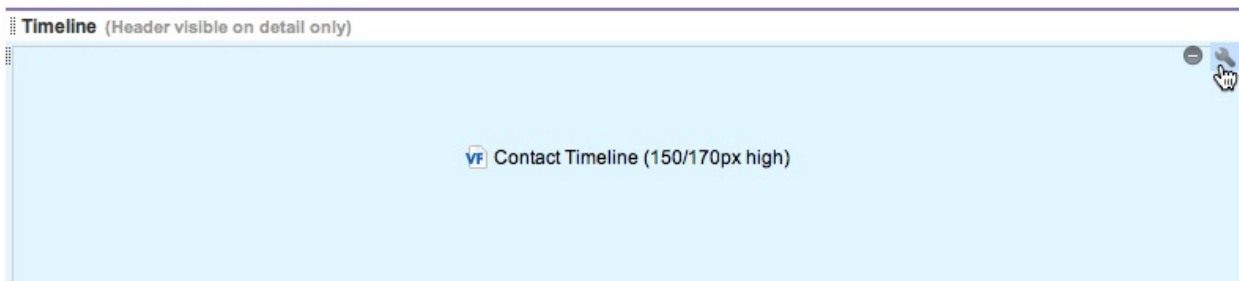
Select the Visualforce page for the Timeline and drag it onto the layout where you would like it to appear.

One suggested approach is to add a Section to the layout and call it something like “Timeline”. The section should be a 1-Column Layout with Display Section Header On Detail Page only. Then place the Timeline page in this Section.

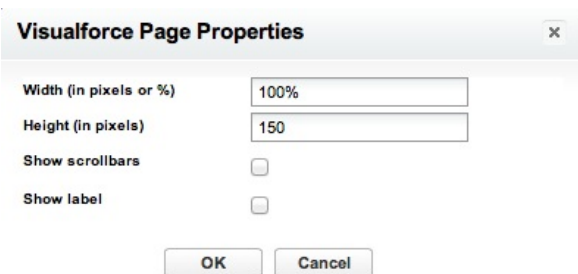


The **Section Properties** dialog box is shown. It has a close button (X) in the top right corner. The **Section Name** field contains the text "Timeline". Under **Display Section Header On**, the ☒ for **Detail Page** is selected, and the ☐ for **Edit Page** is unselected. In the **Layout** section, there are two visual representations: a single square and two adjacent squares. Below these, the ☒ for **1-Column** is selected, and the ☐ for **2-Column** is unselected. At the bottom are **OK** and **Cancel** buttons.

After adding the Timeline Page to the layout, click the wrench icon on the upper right of the blue page element to edit the Properties.



In the Properties, set your Visualforce Page width to be 100%. Do not show scrollbars. Select a desired height (in pixels).



The **Visualforce Page Properties** dialog box is shown. It has a close button (X) in the top right corner. The **Width (in pixels or %)** field contains "100%". The **Height (in pixels)** field contains "150". The **Show scrollbars** checkbox is unselected. The **Show label** checkbox is unselected. At the bottom are **OK** and **Cancel** buttons.

Save the Page Layout to confirm these additions.

Adding the Timeline to Custom and Other Object Page Layouts

Adding the Timeline to other core objects and custom objects is almost as easy as adding it to Account, Contact, Lead, Case and Opportunity page layouts as described above.

The one additional step is to create a Visualforce Page that embeds the Timeline component and uses a standard controller for the object type in question.

As a development user, go to Setup > App Setup > Develop > Pages and create a new Visualforce Page. Give it a Label and a Name, and check the “Available for Salesforce mobile apps” option. In the Visualforce Markup, enter code referencing the component `slt:Timeline`, similar to the below:

```
<apex:page standardController="ObjectType" sidebar="false" showHeader="false"
    showChat="false" standardStylesheets="true">
    <slt:Timeline value="{!ObjectType.Id}" csat="true|false" />
</apex:page>
```

where *ObjectType* is the API name of the object (Campaign, CustomObject__c, etc) and csat is true or false, depending on whether you would like the page to display the optional Customer Satisfaction or “Health” meter.

Visualforce Page

Page Edit [Save] [Quick Save] [Cancel] [Where is this used?] [Component Reference] [Preview]

Page Information

Label: Campaign Timeline

Name: Campaign Timeline

Description:

Available for Salesforce mobile apps: ☒

Require CSRF protection on GET requests: ☐

Visualforce Markup [Version Settings]

```
1 <apex:page standardController='Campaign' sidebar='false' showHeader='false' showChat='false'
2   standardStylesheets='true'>
3   <!-- embed Timeline without CSAT meter, height 150 pixels -->
4   <SLT:Timeline value='{!Campaign.Id}' csat='false' />
5 </apex:page>
```

Save the page and then add it to the Page Layout as described in the previous section.

The above will not work, however, until you create a local version of the TimelineEvents page. This is because the underlying JavaScript will encounter a cross-domain scripting issue when trying to load the timeline data, resulting in an empty Timeline.

You only need to create a local TimelineEvents page one time, and it will work for all custom pages. If you have not yet created this page, follow the below instructions:

1. As a development user, go to Setup > App Setup > Develop > Pages and create a new Visualforce Page. Give it a Label such as "Local Timeline Events" and the name "TimelineEvents".

Important: For the page to work, the Name must be "TimelineEvents".

2. In the Visualforce Markup, enter (or copy and paste) code as it appears below:

```
<apex:page contentType="application/json; charset=utf-8"
  controller="slt.Timeline" showHeader="false"
  showChat="false" standardStylesheets="false"
  sidebar="false">{!!JSONEventsString}</apex:page>
```

Visualforce Page

[Help for this Page ?](#)

Page Edit [Save] [Quick Save] [Cancel] [Where is this used?] [Component Reference] [Preview]

Page Information ⓘ = Required Information

Label: Local Timeline Events

Name: TimelineEvents

Description: For custom Visualforce pages

Available for Salesforce mobile apps: ☐

Require CSRF protection on GET requests: ☐

Visualforce Markup [Version Settings]

```
1 <apex:page contentType="application/json; charset=utf-8" controller="SLT.Timeline"
2   showHeader="false" showChat="false" standardStylesheets="false"
3   sidebar="false">{!!JSONEventsString}</apex:page>
```

3. Save the page and your Timeline should now populate correctly.

Adding the Timeline to Custom Visualforce Pages

You may find yourself in a situation where you wish to create your own Custom Visualforce page that contains the Timeline (with or without CSAT meter) as a part of the page display.

The Timeline component makes it simple to embed the Timeline into any custom Visualforce page. The below code illustrates the use of the `slt:Timeline` component (note that the value uses the `{!CurrentPage.Parameters.Id}` field to grab the tab object's record ID from the URL GET "id" parameter rather than a standard Apex Controller).

```
<apex:page controller="Apex_Controller" sidebar="false" showHeader="false"
    showChat="false" standardStylesheets="true">
    <!-- put custom stuff to appear above the Timeline here -->
    <!-- embed Timeline with or without CSAT meter -->
    <slt:Timeline value="{!BaseRecordID}" csat="true|false" height="height" />
    <!-- put custom stuff to appear below the Timeline here -->
</apex:page>
```

Note that the Timeline will always take up the entire width of its allocated space. If you do not specify a height, it will attempt to take up the entire page.

The above will not work, however, until you create a local version of the `TimelineEvents` page. This is because the underlying JavaScript will encounter a cross-domain scripting issue when trying to load the timeline data, resulting in an empty Timeline. To do this, follow the instructions listed on the previous page.

Adding the Timeline to the Sales/Service Cloud Console

When using the Sales or Service Cloud Console, you have several options to display the Timeline.

One way is to embed the Timeline as an inline component of the record detail view, as described in the above section.

Perhaps a more compelling option is to display the Timeline in its own panel as a Custom Console Component. Additionally, Custom Console Components do not require a dedicated Visualforce Page for each object type: one generic Timeline page will work for any compatible object.

For objects that are likely to open as primary tabs in the Console, such as Accounts, Contacts and Leads, it is useful to display the Timeline as a Primary Tab Component, either at the top or bottom of the console. This enables you to open additional related records from the Timeline as subtabs in the console, without losing sight of the Timeline itself.

Likewise, for objects that are likely to open as subtabs in the Console, such as Opportunities or Cases, it is useful to display the Timeline either as a Subtab Component (top or bottom) or embedded in the record detail view. These Timelines are only displayed when viewing the related record itself.

One major difference between a Console Component and an embedded inline component is that the Console Component stays anchored at the top or bottom of the tab, while the embedded inline component scrolls along with the record detail view. The decision as to which option works best depends on practical and aesthetic choices such as screen size, relevance, and whether there are both Primary Tab and Subtab Components taking up space on the screen.

Adding the Timeline Inline to Record Detail Views

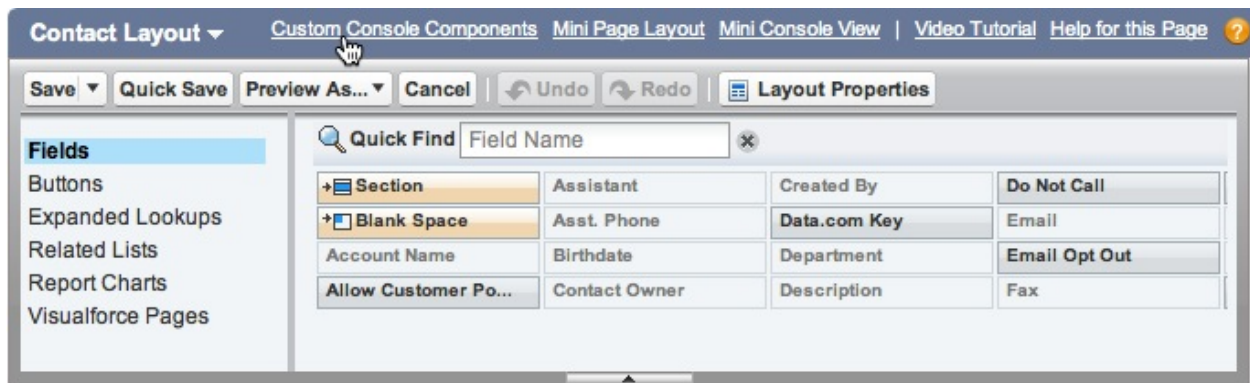
When using the Sales or Service Cloud Console, it is often desirable to use Custom Console Components, as described below. However, displaying the Timeline directly inline on a record detail view may be preferred in some cases, particularly when the object in question is a subordinate object in a subtab and screen real estate is at a premium.

To add the Timeline inline, please refer to the previous section, “Adding the Timeline Inline to Record Detail Views without the Console”.

Adding the Timeline as a Custom Console Component

As an administrative user, edit the page layout(s) for the desired objects and record types by clicking the [Edit Layout](#) link of a record detail view, or by going to Setup > App Setup > Customize > (Object) > Page Layouts and clicking to Edit the intended layouts.

In the Layout Palette, click the [Custom Console Components](#) link.



Add a Timeline Visualforce Page to the Top or Bottom Sidebar of either the Primary Tab or Subtab layout. DO NOT use one of the object-specific pages used for embedding inline in record detail views, such as `Timeline_Account`, `Timeline_Contact`, etc. Instead, use the included `Timeline` or `Timeline_CSAT` pages, or create you own as described below.

Note: If adding as a Primary Tab component, you may need to edit the Layout Properties first, to ensure that the Highlight Panel, Interaction Log, or both are turned off, depending on whether you would like the Timeline to appear at the top or bottom of the console.

If adding a Timeline without a Customer Satisfaction (CSAT) or “Health” meter, use the page `slt__Timeline` as either a Top or Bottom Sidebar component.

Top Sidebar (Highlights Panel)

Style

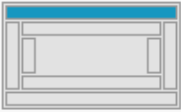
Height px

Stack

Action	Type	Component	Label	Width % 100
remove	Visualforce Page Timeline			100
	--None--			

If adding a Timeline with a CSAT meter, you may use the page slt__Timeline_CSAT.

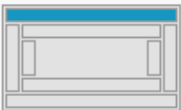
Top Sidebar (Highlights Panel)



Style		Height px ▾		
Stack ▾ <i>i</i>		194		
Action	Type	Component	Label	Width % ▾
remove	Visualforce Page ▾	Timeline_CSAT 		100
	--None-- ▾			

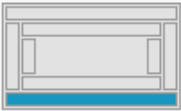
Alternatively, if you have both the top and bottom panels available, you may display the Timeline in one panel and the CSAT meter in the other. To do this, place the page slt__Timeline in one panel with a height of 174 (previously 150) pixels. Then place the page slt__CSATMeter in the other panel with a height of 38 (previously 14) pixels.

Top Sidebar (Highlights Panel)



Style		Height px ▾		
Stack ▾ <i>i</i>		174		
Action	Type	Component	Label	Width % ▾
remove	Visualforce Page ▾	Timeline 		100
	--None-- ▾			

Bottom Sidebar (Interaction Log)



Style		Height px ▾		
Stack ▾ <i>i</i>		38		
Action	Type	Component	Label	Width % ▾
remove	Visualforce Page ▾	CSATMeter 		100
	--None-- ▾			

Creating your own Timeline Console Panels

You may find yourself in a situation where you wish to create your own Custom Console Component that displays the Timeline (with or without CSAT meter) and other data, such as highlight information, in the same panel.

The Timeline component makes it simple to embed the Timeline into any custom Visualforce page. The below code illustrates the use of the `slt:Timeline` component (note that the value uses the `{!CurrentPage.Parameters.Id}` field to grab the tab object's record ID from the URL GET "id" parameter rather than a standard Apex Controller).

```
<apex:page sidebar="false" showHeader="false" showChat="false"
    standardStylesheets="true">
    <!-- put custom stuff to appear above the Timeline here -->
    <!-- embed Timeline with or without CSAT meter -->
    <slt:Timeline value="{!$CurrentPage.Parameters.Id}" csat="true|false"
height="height" />
    <!-- put custom stuff to appear below the Timeline here -->
</apex:page>
```

Note that the Timeline will always take up the entire width of its allocated space, and will attempt to take up the rest of the vertical space if you do not specify a height.

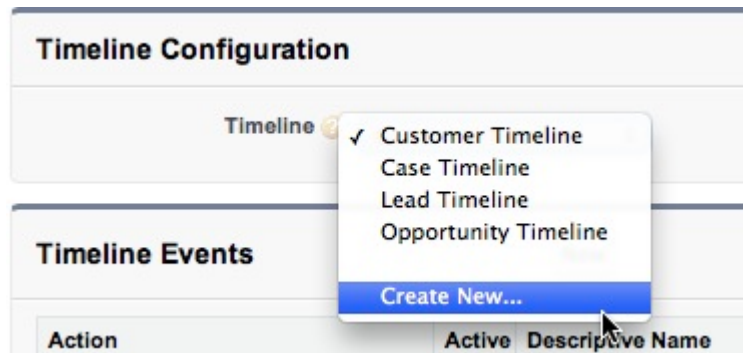
Likewise, you may create your own custom CSAT or "Health" meter instead of the included `slt__CSATMeter` page included with the Timeline package. Example code for this is included at the end of this document.

Defining Timeline Events and Categories

To define Timeline Events for the Timeline, go to the “Timeline Events” tab. It is suggested that you add this tab to an App for easier access.

If no Timeline Events and no Categories are defined for any Timeline, there is a button on the Timeline Events tab called “Configure Sample Timeline Events”. This will recreate the several example Timeline Events that were configured automatically when you installed the Timeline package—recommended to get a good sense of how Timeline Events are defined, and how evaluation order can be used in conjunction with Record Types and/or Inclusion Fields to treat records of the same object type differently.

From the Timeline Events tab, you may select which Timeline you wish to wish to define using the Timeline picker. You may also create a new Timeline for an object by selecting “Create New...”



For each Timeline, there are two types of objects you may configure: Categories and Timeline Events.

Categories are an optional way to group Timeline Events so that they may be hidden and unhidden by using the filter picker (opened by clicking the magnifying glass on the upper left of the Timeline).



Timeline Events use metadata-driven trackers to define how subordinate objects relate to base objects, and how they are displayed in the Timeline. Timeline Events are evaluated in the order that they are displayed in the Timeline Events tab. This means that you may define multiple Timeline Events against the same object type, and use the order of evaluation to treat some records differently than others.

For example, when tracking Cases, you may want an Timeline Event to track Cases with a record type of “Troubleshooting” or “Outage” and treat them specially; or to track Cases that have been open for too long, or have a high priority, or are unresolved (using the Inclusion Field option, and possible a custom checkbox formula field on the Case object if the logic is complicated). Record Types and Inclusion fields may be used separately or together to capture the special records. You may give these Timeline Events different colors, icons, customer satisfaction weightings and half lives, etc. Then you may define a generic “catch-all” Case event at the bottom to capture the remainder of Cases. The pre-configured Timeline Events that install with the package provide good examples of this in Won vs. Open Opportunities; Read Email vs. Email vs. Activity History; and Responded vs. No Response Campaign History.

Because they are dependent on order of evaluation, the Timeline Events may be reordered using the arrow buttons in the Action column of the Timeline Events tab page. The “Ins” Action allows you to define a new Timeline Event before the selected one.

Category Definition

The following fields are available to define how the Timeline tracks and displays a given event or interaction. Not all fields are visible at once (dependent on other choices):

Option	Description
Category Name	The name of the Category as it appears in the Timeline filter box
Visible by Default	Whether this category is selected to be visible in Timeline filters by default

Timeline Event Definition

The following fields are available to define how the Timeline tracks and displays a given event or interaction. Not all fields are visible at once (dependent on other choices):

Option	Description
Object Type	Required: the Salesforce object name that you want to track in Timeline views
Execute as Subquery	Required for some object types that are not directly queryable (such as Activity History or Open Activities: determined automatically, not user settable)
Descriptive Name	Required: a user-defined name for the Timeline Event
Active	Whether this Timeline Event is active or disabled
Description	Optional: the purpose of this Timeline Event (appears when hovering over items in the Timeline Events list)
Base <Object> ID Field	(Non-Customer Timeline only) Required: which lookup field to use for matching to the Timeline's base object record (required)
Base Contact ID Field and/or Account ID Field	(Customer Timeline only) Required: which lookup field to use for matching to a base Contact record (at least one of the Contact ID or Account ID Fields is required)
Relationship Name on <Object>	Required: when "Execute as Subquery" is checked, the name of the child relationship name for the related list on the object (in lieu of base object ID field)
Account/Contact Matching Logic	This option only has meaning when the Timeline is used in conjunction with another AppExchange package called "People First", which allows a complete view of a customer Contact across multiple Account relationships. The Timeline listens for changes in Account-Contact context and displays events for all contexts (global) or a particular Account-Contact relationship. The setting of the Account/Contact Matching Logic informs the Timeline of how to behave in various contexts.
Start Time Field	Required: which field marks the starting date/time for this event in Timeline views
End Time Field	Optional: which field marks the ending date/time for this event in Timeline views (when present, causes an event to display a duration "tape")
Record ID Field	Required: the ID field to use when opening the event Record. Normally this will just be the standard "Id" field, but in some cases you may want to open a different record, such as a parent or related record (i.e. the Opportunity ID of an Opportunity Contact Role)
Event Title Field	Required: which field to use as the event title in Timeline views (recommend fields with short values such as Name, Subject, etc)
Secondary/Hover Field	Optional: which field to use as a subtitle in Timeline views and when hovering over events with the mouse (recommend fields with short values such as Status, Type, etc)
Description Field	Optional: which field to use for a more detailed description of the event in the Timeline preview bubble (recommend fields with such as Description, Summary, etc)

Record Types	Optional: when an object has defined record types, you may select one or more for this Timeline Event; this Timeline Event will select only those types for the Timeline (none checked = all types). You may configure multiple Timeline Events to display the same object differently (order dependent, with catch-alls at the bottom)
Inclusion Field	Optional: a field to control whether to include records in Timeline views (evaluates blank/not blank, 0/1+, no/yes, true/false, checkbox formula). You may configure multiple Timeline Events to display the same object differently (order dependent, with catch-alls at the bottom).
Customer Disposition Field	Optional: numeric field to use when accumulating and calculating customer satisfaction (CSAT) or “health” ratings (different numbering systems may be normalized and weighted)
Customer Disposition Range: Worst Value	Required when Customer Disposition Field defined: to normalize customer disposition calculations, the min (or max) number of the range to express the worst possible customer satisfaction
Customer Disposition Range: Best Value	Required when Customer Disposition Field defined: to normalize customer disposition calculations, the max (or min) number of the range to express the best possible customer satisfaction
Customer Disposition Half Life (Days)	Optional: the “decay” of a customer disposition rating, in days. This affects the amount of influence that an older customer disposition has against total customer satisfaction. A zero or blank half life does not decay.
Customer Disposition Weighting	Optional: a percentage multiplier of how much influence this type of event has in calculating cumulative customer satisfaction (0% = no weight, 100% = full weight, >100% = overweighted; default = 100%)
Empty Value = Neutral	When Customer Disposition Field defined, if the customer disposition field value is empty or null, count it as a neutral value toward total customer satisfaction (otherwise, ignore)
Disposition Tracker Only (No Timeline)	When Customer Disposition Field defined, use this Timeline Event only for calculating customer satisfaction (do not display in Timeline)
Category	Optional: if you pick a category, events selected by this Timeline Event can be hidden and shown using the category filter chooser in Timeline views
Max # Records	Optional: the maximum number of records to be queried and displayed by this Timeline Event (default = 50)
Color	Optional: color of timeline “tape” for events with end times. If you don’t choose a Text Color, event titles will also be this color. If you add a Custom Tape Image, this color will underlie the tape, for color combos. (Specify this value in CSS color formats like “#5f2a3c”, “rgb(200,100,40)” or “red”.)
Title Text Color	Optional: what color to display event title text in the Timeline. Enter any CSS-capable color, such as “#a0327b”, “rgb(40,33,120)”, “blue” or “DarkGray”.
Timeline Icon Image	Optional: URL to an icon image file to be displayed in the Timeline for events of this type (recommend 10x10 PNG image with transparency). This can be an external URL (http://...) or a relative URL to a Document or Static Resource (/resource/icon_png). Sample icons are included in the Sample Icons dropdown.

Event Bubble Image	Optional: URL to an image file to be displayed in the Timeline detail bubble for events of this type (recommend PNG image with transparency). This can be an external URL (http://...) or a relative URL to a Document or Static Resource (/resource/image_png). Sample images are included in the Sample Images dropdown.
Custom Tape Image	Optional: URL to image file to superimpose with translucency over the tape color for duration events of this type (recommend 7-pixel tall horizontal repeating image with transparency). Can be external URL (http://...) or relative URL (/resource/icon_png). Sample images are included in the Sample Tape Images dropdown.

Personalizing Timeline Behavior

The behavior and display of the Timeline may be personalized for the entire organization, a user profile, or an individual user by using the “Timeline Display Preferences” hierarchical custom settings. User-level settings override Profile-level settings, which in turn override Organization-wide settings, giving administrators a fine level of inheritance and control.

You may access these as an administrator by going to Setup > App Setup > Develop > Custom Settings. Locate the “Timeline Display Preferences” and click the “Manage” link.

To create or change the default preferences for the entire organization, from the “Manage” page, click the “New” or “Edit” button above the Default Organization Level Value

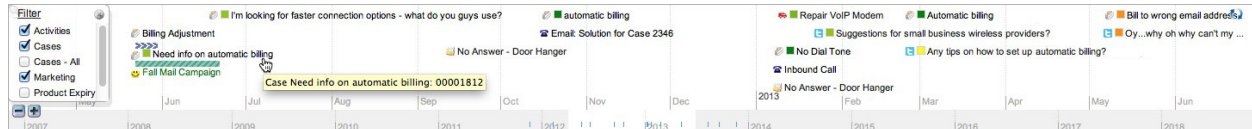
To create preferences for a group of users by profile, or for an individual user, from the “Manage” page, click the “New” button above the table of Setup Owners and Locations. Choose a Profile or User as the Location and Setup Owner for this set of preferences. Click “Save” to create the preferences and “Edit” to adjust them.

At this time, the available settings are:

Setting	Description
Mouse Wheel/Trackpad Scrolling	Whether the mouse wheel and/or trackpad gestures should scroll the timeline horizontally when the cursor is positioned over the timeline component (if not, it will scroll the outer page/container)
Zoom from Center	When clicking the Zoom buttons, whether to zoom based on left edge of timeline (unchecked) or the center of the timeline (checked)
Initial Zoom Level (0-9)	The initial zoom level when the timeline first opens, from 0 (hours) to 9 (years). Default is 7.
Link Target	When viewing the Timeline in a standard (non-console) view, the HTML browser target window to use for opening links (can use a named window or standard values like “_blank”, “_parent”, “_top”, etc). Default is “subtab”.
Auto Center on Most Recent Event	When checked, automatically center the timeline on the most recent (past) event. When unchecked, center the timeline at the current date/time.

Using the Timeline

The Timeline consists of two bands: an upper detail band that displays the event details, and a lower overview band that shows a larger date range and marks where events begin on the Timeline.



Basic Navigation

The Timeline supports the following actions:

- **Scroll Horizontally:** To scroll the Timeline forward or backward in time, click and drag one of the bands. The lower overview band will scroll more quickly through time, while the upper detail band allows for more precise scrolling. Both bands will stay in sync. You may also scroll by using a mouse wheel or trackpad if the “Mouse Wheel/Trackpad Scrolling” option is set in the Timeline Display Preferences custom setting for the given user/profile (see the section “Personalizing Timeline Behavior”).
- **Scroll Vertically:** When a larger number of events occur around the same time, they will stack vertically. If the stack exceeds the height of the Timeline, a vertical scrollbar will appear in the upper detail band that will allow you to scroll down to the lower events.
- **Double-click:** You may double-click on an open section of the Timeline to center it at that point.
- **Zoom:** You may zoom in or out to change the time scale from months/years down to hours/days. Use the [+] and [-] buttons on the bottom left of the Timeline. Note that zooming in tracks to the left side of the Timeline, and events right of center will be truncated.
- **Filter Categories:** You may expand the Category Picker filter box by clicking the magnifying glass icon on the upper left of the Timeline. Uncheck a category to hide its associated events. Check a category to show its associated events. Click the round ‘X’ button to close the Category Picker.

- **Refresh:** You may reload and repaint the events for the given context by clicking the refresh icon on the upper right of the Timeline. This will republish any overall CSAT messages to listeners. If you have added or changed Categories, they will not be refreshed in the filter panel: you must reload the page to update Categories.
- **Hover over Events:** You may hover over an event to see its title and any hover/summary data. If you have defined a customer disposition field for an Timeline Event, hover over the square disposition icon to the right of the event icon to see the normalized disposition rating from -100% (dissatisfied) to +100% (satisfied), with 0% being neutral.
- **Click on Events:** Click on an event icon or title to display a detail bubble containing additional information about the event. Click on the title in the bubble to open the related record.

Overall Customer Satisfaction (CSAT) or “Health”

When you configure a Timeline Event to derive customer dispositions on an event or interaction, the Timeline does two things:

1. It displays the customer disposition for a given event as a colored box to the right of the event icon on the Timeline. Hovering over this event gives you the normalized disposition rating, from -100% (dissatisfied) to +100% (satisfied), with 0% being neutral.
2. It uses the Half Life and Weighting settings to aggregate all customer dispositions into an overall total customer satisfaction rating.

The Timeline component includes a Customer Satisfaction (CSAT) or “Health” meter to display this information on a sliding horizontal scale.

Additionally, if using the Sales or Service Cloud Console, you may define your own custom widget to display this CSAT rating in any way you’d like (see “Creating a Custom Customer Satisfaction Event Listener”, below). This leverages the Console Integration library to pass an event message

There are a few options to display the customer satisfaction rating:

1. Non-Console views (traditional Aloha layout or Salesforce1 pages):
 - a. Inline on the record detail view: Add the appropriate Timeline Visualforce page to your object Page Layout(s) as described in the section “Adding the Timeline Inline to Record Detail Views without the Console”, but instead of using a height of 150 pixels, use a height of 170. This will allow space for a Customer Satisfaction (CSAT) or “Health” meter directly under the Timeline. The Account, Contact, Lead, Case and Opportunity pages that are included with the Timeline package all support this out of the box. If creating Visualforce pages to support other objects, or if embedding the Timeline component into a custom page, you must specify the parameter `csat="true"` on the component to have it display this information.
 - b. Embedded in custom Visualforce pages: create a custom Visualforce page and include the Timeline component with the parameter `csat="true"` somewhere on the page. See the section “Adding the Timeline Inline to Record Detail Views without the Console: Adding the Timeline to Custom Visualforce Pages” for more information.

2. Sales/Service Cloud Console views:

- a. Timeline and CSAT meter in the same console component: place the `slt__Timeline_CSAT` page in a top or bottom console component with a height of 170 pixels, as described in “Adding the Timeline to the Sales/Service Cloud Console: Adding the Timeline as a Custom Console Component”.
- b. Timeline and CSAT meter in separate console components: place the `slt__Timeline` page in a top or bottom console component with a height of 150 pixels and the `slt__CSATMeter` page in a bottom or top console component with a height of 14 pixels, as described in “Adding the Timeline to the Sales/Service Cloud Console: Adding the Timeline as a Custom Console Component”. You may also design your own custom CSAT meter component as described in “Creating a Custom Customer Satisfaction Event Listener”, below.
- c. Timeline and CSAT meter inline on the page layout: See the notes for Non-Console views, above.
- d. Timeline in custom user-built console component, CSAT meter in separate console component: see “Adding the Timeline to the Sales/Service Cloud Console: Creating your own Timeline Console Panels”. Place the `slt__CSATMeter` in a top or bottom console component with a height of 14 pixels, or design your own as specified in “Creating a Custom Customer Satisfaction Event Listener”, below.
- e. Timeline and CSAT meter in custom user-built console component: see “Adding the Timeline to the Sales/Service Cloud Console: Creating your own Timeline Console Panels”.

Creating a Custom Customer Satisfaction Event Listener (Console Only)

The Timeline and CSAT Meter pages may be deployed in separate console panels. In order for this to work, upon calculating a CSAT number, the Timeline leverages the Sales/Service Cloud Console integration toolkit's event messaging layer to send that satisfaction rating to any interested listeners.

This event is called "EITCSAT", and the message format is

```
<primary object ID>={-1.0-1.0}
```

The primary object ID is the record ID of the base object record for which the Timeline is being displayed. After the equal sign, the overall CSAT rating is returned as a decimal number from -1.0 to 1.0, referring to the -100% to 100% range of satisfaction ratings.

You may write your own console components to listen for these event messages and render them in any graphical way you choose.

For this to work, you must include the Sales/Service Cloud Console integration toolkit library in your Visualforce or JavaScript pages.

In Visualforce:

```
<apex:includeScript value="/support/console/30.0/integration.js"/>
```

in JavaScript:

```
<script type="text/javascript"
src="https://____.salesforce.com/support/console/30.0/integration.js" /> (where
____ is the specific Salesforce server for your instance)
```

For more information on the integration toolkit, see the documentation at

http://www.salesforce.com/us/developer/docs/api_console/index.htm

To create your own listener, you may want to do something like the following on your Visualforce page (this example uses JQuery):

```
<apex:page showHeader="false" sidebar="false">

<apex:includeScript
value="https://ajax.googleapis.com/ajax/libs/jquery/1.10.2/jquery.min.js"/>
<apex:includeScript value="/support/console/30.0/integration.js"/>

<style type="text/css">
    #CSATMeter
```

```

{
  height: 14px;
  width: 100%;
  position: relative;
}

#CSATBar
{
  height: 10px;
  width: 100%;
  position: relative;
  top: 2;
}

#CSATNegative, #CSATNeutral, #CSATPositive
{
  height: 10px;
  display: inline-block;
  position: relative;
  z-index: 2;
}

#CSATNegative
{
  background-color: red;
  width: 43%;
  /* Safari 4-5, Chrome 1-9 */
  background: -webkit-gradient(linear, left top, right top, from(red), to(yellow));
  /* Safari 5.1, Chrome 10+ */
  background: -webkit-linear-gradient(left, red, yellow);
  /* Firefox 3.6+ */
  background: -moz-linear-gradient(left, red, yellow);
  /* IE 10 */
  background: -ms-linear-gradient(left, red, yellow);
}

#CSATNeutral
{
  background-color: yellow;
  width: 14%;
}

#CSATPositive
{
  background-color: green;
  width: 43%;
  /* Safari 4-5, Chrome 1-9 */
  background: -webkit-gradient(linear, left top, right top, from(yellow), to(green));
  /* Safari 5.1, Chrome 10+ */
  background: -webkit-linear-gradient(left, yellow, green);
  /* Firefox 3.6+ */
  background: -moz-linear-gradient(left, yellow, green);
  /* IE 10 */
  background: -ms-linear-gradient(left, yellow, green);
}

```

```
#CSATNeutralBar
{
  height: 10px;
  width: 1px;
  background-color: black;
  border: 0;
  padding: 0;
  margin: 0;
  position: absolute;
  left: 50%;
  top: 2;
  float: left;
  z-index: 3;
}

#CSATIndicator
{
  height: 14px;
  width: 3px;
  background-color: black;
  border: 0;
  padding: 0;
  margin: 0;
  position: absolute;
  left: 50%;
  top: 0;
  float: left;
  z-index: 4;
}
</style>

<div id="CSATMeter">
  <div id="CSATIndicator"></div>
  <div id="CSATNeutralBar"></div>
  <div id="CSATBar"><div id="CSATNegative"></div><div id="CSATNeutral"></div><div
id="CSATPositive"></div></div>
</div>

<script type="text/javascript">
var objectID = '{!JSENCODE($CurrentPage.parameters.id)}'.substring(0,15);

var myListener = function (result)
{
  var parts = result.message.split('=');
  var context = parts[0].split(':');
  if (context[0].substring(0,15) == objectID)
  {
    csatContext = parts;
    var csat = parseFloat(parts[1]);
    $('#CSATMeter').attr('title', 'Customer satisfaction rating ' +
      (csat > 0 ? '+' : '-') + (Math.round(csat * 1000.0) / 10.0) + '%');
    $('#CSATIndicator').animate({left: ((parseFloat(parts[1]) / 2.0 +
      0.5) * 100.0) + '%'}, 250);
  }
}
```

```
};  
sforce.console.addEventListener('EITCSAT', myListener);  
sforce.console.fireEvent('Timeline_GetCSAT', objectID, function(){});  
</script>  
  
</apex:page>
```

This example code is implemented as-is in the Timeline package as the “CSAT Meter for Console” (slt__CSATMeter) Visualforce page.

Accessing the Overall Customer Satisfaction Without a Listener

If you want to capture the calculated overall Customer Satisfaction or “Health” metric for your own custom components without using the Sales/Service Cloud Console integration event handler framework, you have the ability to pull the number from the raw data that the Timeline widget itself consumes.

To do this, you may call the “Timeline JSON Event Data” page (slt__TimelineEvents) with the ID of the object in question and the additional parameter csatonly=1. The call would be something like

```
https://.../apex/slt__TimelineEvents?id=0030000000DSyQm&csatonly=1
```

With the csatonly=1 parameter, the page will return in plain text the decimal value of the calculated overall customer satisfaction score, with a range of -1.0 (very dissatisfied) to 1.0 (very satisfied) with 0 being neutral.

Here is an example of the page returning a customer satisfaction of about 26%:

```
0.2574970393455388
```

Without the csatonly=1 parameter, the page will return the full JSON event data consumer by the Timeline, similar to the below but with data in the events array:

```
{"events": [...], "dateTimeFormat": "iso8601", "customerSatScore": 0.2574970393455388}
```

Timeline Integration (Console Only)

When using the Timeline component within the Sales or Service Cloud Console, there may be use cases where you wish to control the Timeline from other components. For this to work, you must include the Sales/Service Cloud Console integration toolkit library in your Visualforce or JavaScript pages.

In Visualforce:

```
<apex:includeScript value="/support/console/30.0/integration.js"/>
```

in JavaScript:

```
<script type="text/javascript"
src="https://___.salesforce.com/support/console/30.0/integration.js" /> (where
___ is the specific Salesforce server for your instance)
```

For more information on the integration toolkit, see the documentation at

http://www.salesforce.com/us/developer/docs/api_console/index.htm

The current event message types are listed below.

Force reload timeline data from Salesforce

If events have changed since the Timeline was rendered, use the `Timeline_Refresh` message to reload and display events in the timeline. The Primary Object ID is the Salesforce object ID of the primary record for which the timeline is displayed:

```
sforce.console.fireEvent('Timeline_Refresh', 'primaryObjectID');
```

If the Primary Object ID is omitted, all Timelines will refresh (not recommended):

```
sforce.console.fireEvent('Timeline_GetCSAT');
```

Request Customer Satisfaction/Health Score

The Timeline sends the CSAT score automatically when it paints and refreshes. But if a component opens later that needs this value, it will need to ask the Timeline to send it again. Use the `Timeline_GetCSAT` message for this. The Primary Object ID is the Salesforce object ID of the primary record for which the timeline is displayed:

```
sforce.console.fireEvent('Timeline_GetCSAT', 'primaryObjectID');
```

If the Primary Object ID is omitted, all Timelines will resend their CSATs (not recommended):

```
sforce.console.fireEvent('Timeline_GetCSAT');
```

This results in an asynchronous `EITCSAT` message back that you must capture (see the section “Creating a Custom Customer Satisfaction Event Listener (Console Only)” above).

```
sforce.console.addEventListener('EITCSAT', function(){ /*do handling here*/ });
```

Center the Timeline on a particular date/time

Use the `Timeline_Center` message with a date string value to center the timeline at a specific date/time. The Primary Object ID is the Salesforce object ID of the primary record for which the timeline is displayed. Date/times should be specified in ISO-8601 format:

```
sforce.console.fireEvent('Timeline_Center',  
  'primaryObjectID=2014-05-08T23:17:50.154Z');
```

If the Primary Object ID is omitted, all Timelines will jump to the specified time (not recommended):

```
sforce.console.fireEvent('Timeline_Center');
```

NOTE: To convert a JavaScript Date object to a readable string, use the Date’s `toISOString()` method or the `JSON.stringify(date)` function.

Power Tips: Getting the Most From Your Timeline

Formula Fields Are Your Friend

Take control of the display of your Timeline Events. Create custom text formula fields on your objects to customize your Timeline Event Title, Secondary/Hover Field and/or Description. These may be simple “static strings”, or they may combine/summarize information from multiple fields, use conditional logic, etc. Then assign these custom formula fields in your Timeline Events.

Custom checkbox formula fields are also extremely valuable for Inclusion Fields, as described below.

Use Record Types, Inclusion Fields and Evaluation Order

Timeline Events are evaluated in order from top to bottom. The first/topmost Timeline Event to match a particular record “wins”. Because of this, you may treat or display an object differently on the Timeline based on Record Type or content of the data: assign different fields, icons, colors, text colors, categories, etc.

To do this, create multiple Timeline Events against the same object. Use Record Types, Inclusion Fields or both to tell them apart. Assign the Timeline Events different icons, colors, text colors and categories as desired. Put the Timeline Events with the most specific inclusion criteria toward the top. In many cases you may also want to place a “default” Timeline Event at the bottom as a catch-all for records that don’t match the more specific events.

When selecting Record Types, only records of those types will match that Timeline Event.

Inclusion Fields match when the referenced field value is not null, empty, false or zero. This works great in combination with custom checkbox formula fields for a very high level of control on matching Timeline Events to records based on the dynamic content of one or more fields. For example, create custom checkbox formula fields on objects called “Is Phone Call”, “Is Support Case”, “Is Partner Opportunity”, etc to make logical true/false determinations based on any number of other fields. Then use these fields as Inclusion Fields in the Timeline Events.

Change the Default Zoom Level

Edit the Timeline Custom Settings default zoom level to pick a scale that reflects a typical frequency of events.

Customize Your Timeline Categories

In the Timeline Events, add, change or rename Categories to segregate (categorize and filter timeline displays by type, department, channel, product line—whatever makes sense). Configure each category to be displayed or hidden by default.

Supply Your Own Icons and Images

Universal Timeline ships with several predefined Icons, Images and Tape Images for display on the Timeline. But you are not limited to these. You may upload your own graphics to represent the events specific to your business.

One recommended approach is to use Salesforce Static Resources, under Setup > Develop. Images may be uploaded individually as Static Resources and referenced using absolute or relative URLs (an example of a relative URL would be something like `/resource/myImage.png`).

You may also collect multiple images into a Zip archive and upload the Zip file as one Static Resource. In this case, individual images are referenced by their directory path within the Zip file (if you uploaded a Zip file and named the static resource “MyImages”, a relative URL would be something like `/resource/MyImages/icons/myIcon.gif`).

Images should be reasonably small (32 x 32 pixels, etc). Icons should ideally be 10 x 10 pixels or they may not show well on the Timeline. Tape Images should be 7 pixels tall or they may not render properly.

Calculate Icons, Images and Colors Dynamically

There is a “hidden feature” in the Universal Timeline to use the value of a text formula, picklist or text field to specify the Icon, Image, Color, Text Color and/or Tape Image values of a Timeline Event. To use this feature, you must have Universal Timeline version 1.32 or later installed.

Instead of using a static URL or CSS color for these fields, key in the API name of a custom field (text, picklist or text formula) from the object in question (such as `Timeline_Icon__c`).

For dynamic Icons or Images, the referenced field should return an absolute or relative URL to a graphic. If the value of this field is blank or null, the Timeline will display a blue circle. If an invalid URL is provided, however, the Timeline will display a broken image. Images should be reasonably small (32 x 32 pixels, etc). Icons should ideally be 10 x 10 pixels or they may not show well on the Timeline. Tape Images should be 7 pixels tall or they may not render properly. In the Timeline Events list screen, dynamic Icons will appear as an animated question mark.

Note: When using text formula fields, the field should simply return the text of the URL and not use the `IMAGE()` function.

For dynamic Colors or Text Colors, the referenced field should return a color in proper CSS format (like `rgb(25,16,217)` or `#e4939c` or `DarkBlue`). An invalid value will usually result in default colors. You could even calculate colors mathematically to reflect a numeric scale.

Important: For field-level security purposes, the viewing user must have read access to these dynamic fields for the event to display. If the user viewing the Timeline does not have read access to the field, the event will not appear to them at all.

Troubleshooting the Timeline and Timeline Events

If the Timeline does not display as expected, these general tips may help:

If the Timeline does not appear at all, verify that the user in question has correct permissions to the Pages, Components and Classes as described in “Installation and Basic Setup”.

If the Timeline appears, but no events display within the Timeline, try the following:

- verify that the record in question actually has related records to display
- determine if the Timeline Events are hidden by an unchecked Category Filter (and consider changing the default visibility option of that Category)
- check that the related records are not outside of the default date range displayed when the Timeline opens
- if there are many related records or many Timeline Events, it is possible that the Timeline results are exceeding your current Salesforce runtime limitations: consider lowering the Max # Records option for some of your Timeline Events
- as the user in question, open the page `/apex/slt__TimelineEvents?id=<recordID>`, where `<recordID>` is the ID of the record for which the Timeline is to be displayed
 - if errors are reported:
 - check for appropriate security and permissions
 - capture a Debug Log as described below
 - if no errors are reported and a JSON string is returned, but the “events” array is empty:
 - check that the related records do in fact have date or date/time values entered in the field(s) used for the Start and/or End times by the Timeline Event definition
 - ensure that the related records have a value in the field used for the Event Title
 - check to see if your Timeline Events are limiting results by Record Type or Inclusion Fields, and verify that your related records meet those criteria (you may want to consider temporarily loosening these criteria to test the results)
 - check the order of your Timeline Events to ensure that your intended events are not being captured by a higher-priority Timeline Event
 - confirm that the viewing user has at least “read” field level permissions for all fields used by the Timeline Events
 - confirm that the viewing user has at least “read”-level sharing rights to the related records in question (Timeline must respect the sharing and security model)
 - capture a Debug Log as described below

- if no errors are reported and a JSON string is returned with events in the “events” array:
 - you may be using a custom Visualforce page (not included with the Timeline package) to display the Timeline
 - ensure that you have in fact created a local “TimelineEvents” page as described in the section “Adding the Timeline to Custom and Other Object Page Layouts”
 - ensure that this page is named, exactly, TimelineEvents
 - ensure that the viewing user has access to this page
 - as the user in question, test your local TimelineEvents page by opening the URL `/apex/TimelineEvents?id=<recordID>`, where `<recordID>` is the same ID used in the above `(/apex/slt__TimelineEvents)` test
 - if the results are not the same, verify permissions
 - if the results are the same, check your browser’s JavaScript console for any errors
 - ensure that the JSON string is complete and not terminated early
 - examine the events for unusual characters that could impact parsing of JSON data (unlikely)

If all else fails, capture a Debug Log. As an administrative user, go to Setup > Monitor > Logs > Debug Logs. Add the user experiencing the problem as a Monitored User, and have that user access the Timeline (or the `/apex/slt__TimelineEvents?id=` or `/apex/TimelineEvents?id=` page) for the record in question.

Examine the log for the TimelineEvents execution. First look for any obvious reported errors. Then note the SOQL queries that the Timeline attempts to execute in the background.

There may be cases when the Timeline generates a query for a Timeline Event that does not return expected results or that runs afoul of a Salesforce query convention. Try executing the same queries, as the user in question, from the SOQL query tool of your choice (Developer Console, Apex Data Loader, SOQL browser, Force.com IDE, etc), substituting any record IDs as needed. This is a good way to do a sanity check of your Timeline Events setup.

If the query does raise errors or does not return results, it could be related to permissions, limits, or ambiguities when traversing the object model (especially when dealing with subqueries and with objects that can have parent lookup fields to multiple object types). Fortunately, when this occurs, there are often alternative ways to consider setting up your Timeline Events.