# Cloud Computing

- Multi-tenancy
- Automatic Upgrade
- Pay-as-you-go
- Real-time

## Clouds

- Sales Cloud
- Service Cloud
- Collaboration Cloud

## Applications

- Sales
- Call Center
- Community
- Chatter
- Marketing

## Chatter

- Chatter Free
- Chatter Full
- Salesforce Full User

## Force

- Appforce
- Siteforce
- VMforce
- Heroku

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# Identity Confirmation

- Authentication of logins
- Trusted IP ranges
- Computer Activation

## Trusted IPs

- Setup in Org admin
- List of IPs that have activated for Salesforce CRM
- Used with cookie associated to the browser

## Computer Activation

- When no cookie exist and unknown IP address
- Two types: Web, API (outlook, integration)
- Activation requires email notification with verification code

# User Interface Setup

- Inline Editing (some fields not allowed)
- Hover links
- Mini-page layout
- Console Mini View
- Print view (1000 recs) no export to Excel
- List view (2000 recs) with chatter feedback
- Related lists (+hovers)

## UI settings

- Enable Inline Editing
- Enable Hover Details
- Enable Enhanced List (drag-n-drop columns, jump to page, inline editing upto 250 recs)
- Enable Printable List
- Enable Related List Hover Links

## Sidebar

- Enable Collapsible Sidebar

## Calendar

- Enable drag-n-drop on calendar view
- Enable hover links for task

## Setup

- Enable Enhanced Page Layout Editor
- Enable Enhanced Profile List Views
- Enable Enhanced Profile User Interface

## Chatter

- Chatter auto-enable global search
- Enable Feed tracking
- Allow email notification

## Search Layout/Filters

- Customize search results (columns and buttons)
- Filters upto 10 columns

## Cloud Scheduler

- Create Activities (Standard Object) and events, tasks
- Button “New Meeting Requests” on activities page
- Scheduled => Confirmed calendar event once accepted

# Organization Admin

- Company Profile
- Multi-Currency
- Advance currency setting = multiple rates
- Fiscal Year
- Business Hours

## Company Profile

- Language, Locale & Time Zone (editable)
- Licenses (billed on total licenses vs active users)
- Storage and used space
- Primary Contact Address (editable)

## Multi-Currency

- Multi-Curr is an optional feature request
- Active currency: Org Profile, User Pref, Opportunity/Forecast specific
- Currency field is a REQUIRED field where it is added
- Changing conversion rates affects all existing records, unless Advanced Currency Mgmt is used.
- Advanced Currency Mgmt turns OFF Roll-ups
- Currency exchange rate is calculated on the CLOSED DATE of opportunity

## Fiscal Year

- Affects Forecasts, quotas, Reports
- Standard Fiscal Year = Gregorian calendar (12month structure)
- Custom Fiscal, break it down by quarters, weeks etc
- Standard forecasting doesn't work with custom fiscal year, need customizable forecasting
- Define custom fiscal year AFTER current forecast, update product schedule/ forecasts when custom fiscal year changes

## Business Hours

- Different business hours related to timezones
- Affects Case escalation triggers
- Can add holiday dates

# Customization

- List of Standard Profiles (enhanced profile UI setting ON to customize)
- Permission sets (Set to a USER, up to 1000 per org)
- Standard vs. Custom Fields (standard cannot be deleted but can be removed from page layout)
- Dependent Picklists (allows data accuracy)

## User Profile

- What users can see and do with records (CRED settings)
- Standard Profiles CANNOT be modified (not available in Professional License: Sys Admin, Marketing, Contract Mgr, Standard User (CRED own records), Solution Mgr, RO
- Chatter Free, Chatter Mod, Chatter External User
- Apps: Assigned Apps, Objects and Tabs (Field level Security), App Specific Permissions (e.g. transfer cases)
- System: system permissions (e.g. modify all), Login hours, Login IPs

## Custom Fields

- Custom Objects max 500 fields
- Changing fields types can affect data loss:
  - to/from date or date/time
  - to Num
  - to Percent
  - to Currency
  - from Checkbox
  - from Multi-Picklist
  - to Multi-Picklist (except Picklist)
  - from Auto Num
  - from text Area
- Deleted fields definitions will be deleted (permanently after 45 days)
- Deleted fields still count until it's permanently removed from recycle bin

## Permission Sets

- Associated to User
- Provide GRANT ACCESS not denials
- Can create 1000 permission sets per org
- Users, Objects, Field, Service Provider, Apex Class & Visualforce

## Dependent Picklists

- Standard picklist can ONLY be Controlling Field
- Maximum number of values in controlling picklist: 300
- Field Types:
  - Standard Picklist: C
  - Custom Picklist: C/D
  - Custom Multi-Picklist: D
  - Standard Checkbox: C
  - Custom Checkbox: C

# Customization II

- Custom Lookup fields
- Formula Fields
- Page Layouts, Related Lists (required set in page layout)
- Record Types
- Business Process
- Field Level Security (FLS)

## Lookup Fields

- Lookup a value in another object (25 custom/object)
- Unlike Master-Detail relationship, doesn't affect deletion, ownership or security
- Defined with lookup relationship:
  - Standard to User
  - Standard to Custom
  - Standard to Standard
  - Custom to Custom
  - Custom to Standard
  - Custom to User
  - CANNOT User to Custom/ Standard
- Lookup filters based on fields to/from object, also profile and roles
- Filters: Required = must match one record (5 per object limit), Optional = can enter a new non-matched value (no limit)

## Formula Fields

- Can reference standard, custom or other formula fields (up to 10 levels deep)
- Cannot reference themselves
- Fields referenced in formulas cannot be deleted.
- Automatically calculated, RO and doesn't update last updated field. Not visible on edit pages
- NOT available in:
  - Offline Edition
  - Not Searchable
  - Not for Lead conversion
  - Data Export

## Record Type / Business Process

- Record Types associated to different page layouts
- NOT available in Professional Edition
- Business Process (needed if you create Record Type for the 4 objects):
  - Sales: Opp Stage field
  - Support: Case Status field
  - Lead: Lead Status field
  - Solution: Solution Status fields
- Default selection set up in My Personal Information setting allow skipping the jump page
- Web-to-Lead or Web-to-Case will set the type to be the default value
- Can create on ALL except: Home, Forecast, Docs, Reports, Console, Web

## FLS / History

- NOT available in Professional Edition
- CANNOT be used to make field REQUIRED
- Associated at the Object/ Profile level NOT UI
- History Tracking, up to 20 standard/custom fields
- Can view new/old value, however for Multi-Select and large text field values are not retained only that they are modified
- FLS is Object level then you overlay the Page Layout UI setting

# Security & Access

- Users: unique username, associated to a profile, optionally to ONE role, must have full salesforce license or chatter free
- Organization-wide defaults
- Role Hierarchy / Sharing Rules
- Account / Sales Teams / Manual Access
- Folders Access for documents, reports, templates dashboards

## OWDs

- OWDs are restrictive settings, the minimum level of access
- Setup in Security Controls->Sharing Settings
- Record Owner (user or queue with view/edit/transfer/delete capabilities
- Private: Only record owner and users above role hierarchy RW Search/Report
- RWT: Read/Write/Transfer (change ownership)
- Default Access:
  - Lead: RWT
  - Account/Contract/Asset: RW
  - Contact: Controlled by Parent
  - Opp: RO
  - Case: RWT

## Roles / Sharing

- Roles allow vertical up visibility up the hierarchy of data owned or shared by subordinates
- Exception for Contact records marked 'private'
- Users in the same role/level DO NOT see each other's records
- Opp reports, Forecast roll-up require users to be assigned a role
- Needs to set 'Grant Access Using Heir' in OWDs
- Sharing Rules: Who Owns IT, Who Should See IT
- Sharing Rules allow access to data not associated with Role Hierarchy
- Criteria based sharing e.g all opportunities in certain region with specific product
- Solution CANNOT be shared

## Account / Sales Teams / Manual

- Manual Sharing per record basis
- Anyone above role hierarchy can manually share a record
- Sales Team: For sharing and reporting
- Sales Team: Can have a default (defined for user), automatically added to user's Opportunity
- Add Default Team add the Opp Owners default team, NOT the user clicking the button
- Owner and Anyone above role hierarchy can add a Sales Team
- Must have at least RO access to Opp's Account
- Display Access shows all access regardless of how it was acquired

## Folders

- Defined as R or RW
- Access is Explicit i.e. does NOT roll up through role hierarchy
- Documents do not have version control
- File Size limit of folder 5MB
- Search documents in Global Search or Document search

# Workflow & Workflow Approvals

- Used to Send Email Alerts, Assign Tasks, Update Field Values, Send Outbound APIs and execute Time-Dependent Actions
- Components: Rule + Actions + Time-Dependent Actions
- Time-Dependent WFs
- Tasks / Email Alerts
- Workflow Approvals

## Components

- Triggers do not affect already saved records
- Define: Created, Created/Updated, Created/Updated & Did not previously met criteria
- Actions: Email Alerts, Tasks, Field Updates, Outbound Msgs
- Field Updates: Apply a specific value, blank or calculated formula
- Field Update: For record owners chose the records to be assigned, for Case/Lead it can also be a Queue
- Can create update field on parent record (even with M-M relationships)

## Time-Dependent

- Used to send email reminders, notifications of opp closed dates and notify support of open cases with certain SLAs (prior to escalations)
- Max 10 time triggers per rule
- Max 40 actions per time trigger
- Required WF default user set up before time-based rules
- Precisions: Hours & Days
- CANNOT convert Leads
- CANNOT create time dependent action for a rule with ‘Every Time the record is updated/created’
- Monitor pending actions in Setup->Monitoring->Time-Based WF

## Tasks / Alerts

- Tasks: May be assigned to User, Role, Owner, Creator, Sales/Account Team
- Tasks: tracked in Activity History and be reported on
- A single task CANNOT be assigned to a role/team - it will be assigned to owner instead
- Due date for tasks are in time zone of assignee
- Due date for tasks is calculated in calendar days, NOT business day
- Alerts NOT tracked in Activity History
- Alerts can be reused within the same object
- ‘Big Deal Alert’ can be used to send email to users based on Opp stage field (for PE)
- WF is NOT available for Professional Edition

## Approvals

- Approval process: Initial actions that occur, approval request notification, approver assignee and approval response (reject/ approve)
- Formula based logic that can use USER fields in the formula
- Skip approval steps if needed
- Can be recalled anytime
- Jump Start Wizard to create a one-step approval process
- Can be enabled in chatter for approving an rejecting
- Can have parallel approval process: first response vs unanimous

# Data Validation & Data Utilities

- Validation Rules Enforcement
- Required and Unique Setup
- Import Account / Contract
- Mass Delete / Mass Transfer (recycle bin stores data for 15 days)
- Data Loader / External IDs

## Validation

- Validation executed before RECORD is saved (executes on the server)
- All active validation rules executes at the same time, multiple error messages may be displayed
- Standard validation i.e. required field, data type enforced first then custom validations
- Enforced on:
  - All Objects (except forecast + territories)
  - Data Loader (Import) and APIs
  - Lead Convert & Record Merge
  - Offline, when synced to server
  - Web-to-Case, Web-to-Lead

## Required / Unique

- Required property is only on Custom fields, certain fields (text, number)
- Required fields CANNOT be removed from Page Layout
- Required fields CANNOT be RO
- Required on ALL Record Types
- FLS is overridden in Edit Mode
- Existing Data is not enforced unless records is updated
- Unique property is only on Custom fields
- Once enabled unique ness is checked against existing data
- Can have case sensitive

## Imp / Del / Trans

- Import Wizard:
  - Account (matched on Account Name + Account Site)
  - Contacts (matched on email)
  - Leads (matched on email)
  - Solutions (matched on Solution  Title, Salesforce ID or External ID)
  - Custom Objects (matched on Solution  Title, Salesforce ID or External ID)
- Standard users can import 500 accounts or contact per session
- Sys Admin 50,000 accounts contact, leads, solutions, custom objects
- Can enable / disable WF rules during import
- Back up by Exporting data before Mass Delete
- Mass Transfer Accounts, Leads, Custom objects

## Data Loader

- Data Loader is an example of API import, also available with open source apps
- External ID are case INSENSITIVE, No unique constraint enforced, 3 fields per Object (text, num, email)
- Used to search, prevent duplicates with import wizard, make “Upsert” when synchronizing with external data
- Requires ‘Modify All Data’ access to see link
- Requires API client activation with Security Token (sent via email)
- Activation: Username / Password+Security Token

# Reports & Dashboards

- Report Types: Table, Summary, Matrix
- Report Folders and visibility
- Report Filters
- Summary Formulas
- Chart Types and Conditional Highlighting

## Reports

- Standard Report can be customized but not overwritten or deleted
- Custom report normally built from cloning existing reports and saved in custom, personal folders
- Users must have access to report folder and 'run reports'
- Reports run in real-time, saving reports saves parameters not data
- Tabular report: data without subtotals
- Summary report: choose sub-groupings
- Matrix report: horizontal and vertical summary

## Folders / Visibility

- Folders can be public, private or accessible to select users
- When you have 'View All Data' set you have the ability to see hidden / not shared folders
- Data visibility is retrieved from objects and fields normally visible to them
- Reports are accessed:
  - Reports Tab
  - Object's Home Page
  - Custom Links on Sidebar
  - Report URL
  - Scheduled Email
- Report Builder allows drag-drop of fields and preview up to 50 live records. Add charts etc.

## Filters / Summary Formulas

- Add up to 10 filters per report
- Use Filter Logic of AND or OR to set different filter fields (e.g. 1 AND 2, 1 OR (2 AND 3) etc.)
- Filters are added directly in the report builder
- May use Special Date Values in Report Filters:
  - yesterday, last week, today. this month, tomorrow, next quarter
  - next/last n days
  - next/last n quarters
  - next/last n years
- Add up to 5 summary formulas (numerical fields) in a report
- CANNOT reference other summary formulas
- CAN reference formula fields (10 levels down)

## Charts / Highlighting

- Highlighting threshold conditions in summary (first) and matrix reports
- 3 ranges per report,
- Only applies to summary rows and numerical analysis
- Charts:
  - Horizontal Bar: Many Items
  - Vertical Bar: Fewer Items Over Time
  - Line: Over Time
  - Funnel: For Sales Process
  - Pie/Donut: Compare Share (+ with Total)
  - Side-by-Side Bar: Secondary groupings
  - Stacked Bar: Totals and proportions
  - Stacked 100% Bar: Compare proportions
  - Grouped Line: Secondary grouping over Time
  - Scatter: Plot two numerical summaries (vert / horiz)

# Reports & Dashboards II

- Scheduling / Email Reports
- Print / Export Reports
- Custom Report Types (CRTs)
- Dashboards + Dashboard Filters

## Schedule / Email

- Schedule a future report run and have it automatically emailed to the users who needs it
- Schedule Future Run is not available in the report builder - you must run a report first
- Determine the running user (visibility of data in the report)
- Running user must have access to the folder where the report is saved
- Email Recipients must have access to the report folder
- Report is email within 30min of the Preferred Start Time

## Print / Export

- Printable View creates an .xsl file to be saved or opened and printed
- Printable View preserves formatting, groupings and subtotals
- Export Details creates a .csv or .xls file
- Export Details DOES NOT preserve the formatting, grouping, subtotals
- Export Details used to mass update or move data
- Both Print / Export buttons are not available in the report builder - you must run a report first

## CRTs

- Build a basic framework which users can create reports from
- CRTs are used to build relationships for reports from standard and custom objects
- Create 'with' or 'with or without' relationships
- Limit fields, re-name them to be available to be used in the report
- Use CRTs for Users Objects and the Primary Object to include records owned by, created by or modified by a users

## Dashboards

- Chart Data from multiple reports, can have up to 20 components
- Can use Visualforce pages (from other data sources)
- Has running user / run as logged in user to determine what data is visible (set when creating the dashboard)
- Running User overrides sharing model and allow data to be seen as the running user, but once they click on a dashboard component the only see their own data in the resulting report.
- Displays the last time is was 'refreshed'
- Can be scheduled to be refreshed and emailed automatically
- Dashboard can create a static snapshot which can be posted (matrix type NOT)

# Marketing Admin

- Lead Management
- Campaign Management
- Queues and Automated assignment
- Lead Conversion

## Leads

- Business Card information, via Web
- Created: Manually, Import Wizard (Only Marketing User can import), via API, Web-to-Lead
- Lead assignment via rules Queue or User
- Add 'Record Owner' (user or queue) column to the import file to specify Lead Owner (recognized in the Wizard)

## Campaigns

- Marketing user has CRED access to campaigns, the rest has only RO (+run reports)
- User must have 'Marketing User' checkbox selected
- Campaigns have hierarchy to allow roll-up of summary fields. Max 5 levels.
- Campaign member is a Lead or Contact record
- Campaign member can be edit, deleted, cloned, convert the Lead or create opportunity for contact
- Email alerts created when a campaign member is added (CANNOT create a Task)
- Opportunity can be linked to multiple campaigns that have influenced it, ONLY ONE can be primary source

## Queues

- Queues are created in Managed Users and are like users
- Queues can have associated email addresses
- Lead Queues are virtual storage bins to group lead based on criteria (e.g. industry, campaign etc.)
- Every queue member has visibility to that lead in the queue
- Assignment is based on first rule that it meets (rules are ordered sequentially)
- Web-to-Lead has auto-response with Email templates (daily limit of 1000 for an org)

## Lead Conversion

- Lead information is mapped to Account, Contact, Opportunity objects
- Data validation is used to ensure properly completed Leads can be converted
- Custom fields can be used to add to the mapping but they may only be mapped to custom fields on the Account, Contact or Opportunity objects of the same field type
- Lead conversion creates Account, Contact & Opportunity (unless you opt out of creating an opportunity)

# Service & Support

- Case Processing / Assignment
- Escalation
- Solution Management
- Self-Service Portal / Customer Portal
- CTI Integration / SoftPhone / Reporting

## Cases

- Cases are created:
  - Online: Web-to-Case
  - Call Support
  - Email-to-Case (based on template)
  - Call Sales (unrelated call)
- Cases can be routed automatically to queues or reps
- Case Teams allow more than one user to help resolve the case
- Cases can have hierarchies
- Mass update related cases, quickly close, reassign or change status of related cases
- Case team members can have different level of access to cases (RW or RO)
- Case Queues can be grouped into criteria like Skill, Product Cat, Customer Type, Service Level
- Auto responses rules to determine which email templates to use

## Escalation

- Case Escalation are auto assignment (queue, user) of cases and email alerts to users
- Case teams can be escalated with rules, e.g. if the case is in the queue for longer than 48hrs
- Error-proof rule always create a last rule entry with no criteria
- Escalation rules are evaluated every time save a case. Rules are evaluated in sequence order
- Business Hours determine when to escalate the case, depends on time zones
- Case can only refer to ONE business hour at a time.
- Can set holiday hours also

## Solutions

- Solutions are low cost way to start knowledge mgmt
- Content: too for creating, collaborating sharing information
- Answers: peer to peer knowledge base created by the community
- Knowledge: based solution capturing and publishing process
- Solutions are organized in categories, with sub-cats
- Suggested Solution allows up to 10 relevant solution that may help with case
- Suggested solutions based on word frequency, word similarities (not just via keyword searches)
- Multi-lingual is supported

# Console

- Consolidation of related data on ONE screen
- NOT for occasional users (Users who use it for more than 3hrs a day)
- Console Layout Assignment via Profiles
- Can view/edit data (accounts, contact, cases, opportunity etc without switching back and forth

## Layout / Navigation

- Items on the Console:
  - List View
  - Detail View
  - Mini View
  - Call Sales (unrelated call)
- Set up in customize->console layout
- Set up object in mini console view to add object relationships in the area right of the detail view
- Mini Page layout determines which fields will display in that area

## Profile Assignment

- A users's profile determines which colsole layout is seen
- Setup->Customize->Console->Console Layout
- Console Tab can be added to custom apps

## Service Cloud Console

- Only users assigned to the Service Cloud can use the Service Cloud console
- Work with fewer clicks, spot important fields on records
- See records with related items on a single screen
- Enter notes on each record in an interaction log
- Access SoftPhone in footer

# Extending Salesforce

- Define custom objects and sharing model
- Standard / Custom Relationship Types
- Roll-up Summary fields
- Custom Tab, Web Tab
- Build Custom App

## Object / Sharing

- Must have 'Customize Application' permission
- Custom object security controlled in OWDs / CRED settings
- Custom objects are reportable, need new reports
- Track History of audit fields
- Restore deleted definition / data up to 45days
- Can have sharing rules and manual sharing also
- Can have queues associated to custom objects
- Custom Objects must be associated to profile to be seen by users

## Relationship Types

- Standard Relationship Type:
  - 1:M
  - M:M
- Custom Relationship Type (Master-Detail):
  - Child auto deleted when parent is deleted
  - Sharing inherent from parent
  - Lookup field on child is always required
  - Lookup field on child becomes RO when record is saved
  - Need both parent and child for reporting
- Many-to-Many: Junction objects allow M:M relationship
- Deleting either parent will delete detail record
- Both parent objects can have Roll-Up summary from junction objects
- Junction object CANNOT have child objects
- Junction object data CANNOT be imported with Import Wizard
- Master-Detail-Sub Detail: for Standard objects can have 2 levels of sub details, for custom can have 3 levels of sub detail
- Custom Object CANNOT be master of a Standard Object

## Custom Tab / Web Tab / App

- Integrate External Web resources
- Custom App is a logical grouping of Tabs
- PE up to 5 apps
- EE up to 10 apps
- DE up to 10 apps
- EE 20 roll up summary fields on custom object