Innovation With SAP Business Technology Platform (BTP)

How PG&E Used Fiori Elements And CDS Views To Streamline Financial Processes

Agenda

Introductions and company overview

SAP System Landscape

The challenge to use existing landscape to streamline financial processes

Technical aspects of Fiori Elements and CDS Views

Invoice Validation Portal and Workflow overview

Supplier Estimate Portal overview

Demo Supplier Estimate Portal

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Presenters

Meghana Vyas

IT SAP Expert

Guy de Bruyn

IT SAP Principal

Company Overview

Pacific Gas & Electric Company (PG&E)

Incorporated in 1905 in California.

Provides natural gas and electric service to 16 million customers, from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east.
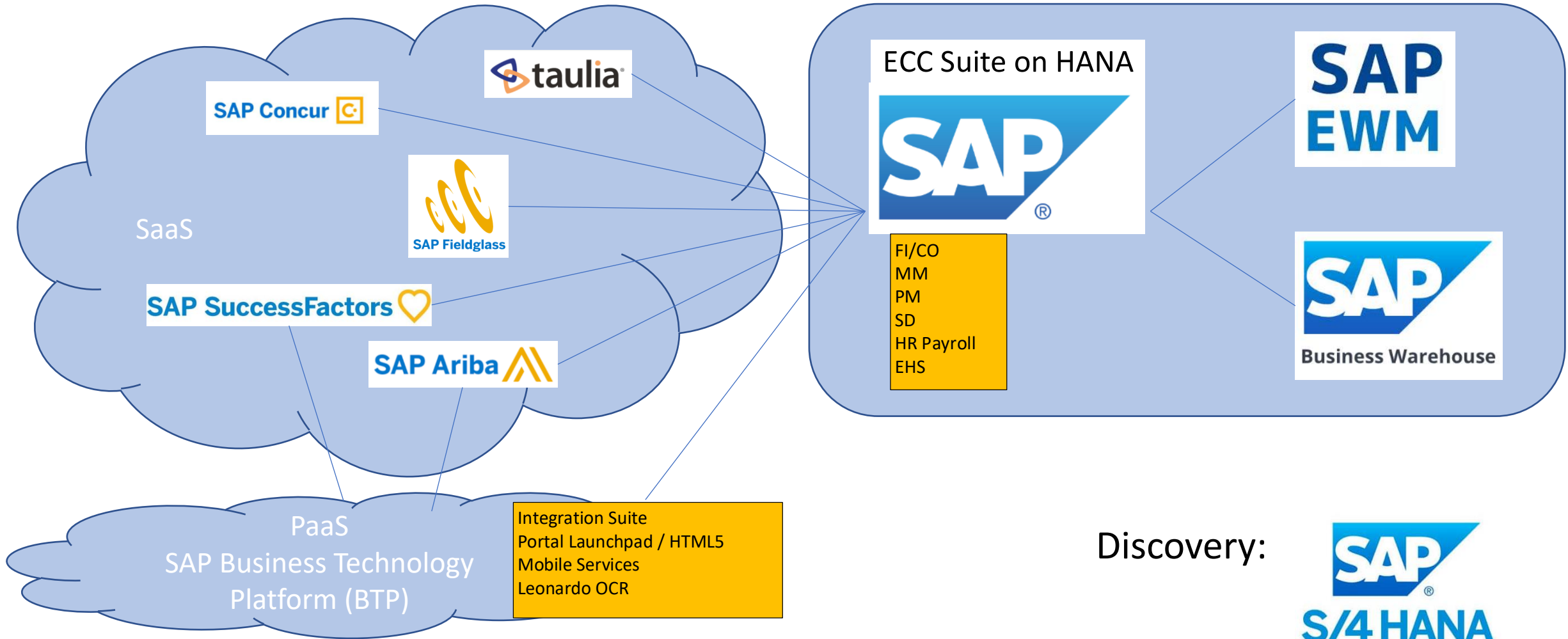
Headquartered in Oakland.

23,000 employees across Northern and Central California.

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Current System Landscape

SaaS

SAP Concur
taulia
SAP Fieldglass
SAP SuccessFactors
SAP Ariba

ECC Suite on HANA

SAP

FI/CO
MM
PM
SD
HR Payroll
EHS

SAP EWM

SAP Business Warehouse

PaaS
SAP Business Technology Platform (BTP)

Integration Suite
Portal Launchpad / HTML5
Mobile Services
Leonardo OCR

Discovery:

SAP S/4 HANA

Purpose: use existing SAP landscape to streamline financial processes

Procure to Pay process improvement

Decentralized review and release of invoices submitted by external suppliers.

Collaboration between external suppliers and line-of-business users for financial accrual estimates.

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Challenge: users do not want to log into SAP

Other challenges

- On ECC, new technology and functionality only available after upgrade, which can take years
- Complexity developing OData services, translating data model to table select clauses
- Complexity of SAPUI5 apps, challenging for business-logic focused ABAP developers
- UI consistency and version sensitivity of SAPUI5 apps
- Lines of business use their own tools to comply with company requirements, resulting in redundancy and technical debt

How from SAPGUI to Fiori UX?

?

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Solution: Fiori Elements and CDS Views
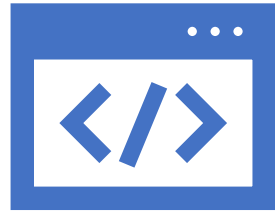
Business Technology Platform (BTP)

Fiori Elements

- Speed up front-end development: ABAP developers can create apps
- Metadata driven, configured with annotations
- Consistent UI: custom apps even look like S/4 HANA Fiori Apps
- Upgrade proof

ECC Suite on HANA

CDS Views

- Virtual data model
- Fast development of OData services based on CDS Views
- Provides metadata for Fiori Elements

Why BTP?

Always has the latest and greatest functionality

No need to wait year(s) for upgrades before finally we can use it

Get ready for S/4 HANA

Tools and features used in S/4 HANA, for example, Fiori Elements for delightful and consistent user experience

Works well with our existing on-prem SAP Environment

Integration

UI Applications

Analytics

No need for complicated license process when adding a new tool

Subscription or usage-based

Automatic upgrades & patches, maintenance of infrastructure behind the scenes

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CDS Views

Virtual data model, based on underlying SAP tables

Glorified SQL joins

- Can contain more complex logic, including SQLScript programming logic using AMDP stored procedures
- "SE11 Database views on steroids", accessed like any other SQL view

Exposed as OData service: all fields are automatically filterable and available in the output

- Speed up development of OData services
- For development only focus on create, update and delete in OData service, while using SADL (Service Adaptation Description Language) to reference the CDS Views for the data model

Fiori Elements

Supports most commonly used Floor Plans, such as List-Object Page.

Framework to generate Fiori app based on metadata and annotations.

Addresses 80% of UI use cases

The "ABAP List Viewer (ALV) of Fiori Apps"

Other 20% can be handled with extensions or free-style SAPUI5

Business Application Studio (BAS) in BTP to configure the Fiori Elements App, including annotations

Perfect match for CDS Views which drive metadata and handle some of the annotations

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Invoice Validation Portal and Workflow (IVW)

Main purpose
- A centralized web-based (Fiori) tool where assigned validators review and accept/reject Taulia/SAP invoices.

Main features
- Notification of the Goods Recipient when new invoices are received in Taulia
- Routing by the Goods Recipient of invoices and attachments for review in the portal
- Acceptance or rejection of invoices in the portal
- Escalation of stale invoices
- Centralized data allowing for identification of bottlenecks and accurate tracking of days to payment
- A mobile-friendly portal for technical reviewers in the field
- New invoice-blocking logic that won't release invoices for payment until the GR has been posted and the technical reviewer/invoice validator has accepted the invoice
  - Standard SAP process using manual payment blocks, proven process with Chapter 11
  - Independent from external invoicing workflow and portal

Standard SAP Accounts Payable

Purchase Order based Invoices. Logistics Invoice Verification (LIV)	• Three-way match
Manual Payment Blocks	• New payment blocks to distinguish different stages including Goods Receipt
Portal application handles payment blocks behind the scenes	• Equivalent of using FB02 to manage payment block on FI invoice
Real time recording of liabilities while still reviewing invoice for terms and conditions and matching with work performed	• Other invoice workflows lack financial visibility

Fiori app generated from CDS View "Virtual" Workflow Inbox


```
28  define view zap_invval_hd as select from zap_open_poinvoices as inv
29
30  association [0..*] to zap_invval_item as _item
31  on $projection.materialdocnumber = _item.materialdocnumber
32  and $projection.materialdocyear = _item.materialdocyear
33
34  association [0..*] to zap_poinvval_users as _user
35  on $projection.materialdocnumber = _user.materialdocnumber
36  and $projection.materialdocyear = _user.materialdocyear
37
38  association [0..*] to zap_invval_attach as _attach
39  on $projection.materialdocnumber = _attach.materialdocnumber
40  and $projection.materialdocyear = _attach.materialdocyear
41  {
42⊝     @Search.defaultSearchElement: true
43      @Search.ranking: 'HIGH'
44      key inv.materialdocnumber,
45      key inv.materialdocyear,
46          inv.sapdocnumber,
47          inv.compcode,
70          inv.invoicedate,
71⊝         @Search.defaultSearchElement: true
72          @Search.ranking: 'MEDIUM'
73          inv.vendorinvoice,
74          inv.headertext,
75          inv.vendortext,
76          inv.pendinggr,
77          inv.mmgrblock,
78          inv.goodsrecipient,
79          inv.grsupervisor,
80          inv.myvalidation,
81          inv.pendingvalidation,
```

```
10  @AbapCatalog.sqlViewName: 'ZACDSPOINVMYVAL'
11  @AbapCatalog.compiler.compareFilter: true
12  @AbapCatalog.preserveKey: true
13  @AccessControl.authorizationCheck: #CHECK
14  @EndUserText.label: 'PO Invoices requiring current user as validator'
15  define view zap_poinvoices_myvalidation as select from zap_poinvval_users as u {
16      key u.materialdocnumber,
17      key u.materialdocyear,
18  } where u.Userid = $session.user and u.Role = 'VALIDATOR' and u.Deleted = ' ' and u.Status = ' '
```

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User clicks button to change/remove payment block

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One CDS View, Many Purposes
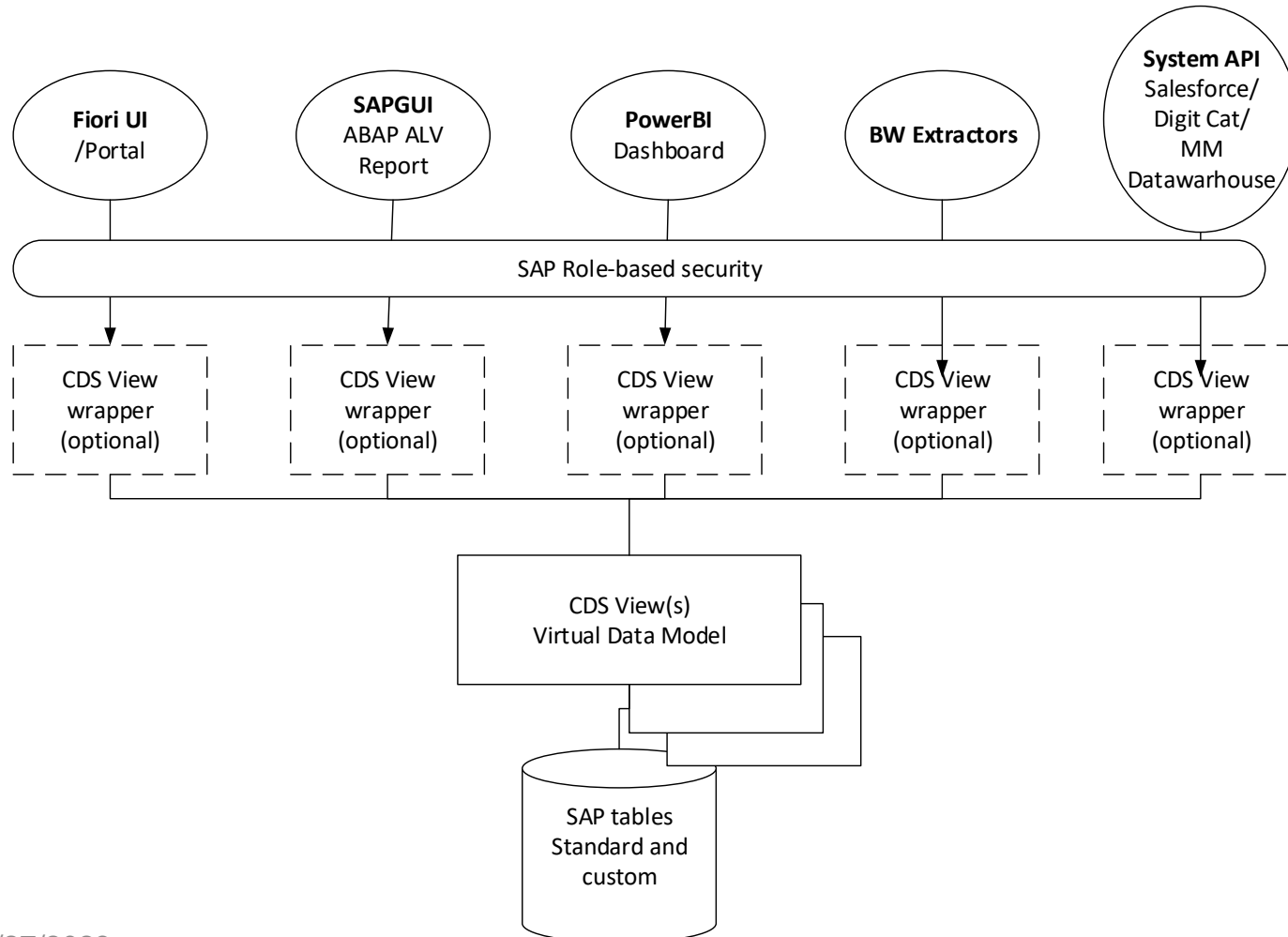
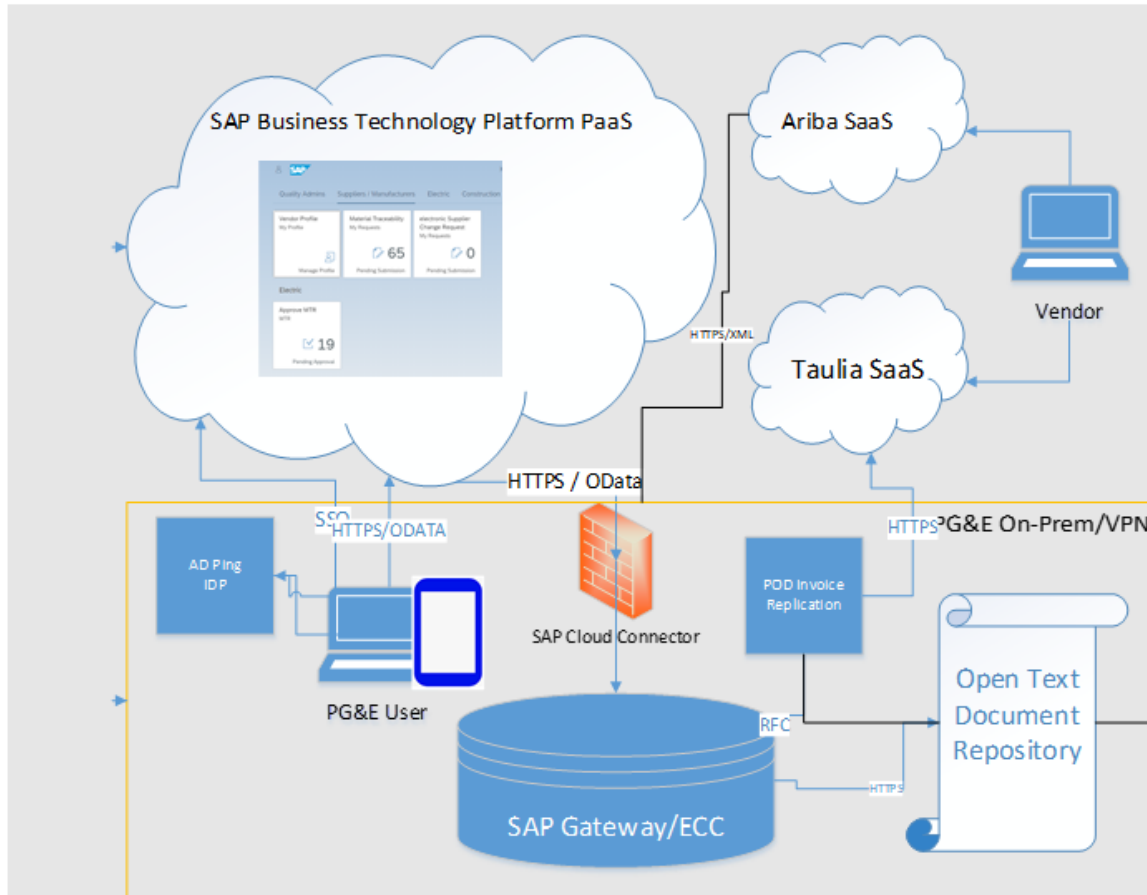## Example: Power BI Dashboard

Solution Diagram
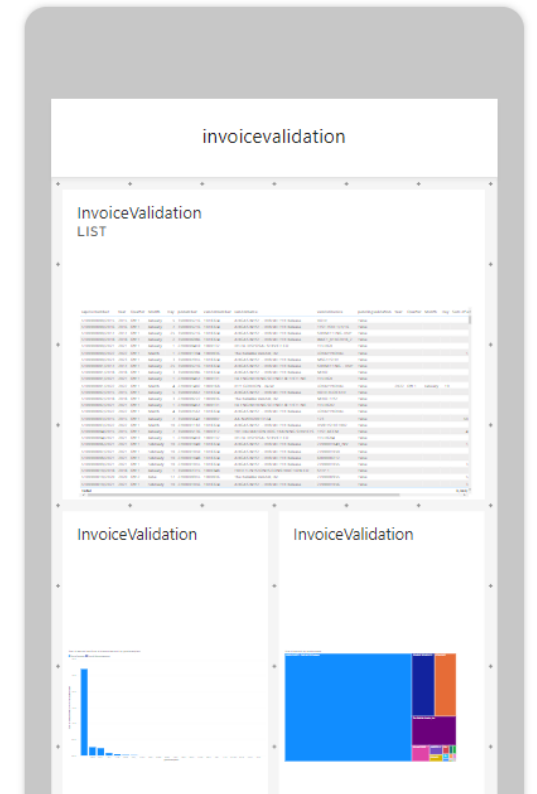
IVW Solution

- **Existing SaaS solutions Ariba for Goods Receipt and Taulia for vendor invoicing**

- **BTP Portal for PG&E Users**
  - Ping IDP for PG&E users
  - Development and hosting Fiori UI

- **GW/ECC for workflow, reporting**

- **OpenText for retrieval of vendor attachments uploaded in Taulia**

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Supplier Estimate Portal (SEP)

Main purpose

- o PG&E users from various functional areas collaborate internally and with their suppliers to get accrual estimates in, timely and accurately

Main functions

- o External access for suppliers to submit estimates and collaborate with PG&E
- o Real-time SAP data validation
- o Attachment of supporting documents
- o Accrual Approval Routing
- o Comment and Activity logs
- o Journal Entry posting upon final approval
- o After the Fact PO/Contract Change Orders accrual data collection

Solution Diagram
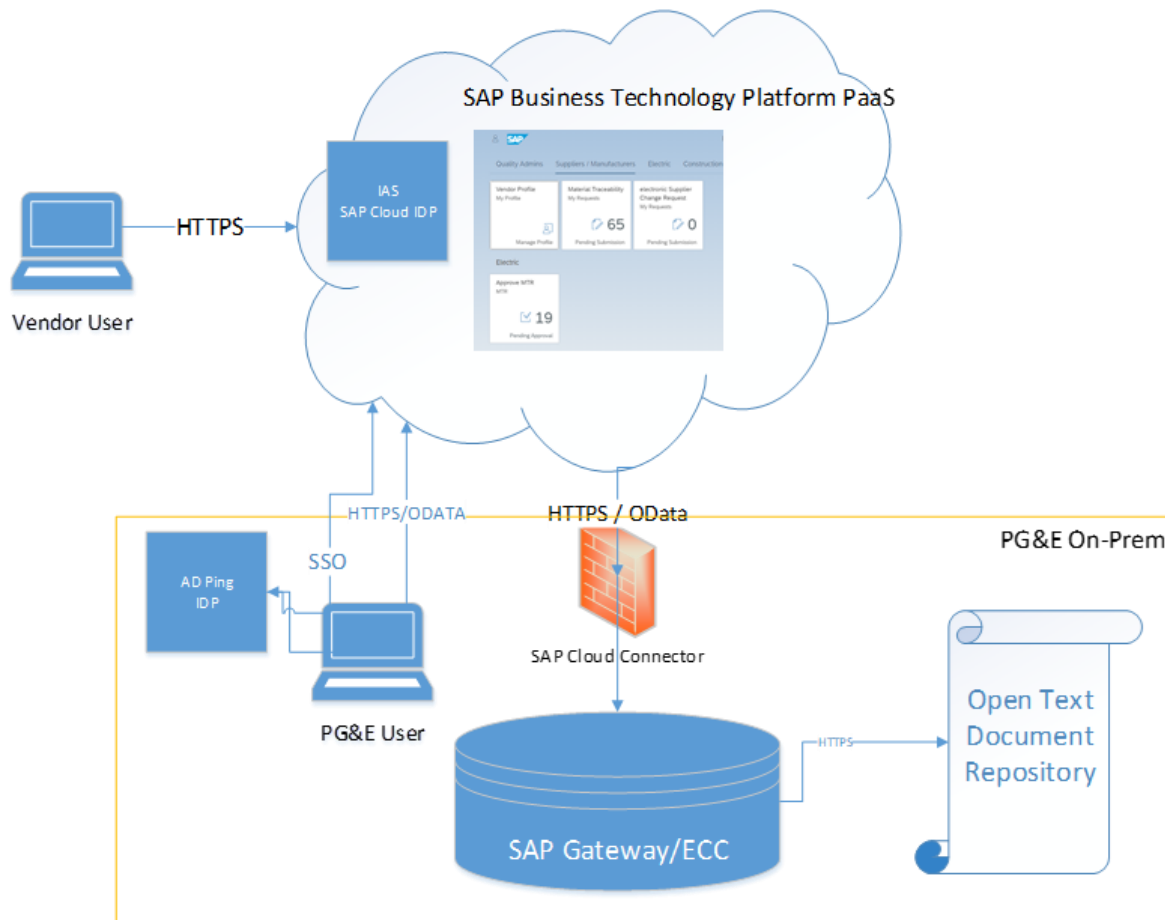
SEP Solution

- **BTP Portal for both vendors and PG&E Users**
  - o BTP IAS for vendor users
  - o Ping IDP for PG&E user
  - o Development and hosting Fiori UI
  - o Vendor Registration App
- **GW/ECC for workflow, reporting, Journal Entries**
- **OpenText for storing uploaded Excel files and supporting documents**

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DEMO

Supplier Estimate Portal