

APPENDIX B

Preliminary Infringement Contentions for U.S. Patent 8,578,285

(Accused Instrumentalities: All SAP products using SAP Fiori technology (including Fiori versions 1, 2, 3, and/or Horizon))
(Specific products used with Fiori include at least SAP's S/4HANA, Business One, Business By Design, ECC, ERP, and all supported applications)

'285 Patent Claim 1	
1(a). An apparatus to provide secure user-centric information via a plurality of user platforms operated by a user, the apparatus comprising:	The Accused Instrumentalities are an apparatus that allows the user to access a set of applications that provide and show relevant information on any platform (e.g., Windows computer, apple computer, android mobile device, web browser interface, etc.) used. The excerpt below shows that SAP Fiori is the central entry hub to access SAP Fiori apps via any device.

help.sap.com/docs/SAP_FIORI_OVERVIEW/a3a20aacd1484c8a976f71054a3bf860/d88d371a9aa54fb89fe19a16d8eb527b.html

SAP Help Portal (Documentation) Browse by Product SAP Learning Journeys What's New Explore SAP

Favorite Download PDF Share

- ▼ SAP Fiori Overview
 - ▼ Explore SAP Fiori
 - SAP Fiori Concept and Design
 - ▼ **SAP Fiori Apps**
 - SAP Fiori Apps Reference Library
 - Explore SAP Fiori Apps With Innovation Discovery
 - SAP Fiori Apps Recommendations Report
 - SAP Readiness Check 2.0
 - SAP Innovation and Optimization Pathfinder
 - SAP Fiori Lighthouse Scenarios
 - Best Practices Explorer
 - > SAP Fiori Technology
 - > Plan Your SAP Fiori Implementation Project
 - > Set up and Configure SAP Fiori

SAP Fiori apps are platform-independent web apps built with SAPUI5 for mobile and desktop devices and applying the SAP Fiori user experience design principles.

SAP Fiori apps are available for different lines of business, industries, and SAP products. They are available for on-premise or cloud deployments and different SAP roles. SAP Fiori apps may be released for mobile devices and can then be consumed using a mobile browser, using SAP Fiori Client, or, as packaged apps, using the SAP Cloud Platform Mobile Services. The SAP Fiori launchpad is the central entry hub to access SAP Fiori apps.

In addition to SAP Fiori apps built with SAPUI5, there are classic applications using different UI technologies, such as Web Dynpro or SAP GUI. With SAP Fiori 2.0, these classic applications share a harmonized theme with the SAP Fiori apps but they still do not fulfill all of the criteria of SAP Fiori apps. The classic applications can be called from the SAP Fiori launchpad and must be configured specifically.

The following types of SAP Fiori apps exist:

- Transactional apps and object pages

Transactional apps let you perform transactional tasks, such as creating a leave request for an

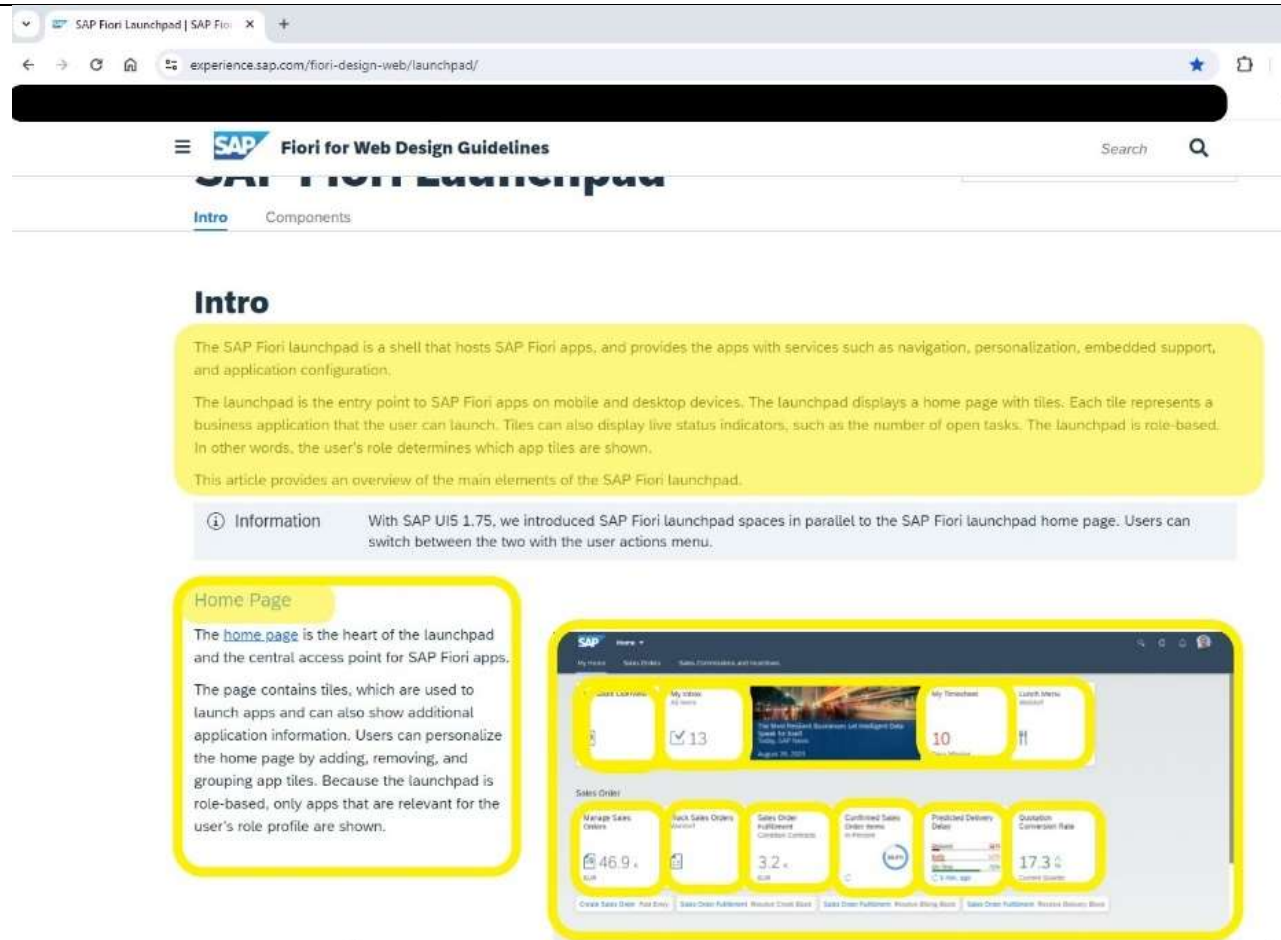
See SAP Fiori Overview,

https://help.sap.com/docs/SAP_FIORI_OVERVIEW/a3a20aacd1484c8a976f71054a3bf860/d88d371a9aa54fb89fe19a16d8eb527b.html or

<https://help.sap.com/http.svc/pdfdownload?id=6130453437781116> or

	https://help.sap.com/docs/SAP_FIORI_OVERVIEW/a3a20aacd1484c8a976f71054a3bf860?locale=en-US&state=PRODUCTION&version=5_OVERVIEW As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
1(b). at least one communication interface to facilitate wired and/or wireless communications with the plurality of user platforms via one or more transmission media; at least one memory to store processor-executable instructions; and at least one processor communicatively coupled to the at least one communication interface and the at least one memory, wherein upon execution of the processor-executable instructions by the at least one processor,	The Accused Instrumentalities include software to display SAP Fiori with application tiles on any device used by the user. "Each tile represents a business application that the user can launch." See https://experience.sap.com/fiori-design-web/launchpad/. The Accused Instrumentalities include display software for displaying SAP Fiori that can interact with hardware, such as monitors. The Accused Instrumentalities include software to facilitate wired and wireless communications through hardware that is used, such as wired and wireless transceivers. The Accused Instrumentalities operate with software to act as memory and manage hardware memory while operating. The Accused Instrumentalities also perform actions because they include software processing components for running the software and managing a hardware processor. As shown by the excerpt below, SAP Fiori is a matrix of tiles and links that display and launch the corresponding apps on the Launchpad. Each of the links is a secure user-centric channel associated with an app, and that user's data can be sent to be displayed, and the user can interact with it during a user session.

the at least one processor establishes a user session to manage provision of and interaction with the secure user-centric information by:



<https://experience.sap.com/fiori-design-web/launchpad/>

Furthermore, the Accused Instrumentalities include a software display to the Fiori Launchpad, which will manage a hardware display, as shown in the example below.

learning.sap.com/learning-journeys/learn-the-basics-of-sap-fiori/introducing-sap-fiori_c3915ced-ffd1-4127-a822-e217ff45fd72

SAP Learning

Learn Get Certified My Learning Explore SAP

/ Browse / Learning Journeys / Learning the Basics of SAP Fiori

Introducing SAP Fiori

After completing this lesson, you will be able to:

- Identify the dimensions of SAP Fiori
- Explain the principles of SAP Fiori

The Concept

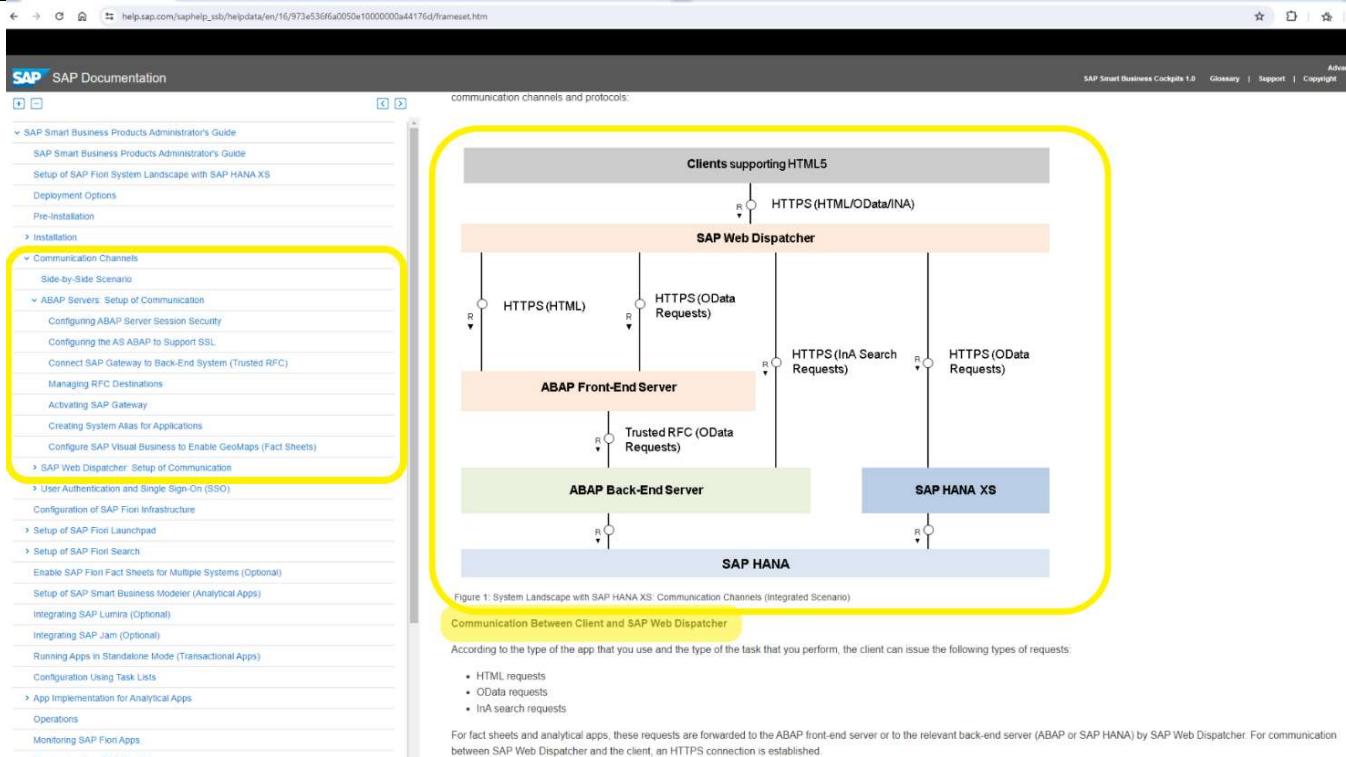


SAP Fiori is the design language that brings great user experiences to enterprise applications based on SAP User Experience. It works seamlessly on desktops, tablets, and smartphones.

https://learning.sap.com/learning-journeys/learn-the-basics-of-sap-fiori/introducing-sap-fiori_c3915ced-ffd1-4127-a822-e217ff45fd72

The Accused Instrumentalities include software for communicating across a network. The excerpt below shows that “communication between the [user,] the front end, and the back end is established by using different communication channels and protocols” “[t]o transfer application data and security credentials within [the] SAP Fiori system landscape.”

https://help.sap.com/saphelp_ssb/helpdata/en/16/973e536f6a0050e10000000a44176d/frameset.htm



https://help.sap.com/saphelp_ssb/helpdata/en/16/973e536f6a0050e1000000a44176d/frameset.htm

help.sap.com/saphelp_ssb/helpdata/en/16/973e536f6a0050e10000000a44176d/frameset.htm

SAP Documentation

SAP Smart Business Cockpits 1.0 | Glossary | Support | Copyright | Disclaimer

Advanced Search

For communication between SAP Web Dispatcher and the ABAP servers, HTTPS connections are established.

Communication Between ABAP Front-End and ABAP Back-End Server

For transactional apps and fact sheets, data and services from the ABAP back-end server are provided to the ABAP front-end server by using OData services.

For communication between the ABAP front-end server and the ABAP back-end server, a trusted RFC connection is established.

Communication Between SAP Web Dispatcher and SAP HANA XS

For analytical apps, SAP Web Dispatcher forwards OData requests from the client to SAP HANA Extended Application Services (SAP HANA XS).

For communication between SAP Web Dispatcher and SAP HANA XS, an HTTPS connection is established.

Communication Between ABAP Back End and Map Provider

For fact sheets with integrated geographical maps, geographical coordinates and address data are transferred from the ABAP back-end server to the map provider using HTTP or HTTPS.

SAP Smart Business Products Administrator's Guide

SAP Smart Business Products Administrator's Guide

Setup of SAP Fiori System Landscape with SAP HANA XS

Deployment Options

Pre-Installation

> Installation

> Communication Channels

Side-by-Side Scenario

> ABAP Servers: Setup of Communication

Configuring ABAP Server Session Security

Configuring the AS ABAP to Support

https://help.sap.com/saphelp_ssb/helpdata/en/16/973e536f6a0050e10000000a44176d/frameset.htm

Furthermore, the Accused Instrumentalities require the use of a hardware communication interface to connect to the internet and communicate with other systems. The Accused Instrumentalities include memory allocation in software, as well as hardware memory to store processor-executable instructions, as shown by the excerpt below:

SAP NW Installation Prerequisites

The minimum hardware requirements for SAP NetWeaver Gateway front-end server are as follows:

Requirements	Specification
Processor	Dual Core(2 logical CPUs) or higher, 2 GHz or higher
Random Access Memory (RAM)	8 GB or higher
Hard Disk Capacity	80 GB primary, or higher

See Page 10 of SAP Fiori tutorialspoint (<https://pdfcoffee.com/sap-fiori-pdf-free.html>)

The Accused Instrumentalities include one processor that executes the software instructions and allows communication with the user display device, as shown by the excerpt below. The processor allows display and interaction with the secure user information.

SAP NW Installation Prerequisites

The minimum hardware requirements for SAP NetWeaver Gateway front-end server are as follows:

Requirements	Specification
Processor	Dual Core(2 logical CPUs) or higher, 2 GHz or higher
Random Access Memory (RAM)	8 GB or higher
Hard Disk Capacity	80 GB primary, or higher

	See Page 10 of SAP Fiori tutorialspoint (https://pdfcoffee.com/sap-fiori-pdf-free.html) As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
1(c). A) implementing a channel grid framework including a matrix of a plurality of channels through which the user receives and/or interacts with, via the plurality of user platforms, respective portions of the secure user-centric information, wherein the at least one processor is configured to synchronize functions and features of one or more of the plurality of channels across two or more of the plurality of user platforms by deploying the secure user-centric information to two or	The Accused Instrumentalities implement a channel grid framework through SAP Fiori implemented for the user. The channel grid framework includes applications maintained in a matrix. The Accused Instrumentalities include SAP Fiori , which allows users to access the applications on different platforms. The Accused Instrumentalities synchronize data that is contained within SAP Fiori between different platforms via a processor. As shown by the excerpts below, SAP Fiori is a matrix of tiles and links that display and launch the corresponding apps on the Launchpad. Each of the links is a secure user-centric channel associated with an application, and that user's data can be sent to be displayed, and the user can interact with it.

more of the plurality
of user platforms;

SAP Fiori for Web Design Guidelines

Intro **Responsiveness** Components Behavior and Interaction Resources

Responsiveness

The SAP Fiori launchpad home page is fully responsive. For smaller screens, the tiles are smaller so that at least two tiles can be always be shown side by side.

Launchpad home page - Size S

Launchpad home page - Size L / XL

See SAP Fiori Launchpad Home Page, Updated on April 17, 2023,

<https://experience.sap.com/fiori-design-web/home-page/>

Components

Tiles

The tiles provide direct access to apps or content. They are similar to large icons and have a rectangular shape.

The launchpad home page comes with a predefined set of groups and tiles. However, the user can also personalize the launchpad home page to reflect their individual roles by choosing from a wide range of ready-to-use tiles from the [app finder](#).

Tiles differ in the content they display. They can contain an icon, a title, some informative text, numbers, and charts. The information that is shown depends on the function of the tile or app.

The number of tiles visible on a page depends on the screen resolution. The tiles are placed below each other and are resized for smaller screens.



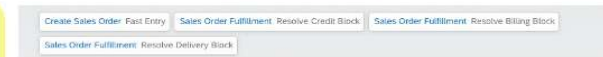
Different types of tiles

Links

Links are a different visual representation of a tile and always look the same: they consist of a title and an optional subtitle.

Links are collected in a dedicated area below the tiles area within each group. As with tiles, the user can modify the order of the links at any time.

Links are displayed inline, one after the other. If there is not enough space for the full link at the end of a row, the entire link moves to the next row. Links never break between rows.



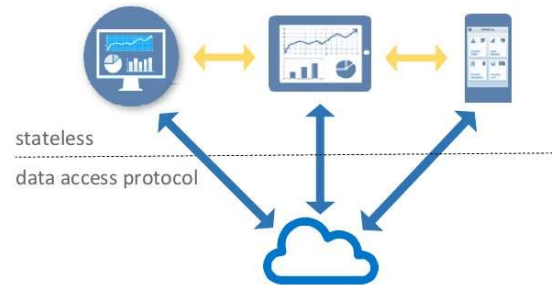
Links

See SAP Fiori Launchpad Home Page, Updated on April 17, 2023,

<https://experience.sap.com/fiori-design-web/home-page/>

The Accused Instrumentalities allow the data (including relating to any work done or changes made by the user) to be saved automatically, which also means that this data is accessible at any point in time on any device used by the user.

SAP Fiori Architecture UX Qualities



Modern, internet-educated User Experience

- Highly responsive
- Start now – save incomplete – continue later
- Keep working – data is saved automatically and asynchronously
- No data loss due to connectivity disruption or session time-out
- Start on one device – continue on other device
- Start now – let someone else continue later
- Collaborate now with others on same task/document
- Data is stored “in the cloud”

Consequence for Fiori Architecture Data must be stored in a central location

- Not tied to device
- Not tied to session
- Not tied to user

© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public 6

See page 6 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

Personalization Beyond the Launchpad

- **My Inbox and Fiori Elements:**

- Fiori Launchpad User Personalization extends to applications like My Inbox, allowing users to tailor their task lists and interfaces.
- Personalizing Fiori Elements ensures that applications provide a user-centric experience, aligning with specific needs.

- **Synchronization Across Devices:**

- Personalization settings are synchronized across devices, providing a consistent experience whether users are accessing Fiori from a desktop, tablet, or smartphone.
- This synchronization enhances mobility and flexibility in the modern workplace.

Conclusion: Empowering Users for a Productive Experience

SAP Fiori Launchpad User Personalization is a powerful tool that places the user in control of their Fiori experience. From rearranging tiles to setting defaults, choosing themes, and personalizing beyond the Launchpad, Fiori empowers users to tailor their digital workspace to align with their unique preferences and work requirements. In doing so, organizations can foster a more productive, engaging, and user-friendly environment, ultimately driving the success of Fiori implementations across diverse user bases. As organizations embrace the future of enterprise technology, SAP Fiori Launchpad User Personalization stands out as a key element in creating a digital workplace that truly revolves around the user.

Previous article

Unlocking Data Brilliance: A Deep Dive into SAP Fiori Elements for Embedded List Reports

Next article

Navigating the Data Horizon: Unveiling SAP Data Intelligence for Multi-Cloud Data Governance

See Personalizing Your SAP Fiori Experience: A Guide to Fiori Launchpad User Personalization, dated December 8, 2023, <https://technicalgyanguru.com/personalizing-your-sap-fiori-experience-a-guide-to-fiori-launchpad-user-personalization/>

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

1(d). B) establishing a user profile identifying user preferences, platform identities, and service support instructions that determine how the secure user-centric information behaves on at least one platform of the plurality of user platforms;

The Accused Instrumentalities establish a user profile preference so that the user can specify his preferences, platform identities and service support instructions when setting up his user profile. The Accused Instrumentalities have instructions that specify how the secure user-centric channel behaves on a second platform because the Accused Instrumentalities include code instructions allowing the user to have the same or personalized experience (such as same design) across all the platforms he is using.

The following excerpts show that the Accused Instrumentalities provide a seamless experience across the different platforms that are used by the user, based on his user profile (including role in an organization etc.) The Accused Instrumentalities use instructions specific to that platform to determine how it operates when used.

SAP Fiori Design Principles

There are five design principles for **SAP Fiori UI5**. These principles make SAP Fiori simple and decompose the different transactions into simple task based UI applications.

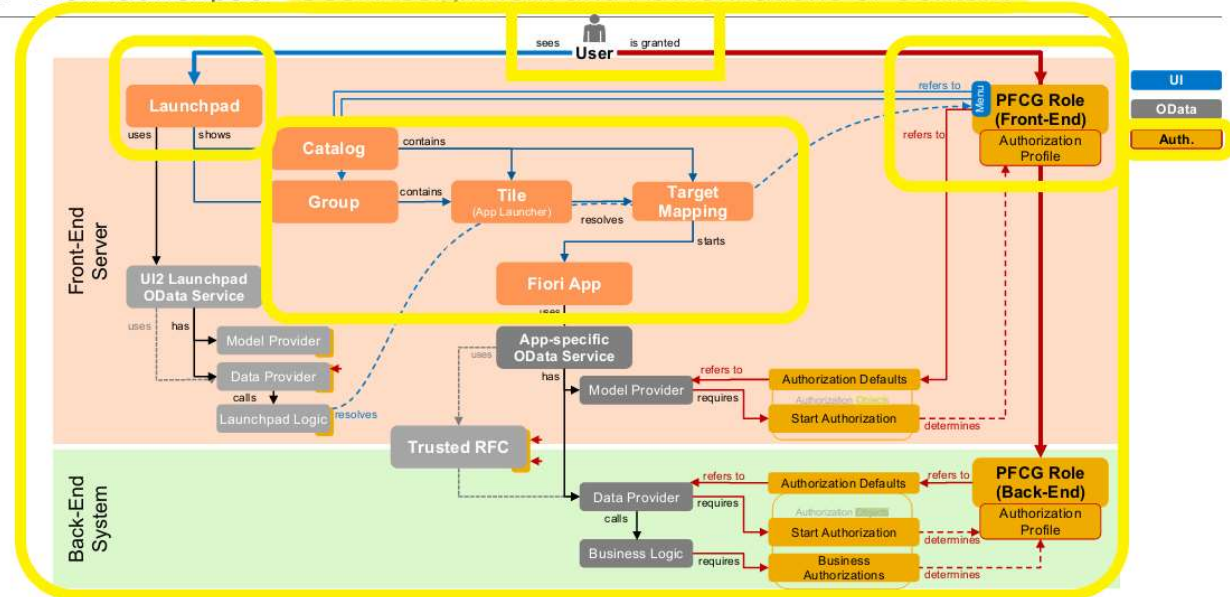
- **Role-Based** – SAP has decomposed various SAP transactions and changed them into beautiful user interactive applications that show only most relevant information to the users.
- **Responsiveness** – When SAP Fiori is combined with the power of SAP HANA, it provides an unmatched application response and query executions time.
- **Simple** – To make SAP Fiori simple to match the user demand, SAP has designed it as a **1-1-3** scenario. This means 1 user, 1 use case and 3 screens.
- **Seamless Experience** – SAP has provided all the Fiori apps based on the same language and it does not matter on the deployment and platform.
- **Delightful** – SAP Fiori was designed to work with **ECC 6.0** to make it easy for the users and to deploy on the existing SAP system.

2

See pages 2-3 of SAP Fiori tutorialspoint,
https://www.tutorialspoint.com/sap_fiori/sap_fiori_introduction.htm.

SAP Fiori Architecture

SAP Fiori launchpad - User Assignment and Authorizations of Content



© 2016 SAP SE or an SAP affiliate company. All rights reserved.

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

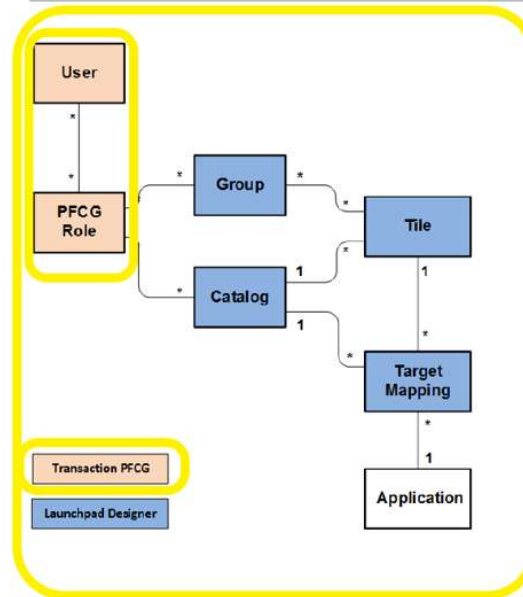
21

See page 21 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

SAP Fiori Architecture

SAP Fiori launchpad - Content Model for ABAP platform



Transaction PFCG

- Assign groups and catalogs to roles
- Roles are the means to assign catalogs and their apps to users

SAP Fiori launchpad designer (FLPD)

Content can be configured system wide (configuration) or client specific (customizing):

- Target Mapping: maps navigation intent to concrete (logical application/target)
- Tile: used to launch an application from the homepage
- Catalog: set of applications a user can use and add to his homepage
- Group: predefined set of tiles a user sees on his homepage

See page 19 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

SAP Fiori User Roles

Lines of Business

Finance  - Accounts Payable Accountant - Accounts Payable manager - Accounts Receivable Accountant - Accounts Receivable Manager - Cash Manager - Controller - G/L Accountant Manager - Access Control Administrator - Financial Close Manager - Employee - Senior Executive	Human Resources  - Employee - Manager	Sales & Marketing  - Sales Representative (CRM/ SD) - Sales Manager - Internal Sales Representative (SD) - Marketing Manager - Marketing Executive - Marketing Expert - Contract Accounts Receivable Manager	Procurement  - Purchaser - Inventory Accountant - Employee - Manager - Strategic Purchaser	R&D, Engineering  - Project Manager & Planner - Program Manager - Project Team Member - Engineer
	Asset Management  - Maintenance Worker & Planner - EHS-Production Worker - EHS-Foreman		Supply Chain  - Supplier - Supply Planner - Supply Chain Analyst - Transportation Manager - Warehouse Manager - Shipping Specialist - Product Manager - Data Scientist - ATP Controller - Local Demand Planner	Manufacturing  - MRP Controller - Quality Engineer - Production Planner - Production Worker/Supervisor - Recipe Developer - Demand Planner

© 2014 SAP SE or an SAP affiliate company. All rights reserved.

The presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or noninfringement.

Customer

6

See page 6 of SAP Fiori UX, App Overviews, December 2014,

https://experience.sap.com/files/SAPFiori_AppOverviews.pdf.

SAP Fiori Architecture

SAP Web IDE - Key Use Cases



- Develop new SAP Fiori and SAPUI5 applications
- Extend SAP Fiori apps
- Develop SAPUI5 mobile hybrid applications (using Hybrid Application Toolkit plug-in)
- Extend the SAP Web IDE with new plug-ins and SAP Fiori Elements
- Seamlessly deploy to run on any device – automatic rendering for phone, tablet, desktop
- Deploy to SAP HANA Cloud Platform, SAP Mobile Platform or ABAP

© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

46

See page 46 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

SAP Fiori provides all business roles in real time on compatible hand devices. It offers business roles on easy to use functions, simple with unmatched responsiveness on desktop, smartphones and Tablets.

SAP Fiori enables multiple device applications that allow users to start a process on their desktop/laptops and to continue that process on a smartphone or on a tablet. SAP has developed Fiori Apps based on User interface UI5.



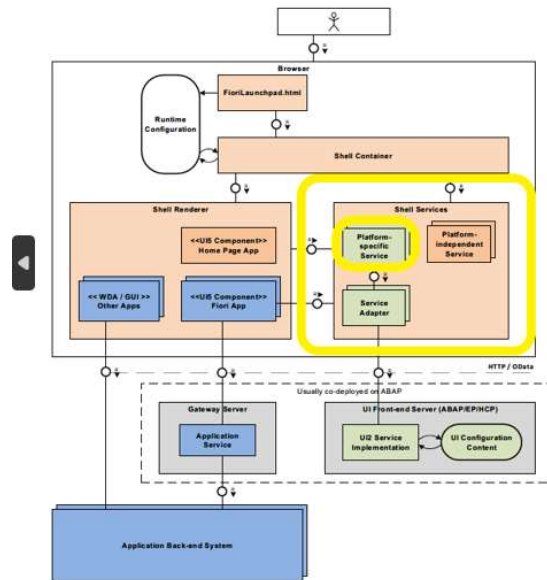
When SAP Fiori is combined with the power of the SAP HANA, it provides an unmatched application response and query-execution time. SAP Fiori user experience (UX) is used to provide a personalized and role-based user experience for enterprise-wide engagement across lines of business.

https://www.tutorialspoint.com/sap_fiori/sap_fiori_introduction.htm#:~:text=SAP%20Fiori%20enables%20multiple%20device,smartphone%20or%20on%20a%20tablet;

See also page 2 of SAP Fiori tutorialspoint, pdfcoffee.com_sap-fiori-pdf-free.pdf

SAP Fiori Architecture

SAP Fiori launchpad - Architecture



SAP Fiori launchpad is a runtime container supporting intent-based navigation for

- SAPUI5 Components
- Web Dynpro ABAP or SAP GUI apps
- External URLs

It provides **platform-independent** service APIs with adapters for different front-end servers (ABAP, SAP Enterprise Portal, SAP HANA Cloud Platform) and local consumption (Sandbox for testing in SAP Web IDE, mobile offline).

© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

18

See page 18 of SAP Fiori User Experience – SAP S/4HANA – Version 4.1 – August 2016,

kupdf.net_sap-fiori-ux-architecture-for-s4h.pdf

While this element is literally met, to the extent that Defendants contend that this element is not literally met, it is at least met under DOE. Specifically, the Accused Instrumentalities perform the same function as this claim element because they maintain profiles for users that allow for customization for the particular user, and this customization includes information about the user, information about the platform the user is using, and information about the applications being used by the user is intended to behave for that user. The Accused Instrumentalities perform this function in the same way because they store data about the user in the user profile that and be accessed between platforms. This has the same result because the user profile

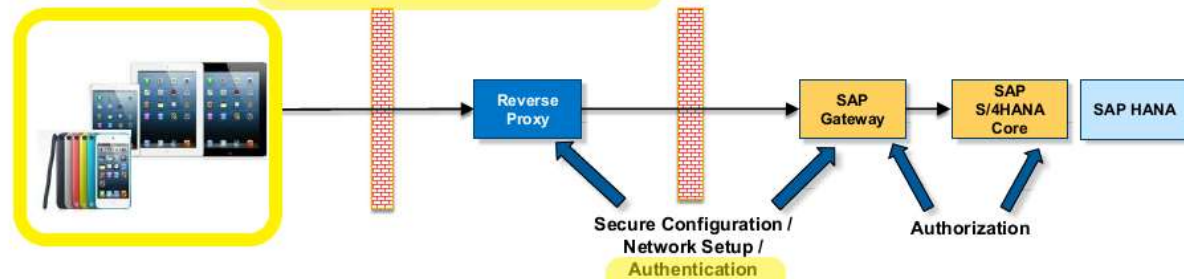
	can be used to set up the Accused Instrumentalities in the manner specified, including how the applications behave for the user. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
1(e). C) controlling the at least one communication interface to receive, from the at least one user platform of the plurality of user platforms, a user identity for the user and a platform identity for the at least one user platform;	The Accused Instrumentalities control and the communication interface to receive the secure user-centric channel information based on the user identity and platform identity. The control of the communication interface includes components for controlling the software and hardware interfaces when receiving user identity information, including information that allows user authentication, describes further below in 1(f). The following describes how the architecture for the Accused Instrumentalities. SAP Fiori Architecture SAP Fiori Security - General ➤ Network and Reverse Proxy Setup ➤ Authentication ➤ User Management ➤ Authorization ➤ System Hardening (Securing Trusted RFC connection) The diagram illustrates the SAP Fiori Architecture. On the left, a group of mobile devices (smartphones and tablets) is shown, representing the user interface. An arrow points from these devices to a blue box labeled 'Reverse Proxy'. This box is connected to another blue box labeled 'SAP Gateway'. Below the 'Reverse Proxy' and 'SAP Gateway' boxes, there is a yellow box containing the text 'Secure Configuration / Network Setup / Authentication'. Arrows point from this yellow box to both the 'Reverse Proxy' and 'SAP Gateway' boxes. From the 'SAP Gateway' box, an arrow points to an orange box labeled 'SAP S/4HANA Core'. Below this arrow, there is a yellow box containing the text 'Authorization'. From the 'SAP S/4HANA Core' box, an arrow points to a light blue box labeled 'SAP HANA'. © 2016 SAP SE or an SAP affiliate company. All rights reserved.

	See page 39 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016, https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
1(f). D) authenticating the user and the at least one user platform to receive the secure user-centric information based at least in part on the user identity and the platform identity; and	The Accused Instrumentalities authenticate the user and his second platform so that the user can receive the secure user-centric channel information based on the user identity and platform identity. The following describes how the architecture for the Accused Instrumentalities includes authentication of users and different platforms.

SAP Fiori Architecture

SAP Fiori Security - General

- Network and Reverse Proxy Setup
- Authentication
- User Management
- Authorization
- System Hardening (Securing Trusted RFC connection)



© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. The document is provided without a warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public 39

See page 39 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

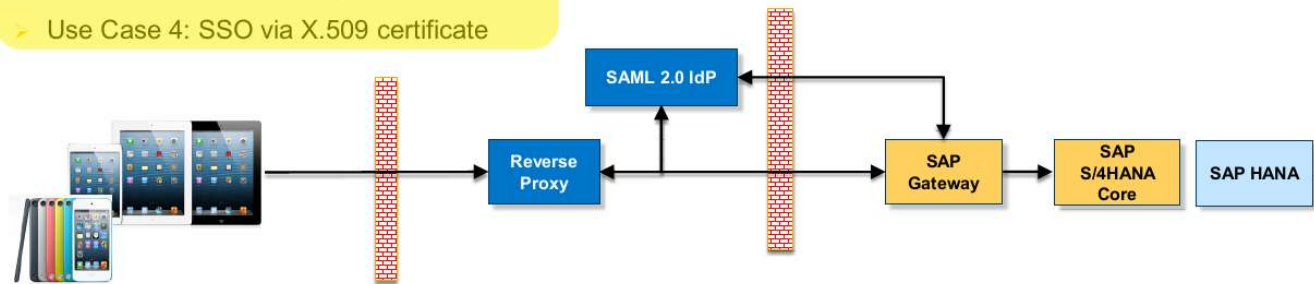
https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

There are multiple authentication methods, which include receiving user and platform data from the initiating platform, including (1) Kerberos/SPNEGO, (2) SAP Logon Tickets, and (3) X. 509 Certificates. Each of these allows for the authentication of a user and the first platform. – See page 64 of SAP Fiori tutorialspoint, pdfcoffee.com_sap-fiori-pdf-free.pdf

SAP Fiori Architecture

SAP Fiori Security - Authentication Use Cases

- Use Case 0: Form-based Initial Authentication
- Use Case 1: SSO via SAML 2.0 (*recommended - please refer to illustration below*)
- Use Case 2: SSO via SPNego / Kerberos
- Use Case 3: SSO via Logon Ticket
- Use Case 4: SSO via X.509 certificate



A typical use case is for customers to access one or more SAP Fiori apps from the public internet. In this case, single sign-on can be implemented using SAML 2.0 based authentication in conjunction with IdP (Identity Provider) software such as Ping Federate or Microsoft's Active Directory Federation Service (AD FS).

© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

40

See page 40 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

SAP Fiori Absolute Beginners

SAP Fiori Tutorial

SAP Fiori - Home

SAP Fiori - Introduction

SAP Fiori - Architecture

SAP Fiori - NetWeaver Gateway

SAP Fiori - Installation

SAP Fiori - Launchpad

SAP Fiori - OData Services

SAP Fiori - Transactional Apps

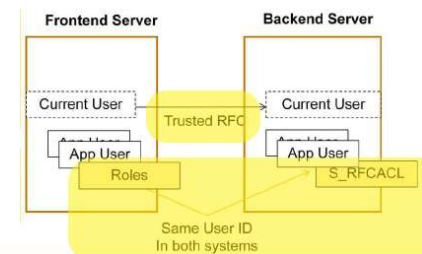
SAP Fiori - Fact Sheets

SAP Fiori - Analytical Apps

Back-end server in Fiori Data flow

- Back End server contains SAP Business suite 7 for key applications like ERP, CRM, SRM, SCM, etc.
- It contains application data and used for customization of applications.
- This system contains 2 OData classes –
- Model Provider
- Data Provider

- To access Back end system, application users created on Front-end server should have an authorization **S_RFCACL**. This authorization should be assigned to the users in Business suite.

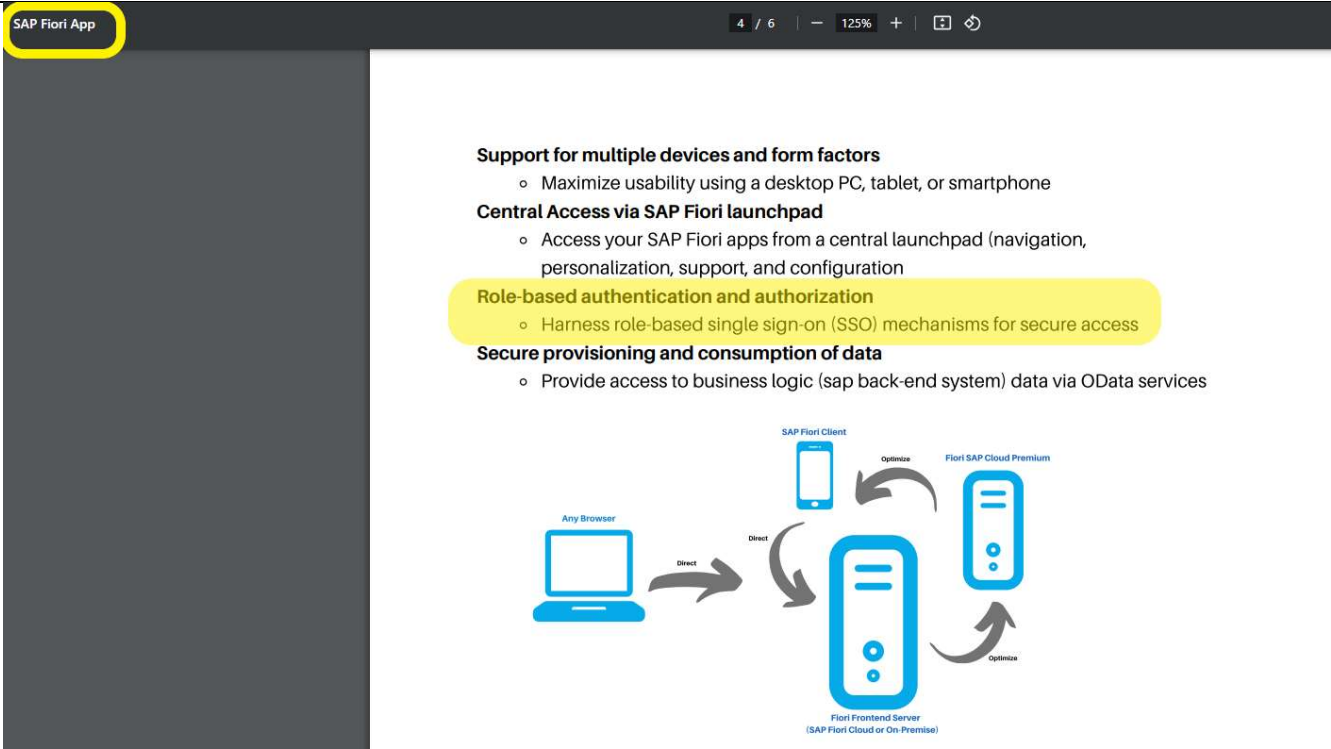


The connection between front-end server to back-end server must be trusted RFC connection. It means same ID is authenticated to back-end system without entering the password. As mentioned earlier, the user Id should have **S_RFCACL** authorization for trusted logon.

A User should have UI roles assigned in Front-end server and back-end roles in back-end server.

SAP Fiori - Quick Guide,

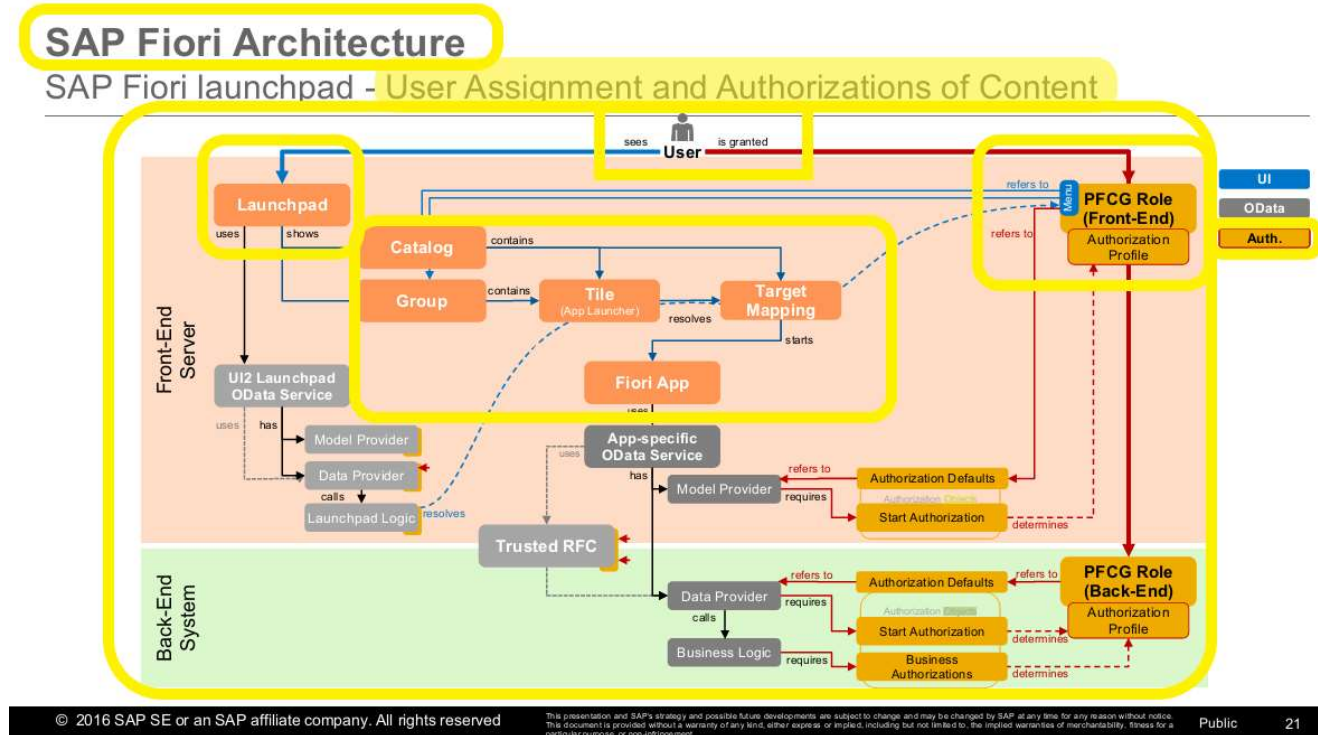
https://www.tutorialspoint.com/sap_fiori/sap_fiori_quick_guide.htm

	 SAP Fiori App Support for multiple devices and form factors - Maximize usability using a desktop PC, tablet, or smartphone Central Access via SAP Fiori launchpad - Access your SAP Fiori apps from a central launchpad (navigation, personalization, support, and configuration) Role-based authentication and authorization - Harness role-based single sign-on (SSO) mechanisms for secure access Secure provisioning and consumption of data - Provide access to business logic (sap back-end system) data via OData services Diagram illustrating the SAP Fiori architecture: Any Browser connects to the Fiori Frontend Server (SAP Fiori Cloud or On-Premise) via a Direct connection. - The Fiori Frontend Server connects to the SAP Fiori Client (mobile device) and the Fiori SAP Cloud Premium (cloud service). - Arrows labeled Optimize indicate the flow of data and services between the client, the frontend server, and the cloud premium service. See SAP Fiori App “A Skyscend Whitepaper,” https://f.hubspotusercontent40.net/hubfs/7223092/SAP%20Fiori%20App%0(1).pdf As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
1(g). E) if the user and the at least one user platform are authenticated in C), controlling the at	The Accused Instrumentalities, following the user and device authentication, transmit all relevant information via the communication interface, which is accessible to the user via the app(s) available through SAP Fiori . The authorization is based on the user’s access rights corresponding to the user identity and platform identity, as shown by the excerpt below.

least one communication interface so as to transmit to the at least one user platform first authenticated channel information relating to at least one authorized channel of the plurality of channels implemented in A), based at least in part on information access rights and/or security protocols respectively associated with the corresponding plurality of channels, the user, and the at least one user platform, wherein at least a portion of the first authenticated channel information to be transmitted to the at least one user platform is selected by the processor based at least in part on the user profile and is transmitted to the at least one user

The information selected by the processor and transmitted for the applications in the Accused Instrumentalities is based on the user's profile information and automatically generated when the user logs into the system.

The following excerpt shows the assignment and authorization of content in the Accused Instrumentalities based on user information.



See page 21 of SAP Fiori User Experience – SAP S/4HANA – Version 4.1 – August 2016

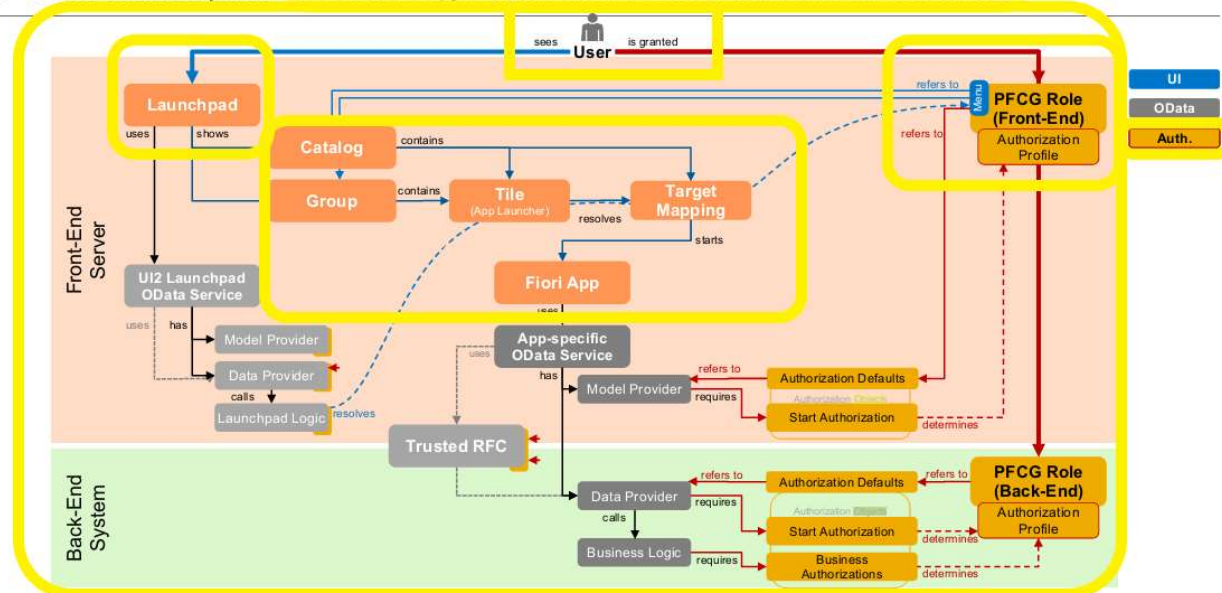
kupdf.net_sap-fiori-ux-architecture-for-s4h.pdf

platform without being requested by the user, wherein the transmission of the first authenticated channel information to the at least one user platform is based in part on a bi-directional interrogation of the at least one authorized channel, wherein the bi-directional interrogation comprises the at least one authorized channel interrogating an identity management server, and wherein the bi-directional interrogation further comprises the identity management server and a web services gateway interrogating the at least one authorized channel, wherein the web services gateway is a tool through which

The user will have therefore access to all relevant information via the application(s) through SAP Fiori without having to submit any requests; such information is provided according to the user's access rights corresponding to the user identity and platform identity.

SAP Fiori Architecture

SAP Fiori launchpad - User Assignment and Authorizations of Content



© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

21

See page 21 of SAP Fiori User Experience – SAP S/4HANA – Version 4.1 – August 2016

kupdf.net_sap-fiori-ux-architecture-for-s4h.pdf

The Accused Instrumentalities receive relevant user information via applications accessible to the users through SAP Fiori is based in part on an exchange of queries of the authorized apps. The exchange of queries involves components used by the authorized app(s) interrogating the identity management server (which

the channel grid framework interacts with the identity management server.

manages and control the user's identity and access privileges) and a web service gateway (which manages and facilitates communication between the user and backend services) interrogating the authorized app(s), wherein the web services gateway is a tool through which the channel grid framework or the Launchpad interacts with the identity management server. The Accused Products include applications that can bidirectionally interrogate the identity management server that determines what and if the user centric information should be sent. The identity management server can be any component used to establish the identity of the user.

The following excerpt shows that "SAP Netweaver Gateway" is an example of a web services gateway, which facilitates communication between users' platforms and SAP systems.

← → ↻ 🏠 ⓘ community.boomi.com/s/article/sapintegrationguide#WebServicesSOAP-RESTOData

Glossary

- **IDoc** - IDoc is a popular data structure by SAP which is primarily used to exchange business/transaction data between SAP and external systems electronically (Official Documentation - [IDoc Interface/ALE - SAP Library](#))
- **BAPI/Remote-enabled Function Module** - Interfaces developed with in SAP which can be triggered from a external system or with in SAP
- (Official Documentation - [SAP Library](#) , [RFC Interface - Connectivity - SAP Library](#))
- **SAPRouter** - SAProuter is an SAP program that acts as an intermediate station (proxy) in a network connection between SAP systems, or between SAP systems and external networks (Official Documentation - [What is SAProuter? - SAProuter - SAP Library](#))
- **SAP NetWeaver** - SAP Netweaver refers to open technology platform that offers a comprehensive set of technologies for running mission-critical business applications and integrating people, processes, and information (More details - <http://scn.sap.com/community/netweaver>)
- **SAP Netweaver Gateway** - SAP Gateway is a framework that connects business users to SAP systems using consumer technologies, groupware, and mobile devices and is based on open standards (such as the Atom Publishing Protocol and OData) that offer simple services based on the REST principle (Official Documentation - [SAP Gateway 2.0 – SAP Help Portal Page](#))

Feedback

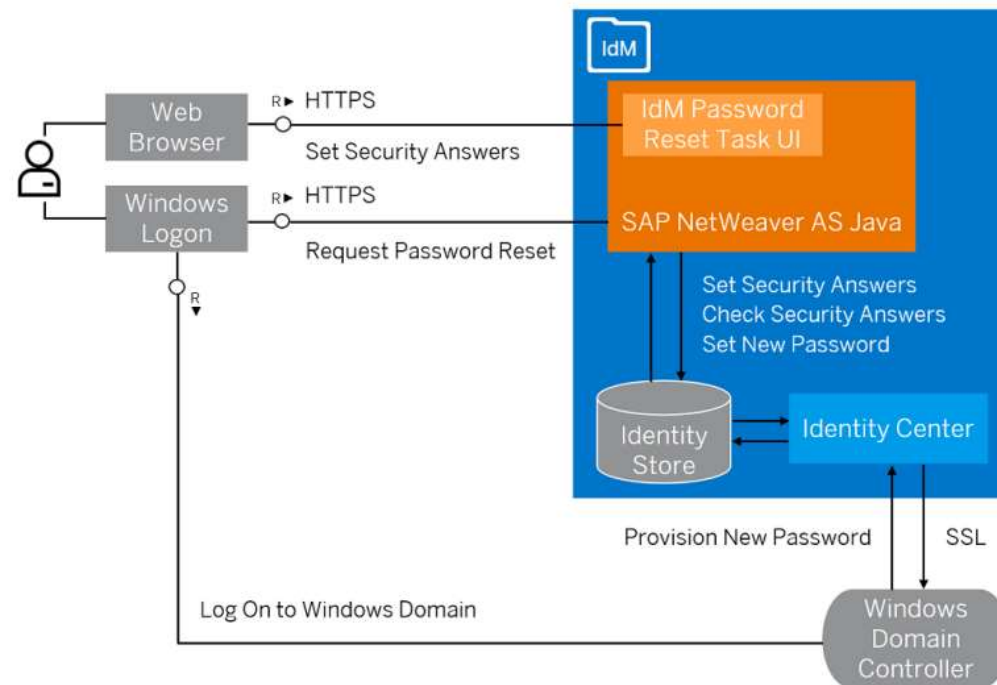
<https://community.boomi.com/s/article/sapintegrationguide#WebServicesSOAP-RESTOData>

The excerpt below shows the use of the “SAP Identity Management Identity Center.”

1.1 Technical System Landscape

SAP Identity Management Logon Help requires a system landscape with a Microsoft Windows domain and SAP Identity Management Identity Center.

Logon Help communicates with SAP Identity Management Identity Center to get the required information to enable password reset for users of Microsoft Windows.



	https://help.sap.com/doc/4ae7f9f4a84949e1a03800f262d113da/8.0/enUS/loio266ffbab16b4493593160cd07f74745f.pdf As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
'285 Patent Claim 2	
2(a). The apparatus of claim 1, wherein the secure user-centric information includes	See Claim 1. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
2(b). at least one of: text information; graphic information; one or more pictures; one or more videos; audio or digital sound; streaming data, audio or video; content associated with an executing computer application; voice-over-IP communication; instant messaging/SMS information;	The secure user-centric information can be displayed in various ways and different format, including in text information, and images. The excerpts below are examples of the features that SAP Fiori offers to users.

video-conferencing
information;
environmental
monitoring
information;
financial services
information;
enterprise resource
planning information;
enterprise content
management
information;
building information;
project management
information;
product lifecycle
management
information;
RSS (Really Simple
Syndication) reader
information;
remote device
control/interaction
information;
a three-dimensional
graphic visualization
of one or more
objects and/or
immersive
environments;
one or more word
processing
documents;

The screenshot shows the SAP Fiori for Web Design Guidelines page for the 'Image' control. The page has a yellow header bar with the SAP logo and 'Fiori for Web Design Guidelines'. Below the header, there is a breadcrumb trail: 'UI Elements > SAPUI5 > Display > Image'. The main title 'Image' is in a large, bold font, with 'sap.m.Image' below it. A search bar is in the top right corner. The page is updated as of November 29, 2022, and the latest SAPUI5 version is 1.122. The navigation tabs include 'Intro', 'When to Use', 'Behavior and Interaction', 'Guidelines', 'Responsiveness', 'Examples', and 'Related Links'. The 'Intro' section is highlighted in yellow and contains the text: 'Images are a powerful way to capture the user's attention and to communicate your message. You can use the image control to integrate images into your apps for dedicated purposes.' The 'When to Use' section is also highlighted in yellow and contains the text: 'Use the image control if:' followed by a bulleted list of three conditions.

SAP Fiori for Web Design Guidelines

UI Elements > SAPUI5 > Display > Image

Image
sap.m.Image

Updated: November 29, 2022
Latest SAPUI5 Version 1.122

Intro

Images are a powerful way to capture the user's attention and to communicate your message. You can use the image control to integrate images into your apps for dedicated purposes.

When to Use

Use the image control if:

- You want to display decorative images. Decorative images serve as a visual eyecatcher and are useful to transport the brand identity. Usually, decorative images are used as hero images, headers, or background images.
- You want to display images to support or enhance the page content (for example, visual representations of an object's design, functions, or features).
- You want to display images in a gallery.

<https://experience.sap.com/fiori-design-web/image/>

one or more
spreadsheets;
one or more
presentation/slide
shows;
email; and
address book
information.

SAP Fiori for Web Design Guidelines

UI Elements - SAPUI5 - Data Visualization - 3D Viewport

Updated: November 29, 2022

Latest SAPUI5 Version 1.122

3D Viewport

sap.ui.vk.Viewport

[Intro](#) [Usage](#) [Responsiveness](#) [Behavior and Interaction](#) [Resources](#)

Intro

You can use the 3D viewport control to enable 3D viewing in your SAP Fiori application. This control is available in the Visual Interaction toolkit library. The 3D viewport control can display simple and complex 3D objects in SAP Fiori, and offers basic user interaction with the 3D environment and its objects.



<https://experience.sap.com/fiori-design-web/3d-viewport/>

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

‘285 Patent Claim 3	
3. The apparatus of claim 1, wherein the first authenticated channel information is provided by at least one authenticated channel application and/or at least one authenticated service.	See Claim 1. Further, SAP Fiori contains a matrix of tiles and links that display and launch the corresponding apps. Each of the tiles and links is a secure user-centric channel associated with an application that is displayed on a display device of the computing device platform. The following image demonstrates a matrix of elements each representing an application that provides the user with access to the information in the application. The screenshot displays the SAP Fiori 'Responsiveness' page, which illustrates how the launchpad home page adapts to different screen sizes. The page is titled 'SAP Fiori for Web Design Guidelines' and includes a search bar and navigation tabs: 'Intro', 'Responsiveness', 'Components', 'Behavior and Interaction', and 'Resources'. The main heading is 'Responsiveness', followed by a yellow-highlighted text box stating: 'The SAP Fiori launchpad home page is fully responsive. For smaller screens, the tiles are smaller so that at least two tiles can be always be shown side by side.' Below the text, two side-by-side screenshots of the launchpad home page are shown. The left screenshot is labeled 'Launchpad home page - Size S' and shows a compact layout with tiles for 'My Sales Overview', 'My Inbox', 'Sales Order', and 'Sales Commissions and Incentives'. The right screenshot is labeled 'Launchpad home page - Size L / XL' and shows a more spacious layout with additional tiles like 'My Timesheet', 'Lunch Menu', 'Confirmed Sales Order Items', 'Predicted Delivery Delay', and 'Quotation Conversion Rate'.

See pages 1-2 of SAP Fiori Launchpad Home Page, Updated on April 17, 2023 (<https://experience.sap.com/fiori-design-web/home-page/>).

As shown by the excerpt below, the tiles in the Accused Instrumentalities display information specific to the user.

 **Fiori for Web Design Guidelines**

Search 

Intro **Responsiveness** Components Behavior and Interaction Resources

Components

Tiles

The tiles provide direct access to apps or content. They are similar to large icons and have a rectangular shape.

The launchpad home page comes with a predefined set of groups and tiles. However, the user can also personalize the launchpad home page to reflect their individual roles by choosing from a wide range of ready-to-use tiles from the [app finder](#).

Tiles differ in the content they display. They can contain an icon, a title, some informative text, numbers, and charts. The information that is shown depends on the function of the tile or app.

The number of tiles visible on a page depends on the screen resolution. The tiles are placed below each other and are resized for smaller screens.

Manage Sales Orders

 46.9 K

EUR

Confirmed Sales Order Items



88.8%

Predicted Delivery Delay

Delayed 11%

Early 18%

On Time 70%

5 minutes ago

The Most Resilient Businesses Let Intelligent Data Speak for itself

Today, SAP News

May 21, 2019

Donna Moore

Incentives Manager



Sales Contract Fulfillment EMEA



1.8M

EUR, Year to Date

Display Business Volume Condition Contracts

1.8 M

EUR, Year to Date



Q1 Q2 Q3 Q4

Actual / Forecast

Different types of tiles

Create Sales Order Fast Entry

Sales Order Fulfillment Resolve Credit Block

Sales Order Fulfillment Resolve Billing Block

Sales Order Fulfillment Resolve Delivery Block

Links

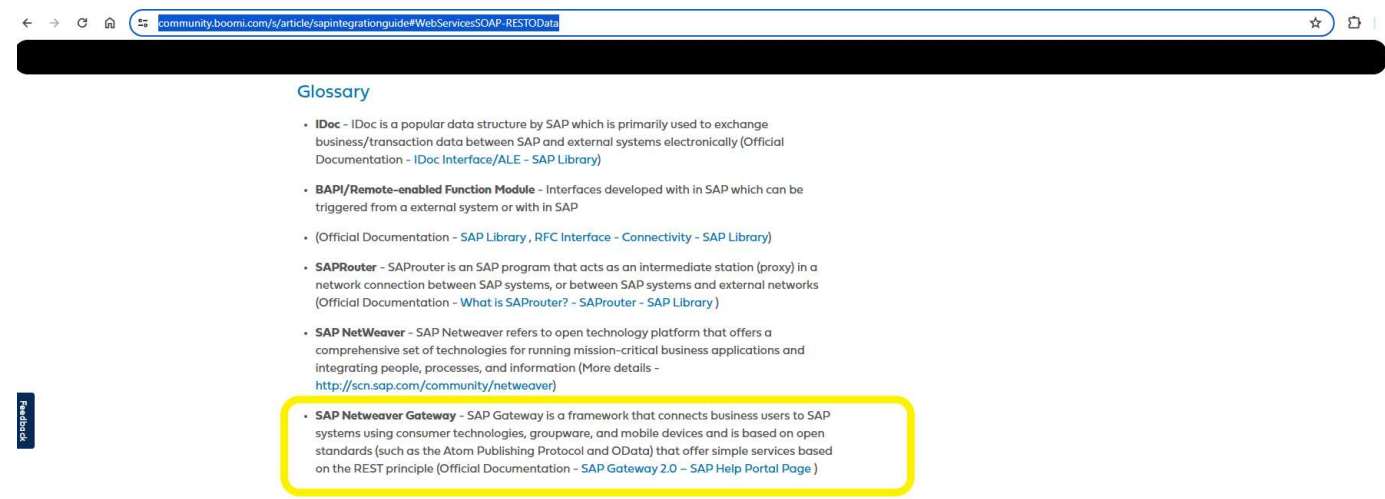
Links

Links are a different visual representation of a tile and always look the same: they consist of a title and an optional subtitle.

Links are collected in a dedicated area below the tiles area within each group. As with tiles, the user can modify the order of the links at any time.

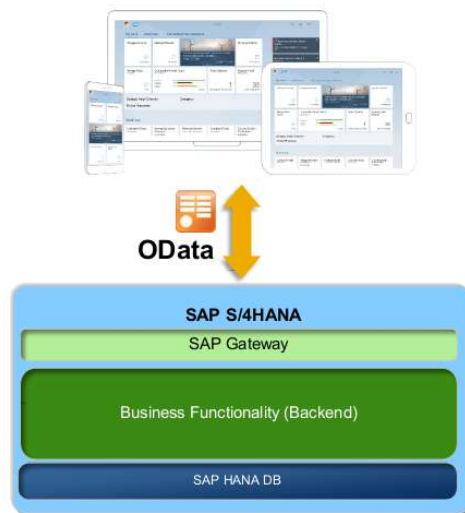
Links are displayed inline, one after the other. If there is not enough space for the full link at the end of a row, the entire link moves to the next row.

Links never break between rows.

	See pages 2-3 of SAP Fiori Launchpad Home Page, Updated on April 17, 2023 (https://experience.sap.com/fiori-design-web/home-page/). As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendant makes source code for the Accused Instrumentalities available for inspection.
‘285 Patent Claim 4	
4. The apparatus of claim 1, wherein the at least one communication interface includes a web services gateway communicatively coupled to the at least one user platform server via the one or more transmission media.	See Claim 1. Further, the following excerpts show that “SAP Netweaver Gateway” is the web services gateway, which facilitates communication between users and SAP systems.  https://community.boomi.com/s/article/sapintegrationguide#WebServicesSOAP-RESTOData

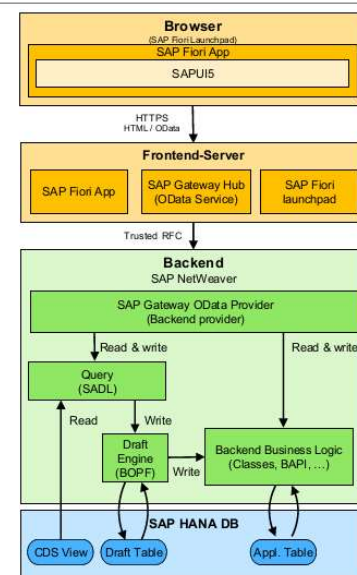
SAP Fiori Architecture

SAP Gateway - Architecture



Recommended Development option

Core OData Services (CDS views) access the SAP S/4HANA Business Data via SAP Gateway.



© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, other express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

22

See page 22 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

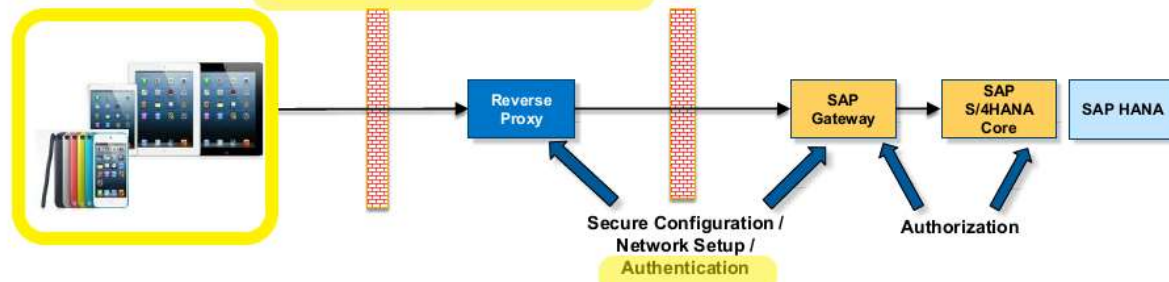
As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

'285 Patent Claim 5	
5(a). The apparatus of claim 1, wherein:	See Claim 1. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
5(b). C) comprises authenticating the user and the user platform based at least in part on the user profile; and	The Accused Instrumentalities authenticate the user and his platform (e.g., windows computer, apple computer, android mobile device, web browser interface, etc.) associated with the user based on the user profile. The following excerpts show that the authentication of the user and his user profile based in part on his profile:

SAP Fiori Architecture

SAP Fiori Security - General

- Network and Reverse Proxy Setup
- Authentication
- User Management
- Authorization
- System Hardening (Securing Trusted RFC connection)



© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. The document is provided without a warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

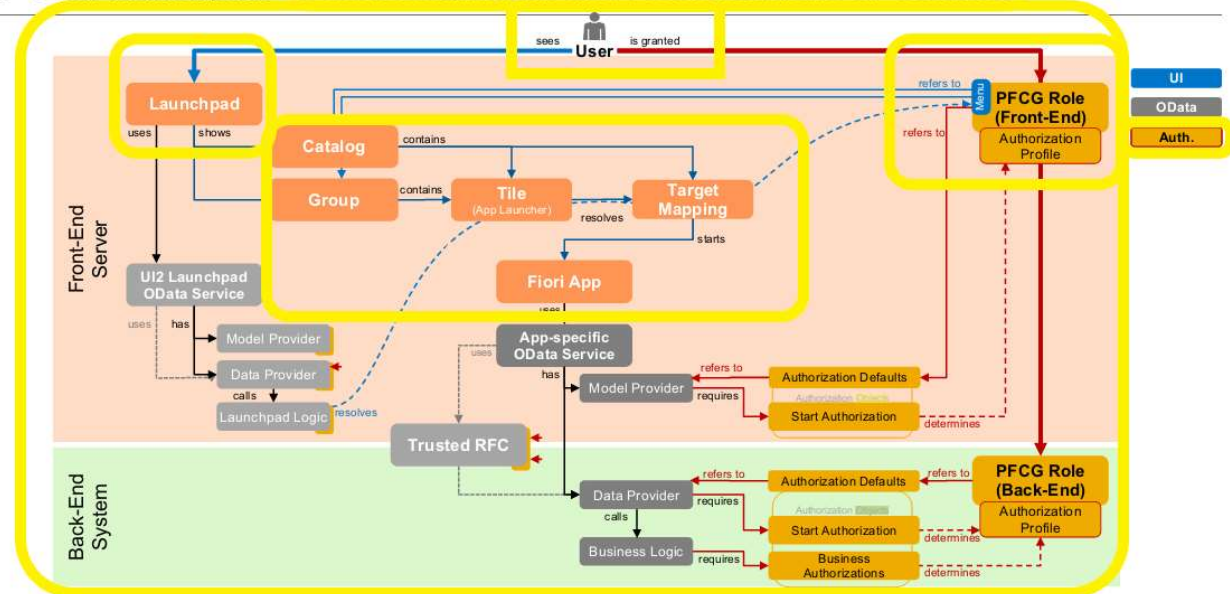
Public

39

See page 39 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016 (https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf).

SAP Fiori Architecture

SAP Fiori launchpad - User Assignment and Authorizations of Content



© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

21

See page 21 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09cdc0d60825d959e7a_pdf

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

5(c). D) comprises transmitting the first authenticated channel

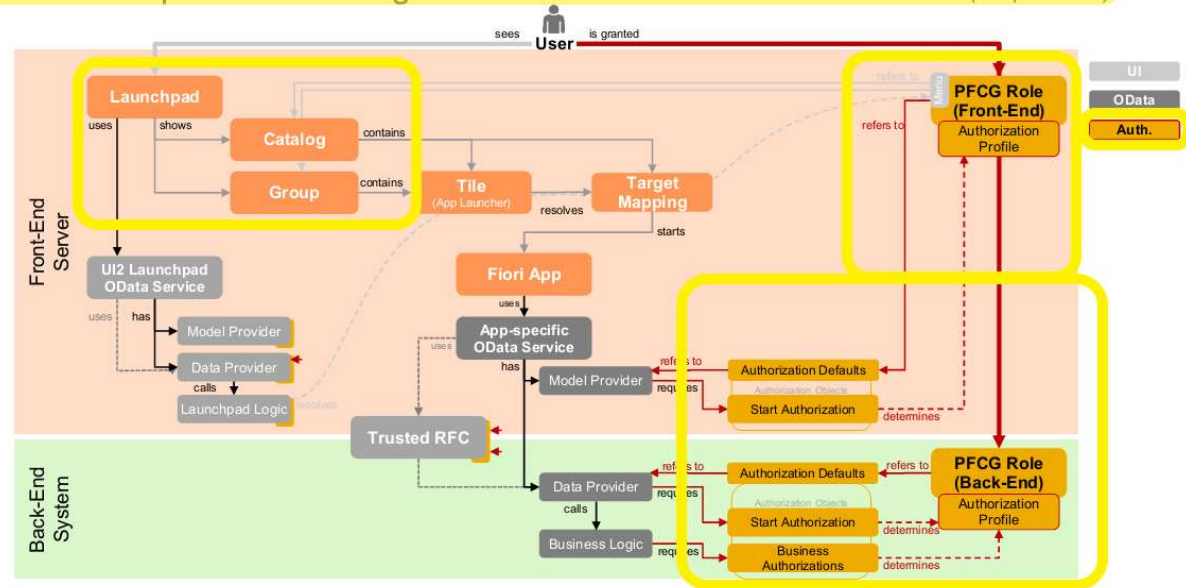
The Accused Instrumentalities, following the user and device authentication, transmit all relevant information, which is accessible to the user via the app(s), available on the user's platform. The authorization is based in part on the user profile.

information to the at least one user platform based at least in part on the user profile.

As shown by the excerpt below, the user will have therefore access to all relevant information via the application(s) through SAP Fiori based on his profile.

SAP Fiori Architecture

SAP Fiori launchpad - User Assignment and Authorizations of Content (on premise)



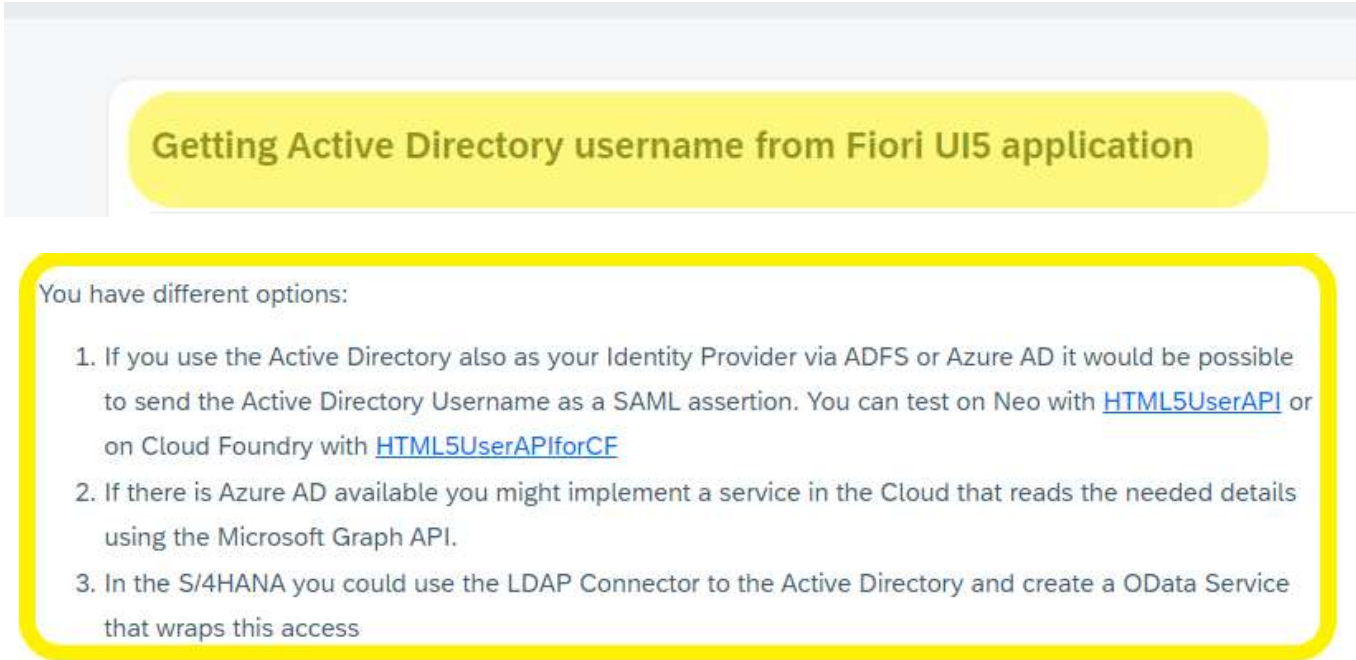
© 2017 SAP SE or an SAP affiliate company. All rights reserved. | PUBLIC

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

23

See page 21 of SAP Fiori User Experience – SAP S/4HANA – Version 4.1 – August 2016
kupdf.net_sap-fiori-ux-architecture-for-s4h.pdf

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

‘285 Patent Claim 6	
6(a). The apparatus of claim 1, wherein: the at least one memory stores an authentication directory to provide the information access rights and/or security protocols respectively associated with the corresponding plurality of channels, the user, and the at least one user platform; the authentication directory includes a plurality of user accounts, a plurality of device accounts, and a plurality of application accounts; and.	See Claim 1 and Claim 5. Further, SAP Fiori users rely on both, the Active Directory, which is a directory services database, and the Lightweight Directory Access Protocol, which is an application protocol for querying and modifying items in directory service providers like Active Directory. The excerpts below explain how a user can use the Active Directive and Lightweight Directory Access:  The screenshot shows a yellow header bar with the title "Getting Active Directory username from Fiori UI5 application". Below it, a yellow-bordered box contains the text "You have different options:" followed by a numbered list of three options for integrating Active Directory with SAP Fiori UI5 applications. https://community.sap.com/t5/technology-q-a/getting-active-directory-username-from-fiori-ui5-application/qaq-p/12465967

- Screenshot above show working LDAP connection to Windows AD Domain.

Background Information

The Lightweight Directory Access Protocol (LDAP) is an open, vendor-neutral, industry standard application protocol for accessing and maintaining distributed directory information services over an Internet Protocol (IP) network. Directory services play an important role in developing intranet and Internet applications by allowing the sharing of information about users, systems, networks, services, and applications throughout the network. As examples, directory services may provide any organized set of records, often with a hierarchical structure, such as a corporate email directory. Similarly, a telephone directory is a list of subscribers with an address and a phone number.

What is LDAP in Active Directory?

Active Directory is a database based system that provides authentication, directory, policy, and other services in a Windows environment. LDAP (Lightweight Directory Access Protocol) is an application protocol for querying and modifying items in directory service providers like Active Directory, which supports a form of LDAP.

What is an Active Directory?

Active Directory (AD) is a directory service that Microsoft developed for Windows domain networks. It is included in most Windows Server operating systems as a set of processes and services. Initially, Active Directory was only in charge of centralized domain management.

Difference between AD vs LDAP

Active Directory is a database based system that provides authentication, directory, policy, and other services in a Windows environment. LDAP (Lightweight Directory Access Protocol) is an application protocol for querying and modifying items in directory service providers like Active Directory, which supports a form of LDAP.

Short answer: AD is a directory services database, and LDAP is one of the protocols you can use to talk to it.

<https://community.sap.com/t5/technology-blogs-by-members/sap-bi-4-2-setting-up-ldap-connector-in-10-easy-steps/ba-p/13397949>

	As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
6(b). C) comprises authenticating the user and the at least one user platform based at least in part on the plurality of user accounts and the plurality of device accounts included in the authentication directory.	See Claim 1, and Claim 5. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
'285 Patent Claim 7	
7(a). The apparatus of claim 6, wherein: at least one user account of the plurality of user accounts includes at least one entry comprising at least one of: a user name; a user password; a user email; a user mailstop; a user telephone number; a user mobile number; a user building; a user	See Claim 5, and Claim 6. The following excerpts show the SAP Fiori user account includes his username, email and any additional settings useful to the user.

campus; and at least one user group; and

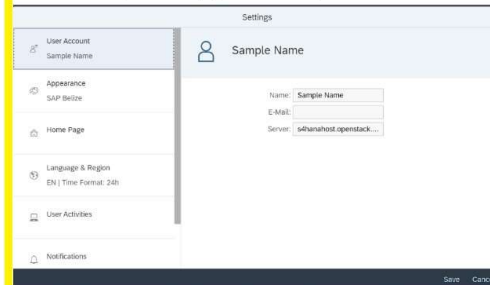
userapps.support.sap.com/sap/support/knowledge/en/3256114

SAP Knowledge Base Article - Preview

3256114 - How to change the username displayed in User Account in Fiori Launchpad

Symptom

You would like to change the name displayed in the User settings in Fiori



The screenshot shows the 'User Account' settings in the SAP Fiori Launchpad. The left sidebar lists various settings: User Account, Appearance, Home Page, Language & Region, User Activities, and Notifications. The 'User Account' section is selected, showing a 'Sample Name' profile. The 'Name' field is highlighted with a yellow box, indicating the area to be changed.

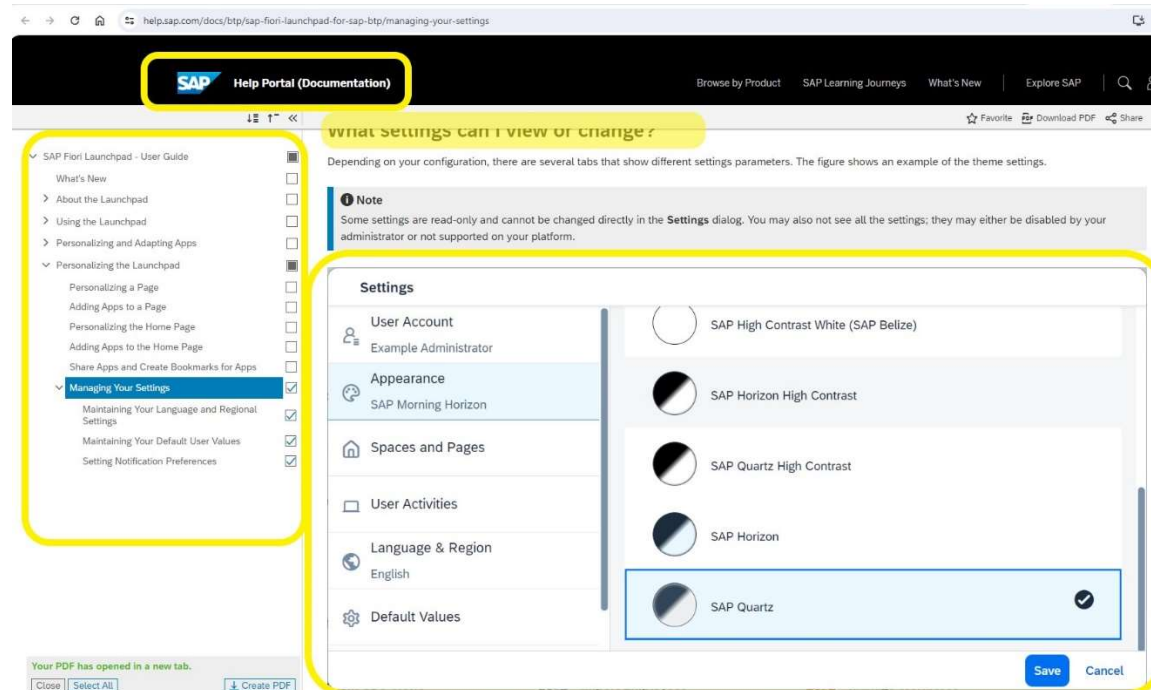
Image/data in this KBA is from SAP internal systems, sample data, or demo systems. Any resemblance to real data is purely coincidental.

[Read more...](#)

Environment

SAP Fiori - All versions

<https://userapps.support.sap.com/sap/support/knowledge/en/3256114>



<https://help.sap.com/docs/btp/sap-fiori-launchpad-for-sap-btp/managing-your-settings>

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

7(b). C) comprises authenticating the user if the user identity matches the at least one entry.

See Claim 5, and Claim 6.

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

‘285 Patent Claim 8	
8(a). The apparatus of claim 6, wherein: at least one device account of the plurality of device accounts includes at least one entry comprising at least one of: a device name; a device type; a device manufacturer; a device model number; a device serial number; a device IP address; a device location; a device user; and a device password; and	See Claim 6. Further, SAP Fiori runs on any device used by the user. The excerpt below shows examples of different devices using different applications through the Accused Instrumentalities.  See page 2 of SAP Fiori tutorialspoint (https://pdfcoffee.com/sap-fiori-pdf-free.html). As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

8(b). C) comprises authenticating the user platform if the platform identity matches the at least one entry.	See Claim 5 and Claim 6. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
'285 Patent Claim 9	
9. The apparatus of claim 8, wherein C) comprises authenticating the at least one user platform based at least in part on a location of the at least one user platform.	See Claim 1, and Claim 8. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
'285 Patent Claim 10	
10. The apparatus of claim 6, wherein D) comprises: transmitting to the at least one user platform the first authenticated channel information based at least in part on the plurality of application accounts included in the	See Claim 6 and Claim 37. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

authentication directory.	
285 Patent Claim 13	
13. The apparatus of claim 1, wherein in D), the at least one processor further manages the provision of and interaction with the secure user-centric information by: D 1) controlling the at least one communication interface to transmit channel information corresponding to at least some of the plurality of channels implemented in A), including the first authenticated channel information, to the at least one user platform so as to facilitate display of a desktop for the at least one user platform as a channel grid framework, the	See Claim 1 and Claim 37. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

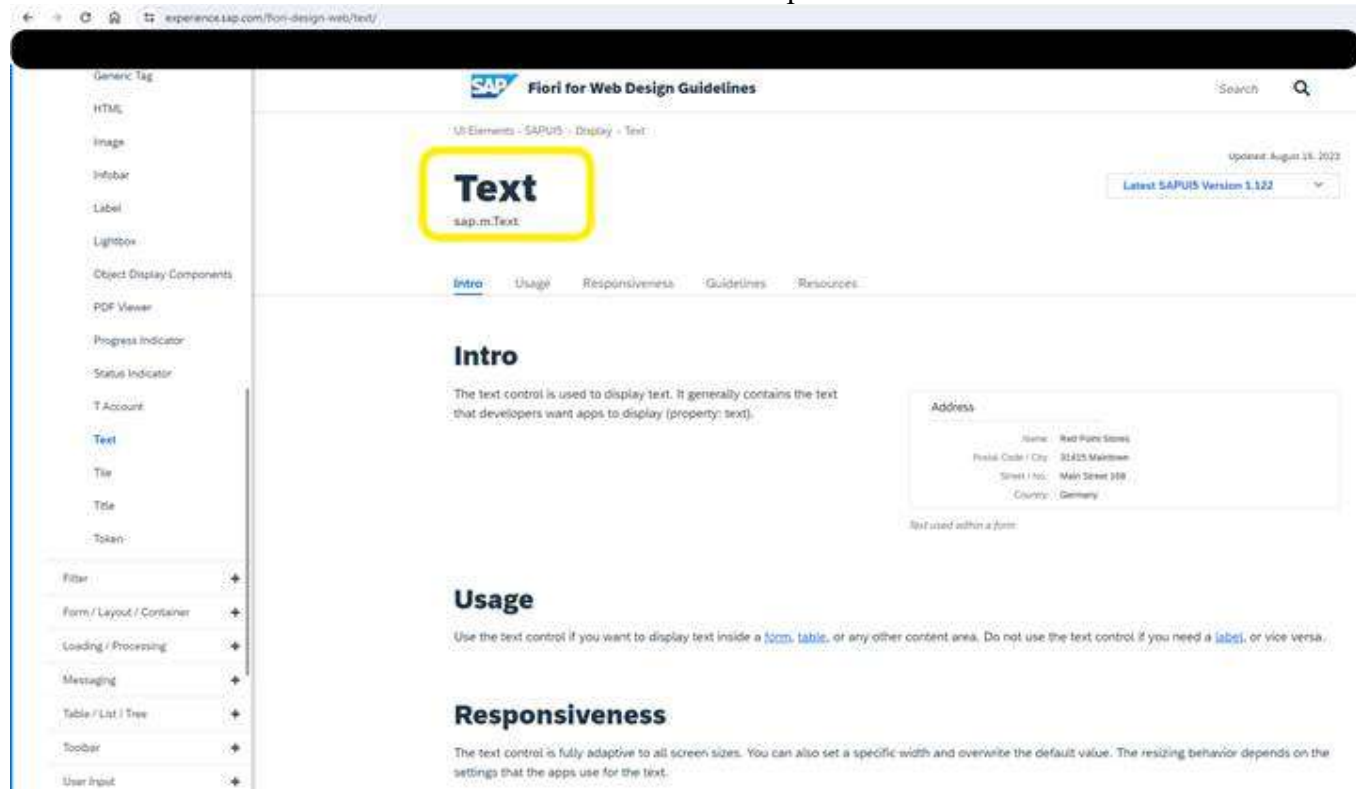
channel grid framework including a plurality of user-selectable items representing the at least some of the plurality of channels implemented in A), wherein, in D 1), the plurality of user-selectable items included in the channel grid framework is based at least in part on the information access rights and/or the security protocols respectively associated with the corresponding plurality of channels, the user, and the user platform.	
'285 Patent Claim 17	
17(a). The apparatus of claim 1, wherein the first authenticated channel information includes at least one of:	See Claim 1. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendant makes source code for the Accused Instrumentalities available for inspection.

17(b). text information; graphic information; one or more pictures; one or more videos; audio or digital sound; streaming data, audio or video; content associated with an executing computer application; voice-over-IP communication; instant messaging/SMS information; video-conferencing information; environmental monitoring information; financial services information; enterprise resource planning information; enterprise content management information; building information; project management information; product lifecycle management information; RSS (Really Simple

Further, the app(s) include(s) different type(s) of information.

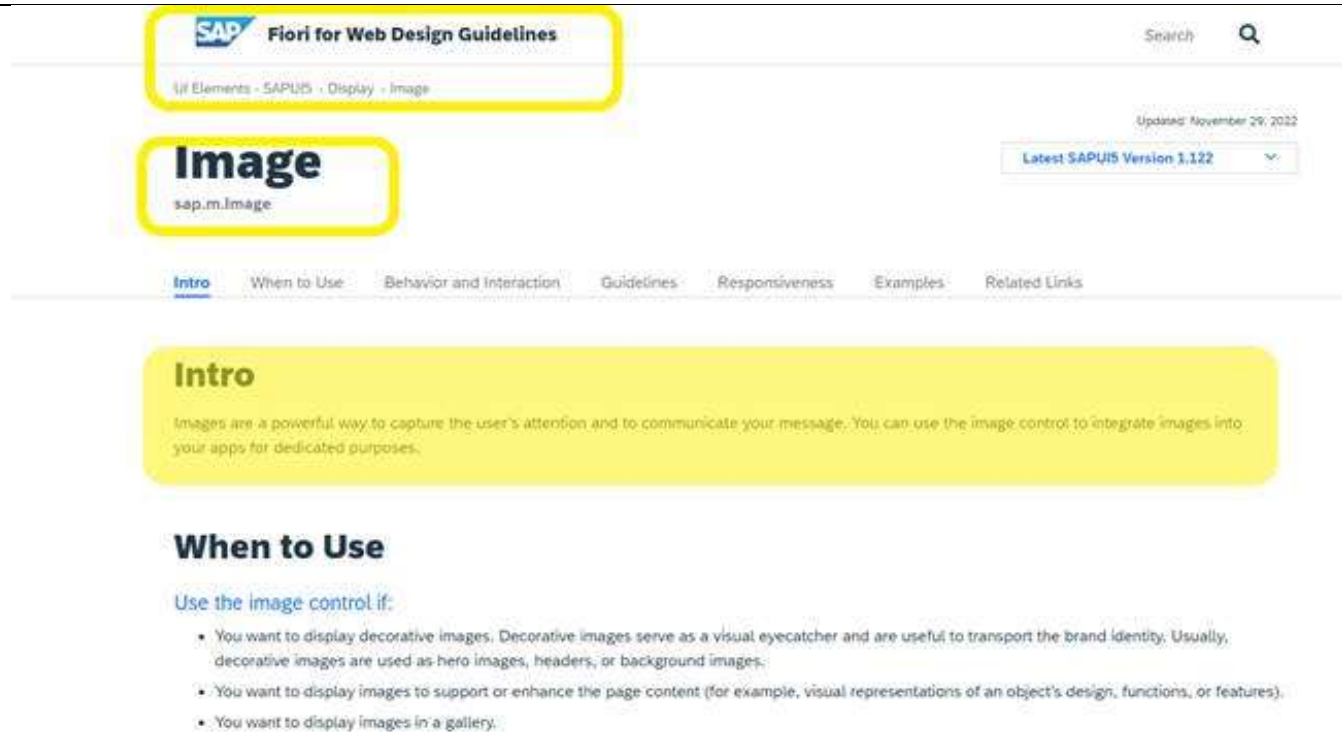
As an example, the excerpts below show (1) text information, (2) images or pictures, and (3) a three-dimensional graphic visualization.

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendant makes source code for the Accused Instrumentalities available for inspection.



<https://experience.sap.com/fiori-design-web/text/>

Syndication) reader information; remote device control/interaction information; a three-dimensional graphic visualization of one or more objects and/or immersive environments; one or more word processing documents; one or more spreadsheets; one or more presentation/slide shows; email; and address book information.



<https://experience.sap.com/fiori-design-web/image/>

 **Fiori for Web Design Guidelines**

Search 

UI Elements > SAPUI5 > Data Visualization > 3D Viewport

Updated: November 29, 2022

3D Viewport

sap.ui.vtk.Viewport

Latest SAPUI5 Version 1.122 

[Intro](#) [Usage](#) [Responsiveness](#) [Behavior and Interaction](#) [Resources](#)

Intro

You can use the 3D viewport control to enable 3D viewing in your SAP Fiori application. This control is available in the Visual Interaction toolkit library. The 3D viewport control can display simple and complex 3D objects in SAP Fiori, and offers basic user interaction with the 3D environment and its objects.

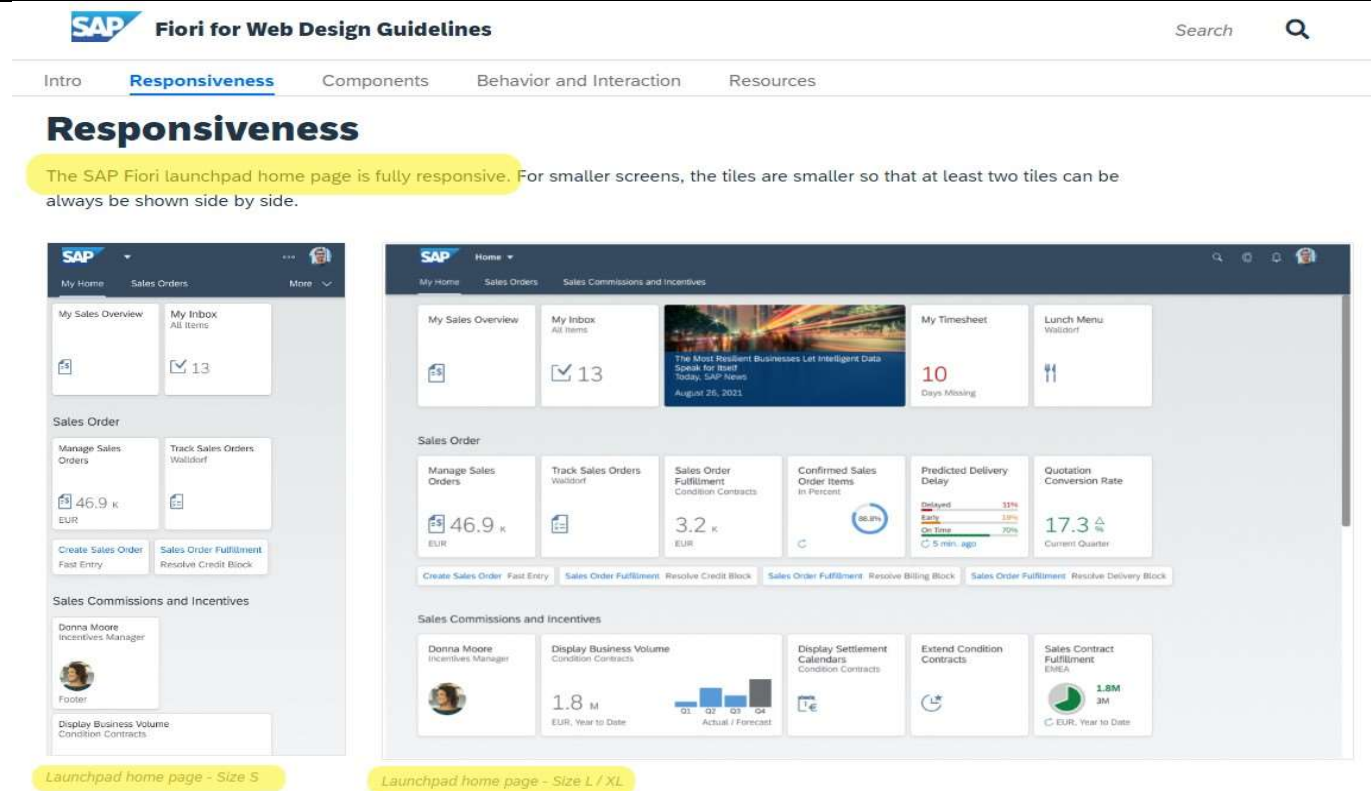


<https://experience.sap.com/fiori-design-web/3d-viewport/>

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

‘285 Patent Claim 18

18(a).
The apparatus of
claim 1, wherein:
in A), the at least one
processor implements
a channel server that
defines one or more
visual
characterizations, one
or more functions or
features, and/or one
or more information
types provided by
respective channels
of the plurality of
channels; and



See SAP Fiori Launchpad Home Page, Updated on April 17, 2023, <https://experience.sap.com/fiori-design-web/home-page/>

Components

Tiles

The tiles provide direct access to apps or content. They are similar to large icons and have a rectangular shape.

The launchpad home page comes with a predefined set of groups and tiles. However, the user can also personalize the launchpad home page to reflect their individual roles by choosing from a wide range of ready-to-use tiles from the [app finder](#).

Tiles differ in the content they display. They can contain an icon, a title, some informative text, numbers, and charts. The information that is shown depends on the function of the tile or app.

The number of tiles visible on a page depends on the screen resolution. The tiles are placed below each other and are resized for smaller screens.



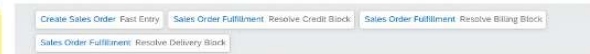
Different types of tiles

Links

Links are a different visual representation of a tile and always look the same: they consist of a title and an optional subtitle.

Links are collected in a dedicated area below the tiles area within each group. As with tiles, the user can modify the order of the links at any time.

Links are displayed inline, one after the other. If there is not enough space for the full link at the end of a row, the entire link moves to the next row. Links never break between rows.



Links

See SAP Fiori Launchpad Home Page, Updated on April 17, 2023,

<https://experience.sap.com/fiori-design-web/home-page/>

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

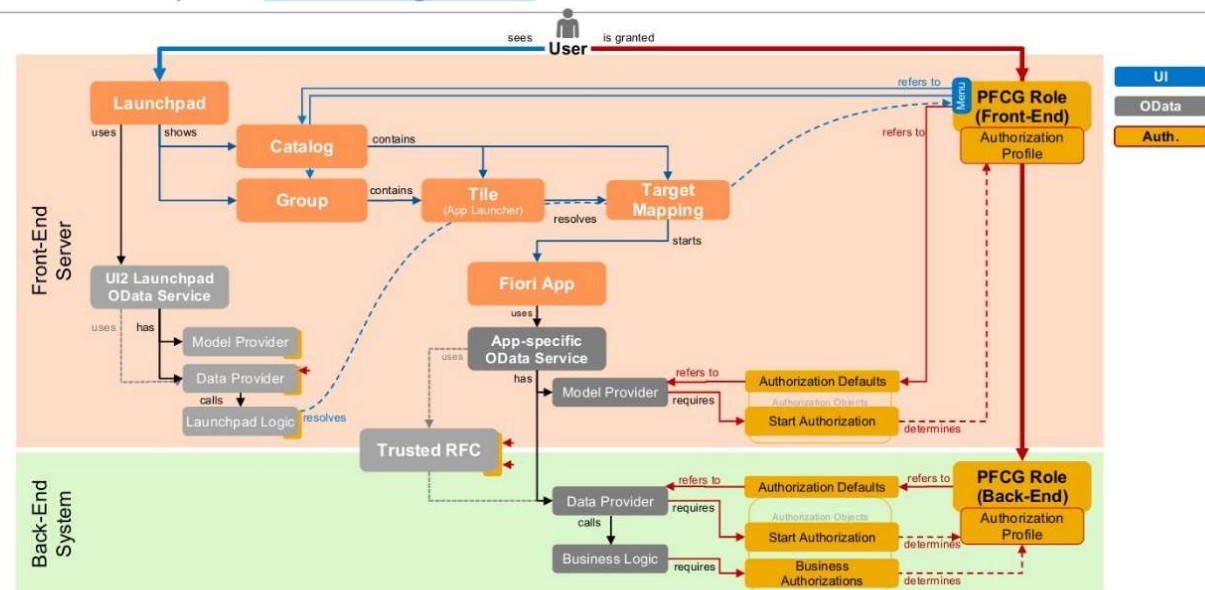
18(b). the at least one memory further stores at least one database including registries to one or more services and/or applications used by the channel server to implement the at least one authorized channel and provide the first authenticated channel information.

The Accused Instrumentalities include memory allows the storage of a database so that the app(s) are implemented and provide secure information to the user. This database includes registries of different services permitted by the user's authorized channel.

The excerpts below show the architecture of SAP Fiori, which allows the app(s) to provide secure information to the user, including the presence of a database.

SAP Fiori Architecture

SAP Fiori launchpad - User Assignment and Authorizations of Content



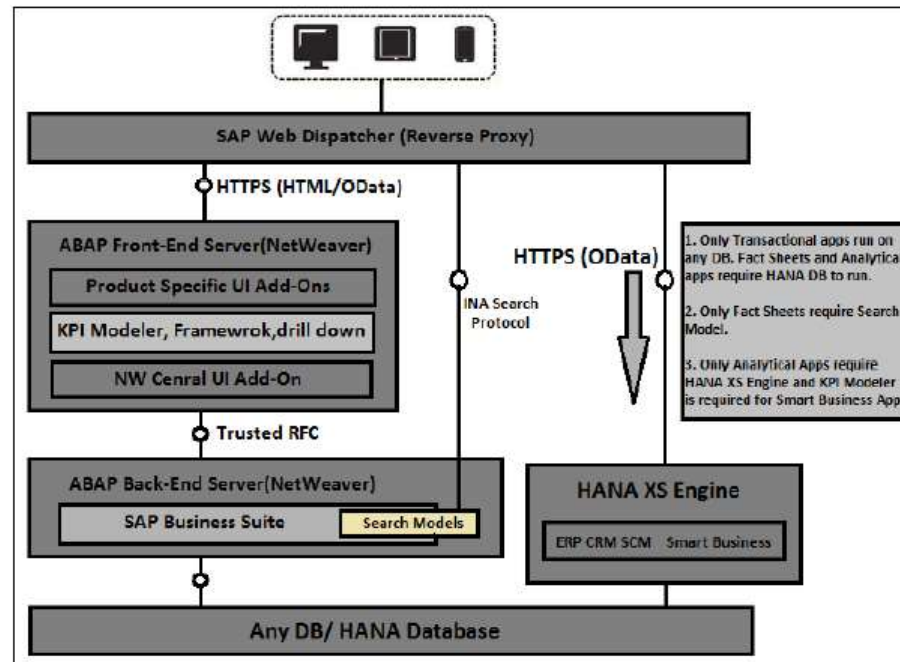
© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

21

See page 21 of SAP Fiori User Experience – SAP S/4HANA – Version 4.1 – August 2016,
https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf.



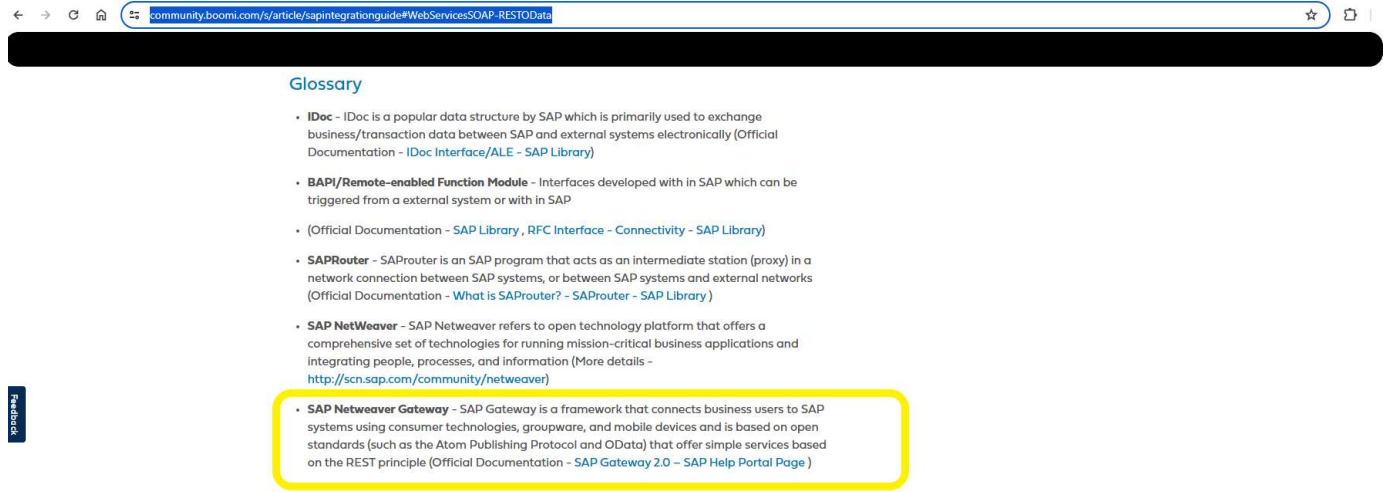
Fact Sheets require Search models to perform search capability in Fiori Apps. Fact sheets are used to drill the key information and contextual information in business operations. In SAP Fiori tiles, you can drill down to further details. It also allows you to navigate from one fact sheets to all its related fact sheets.

Analytical apps and Smart Business apps data come from HANA database through HANA XS Engine.

HANA Live content contains Virtual Data Model reuse content, which can be used for extensibility purpose.

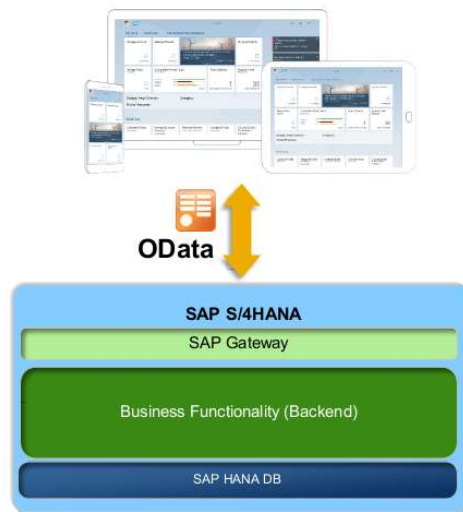
The user places request via Web browser using HTTPS. Trusted RFC is used to communicate between ABAP Front-End and Back-End server.

See page 9 of SAP Fiori tutorialspoint, pdfcoffee.com_sap-fiori-pdf-free.pdf.

	As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
‘285 Patent Claim 36	
36. The apparatus of claim 1, wherein the one or more of the plurality of channels interrogating the identity management server comprises the one or more of the plurality of channels evaluating content provided by the identity management server and determining if services of the one or more of the plurality of channels are available, and wherein the identity management server and the web services gateway interrogating the one or more of the plurality of channels comprises the identity management server	See Claim 1. Further, the following excerpts show that “SAP Netweaver Gateway” is the web services gateway.  https://community.boomi.com/s/article/sapintegrationguide#WebServicesSOAP-RESTOData

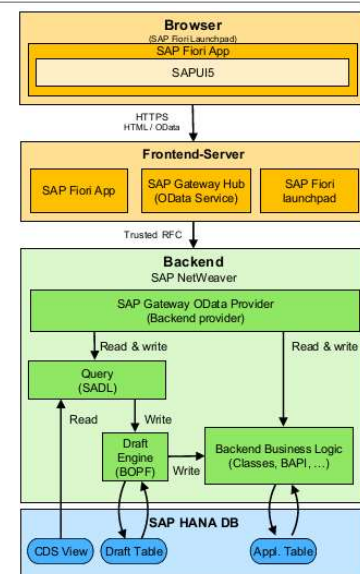
evaluating content provided by the one or more of the plurality of channels.

SAP Fiori Architecture SAP Gateway - Architecture



Recommended Development option

Core OData Services (CDS views) access the SAP S/4HANA Business Data via SAP Gateway.



© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

22

See page 22 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

'285 Patent Claim 37

37(a). A method for providing secure user-centric information via a

The Accused Instrumentalities operate as a method that allows the user to access a set of applications that provide and show relevant information on any platform (e.g., Windows computer, apple computer, android mobile device, web browser interface, etc.) used.

plurality of user platforms operated by a user, the method comprising:

The screenshot shows the SAP Help Portal (Documentation) for the SAP Fiori Overview. The left sidebar contains a navigation menu with the following items: SAP Fiori Overview, Explore SAP Fiori, SAP Fiori Concept and Design, SAP Fiori Apps (highlighted), SAP Fiori Apps Reference Library, Explore SAP Fiori Apps With Innovation Discovery, SAP Fiori Apps Recommendations Report, SAP Readiness Check 2.0, SAP Innovation and Optimization Pathfinder, SAP Fiori Lighthouse Scenarios, Best Practices Explorer, SAP Fiori Technology, Plan Your SAP Fiori Implementation Project, and Set up and Configure SAP Fiori. The main content area displays the following text:

SAP Fiori apps are platform-independent web apps built with SAPUI5 for mobile and desktop devices and applying the SAP Fiori user experience design principles.

SAP Fiori apps are available for different lines of business, industries, and SAP products. They are available for on-premise or cloud deployments and different SAP roles. SAP Fiori apps may be released for mobile devices and can then be consumed using a mobile browser, using SAP Fiori Client, or, as packaged apps, using the SAP Cloud Platform Mobile Services. The SAP Fiori launchpad is the central entry hub to access SAP Fiori apps.

In addition to SAP Fiori apps built with SAPUI5, there are classic applications using different UI technologies, such as Web Dynpro or SAP GUI. With SAP Fiori 2.0, these classic applications share a harmonized theme with the SAP Fiori apps but they still do not fulfill all of the criteria of SAP Fiori apps. The classic applications can be called from the SAP Fiori launchpad and must be configured specifically.

The following types of SAP Fiori apps exist:

- Transactional apps and object pages

Transactional apps let you perform transactional tasks, such as creating a leave request for an

See SAP Fiori Overview,

https://help.sap.com/docs/SAP_FIORI_OVERVIEW/a3a20aacd1484c8a976f71054a3bf860/d88d371a9aa54fb89fe19a16d8eb527b.html or

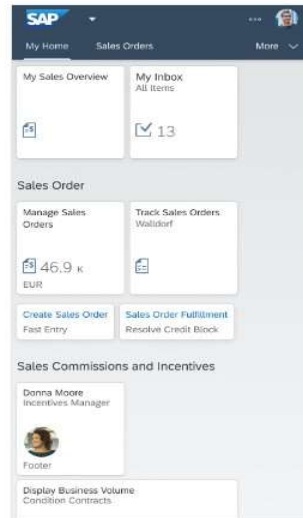
<https://help.sap.com/http.svc/pdfdownload?id=6130453437781116> or

https://help.sap.com/docs/SAP_FIORI_OVERVIEW/a3a20aacd1484c8a976f71054a3bf860?locale=en-US&state=PRODUCTION&version=5_OVERVIEW

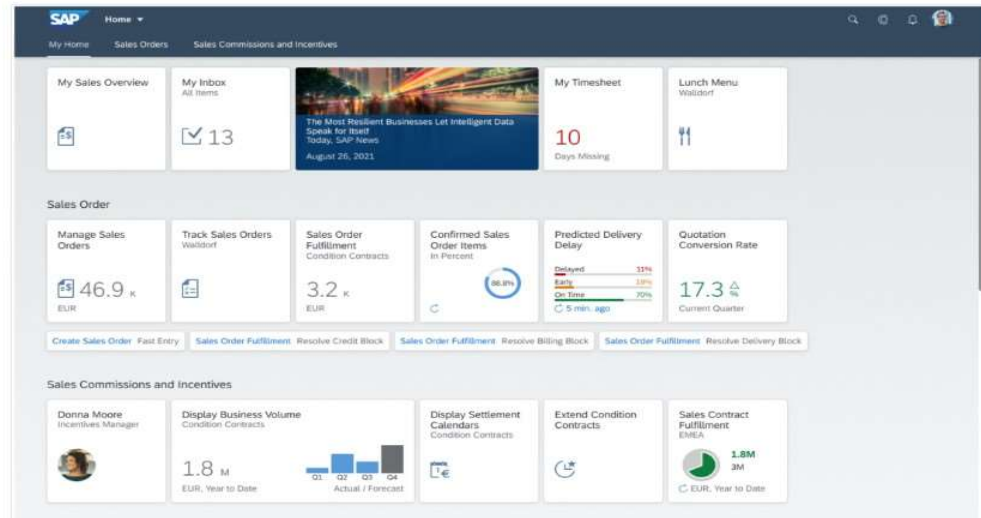
	As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
37(b). A) Implementing a channel grid framework including a matrix of a plurality of channels through which the user receives and/or interacts with, via the plurality of user platforms, respective portions of the secure user-centric information, wherein implementing the plurality of channels comprises synchronizing functions and features of one or more of the plurality of channels across two or more of the plurality of user platforms deploying the secure user-centric information to two or more of the plurality of user platforms;	The Accused Instrumentalities contain a channel grid framework (SAP Fiori) implemented for the user. The channel grid framework includes application maintained in a matrix. The Accused Instrumentalities include SAP Fiori , which allows users to access the applications on different devices. The Accused Instrumentalities synchronize data that is contained within SAP Fiori between different platforms. As shown by the excerpts below, SAP Fiori is a matrix of tiles and links that display and launch the corresponding apps on the Launchpad. Each of the links is a secure user-centric channel associated with an application, and that user's data can be sent to be displayed, and the user can interact with it.

Responsiveness

The SAP Fiori launchpad home page is fully responsive. For smaller screens, the tiles are smaller so that at least two tiles can be always be shown side by side.



Launchpad home page - Size S



Launchpad home page - Size L / XL

See SAP Fiori Launchpad Home Page, Updated on April 17, 2023,

<https://experience.sap.com/fiori-design-web/home-page/>

Components

Tiles

The tiles provide direct access to apps or content. They are similar to large icons and have a rectangular shape.

The launchpad home page comes with a predefined set of groups and tiles. However, the user can also personalize the launchpad home page to reflect their individual roles by choosing from a wide range of ready-to-use tiles from the [app finder](#).

Tiles differ in the content they display. They can contain an icon, a title, some informative text, numbers, and charts. The information that is shown depends on the function of the tile or app.

The number of tiles visible on a page depends on the screen resolution. The tiles are placed below each other and are resized for smaller screens.



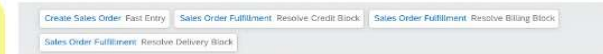
Different types of tiles

Links

Links are a different visual representation of a tile and always look the same: they consist of a title and an optional subtitle.

Links are collected in a dedicated area below the tiles area within each group. As with tiles, the user can modify the order of the links at any time.

Links are displayed inline, one after the other. If there is not enough space for the full link at the end of a row, the entire link moves to the next row. Links never break between rows.



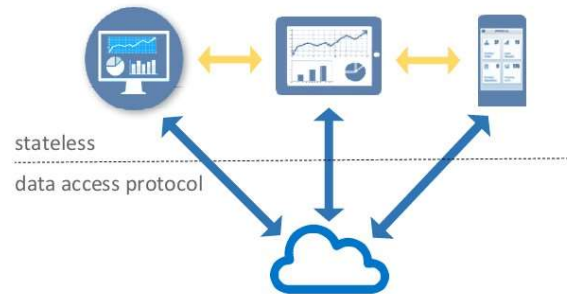
Links

See SAP Fiori Launchpad Home Page, Updated on April 17, 2023,

<https://experience.sap.com/fiori-design-web/home-page/>

The Accused Instrumentalities allow the data (including relating to any work done or changes made by the user) to be saved automatically, which also means that this data is accessible at any point in time on any device used by the user.

SAP Fiori Architecture UX Qualities



Modern, internet-educated User Experience

- Highly responsive
- Start now – save incomplete – continue later
- Keep working – data is saved automatically and asynchronously
- No data loss due to connectivity disruption or session time-out
- Start on one device – continue on other device
- Start now – let someone else continue later
- Collaborate now with others on same task/document
- Data is stored “in the cloud”

Consequence for Fiori Architecture Data must be stored in a central location

- Not tied to device
- Not tied to session
- Not tied to user

See page 6 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

Personalization Beyond the Launchpad

- **My Inbox and Fiori Elements:**

- Fiori Launchpad User Personalization extends to applications like My Inbox, allowing users to tailor their task lists and interfaces.
- Personalizing Fiori Elements ensures that applications provide a user-centric experience, aligning with specific needs.

- **Synchronization Across Devices:**

- Personalization settings are synchronized across devices, providing a consistent experience whether users are accessing Fiori from a desktop, tablet, or smartphone.
- This synchronization enhances mobility and flexibility in the modern workplace.

Conclusion: Empowering Users for a Productive Experience

SAP Fiori Launchpad User Personalization is a powerful tool that places the user in control of their Fiori experience. From rearranging tiles to setting defaults, choosing themes, and personalizing beyond the Launchpad, Fiori empowers users to tailor their digital workspace to align with their unique preferences and work requirements. In doing so, organizations can foster a more productive, engaging, and user-friendly environment, ultimately driving the success of Fiori implementations across diverse user bases. As organizations embrace the future of enterprise technology, SAP Fiori Launchpad User Personalization stands out as a key element in creating a digital workplace that truly revolves around the user.

Previous article

Unlocking Data Brilliance: A Deep Dive into SAP Fiori Elements for Embedded List Reports

Next article

Navigating the Data Horizon: Unveiling SAP Data Intelligence for Multi-Cloud Data Governance

See Personalizing Your SAP Fiori Experience: A Guide to Fiori Launchpad User Personalization, dated December 8, 2023, <https://technicalgyanguru.com/personalizing-your-sap-fiori-experience-a-guide-to-fiori-launchpad-user-personalization/>

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

37(c). B) establishing a user profile identifying user preferences, platform identities, and service support instructions that determine how the secure user-centric information behaves on at least one platform of the plurality of user platforms;

The Accused Instrumentalities establish a user profile preference so that the user can specify his preferences, platform identities and service support instructions when setting up his user profile. The Accused Instrumentalities have instructions that specify how the secure user-centric channel behaves on a second platform because the Accused Instrumentalities include code instructions allowing the user to have the same or personalized experience (such as same design) across all the devices he is using.

The following excerpts show that the Accused Instrumentalities provide a seamless experience across the different platforms that are used by the user, based on his user profile (including role in an organization etc.) The Accused Instrumentalities use instructions specific to that platform to determine how it operates when used.

SAP Fiori Design Principles

There are five design principles for **SAP Fiori UI5**. These principles make SAP Fiori simple and decompose the different transactions into simple task based UI applications.

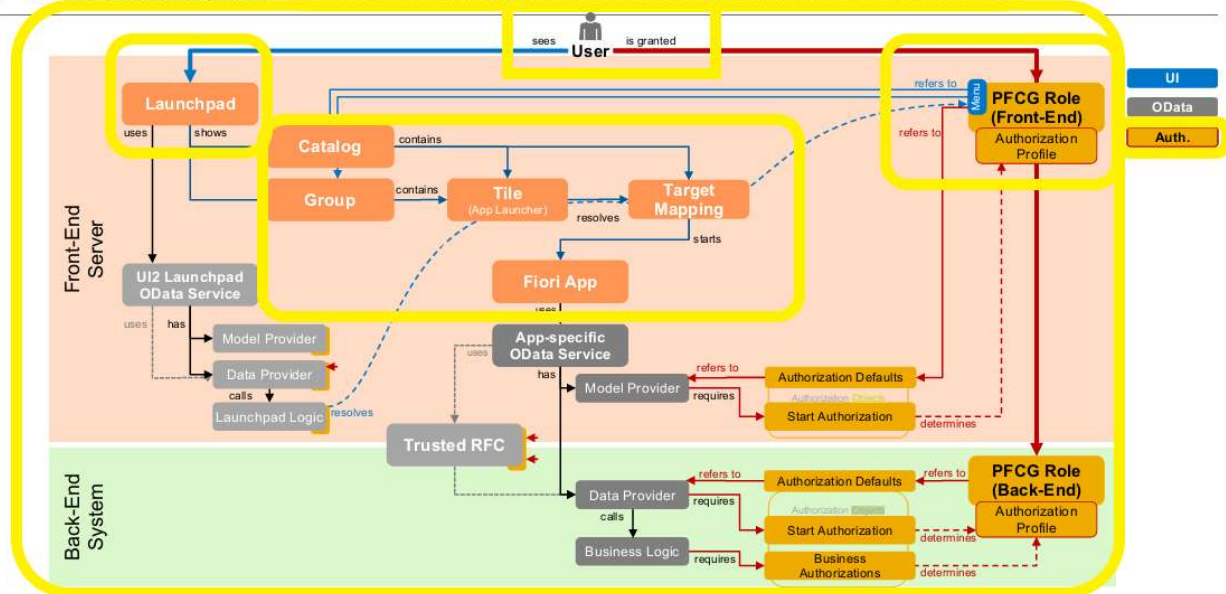
- **Role-Based** – SAP has decomposed various SAP transactions and changed them into beautiful user interactive applications that show only most relevant information to the users.
- **Responsiveness** – When SAP Fiori is combined with the power of SAP HANA, it provides an unmatched application response and query executions time.
- **Simple** – To make SAP Fiori simple to match the user demand, SAP has designed it as a **1-1-3** scenario. This means 1 user, 1 use case and 3 screens.
- **Seamless Experience** – SAP has provided all the Fiori apps based on the same language and it does not matter on the deployment and platform.
- **Delightful** – SAP Fiori was designed to work with **ECC 6.0** to make it easy for the users and to deploy on the existing SAP system.

2

– Page 2-3 of SAP Fiori tutorialspoint, <https://pdfcoffee.com/sap-fiori-pdf-free.html>.

SAP Fiori Architecture

SAP Fiori launchpad - User Assignment and Authorizations of Content



© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

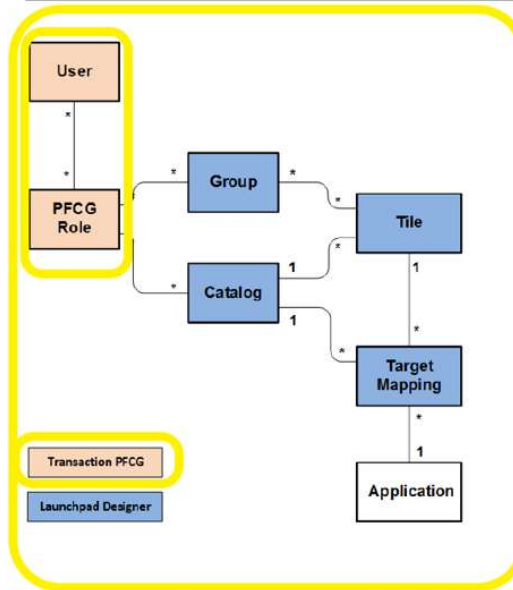
21

See page 21 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

SAP Fiori Architecture

SAP Fiori launchpad - Content Model for ABAP platform



Transaction PFCG

- Assign groups and catalogs to roles
- Roles are the means to assign catalogs and their apps to users

SAP Fiori launchpad designer (FLPD)

Content can be configured system wide (configuration) or client specific (customizing):

- Target Mapping: maps navigation intent to concrete (logical application/target)
- Tile: used to launch an application from the homepage
- Catalog: set of applications a user can use and add to his homepage
- Group: predefined set of tiles a user sees on his homepage

See page 19 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

SAP Fiori User Roles

Lines of Business

Finance  - Accounts Payable Accountant - Accounts Payable manager - Accounts Receivable Accountant - Accounts Receivable Manager - Cash Manager - Controller - G/L Accountant - Manager - Access Control Administrator - Financial Close Manager - Employee - Senior Executive	Human Resources  - Employee - Manager	Sales & Marketing  - Sales Representative (CRM/ SD) - Sales Manager - Internal Sales Representative (SD) - Marketing Manager - Marketing Executive - Marketing Expert - Contract Accounts Receivable Manager	Procurement  - Purchaser - Inventory Accountant - Employee - Manager - Strategic Purchaser	R&D, Engineering  - Project Manager & Planner - Program Manager - Project Team Member - Engineer
	Asset Management  - Maintenance Worker & Planner - EHS-Production Worker - EHS-Foreman		Supply Chain  - Supplier - Supply Planner - Supply Chain Analyst - Transportation Manager - Warehouse Manager - Shipping Specialist - Product Manager - Data Scientist - ATP Controller - Local Demand Planner	Manufacturing  - MRP Controller - Quality Engineer - Production Planner - Production Worker/Supervisor - Recipe Developer - Demand Planner

© 2014 SAP SE or an SAP affiliate company. All rights reserved.

The presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or noninfringement.

Customer

6

See page 6 of SAP Fiori UX, App Overviews, December 2014,

https://experience.sap.com/files/SAPFiori_AppOverviews.pdf

SAP Fiori Architecture

SAP Web IDE - Key Use Cases



- Develop new SAP Fiori and SAPUI5 applications
- Extend SAP Fiori apps
- Develop SAPUI5 mobile hybrid applications (using Hybrid Application Toolkit plug-in)
- Extend the SAP Web IDE with new plug-ins and SAP Fiori Elements
- Seamlessly deploy to run on any device – automatic rendering for phone, tablet, desktop
- Deploy to SAP HANA Cloud Platform, SAP Mobile Platform or ABAP

© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

46

See page 46 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

SAP Fiori provides all business roles in real time on compatible hand devices. It offers business roles on easy to use functions, simple with unmatched responsiveness on desktop, smartphones and Tablets.

SAP Fiori enables multiple device applications that allow users to start a process on their desktop/laptops and to continue that process on a smartphone or on a tablet. SAP has developed Fiori Apps based on User interface UI5.



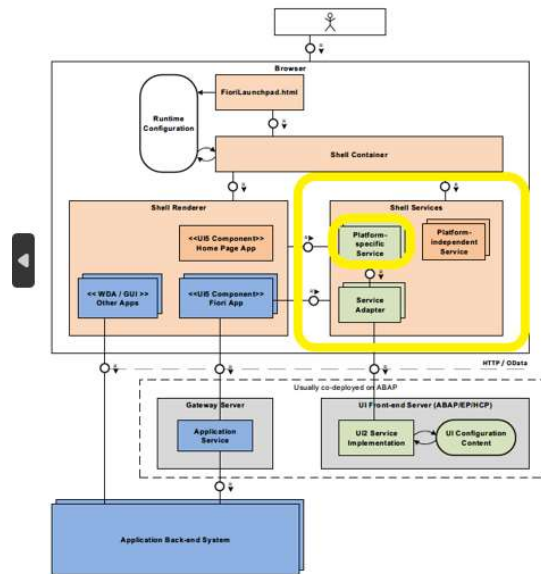
When SAP Fiori is combined with the power of the SAP HANA, it provides an unmatched application response and query-execution time. SAP Fiori user experience (UX) is used to provide a personalized and role-based user experience for enterprise-wide engagement across lines of business.

https://www.tutorialspoint.com/sap_fiori/sap_fiori_introduction.htm#:~:text=SAP%20Fiori%20enables%20multiple%20device,smartphone%20or%20on%20a%20tablet;

See also – see page 2 of SAP Fiori tutorialspoint, pdfcoffee.com_sap-fiori-pdf-free.pdf

SAP Fiori Architecture

SAP Fiori launchpad - Architecture



SAP Fiori launchpad is a runtime container supporting intent-based navigation for

- SAPUI5 Components
- Web Dynpro ABAP or SAP GUI apps
- External URLs

It provides **platform-independent** service APIs with adapters for different front-end servers (ABAP, SAP Enterprise Portal, SAP HANA Cloud Platform) and local consumption (Sandbox for testing in SAP Web IDE, mobile offline).

© 2016 SAP SE or an SAP affiliate company. All rights reserved

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

Public

18

See page 18 of SAP Fiori User Experience – SAP S/4HANA – Version 4.1 – August 2016,

kupdf.net_sap-fiori-ux-architecture-for-s4h.pdf

While this element is literally met, to the extent that Defendant contends that this element is not literally met, it is at least met under DOE. Specifically, the Accused Instrumentalities perform the same function as this claim element because they maintain profiles for users that allow for customization for the particular user, and this customization includes information about the user, information about the platform the user is using, and information about the applications being used by the user is intended to behave for that user. The Accused Instrumentalities perform this function in the same way because they store data about the user in the user profile that and be accessed between platforms. This has the same result because the user profile

	can be used to set up the Accused Instrumentalities in the manner specified, including how the applications behave for the user. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
37(d). C) receiving, from at least one user platform of the plurality of user platforms, a user identity for the user and a platform identity for the at least one user platform;	The Accused Instrumentalities receive login requests, including user and platform information initiated from a platform to authenticate the user and the platform. As shown below, there are multiple authentication methods, which include receiving user and platform data from the initiating platform, including (1) Kerberos/SPNEGO, (2) SAP Logon Tickets, and (3) X. 509 Certificates. Each of these allows for the authentication of a user and the first platform. – See page 64 of SAP Fiori tutorialspoint, pdfcoffee.com_sap-fiori-pdf-free.pdf https://www.tutorialspoint.com/sap_fiori/sap_fiori_security.htm The following demonstrates that the Accused Instrumentalities authenticate the user and platform, which can be done differently as required or desired for the particular installation. These will authenticate the user and the platform that they are using.

Authentication Methods

While launching SAP Fiori app, the request is sent from the client to the ABAP front-end server by the SAP Fiori Launchpad via Web Dispatcher. ABAP front-end server authenticates the user when this request is sent. To authenticate the user, the ABAP front-end server uses the authentication and single sign-on (SSO) mechanisms provided by SAP NetWeaver. The mechanism mentioned below can be used for authentication:

1. SPENGO/KERBEROS

SPNEGO is used when a client application wants to authenticate to a remote server, but neither end is sure what authentication protocols the other supports. The pseudo-mechanism uses a protocol to determine what common GSSAPI mechanisms are available, selects one and then dispatches all further security operations to it. This can help organizations deploy new security mechanisms in a phased manner.

2. SAP Logon Tickets

SAP Logon Tickets represent user credentials in SAP systems. When enabled, users can access multiple SAP applications and services through SAPgui and web browsers without further username and password inputs from the user. SAP Logon Tickets can also be a vehicle for enabling single sign-on across SAP boundaries; in some cases, logon tickets can be used to authenticate into third party applications such as Microsoft-based web applications.

3. X.509 Certificates

An X.509 certificate contains information about the identity to which a certificate is issued and the identity that issued it. Many of the certificates that people refer to as Secure Sockets Layer (SSL) certificates are in fact **X.509** certificates.

(1) Kerberos/SPNEGO

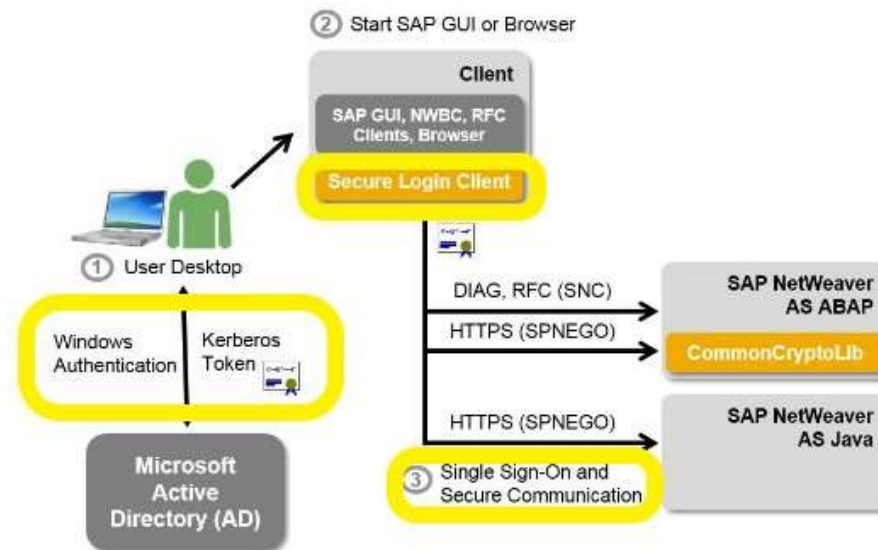
“The SAP Single Sign-On product offers support for Kerberos/SPNEGO. [Users] can use Kerberos authentication tokens to easily implement a single sign-on solution for user’s SAP systems. This . . . provides a considerable simplification to [users’] authentication processes. Using Kerberos technology via . . .

SPNEGO, a trust relationship is established between the user's front end (SAP GUI for Windows or a web browser, for example) and the back-end Application Server ABAP or Java.

[Users'] log in once when they start their computers by signing on to their Windows domain. Any subsequent authentication processes are left to a Kerberos token mechanism provided by SAP Single Sign-On and based on Microsoft Active Directory. No additional server is required in this scenario. Working on the front-end software, the user experiences streamlined, easy accessibility."

<https://community.sap.com/t5/technology-blogs-by-sap/sap-single-sign-on-authenticate-with-kerberos-spnego/ba-p/13321445>

Single Sign-On Based on Kerberos / SPNEGO



© 2015 SAP SE or an SAP affiliate company. All rights reserved.

<https://community.sap.com/t5/technology-blogs-by-sap/sap-single-sign-on-authenticate-with-kerberos-spnego/ba-p/13321445>

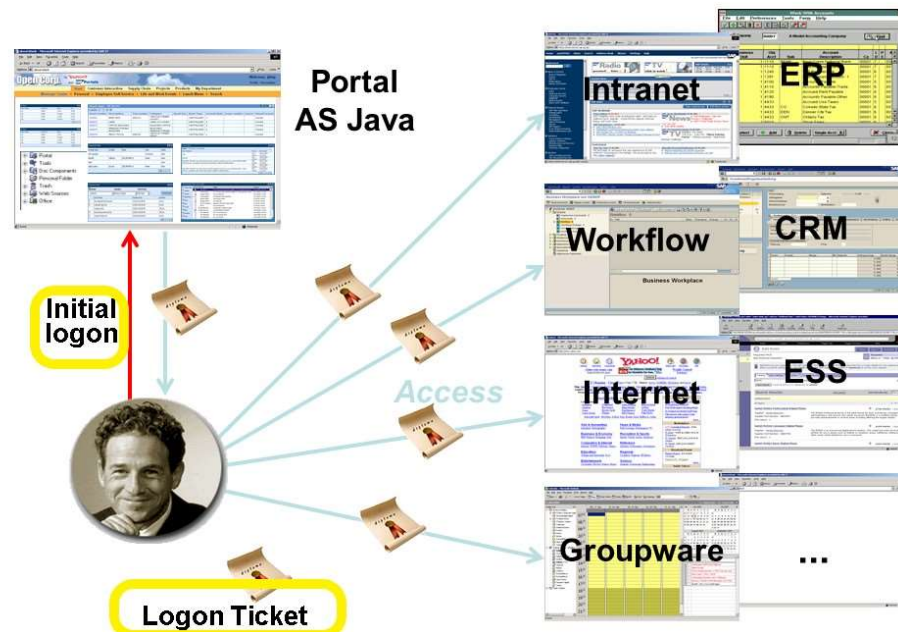
(2) SAP Logon Tickets - https://www.tutorialspoint.com/sap_security/sap_security_logon_tickets.htm

“[T]he digitally signed SAP logon tickets [can be] configure[d] with a Single Sign-On to access integrated applications in a SAP environment. [A portal can be configured] to issue SAP logon tickets to the users and the users need to authenticate this system for initial access. When SAP logon tickets are issued to users they are saved in web browsers and allows the user[s] to login to different systems with use of SSO.”

Logon Tickets

For user authentication to multiple systems, SAP NetWeaver enables you to configure the use of logon tickets. You can use logon tickets to provide and administer user authentication based on cookie technology for complex system landscapes.

For an overview of the authentication process when using logon tickets, see the figure below.



https://help.sap.com/doc/saphelp_nw73ehp1/7.31.19/en-us/43/9d7bb1e08021b5e10000000a1553f6/content.htm?no_cache=true

(3) X.509 Client Certificates -

“As an alternative to authenticating with a user ID and passwords, users can present X.509 client certificates for accessing SAP and non-SAP systems. In this case, user authentication takes place using the underlying Secure Sockets Layer (SSL) protocol and users do not need to interactively enter a password for logon. “

“Authentication with X.509 Certificates makes use of a Public Key Infrastructure (PKI) to securely authenticate users. After users receive their X.509 certificates from a certificate issuing Certification Authority (CA), they can use them to securely access SAP NetWeaver, as well as non-SAP systems. The SAP NetWeaver and the non-SAP system can authorize access requests, based on an established trust relationship with the CA.

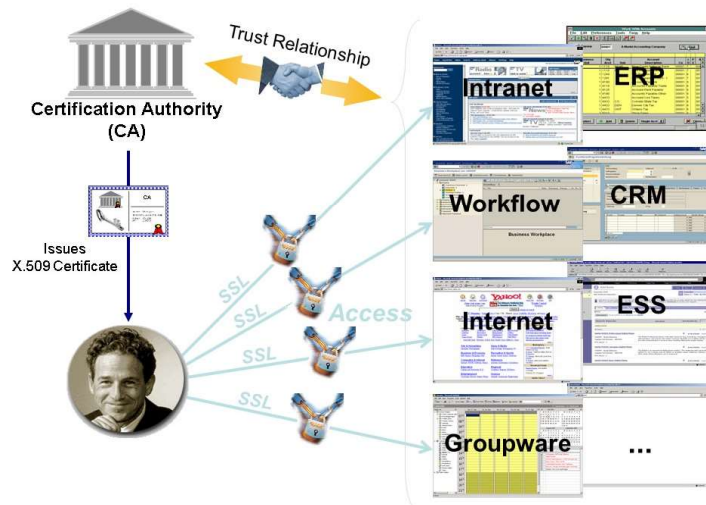
In addition, users can use their X.509 certificates to authenticate their access to systems located on the Internet and within the company Intranet. Thereby, the certificates for authentication can be used in open environments such as the Internet.”

https://help.sap.com/doc/saphelp_nw73ehp1/7.31.19/en-us/43/9d7bbe08021b5e10000000a1553f6/content.htm?no_cache=true

X.509 Client Certificates

As an alternative to authenticating with a user ID and passwords, users can present X.509 client certificates for accessing Web applications. In this case, user authentication takes place using the underlying Secure Sockets Layer (SSL) protocol and users do not need to interactively enter a password for logon.

For an overview of the authentication process flow when using X.509 certificates, see the figure below.



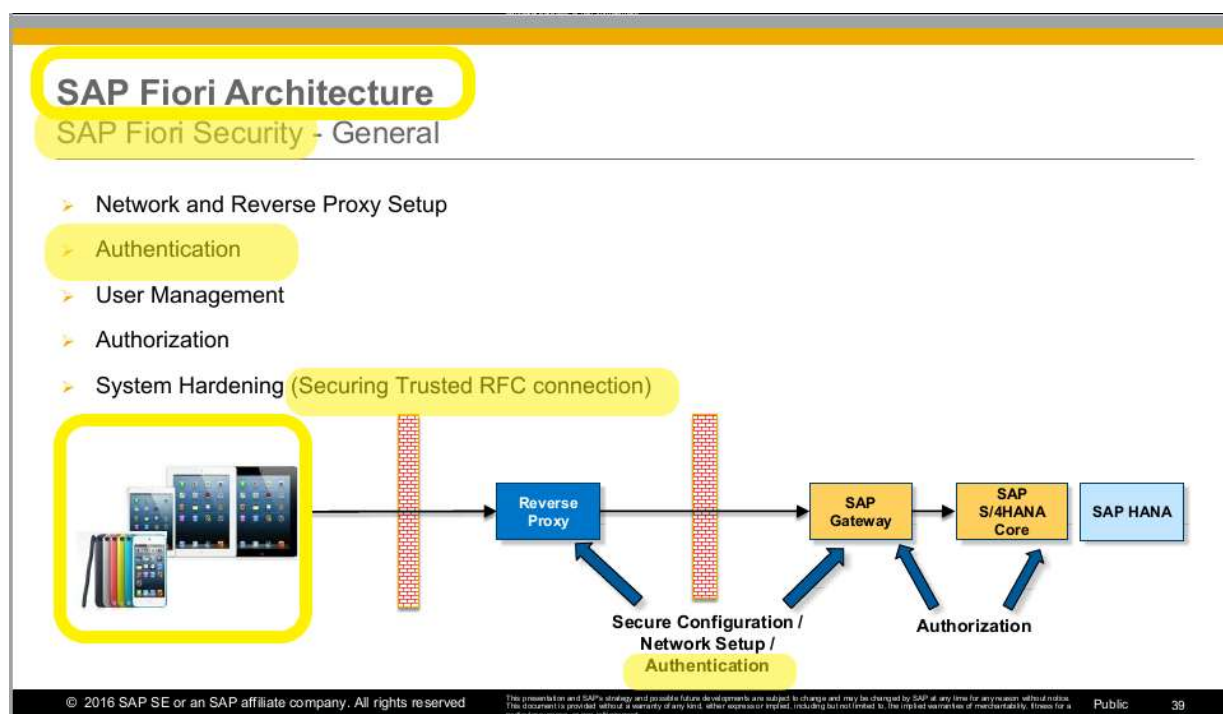
https://help.sap.com/doc/saphelp_nw73ehp1/7.31.19/en-us/43/9d7bb1e08021b5e10000000a1553f6/content.htm?no_cache=true

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

37(e). D) authenticating the user and the at least one user platform to receive the secure user-centric information based at least in part on the user identity and the platform identity; and

The Accused Instrumentalities authenticate the user and his second platform so that the user can receive the secure user-centric channel information based on the user identity and platform identity.

The following describes how the architecture for the Accused Instrumentalities includes authentication of users and different platforms.



See page 39 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

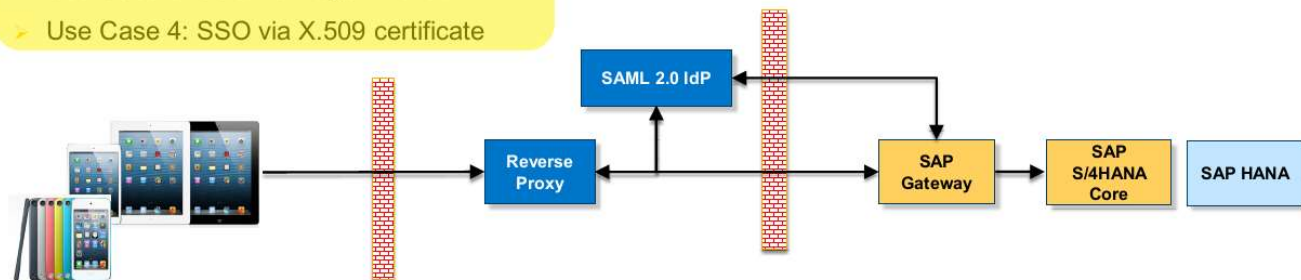
There are multiple authentication methods, which include receiving user and platform data from the initiating platform, including (1) Kerberos/SPNEGO, (2) SAP Logon Tickets, and (3) X. 509 Certificates. Each of these allows for the authentication of a user and the first platform. –

See page 64 of SAP Fiori tutorialspoint, pdfcoffee.com_sap-fiori-pdf-free.pdf

SAP Fiori Architecture

SAP Fiori Security - Authentication Use Cases

- Use Case 0: Form-based Initial Authentication
- Use Case 1: SSO via SAML 2.0 (*recommended - please refer to illustration below*)
- Use Case 2: SSO via SPNego / Kerberos
- Use Case 3: SSO via Logon Ticket
- Use Case 4: SSO via X.509 certificate



A typical use case is for customers to access one or more SAP Fiori apps from the public internet. In this case, single sign-on can be implemented using SAML 2.0 based authentication in conjunction with IdP (Identity Provider) software such as Ping Federate or Microsoft's Active Directory Federation Service (AD FS).

See page 40 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.1, August 2016,

https://kupdf.net/download/sap-fiori-ux-architecture-for-s4h_5908c09edc0d60825d959e7a_pdf

 **tutorialspoint** Category ▾

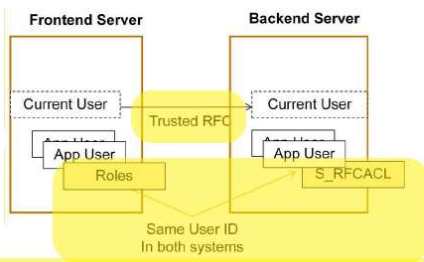


SAP Fiori Tutorial

- SAP Fiori - Home
- SAP Fiori - Introduction
- SAP Fiori - Architecture
- SAP Fiori - NetWeaver Gateway
- SAP Fiori - Installation
- SAP Fiori - Launchpad
- SAP Fiori - OData Services
- SAP Fiori - Transactional Apps
- SAP Fiori - Fact Sheets
- SAP Fiori - Analytical Apps

Back-end server in Fiori Data flow

- Back End server contains SAP Business suite 7 for key applications like ERP, CRM, SRM, SCM, etc.
- It contains application data and used for customization of applications.
- This system contains 2 OData classes –
- Model Provider
- Data Provider
- To access Back end system, application users created on Front-end server should have an authorization **S_RFCACL**. This authorization should be assigned to the users in Business suite.



The connection between front-end server to back-end server must be trusted RFC connection. It means same ID is authenticated to back-end system without entering the password. As mentioned earlier, the user Id should have **S_RFCACL** authorization for trusted logon.

A User should have UI roles assigned in Front-end server and back-end roles in back-end server.

SAP Fiori - Quick Guide,

https://www.tutorialspoint.com/sap_fiori/sap_fiori_quick_guide.htm

SAP Fiori App
4 / 6 | - 125% + | [] ↺

Support for multiple devices and form factors

- Maximize usability using a desktop PC, tablet, or smartphone

Central Access via SAP Fiori launchpad

- Access your SAP Fiori apps from a central launchpad (navigation, personalization, support, and configuration)

Role-based authentication and authorization

- Harness role-based single sign-on (SSO) mechanisms for secure access

Secure provisioning and consumption of data

- Provide access to business logic (sap back-end system) data via OData services

```

graph TD
    AB[Any Browser] -- Direct --> FFS[Fiori Frontend Server  
(SAP Fiori Cloud or On-Premise)]
    SC[SAP Fiori Client] -- Direct --> FFS
    FFS -- Optimize --> SC
    FFS -- Optimize --> FSC[Fiori SAP Cloud Premium]
    FSC -- Optimize --> FFS
    
```

See SAP Fiori App “A Skyscend Whitepaper,”

[https://f.hubspotusercontent40.net/hubfs/7223092/SAP%20Fiori%20App%20\(1\).pdf](https://f.hubspotusercontent40.net/hubfs/7223092/SAP%20Fiori%20App%20(1).pdf)

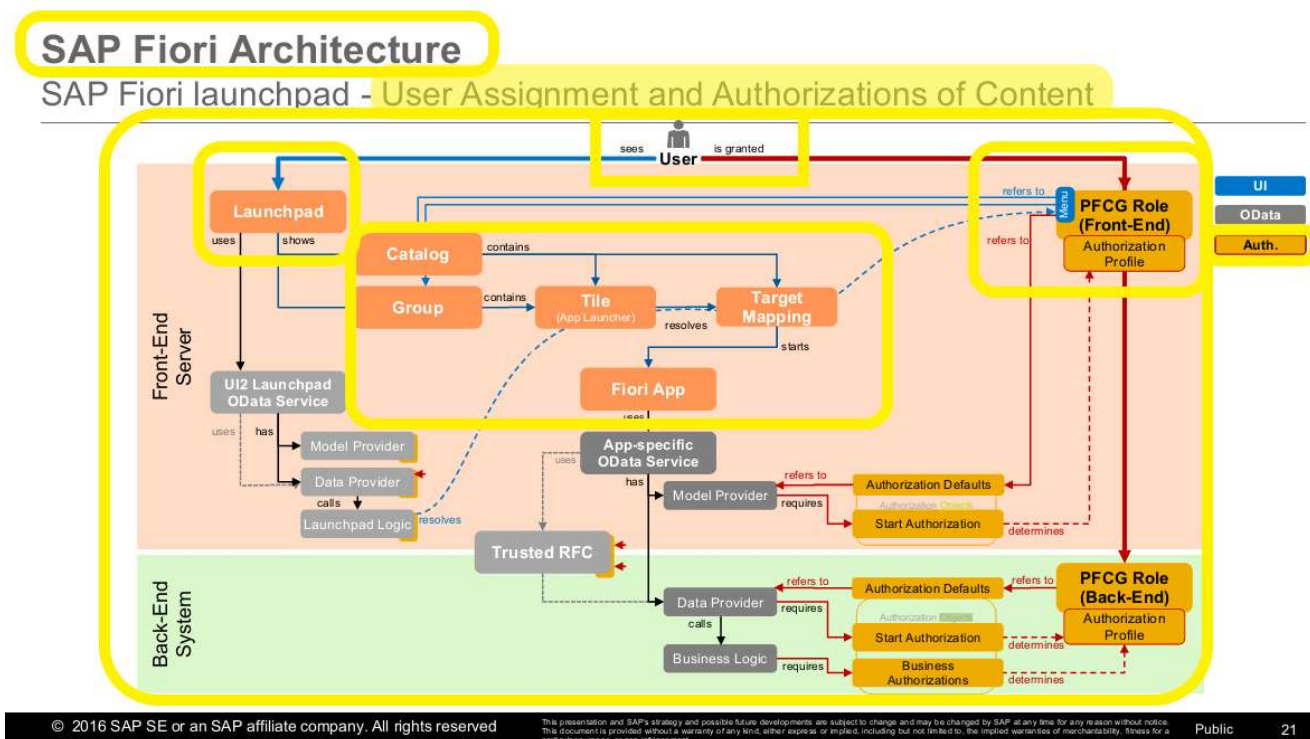
As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

37(f). E) if the user and the at least one user platform are authenticated in C),

The Accused Instrumentalities, following the user and device authentication, transmit all relevant information, which is accessible to the user via the app(s) available through SAP Fiori . The authorization is based on the user’s access rights corresponding to the user identity and platform identity, as shown by the

transmitting to the at least one user platform first authenticated channel information relating to at least one authorized channel of the plurality of channels implemented in A), based at least in part on information access rights and/or security protocols respectively associated with the corresponding plurality of channels, the user, and the at least one user platform, wherein at least a portion of the first authenticated channel information to be transmitted to the at least one user platform is selected based at least in part on the user profile and is transmitted to the at least one user platform without being requested by

excerpt below. The information transmitted for the applications in the Accused Instrumentalities is based on the user's profile information and automatically generated when the user logs into the system.

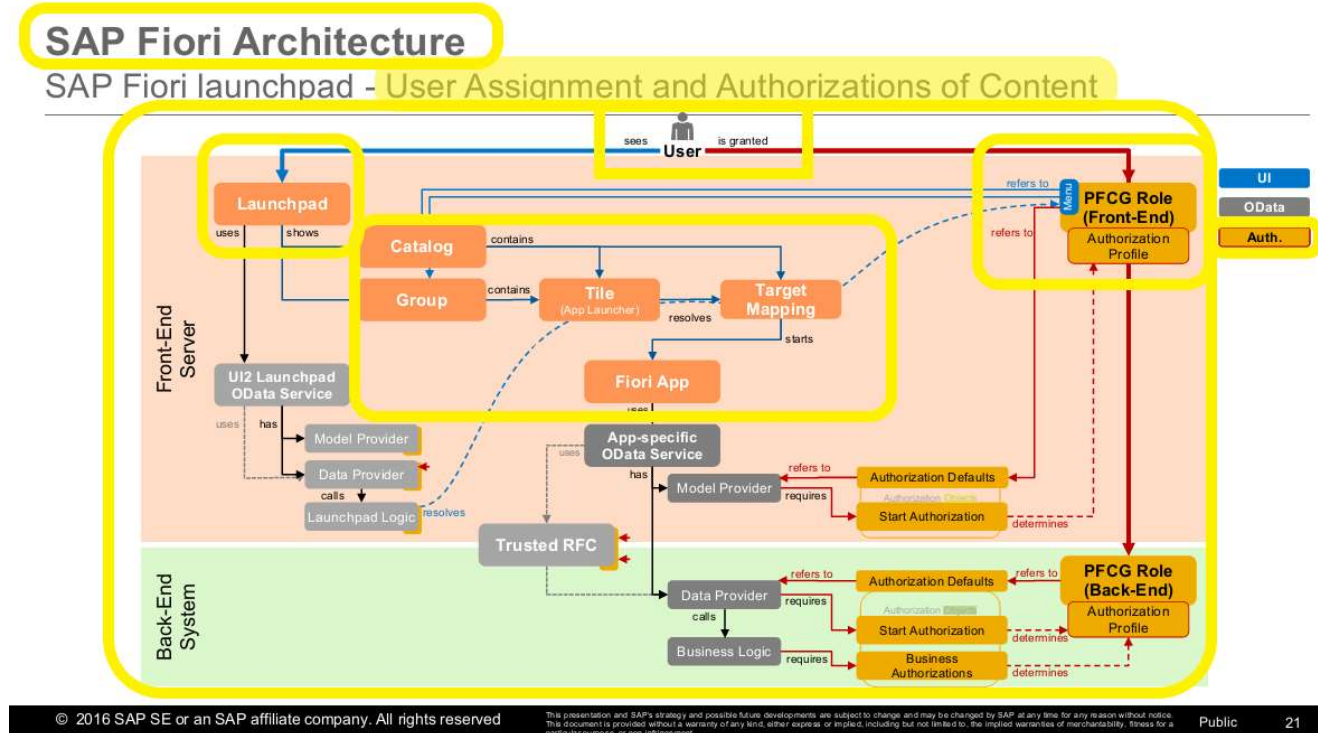


See also page 21 of SAP Fiori User Experience – SAP S/4HANA – Version 4.1 – August 2016

kupdf.net sap-fiiori-ux-architecture-for-s4h.pdf

The user will have therefore access to all relevant information via the application(s) through SAP Fiori without having to submit any requests; such information is provided according to the user's access rights corresponding to the user identity and platform identity.

the user, wherein the transmission of the first authenticated channel information to the at least one user platform is based in part on a bi-directional interrogation of the at least one authorized channel, wherein the bi-directional interrogation comprises the at least one authorized channel interrogating an identity management server, and wherein the bi-directional interrogation further comprises the identity management server and a web services gateway interrogating the at least one authorized channel, wherein the web services gateway is a tool through which the channel grid framework interacts



See page 21 of SAP Fiori User Experience – SAP S/4HANA – Version 4.1 – August 2016

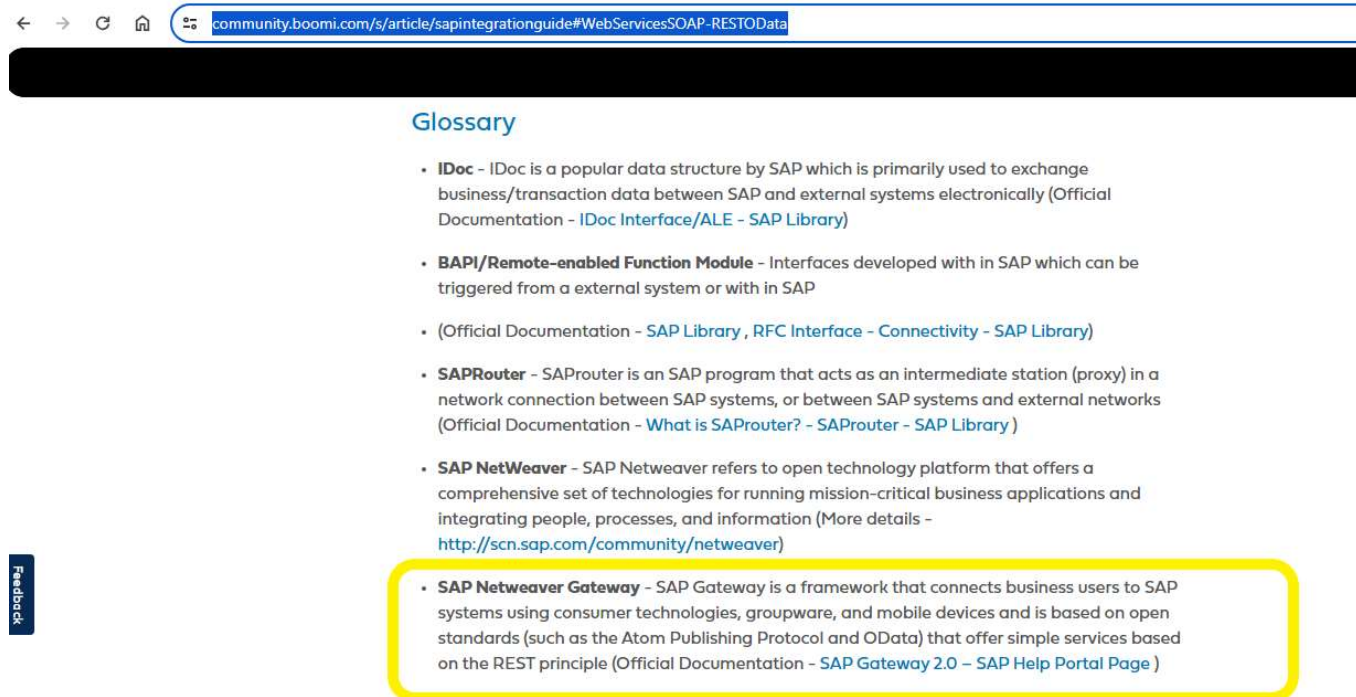
kupdf.net sap-fiori-ux-architecture-for-s4h.pdf

The Accused Instrumentalities receive relevant user information via applications accessible to the users through SAP Fiori is based in part on an exchange of queries of the authorized apps. The exchange of queries involves components used by the authorized app(s) interrogating the identity management server (which manages and control the user's identity and access privileges) and a web service gateway (which manages and facilitates communication between the user and backend services) interrogating the authorized app(s), wherein the web services gateway is a tool through which the channel grid framework or the Launchpad interacts with the identity management server. The Accused Products include applications that can bidirectionally

with the identity management server.

interrogate the identity management server that determines what and if the user centric information should be sent. The identity management server can be any component used to establish the identity of the user.

The following excerpt shows that “SAP Netweaver Gateway” is an example of a web services gateway, which facilitates communication between users’ platforms and SAP systems.



← → ↺ 🏠 ⓘ community.boomi.com/s/article/sapintegrationguide#WebServicesSOAP-RESTOData

Glossary

- **IDoc** - IDoc is a popular data structure by SAP which is primarily used to exchange business/transaction data between SAP and external systems electronically (Official Documentation - [IDoc Interface/ALE - SAP Library](#))
- **BAPI/Remote-enabled Function Module** - Interfaces developed with in SAP which can be triggered from a external system or with in SAP
(Official Documentation - [SAP Library](#) , [RFC Interface - Connectivity - SAP Library](#))
- **SAPRouter** - SAProuter is an SAP program that acts as an intermediate station (proxy) in a network connection between SAP systems, or between SAP systems and external networks (Official Documentation - [What is SAProuter? - SAProuter - SAP Library](#))
- **SAP NetWeaver** - SAP Netweaver refers to open technology platform that offers a comprehensive set of technologies for running mission-critical business applications and integrating people, processes, and information (More details - <http://scn.sap.com/community/netweaver>)
- **SAP Netweaver Gateway** - SAP Gateway is a framework that connects business users to SAP systems using consumer technologies, groupware, and mobile devices and is based on open standards (such as the Atom Publishing Protocol and OData) that offer simple services based on the REST principle (Official Documentation - [SAP Gateway 2.0 - SAP Help Portal Page](#))

Feedback

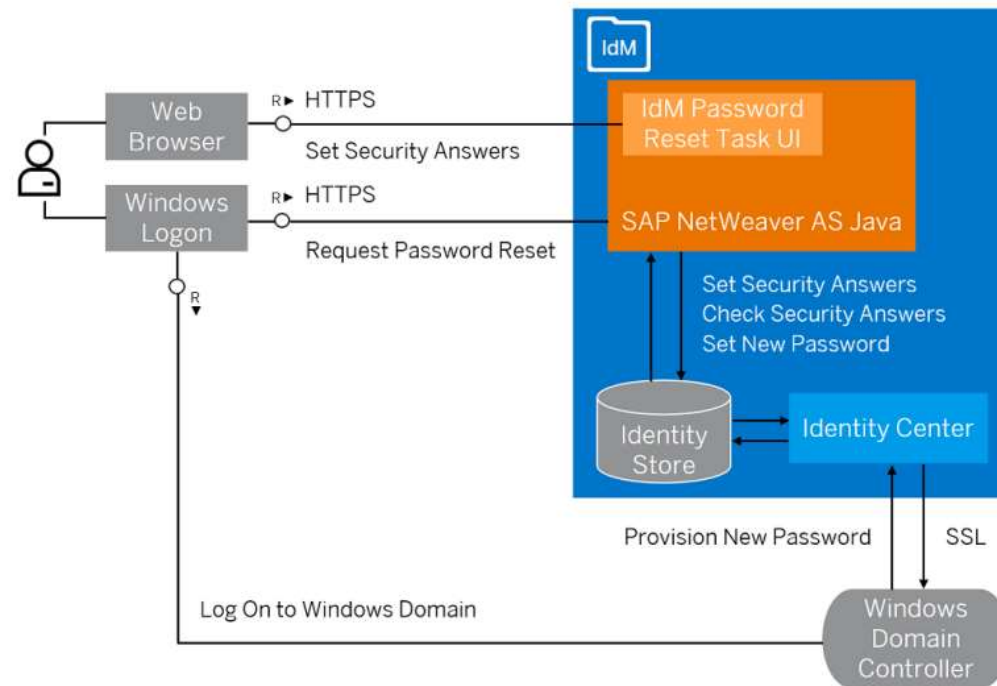
<https://community.boomi.com/s/article/sapintegrationguide#WebServicesSOAP-RESTOData>

The excerpt below shows the use of the “SAP Identity Management Identity Center.”

1.1 Technical System Landscape

SAP Identity Management Logon Help requires a system landscape with a Microsoft Windows domain and SAP Identity Management Identity Center.

Logon Help communicates with SAP Identity Management Identity Center to get the required information to enable password reset for users of Microsoft Windows.



Logon Help for SAP Identity Management Implementation Guide
Logon Help for SAP Identity Management Implementation Guide

PUBLIC 3

<https://help.sap.com/doc/4ae7f9f4a84949e1a03800f262d113da/8.0/enUS/loio266ffbab16b4493593160cd07f74745f.pdf>

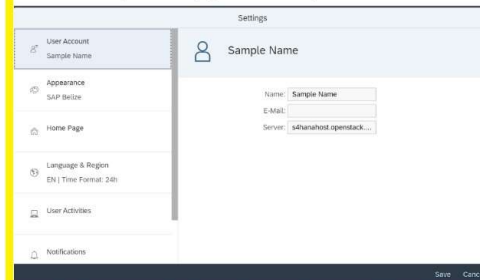
	As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
'285 Patent Claim 38	
38(a). The method of claim 37, wherein: the method further comprises establishing the user profile as part of an authentication directory including a plurality of user accounts, a plurality of device accounts, and a plurality of application accounts; and	See Claim 37, Claim 5, Claim 6, Claim 7, and Claim 10. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
38(b). C) comprises authenticating the user and the at least one user platform based at least in part on the plurality of user accounts and the plurality of device accounts included in the authentication directory; and the method further comprises	See Claim 37, Claim 5, Claim 6, Claim 7, and Claim 10. As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

authenticating specific ones of the plurality of channels based at least in part on the plurality of application accounts included in the authentication directory.	
‘285 Patent Claim 39	
39(a). The method of claim 38, wherein: at least one user account of the plurality of user accounts includes at least one entry comprising at least one of: a user name; a user password; a user email; a user mailstop; a user telephone number; a user mobile number; a user building; a user campus; and at least one user group; and	See Claim 38. The following excerpts show the username, email and service displayed in a Fiori user account and any additional settings useful to the user.

3256114 - How to change the username displayed in User Account in Fiori Launchpad

Symptom

You would like to change the name displayed in the User settings in Fiori



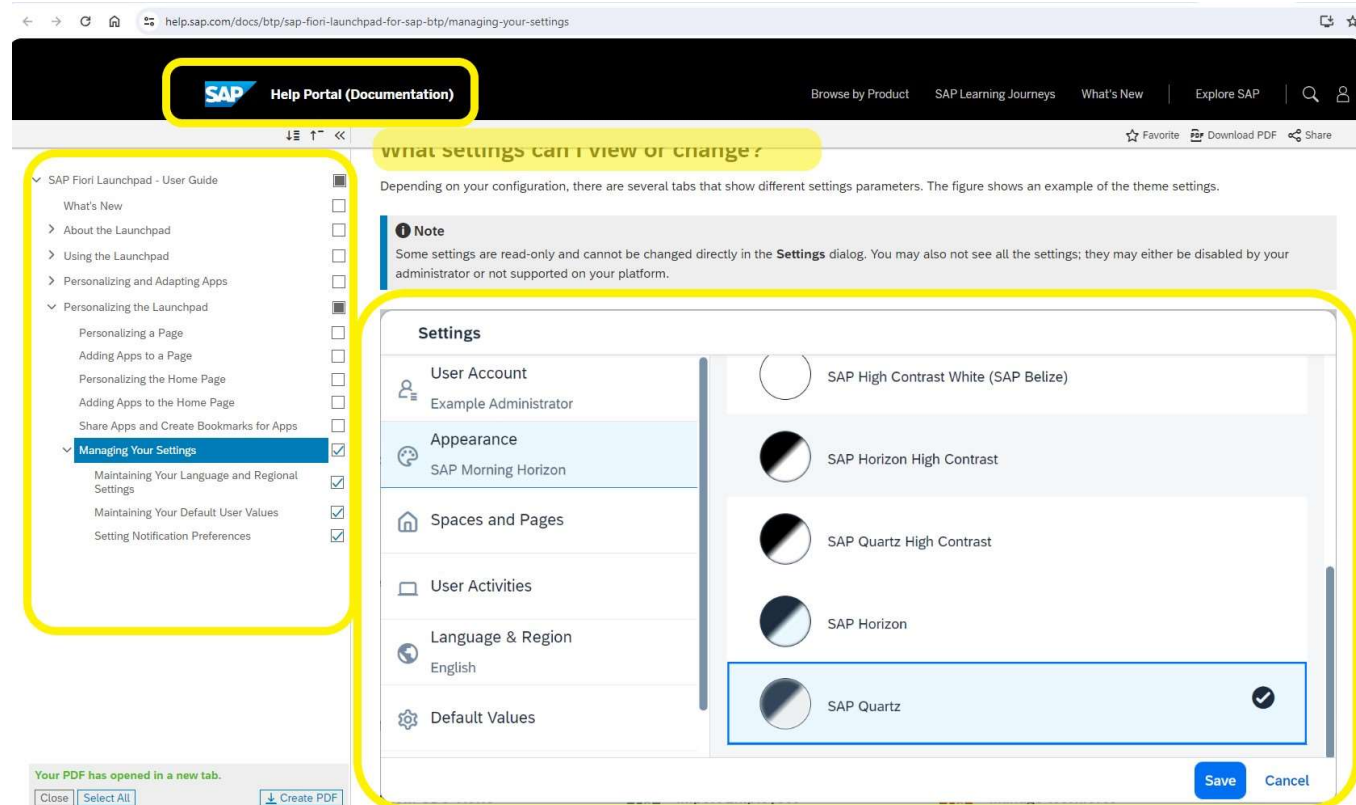
Image/data in this KBA is from SAP internal systems, sample data, or demo systems. Any resemblance to real data is purely coincidental.

[Read more...](#)

Environment

SAP Fiori - All versions

<https://userapps.support.sap.com/sap/support/knowledge/en/3256114>



<https://help.sap.com/docs/btp/sap-fiori-launchpad-for-sap-btp/managing-your-settings>

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

39(b). in C, the user is authenticated if the user identity matches the at least one entry.

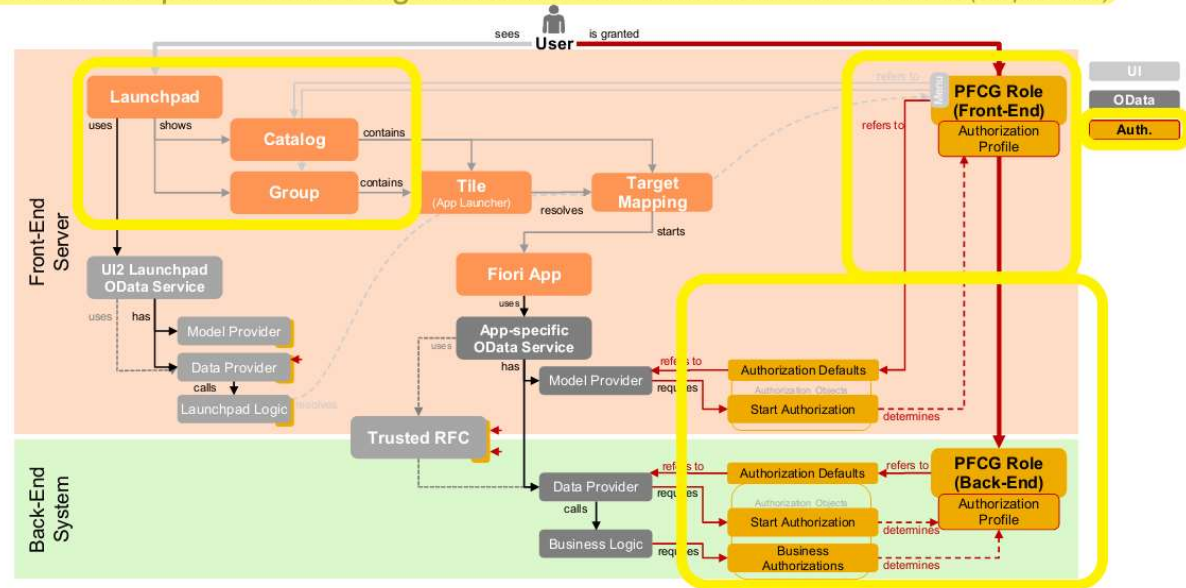
Claim 1, Claim 5, Claim 6, Claim 10, Claim 37, and Claim 38.

The following excerpt shows that the user is authenticated if the user identity matches the entry.

The user will have therefore access to all relevant information via the application(s) through the SAP Fiori ; such information is provided according to the user's access rights corresponding to the user identity and platform identity.

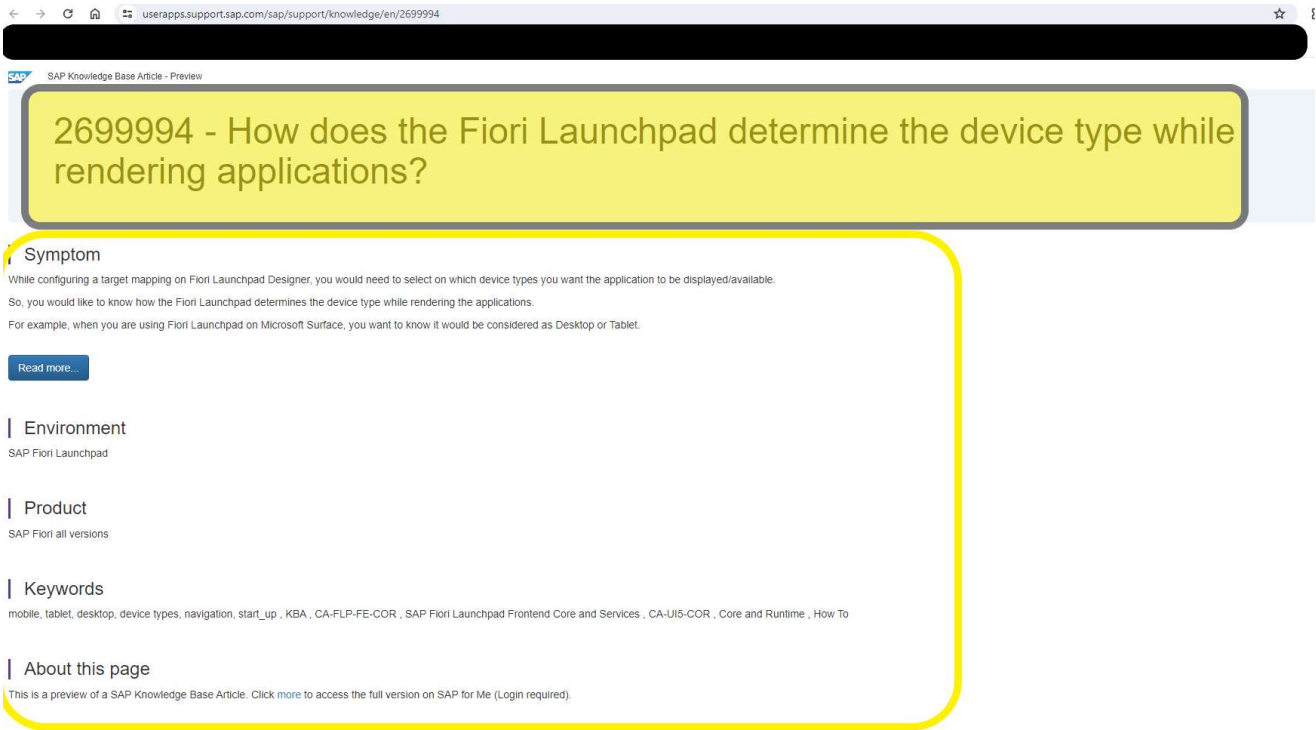
SAP Fiori Architecture

SAP Fiori launchpad - User Assignment and Authorizations of Content (on premise)



See page 23 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.3, October 2017,

See also page 21 of SAP Fiori User Experience – SAP S/4HANA – Version 4.1 – August 2016

	kupdf.net_sap-fiori-ux-architecture-for-s4h.pdf As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
‘285 Patent Claim 40	
40(a). The method of claim 39, wherein: at least one device account of the plurality of device accounts includes at least one entry comprising at least one of: a device name; a device type; a device manufacturer; a device model number; a device serial number; a device IP address; a device location; a device user; and a device password; and	Claim 1, Claim 5, Claim 6, Claim 10, Claim 37, Claim 38, and Claim 39. Further, the following excerpts below show that the user can select “which device types [the user] want the application to be displayed/available.” 

<https://userapps.support.sap.com/sap/support/knowledge/en/2699994>

← → ↻ 📑 📄 🌙 🌞 🌙 🌞 🌙 🌞

help.sap.com/doc/saphelp_nw73ehp1/7.31.19/en-US/1a/f0a13f145044089f5080218fd0d105/content.htm?no_cache=true

Show TOC

Device Group Manager Concepts

Use

The device group mechanism relies on the following three entities:

- Device groups
- Device types
- User agents

Device Groups

A device group is an object that contains one or more user agent definitions. The portal provides three predefined device groups: *Desktop*, *Smartphone*, and *Tablet*. Each device group is provided by default with its own user agent definitions. You can create new device groups or modify the predefined device groups if needed.

You can use device groups in a rule collection to determine which desktop to display at runtime for all user agents that match a specific device group. For more information, see [Configuring Desktop Display Rules for Mobile Devices](#).

Device Types

The portal provides three predefined device types: *Desktop*, *Smartphone*, and *Tablet*. By default, each device type is associated with a predefined device group. Each device group must be associated with a single device type, but multiple device groups can be associated with the same device type.

Device types cannot be modified, and you cannot add or remove them. However, you can specify which device groups they are associated with.

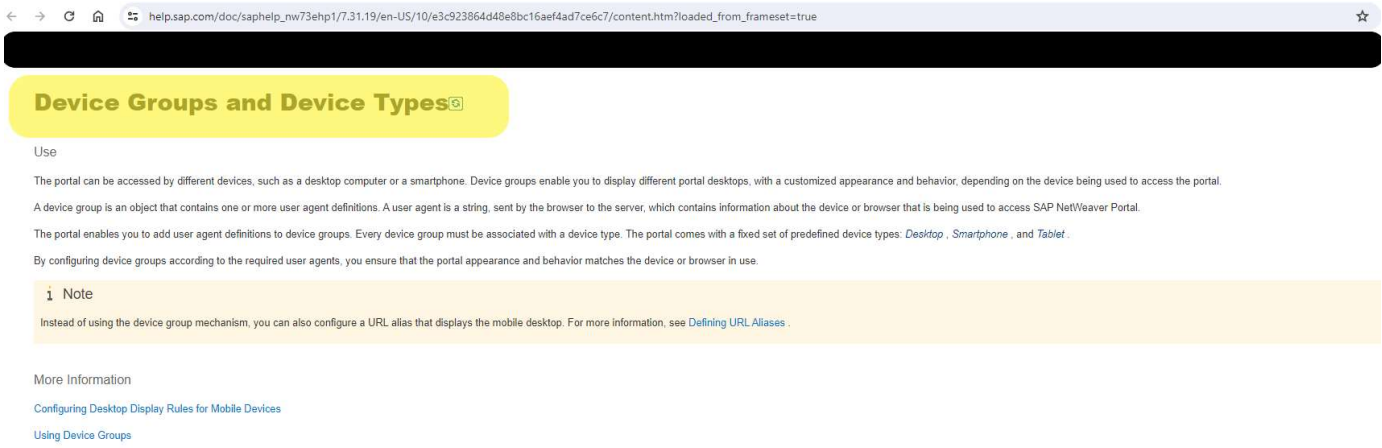
You can use device types in a rule collection to determine which desktop to display at runtime for user agents that match a device group with the specified type. Using device types (instead of device groups) in a rule collection enables you to assign the same desktop to more than one device group (of the same type) using a single IF statement. For more information, see [Configuring Desktop Display Rules for Mobile Devices](#).

You can also use device types if you need to refer to a static value in a custom-developed application, to enable specific behavior based on the type of device being used to access the portal.

User Agents

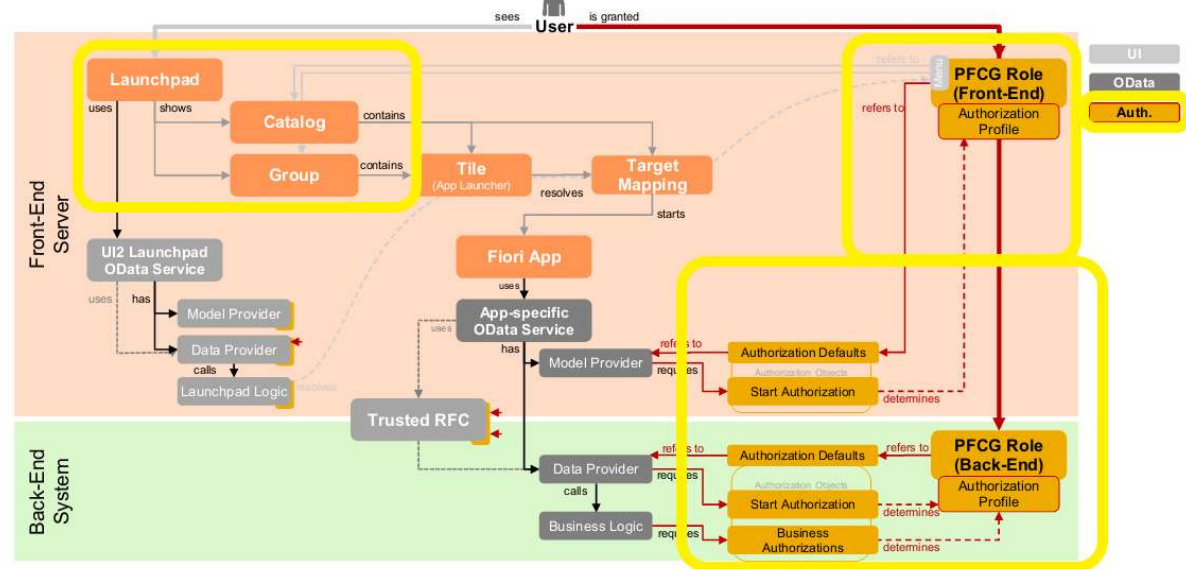
A user agent is the string sent by the device or browser that is used to access SAP NetWeaver Portal. The portal enables you to group different types of end user access devices by adding their user agent definitions to device groups. A user agent definition defines an access device, either by an explicit string, such as Mozilla/5.0 (Linux; U; Android 2.3.4; fr-fr; HTC Desire Build/GRJ22) AppleWebKit/533.1 (KHTML, like Gecko) Version/4.0 Mobile Safari/533.1, or by using regular expression syntax. For example, the regular expression `Android 2\.` matches both `Android 2.3.4` and `Android 2.3.5`.

https://help.sap.com/doc/saphelp_nw73ehp1/7.31.19/en-US/1a/f0a13f145044089f5080218fd0d105/content.htm?no_cache=true

	 The screenshot shows a web browser window with the URL: https://help.sap.com/doc/saphelp_nw73ehp1/7.31.19/en-US/10/e3c923864d48e8bc16aef4ad7ce6c7/content.htm?loaded_from_frameset=true. The page title is "Device Groups and Device Types". The content includes a "Use" section explaining that the portal can be accessed by different devices (desktop, smartphone) and that device groups enable displaying different portal desktops. It also mentions that a device group is an object containing one or more user agent definitions. A "Note" section states that instead of using the device group mechanism, a URL alias can be configured to display the mobile desktop. At the bottom, there are links for "More Information", "Configuring Desktop Display Rules for Mobile Devices", and "Using Device Groups". https://help.sap.com/doc/saphelp_nw73ehp1/7.31.19/en-US/10/e3c923864d48e8bc16aef4ad7ce6c7/content.htm?loaded_from_frameset=true As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
40(b). in C, the user platform is authenticated if the platform identity matches the at least one entry.	Claim 1, Claim 5, Claim 6, Claim 10, Claim 37, Claim 38, and Claim 39. The following excerpt (cited previously in other claims) shows that the user is authenticated if the platform identity matches the entry. The user will have therefore access to all relevant information via the application(s) through SAP Fiori ; such information is provided according to the user’s access rights corresponding to the user identity and platform identity.

SAP Fiori Architecture

SAP Fiori launchpad - User Assignment and Authorizations of Content (on premise)



© 2017 SAP SE or an SAP affiliate company. All rights reserved. | PUBLIC

This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

23

See page 23 of SAP Fiori User Experience – SAP S/4HANA Architecture Deep Dive, Version 4.3, October 2017,

See also page 21 of SAP Fiori User Experience – SAP S/4HANA – Version 4.1 – August 2016

kupdf.net_sap-fiori-ux-architecture-for-s4h.pdf

As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

‘285 Patent Claim 42	
42(a). At least one non-transitory computer readable storage medium storing processor-executable instructions that, when executed by at least one processor, perform a method for providing secure user-centric information via a plurality of user platforms operated by a user, the method comprising:	The Accused Instrumentalities include a non-transitory computer readable media with computer readable instructions because they are applications stored on non-transitory mediums, such as hard drives, both by SAP and the customers of SAP. This software can be stored on one computer system or distributed over multiple computer systems. When the processor carries out the instructions stored in the computer readable media, this computer readable media in the Accused Instrumentalities provides secure user-centric information through the user platforms operated by the user. The excerpt below shows examples of different platforms operated by a user that provide secure user-centric information to the user through the Accused Instrumentalities. See page 2 of SAP Fiori tutorialspoint (https://pdfcoffee.com/sap-fiori-pdf-free.html). The following describes how the Accused Instrumentalities host and provide forms through SAP Fiori application content.

	See SAP Fiori – Installation webpage, (https://www.tutorialspoint.com/sap_fiori/sap_fiori_installation.htm); <i>see also</i> https://help.sap.com/docs/SAP_FIORI_OVERVIEW/9b4ee51ce91e4a9cadd5e6d43c2992ba/260a16bb03a34316ba17503beec31ccc.html. As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
42(b). A) Implementing a channel grid framework including a matrix of a plurality of channels through which the user receives and/or interacts with, via the plurality of user platforms, respective portions of the secure user-centric information, wherein implementing the plurality of channels comprises synchronizing functions and features of one or more of the plurality of channels across two or more of the plurality of user platforms by	See Claim 37, element starting with “Implementing a channel grid framework including a matrix of a plurality of channels . . .” As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.

deploying the secure user-centric information to two or more of the plurality of user platforms;	
42(c). B) establishing a user profile identifying user preferences, platform identities, and service support instructions that determine how the secure user-centric information behaves on at least one platform of the plurality of user platforms;	See Claim 37, element starting with “establishing a user profile identifying user preferences . . .” As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
42(d). C) receiving, from at least one user platform of the plurality of user platforms, a user identity for the user and a platform identity for the at least one user platform;	See Claim 37, element starting with “receiving, from at least one user platform of the plurality of user platforms . . .” As described above, this element’s functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
42(e). D) authenticating the user and the at least one user platform to	See Claim 37, element starting with “authenticating the user. . .”

receive the secure user-centric information based at least in part on the user identity and the platform identity; and	As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
42(f). E) if the user and the at least one user platform are authenticated in C), transmitting to the at least one user platform first authenticated channel information relating to at least one authorized channel of the plurality of channels implemented in A), based at least in part on information access rights and/or security protocols respectively associated with the corresponding plurality of channels, the user, and the at least one user platform, wherein at least a portion of the	See Claim 37, element starting with "if the user and the at least one user platform are authenticated in C). . ." The Accused Instrumentalities receive relevant user information via applications accessible to the users through SAP Fiori is based in part on an exchange of queries of the authorized apps. The exchange of queries involves components used by the authorized app(s) interrogating the identity management server (which manages and control the user's identity and access privileges) and a web service gateway (which manages and facilitates communication between the user and backend services) interrogating the authorized app(s), wherein the web services gateway is a tool through which the channel grid framework or the Launchpad interacts with the identity management server. The Accused Products include applications that can bidirectionally interrogate the identity management server that determines what and if the user centric information should be sent. The identity management server can be any component used to establish the identity of the user. The following excerpt shows that "SAP Netweaver Gateway" is an example of a web services gateway, which facilitates communication between users' platforms and SAP systems.

first authenticated channel information to be transmitted to the at least one user platform is selected based at least in part on the user profile and is transmitted to the at least one user platform without being requested by the user, wherein the transmission of the first authenticated channel information to the at least one user platform is based in part on a bi-directional interrogation of the at least one authorized channel, wherein the bi-directional interrogation comprises the at least one authorized channel interrogating an identity management server, and wherein the bi-directional interrogation further comprises the identity

community.boomi.com/s/article/sapintegrationguide#WebServicesSOAP-RESTOData

Glossary

- **IDoc** - IDoc is a popular data structure by SAP which is primarily used to exchange business/transaction data between SAP and external systems electronically (Official Documentation - [IDoc Interface/ALE](#) - [SAP Library](#))
- **BAPI/Remote-enabled Function Module** - Interfaces developed with in SAP which can be triggered from a external system or with in SAP
- (Official Documentation - [SAP Library](#) , [RFC Interface](#) - [Connectivity](#) - [SAP Library](#))
- **SAPRouter** - SAProuter is an SAP program that acts as an intermediate station (proxy) in a network connection between SAP systems, or between SAP systems and external networks (Official Documentation - [What is SAProuter?](#) - [SAProuter](#) - [SAP Library](#))
- **SAP NetWeaver** - SAP Netweaver refers to open technology platform that offers a comprehensive set of technologies for running mission-critical business applications and integrating people, processes, and information (More details - <http://scn.sap.com/community/netweaver>)
- **SAP Netweaver Gateway** - SAP Gateway is a framework that connects business users to SAP systems using consumer technologies, groupware, and mobile devices and is based on open standards (such as the Atom Publishing Protocol and OData) that offer simple services based on the REST principle (Official Documentation - [SAP Gateway 2.0](#) - [SAP Help Portal Page](#))

Feedback

<https://community.boomi.com/s/article/sapintegrationguide#WebServicesSOAP-RESTOData>

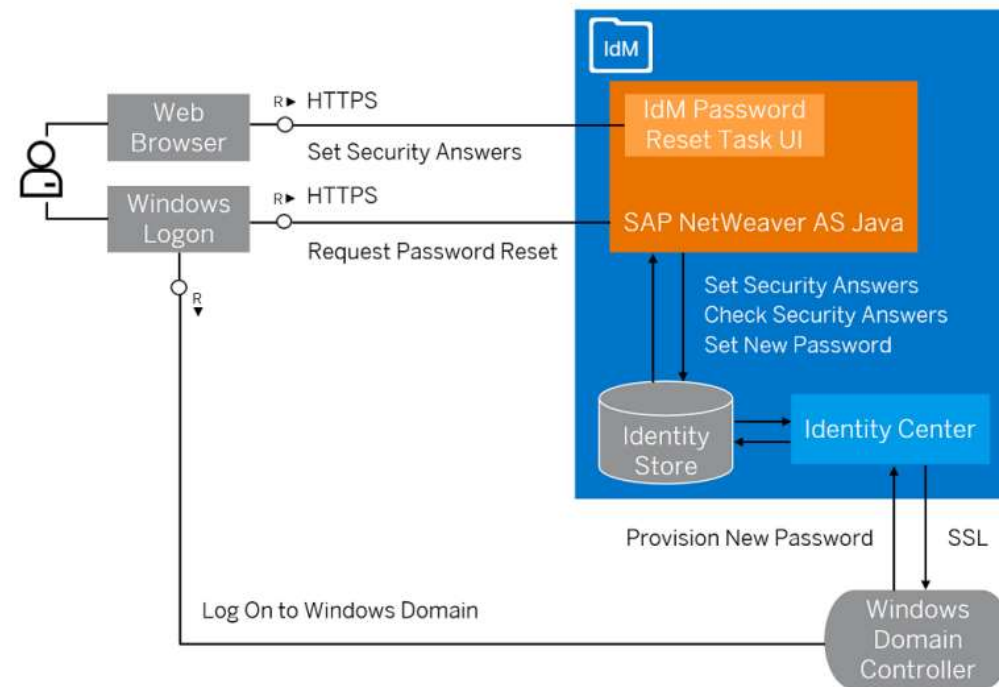
The excerpt below shows the use of the “SAP Identity Management Identity Center.”

management server and a web services gateway interrogating the at least one authorized channel, wherein the web services gateway is a tool through which the channel grid framework interacts with the identity management server.

1.1 Technical System Landscape

SAP Identity Management Logon Help requires a system landscape with a Microsoft Windows domain and SAP Identity Management Identity Center.

Logon Help communicates with SAP Identity Management Identity Center to get the required information to enable password reset for users of Microsoft Windows.



Logon Help for SAP Identity Management Implementation Guide
Logon Help for SAP Identity Management Implementation Guide

PUBLIC 3

<https://help.sap.com/doc/4ae7f9f4a84949e1a03800f262d113da/8.0/enUS/loio266ffbab16b4493593160cd07f74745f.pdf>

	As described above, this element's functions may be performed through software in the Accused Instrumentalities. As such, Cyandia reserves the right to supplement its response once Defendants make source code for the Accused Instrumentalities available for inspection.
--	--