

CLOUD SERVICE PROVIDER



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ABSTRACT

Being a cloud service provider, the scope of this project is to implement cloud services on an 'existing ERP system'. We are assuming the existing ERP system to be SAP. We have identified 3 products - Fiori, Solution Manager and HANA Cockpit. The design of the system is an application service provider of the same vendor SAP. Using cloud services, the accessibility

increases and people from all location can connect on the web on different instances.

SAP Fiori is a hybrid cloud designed for SAP systems which has apps involved for a better user experience while working on SAP platform. Any SAP functional model be it FICO, MM, PP, SCM, HR etc. can be moved to a cloud-based Fiori platform to work with. It has the same functionality as an SAP logon application but with better readability and dashboard like experience. SAP Fiori is used by end users. Troubleshooting would be taken care by admin users and access would be given by those taking care of security.

SAP Fiori solution manager is tool used by administrative users. It is a one stop cloud application to connect all your SAP systems on a centralized system that allows end to end life cycle management. This system would keep track of overall health of all the systems. Using solution manager, one can get early alerts and raise incidents to the SAP support portal and use it for Change request management.

HANA Cockpit is also an administration tool to take care of all database needs right from monitoring, upgrades, user management, alert configuration, license management, load analysis and backups. This is a level up from HANA Studio used traditionally as an on-premise tool.

SAP FIORI HYBRID CLOUD SCOPE

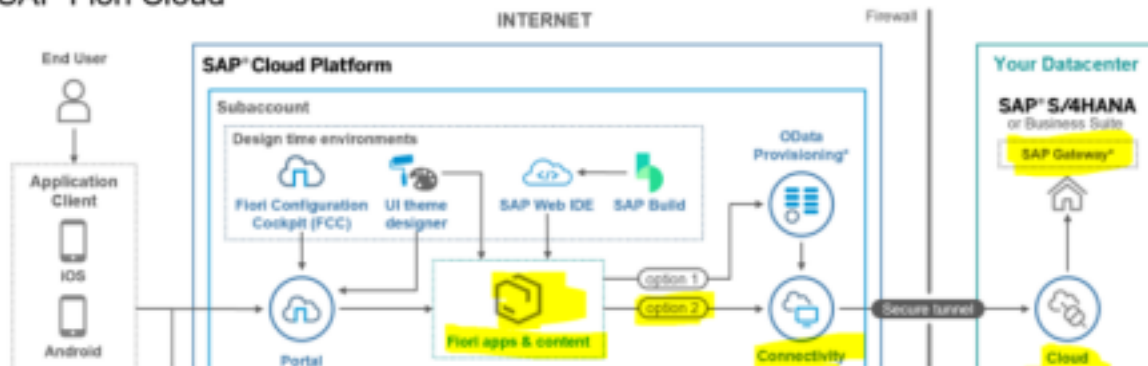
SAP Fiori Cloud for SAP S/4HANA enables user to experience, customize, and run SAP Fiori apps in the cloud, connected to the on-premise landscape for productive usage. This cloud deployment option simplifies SAP Fiori implementation and accelerates time-to-value while leveraging existing investment. SAP Fiori Cloud provides end-to-end SAP Fiori technology infrastructure. The enterprise-ready front-end system runs on SAP Cloud Platform, SAP's in-memory cloud platform for cloud integration and extension. The business data and business logic are consumed through a secure channel to the on-premise SAP back end system that is provided by the SAP Cloud Platform cloud connector. A selection of deployment options ensures simple integration into existing customer landscapes and security policies. SAP releases the SAP

Fiori apps for SAP Fiori Cloud based on **usage and demand**. In addition, cloud-based tools and services provided by SAP enable you to develop custom apps or extend and customize available SAP Fiori apps. The implementation would be a phased rollout by modules

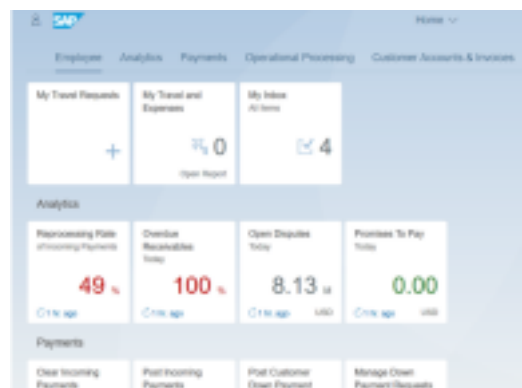
The above documentation is taken from

<https://help.sap.com/viewer/e37f3c54603c4647b0b5d73c870f6223/SAP%20Fiori%20Cloud/en-US>

SAP Cloud Platform Solution Diagram Examples SAP Fiori Cloud



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SAP FIORI LAUNCHPAD IMPLEMENTATION WORKFLOWS AND REPORTS

Black boxes are work flows

Blue boxes are reports generated

WORKFLOWS REPORTS

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Use SAP notes report from the support portal to understand what are the requirements for installation

Check the front and back end components from fiori app library if these packages are available in the GUI, install if needed

Support pack manager report



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SAP FIORI FUNCTIONAL SYSTEM REQUIREMENT

1. Register to SAP Fiori Cloud
2. Pre-configured account on SAP HANA Cloud Platform
3. NetWeaver Gateway Server version should be NW 7.31 SPS04 or higher/ NW 7.4 SPS04 or higher.
4. NW Central UI add-on version should be NW 7.31 SPS04 or higher/ NW 7.4 SPS04 or

higher.

5. Business Suite UI add-on **Back-end Business suite add-ons (for ECC, CRM, SRM, etc.)**

Types of Fiori Apps

1. **Transactional apps**, which allow users to perform SAP transactions on mobile devices as well as desktops.
2. **Fact sheets**, which display information about key business objects in SAP
3. **Analytical apps**, which allow users to display key performance measures and other aggregate information about the business.

Fiori Features

1. Fiori Enterprise Search
2. Fiori Notifications
3. Fiori Default Values
4. Fiori Personalization
5. User Assistance

SAP FIORI NON-FUNCTIONAL SYSTEM REQUIREMENT

Performance

1. 20,000 records extraction in 22 seconds in both quality and production
2. Regular deletion of redundant apps
3. Deletion of cache
4. Component preload.js
5. HTTP compression like HTTP Watch, Network Trace from Chrome Developer tools
6. High internet download speed
7. Workload: It can handle 997 clients with 3 default clients
8. Middleware configuration: Database connection pool size is 8 and Fiori-tools-proxy middleware

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Accessibility support is incorporated at two levels:

1. **Framework level:** Many fundamental accessibility features are built into the core design elements up front and are available to app teams out of the box. This ensures consistency across all products.
2. **App level:** Some accessibility features need to be added or adapted to reflect app-specific context. These need to be considered whenever you design an app.



Fiori Troubleshooting

1. Clear Metadata cache
2. Clear server-side cache
3. Synchronize chip cache
4. Reactivate OData service

Help Notes

1. [2170223](#) – General Information: FIORI UI Infrastructure Components Q3/2015, Q4/2015 and Q1/2016
2. [2207719](#) – Central Note for SAP Fiori Launchpad – UI Add-On 1.0 SP14 or higher
3. [1935915](#) web browsers must be able to display files in HTML5 format

TECHNICAL REQUIREMENTS FOR FIORI IMPLEMENTATION

1. Landscape embedded front and back end installed
 - Front end (Gateway Server UI components)
 - Back end
 - Database
2. Central Hub different front and backend UI addons
3. SAP UI5 1.28 or higher
4. Methods for load balancing are to manage web traffic by having 2 web dispatchers



METRICS FOR EFFECTIVE FIORI LAUNCHPAD

1. Non disruptive adoption equal number of views and headers
2. Data consistency
3. Instant Insights
4. Process Optimization
5. Speed of the system
6. Improved real time decision making
7. Improved customer service level
8. Minimize exception Handling

QUALITY AND AUDIT CONTROL FOR FIORI LAUNCHPAD

1. Flexibility to change across business environment
2. Better user experience
3. Innovative Application
4. Comprehensive full functional scope
5. Simplified data model

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HUMAN RESOURCE REQUIREMENT FOR FIORI

A Manager with minimum 2 employees with SAP BASIS experience and training in Fiori App implementation, creation and troubleshooting would be enough to start a cloud platform. Also 1 employee would be needed from SAP Security for user creation, role authorization and regular password maintenance. Along with this we would be having some consultants and SME's for

implementation.

INFRASTRUCTURE REQUIREMENT

RFC and HTTP service activation	HTTP service for web GUI	HTTP Service for SAP Fiori	SAP Fiori System Services	Enterprise search Services
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/UI2/FIORI – node group	/sap/public/bc/ui5_ui5	p/webgui_serv ices	/sap/bc/ui5_ui5/sap/s	/sap/bc/webdynpro/sap/e
/SAP/OPU/ODA TA/*	/sap/public/bc/ur	/sap/public/my ssoctl	brt_appss1	sh_eng_wizard
/SAP/PUBLIC/IC MAN	/sap/public/bc/icf/ logoff	/sap/bc/webdynpro/s	/UI2/EASY_ACCES	/sap/bc/webdynpro/sap/e
/SAP/PUBLIC/IC	/sap/bc/ui5_ui5/ui 2	ap/SUI_TM_MM_A PP	S_MENU	sh_search_results_ui
F_INFO/*	/sap/public/bc/ ur	/sap/bw/ina	/UI2/USER_MENU	/sap/bc/webdynpro/sap/
/sap/bc/ui2/nwbc	/sap/public/bc/ icons	/sap/bw/ina/GetServe rInfo	SMART_BUSINESS	wdhc_help_center
/sap/bc/ui2/start_up	/sap/public/bc/ icons_rtl	/sap/bw/ina/GetResp onse	_RUNTIME_SRV	/sap/es/cockpit
/sap/bc/ui5_ui5/sa	/sap/public/bc/ webicons	/sap/bw/Mime	SMART_BUSINESS	/sap/es/saplink
p/ar_srvc_launch	/sap/public/bc/ pictograms	/sap/bc/ui5_ui5/sap/s	_DESIGNTIME_SR V	/sap/es/search
/sap/bc/ui5_ui5/sa	/sap/public/bc/ webdynpro	sbtileslibs1	ESH_SEARCH_SR V	/sap/es/ina/GetResponse
p/ar_srvc_news	/sap/bc/gui/sap /its/webgui	/sap/bc/ui5_ui5/sap/s	RSOA_ODATA_SR V	/sap/es/ina/GetServerInf o
/sap/bc/ui5_ui5/sa	/sap/bc/gui/sap	sbtileless1	/sap/bc/webdynpro/sap/e	/sap/es/ina/Loader
p/arsrvc_upb_ad mn	/its/typeahead	/sap/bc/bsp/sap/sakp	sh_admin_ui_componen t	
/sap/bc/ui5_ui5/ui 2/ushell	/sap/public/bc/ its/mimes	_genui_a_s1	/sap/bc/webdynpro/sap/e	
/sap/public/bc/ui2	/sap/bc/apc/sa		sh_eng_modelling	

PLAN FOR FIORI LAUNCHPAD IMPLEMENTATION

Time	Plan
2.5 weeks	Team formation
2 weeks	Gap implementation
1 month	Training
1 week	Installation
1 week	Customization of Apps
2 months	Beta testing and troubleshooting

SAP FIORI TRAINING NEEDS

**Need for training: Required
Before ERP Implementation**

1. Train users on the new user experience
2. Enable digital transformation
3. Run sample test for the employees

Integration of Operations

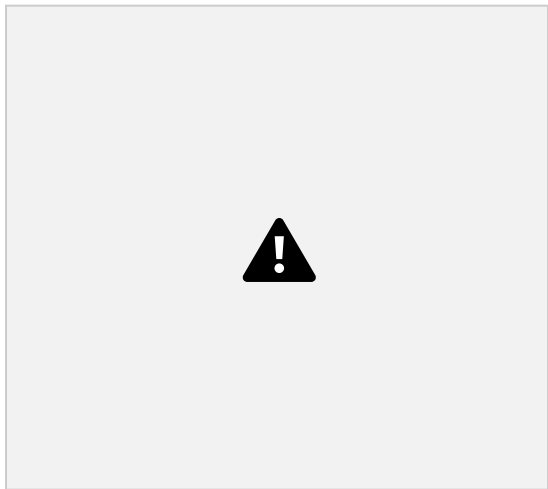
1. Technical upgrades to the latest release for customers
2. Establishing common goals and performance measures
3. Monitoring tools
4. Problem solving skills

Operation Supported by ERP

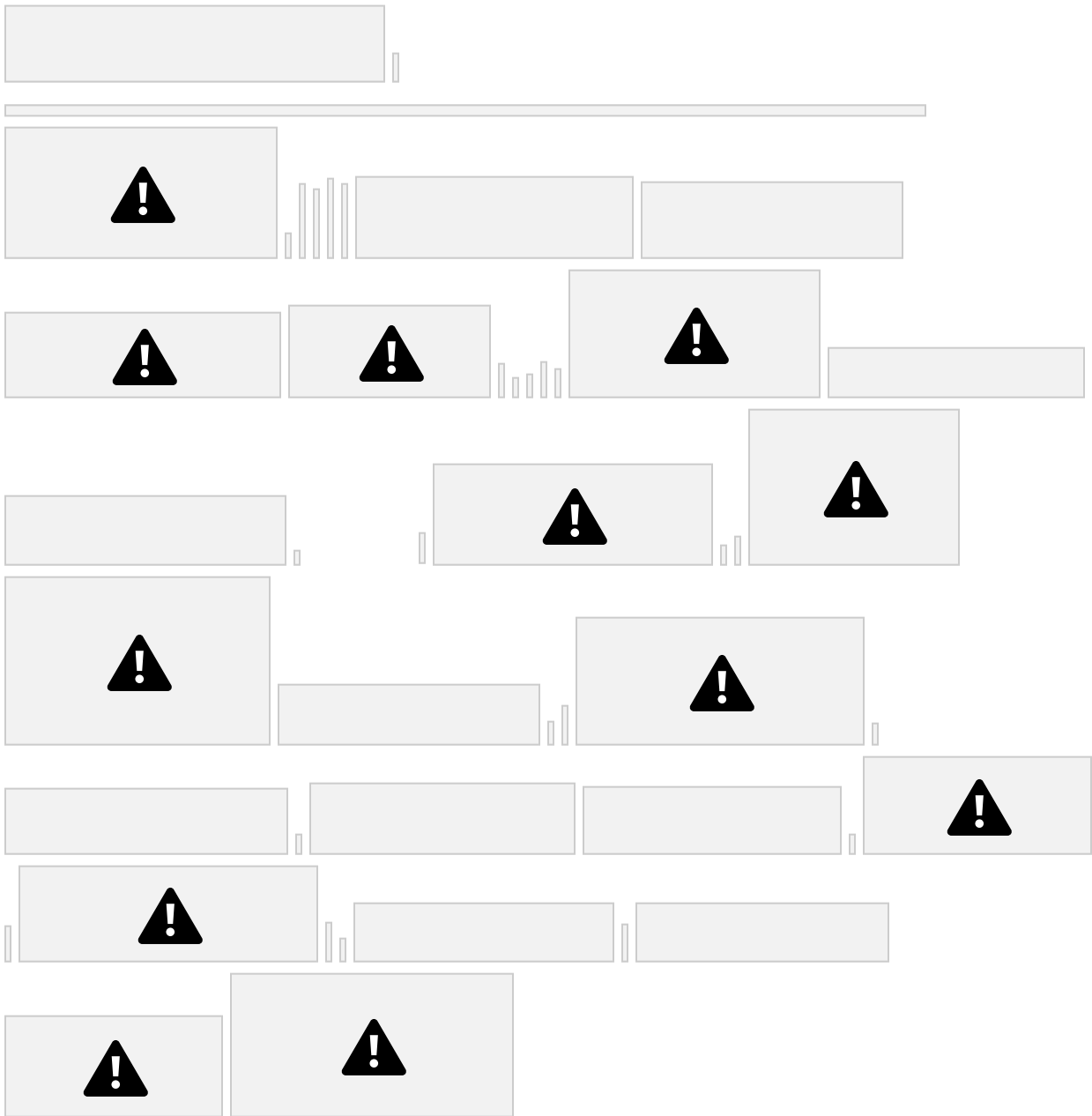
1. Hiring trainers
2. Functional Training based on module in fiori (End Users)
3. BASIS training in Fiori for app configuration, fiori architecture, troubleshooting, error analysis, OSS creation and note implementation (Admin users)
4. Security Training in Fiori for user creation, role authorization and regular password maintenance (Admin users)
5. Power users such as Team leads as functional heads
6. Training for managers and top management

the SQL development capabilities required by administrators. SAP HANA cockpit, a Web-based HTML5 user interface that can be accessed through a browser, runs on SAP HANA extended application services, advanced model (XS advanced). It runs on HANA 2.0 or SAP HANA 1.0 SPS 12. The SAP HANA cockpit provides aggregate, system and database administration features, for example, database monitoring, user management, and data backup. Administrators can use the SAP HANA cockpit to start and stop services, to monitor the system, to configure system settings, and to manage users and authorizations. Through the **Cockpit Manager**, the cockpit administrator, need to register resources and create groups of resources that other cockpit users will be able to access with SAP HANA cockpit. A resource is an SAP HANA system, identified by a host and instance number. Integrated into the cockpit is the SAP HANA database explorer. The database explorer provides the ability to query information about the database using SQL and MDX statements, as well as the ability view information about your database's catalog objects. The implementation would be a mini big bang by connecting all the systems followed by adding the configurations later.





SAP HANA COCKPIT WORKFLOW





SUBACTIVITIES FUNCTIONS

Most SAP systems start with
activities one may use this to

Add the multi-tenant databas

Number of transactions block

Number of successful statem

Number of smallest sequence

Size of Cache

Used to configure alerts to be

Swap are virtual memory sto

Shows the database logs and

Understands the issues in the

Start/Stop SAP system

Configure system and test connection

Blocked transactions Statement Hits

Threads

SQL Plan Cache

Alert Configuration

% database space and swap Logs and traces

Diagnosis and resolution



Role Authorization This is to give access to db users

Work load management Load balancing

Backup Full is the entire system backup while incremental backup only adds the backup of the new changes and adds it to the existing backup

HANA COCKPIT FUNCTIONAL SYSTEM REQUIREMENT

The following are installed in a single software stack

1. Create connections to DBA cockpit
2. Web based HTML5 User interface browser/ Extended Application Server Advanced Model
3. Require a multi-container data base HANA 2.0 SPS 12
4. Index Server (most important with actual data)
5. Name Server
6. Compile Server
7. Preprocessor (unstructured)
8. Web Dispatcher (HTTP/HTTPS)
9. Script Service
10. Document Store Server
11. XS Advanced Runtime (Extended Application Service)
12. HDI Server
13. XS Classic Server
14. Extended Store Server
15. Data Provisioning Server
16. SAP HANA remote data sync
17. XSA Multitarget application

HANA Cockpit Features

1. Administration and Monitoring
2. SAP HANA Database Explorer
3. Performance Monitoring and Analysis
4. User Permissions Management and Security Administration
5. High Availability and Scalability
6. Backup and Recovery
7. Start & Stop Critical Services
8. Host Fail-over
9. Offline administration of the HANA database

HANA COCKPIT NON-FUNCTIONAL SYSTEM REQUIREMENT

HANA Cockpit can be accessed through our web browser



1. Run production system on HANA certified platform
2. Update to latest versions (this can be automatically updated)
3. Monitor and forecast database growth
4. Offload less frequently accessed data
5. Read/Write trigger ratio close to 0
6. Client level to be same or higher than server level
7. Data backup can be full, incremental or differential
8. Database connection pool size is 8

TECHNICAL REQUIREMENT FOR HANA COCKPIT

There are 4 layers

1. Default Layer
2. System Layer
3. Host Layer
4. Database Layer

Technical requirements are

1. Memory: Minimum 16 GB RAM
2. Hard disk: 16GB of disk space

3. OS: Linux, 7.2 SAP HANA (minimum version)
4. Web Browser: Chrome, Firefox, Edge, Safari, Internet Explorer 2
5. Supported hardware platforms: Intel and IBM Power system

Linux Network Parameters

- `net.core.somaxconn = 4096`
- `net.core.netdev_max_backlog = 4096`
- `net.ipv4.tcp_max_syn_backlog = 8192`
- `net.ipv4.ip_local_port_range = 1024 65536`
- `net.ipv4.tcp_tw_reuse = 1`
- `net.ipv4.tcp_tw_recycle = 1`
- `net.ipv4.tcp_timestamps = 1`
- `net.ipv4.tcp_syn_retries = 8`
- `net.core.rmem_max = 16777216`
- `net.core.wmem_max = 16777216`
- `net.ipv4.tcp_wmem = 4096 87380 16777216`
- `net.ipv4.tcp_rmem = 4096 87380 16777216`

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SAP HANA Parameters

- `maxchannels = 20000` up to 40000
- `maxendpoints = 20000` up to 40000
- `tcp_backlog = 2048`
- `handles = 40000` (≤ 122.01)

METRICS FOR EFFECTIVE RUNNING OF HANA COCKPIT

1. Performance
2. Connectivity
3. Persistence of historical data
4. Speed between multiple host (how fast data is being transferred from host to host)
5. RSDU_TABLE_CONSISTENCY which checks the consistency of table properties on HANA with the specific needs and restrictions defined by the SAP BW application.
6. Optimized Table Redistribution

QUALITY AND AUDIT CONTROL OF HANA COCKPIT

1. User's authorization changes
2. Creating or deleting database objects
3. Authentication of users
4. System configuration changes
5. Audit configuration changes
6. Accessing and altering sensitive information
7. Logon monitoring
8. SYSTEM User events

- 9. Technical users’ actions
- 10. Activities of exceptional users



HUMAN RESOURCE REQUIREMENT FOR HANA COCKPIT

HANA cockpit can be taken care by 1 SAP BASIS employee in the team who can check if the backups are running fine and report database alerts to the system owners of various teams. There can be a manager guiding them on important decisions. HANA cockpit is not heavy on maintenance operations and can be viewed twice a week.

PLAN FOR FIORI HANA COCKPIT IMPLEMENTATION

Time	Plan
1 week	Team formation
3 weeks	Implementation including installation and adding all the system resources

1 week	Personalization of HANA Cockpit
1 week	Testing
4 weeks	Open SAP training on HANA cockpit (can be self-learnt)

HANA COCKPIT TRAINING NEEDS

Need for training: Not Required

Hana cockpit is very user friendly and easy to understand. It doesn't require a formal training. Any curious person who is interested in exploring the tiles can get a hang of it. There is an open

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SAP training "Introduction to SAP HANAAdministration" José Ramos, Kelly Kong, Lucas Kiesow and Parul Arora -for 4 weeks which covers all the topics of HANA cockpit and is by itself suffice. There is a guide 'SAP HANAAdministration with SAP HANA Cockpit' which has all the features of HANA cockpit which can be used at times. HANA Cockpit training is given to:

- i) Administrator user
- ii) Managers

SAP FIORI ON SOLUTION MANAGER – HYBRID CLOUD SCOPE

All functionalities of solution manager have migrated to Fiori and SAP UI5. It includes change Management, Test Management, or Technical Monitoring of systems.

Solution Manager does provide customers with the complete tools to monitor all the layers: The Database, Operating System, and Solution Manager. The idea is to not only monitor *Reactively* (like when the system goes down or URL is not available), but even better to monitor *Proactively* (which is anticipates a system failure) and prevent issues from occurring. Therefore, reducing major outages of systems. The implementation would be a big bang as all the systems needs to

be connected at one go.

Solution Manager helps

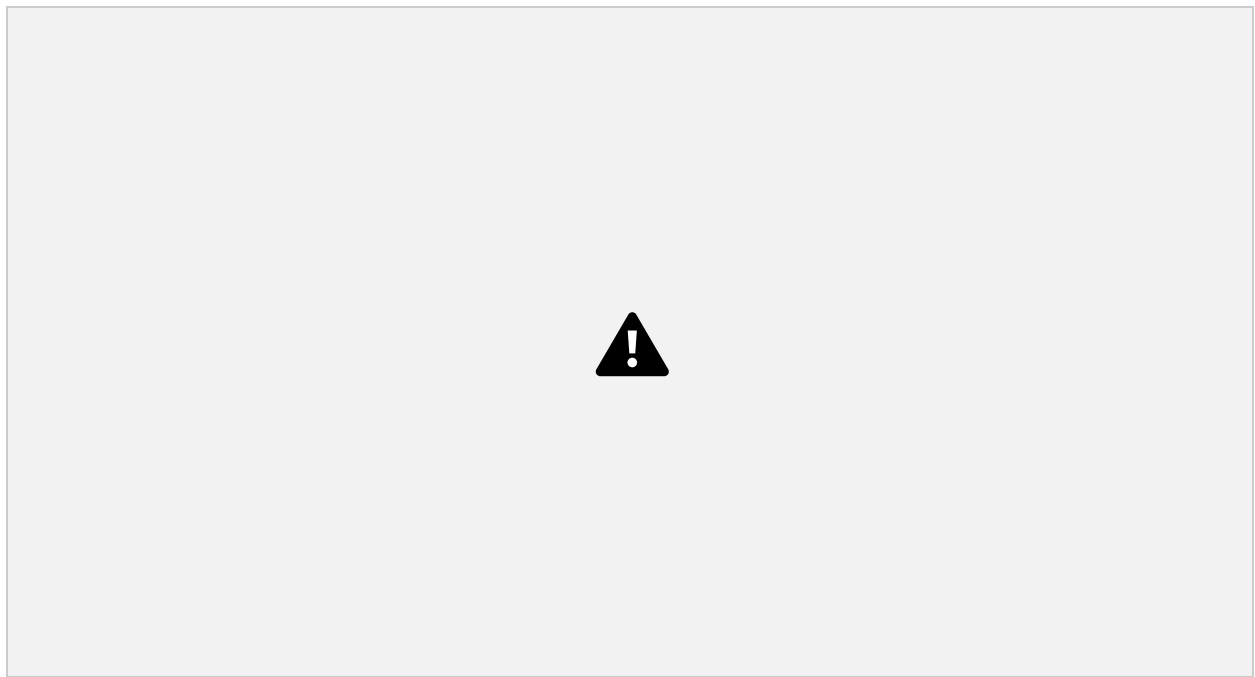
2. Traditional Monitoring

3. User experience monitoring

4. Integration monitoring (monitor PI or PO instances and see how communication is working

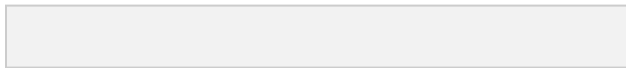
5. Job monitoring (other job management tools with more monitoring of those jobs by setting dependencies and more parameters for alerts)

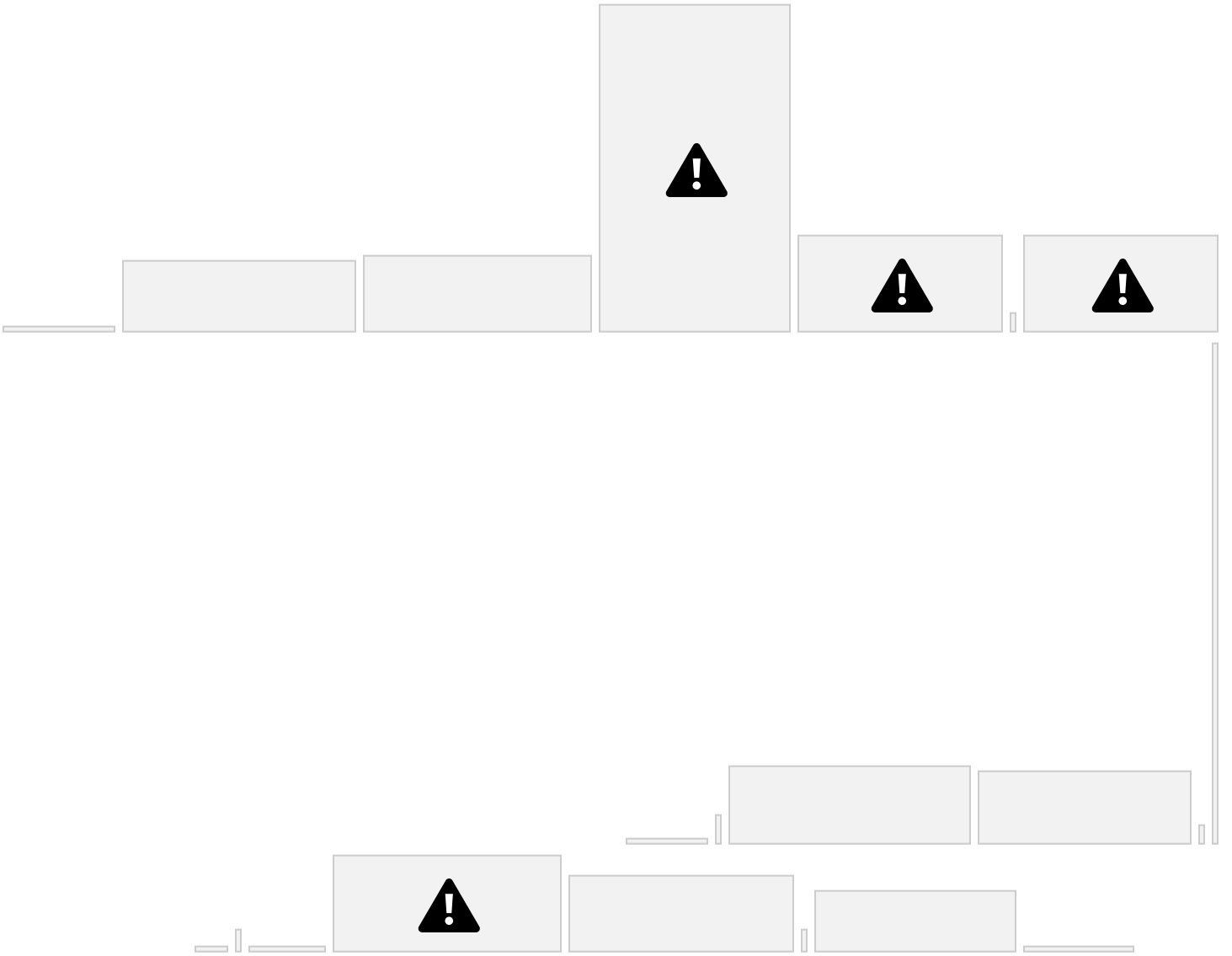
6. HANA Business Intelligence monitoring from a Business Objects perspective. Another area is Root Cause Analysis: as Solution Manager is cranking, working and collecting data of all managed systems, it will build those trends. In Solution Manager, the data is stored in the Business Warehouse portion and is kept for longer durations: trends for month-to-end issues or even quarter-end, and closing of books that are causing issues.

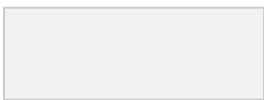
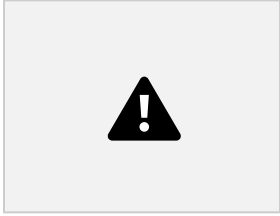


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SAP FIORI SOLUTION MANAGER WORKFLOW





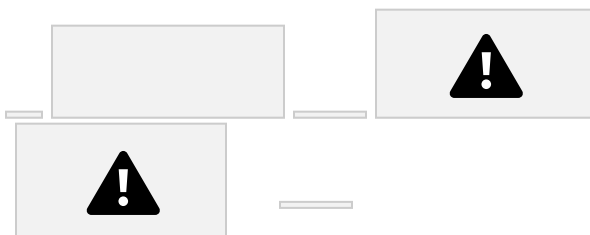




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SUB

ACTIVITIES FUNCTION

IT Service Management Create business partners Activate functions

Data volume management System monitoring

Monitoring Pause

CHARM

General Changes

Used to create incidents

To give unique identificat

There is a http and RFC connect
for SAP to connect to the system

Can set thresholds for each system

This is to monitor all the systems

During housekeeping activities

Manage successful deployment of

A General Change does not
completely independent of
process with documentation
or other IT-assets) or other

Normal changes A normal change is an implementation of a request for change: a new functionality, a new feature in an existing functionality, or a corrective activity for a minor defect in an existing functionality.

Defect Correction We use the Defect correction to fix the changes, when they are in 'Test' phase of Maintenance cycle

FUNCTIONAL SYSTEM REQUIREMENT FOR SOLUTION MANAGER

Solution Manager

In order to use Solution Manager, it is necessary to have the following in place.

Basic Configuration

1. Configure Basic Functions
2. Schedule Jobs
3. Create basic dialog users
4. Add all the notes and Patches

Mandatory Configurations and System Preparation

1. Define system role of the SAP Solution Manager System (can be a development system)
2. Check prerequisites
3. Setup connections to SAP
4. Connections for SNOTE
5. ABAP Connections
6. Java connections
7. Apply Essential Corrections
8. Maintain technical users

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Infrastructure Preparation

1. Post hostname configuration we can add the technical and abap systems in lmdb
2. SLD check (System Landscape Directory)
3. Set security settings for the web service end points created via API
4. Setup Landscape Management
5. LMDB Synchronization
6. Setup and enable Java and SAP BW connectivity
7. Define CA Introscope
8. Establish connections to DBA Cockpit



Solution Manager Processes

1. SAP Engagement and Service Delivery
2. Landscape Management includes Maintenance Management and Custom Code Management
3. SAP Business Process Operation
4. Application Operation
5. IT Service Management
6. Change control management
7. Process Management
8. Project Management
9. Requirements Management

NON-FUNCTIONAL SYSTEM REQUIREMENT FOR SOLUTION MANAGER

For solution manager to run

1. Complete data migration of existing solution to new environment
2. Hostname configuration of solution manager with the system
3. RFC Connection needs to be maintained between the system and solution manger both ways with regular jobs between gateways
4. HTTP connectivity
5. Log on to SAP Service Market place by setting up router connections
6. Check for the support hub connectivity
7. SAP Support portal contact assignment to add the S user

For Early Watch alert to run

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1. The plug in ST/PI and ST/A-Pi needs to be done via add on installation to let the data flow from the system to solution manager.
2. SDCCN needs to be maintained

Workload: It can handle 997 clients with 3 default clients

Middleware configuration: Database connection pool size is 8 and Fiori-tools-proxy middleware

TECHNICAL REQUIREMENT FOR FIORI SOLUTION MANAGER

1. Set up system landscape
 - Planning the landscape
 - Embedded Deployment
 - Central Hub Deployment
 - Installing the launchpad
 - Virus scanning
2. Set up of App
 - Downloading and installing apps
 - Import Client certificates for Content Servers
 - Configure SAP Web Dispatcher
 - Configure Catalog and Role for in App help
3. Configure SAP Solution Manager Launchpad
 - Activating OData Services for the Launchpad
 - Activating ICF Services for the Launchpad
 - Customizing the Launchpad
 - User management and Authorization



INFRASTRUCTURE REQUIREMENT FOR SOLUTION MANAGER



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METRICS FOR PERFORMANCE MONITORING OF SOLUTION MANAGER

1. System Availability
2. Instance Availability
3. Host Availability
4. Database Availability
5. System Performance
6. Response time Distribution
7. Response time Composition
8. Database performance
9. ABAP Exceptions
10. CPU, Database, Main memory
11. File System
12. Paging Rate
13. RFC Webservice Provider

14. User Activity
15. Threads
16. Garbage Collection
17. Old space usage
18. Memory allocation
19. Database performance
20. Content of technical monitoring reports

QUALITY GATE MANAGEMENT IN SOLUTION MANAGER

Quality Gate Management not only saves time and money but also able to deliver quality experiences to manage the Application Lifecycle Processes in the organization. Quality Gate Management has evolved and improved Solution Manager 7.2 by having a more intuitive interface. It allowed End-Users and Change Management to navigate and coordinate deployment easier and faster.



The Auditing process checks the following

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10. Set Up Cycle: To create a new change cycle and edit active change cycles.
11. Set Up Scenario: To assign deadlines to quality gates and assign quality gates to systems.
12. Configuration Check: To check whether the scenario is configured correctly.
13. Change CTS Status Switch: To manually override the standard behaviour of the CTS status switch.
14. Display Application Log: To view a history of transport-related activities
15. Display Change Log: To view a history of status changes.

HUMAN RESOURCE REQUIREMENT

Maintaining a Solution Manager centralized system is tedious. It involves regular early watch alert configuration and incident handling. Each time a system is down the first blame goes to the solution manger team. Hence an effective team of a minimum 2 SAP BASIS Consultants

and 2 SAP SECURITY Consultant trained in Solution Manager with a team lead who is in touch with the Senior management is needed.

PLAN FOR IMPLEMENTATION OF FIORI SOLUTION MANAGER

Time	Plan
3 weeks	Team formation
1 week	Basic Configuration
1 week	Mandatory Configuration and System Preparation
1 week	Infrastructure Preparation
3 weeks	RFC Connectivity, HTTP Connectivity and Host name configuration of all systems to solution manager
2 weeks	Early Watch Alert Configuration
2 months	Testing
2 months	Training in Solution Manager maintenance

TRAINING IN FIORI SOLUTION MANAGER

Need for training: Required

Every person working in solution manager should know the end-to-end connections of how the system works in order to troubleshoot issues with solution manager. This will require rigorous two- month training of the implementation of software and maintain the systems for the **administrative user. Managers** need to train themselves on what could be the possible issues during the Lifecycle of the system and whom to approach to solve it.

Before ERP Implementation

1. Role of different function
2. Types of data used in decision making
3. Data collection
4. Models in decision making

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Integration of Operations

1. Integration of systems
2. Implementing performance monitoring
3. Troubleshooting skills

Operation supported

1. Hiring trainers
2. Train on Alert handling, Incident handling, backup scheduling and load handling

POST IMPLEMENTATION FOR HANA COCKPIT

1. Create custom resource groups
2. Add new systems
3. Monitor backups regularly
4. Act on alerts

POST IMPLEMENTATION SLA/SLOS FOR FIORI AND SOLUTION MANAGER

1. Troubleshooting for fiori/hana cockpit and solution manager
2. Incident handling (internal)
3. Error Analysis
4. Maintenance
5. Enhancements/add on/support packages
6. Note implementation
7. Patching/fixing of the SAP application
8. Manage and maintain Data Integrator as per requirement.
9. Work between 10:00 to 19:00 hours weekdays, Monday through Friday, 10.
Managing OSS requests with SAP throughout the incident/service request lifecycle
11. The Solution Manager is available 24/7/365 (excluding planned maintenance) 12.
Incident tickets can be logged at any time via the Solution Manager
13. Change requests can be logged at any time via the Solution Manager.
14. User will be asked to provide a summary and details of the incident
15. Encrypting all stored and transmitted data
16. Local data centres
17. Portability of data
18. Smooth exit strategy to be informed 1 month prior
19. Incidents will be categorized as follows: • Data Entry Errors, Validation Checks,
Report enhancements, Authorization Error, Runtime Error Analysis, etc.

SERVICE LEVEL SUMMARY

** The below table is taken from standard SAP OSS guidelines

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Priority	Definition Response time Resolution time
Emergency/Very High/ Critical	Entire organization is affected. Core business process cannot be carried out. Security violation Incident has serious impact on critical tasks and no 1 hour 1 day

	workaround is available.
High	System cannot function as designed or installed Compliance timeline is affected. Multiple users or departments are directly affected. 1 day 2 days
Medium	Small number or small group of users are directly affected. Isolated incident. Degraded performance and/or is difficult to use. 2 days 3 days
Low	User requests general information, service or consultation. Cosmetic enhancements Report enhancements 3 days 4 days

BUDGET PLAN FOR ENTIRE ERP IMPLEMENTATION WITH EXPENSES AND ROI CALCULATION

*Costs are hypothetical and not referred to actual data

TYPE	FIORI (No plug ins)	COST (Rs)
Product One time cost	Implementation: Architecture and App configuration (standard and custom apps)	30,000

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One-time internal cost	Project Management Cost	20,000
Recurring cost	Troubleshooting of incidents for a year	8,00,000
Recurring cost	SAP support portal help	2,00,000

Recurring Internal Cost	Training	40,000
Product one time Cost	Testing	60,000
Recurring Internal Cost	Usage cost based on number of users (includes downtime and service)	1,50,000
TYPE	HANA COCKPIT (No customization, no plug in)	COST (Rs)
Product one time Cost	Installation	50,000
One-time Internal Cost	Project management cost	50,000
Recurring Cost	Database Monitoring, User Management, Backup <u>implementation</u>	3,50,000
Recurring Cost	<u>Troubleshooting of incidents for a year</u>	50,000
Recurring Cost	<u>SAP support portal help</u>	2,00,000
Product one time Cost	Testing	20,000
Recurring Internal Cost	Usage cost based on number of resources (includes downtime and service)	50,000
TYPE	<u>SOLUTION MANAGER (No customization, no plug in)</u>	COST (Rs)
Product one time cost	Installation	50,000
One- time internal cost	Project management cost	50,000
One time cost	Data Migration	1,00,000
One time cost	Early Watch Alert Configuration, IT Service Incident Management Configuration, Change Request Management	3,50,000
Recurring Cost	Troubleshooting of incidents for a year	1,00,000
Recurring Cost	SAP support portal help	1,00,000
Recurring Internal Cost	Training	80,000
Product one time Cost	Testing	50,000
Recurring Internal Cost	Usage cost based on time ((includes downtime and service)	50,000

	TOTAL COST OF ERP CLOUD SERVICE PROVIDER	30,00,000
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HUMAN RESOURCE ANNUAL COST

FIORI	
Role	Hourly Rate Hour Amount (Rs)

Dev and Arch

333 2160 7,20,000

Manager

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Associate 1 BASIS	145 2160 3,12,000
Associate 2 BASIS	145 2160 3,12,000
Associate 1 SECURITY	100 2160 2,16,000
Subject matter expert	400 2160 8,64,000
HANA COCKPIT	
Role	Hourly Rate Hour Amount (Rs)
IT Manager	333 2160 7,20,000
Associate 1 BASIS	145 2160 3,12,000
SOLUTION MANAGER	
Role	Hourly Rate Hour Amount (Rs)
Associate 1 SECURITY	100 2160 2,16,000
Associate 2 SECURITY	100 2160 2,16,000
Team lead	200 2160 4,32,000

Associate 1 BASIS 145 2160 3,12,000 Associate 2 BASIS 145 2160 3,12,000
Senior Manager 350 2160 7,56,000 TOTAL COST = Rs 57,00,000

ANNUAL TANBILE BENEFITS

*Revenue is hypothetical and not related to actual data

FIORI

Tangible Benefit	Hour Saved Number of	Amount Saved (Rs)
	Transaction <u>saved/person</u>	
Increase Productivity	500 20000 150000	
Increased Speed	250 10000 75000	
Workforce flexibility	100 - 30000	
Resource Sharing	150 45000	
HANA COCKPIT		
Tangible Benefit	Hour Saved Number of	Amount Saved (Rs)
	Transaction <u>saved/person</u>	
Unparallel speed	600 24000 180000	

Access to data in real time 300 12000

Shrinks database footprint

Removal of
redundant
information

700 32000 210000 200 - 60000 90000

Through workflow 350 105000 SOLUTION MANAGER

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Tangible Benefit	Hour Saved Number of	Amount Saved (Rs)
	Transaction <u>saved/person</u>	
Lowers total cost of ownership	400 - 120000	
End to end customer business scenario	700 - 210000	
Increase efficiency of Business Process operations	750 3000	225000
Reduces custom code footprint	700 3600 210000	

Focussed insight analytics	450 - 135000
TOTALAMOUNT SAVED = Rs 18,45,000	

NON-TANGIBLE BENFITS

Fiori

Customer Satisfaction
Data Accessibility
Reduction in effort
Better fit with needs
Info visibility
Customer responsiveness
Rapid Market Access
Resilience

HANA Cockpit

Intuitive workflow
Improved Morale
Simplified Architecture
Streamline communication of alerts
Integration
Can monitor database 24*7*365
Reduced Risk in testing new technology as it's on cloud

Solution Manager

Improved Mobility

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More data driven decisions
Reduces risk from environment change
System Integration
Standardization
Increase flexibility
Improved IT Service
Can monitor systems 24*7*365

ROI

Financial Parameters Year 1 Year 2	Year 3
Revenue (Base) 80,00,000 90,00,000	1,00,00,000
Tangible Benefits by implementing ERP 18,45,000 19,00,000	20,00,000

Initial Investment (Solution Manager+ HANA

Cockpit+ SAP fiori) 8,30,000

Recurring Cost (Solution Manager+ HANA Cockpit+ SAP fiori)	21,70,00 21,70,00 0 0	21,70,000
Human Resource Cost	57,00,00 0 57,00,00 0	57,00,000
Profit	11,45,00 29,00,00 0 0	40,00,000

ROI for 3 years=Net profit for 3 years/Total cost of investment =32.57% Initial

investment for cloud is low hence we can get profits right from the current year

