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Migrating SAP R/3 Systems to SAP NetWeaver 7.4

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Migrating SAP R/3 Systems to SAP NetWeaver 7.4

by

Rakesh Muppidi

A Starred Paper

Submitted to the Graduate Faculty of

St. Cloud State University

in Partial Fulfillment of the Requirements

for the Degree

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Starred Paper Committee: Hiral Shah, Chairperson Ben Baliga Balasubrahmanian Kasi

Abstract

PPG, Pittsburgh Plate Glass Company founded in 1883 at Creighton, Pennsylvania. In 1990 it founded Transitions Optical as a joint venture with Essilor. On April 1, 2014, PPG finalized the sale of Transitions Optical to its joint venture partner, Essilor International of France, however, PPG's technical center in Monroeville will continue to provide research and development services for transitions.

This Capstone project focused on migrating SAP R/3 systems to NetWeaver 7.4 for better performance and efficiency. It focused on the 24*7*365 customer support through various interfaces like mobile, PDA and web to avoid delays and errors in the manual process and emphasizes on integrating SAP applications with the non-SAP customer applications which gives better support and quick resolution to customer grievances. It allowed the integration and alignment of people, information, and business processes across business and technology boundaries. It reduced the time while converting and deploying the data between SAP and non-sap systems by using SAP's own interface component PI (Process Integration). Successfully accessed SAP systems outside the intranet by using web browser or mobile apps in the devices.

Acknowledgements

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Chapter 1: Introduction

Introduction

Founded in 1883 by Captain John Baptiste Ford and John Pitcairn, Jr., as the Pittsburgh Plate Glass Company at Creighton, Pennsylvania; the company changed its name to PPG Industries, Inc., on 19 December 1968 to show its diverse offerings. Ditzler Color Company, established in 1902 in Detroit as an automotive color concern, was purchased by Pittsburgh Plate Glass Company (now PPG) in 1928. In 1990 it founded Transitions Optical as a joint venture with Essilor. On April 1, 2014, PPG finalized the sale of Transitions Optical to its joint venture partner, Essilor International of France, however, PPG's technical center in Monroeville will continue to provide research and development services for transitions.

PPG Industries is an American global supplier of paints, coatings, optical products, specialty materials, chemicals, glass, and fiberglass. With headquarters in Pittsburgh, Pennsylvania, PPG operates in more than 70 countries around the globe. Sales in 2013 were \$15.1 billion.

This Capstone project focused on migrating SAP R/3 systems to NetWeaver 7.4 for better performance and efficiency. Focused on the 24*7*365 customer support through various interfaces like mobile, PDA and web to avoid delays and errors in the manual process and emphasizes on integrating SAP applications with the non-SAP customer applications which gives better support and quick resolution to customer grievances. It allowed the integration and alignment of people, information, and business processes across business and technology boundaries. Migrating R/3 systems to NetWeaver provided organization to make quick and profitable decisions to improve the growth. In addition, this document also includes the problem statement, objective and nature and significance of the problem.

Problem Statement

PPG was using SAP R/3 systems. The major limitations of R/3 systems were customers couldn't able to access the systems through web browser and integration between SAP and non-SAP systems were possible by using third party tools only. These above mentioned reasons had major impact on the business.

Objective of the Project

Migrating SAP system version (4.6) to SAP NetWeaver 7.4 which has more capability in handling customer requests and simplifying the working areas.

Major objectives of the project are to have

- 1. Reduce the time while converting and deploying the data between SAP and nonsap systems by using SAP's own interface component PI (Process Integration).
- 2. Able to access SAP systems outside the intranet by using web browser or mobile apps in the devices.
- 3. SAP R/3 supports only German and English languages whereas NetWeaver has Unicode functionality it supports around 90,000 characters (560 languages). This functionality made SAP edge in the ERP field. It improved the business of the PPG and customers throughout the globe can easily understand the day-to-day business transactions.

Nature and Significance of the Problem

Because of these issues, PPG was losing their customers adversely, which affected the business. Customers were moving to other companies due to poor response/service received from PPG. Due to R/3 systems PPG was unable to connect to the customers applications. Converting the non-SAP systems applications data and deploying in to SAP systems was time taking process in PPG. The possibility of getting errors was high while converting and deploying the data from SAP to non-SAP and vice versa and this lead to delay in the business process. As R/3 systems does not have the web functionality, employees of the PPG Company couldn't able to access the SAP systems through web browser and they were not able to support the customers round the clock. All these reasons had severe impact in the terms of revenue and business on PPG. R/3 systems can support German and English, but the company had customers in 70 countries which needed more supporting languages. By migrating to NetWeaver, which has Unicode functionality, it supported 90,000 characters (560 languages) which given major advantage in the service and day-to-day transactions. Proposed Technical landscape for PPG shown in Figure 1.

Proposed Technical Landscape for PPG.



Figure 1: Proposed Technical Landscape for PPG

Three system landscape which was Development, Quality and Production servers

shown in Figure 1. After successful migration to NetWeaver version 7.4, development server

would have ECD, PID, BWD and EPD systems, quality server would have ECQ, PIQ, BWQ and

EPQ systems and production servers would have SMP, ECP, PIP, BWP and EPP systems.

Project Questions

- What is the need for migrating SAP R/3 systems to SAP Net weaver and what are its benefits?
- 2) After migrating the complete landscape, does the PPG Company data secure and reliable?
- 3) Can the project meet go live date?

4) Can we really reduce the time of converting code by using SAP PI interface and is

it bug free product?

Limitations of the Project

The major limitations of the project were customers couldn't able to access the systems through web browser and integration between SAP and non-SAP systems were possible by using third party tools only and these were solved after migrating systems to SAP NetWeaver.

Definition of Terms

Unicode–Multilanguage Support.

Host-Either a client or a server. A host has its own address on the network, and is its own machine.

ECC System–Enterprise Central Component System.

Summary

The chapter briefly covered the Problem Statement, Objective of the project, Nature and Significance of the project. In later part of the report, it will cover the background and literature review, which explains how the migrations completed successfully to NetWeaver version.

Chapter 2: Background and Review of Literature

Introduction

This chapter briefly describes about on how the problem is originating and narrows down the root causes with the background details and relevant literature. It also draws light on the methodology used and implemented towards the project with the proposed approach.

Background Related to the Problem

PPG Industries is an American global supplier of paints, coatings, optical products, specialty materials, chemicals, glass, and fiberglass. With headquarters in Pittsburgh, Pennsylvania, PPG operates in more than 70 countries around the globe. Company was using SAP R/3 systems and the major limitations of R/3 systems were customers unable to access the systems through web browser and integration between SAP and non-SAP systems were possible by using third party tools only. Converting the non-SAP systems applications data and deploying in to SAP systems was time taking process in PPG and possibility of getting errors were high and this lead to delay in the business process. Due to R/3 landscape PPG was unable to connect to customers' applications and eventually it was losing customers because of poor service. These above mentioned reasons had severe impact in the terms of revenue and business on PPG.

Literature Related to the Problem

A team from PPG raised a request to SAP in order to solve the unique problems which was caused because of R/3 systems. SAP had come up with the solution and provided several books. They were SAP Administration-Practical Guide, Migrating data from R/3 systems to NetWeaver Version, The SAP OS/DB Migration Project Guide, Upgrading SAP and Efficient SAP NetWeaver BW Implementation and Upgrade Guide (Knox, 2015; Neil, 2013; Vanstechelman, 2005).

Major problem with the R/3 systems was integration between SAP and Non SAP systems by using third party tool was much time taking process when compare with NetWeaver PI component (Schreckenbach, 2015a). NetWeaver version systems would take less time for integration and it would support all languages whereas R/3 systems were supporting only German and English language. And the Company has customers around the globe and they were not able to access through web. We migrated all the legacy systems to NetWeaver version systems to solve all the limitations of the R/3 systems.

SAP is software provided by SAP AG, Germany. It stands for Systems Applications and Products (SAP) for (in) data processing. It is preferred software by most of enterprises, industries. SAP is OS and DB independent. SAP runs on almost all the OS's (Linux, Windows, Z/OS, and AIX). It also supports almost all the Databases (DB2, Oracle, Sybase, MaxDB, and Hana). SAP has rich set of modules (FI, CO, SD, PP, MM, HR, PP, PS, QM, and PM Etc.). SAP supports small, midsized to large enterprises. PPG was using SAP R/3 system landscape. R/3 architecture is explained below (Schreckenbach, 2015a).

SAP R/3 Architecture:

SAP uses the industry specific 3-Layer Architecture and named it as R/3 Architecture (Schreckenbach, 2015a).

It consists of three layers

- 1. Presentation Server/ Layer/ Tier
- 2. Application Server
- 3. Database Layer
- 1. Presentation Server: It is a client for all the SAP Solutions. It is also referred as

SAPGUI. There are three 3 types of SAP GUI

i) SAP GUI for windows (On Windows OS)

- ii) SAP GUI for JAVA (On all OS where JAVA is supported)
- iii) SAPGUI for HTML (for web based)

SAP provides various versions of GUI (4.6c, 620, 640, 700, 710 and 720). To install SAP GUI

use presentation server DVD and go to the respective OS win32 and run setupall.exe and

follow the onscreen instructions (Vanstechelman, 2005). Figure 2 is the SAP GUI entry screen

to add SAP system in the interface.

New Entry		
System		
Description		
Application Server		ē
SAProuter String		
System ID		
System Number		
SAP System	● R/3 ○ R/2	Advanced
Add	Log <u>o</u> n	Cancel
Add and Lo	g on	Help

Figure 2: SAP GUI Entry Screen

2. **Application Server**: It is used to handle the user request and process them to the database. It has dispatcher to process and monitor the user request, work process to process and interpret the requests, Buffer areas to store the frequently accessed data. It absorbs the load both from Client and the server.

It is a physical server, which is used to handle and process the user request. In SAP naming convention we define them as an Instance and it is possible to install more than one instance on a single server provided they should be differentiated by the instance number. Instance number is a 2-digit number that varies between [00 to 97] 98 and 99 are reserved for routing purposes. Instances is of various types (Vanstechelman, 2005).

i) Database Instance.

ii) Central Instance.

iii) Dialogue Instance.

- i) Database Instance: This is the Instance where database is installed.
- ii) Central Instance: This is the Instance where Application Server/ Tier/ Layer are installed. There will be only one instance in the entire system.
- iii) Dialogue Instance: These are the instances, which are used to handle the load on the central instances. We can install as many instances as possible assuming that each instance can serve up to 200 - 500 users depending upon the type of the users.

3. **Database server/ layer/ tier**: It is the area where the complete data resides. It has its own queue, process, buffers, and request handling mechanism. Most of the databases are on Oracle. SAP is pushing MAXDB (without any license key), Microsoft SQL Server & IBM DB2

with discounted prices. Figure 3 is the pictorial view of SAP R/3 architecture explains the

presentation layer, application layer and the database layer (Schreckenbach, 2015b).



Figure 3: SAP R/3 Architecture

Supporting Platforms:

SAP can be installed on Microsoft windows 2000, win 2008 and win 2012. It can be

installed on 32bit or 64bit operating systems. 64 bit means a single process can serve the

user with 4GB RAM/ Memory whereas in 32 bit it is 1.9GB Memory. 264, 232 / 8 bytes.

HP UNIX and ORACLE

AIX and ORACLE

IBM Specific operating system with version 5.3 technical (TL) level 7 (TL7)

AIX and DB/2

Proprietary of IBM gives more mileage. Both provided by IBM

ISERIES/ AS400 with DB/2

This is also IBM specific which provides more consistency, reliability, mileage than any other operating system and database.

Sun OS (SOLARIS with ORACLE)

LINUX (SUSE, RHL (RED HAT LINUX) and ORACLE LINUX)

Note: Linux with MaxDB is supported by SAP and provides more leverage (Finance)

Microsoft windows and SQL Server This is the best combination for interactive usage.

PPG had decided to migrate all their legacy systems to SAP NetWeaver systems. Here

SAP NetWeaver architecture explained below.

SAP NetWeaver:

SAP Net Weaver provides core functions for the infrastructure of your business solutions in four integration levels. Listed below are the core functions of SAP NetWeaver (Schreckenbach, 2015b).

People Integration (EP).

Information Integration (BI).

Process Integration (XI).

SAP Web Application Server (J2EE + ABAP) Runtime environment.

Application Platform.

Mobile Infrastructure.



Figure 4: SAP NetWeaver Architecture

Figure 4 is the pictorial explanation of SAP NetWeaver architecture and explains how EP, PI, BI (BW), XI/PI and MI interconnected with each other. With inbuilt components of NetWeaver, integration and accessibility issues can be solved. PPG had faced integration problem with R/3 systems after migrating to NetWeaver version integration problem has been solved. With the third party tool integration was taking much more time when you compare with the SAP PI component. After migration, SAP systems are accessible through web and outside of the intranet (Nolan & Khaitan, 2010).

Literature Related to the Methodology

Migrating SAP R/3 systems to NetWeaver systems was achieved by below mentioned five phases (Mergaerts & Vanstechelman, 2015). They were:

- 1. Project Preparation
- 2. Business Blue Print phase
- 3. Realization Phase

4. Final Preparation

5. Go live / Support

 Project Preparation: During this phase the business requirements were gathered and documented. The core team was defined from SAP, Implementing partner, Customer, Business owners, etc., also referred as Steering Committee (With some management skills).
 These committees assembled from time to time and review the progress of the project.
 Author gathered all the important data and requirements to begin the project (Mergaerts & Vanstechelman, 2015).

2. **Business Blueprint**: In this phase, the project was documented and the blue print got signed off from the customer. In this phase required scenarios were selected. Scenario was nothing but a group of transactions that were related to a specific module like ECC, PI, BW, and Solman. Author reviewed the documents before it actually executed (Mergaerts & Vanstechelman, 2015).

3. **Realization**: In this phase where the actual migration took place (Vanstechelman, 2005).

Below mentioned steps were very important in migrating R/3 systems to NetWeaver systems.

 i) SAP Basis team took export of the source system by using export/import method. Author had taken the notes of prerequisites and preparation steps before actually export begin.

- ii) Team downloaded the software from SAP service market place. Checked the dependencies of Target system.
- iii) Planning, preparation and execution of the migration.
- iv) Post migration steps. Author reviewed each and every phase of the realization step and documented it.

4. **Testing & Final Preparation**: Testing took place in the testing client, integration client and test cases built during the configuration only.

 i) Unit testing: This was used to test the customizing in its test client within the same system. Tcode: SCCI was used to copy the requests between clients before change requests released.

ii) Integration testing: It performed in a separate system QAS

It was used to prepare the quality and as well as production system. The integration testing signoff from the users, MTP (Mote to Production) and readiness of production system communicating with SAP to conduct GO-Live sessions, End user training, End user acceptance, SAP Early watch report, internal and external security (Vanstechelman, 2005).



Figure 5: Testing Strategy

Figure 5 explains the testing strategy in a pictorial format. Unit testing was performed in DEV and TEST clients and Integration testing was performed in QTST and TRNG before it actually moved to production client.

4. **GO-LIVE**: Where SAP NetWeaver systems worked as production systems. All the teams made sure system was stable and performed up to the expectations and also checked the customer needs were met.

Summary

The concentration of this chapter has been focused towards making the readers understand more about the background of the problem, in depth details of the literature related to the problem. Also, all the background literature review towards the methodology of the project has been explained in a detailed manner.

Chapter 3: Methodology

Introduction

In this chapter, various steps were involved to make progress towards the accomplished objective. Migration of SAP R/3 systems to SAP NetWeaver 7.4 version includes very important phases like Project Preparation, Business Blue Print phase, Realization Phase, Final Preparation and Go live / Support (Kalluri, 2014). This chapter would explain all the phases clearly and also covered the data collection and analysis with the proposed timelines.

Design of the Study

Migrated legacy systems to NetWeaver 7.4 version by moving all the core data to a separate folder and applied it to the newly installed systems.

Project Preparation, Business Blue Print phase, Realization Phase, Final Preparation and Go live / Support phases were very important for migrating legacy systems to NetWeaver 7.4 version. In Project preparation phase the business requirements were gathered and documented. In business blue print phase the project was documented and the blue print got signed off from the customer. Actual migration took place in the realization phase by taking the export of legacy systems and importing it to the NetWeaver 7.4 version systems.

Migration of legacy systems to NetWeaver version followed below steps.

STEPS for SYSTEM COPY

Core data had been taken from legacy systems by using below methods.

- 1. Source System
- 2. Use Installation Master DVD
 - Use Additional Tasks
 - System Copy
 - Source System
 - Select database instance export
 - Specify typical and specify Profile directory e:\usr\sap\sid\sys\profile.
 - Specify the password if <sid>adm
 - Specify the export location for Import.

Review the inputs and continue the import. Figure 6 screen was displayed after running the sapinst executable.

SAP NetWeaver SOFTWARE DELIVERY TOOL 1 2 3 4 5 Choose Option Define Parameters Summary Execute Completed Welcome to SAP Installation Master Before starting the installation Master Define Parameters Summary Execute Completed Siget the option that you want to execute. Optional Standaione Units Optional Standaione Units Optional Step for preparing the export of an SAP Optional Step for preparing the export of an SAP Software Life-Cycle Options Optional step for preparing the export of an SAP Optional Step for preparing the export of an SAP Optional step for preparing the export of an SAP Optional Step for preparing the export of an SAP Optional step for preparing the export of an SAP Optional Step for preparing the export of an SAP Optional step for preparing the export of an SAP Optional Step for preparing the export of an SAP Optional step for preparing the export of an SAP Optional Step for preparing the export of an SAP Optional step for preparing th	SAPinst bw7adm@cscvznsdc031: SAP NetWeaver 7.0 Support Release 3 > File SAPinst Help	Software Life-Cycle Options > System Copy > Oracle > 💶 💌
1 2 3 4 6 Choose Option Define Parameters Summary Execute Completed Welcome to SAP Installation Master Before starting the installation, make sure that you have identified the required scenario as described in the Master Guide Select the option that you want to execute. Optional Standaione Units Optional Standaione Units Application Server Application Server Application Server System Copy Oracle Optional Stand on ABAP LDAP Registration System Copy Oracle Optional Stand on AS Java Department System Export Database and Central Instance Export Distributed System Distributed System High-Availability System High-Availability System Target System Installation Optional State on AB Java Creating database structure files (*.STR) Updating database structure database Creating the target database Creating tatabase structure files (*.STR)	SAP NetWeaver SOFTWARE DELIVERY TOOL	SAP
Select the option that you want to execute. Optional Standalone Units Software Life-Cycle Options Additional Preparation Options Application Server Application Server Java Add-In for ABAP LDAP Registration System Copy Oracle Source System Export Central System Based on AS ABAP and AS Java Export Preparation Table Splitting Preparation Table Splitting Preparation Creating the export directory structure with label files and source system Information Creating database structure files (*.STR) Updating the system Installation Calculation the size of the target database 	1 2 3 Choose Option Define Parameters Summary Welcome to SAP Installation Master Before starting the installation, make sure that you have identified the required	4 5 Execute Completed
D Image: SAP SCM 5.1 Image: SAP Solution Manager 4.0 Support Release 4 D Image: SAP Solution Manager 4.0 Support Release 4 Image: SAP Solution Manager 4.0 Support Release 4 D Image: SAP Solution Manager 4.0 Support Release 4 Image: SAP Solution Manager 4.0 Support Release 4	Select the option that you want to execute. ▷ Optional Standalone Units ♡ Software Life-Cycle Options ▷ Additional Preparation Options ▷ Additional Preparation Options ▷ Additional Preparation Options ▷ Java Add-In for ABAP ▷ LDAP Registration ♡ System Copy ♡ Oracle ♡ Source System Export ♡ Central System ○ Central System ○ Based on AS ABAP and AS Java ○ Database and Central Instance Export ○ Based on AS Java ○ Based on AS ABAP ○ Distributed System ○ Distributed System ○ Target System Installation ○ SAP SCM 5.1 ○ SAP Solution Manager 4.0 Support Release 4 ○ SAP CRM 2007	 Description Optional step for preparing the export of an SAP system The export preparations are required if. You want to build the target system up to the point where the database load starts, before the export of the source system has finished. Export and import processes should run in parallel during the system copy process. Export Preparations The following steps are performed: Creating the export directory structure with label files and source system information Creating database structure files (*.STR) Updating database platform and the selected dialog option Calculating the size of the target database (*.EXT, DBSIZE.XML)

Figure 6: SAP Export Screen 1

After running sapinst executable Figure 6 was prompted. In order to start the export

preparation of SAP R/3 systems we chose the below option.

System copy \rightarrow Oracle \rightarrow Source System export \rightarrow Central System \rightarrow Based on AS

ABAP and AS Java \rightarrow Export preparation.

SAPinst bw7adm@cscvzn : <u>F</u> ile SAP <u>i</u> nst <u>H</u> elp	sdc031: SAP NetWeaver 7.0 Sup	pport Release 3 > Softwa	re Life-Cycle Options > Syst	em Copy > Oracle > 💶 🗖 🗙
SAP NetWea Software Delive	ERY TOOL			SAP
Choose Option SAP System > Ge Enter the profile directory of the	2 Define Parameters eneral Parameters the SAP system	Summary	Execute	Completed
SAP System Parameters <u>Profile Directory</u> /usr/sa	p/BW7/SYS/profile			Browse
SAPinst retrieves existing p	arameters from the SAP system GLOBALHOST>\sapmnt\ <sapsj tem Mount Directory>/<sap BALHOST>\sapmnt\<sapsid>\</sapsid></sap </sapsj 	profile directory. Location (D>\\$Y\$\profile (SID>/profile (SY\$\profile	of your SAP system profile d	lirectory:
<u>Back</u> <u>Next</u> ▶				

Figure 7: SAP Export Screen 2

In Figure 7, profile directory path of the legacy systems was given.

27

9 SAPinst bw7adm@ <u>F</u> ile SAP <u>i</u> nst <u>H</u> el	cscvznsdc031: SA p	P NetWeaver 7.0 Sup	port Release 3 > Softwa	re Life-Cycle Options > Syst	em Copy > Oracle > 💶 🗖 🗙
SAP Net SOFTWARE D	Neaver ELIVERY TOO	DL			SAP
Choose Option	on Defin	e Parameters	3 Summary	4 Execute	5 Completed
Enter the DNS doma	in name for the SA	P system to calculate	the fully qualified domain	name (FQDN)	
SAP System Domai Set FQDN for SAP S DNS Domain Name Additional Informat The DNS Domain N SAPLOCALHOSTFUL	in Name hystem e for SAP System * ion lame is used to ca L. This parameter	Consult.csc.com	fied Domain Name (FQDI e URLs for the ABAP and	থ), which is configured in pro Java application servers. Se	ofile parameter e SAP Note <u>654982</u>.
▲ Back Next ▶					

Figure 8: SAP Export Screen 3

In Figure 8 author marked for Fully Qualified Domain Name (FQDN) and given the

DNS name.

SAPinst bw7adm@cscvznsdo <u>F</u> ile SAP <u>i</u> nst <u>H</u> elp	:031: SAP NetWeaver 7.0 Su	pport Release 3 > Softwa	re Life-Cycle Options > Syst	tem Copy > Oracle > 💶 🗖 🗙
SAP NetWeav SOFTWARE DELIVER	Ter Y Tool			SAP
Choose Option	2 Define Parameters pare Database Exp	3 Summary	4 Execute	6 Completed
Enter the directory for the expor	t location			
Database Export <u>Export Location</u> * /oracle/c	lir_export			Browse
Additional Information You will be prompted again for	r the <i>Export Location</i> during t	he installation of the target	i system.	
▲ Back Next ▶				

Figure 9: SAP Export Screen 4

Export location path had been provided in figure 9. This export had imported after

migrating legacy systems to NetWeaver version.

2	r	٦
3	ι	J

95 SAPinst bw7adm@cs <u>F</u> ile SAP <u>i</u> nst <u>H</u> elp	cvznsdc031: SAP NetWeaver 7.0 So	upport Release 3 > Software	Life-Cycle Options > Sys	tem Copy > Oracle > 💶 🗖 🗙
SAP NetW SOFTWARE DE	leaver Livery tool			SAP
Choose Option	2 Define Parameters	3 Summary	4 Execute	5 Completed
SAP System > Specify the system para	Export for Target Sys	tem ant to install		
Source System <u>D</u> atabase ID (DBSID) D <u>a</u> tabase Host Target System <u>T</u> arget Database Type	BW7 cscvznsdc031 Orac1e	Source DB 0 Source OS S	racle unOS	
<mark>◀ B</mark> ack Next ▶				



In Figure 10 author provided the Source system details, Database ID (DBSID), Source

DB, Database Host, Source OS and Target database type.

9 SAPinst bw7adm @ <u>F</u> ile SAP <u>i</u> nst <u>H</u> el	cscvznsdc031: SAP NetWeaver 7.0 S p	iupport Release 3 > Softwa	re Life-Cycle Options > Sys	tem Copy > Oracle > 💶 🛛 🗙		
SAP Net SOFTWARE D	Neaver ELIVERY TOOL			SAP		
Choose Optio	on Define Parameters	3 Summary	4 Execute	5 Completed		
ABAP System	n > Update Database St	atistics				
Specify whether you v	want the statistics to be updated auto	matically before the export s	starts			
Before Export Start						
Database Statistics	 Update statistics before the exp Skip statistics update 	ort starts				
<u>P</u> rogram Call	brconnect -u / -c -o summar	y -f stats -o SAPSR3 -	•t all -m +I -s P10 -f	allsel,collect,method,p		
O Skip statistics update Program Call brconnect -u / -c -o summary -f stats -o SAPSR3 -t all -m +I -s P10 -f allsel,collect,method,p Additional Information We recommend that you update database statistics before the export starts to determine the correct database size.						
▲ Back Next ▶						

Figure 11: SAP Export Screen 6

In Figure 11 author chose the option to update statistics before the export start and

sap recommended to update database statistics before the export started to determine the

correct database size.

SAPinst bw7adm@cscvznsdo	:031: SAP NetWeaver 7.0 Su	pport Release 3 > Softwar	e Life-Cycle Options > Syst	:em Copy > Oracle > 💶 🔲 🗙
SAP NetWeav SOFTWARE DELIVER	Y TOOL			SAP
Choose Option	2 Define Parameters Y	3 Summary	Execute	Completed
Choose 'Next' to start with the v screen where you can change	alues shown. Otherwise, se the parameter. You might be	lect the parameters to be cl guided through other screa	nanged and choose 'Revise ens that have so far been pr	'. You are then taken to the ocessed.
 SAP System > General F Profile Directory /usr/sap/BW7/SYS SAP System > DNS Dom SAF System > DNS Dom Set FQDN for SAP Sy DNS Domain Name for S consult.csc.com. SAP System > Prepare I Export Location /oracle/dir_exponent 	Parameters /profile ain Name stem SAP System Database Export			
 SAP System > Export fo Target Database Type Oracle ABAP System > Update Database Statistics Update statistic Back Next Revise 	r Target System	arts 🖺		▲ ▼



Parameter summary shown in Figure 12 and author checked all the parameters once

again and clicked 'Next' to proceed with the export.

SAP NetWeaver SOFTWARE DELIVERY TOOL	File SAPinst bw7adm@cscvznsd	c031: SAP NetWeaver 7.0	Support Release 3 > Softwa	re Life-Cycle Options > Syste	em Copy > Oracle > 💶 🔲 🗙
1 2 3 4 5 Choose Option Define Parameters Summary Execute Completed Task Progress The task has finished successfully. It parameters Summary Execute Completed Image: Support Preparation All phases completed Image: Execution of System Copy of Cacle > Source System Export > Central System > System Copy > Oracle > Source System Export > Central System > Deside on AS ABAP and AS Java > Export Preparation Image: System Copy > Oracle > Source System Export > Central System > Deside on AS ABAP and AS Java > Export Preparation Image: Support Release System Export > Central System > Deside on AS ABAP and AS Java > Export Preparation Image: Support Release Statistic Prepare to export Java Based on AS ABAP and AS Java > Export Preparation Image: Support Release Statistic Image: Support Release I Java DBSIZE file Image: Support Release I Java D	SAP NetWear SOFTWARE DELIVER	Ver Ry Tool			SAP
All phases completed All phases completed Cupdate database statistic Prepare to export ABAP Prepare to export Java Generate Java DBSIZE file Cupdate database in the function of SAP NetWeaver 7.0 Support Release 3 > Software Life-Cycle Options > System Copy > Oracle > Source System Export > Central System > Based on AS ABAP and AS Java > Export Preparation has finished successfully. Cupdate database down as the function of SAP NetWeaver 7.0 Support Release 3 > Software Life-Cycle Options > System Copy > Oracle > Source System Export > Central System > Based on AS ABAP and AS Java > Export Preparation has finished successfully. Cupdate database down as the function of SAP NetWeaver 7.0 Support Release 3 > Software Life-Cycle Options > System Copy > Oracle > Source System Export > Central System > Based on AS ABAP and AS Java > Export Preparation has finished successfully. Cupdate database down as the function of SAP NetWeaver 7.0 Support Release 3 > Software Life-Cycle Options > System Copy > Oracle > Source System Export > Central System > Based on AS ABAP and AS Java > Export Preparation has finished successfully. Cupdate database down as the function of SAP NetWeaver 7.0 Support Release 3 > Software Life-Cycle Options > System Copy > Oracle > Source System Export > Central System > Based on AS ABAP and AS Java > Export Preparation has finished successfully. Cupdate System Copy = Source System Copy = Sour	Choose Option Task Progress The task has finished success	2 Define Parameters	3 Summary	4 Execute	Completed
Back	All phases completed Export Preparation Update database statistic Prepare to export ABAP Prepare to export Java Generate Java DBSIZE fill Second State Stat	bw7adm@cscvznsdct Execution of SAP NetWeaver System Copy > (Based on AS AB has finished suc	7.0 Support Release 3 > Soft Dracle > Source System Expo AP and AS Java > Export Prep cessfully.	ware Life-Cycle Options > rt > Central System > Paration	Release 3 > Software ce System Export > Central t Preparation has been

Figure 13: SAP Export Preparation Successfully Finished Screen

SAP export preparation successfully finished screen shown in Figure 13.



Figure 14: SAP Export Screen 9

After running sapinst executable again Figure 14 was prompted. In order to start the

actual export of SAP R/3 systems data and objects we chose the below option.

System copy \rightarrow Oracle \rightarrow Source System export \rightarrow Central System \rightarrow Based on AS

ABAP and AS Java \rightarrow Database and Central Instance Export.

19 SAPinst bw7adm@cso <u>F</u> ile SAP <u>i</u> nst <u>H</u> elp	tvznsdc031: SAP NetWeaver 7.0 Su	ipport Release 3 > Softwar	re Life-Cycle Options > Syst	em Copy > Oracle > 💶 🗖 🗙
SAP NetW SOFTWARE DEL	LIVERY TOOL			SAP
Choose Option SAP System > Enter the profile director	2 Define Parameters General Parameters ry of the SAP system	3 Summary	4 Execute	5 Completed
SAP System Parameter	ers //sap/BW7/SYS/profile			Browse
Additional Information SAPinst retrieves existi • Windows: \\ • UNIX: / <sap • i5/OS: \\<sat< th=""><th>ng parameters from the SAP syster <sapglobalhost>\sapmnt\<saps System Mount Directory>/<sa PGLOBALHOST>\sapmnt\<sapsid></sapsid></sa </saps </sapglobalhost></th><th>n profile directory. Location ID>\SYS\profile PSID>/profile \SYS\profile</th><th>of your SAP system profile d</th><th>irectory:</th></sat<></sap 	ng parameters from the SAP syster <sapglobalhost>\sapmnt\<saps System Mount Directory>/<sa PGLOBALHOST>\sapmnt\<sapsid></sapsid></sa </saps </sapglobalhost>	n profile directory. Location ID>\SYS\profile PSID>/profile \SYS\profile	of your SAP system profile d	irectory:
▲ Back Next ▶				

Figure 15: SAP Export Screen 10

In Figure 15 profile directory of the legacy systems path had been given in the screen.



Figure 16: SAP Export Successfully Finished Screen

Export of the data and objects of PPG legacy systems had been taken successfully.

Successful screen had shown in Figure 16.

Data Collection and Analysis

A detailed report was made of what content legacy systems had across an

organization and what content should be migrated.

Earlier Third-party tools used to integrate between SAP and NON SAP systems and

usually it would take more time for converting the core data and deploying to the systems.

The time taken by the third party tool for integrate between SAP and NON SAP systems was

calculated by Objective evaluation. We had calculated time for all the seven tasks before and

after migration.

- i) Conducted objective evaluation to calculate the time taken to integrate SAP and Non SAP systems by the third party tool and SAP PI component. Noted time for all the 7 tasks before and after migration and calculated the average time for both the components.
- ii) Tested the configuration, Unicode feature and web accessibility tested by the testers and administrators.
- iii) System usability tested by the testers and administrators by the subjective assessment of asking several questions.

After migrated to SAP NetWeaver 7.4 version it would not need of any third party tools for integration. SAP NetWeaver 7.4 version had PI (Process Integrator) to integrate between SAP and Non SAP systems. Validation went good after migration. Validating the source and target environments had been correctly migrated and that all metadata and versions had been preserved.

Calculated time in both the cases before and after migration. And usability of the systems tested before and after migration.

The obtained information like structural design and nomenclature of the organization's systems should also be audited. This includes documenting and auditing the following key areas:

Permissions, Users, Features, Customizations, Core data and Integration with other systems.

SAPinst Basis_India@cscsapsdc006: SAP Net File SAPinst Help	Weaver 7.0 Support Release 3 >	Software Life-Cycle Options >	> System Copy > Orac 💶 🔲 🗙
SAP NetWeaver SOFTWARE DELIVERY TOOL			SAP
Choose Option Define Parame SAP System > Java Developn	a eters Summary nent Kit	4 Execute	5 Completed
Enter the Java Development Kit (JDK) directory t	hat you want to use		
Java Development Kit The installer has found a valid JDK directory. Th Confirm that you want to use this JDK directory JDK Directory C: \j2sdk1.4.2_30-x64	ne installed JDK has version 1.4.2	2_30.	Browse
Eack Next Next			

Figure 17: SAP Import Screen 1

The export data had imported to newly installed NetWeaver systems to enhance the

integration capability and accessibility. JDK directory path had shown in Figure 17.

<u>ខ</u> 57	\Pinst Basis_India@cs	csapsdc006: SAP NetWeaver 7.	0 Support Release 3 > So	ftware Life-Cycle Options >	🛛 System Copy > Orac 💶 🗖 🗙
Eib	e SAP <u>i</u> nst <u>H</u> elp				
S	AP NetWe	AVEF /ERY TOOL			SAP
►	1 Choose Option	2 Define Parameters	3 Summary	4 Execute	5 Completed
SA	P System > J	CE Unlimited Streng	th Jurisdiction P	olicy Files Archiv	е
Prov	vide the Java Cryptogra	phy Extension (JCE) Unlimited :	Strength Jurisdiction Policy	y Files archive	
imj Thi cor	portant Information e JCE Unlimited Streng rresponding vendor's s	gth Jurisdiction Policy Files archi ite:	ve is specific for each Java	a VM provider and is availabl	le as a free download from the
	 Sun Microsysten IBM: <u>https://www</u> 	ns, HP: <u>http://java.sun.com/j2se/</u> 6.software.ibm.com/dl/jcesdk/jc	'1.4.2/download.html esdk-p		
Th pai	e <i>JCE Unlimited Streng</i> rty products. Make sure	<i>yth Jurisdiction Policy Files</i> archi that the files have the right perr	ve will replace the files of y nissions after the installati	your JDK without granting pe ion is finished.	ermissions to possible third
Sp Mic	ecify the location of the crosystems Inc. and JD	Java(TM) Cryptography Extension K version 1.4. Enter the absolut	on (JCE) Unlimited Strengt e path to the archive. Note	th Jurisdiction Policy File for that you must not unzip the :	JDK vendor Sun archive.
ΓC	E Unlimited Strength J	urisdiction Policy Files Archive	F:\software\jce_poli	cy-1_4_2.zip	Browse
•	Back Next 🕨				

Figure 18: SAP Import Screen 2

In Figure 18 it shown the JCE Unlimited Strength Jurisdiction Policy Files archive path.

Which were very important in the import. JCE policy files were downloaded and placed in

the shown path.

SAPinst Basis_India@cscsa 	apsdc006: SAP NetWeaver 7.0	Support Release 3 > Sof	tware Life-Cycle Options > 9	ōystem Copy > Orac 💶 🔲 🗙
SAP NetWea SOFTWARE DELIVE	RY TOOL			SAP
Choose Option	2 Define Parameters	3 Summary	4 Execute	5 Completed
SAP System > Ge	neral Parameters			
Enter the system ID and inst	allation drive			
SAP System Parameters <u>S</u> AP System ID (SAPSID)* Installation Drive <u>U</u> nicode System (recomment Additional Information The SAP System ID is an id The system will be installed	E: E: Inded) ✓ entifier for your SAP system. It under < Installation Driv	must be unique throughou e>: \usr\sap\ <sapsid></sapsid>	ıt your system landscape. ∖ • • • •	
▲ Back Next ▶				

Figure 19: SAP Import Screen 3

SAP system Parameters SAP system ID (SAPSID), Installation drive details had been

given in the above screen Figure 19. SAP system ID is an identifier for your SAP system. It

must be unique throughout the landscape.

<mark>፼SAPinst Basis_I</mark> <u>F</u> ile SAP <u>i</u> nst <u>F</u>	ndia@cscsapsdc006: SAP NetWeaver <u>H</u> elp	7.0 Support Release 3 > Soft	ware Life-Cycle Options >	System Copy > Orac 💶 🗙
SAP Ne Software	tWeaver Delivery tool			SAP
Choose Or	2 Define Parameters	3 Summarv	4 Execute	5 Completed
SAP Syster	n > Windows Domain	,		·
Enter the Windows	s domain in which the SAP system acc	counts are created		
SAP System Use	r Domain			
Domain Model	 Local installation Use domain of current user Use different domain 			
<u>W</u> indows Domai	ו			
Additional Inform If you want the SA For high availabil If you want the sy to be a domain a before the install: For more informa	Nation P system to run on a single machine, ity with MSCS you must perform a dom stem to be distributed across more tha dministrator to create the operating sy ation. tion about Windows domain structure	you can perform a <i>Local insta</i> nain installation. an one machine, we strongly r stem users during the installa s, see the Windows documen	<i>llation.</i> ecommend a domain insta tion, or all operating systen tation.	Illation. In this case, you have n users have to be created
<mark>▲ B</mark> ack <u>N</u> ext				

Figure 20: SAP Import Screen 4

SAP system user domain model had shown in the Figure 20 and here in PPG we chose

local installation domain model.

SAPinst Basis_India@cscsapsdc006: File SAPinst Help	5AP NetWeaver 7.0 Support	Release 3 > Software Life	e-Cycle Options > System	Copy > Orac 💶 🗖 🗙
SAP NetWeaver SOFTWARE DELIVERY TOC	Ľ			SAP
Chaose Ontion Define	2 Baramotore Ci	3	4 Evecute	5
SAP System > Database	Parameters of	annnaiy	Execute	Completed
Select the database installation method				
Database Installation				
Installation Method 🛛 🖲 S O H	tandard System Copy / Migra omogeneous System Copy (tion (load-based) (Backup/Restore offline)		
Start Migration Monitor manually				
Additional Information				
To use an existing database backup fo	r building up a new system c	hoose Homogeneous Sys	stem Copy (Backup/Restor	e).
<u>Back</u> <u>Next</u> <u>Next</u>				

Figure 21: SAP Import Screen 5

In Figure 21 it shown the installation method we followed during the import. Here we

followed heterogeneous migration method to import the data in to the newly installed

NetWeaver systems.

<mark>i i i</mark> i	APinst Basis e SAP <u>i</u> nst	_India@cs Help	scsapsdc006: SAP NetWeav	er 7.0 Support Re	elease 3 > Sof	tware Life-Cycle	Options > System	1 Copy > 01	'ac 💶 🗖 🗙
S	OFTWAR	etWe	VERY TOOL						SAP
►	1 Choose	Option	2 Define Parameters	Sum	3 mary	4 Execut	e	5 Complete	ed 🗖
M Ent	Media Browser > Software Package Check								
So	ftware Pack	(age(s)							
M	edium		Package	Location		Check Location	Copy Package To		
Mi	igration E	xport	F:\dir_	_export	Browse		cop) r denage re	[Browse
Ad SA So If y If y	ditional Info Pinst will de ftware packa ou do not wa ou want to ci	rmation tect the re ages. ant to chec opy the pa	quired software packages o k the location now, deselec ckages to your local disk, ei	n the media and i t the <i>Check Locat</i> tter the target loca	check the pack ion flag and Si ition in the Co	kage identificatior APinst will ask yo <i>py Package To</i> ci	n file <i>LABEL.ASC</i> o u again later. olumn.	f the requir	ed
•	<u>B</u> ack <u>N</u> ext								

Figure 22: SAP Import Screen 6

Given the export folder location in Figure 22. Sapint had taken the export package

and imported to NetWeaver systems.

SAPinst Basis_India@cscsapsdc006: SAP Ne File SAPinst Help	tWeaver 7.0 Support Release 3 > S	oftware Life-Cycle Options > Sys	tem Copy > Orac 💶 🗖 🗙
SAP NetWeaver SOFTWARE DELIVERY TOOL			SAP
Choose Option Define Param Media Browser > Software Param	3 neters Summary nckage Request	4 Execute	5 Completed
Enter the location of the required software pack Software Package(s)	ages ,		
Medium UC Kernel NW 7.0 SR3 Oracle Client	Package Location F:\software\oracle\kerne F:\51033272	Copy Package To Browse Browse	Browse Browse
Additional Information			
SAPinst will detect the required software pack If you want to copy the packages to your local of Back Next	ages on the media and check the co disk, enter the target location in the C	rresponding package identificatio <i>opy Package To</i> column.	n files <i>LABEL.ASC</i> .

Figure 23: SAP Import Screen 7

UC kernel NW 7.0 SR3 software folder path and oracle client folder had been given in

the Figure 23.

5APin <u>F</u> ile	st Basis_India@cscsapsdc006: BAP <u>i</u> nst <u>H</u> elp	SAP NetWeaver	7.0 Support Release 3 > Soft	tware Life-Cycle Options >	> System Copy > 0	irac 💶 🗖 🗙
SA SOF	P NetWeaver TWARE DELIVERY TOO	DL				SAP
	1 Choose Option Define	Parameters	3 Summary	4 Execute	Complet	ed
Selectiv	which archives you want to unpa	ck				
SAP S SAPing to SAF	ystem Archives st has determined that the selec <i>Global Host.</i>	ted archives have	e to be unpacked. Choose <i>Ne</i>	xt to get the archives unpa	cked automatically	from DVD
Unpa	ck Archive	Codepage	Destination		Downloaded To	
	DBINDEP\SAPEXE.SAR	Unicode	E:\usr\sap\BW7\SYS\	exe\uc\NTAMD64		Browse
~	ORA\SAPEXEDB.SAR	Unicode	E:\usr\sap\BW7\SYS\	exe\uc\NTAMD64		Browse
	DBINDEP\IGSEXE.SAR	Unicode	E:\usr\sap\BW7\SYS\	exe\uc\NTAMD64		Browse
	DBINDEP\IGSHELPER.SAR	Unicode	E:\usr\sap\BW7\DVEB	MGSOO		Browse
	OCL10264.SAR		E:\usr\sap\BW7\SYS\	exe\uc\NTAMD64		Browse
Image: A start of the start	ORA\DBATOOLS.SAR	Unicode	E:\usr\sap\BW7\SYS\	exe\uc\NTAMD64		Browse
Additic If you P Deseld install	nal Information have downloaded newer version ect Unpack for archives that you ation user does not have write p	s of these archiv want to unpack n ermissions.	es from SAP Service Marketpla nanually; for instance if the de	ace, enter their locations in stination is located on a ne	column <i>Downloac</i> stwork share for wh	<i>led To.</i> nich the
<u> </u>						



In Figure 24 SAP system archives paths had been given. Sapinst unpacked the archive

paths to the SAP global host.

<u>F</u> ile Use <u>r</u> Aler <u>t U</u> po	iate <u>H</u> elp				•
SOFTWARE	UPDATE M	ANAGER			SAP
Welcome	2 Specify Credentials	3 Select Target	4 Confirm Target	5 Execute Process	6 Summary
Summary of the	e Update Proces	SS			
Summary The process has finished successfully. For more information, see the <u>ProcessOverview.html</u> report.					
System ID	ND1				
Target System Version	SAP NETWEAVER 7	.4			
Process Runtime	40 h 24 min				
System Downtime	02 h 04 min				
Feedback SAP is always interester	d in improving its tools. F	Please provide us with	ı your feedback by usini	g our <u>feedback form</u> .	

Figure 25: SAP Migration Successfully Finished Screen

After running for several hours SAP migration had finished successfully and it shown

in the Figure 25.

Migration of legacy systems to NetWeaver 7.4 version successfully completed.

Timeline

Following were the milestones planned for the project:

Activity	Timeline	Comments
Project preparation and requirement gathering	June 2015	
Design	July 2015 – August 2015	
Realization	August 2015 – October 2015	
Testing	October 2015	
Go live	November 2015	
Final Defense presentation	February 2016	

Table 1: Timeline

Time line of the Capstone project shown in the Table 1.

Summary

This chapter focused on explaining in detail about the process of the project life

cycle. It explained in detail the stages involved in the project implementation. The

implementation and analysis techniques which best suited the project scope were detailed.

Chapter 4: Data Presentation and Analysis

Introduction

This chapter will focus on the data, interpretation and strategies used to analyze and formulate the recommendations. Also this chapter will outline the process and evaluations performed to optimize the migration process.

Data Analysis

The data analysis was performed using Objective evaluation and Subjective evaluation.

Objective evaluation:

Success by task–Did a tester/administrator complete given task successfully.

Average time on task-how long would integration take place before and after

migration.

Subjective evaluation:

System usability scale–After migration, was its experience satisfied by the tester.

Performance issues or challenges found–analysis encountered during the test by

administrators and testers.

Objective evaluation:

All the tasks performed successfully during migration and after the migration. SAP migration successfully finished screen shown in Figure 26.

-					
<u>F</u> ile Use <u>r</u> Aler <u>t U</u> pda	ate <u>H</u> elp				
SOFTWARE	UPDATE M	ANAGER			SAP
Welcome	2 Specify Credentials Update Proces	3 Select Target	4 Confirm Target	5 Execute Process	6 Summary
Summary The process has finished	l successfully. For more	information, see the j	ProcessOverview.html	report.	
System ID	ND1				
Target System Version	SAP NETWEAVER 7.4	4			
Process Runtime	40 h 24 min				
System Downtime	02 h 04 min				
Feedback SAP is always interested	in improving its tools. Pl	ease provide us with	your feedback by usin	g our <u>feedback form</u> .	

Figure 26: SAP Migration Successfully Finished Screen

Time taken by the third party tools to integrate SAP system to Non SAP system in

different tasks is below:

Task No	Time taken by the third party tool in min.
1	120
2	150
3	140
4	130
5	125
6	115
7	135

Table 2: Time Measured for Integration by Third Party Tool

Time measured for integration by third party tool shown in Table 2. Table 2 has two

columns and they were task no and time taken by the third party tool in min.

Average time taken by the Third party tool for

integration=(120+150+140+130+125+115+135)/7

=(915)/7

=130.7

Time taken by the SAP inbuilt component PI to integrate SAP system to Non SAP system in

different tasks below:

Task No	Time taken by the PI component in min.
1	15
2	10
3	14
4	20
5	12
6	18
7	14

Table 3: Time Measured for Integration by SAP PI Component

Time measured for integration by SAP PI component shown in Table 3 and it had two

columns they were task no and time taken by the PI component in min.

Average time taken by the PI component for integration

= 14.71

Hence the time taken by the PI component for the integration is nearly 10% of time taken by the third party tool.

Subjective evaluation:

After migrating the systems to NetWeaver 7.4 version the presentation, usability and performance drastically changed.

In response to these requirements a simple table was developed. Below scale gives subjective assessment of the new versioned systems.

	Yes	No
i) Satisfied using SAP systems through web?	1	
ii) Was Unicode functionality really support 90,000	1	
Characters (560 languages)?		
iii) Did PI integrator work without any problem?	1	
iv) Was there any data missing after migration?		1
There are no performance issues found after migrating syster	ns to NetWe	aver 7.4 version.

The above table explains the performance and efficiency of the new migrated SAP

NetWeaver 7.4 version.

PPG SAP Technical Landscape



Figure 27: PPG SAP Technical Landscape

Final PPG SAP Technical landscape shown in Figure 27.



Figure 28: PPG Technical Architecture Data Center Partitioning

PPG Technical architecture data center partitioning shown in the Figure 28.

Summary

Data presentation and analysis explains how migration was done, and also the performance of the newly migrated SAP systems. Different evaluation methods helped to identify the functionality and performance of the NetWeaver 7.4 version systems. Additional information was detailed. The next chapter will cover the result of the project, conclusions based on the results and possible recommendations for the betterment of the organization.

Chapter 5: Results, Conclusion, and Recommendations

Introduction

This chapter focuses on providing the final result of the project. Subsequently, the project questions posed before conducting this study are answered briefly. Possible recommendations are made based on the result and conclusion for further possible improvement opportunities.

Results

In order to migrate PPG company legacy systems to NetWeaver 7.4 version systems followed below five phases.

- 1. Project Preparation
- 2. Business Blue Print phase
- 3. Realization Phase
- 4. Final Preparation
- 5. Go live / Support

SAP NetWeaver 7.4 version has PI component and it integrated SAP and Non SAP systems in a very effective way. The time taken for integration is very less and bug free when compared with third party tools. After migration customers and employees were able to access SAP systems outside of intranet. It is supporting 90,000 characters (560 languages) which provides better service around the globe. 1) What is the need for migrating SAP R/3 systems to SAP Net weaver and what are its benefits?

PPG was using SAP R/3 systems. The major limitations of R/3 systems were customers could not able to access the systems through web browser and integration between SAP and non-SAP systems were possible by using third party tools only. Because of these issues PPG was losing their customers adversely it effects to the business. Customers were turning to other companies due to poor response/service received from PPG. Migration was performed in order to reduce the time in integration and it had taken nearly 10% of the time taken by the third party tool. Customers and employees were able to access SAP systems through web outside the intranet after migration. SAP R/3 supports only German and English languages whereas Net weaver has Unicode functionality it supports around 90,000 characters (560 languages). SAP Migration Successfully finished screen shown in Figure 29.



Figure 29: SAP Migration Successfully Finished Screen

2) After migrating the complete landscape, is the PPG Company data secure and reliable?

Data was safe and secure and validated by testers and developers after migration of the SAP systems.

- 3) Can the project meet go live date?
- Yes. It met the go live date.
- 4) Can we really reduce the time of converting code by using SAP PI interface and is it bug free product?

Yes. SAP PI interface component is a bug free product and it tested by testers and developers. SAP and non-SAP systems are integrated by using PI component after migration. Time taken for integration measured before and after migration. Time taken by PI component is nearly 10% of the time taken by the third party tools. Data was safe and secure throughout the landscape.

Conclusion

Migration of the legacy systems to NetWeaver 7.4 version for better performance and efficiency. Customers couldn't able to access the SAP R/3 systems through web browser and integration between SAP and non-SAP systems were possible by using third party tools only.

Migrated SAP system version (4.6) to SAP NetWeaver 7.4 which has more capability in handling customer requests and simplifying the working areas. Migration was performed in order to reduce the time in integration and it had taken nearly 10% of the time taken by the third party tool. The administrators measured it successfully after migration. Customers and employees were able to access SAP systems through web outside the intranet after migration. SAP R/3 supports only German and English languages whereas Net weaver has Unicode functionality it supports around 90,000 characters (560 languages).

Recommendations

Reduce the customizations and code changes, to make the future migrations simple without any possible errors or breakdowns.

At regular intervals, the team must reflect on how to become more effective through meetings and interacting with the prospective customers, fine tune and adjust the behavior accordingly.

If possible extend the timeline rather than hiring new resources, which increases the budget.

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