

MANAGING AN ERP IMPLEMENTATION PROJECT USING BASIC SOFTWARE TOOLS AND WEB BASED SCHEDULING CONTROL

Accepted for publication at

III European Project Management Conference Jerusalem – Israel – 2000

PMI Global Congress 1999 - North America Philadelphia – Pennsylvania – USA – 1999

Abstract

Related Podcasts

 ☐ Software Development Projects: Are There Too Many Tribal Chiefs to Few Indians? http://rvarg.as/5n

 J Factors that make an Information Technology Project different from the other Projects http://rvarg.as/70

 ☐ Understanding the Rolling Wave Planning http://rvarg.as/6z

☐ How to keep the Stakeholders informed about the Project Deliverables: The Secret of the Milestones http://rvarg.as/b4

This paper presents a fast, inexpensive and safe process to plan and monitor ERP implementation processes like SAP R3. Based in concrete experiences at industrial unities of multinational companies, the process is considered simple and effective to control this kind of dynamic projects.

(ERP) Enterprise resource planning

The systems for Enterprise Resource Planning, known as ERP, are a set of interdependent elements organized into a single and complex whole that seeks to capture and globally manage the business. Due to the complexity of the implementation and to the dynamics of the business environment, it is necessary to ensure that the deadlines, the scope, and the costs of the projects are guaranteed, with the lowest cost control possible. The main stages of the process are described below, with suggestions for fast, inexpensive and safe implementation, based on our concrete experience at industrial units of multinational companies.

The main processes are:

- Team division and stratification.
- Implementation Methodology, Definition of Scope and Deadlines
- Preparation of Network Environment and Creation of Resource Pool
- Definition of the Web Environment
- Consolidating the Macro Project and Integrated Management

[®]Team division and stratification

The first step in the solution is to stratify the teams, taking as a base the Communications Planning and the company organizational structure. Three levels are created for the project control. They are: production, production management, and coordination (Exhibit 1).



Exhibit 1 – Team stratification for project control

Implementation Methodology, Definition of Scope and Deadlines

Most of the time the methodology to be used in the implementation is that developed by the actual software manufacturer, such as ASAP for SAP R3 (Exhibit 2).

4 Managing ERP Implementation using Basic Software Tools and Web Based Scheduling Control



Exhibit 2 - Accelerated SAP Implementation Assistant for project scope definition.

The level of detail of the methodology, which will be universally applied in all of the modules, should be defined together with the implementers, as well as structuring the generic content of the work that will be controlled by the project, and creating a basic Work Breakdown Structure for all of the modules.

From there, each module is detailed until the work packages are established. The work packages are controlled by the project teams themselves and, upon being completed, reflect the execution of the methodology activity.

The group, using mainly the expert judgment of consultants and implementers, determines the deadlines for each work package. A fundamental consideration is the simultaneous execution of the methodology activities in each module. For example, the prototyping of the financial and production planning, etc., should be carried out in parallel. If a module has completely different features from the rest, which impedes it from fitting in with the standard methodology, it will be developed separately and consolidated after the other modules, as is the case of the Basis group of SAP R3 (Exhibit 3).



Exhibit 3 – Structure of Implementation in Parallel and objects for Global Project.

Preparation of Network Environment and Creation of Resource Pool

Parallel to the group work in the modules, a computer network infrastructure is created for remote management. Taking advantage of the computers made available for the project team, a set of directories is created at the server, which will file the projects relative to each group in distinct folders, with access control possible for each user. Each team will have user access to the server, separated by groups of users, with access privileges defined beforehand.

All of those users will constitute part of the pool of resources that will now be created as a new project file containing a list of the system users, as well as a set of all the other resources to be used in the project. The list should include the E-mail addresses of each resource so that the electronic mail server directs the messages, thus installed in that same server. With the pool defined, every project file of every module is linked to the pool of resources, creating a network.

The greatest benefit of this structure is the centralized management of the team and the better visualization of the effort and the availability of each resource of the pool, independently of which module it actually belongs to. With the links established, it becomes necessary to allocate the resources in the project activities, allowing all of the responsibilities within each module to be established (Exhibit 4).

a Microsol	ft Proj	ect - Po	ol.mpp [Somente leitura]								_	BX
Arquive	o <u>E</u> dit	ar E <u>x</u> ibir	Inserir Eormatar Ferramentas Proj	eto <u>J</u> anela A	iuda							ð×
Dei	2 6	3 🖪 🖑	/ 🗴 🖻 🖻 ダ 😕 🍓 🥰	9 完 弹 噴	. 🗄 🤞	0	Q 🖉	60 -5	2			
\$ \$ •	÷ -	30 to	Arial 🔹 8 💌	NIS		Todos	s os recurs	os 🔹	7=			
		Rica	rdo Viana Vargas									
		Projeto	Nome do recurso	Trebelho	Tri 1 1999			Tri 2 1999			Tri 3 1999	-
12.0		Projeto	Diseade Viene Vernee	4.439.65	Jan	Fev	Mar	Abr	Maio	Jun	Jul	Ag
Calendário	-	000		1.120 hrs	296h	44h	190h	412h	186h		+	
	-	QIN	Preparar Intra-estrutura d	es 160 m	160h							
·	-	OM	Validar os Modelos e Oef	uni 92 hr		40h						
Gantt de	-	OM	Ativar Modelo de Referên	nie 30 hr			32n					
controle		OM	Oeterminar Necessidade	en 24 hr			συn	0.41				
1	-	OM	Formalizar Modelo Conce	ut 120 hr				24n				
		OM	Validar Infra-Estrutura Te	cn 56 hr				120M				
Gráfico de		OM	Levantar Dados de Interfa	ce 144 hr.				300	1126			
Gantt		-						5211	1120			·······
			1		Tri 1 1999			Tri 2 1999			Tri 3 1999	
Cráfico		Nome da	tareta		Jan	Fev	Mar	Abr	Maio	Jun	Jul	Ag
PERT	2	Prepara	rinfra-estrutura de sistema									
(Transmitt)	4	Gerar M	odelo Organizacional da Empresa no O	contexto SAP		90000						
	-	Validar d	os modelos e Definições				- 1					
Uso da	12	Ativar M	odelo de Referencia da Analise de Ad	erencia			(
tarefa	12	Formaliz	ar Modelo Coppetiuel]				
will	14	Validar I	nfra-Estrutura Tecnológica									
<u></u>	15	Levanta	r Dados de Interfaces com Chão.de.F:	ábrica							1	
Grafico de recursos	2	Prepara	r infra-estrutura de sistema					1000				
	ना			•	•						1	
Pronto								1	EST CA	PS NU	M SCRL	OVR

Exhibit 4 – Integrated Resource Pool control.

Definition of the Web Environment

The web environment is created through a web server to be installed in the server. All information about the project can be published as a web page using predefined Web Pages (Exhibit 5).

۵ 🖻	formaçõe:	s exportadas do Microsoft Project - Microsoft Internet Explorer		4		- 8
Fi	e Edit	View Favorites Tools Help		~7		10
+	Back 👻	🔿 🗸 🖄 🚮 🛛 🏹 Search 👔 Favorites 🖽 History 🛛 🔩 🐲	w • E			
Add	ress 🖉 SI	D.html			•	¢°G
0	ron	ograma Módulo QM				
Da	ta de térn	nino do projeto:Ter 11/5/99				
ν	auos_					
I	Nome_	da_tarefa	Duração	Data_de_início	Data_de_término	
Id 1	Nome_ - MÓI	da_tarefa	Duração 93 dias	Data_de_inicio Sex 1/1/99	Data_de_término Ter 11/5/99	
I a 1 2	Nome_ - MÓI Prep	da_tarefa DULO SD arar infra-estrutura de sistema	Duração 93 dias 17 dias	Data_de_inicio Sex 1/1/99 Sex 1/1/99	Data_de_término Ter 11/5/99 Seg 25/1/99	
I a 1 2 3	Nome_ - MÓI Prep. Trein	da_tarefa DULO SD arar infra-estrutura de sistema iamento	Duração 93 dias 17 dias 26 dias	Data_de_inicio Sex 1/1/99 Sex 1/1/99 Ter 26/1/99	Data_de_término Ter 11/5/99 Seg 25/1/99 Ter 2/3/99	
I (1) [2] [3] [4]	Nome_ - MÓI Prep Trein Gera	da_tarefa DULO SD arar infra-estrutura de sistema amento r Modelo Organizacional da Empresa no Contexto SAP	Duração 93 dias 17 dias 26 dias 5 dias	Data_de_inicio Sex 1/1/99 Sex 1/1/99 Ter 26/1/99 Qua 3/2/99	Data_de_término Ter 11/5/99 Seg 25/1/99 Ter 2/3/99 Qua 10/2/99	
I a 1 2 3 4 5	Nome_ - MÓI Prep Trein Gera Leva	da_tarefa DULO SD arar infra-estrutura de sistema iamento r Modelo Organizacional da Empresa no Contexto SAP ntar Situação Atual (AS IS)	Duração 93 dias 17 dias 26 dias 5 dias 17 dias	Data_de_inicio Sex 1/1/99 Sex 1/1/99 Ter 26/1/99 Qua 3/2/99 Qua 3/2/99	Data_de_término Ter 11/5/99 Seg 25/1/99 Ter 2/3/99 Qua 10/2/99 Sex 26/2/99	
I (1)23456	Nome_ - MÓI Prep Treim Gera Leva Elabo	da_tarefa DULO SD arar infra-estrutura de sistema iamento r Modelo Organizacional da Empresa no Contexto SAP intar Situação Atual (AS IS) orar Situação Futura no Contexto SAP R/3 (TO BE)	Duração 93 dias 17 dias 26 dias 5 dias 17 dias 15 dias	Data_de_inicio Sex 1/1/99 Sex 1/1/99 Ter 26/1/99 Qua 3/2/99 Qua 3/2/99 Qui 4/2/99	Data_de_término Ter 11/5/99 Seg 25/1/99 Ter 2/3/99 Qua 10/2/99 Sex 26/2/99 Qui 25/2/99	
I (1) 1 2 3 4 5 6 7	Nome_ - MÓI Prep Trein Gera Elabo Valid	da_tarefa DULO SD arar infra-estrutura de sistema iamento r Modelo Organizacional da Empresa no Contexto SAP intar Situação Atual (AS IS) orar Situação Futura no Contexto SAP R/3 (TO BE) lar os Modelos e Definições	Duração 93 dias 17 dias 26 dias 5 dias 17 dias 15 dias 3 dias	Data_de_inicio Sex 1/1/99 Sex 1/1/99 Ter 26/1/99 Qua 3/2/99 Qua 3/2/99 Qui 4/2/99 Sex 26/2/99	Data_de_término Ter 11/5/99 Seg 25/1/99 Ter 2/3/99 Qua 10/2/99 Sex 26/2/99 Qui 25/2/99 Qua 3/3/99	
I (1) 23 4 5 6 7 8	Nome_ - MÓI Prep Trein Gera Leva Elabo Valid	da_tarefa DULO SD arar infra-estrutura de sistema iamento r Modelo Organizacional da Empresa no Contexto SAP ntar Situação Atual (AS IS) orar Situação Futura no Contexto SAP R/3 (TO BE) lar os Modelos e Definições utar Análise de Aderência Baseado no Modelo de Referência	Duração 93 dias 17 dias 26 dias 5 dias 17 dias 15 dias 3 dias 10 dias	Data_de_inicio Sex 1/1/99 Sex 1/1/99 Ter 26/1/99 Qua 3/2/99 Qui 3/2/99 Qui 4/2/99 Sex 26/2/99 Qui 25/2/99	Data_de_término Ter 11/5/99 Seg 25/1/99 Ter 2/3/99 Qua 10/2/99 Sex 26/2/99 Qui 25/2/99 Qua 3/3/99 Qui 11/3/99	
I 123456789	Nome_ - MÓI Prep Trein Gera Leva Elabo Valid Exec Ativa	da_tarefa DULO SD arar infra-estrutura de sistema amento r Modelo Organizacional da Empresa no Contexto SAP ntar Situação Atual (AS IS) orar Situação Futura no Contexto SAP R/3 (TO BE) lar os Modelos e Definições utar Análise de Aderência Baseado no Modelo de Referência r Modelo de Referência da Análise de Aderência	Duração 93 dias 17 dias 26 dias 5 dias 17 dias 15 dias 3 dias 10 dias 15 dias	Data_de_inicio Sex 1/1/99 Sex 1/1/99 Ter 26/1/99 Qua 3/2/99 Qua 3/2/99 Qui 4/2/99 Qui 25/2/99 Qui 25/2/99 Qui 4/3/99	Data_de_término Ter 11/5/99 Seg 25/1/99 Ter 2/3/99 Qua 10/2/99 Qua 25/2/99 Qui 25/2/99 Qui 25/2/99 Qui 11/3/99 Qui 25/3/99	

Exhibit 5 – Web page with general information about a functional group in SAP/R3.

Through mail box programs for the web, which are included in most project management software, such as Team Inbox of MS Project 98, they are installed in the computers of production members of the project so that these can update their activities without having to directly access the project management software, saving the need to acquire software user licenses and making it much easier to update the team (Exhibit 6)

File Edit View Favorites Tools Help ↓ Back ⋆ → → ★ ੴ ▲ ∰ History ▲ ▲ ▲ ↓ Back ⋆ → → ★ ੴ ▲ ▲ ↓ ■ ↓ ▲ ↓ Back ⋆ → → ★ ੴ ▲ ▲ ↓ ■ ↓ Back ⋆ → ↓ ★ ੴ ▲ ▲ ♥ ▲ ↓ Back ↓ ★ ▲ ▲ ▲ ▲ ↓ ↓ ↓ ↓ ↓
← Back · → · · · · · · · · · · · · · · · · ·
Address 🖗 http://www.acc.com/b//angs/acc.acc
Addiss & http://www.aec.com.b//exchange/iou.asp
· · · · · · · · · · · · · · · · · · ·
Caixa de entrada Compose New Mail Message
Status da equipe
Responder Salvar e enviar depois Fechar
Calendar Caixa de entrada putas
Para: Ricardo Viana Vargas S
Contacts De: Ricardo Viana Vargas
Assunto: Status da equipe
Mensagem:
Names Obrigado.
Public Período do relatório para 'QM': qua 18/8/99 a ter 24/8/99.
Folders Nome da tarefa Início Trabalho restante
Total
Options
b de
Cloue no botão 'Responder' e, nas respectivas colunas, insira a quantidade de trabalho que está

Exhibit 6 – Microsoft Team Inbox for Project Control by e-mail in a Web Environment

These results suggest an apparent gain according to the scores obtained by these participants, although the study must be deepened with other groups and other companies to produce a working result that is more scientifically proven.

Consolidating the Global Project and Integrated Management

Finally the project files of each module are consolidated, filtered, and classified, forming a global file of the project that incorporates and compares the modules item by item, allowing the total control of the project, at the detail level desired and to the extent necessary, with a simple mouse command (Exhibit 7 and 8).

8 | Managing ERP Implementation using Basic Software Tools and Web Based Scheduling Control

a Microsol	ft Proje	ct - Consolidado.	трр										. 8
Arquive	o <u>E</u> dita	r E <u>x</u> ibir <u>I</u> nserir <u>F</u> o	rmatar Ferra <u>m</u> entas <u>P</u> rojeto Janela Aj <u>u</u> da										8
Dei	. 6	Q 💖 🕺 🖻	B 🖉 🗠 🍓 🦃 🗢 🌼 🛱 🖉 🔍 🤍	ର୍ 🍦	7 0	ت م	5 2	2					
\$ \$ •	+ -	🖧 🚓 🗛 Arial	🔹 11 💌 N 🗾 🔄 🗮 🗮 Consolid	ado			• 7	-					
		Preparar infra-e	strutura de sistema										
		Projeto	Nome da tarefa	2	3	4	5	6	7	8	9	10	11
Calendário	3	<u>Consolidado</u>	Preparar infra-estrutura de sistema										
	2	PM	Preparar infra-estrutura de sistema		1 1	•							
<u></u>	2	QM	Preparar infra-estrutura de sistema		1								
Diagrama	2	SD	Preparar infra-estrutura de sistema		l								
de Gantt	4	<u>Consolidado</u>	Treinamento					_					
T##	3	PM	Treinamento				-	_	-	-		1	
Gantt de	3	QM	Treinamento					_					
controle	3	SD	Treinamento						1				
	5	<u>Consolidado</u>	Gerar Modelo Organizacional da Empr	┢──									
Gráfico de	4	PM	Gerar Modelo Organizacional da Empresa	₩									
Gantt	4	QM	Gerar Modelo Organizacional da Empresa	Í					ļ.				
명의	4	SD	Gerar Modelo Organizacional da Empresa										
Cráfico	6	<u>Consolidado</u>	Levantar Situação Atual (AS IS)						1				
PERT	5	PM	Levantar Situação Atual (AS IS)	1									
	5	QM	Levantar Situação Atual (AS IS)						1				
	5	SD	Levantar Situação Atual (AS IS)					_	-				
Uso da tarefa	7	Consolidado	Elaborar Situação Futura no Contexto						1				
	I I	1			I								
Pronto							EST	i (CAPS.	NUT	1 5	CRL	OWF

Exhibit 7 – Global Project View

Microsof	t Proje	ct - Consolidado.m Exibir Inserir For	ipp natar Ferramentas Projeto Janela Siurla		-
		A ** X Ba		2	
(P 5) 1		C A Aria		Y YE	
		Consolidado			
		Projeto	Nome da tarefa	Custo total	
landária	3	Consolidado	Preparar infra-estrutura de sistema	R\$ 13.603,28	
endano	2	PM	Preparar infra-estrutura de sistema	R\$5.074,16	
THII	2	QM	Preparar infra-estrutura de sistema	R\$5.969,60	
agrama	2	SD	Preparar infra-estrutura de sistema	R\$2.559,52	
e Gantt	4	Consolidado	Treinamento	R\$ 19.594,24	
	3	PM	Treinamento	R\$6.835,20	
	3	QM	Treinamento	R\$6.835,20	
antt de	3	SD	Treinamento	R\$5.923,84	
	5	Consolidado	Gerar Modelo Organizacional da Empresa no Cor	R\$ 3.958,80	
T++-1	4	PM	Gerar Modelo Organizacional da Empresa no Contexto	R\$701,60	
áfico de	4	QM	Gerar Modelo Organizacional da Empresa no Contexto	R\$1.854,00	
Santt	4	SD	Gerar Modelo Organizacional da Empresa no Contexto	R\$701,60	
诏	6	Consolidado	Levantar Situação Atual (AS IS)	R\$ 7.749,84	
	5	PM	Levantar Situação Atual (AS IS)	R\$2.688,72	
PERT	5	QM	Levantar Situação Atual (AS IS)	R\$2.372,40	
	5	SD	Levantar Situação Atual (AS IS)	R\$2.688,72	
	7	Consolidado	Elaborar Situação Futura no Contexto SAP R/3 (T	R\$ 2.940,00	
lso da	6	PM	Elaborar Situação Futura no Contexto SAP R/3 (TO BE)	R\$980,40	
areta	6	QM	Elaborar Situação Futura no Contexto SAP R/3 (TO BE)	R\$980,40	
			di ci	cer I croc I and	- Cont

Exhibit 8 – Integrated Cost in Global Project

Conclusions

The greatest objective of this study was to find an inexpensive, simple, and viable way that can be employed to set up complex and large scale ERP systems, without causing any loss of reliability in regard to how it functions and the failures of the programs.