Customer Success Is Our Mission



To drive standardization, integration, implementation, and optimization of SAS processes, measures, and resources to achieve proven Mission Assurance.

Copyright © 2012 Raytheon Company. All rights reserved. *Customer Success Is Our Mission* is a registered trademark of Raytheon Company.

Agenda

- What do I really want to do?
- What does "agile" mean?
- Is Microsoft really still significant?
 - Has anyone paid attention to Apple Stock?
 - I love Google Apps but ...
- Let's take this environment for a test drive!
- Now let's take it to the Nurburgring!
- "I have a dream"





Abstract

Building an Agile, Collaborative Environment for Capturing Productivity Based Cost Model Data

By David Bloom Raytheon Company, Space and Airborne Systems, El Segundo, CA 90245, USA Email: <u>David A Bloom@Raytheon.com</u>

Understanding and analyzing productivity within an Aerospace electronics development organization requires continuous oversight and adjustment. For example, in digital electronics, a corollary to Moore's Law says that the capability of digital processor components doubles every 18 months. This would imply that the cost to design a set of digital electronics products to deliver a specific state-of-the-art capability would change (become less) as a function of the ability to incorporate more features on any one component.

This paper will discuss how Raytheon Space and Airborne Systems (SAS) Electronics Center (EEC) built an extremely agile, collaborative environment in order to track in-process productivity of the development of electronics systems and sub-products of those systems. The fundamental basis of this discussion is that productivity will be defined as the number of labor hours to produce a product of certain size (hours/size), where the size of any particular product is encapsulated by a parameter called an "Effective Key Size Metric" (eKSM).

The collaboration technology platform that the Raytheon SAS Electronics Center built upon was Microsoft Sharepoint 2010, but other collaboration technologies like Google Docs could easily be applied. The most important pieces for the success of collecting the required productivity data are well defined data requirements, ease of access, data visibility and constant data review.

What Would the Requirements Look Like?

- Wouldn't it be amazing if we had a computing environment that is ...
 - Web Based
 - Standard permissions
 - Open to everyone that needs it
 - Extensible
 - Collect cost data for any type of product
 - Data visible to corporate applications
 - 3rd Normal Form
 - Collaborative
 - 80 pairs of boots on the ground
 - No lockouts like eRoom
 - Self-Serve
 - Minimum IT involvement
 - Does not require full time administration
 - Agile
 - Data collection needs are always changing
 - Report productivity close to real time
 - Tell a story with charts
 - Tightly integrated with Microsoft Office





What the user asked for







How the system was designed

As the programmer wrote it



. E

What the user really wanted

How it actually works

What is Agile?

Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions over processes and tools Working software over comprehensive documentation Customer collaboration over contract negotiation Responding to change over following a plan

> That is, while there is value in the items on the right, we value the items on the left more.

Source: agilemanifesto.org

Why Agile - Principles behind the Agile Manifesto

- Satisfy the customer through early and <u>continuous delivery</u>.
- Welcome changing requirements, even late in development.
- Deliver working software.
- Business people and developers must work together.
- Build projects around <u>motivated individuals</u>. Give them the environment and support they need, and trust them to get the job done.
- Face-to-face conversation.
- Working software is the primary measure of progress.
- Agile processes promote **<u>sustainable</u>** development.
- Continuous attention to <u>technical excellence and good design</u>.
- Simplicity.
- Self-organizing teams.
- At regular intervals, the team reflects on how to <u>become more effective</u>.

Source: agilemanifesto.org/principles.html

SAS SharePoint Functionality Fit



SharePoint Functionality That Enables No-Code Solutions

- Lists (like database tables) and libraries
 - Integration with Office client applications
 - Office Web Apps: Multi-user, co-authoring, browser-based editing
- Metadata: content management, document assembly, so much more...
- Workflow & business process automation
 - InfoPath forms & SharePoint Designer workflows

Migration user

opens the migration form and imports pre-

product data

 Forms: list forms, InfoPath forms (browser-based fill-in)

and librarian	Site Actions 👻 対 Brows	e Items List	
and indianes		Show Task Pane	Modify View 🖌 Current View:
lications	Standard Datasheet New	∑ Show Totals	Create Column All Items
lications	View View Row	Refresh Data	View Navigate Up Current Page
authoring.	View Format	Datasheet	Manage Views
	Libraries Site Bases	🔲 🥥 Title	Category
	Lists	Test 1	Test
aant	Discussions	Test 3	Test Update
ient,	Beta Test Discussion	Test 3	Test
ph more	Forum SAS EC	Test 4	Update Test
	Apex Actuals	Test 5	lest
		Test 3	Update
5		Add new item	-
	Test UI: Addition Test -	New Item	
lanor	Edit		
signer	- 📘 🗾 📑 🎒	ut ABC	
	Save Cancel Paste	Attach Spelling	
	Commit Clipboard	Actions Spelling	
nms			
	Category	Canal Gantian	
	Data	Specification	_
	Data2		
	Result		
			Save Cancel
license in the second			
user submits the form,			
which populates the		V Complete I	
product list		e completei	

List Tools

SharePoint Functionality That Enables No-Code Solutions

- Data analysis
 - Excel services, PowerPivot, SQL Server Reporting Services
- Data visualization
 - Web Parts: Excel Services, Chart, PerformancePoint, KPIs, Visio services
- Out-of-box lists & applications: Issue tracking, bugs, projects, etc.
- Rapid application development: Access services, InfoPath, Visio



Sharepoint: Self-Serve Intranet Development



Copyright © 2012 Raytheon Company. All rights reserved. 3/29/2012 Page 10

Product Tracking Schema

- Suggested relational database/SharePoint list schema
 - Organizes existing program data within multiple tables to reduce complexity and allow for more robust tracking and visualization

Think Best Buy!



The Power of Lists!

(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)			nuows internet														
	0 1656 1/sites/external	Lists/Northwinds%2	20Customers/Read	%20List.aspx			N D Bing	_									
avorites 🔡 🖌 📴 H	Home - Central Admini	stration 🔀 North	winds Customers -	×			🔞 • 🗟 • 🖃 🦷 •	Page +	Safety - Tool:	5 - 🕑 -							
ctions - 😥 Brow	List Tools se Items List							Mr A	Administrator	-		1 List	with				
									<i>i</i> 5	Pg 🔺							
External → No	rthwinds Cust	omers + Nort	thwindCusto	mers Read Li	ist 🗸				I Like It Tag No	is & ites	CUS	stomiz	ed viev	ws			
ne							Search this site		Q	3							
aries	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region PostalCode	Country	Phone	Fax							
Pages	ALFKI	Alfreds	Maria Anders	Sales	Obere Str. 57	Berlin	12209	Germany	030-	030							
ed Documents	ANATR	Ana Trujillo	Ana Trujillo	Owner	Avda de la	México	05021	Mexico	(5) 555-	(5)							
te l	00011	Emparedados y	And Hojino	owner	Constitución	D.F.	05021	Hexico	4729	374							
endar	ANTON	Antonio Moreno	Antonio	Owner	Mataderos	México	05023	Mexico	(5) 555-								
ks		Taquería	Moreno		2312	D.F.			3932								
hwinds Customers	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	WA1 1DP	UK	(171) 555- 7788	(17 67!							
	BERGS	Berglunds	Christina	Order	Berguvsvägen	Luleå	S-958 22	Sweden	0921-12 3	4 09:							
cussions		snabbköp	Berglund	Administrator	8	Manakain	60006	G	65	67							
m Discussion	BLAUS	Delikatessen	nanna moos	Representative	rursterstr. 57	mannneim	00300	Germany	0621-0846	0 00/		Yes	Micro	soft			
Desuela Ric	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24, place Kléber	Strasbourg	67000	France	88.60.15.3	1 88.							
All Site Content	BOLID	Bólido Comidas	Martín	Owner	C/ Araquil, 67	Madrid	28023	Spain	(91) 555 2	2 (91		loves	the ril	obon			
		preparadas	Sommer					_	82	99							
	BONAP	Bon app	Lebihan	Owner	12, rue des Bouchers	Marseille	13008	France	91.24.45.4	0 91.							
																	00
	BOTTM	Bottom-Dollar	Elizabeth	Accounting	23 Tsawassen	Tsawassen	BC Sales Forecast 20	00 - Bossak	esForecast Read	I List - Windows Internet Expl	over						
	BOTTM	Bottom-Dollar Markets B's Beverages	Elizabeth Lincoln Victoria	Accounting Manager Sales	23 Tsawassen Blvd. Fauntlerov	Tsawassen	BC Sales Forecast 20	ttp://localh	esForecast Read	I List - Windows Internet Expl COF overact %202000/ Rochales	ForecastReadList.asps			_	• + × 4	kogie	
	BOTTM	Bottom-Dollar Markets B's Beverages	Elizabeth Lincoln Victoria Ashworth	Accounting Manager Sales Representative	23 Tsawassen Blvd. Fauntleroy Circus	Tsawassen London	Boge Sales Forecast 20	ttp://localh	esForecast Read lost/Lists/Sales* blogs.msdn.ce	f List - Windows Internet Expl 2017 orecast 120000/10 citales m-b	orer ForecastReadList.espi et Filteri	eracters Are Lu	y Timesheets - Proje	de Surefriet	• 47 × 24	koopie Ieutou - Home 🎵 D	Deumload Confirmatio
	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Blvd. Fauntleroy Circus Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecast 20	ttp://localh	esForecast Read lost (Lista/Sales) blogs.msdn.co	f List - Windows Internet Expl 2017 stecart 1212000 Bockales m-b filterzen SharePoir	over ForecastReadList.asps nt Filteri	eracters Are Lu	y Timesheets - Proje	ct (g) ShanePoint	• ++ × 4	koopie levbox - Home 🚺 D	Deveniced Confirmatio
	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Blvd. Fauntleroy Circus Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecast 20	ttp://localh	esForecaut Read	I List - Windows Internet Expl 2017 one cart 127 2014 (Tochales m-b	ioner ForecastReadList.anpr nt Filter	aracters Are Lu Ø New Ta	y Timesheets - Proje	ct	• + + × 4	kogle Ievbox-Home 💟 D 3 👼 + Page+	Dewnload Confirmatio Safety + Tools +
1	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Blvd. Fauntleroy Circus Cerrito 333	Tsawassen London Buenos Aires	BC C Sales Forecast 20	ttp://localh // http:/ email.Conte	esForecaut Read est/Lists/Sales* blogs.modn.co ont Types 255 List.Tools Beens Lo	f List - Windows Internet Expl 200 averant 20000 / Bockales m-b Con Filteroen SharePoin ales Forecast 2000 - Bc X	over ForecastReadList.stps nt Filteri 👷 Special Ch 🍘 Troy Scott's Web Blog	eractions Are Lu Ø New Ta	y Timesheets - Proje	at _ (g) SharePoint	• 4 × 4	kogir Ievbox - Home 💽 D 3 👼 + Page +	Download Confirmatio Safety + Tools + Scott, Troy +
art 遇 🗵	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Blvd. Fauntleroy Circus Cerrito 333	Tsawassen London Buenos Aires	BC C Sales Forecast 20 C C C C C C C C C C C C C C C C C C C	ttp://localh ttp://localh ttp:/localh http:- email Conte Downer	esForecaut Read ext / Lists / Sales 1 blogs.msdn.co ent Types	d List - Windows Internet Expl LDI execust 1212000 Recisies m-b filterzen SharePoi ales Forecast 2000 - Bc X a a	over ForecastReadList.expr Int Fiteri SP Special Ch Troy Scott's Web Blog Troy Scott's Web Blog	aracters Are Lu Ø New Ta	y Timesheets - Proje	ct g) SharePoint	• + + × M o	kopir Iestox - Home 🚺 D 3 👼 + Page +	Nounload Confirmatio Safety • Tools • Scotty Troy •
art 🔣 🗵	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Blvd. Fauntleroy Circus Cerrito 333	Tsawassen London Buenos Aires	BC Sales Forecast 20 Provide Sales Forecast 20	00 - Bessan Itp://localh @http- ennal Conte Ettome	esForecast Read blogs model color ant Types C S Last Tools Rems Lo Show Task P	I List - Windows Internet Expl COF executive 2000 Bockster m-b filtersen ShareFoil ales Forecast 2000 - BcX a trans Create Colo	over ForecastReadList.expr nt Fitteri	enetters Are Lu	y Timesheets - Proje	ct = (g) SharePoint.	fy × 4	kopir Ierbox - Home 💽 D 3 👼 + Page + Parts + 🕎	Nounload Confirmatio Safety + Tools + Scott, Troy +
art 🧸 💋	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Blvd. Fauntleroy Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecast 20 Proventes & Step Actions * Step Actions * St	ID - Bossak Hyp./ Tocalh Mtp- email Conte Downe Downe New Row	esForecast Read blogs.mode.co ant Types 3 5 Last Tools Tems Lo Show Tatals Show Tatals Refresh Out	I List - Windows Ditemet Expl List - Windows Ditemet Expl List - Windows Ditemet Expl List - Constant - Consta	ForecastReadList.app ForecastReadList.app Intry Scott's Web Blog Try Scott's Web Blog W - Current View M BcsSalesForecas - U - 1 - 30 +	Nextens Are Lu	y Timesheets - Proje	et = (g) SharePoint	fy × 4 X	Roopie Revbox - Home C D 3 - Page + Parts - Farts - Lott step Settings Pr	Salety + Tools + Salety + Tools + Scott, Tray + Ext. Ext. Wachfow Wachfow
art 🔣 💋	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Blvd. Fauntleroy Circus Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecast 20 Provide a series of the series of	10 - Bessau ttp://localh amal Conte Bowere New Row	esForecast Reac est (Lists/Sales) blogs.modn.co ont Types	4 Luit - Windows Ditemet Expl L00 mecant/L00000 Bickleier m-b	over ForecastReadList.aspx re Filteri. St Special Ch Troy Scott's Web Blog W - Current View BosSalesForecas - 0 - 1 - 30 - pe Views	Anactien Are Lu Phone Tai E-mail a Asso Share & Taok	y Timesheets - Proje	et	fy × M zono Develope control of the second	Rongie Inston - Home () D S () · Page - Parti - List List List	Anamiana Confirmatio Safety - Tools - South, Troy - South, Troy - Lint Wandhow Wandhow Settings - Settings
nt	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Blvd. Fauntleroy Circus Cerrito 333	Tsawassen London Buenos Aires	BC & Seles Forecard 20 Provide a selection of the select	to - Bessain ttp://localh ttp://localh ttp:/localh Bessain Re	esForecast Reac est Lists/Sales' blogs.modn.co int Types 55 5 List Tools Rems Lo Show Task P Show Task Dat Datashert 1D	I Lut - Windows Internet Expl LOT encod VCM260 Rocksler m-b	over ForecastReadList.asp et Fiteri St Special Ch Troy Scott's Web Blog w - Current View um EctSalerForecas - 0 + 1 - 30 ; pr Views MonthMa	necters Are Lu Men Ta New Ta E-mil a Share & Tack Share & Tack ame WeekNumber	y Timesheets - Proje	et	ty X III Constraints the second sec	inopir Ientox - Home () D 3 () - Page + 2 () 2 () 2 () 2 () 2 () 2 () 2 () 2 ()	Newnload Centimute Safety + Tools + South, Troy + South, Troy + Lint of South Settings Settings Settings
nt \rm 🔭 🔀	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Bivd. Fauntleroy Circus Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecast 20 Proceeding and the second a	ID - Ressain ttp://localh / Thtp- email Conte Rower New Row	esforecust Resc est Lists Sales' blogs model co int Types 33 5 List Tools Rems to Show Tatas P Show Tatas Refresh Out Datasheet ID April-Week	I Lut - Windows Internet Expl Lut - Windows Internet Expl Lut - Windows 2000 Rockster m-b	over ForecastReadList.aspx et FilterL. SP Special Ch Troy Scott's Web Blog w - Current View umm BcsSalesForecas - p Views MonthPu Agnil	aracters Are Lu. Area Lease Area Area Santa Area Santa Arack Santa Arack Santa Arack Santa Arack Santa Arack Meeki 14	y Timesheets - Proje	ct g) ShandPoint. (Cleater Visso Di (Cleater		inger Indox - Home () D 3 () - Page - Parts - Stein Step Steinigs P Unit LastYearAmount 1562,5900	Adventised Confirmation Safety • Tools • South, Troy • South, Troy • South, Troy • South, Stroy • South, Stroy • South, Stroy • South, Stroy • South, Stroy • South, Stroy • Stroy • • Stroy • Stroy •
nt	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Blvd. Fountleroy Circus Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecard 20 Proceeding and the second 20 Proceeding and	ID - Ressau Ity: / localh / http- emal Conte Biovece New Row	est Concest Rese ent Lists Sales' blogs model on types 20 S isot Tools Rems U U Show Task P Show Task P Show Task P Show Totals Refers Data Batasheet 1D April Week Agril-Week	I Lui - Windows Internet Espl Lui - Windows Internet Espl Lui - Start - Star	over ForecastReatList.aspx et Filter	anecters Are Lu. Phew Tal Phew Tal Emit A Area Share & Taok Week 14 Week 14	y Tenscheets - Proje	ct (c) SharePoint.	tay in the second	Retox - Home C D Retox - Home C D 3	Aventeed Confirmation Safety = Tools = Societ, Front = Societ, Front = Settings ForecastAmount 3500 5500
art 🛃 🗾	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Astworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Teawassen Bivd. Fauntleroy Circus Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecard 20 Proceeding and the second 20 Proceeding and 20 Pro	DD - Ressau ttp://localh email.Conte Elovere New Row	esforecast Reas exet Lists Salest blogs.middn.co ent Types (1) 5 Cost Tools Brens Lin Schour Stark F Schour Stark Data Datashtet 10 April Week April Week	4 Lut - Windows Internet Expl Lut - Windows Internet Expl Lut - Windows 2000 Biologics Internet	over ForecastReadList.anpv nt Filten	enecters Are Lu- Phew Tal New Tal E-mail a Share & Tack Week Tal Week 14 Week 14 Week 14	y Timesheets - Proje Signal Constraint SalesCruck Pacific Pacific Pacific	st -	ty ty	Retox - Home C D Retox - Home C D S - Page - Pati - Estro Setting Pe Lat Lat Lat Lat Lat Lat Lat Lat	Anenhoad Certimetic Safety + Tools + South, Trov + South, Trov + Wentfoor Settings Settings Settings Safot 3500
art 🛃 💋	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tawasen Bivd. Fauntheray Circus Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecard 20 Proceedings of the second 20 Proceedings	ID - Ressait Itg://localh amal Conte Elovere New Row	esforecast Reac exet Lists Salest blogs mide.co ent Types () 5 Cost Tools Brens Un Schoer Tast R Schoer Tasts Bretresh Dat Datashtet 10 Aquil Week Aquil Week	1 List - Windows Internet Expl List - Windows Internet Expl List - State - State - State - State - State - State - State- State-	over ForecastReadList.aspo rt Fiteri. SP Special Ch Troy Scott's Web Blog w - Current View w - Current View w - Current View w - Current View Monton April April April	macters Are Lu. Mew Ta Mew Ta Mew Ta Share & Task Share & Task Week 14 Week 14 Week 14	y Timesheets - Proje	et (2) SharePoint. (2) Create Woo Du (4) Copen with Acc (5) Copen Schedul (5) Copen SelestRegion Australia Australia Creada Creada		Roopir Revious - Home () 0 3 () - Page - Farts - Int Stern	Advantaced Confirmation Safety = Tools = (South, Trow = South, Trow = Settings Settings ForecastAmount 3500 3500
art	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cectus Comidas para	Elizabeth Lincoln Victoria Astworth Patriajo Simpson	Accounting Manager Sales Representative Sales Agent	23 Tawasen Elvd. Faurtheroy Cerrito 333	Tsawassen London Buenos Aires	BC & Seles Forecard 20 Provide a seles forec	ID - Bessan Itp://localh itp://localh Itp	est Grecast Reac ext Lists Sales blogs model color blogs model colo	1 Lut - Windows Internet Espi LOF encost VLC0260 Rockers mb	over ForecastReadList.aspo rt Fites. SP Special Ch Troy Scott's Web Blog w - Current View um EctSalerForecas - 0 + 1 - 30 ; pr Views Mondolfs April April April April April	erecters Are Lu. Prev Ta Prev Ta Pare & Task Pare & Task Pare & Task Week 14 Week 14 Week 14 Week 14 Week 14 Week 14 Week 14	y Timoheds - Proje	et (2) SharePoint (2) Create Viseo Di (3) Open with Add (3) Open with Add (4) Open with Add (4) Open with Add (4) Open with Add (4) Open with Add (5) Open with Add (5) Open with Add (6) Open with Add (7) Ope		Rodgin Instance Image Image Instance Homes Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image	Advantaced Confirmation Safety = Tools = South, Trow = South, Trow = Settings Settings Settings Settings Settings Settings Settings South State South State Stat
art 📸 🛃	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Astworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawasen Bivd. Fauntieroy Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecard 20 Provide a state of the second 20 Provide a state	ID - Bessan Itp://localh Itp://localh Itp://localh Research Research Item Item Ite	est forecast Reac exit (Lists/Saler) blogs.mod.ce est Types 3 1	1 Lut - Windows Internet Expl Lot encast V2020 Biol Biol Select mit	over ForecastReadList.aspx et FitterL. SP Special Ch Troy Scott's Web Blog w - Current View um EctSatesForecas + 0 4.1-30 + pt Views MonthNa April April April April April April April April April	arecters Are Lu Prev Ta Prev Ta Pr	y Tenscheets - Proje	ct (g) SharePoint. (g) Create Visio Di (g) Open with Act (g) Open with Act (g) Open Schedult 6 Open Australia Australia Canada Canada Canada Canada		Redox - Home () 0 2 - Page - Parti - - Parti - - Status - Status - Status - Last Clear-Amount - 1562.5900 - 952.3100 - 1065.4200 - 6896.3100 - 534.1000 -	Adventised Confirmation Safety + Tools + South, Trov + South, Trov + Settings Settings Settings Settings Safety
art 🕹	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cectus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawasen Bivd. Fauntieroy Cerrito 333	Tsawassen London Buenos Aires	BC & Seles Forecast 20 Provide a seles forec	D - Bessain ttp://localh a http- mail Conte Downer New Row I Sa	estination of the second secon	1 Lit - Windows Internet Espik Lit - Windows Internet Espik Lit - Grand State - Cranter State - Cranter Call - Cranter Ca	over ForecastReadList.aspx et Fitten	arecters Are Lu. Arecters Are Lu. Arecters Arecters English Arecters Dare & Tarecters Work 14 Work 14 Work 14 Work 14 Work 14 Work 14 Work 14 Work 14 Work 14 Work 14	y Timesheets - Proje Second States Construction SalesCroup Pacific Pacific Pacific North America North America Burope Europe	ct (2) SharePoint. (2) Creater Visios Di (3) Open sitte Activity (3) Open sitte Activity (4) Open sitte Activity		Retox - Home III 0 2 - Page - Parts - Selfings P Parts - Selfings P LastYear-Arnount 1562,5900 54619,1800 952,3100 1065,4200 6996,3100 534,3000 534,3000 1948,3300 1948,3300	Adventised Confirmation Safety + Tools + South, Trov + South, Trov + South, Trov + South, Tools + South, South, So
nt 🔡 🗾	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawasen Elvd. Fauntieroy Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecast 20 Proceeds of the second 2	to - Bessain to / Jocath a http- mail Conte Bow New Row I Sa	est forecast Rease exit (Lists/Salect blogs.mode.ce ent Types) 3 1 10 10 1000 Schoer Taste F Schoer Taste F Sch	1 Lit - Windows Internet Espik Lit - Windows Internet Espik Lit - Start - Call - Bicar - X Internet - Call - Bicar - Start - Call Internet - Call - Bicar - Start - Call Internet - Call - Cal	over ForecastReadList.arps et Filter	anecters Are Lu. Area Luise Luise Area Marea & Taxa Week 14 Week 14	y Timesheets - Proje See Shareford Engon Cenes SalesGroup Pacific Pacific Pacific Pacific Pacific Pacific North America North America Burope Europe Europe	Autralia Canada Canada Canada Canada Franca Franca Franca		Bettox - Herme IP 2 - Page - Florti - Settings Page - Florti - Settings Page - Step Settings Page - LostYeer-Arrowt 1562.5900 54535.100 1562.5900 54535.100 592.3100 1065.4200 6699.3100 534.3600 534.3600 524.3200 224.5300	Anonhoad Certimatio Safety + Tools + South, Trov - South, Trov - Wardfoor Settings Settings ForeCastAmount 3500 3500
art	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Contidas para	Elizabeth Lincoln Victoria Astworth Patricio Simpson ashe a lot	Accounting Manager Sales Representative Sales Agent	23 Tawassen Elvd. Faurtleroy Cerrito 333	Tsawassen London Buenos Aires	BC & Seles Forecast 20 Proceedings of the selection of t	et 10 et 10 10 10 10 10 10 10 10 10 10	est (Linn/Saler) blogs model, can/Saler) blogs model, can/Saler) blo	1 Lit - Windows Internet Expl Lit - Windows Internet Expl Lit - King - State - State State - State State State State	over ForecastReadList.aspo rt Fiteri. SP Special Ch Troy Scott's Web Blog w - Current View w - Current View w - Current View w - 1 - 30 + p View P View MontoSp April	macters Are Lu. Mere Ta Share & Tack Share & Tack Share & Tack Week 14 Week 14	y Timesheets - Proje	Australia Canada Canada Canada Franca Franca Franca Franca Germany		Revolut Revolut - Home () 0 3 @ - Page - 100 100 100 100 100 100 100 10	Advantaced Continuation Safety = Tools = (South, Trow = South, Trow = Contention Settings ForecastAmount 3500 3500
art	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Comidas para	Elizabeth Lincoln Victoria Astworth Patriago Simpson	Accounting Manager Sales Representative Sales Agent	23 Tawasen Elvd. Faurtheroy Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecast 20 Provide a state of the second 20 Provide a state	et to second	est function Research	1 Lut - Windows Internet Espi Lut - Windows Internet Espi Lut - Constant - State - Constant - State - Constant - State - Australia - Accessories 14 - Australia - Baces 14 - Canada - Accessories 14 - Canada - Accessories 14 - Canada - Costhing 14 - Canada - Costhing 14 - Canada - Costhing 14 - Canada - Costhing 14 - France - Bakes 14 - France - Costhing 14 - France - Costhing 14 - Germany - Accessories 14 - Germany - Accessories	over ForecastReadList.aspo rt Fites. SP Special Ch Troy Scott's Web Blog W - Current View w - Current View April	erecters Are Lu. Prove Trace Prove & Trace Prove & Trace Prove & Trace Provek 14 Week 14	y Timoheds - Proje	kt (2) SharePoint (2) Create Visio Di (2) Open with Add (3) Open with Add (4) Ope		Nonjir Invitor - Home [] 0 2 - Page - 3 - Page - Farti -	Atunicad Confirmation Safety = Tools = South, Trov = South, Trov = Settings Settings Settings Settings Settings South State South State S
nt	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Astworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawasen Bivd. Faunteroy Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecast 20 Provide actions + 20 Sender Ducysheet Vere Format Libranes Shared Document Libra Calendar Taska Custom List test Sales Forecast To Sales Forecast 20 Discussions	et et al.	est (Lists/Saler) ext (Lists/Saler) blogs.msdn.ce est Types () 3 Unit Toell Reins U U Show Task P Show	1 Lut - Windows Internet Expl Lut - Windows Internet Expl Lut - Windows Internet State Internet - Control - Bic X Internet - Control - Bic X Internet - Control - Bic X Internet - Control - Bic X 14-Australia-Accessories 14-Australia-Accessories 14-Canada	over ForecastReadList.aspo rt Fites. St Special Ch Troy Scott's Web Blog W - Curtent View w - Curtent View April April April April April April April April April April April April April April April April April	erecters Are Lu Prev Ta Prev Ta Prev Ta Prev Tack Prev 14 Week 14 Week 14 Week 14 Week 14 Week 14 Week 14 Week 14 Week 14 Week 14	y Tenchects - Proje	et (2) SharePoint. (2) Create Viseo Di (3) Open with Act (4) Op		Retor - Home C 0 Partix - Page - Partix - Lastream - Setting Partix - Lastream - Lastream - Lastream - Setting Partix - Lastream - Setting Partix	Advantaced Confirmation Safety + Tools + South, Trov + Setting: ForecastAmount 3500 3500
art	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Astworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawasen Bivd. Fauntieroy Cerrito 333	Tsawassen London Buenos Aires	BC & Seles Forecast 20 Provide a seles forec	et localitation and a localitation of the loca	est forecast Rese ext (Lists/Salect blogs.model.ce ent Types) 3 and Reset U (Lists/Salect Schoel Task II Schoel	1 Lit - Windows Internet Espik Conferencest VICE 2010 Biologies Internet Conferencest VICE 2010 Biologies Internet Conferencest VICE - Biologies Internet Conferencest VICE - Biologies Internet Conferencest VICE - Biologies Internet Conferencest Internet Conferencest	over ForecastReadList.aspx et FitterL_ SP Special Ch Troy Scott's Web Blog w - Current View: umm BcsSatesForecas + p + 1 - 30 + pe Views Month/M April	anacters Are Luc. Area Constant Entrie Area Area Constant Week 14 Week 14	y Tenscheets - Proje Second States Cese Construction SalesCroup Pacfic Pacfic Pacfic Pacfic Pacfic North America North America North America North America Burope Europe Europe Europe Europe Europe Burope	ct _ g) SharePoint.		Bettos - Home C 0 2 - Page - Parti - Selfings Page - Parti - Selfings Page - Step Selfings Page - LastPage - Selfings Page - 1562.5900 S4639.1800 545.9.1800 952.3100 1565.4200 6696.3100 534.3800 534.3800 234.9300 1949.3300 236.9205 2007.4900 1217.2400 1217.2400	Adventised Confirmation Safety + Tools + South, Trov + South, Trov + South, Tools + South, Tools + South Settings ForecastAmount 3500 8500
art	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Cactus Comidas para	Elizabeth Lincoln Victoria Ashworth Patricio Simpson	Accounting Manager Sales Representative Sales Agent	23 Tsawasen Elvd. Fauntieroy Cerrito 333	Tsawassen London Buenos Aires	BC & Sales Forecast 20 Provide a solution of the solution of	et to	est forecast Research	1 Lat - Windows Internet Espik Conferencest (2000 Biol Biol Select michon Conferencest (2000 Biol Select michon Conferencest (2000 Biol Select michon Conferencest (2000 Biol Select Marrier Conferencest (2000 Biol Select Marrier Data Austrafian-Accessones 14-Austrafian-Accessones 14-Canado - Accessones 14-Canado - Accessones 14-Canado - Accessones 14-Canado - Accessones 14-France-Accessones 14-France-Accessones 14-Germany-Bioles 14-Germany-Bioles 14-Germany-Bioles 14-Germany-Bioles 14-Germany-Bioles 14-Germany-Cothing 1	over ForecastReadList.aspx et Filter	aracters Are Lu. Mere Constant Date of Track Track Week 14 Week 14	y Timesheets - Proje	kt - P SheePoint		Booght Revious - Hermine III 0 3 III - Page - Fanti - Settings Page IIII - Settings Page Estern Estern IIIII - Settings Page Stati - Settings Page Estern Estern Stati - Settings Page Station Statings Page Statings Page Station Stating	Anunload Centimatio Safety + Tools + South, Trov + South, Trov + Settings Settings ForeCastAmount 3500 3500
art	BOTTM BSBEV CACTU	Bottom-Dollar Markets B's Beverages Comidas para	Elizabeth Lincoln Victoria Astworth Patriagio Simpsion	Accounting Manager Sales Representative Sales Agent	23 Tsawassen Elvd. Fauntleroy Clircus Cerrito 333	Tsawassen London Buenos Aires	BC & Seles Forecard 20 Provide a seles forecard 10 Provide a seles forec	et to	estineat Reserver Res	1 Lit - Windows Internet Espi Lit - Windows Internet Espi Lit - Windows Internet State Internet Intern	over ForecastReadList app rt Fites. SP Special Ch Troy Scott's Web Blog w - Current View w - Current View April	rectors Are Lu. Prove Tax Prove Datact Prove Datact Pr	y Timoheds - Proje	kt - P SheePeint		Revolut Revolut - Home C 0 2 2 2 - Page - Facta - 5 400 5 4619, 100 5 4619, 100 5 4619, 100 5 4619, 100 5 4619, 100 5 4619, 100 5 34, 360 6 699, 3100 5 34, 3600 6 699, 3100 5 34, 3600 1 449, 3300 1 449, 3300 1 449, 3300 1 449, 3300 1 207, 8000 1 207, 8000	Atunicad Confirmatio Safety = Tools = (South, Trov = Settings Settings ForecastAmount 3500 3500

Electronics Product List (2012)

Category	Product Type	RCCC Product Code	KSM Name	Units	Responsible DM	Subprocess Mgr	Baseline Avg Total KSM (01/2012)	Baseline Avg Labor Hrs - PCL no Pools (01/2012)	Baseline Avg Duration (01/2012)	Baseline Avg Productivity (01/12)	Baseline Avg Productivity (01/12) for Corporate Reporting (hrs/x)	Blended Productivity (based Digital Module eTerms)	Blended Productivity Factor (eTerms)
Component	AMIC (Analog ASIC)	DU	#Transistors	Hrs/Tran	Jane Doe	John Doe	77.00	48.00	3.00	34.00	20.00	83.00	96.00
	AMIC (MMIC)	DV	#Stages	Hrs/Stage	Jane Doe	John Doe	86.00	71.00	8.00	24.00	87.00	6.00	87.00
	AMIC (SOC)	DC	#EASF	Hrs/EASF	Jane Doe	John Doe	60.00	59.00	39.00	86.00	22.00	7.00	1.00
	Digital ASIC	DH	#Gates	Gates/Hr	Jane Doe	John Doe	45.00	62.00	48.00	86.00	45.00	7.00	100.00
	Digital ASIC (Obsolesence)	DH	#Gates	Gates/Hr	Jane Doe	John Doe	52.00	62.00	11.00	85.00	38.00	90.00	87.00
	FPGA (Firmware)	DJ	#eLOCs	eLOCs/Hr	Jane Doe	John Doe	68.00	61.00	58.00	10.00	47.00	64.00	85.0
	FPGA	DJ	#eLOCs	eLOCs/Hr	Jane Doe	John Doe	78.00	83.00	19.00	63.00	69.00	32.00	100.00
	Antenna Components (Radomes)	DZ	eDrawings	Hrs/eDrawings	Jane Doe	John Doe	13.00	45.00	17.00	53.00	62.00	55.00	42.00
	Antenna Components (Radiators)	DZ	eDrawings	Hrs/eDrawings	Jane Doe	John Doe	24.00	42.00	25.00	37.00	58.00	7.00	35.00
	Antenna Components (TRMs)	DZ	eDrawings	Hrs/eDrawings	Jane Doe	John Doe	49.00	58.00	28.00	41.00	19.00	64.00	29.00
	Antenna Components (Feeds)	DZ	eDrawings	Hrs/eDrawings	Jane Doe	John Doe	62.00	74.00	92.00	88.00	45.00	26.00	53.00
	Antenna Components (Circulators)	DZ	eDrawings	Hrs/eDrawings	Jane Doe	John Doe	72.00	35.00	4.00	1.00	71.00	22.00	54.00
Module	Analog Module	DT	#Terms	Hrs/Term	Jane Doe	John Doe	77.00	29.00	32.00	93.00	28.00	51.00	30.00
	Analog Power Module	DS	#Terms	Hrs/Term	Jane Doe	John Doe	93.00	40.00	37.00	34.00	24.00	63.00	79.00
	Digital Module	DG	#eTerms	Hrs/eTerm	Jane Doe	John Doe	64.00	51.00	72.00	43.00	67.00	95.00	93.00
	MMOD (RE)	DE	#Components	Hrs/Component	Jane Doe	John Doe	100.00	41.00	75.00	69.00	18.00	28.00	24.00
	MMOD (AE)	DW	#Components	Hrs/Component	Jane Doe	John Doe	37.00	67.00	17.00	64.00	84.00	54.00	5.00
	RF Module	DB	#Stages	Hrs/Stage	Jane Doe	John Doe	33.00	1.00	75.00	55.00	11.00	78.00	83.00
STE	STE (Digital Unit)	DR	#Drawings	Hrs/Drawings	Jane Doe	John Doe	78.00	74.00	75.00	94.00	78.00	63.00	12.00
	STE (Digital Module)	DR	#Drawings	Hrs/Drawings	Jane Doe	John Doe	12.00	36.00	55.00	68.00	77.00	81.00	17.00
	STE (EO)	DR	#Drawings	Hrs/Drawings	Jane Doe	John Doe	86.00	Thos	0 00	mo	o oro	89.00	81.00
	STE (RF Unit)	DR	#Drawings	Hrs/Drawings	Jane Doe	John Doe	00	THES	ena	anes	sale	<mark>€1.00</mark>	81.00
	STE (Analog Unit)	DR	#Drawings	Hrs/Drawings	Jane Doe	John Doe		fictit	ioue	but		<mark>10.00</mark>	53.00
	STE (Analog Mod)	DR	#Drawings	Hrs/Drawings	Jane Doe	John Doe	97.0	nouu	ious	, bu		<u>33.00</u>	79.00
	STE (Antenna)	DR	#Drawings	Hrs/Drawings	Jane Doe	John Doe	69.0	have	a ta	ahle	with	<mark>59.00</mark>	47.00
	STE (RF Mod)	DR	#Drawings	Hrs/Drawings	Jane Doe	John Doe	37.0	navo			vvitii	<mark>14.00</mark>	85.00
Support	System (RF Prime)	DY	#CCAs	Hrs/CCA	Jane Doe	John Doe	21.0	the	rea	lon	asl	<u>37.00</u>	31.00
	System (RF STE)	DY	#CCAs	Hrs/CCA	Jane Doe	John Doe	27.00	+	.04			15.00	47.00
	System (EO Prime)	DY	#lbs	Hrs/lbs	Jane Doe	John Doe	5.00	57.00	49.00	5.00	3.00	11.00	24.00
	System (EO STE)	DY	#lbs	Hrs/lbs	Jane Doe	John Doe	74.00	87.00	2.00	47.00	41.00	29.00	79.00
Unit	Analog / Power Unit	DP	#Unit Terms	Hrs/Unit Term	Jane Doe	John Doe	46.00	10.00	53.00	35.00	73.00	39.00	36.00
	Antenna (PA-AESA-Tile)	DD	#eDrawings	Hrs/eDrawings	Jane Doe	John Doe	69.00	93.00	32.00	48.00	65.00	32.00	20.00
	Antenna (PA-AESA-Panel)	DD	#Drawings	Hrs/Drawings	Jane Doe	John Doe	46.00	39.00	73.00	46.00	54.00	4.00	58.00
	Antenna (PA-AESA-Brick)	DD	#Drawings	Hrs/Drawings	Jane Doe	John Doe	62.00	37.00	1.00	97.00	89.00	10.00	20.00
	Antenna (PA-AESA-TRIM)	DD	#Drawings	Hrs/Drawings	Jane Doe	John Doe	1.00	67.00	3.00	39.00	22.00	66.00	27.00
	Antenna (Fixed Beam)	DD	#Concepts	Hrs/Concepts	Jane Doe	John Doe	17.00	15.00	27.00	16.00	55.00	60.00	53.00
	Digital Unit	DF	#eTerms	Hrs/eTerms	Jane Doe	John Doe	51.00	87.00	55.00	31.00	88.00	11.00	86.00
	RF Unit	DA	#CCAs	Hrs/CCA	Jane Doe	John Doe	17.00	44.00	70.00	31.00	22.00	92.00	19.00

These numbers are random, but we have a table with the real ones!

Refresh Graph Data Refresh List Data Upload to SharePoint Upload to SharePoint Uploa	Presente	d at the 2012 SCEA/ISPA	JaiotoAnnustale Granter perce asing Treatining Markshop - V	ww.iceaaonline.com
Refresh List Data Upload to SharePoint Upload to SharePoint Upl		Refresh Graph Data	You must be in <i>Slide Show mode</i> to use the command buttons on the left.	Customer Success Is Our Mission
uploaded version. Upload to SharePoint Upload to SharePoint Upload to SharePoint Upload to SharePoint New Stream 2 and 2 COSE all open MS Office documents/windows before using the tool. EXTREMELY IMPORTANT: When saving versions of your FMR, make sure that PowerPoint Macro-Enabled Presentation (pptm) is selected in the "Save As" window! (SAVING AS .PPTX WILL RENDER THE TOOL USELESS) If the EEI graphs look like they have the wrong numbers, first try double-clicking on the graph and accepting the macro warning. This should refresh the numbers and often corrects the issue. Innovation. In all domains. Danny Chan Electronics Center Digital Products I Department February 20, 2012		Refresh List Data	DO NOT DELETE THIS BOX! DOING SO WILL BREAK THE UPLOAD TO SHAREPOINT FUNCTION. Uploading to Sharepoint will automatically hide this box and all of the buttons in the	Company Most Private
rebluary 20, 2012		Upload to SharePoint	will automatically hide this box and all of the buttons in the uploaded version. IMPORTANT: SAVE and CLOSE all open MS Office documents/windows before using the tool. EXTREMELY IMPORTANT: When saving versions of your FMR, make sure that PowerPoint Macro-Enabled Presentation (.pptm) is selected in the "Save As" window! (SAVING AS .PPTX WILL RENDER THE TOOL USELESS) If the EEI graphs look like they have the wrong numbers, first try double-clicking on the graph and accepting the macro warning from Excel, then click anywhere else on the slide to continue. This should refresh the numbers and often corrects the issue. Example Interest the numbers and often corrects the issue.	ics Center epartment nagement Review Danny Chan Electronics Center ucts I Department
				501uary 20, 2012

Copyright © 2011 Raytheon Company. All rights reserved. *Customer Success Is Our Mission* is a registered trademark of Raytheon Company.

Copyright © 2012 Raytheon Company. All rights reserved.

Presented at the 2012 SCEA/ISPA Joint Annual Conference and Training Workshop - www.iceaaonline.com **Execution: Digital Products I Department – Completed Products Scorecard**

Status	Days Since Last Status Update	SM	Product Type	Program Name	Product Name
Yellow	97	SM 1	Dig ASIC	Program A	VSS
Red	115	SM 2	Dig Module	Program B	M4
Red	115	SM 3	Dig Module	Program C	GPP ITA
Yellow	115	SM 4	Dig Module Program D		CEM1
Red	115	SM 5	Dig Module	Program E	RPM
Yellow	97	SM 6	FPGA	Program F	Test Port Interface FPGA
Green	77	SM 7	FPGA	Program G	RIF
Yellow	105	SM 8	FPGA	Program H	Anti Jam
Red	115	SM 9	FPGA	Program I	ACM
Red	115	SM 10	FPGA	Program J	DCM
Red	115	SM 11	FPGA	Program K	RPM
Red	115	SM 12	FPGA	Program L	AWG

To get from **RED** to **YELLOW**: Fill in all of the following fields: SAP Contract #, Project Definition, NWA(s), Actual Start Date, Actual End Date, Actual Metric Value, Actual Labor Hours, Actual % Reuse

To get from YELLOW to GREEN: Finance must pull the cost data from BW. This Excel file will be sent to the owning SM, who must unmix and untangle the cost data according to the file process. If this file provides an auditable rationale then Finance will approve the product.

To get from **GREEN** to **BLUE**:

Wanda Grant must verify that the product's data is either in SBT or marked as impound and David Bloom must verify that the product's data is in either the pending or current version of the Cost Model or marked as a no-go.

Date: February 2012 (January Data)

Analysis & Corrective Actions:

These Section Managers are fictitious, but we have a table with the real ones! These programs are fictitious, but we have a table with the real ones!

Presented at the 2012 SCEA/ISPA Joint Annual Conference and Training Workshop - www.iceaaonline.com **Execution:** Digital Products I – Engineering Efficiency Index (to Bid/Baseline)



RED	YELLOW	GREEN	BLUE
<.1.0	>=1.0 to <1.08	>=1.08 to <1.14	>1.13

Nots: weighted takes in consideration people (FTEs); Baseline refers to current Product Productivity Dataset in Cost Model

Electronics Center – Engineering Efficiency Index (cont.)



Advanced Topics – Business, IP and Project Management

- Silverlight web parts
 - Run on the client (no corporate IT)
 - Compatible with SBT
- Lightswitch
 - Requires IIS server, which in our environment comes with the Sharepoint environment
 - Is mostly very low code solution space
 - Is designed for the knowledge worker, not IT
- Wiki integration
 - Confluence Wiki integration
- Microsoft Project 2010
 - Requires Sharepoint 2010
 - We have demonstrated integration that provided SM view of all member tasks

Site Actions 👻 📩 Brows	e Page				
Analog_Power_Unit_Rec ord	Center:	EEC		Start Date:	3/17/2012
Antenna_Record Digital_FPGA_Record	Product Type:	TE: Test Engineering] 🗸	End Date:	3/17/2012
Digital_Module_Record Digital_Unit_Record	RCCC:	DR		Duration:	0 Days
MMOD_RE_Record Power_Module_Record	Program Name:	Demo Program 🔹] 🗸		
RF_Module_Record RF_Unit_Record	Product Name:				
Info Coefficients	Product Description:				
STE_Record					
Discussions	Status:	Product Name and Description			
All Site Content	Sizing Tool Bidder's Tool S	ummary Sheet			
	Design Characteristics				
	Number of Documents	0 Estimated number of Documents/Drawings in the design.		Reasoning	
	Reuse:	0-20% O-20% Uniform Estimate of reuse in the design.	•	Reasoning	1
	# of Bays:	0 None Estimated number of bays	•	Reasoning	
	Hardware Level:	HW Level 2 Gaussian	•	Reasoning	1.0
	Percent Digital Design:	All Digital Gaussian	•	Reasoning	1
	Build Types				
	Build Location:	Internal Build		Reasoning	

Microsoft Project Server Requires Sharepoint

Site Actions + Browse	lasks 🛛								
Save Send Insert Ir Status - Row -	nport Reassign Re	move Previous Next Select Previous Next Select Period Deriod D	My Assignments No Filter By: Project	Layout Units Zoor	n Zoom Scro Out Ta	V Plan	time Exp	port to Print View Calendar	
Submit	Tasks	Period	Data	Displa	y	Sh	ow/Hide	Share	
4	0	Task Name			Start Fi	nish Re	2011	3/20/2011 3/27	7/20
Projects		Planning Window: In Progress for	r Current Period		3/16/20114	/28/2011 41	TWTFS	SMTWTFSSM	M
Project Center		Project Name: Project ABC	current rentou		3/22/20114	/14/2011 12		o	
Approval Center		TASK I			3/22/2011 4/	14/2011 64			
Workflow Approvals		TACKA			2/20/2011 2/	(20/2011 Ph			
My Work					2/21/2011 4	0/2011 6H			
Tasks		Project Name: Project Dame			2/20/2011 2	/20/2011 16			_
Timesheet		Demo Tack A			2/20/2011 2/	29/2011 16		0	-
Issues and Risks		Oberiget Names Project USC		1	D/20/2011 5/	/12/2011 10	-		
Resources	-	Grante Hardware Development S			2/10/2011 4	20/2011 54	_		_
Resource Center		Create nardware Development P	nan		5/16/2011 5/	30/2011 64	-		
Status Reports		Create failoring Plan			3/18/2011 3/	30/2011 64			
Strategy		Perform Requirements Review	NEW	1	4/1/2011 4/	12/2011 64	0		_
Driver Library					3/16/20114	/28/201180			_
Driver Prioritization		Task N			3/16/2011 4/	28/2011 48	6		
Portfolio Analyses		Task L			3/17/2011 4/	20/2011 32			
Business Intelligence		Planning Window: Near Future - I	Next 2 Periods		4/11/2011 4	/26/201111			
		□Project Name: Project ABC			4/11/20114	/12/2011 16			
Settings		TASK G D NEW			4/11/2011 4/	12/2011 16			
Personal Settings		Project Name: Project Demo			4/12/2011 4	/13/2011 16			
Server Settings		Demo Task D D NEW			4/12/2011 4/	13/2011 16			
Manage Timesheets		∃Project Name: Project USC			4/13/20114	/26/2011 80			
Libraries		Generate Architecture 🛚 🕊			4/13/2011 4/	26/2011 80			
Shared Documents		Belanning Window: Distant Future			4/27/2011 1	2/20/201 81			
		∃Project Name: Project USC			4/27/2011 1	2/20/20171			
		Perform Architecture Review	u .		4/27/2011 5/	12/2011 96			
		Create Design Drawings			5/30/2011 6/	16/2011 11			
		Perform Detailed Simulation			9/23/2011 10	0/18/2011 14			
		Durited Plantes			10/19/2011 1	1/17/2011 17			

Enablers and Tracking of Each Task

Favorites 🛛 Microsoft Project Web App		<u>۵</u> •
Actions +	a second statements and second	
	Start:	3/18/2011
	Finish:	3/30/2011
	Remaining Work:	64h
Recent Task Changes		
iew the history of task changes, updates, and approvals.		
	Update accepted: 3/18/2011 9:11 AM	4
	Details Actual Work On 3/18	/2011 → 8h
	Submitted: 3/18/2011 9:10 AM <cei Im almost done Approved: 3/18/2011 9:11 AM <ced [US\1083934: 3/18/2011] good job</ced </cei 	DRIC R MACADANGDANG> RIC R MACADANGDANG>
	Update accepted: 3/24/2011 4:06 PM	
	Details Finish : 3/22/2011 5:	00 PM → 3/30/2011 5:00 PM
N	Submitted: 3/24/2011 4:06 PM <ceu update Approved: 3/24/2011 4:06 PM <ced [US\1083934: 3/24/2011]</ced </ceu 	DRIC R MACADANGDANG> RIC R MACADANGDANG>
14		
Attachments		
iew, add or edit related information such as documents,		
nacay of themas		Issues
	Title	Due Date
		Risks
	Title	Due Date
		Documents
	litte	File Name

Corp IT Plans (Communications Campaign, Integration plans)



Mission: provide a place to go to connect, collaborate, and innovate

Wrap-up

What Would the Requirements Look Like?

- Wouldn't it be amazing if we had a computing environment that is ...
 - Web Based
 - Standard permissions
 - · Open to everyone that needs it
 - Extensible
 - Collect cost data for any type of product
 - · Data visible to corporate applications
 - 3rd Normal Form
 - Collaborative
 - · 80 pairs of boots on the ground
 - No lockouts like eRoom
 - Self-Serve
 - Minimum IT involvement
 - · Does not require full time administration
 - Agile
 - Data collection needs are always changing
 - Report productivity close to real time
 - Tell a story with charts
 - Tightly integrated with Microsoft Office





What the user asked for







How the system was designed







What the user really wanted

How it actually works







Backup and alternative slides

David Bloom Bio

Biography:

After graduating from the University of California at Davis in 1983, Mr. Bloom has worked for the Naval Weapons Center, Lockheed Martin, Lawrence Livermore National Labs and since 2008, for Raytheon Space and Airborne Systems (SAS) where he is a Sr. Engineering Manager.

Mr. Bloom is currently the Cost Estimation Subject Matter Expert (SME) for the Electronics Center of SAS. He has developed parametric models for all Electronics Center products and helped transform the culture of the organization in the use of parametric bidding methodologies.

In addition to Mr. Bloom's focus for the Electronics Center in developing parametric cost models for the design and development cycle activity of electronics sub-products, he is also leading the effort to reduce the cost of FPGA and ASIC development by modernizing the Digital Verification methods and establishing reproducible re-use methods.

Mr. Bloom has patents and software copyrights along with a number of publications ranging from electromagnetic boundary value problems to cost estimation. In 2006, he won the International R&D 100 Award for innovating a cost effective Gigapixel Camera for persistent surveillance applications.

Wanda Grant Bio

Current Position: Electronics Center Chief Process Engineer. Master in Electrical Engineering from LMU, concentration in Computer Design Worked for Hughes / Raytheon for 34 years in various roles from test engineer, design engineer to systems engineer

Mason Wexler Bio

Mason Wexler has worked for Raytheon for over 23 years in the Information Technology and Engineering organizations and is currently a member of the SAS IT Information Security department. He started working with the IBM Company in 1979 as a numerical control programmer writing algorithms to control machines used to manufacture of printed circuit boards, and also worked as a member of the IBM DB2 database development team. He joined Hughes Aircraft Company in 1984 where he has performed systems administration, systems architecture, and programming assignments. Mason participated in the design and implementation of the Raytheon Active Directory and is currently the SAS Domain Administrator for the us.ray.com Windows Domain. Mason was the project manager for the SAS Server Virtualization project, and most recently was part of the design effort for the SAS Distributed System Architecture (DSA) which developed the design for the next generation SAS desktop environment. Mason graduated in 1979 from the State University of New York College at Potsdam with a major in Computer Science.

Mason Wexler, a Senior Principle Software Engineer, joined Raytheon 23 years ago. Mason was the SAS project manager for the Server Virtualization project, representing SAS IT Engineering Services Architecture and Alignment. He was part of SAS Distributed System Architecture (DSA) that designed the SAS desktop environment. Mason helped design and implement the Raytheon Active Directory and was a SAS Domain Administrator for the us.ray.com Windows Domain. Mason joined Hughes Aircraft Company in 1984 where he performed systems administration, systems architecture, and programming assignments. He started his career at the IBM Company in 1979 as a numerical control programmer and worked as a member of the IBM DB2 database development team. Mason graduated in 1979 from the State University of New York College at Potsdam with a major in Computer Science.