

Case Study:

Migrating from Microsoft Desktop Tools to
Demantra Demand Management for Sales Forecast
Management

Presented by:

Robert Beltrone, ***OnPlan Solutions LLC***

Agenda

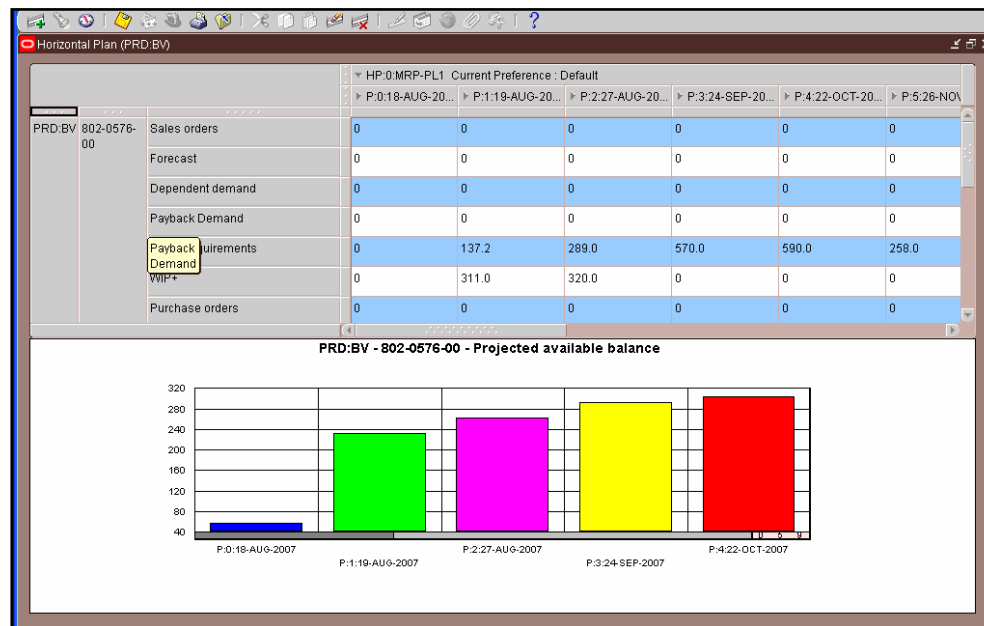
- *Case Study Situation Briefing*
- *Forecasting Systems Background*
- *Legacy Solution*
- *Business Change Happens*
- *Demantra Demand Management*
- *Solution Identified*
- *Case Study Conclusions*

Situation Briefing

How the project came about...

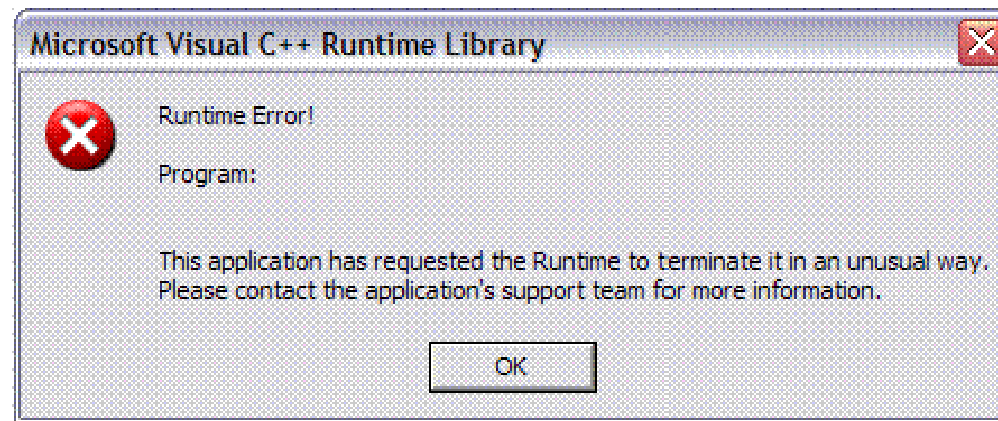
Day in the Life of a planner at Maxtek...

- Importance of Sales & Production Forecast is Paramount
 - Accuracy of forecast directly impacts
 - inventory & labor resource operating budget
 - customer service & satisfaction



Business Needs *Eclipsed* Legacy Forecasting Solution

- Forecast Tools & Process in Need of an Overhaul
 - Question: Did not want to rely on MS Access to forecast \$50 million of revenue?



Situation Conclusion

Conclusion:

“Serious business problem in need of an enterprise solution!”

Next Steps:

- 1. Charter a Business Systems Project*
- 2. Identify Business Sponsor*
- 3. Set Measurable Objectives*
- 4. Identify Consulting Partner*

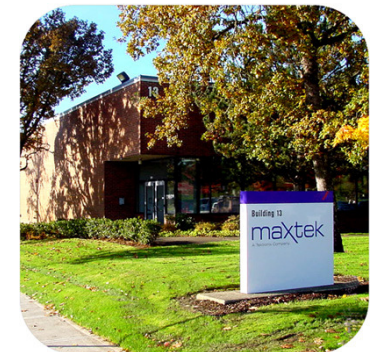
Forecasting Program Background

Where we have been...

Maxtek Components Corporation

- Overview:
 - A Tektronix company recently acquired by Danaher Corporation
 - Over 37 years experience
 - Specializing in low-volume, high-performance microelectronics
- Turn-key IC Packaging Services for Medical, Military and Measurement Applications:
 - Design, Assembly, Test
- Product Segments:
 - Packages (single- and multi-chip)
 - Modules (electrical, optical, RF/microwave)
 - Data Converters (high-speed D/A & A/D)

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Sales & Marketing Legacy Forecast Solution

2001 Business Needs

- ***Requirement 1:*** Ability to collect & consolidate product forecasts generated by customers, partners, and direct sales delivered in spreadsheet and flat file formats
- ***Requirement 2:*** Access to ‘data show’ based presentation tools enabling forecasting teams to collaboratively review, modify, and approve forecasts based on a business process schedule
- ***Requirement 3:*** The desktop tools must provide the ability to document the decisions, modifications, and approvals for historical review and audit trail analysis

Legacy Forecast Solution

Maxtek IT Legacy Forecasting Solution

- Used simplest possible solution using tools familiar to the business users that could be quickly deployed
- Initial collection and consolidation of a rolling production forecast standardized MS Excel templates were deployed
- Forecasts from external sources used delimited flat file formats
- Several MS Access forms were designed to facilitate team based collaboration for forecast review and modification
- MS Access forms allowed forecast changes, notes, and approvals to documented in a group format while projecting forecasts using a data show

Desktop Legacy Forecasting System (Microsoft Access)

Part Number	Proj Desc	Proj #	Cust	Company	AP805		AF805	AP806		AP807	
					Plan	Tek	FCST	Plan	Tek	FCST	Plan
040	N/A	N/A	1042	TEK-MAPI	0	0	0	1,340	0	0	0
047	N/A	N/A	1042	TEK-Other	2,640	0	7,920	2,640	0	7,920	2,640
047	0419-Probe Tip	N/A	1042	TEK-MAPI	0	0	0	0	0	0	0
047	N/A	N/A	1042	TEK-EOPL	1,356	0	4,068	1,356	0	4,068	1,356
119	N/A	N/A	1042	TEK-Other	72,800	28,160	196,660	72,800	141,960	327,600	72,800
119	N/A	N/A	1042	TEK-Other	0	0	0	0	0	0	0
119	N/A	N/A	1042	TEK-EOPL	242	0	728	485	0	1,455	485
165	N/A	N/A	1042	TEK-MAPI	0	10,516	31,548	14,340	7,170	96,040	0
165	N/A	N/A	1042	TEK-MAPI	14,160	0	42,480	0	9,440	28,320	14,160
165	N/A	N/A	1042	TEK-MAPI	0	0	0	0	0	0	0
165	N/A	N/A	1042	TEK-MAPI	3,015	0	22,452	3,015	0	0	3,015
165	N/A	N/A	1042	TEK-SPL	0	0	58,567	0	0	0	0
165	N/A	N/A	1042	TEK-SPL	0	0	65,422	0	0	0	0
165	N/A	N/A	1042	TEK-POPI	8,602	0	25,806	8,602	0	25,806	8,602
165	N/A	N/A	1042	TEK-MAPI	14,250	0	42,750	14,250	28,500	85,500	14,250
165	N/A	N/A	1042	TEK-MAPI	40,725	0	122,175	40,725	0	152,900	27,150
165	N/A	N/A	1042	TEK-MAPI	20,400	0	60,800	27,200	0	51,200	13,600
166	N/A	N/A	1042	TEK-MAPI	21,000	0	47,250	21,000	0	31,600	16,750
165	N/A	N/A	1042	TEK-SPL	0	0	0	0	0	0	0
165	N/A	N/A	1047	TEK-SPL	0	0	48,960	0	0	48,960	0
165	N/A	N/A	1042	TEK-SPL	182,700	72,000	151,200	236,250	63,000	189,000	189,000
165	N/A	N/A	1042	TEK-MAPI	0	0	9,045	0	6,700	20,100	0
165	N/A	N/A	1042	TEK-MAPI	11,280	0	33,840	11,280	0	33,840	11,280
165	N/A	N/A	1042	TEK-MAPI	0	0	76,200	25,400	25,400	76,200	0
165	N/A	N/A	1042	TEK-SPL	15,378	0	46,134	0	15,378	46,134	30,756

- Forecast Entry Worksheet

Desktop Legacy Forecasting System (Microsoft Access)

Revenue / Part Comparison

1st Forecast: FY08-Q2-APB05-WK4
2nd Forecast: FY08-Q3-APB05-WK3

Excel Export

Part Number	Cust	RM	Proj ID	Project	APB01	APB02	APB03	APB04	APB05	APB06	APB07	APB08	APB09	APB10	APB11	APB12
105	TEKTRONIX	TEK	NA	N/A	0	0	0	23120	23120	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	0	0	0	18077	18077	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	28752.8	28752.8	0	18246.4	18246.4	0	11880.2	11880.2	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	0	0	0	22455	22455	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	0	0	0	0	0	0	11700	11700	0	0	0	0
105	TEKTRONIX	TEK	RCVY-HFC020	N/A	30554	30554	0	18128	18128	0	38539	38539	0	0	0	0
105	TEKTRONIX	TEK	RCVY-HFC021	N/A	68320	68320	0	20010	20010	0	70492.5	70492.5	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	251084	251084	0	305484.4	305484.4	0	256236	256236	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	12151	12151	0	87403	87403	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	27750	27750	0	-1722	-1722	0	-18332	-18332	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	27210	27210	0	34748	34748	0	43638	43638	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	208540.8	208540.8	0	172847.2	172847.2	0	148338.4	148338.4	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	11885	11885	0	0	0	0	11885	11885	0	0	0	0
105	Tenacore	TEK	NA	N/A	23800	23800	0	21007.4	21007.4	0	21175	21175	0	0	0	0
105	Tenacore	TEK	NA	N/A	5047	5047	0	0	0	0	12403	12403	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	128448	128448	0	212171	212171	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	ADG307 Plug Board	N/A	4032	4032	0	12310.2	12310.2	0	12121.2	12121.2	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	48450	48450	0	-854	-854	0	-1728	-1728	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	86580	86580	0	8787.8878	8787.8878	0	86288	86288	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	14200	14200	0	33884	33884	0	87182	87182	0	0	0	0
105	TEKTRONIX	TEK	Tek_004	110073	0	0	0	0	0	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	ADG307 Plug Board	N/A	1800	1800	0	0	0	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	33194.5	33194.5	0	-1031	-1031	0	4718	4718	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	0	0	0	0	0	0	47104	47104	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	20138	20138	0	3082.5	3082.5	0	1027.5	1027.5	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	0	0	0	8810	8810	0	22140	22140	0	0	0	0
105	TEKTRONIX	TEK	Tek_Chester	110080	0	0	0	0	0	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	7500	7500	0	38517	38517	0	9141	9141	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	12500	12500	0	15170	15170	0	5085	5085	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	0	0	0	888	888	0	10170	10170	0	0	0	0
105	TEKTRONIX	TEK	Tek_Speedway_LP	110081	0	0	0	0	0	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	0	0	0	0	0	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	Tek_Speedway_LP	110081	0	0	0	0	0	0	0	0	0	0	0	0
105	TEKTRONIX	TEK	NA	N/A	83420	83420	0	70094	70094	0	17200	17200	0	0	0	0

- Primary MS Access Collaboration Form

Desktop Legacy Forecasting System (Microsoft Access)

The screenshot shows a Microsoft Access application window titled "Forecasting System". The main window displays a data table with columns for Forecast Model, Q1 08, AP004, AP005, AP006, Q2 08, Q3 08, Q4 08, FY 08, Q1 09, Q2 09, and Q3 09. The table contains several rows of data, including "FY08-PLAN", "FY08-Q2-AP005-WK4", and "FY08-Q2-AP005-WK3". A "Forecast Notes" window is open in the foreground, displaying the following text:

Tektronix Notes

--Q3
 --\$50K decrease on Probes
 --\$40K decrease on 80FEOT, moved into Q2.
 --\$70K decrease on ProdX adjusted to reflect Tek's current forecast.

--Q4
 --\$75K decrease on RSSProbes

- Note Taking Capability

Business Change Happens

The one business constant is change...

OnPlan Solutions LLC

www.OnPlanSolutions.com

- **Overview:**
 - OnPlan Solutions is the *trusted advisor* of choice for industry leaders using Oracle Applications in the Pacific Northwest
 - Consulting team has an average of 10 years Oracle EBS Implementation Experience
 - OnPlan Solutions has extensive industry experience delivering “complex” Oracle projects
- **Consultancy Expertise:**
 - Global Oracle Rollout Program Management
 - Supply Chain Optimization & Finite Scheduling
 - Advanced Oracle CRM Solutions

Business Environment Changes

Area	Element Driving Business Change
Product Mix & Profitability	<ul style="list-style-type: none"> • <u>Success of ETO</u> product lines • Ongoing <u>cost reduction & lean manufacturing</u> programs • <u>Rapid growth</u> in the customer base
Data Complexity	<ul style="list-style-type: none"> • Significant increase of <u>data volumes</u> • Enhanced use of <u>ASCP & finite production scheduling</u> • Need for better <u>revenue & production forecast visibility</u>
Customer Driven Enterprise	<ul style="list-style-type: none"> • Drive to <u>exceed customer service level</u> goals • <u>Integrating customer</u> through enhanced collaboration • <u>Time to market</u> improvement through better forecasting

Legacy Solution Falls Behind

Area Legacy Limitations

Enterprise Solution

- MS tools employed lack enterprise level access, security, approval layers, and reporting
- Maintenance and enhancement of the legacy tools and interfaces became cumbersome & time consuming

Enabled Collaboration

- Collaboration is disjointed due to multiple files involved
- Integration with Oracle E-Business suite is not efficient

Process Automation

- Lacking executive presentation capabilities
 - Lacking automated statistical forecasting methods
 - MS Desktop is not workflow enabled
-

Forecasting Solution

Business Requirements Summary

Area Forecasting Solution Business Requirements

Original Tool Requirements

- **Req1:** Ability to collect & consolidate product forecasts
- **Req2:** Ability to review & edit forecast in a collaborative fashion
- **Req3:** Ability to document forecast changes, notes, & approvals.

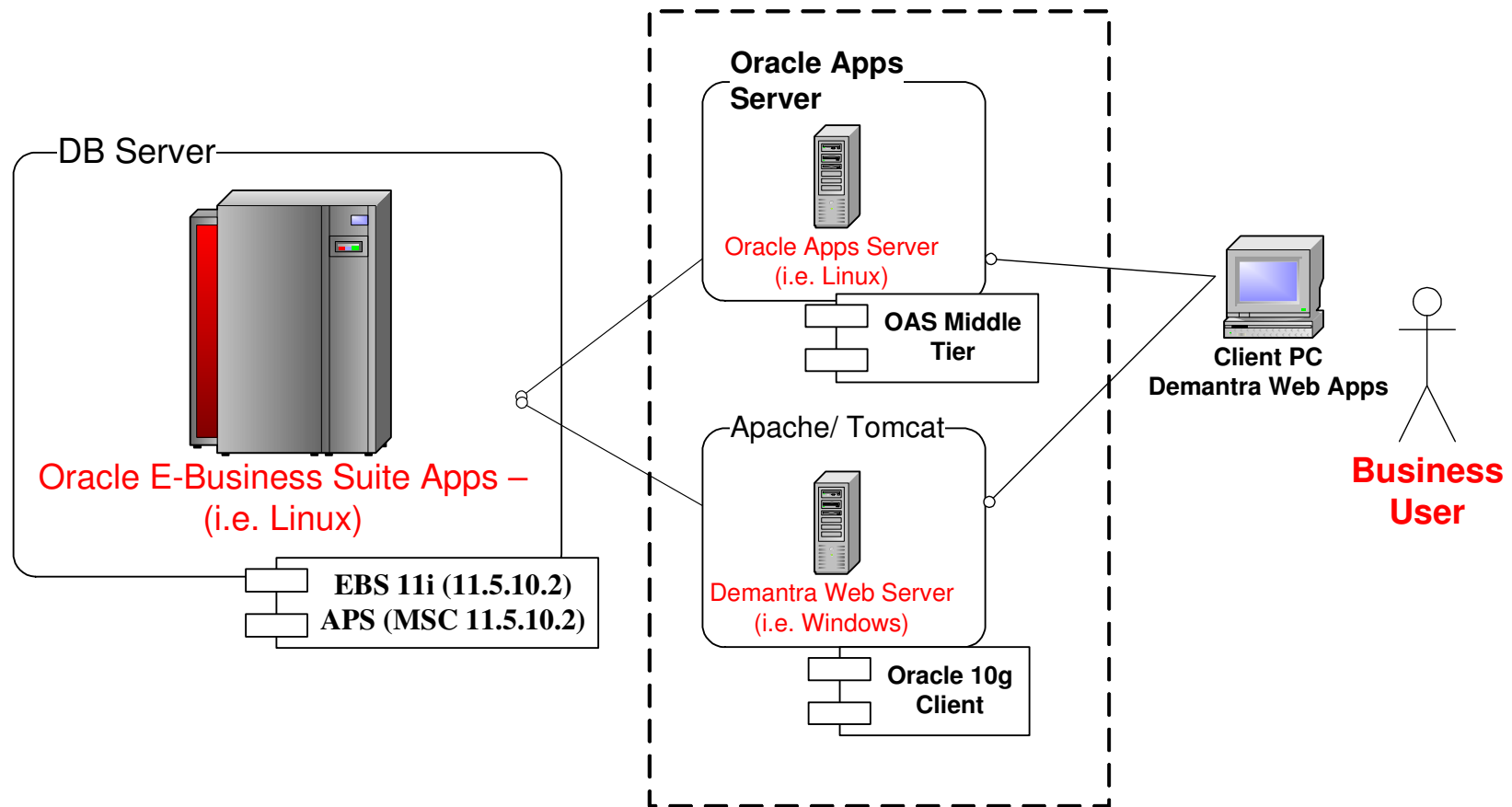
Newly Identified Tool Requirements

- **Req4:** *Enhanced collaboration with entire supply chain including Tektronix, other customers, and field sales*
- **Req5:** *Ability to plan to actual forecast status relative to real-time sales information (enabling a demand-driven enterprise).*
- **Req6:** *Ability to complete advance analysis of proposed forecast by customer and product combinations*
- **Req7:** *Ability to limit the viewing & manipulation of public sector compliant sensitive data by security clearance*

Demantra Demand Management

What we learned about this product...

Demantra Server Configuration



Maxtek Production Server Configuration

Server components utilized the Maxtek implementation:

- Oracle Applications 11.5.10.2 centralized ASCP instance running 10.2.0.3 RDBMS
- Demantra Windows Server with Tomcat Application Server
- Oracle Application Server 10.1.3 J2EE Server and Web Server for hosting the Demantra Application
- Windows Client machines for access the Business Modeler and Collaboration Workbench

Demantra Server Configuration

Notes & Gotcha's....

- *Upgrade EBS 11i (11.5.10.2) applications to J2SE 1.5.0.12*
- *Upgrade EBS 11i (11.5.10.2) applications Developer 6i to latest*
- *Install Latest ASCP Collections and Engine Patches on EBS/APS*
- *Identify and apply the latest EBS Demantra Integration Patches*
- *Install a Demantra Windows Server*
- *Install the full Oracle Client to exactly match the database version*

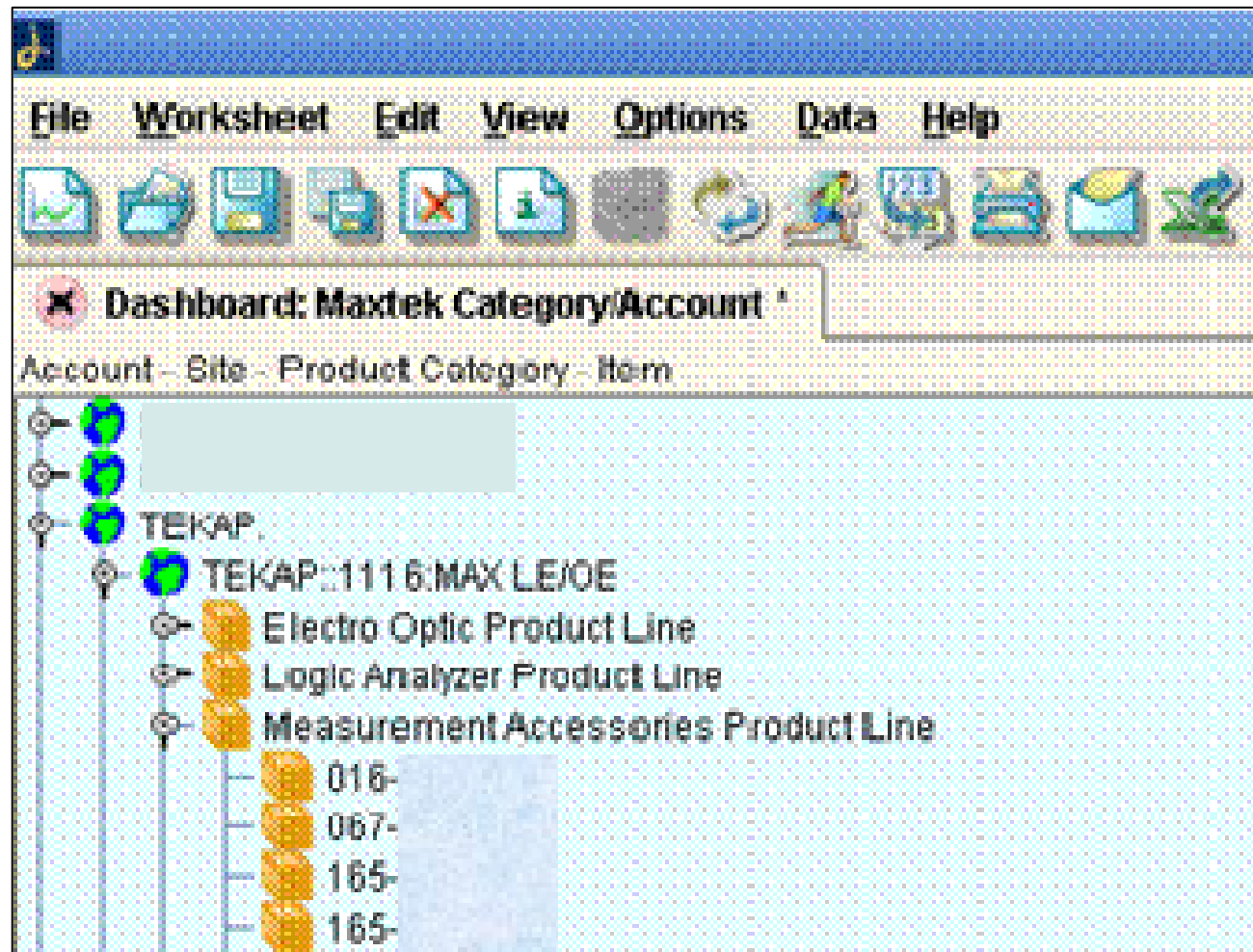


Demantra Key Concepts

“Levels and Members”

- Extendible Multidimensional Data Modeling
 - Resembles an extendible data warehouse w/ predefined dimensions
 - Extendible dimensions, or **levels**, of the tool are items, locations, and time resolution
- IT Analyst Defines Dimension **Members**
 - Examples
 - EBS Item is Product Family, Category, and Item
 - EBS Location is Region, Customer, & *Ship_To*
 - Time Resolutions is Quarter, EBS Accounting Period, & Production Week

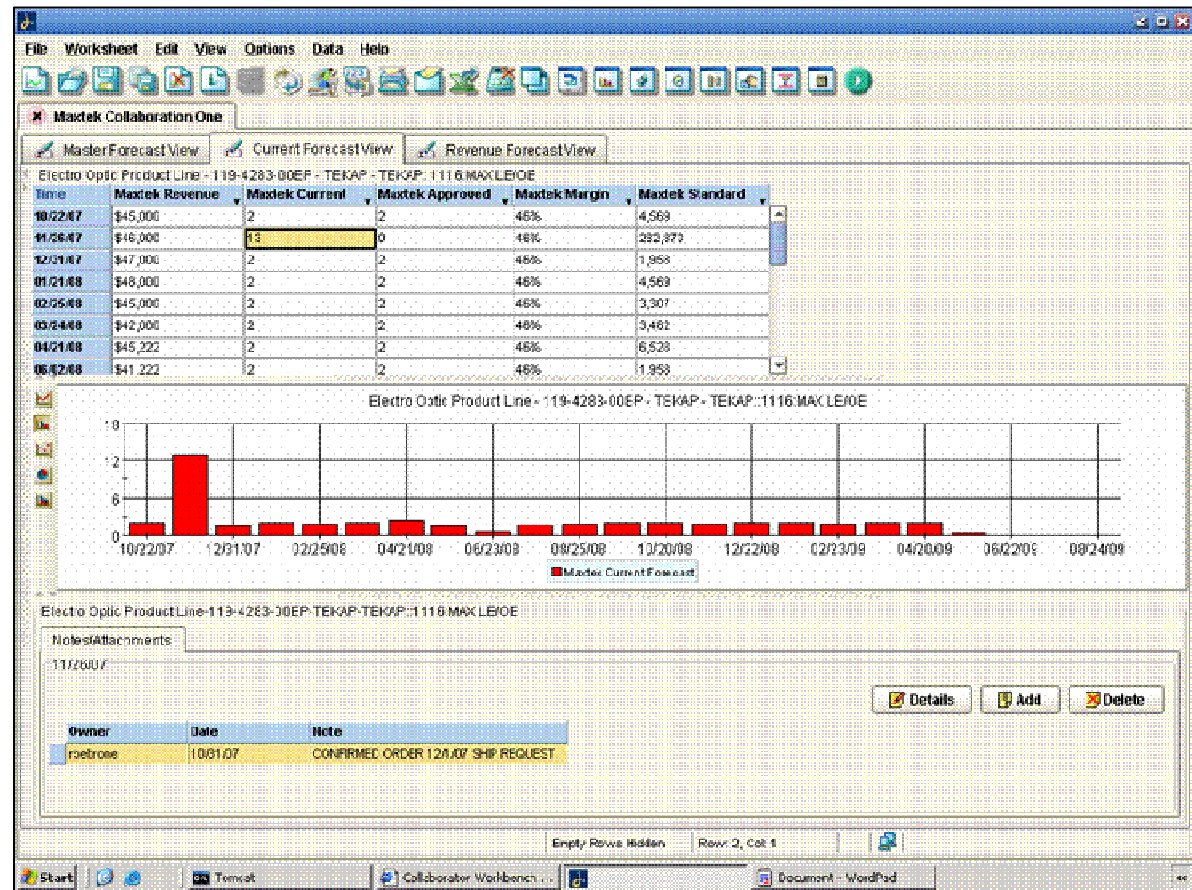
Maxtek Item/Location Example



Demantra Key Concepts

Primary User Interface (UI)

Worksheet:
Primary Business User Interface



Demantra Key Concepts

Features business users will find valuable

Worksheet Area	Description
Basic Input Data	<ul style="list-style-type: none"> • Create, modify, and manipulate a collected data series. <i>Example</i>; review and modify a sales forecast generated by the forecast engine.
Time Resolution	<ul style="list-style-type: none"> • Change the time resolution dimension of the multidimensional data warehouse. <i>Example</i>; review a forecast data series in weekly time buckets or aggregate the data into monthly accounting periods.
Levels	<ul style="list-style-type: none"> • Create & load a hierarchy within a single data warehouse dimension. <i>Example</i>; View sales forecast by region, state, account rep, customer, etc.

Demantra Key Concepts

Features business users will find valuable

Worksheet Area	Description
Combination	<ul style="list-style-type: none"> View data based on user defined combinations of levels. <i>Example</i>; show me the sales forecast for this product family in a specific geographic region.
Series	<ul style="list-style-type: none"> A series is any data set that a business user identifies as part of the business process. <i>Examples</i>; sales forecast, production forecast, revenue projections, margin analysis, etc.
Filters & Exceptions	<ul style="list-style-type: none"> Filter visible data within a worksheet. <i>Example</i>; Show all the data for a specific product category with the exception of a single customer's forecast.

Demantra Key Concepts

Functions IT Analyst will find valuable

Function	Description
Methods	<ul style="list-style-type: none"> A Workflow Engine exists with <i>pre-defined workflow</i> steps, each with predefined behavior. An IT analyst can define a workflow 'method' enhancing the user worksheet interface.
Security	<ul style="list-style-type: none"> The Demantra data & menus are secured, so that not all users have access to the same data and options. You can <i>control 'no access', 'read-only', 'read/write', or full control.</i>
Expressions	<ul style="list-style-type: none"> Series (data) calculations are defined through Expressions. A series can have either or both of the following 'coded' expressions; '<i>server</i> expression', '<i>client</i> expressions'

Simplified View of EBS Integration to *Demantra Demand Management*

Seeded Oracle EBS 11.5.10 to Demantra Downloads

- Oracle Order Management bookings & shipment history
- Oracle Order Management Price Lists
- EBS Item, categories, product family, and zone hierarchies
- Oracle Customer, ship_to, demand class, and region hierarchies

Demantra Key Concepts

Notes & Gotcha's....

- EBS Downloads
- EBS Item Cost Data
- Unix versus Windows
- Forecast Uploads to EBS
- Lacking ERD for Demantra Schema



Solution Identified

How Demantra solved the problem...

Business Solution Matrix

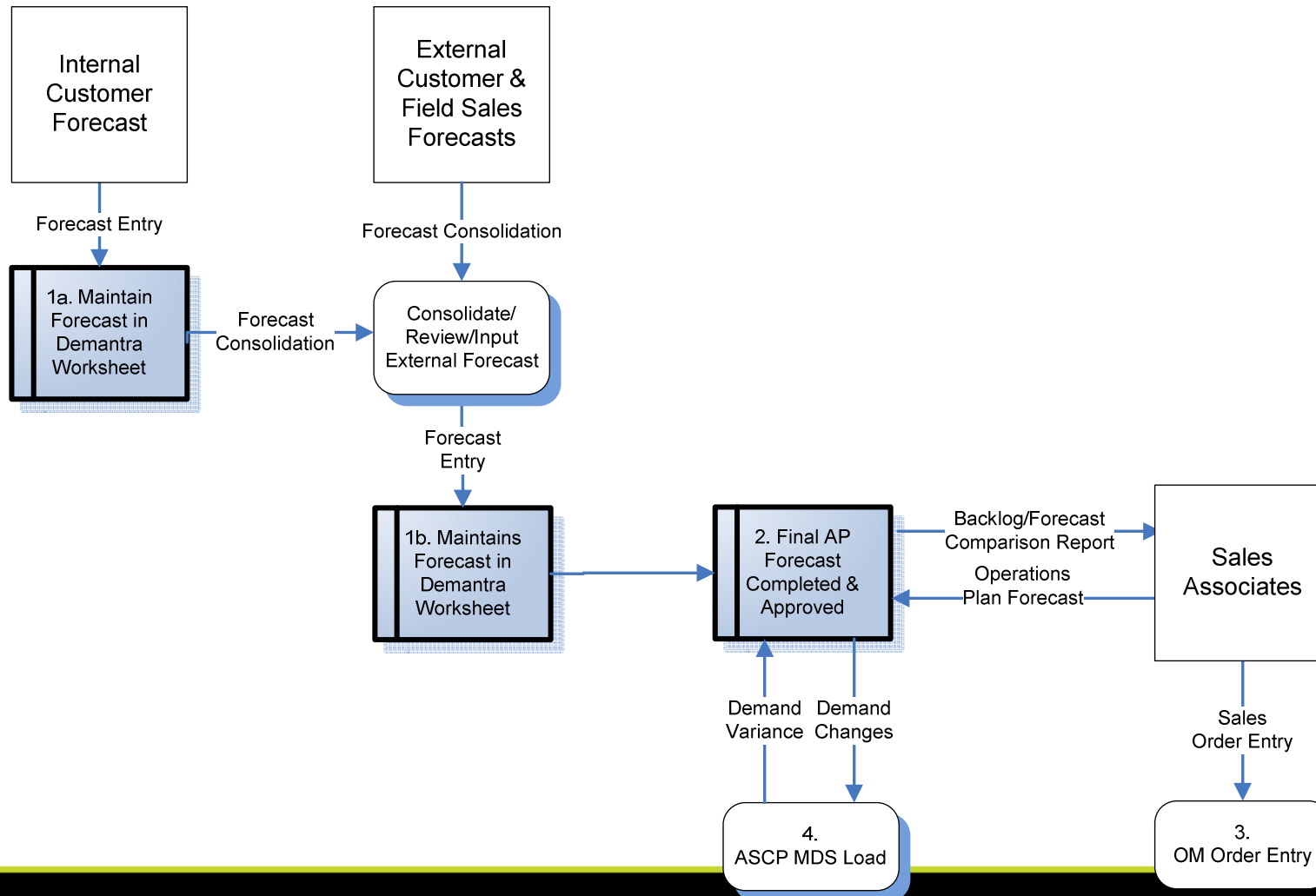
Maxtek Business Requirement	Demantra Demand Management Feature/Function
Better collaboration through direct access of forecast from Tektronix, other customers, and field sales (consensus forecast)	<ul style="list-style-type: none"> ➤ Integration Profiles - Flat file load of customer forecast directly into Demantra ➤ Web Based Worksheets - Customer UI for forecast entry and modification ➤ Secure AppsServer Deployment - Field sales UI for forecast entry, review, and modification
Real time look at current forecast allowing for real-time edits (<i>demand-driven enterprise</i>)	<ul style="list-style-type: none"> ➤ Worksheet Notes & Audit Trails - Share forecast database that allows for independent viewing, manipulation, and analysis ➤ Worksheet Methods & Approval Workflows - Shared forecast database that allows for collaborated viewing, manipulation, and analysis
Ability to auto-generate initial forecast	<ul style="list-style-type: none"> ➤ Bayesian Forecast Engine - Forecast engine can produce base forecast from historical sales ➤ Automated Forecasting Workflow - Starting point forecast for sales & marketing groups
Ability to complete advance analysis of proposed forecast by user defined levels	<ul style="list-style-type: none"> ➤ Worksheet Aggregation - Aggregate forecast based on user defined time, sales geography, and product family hierarchies. ➤ Worksheet Layout Design - User definable worksheet design and real-time customization

Business Solution Matrix

Maxtek Business Requirement	Demantra Demand Management Feature/Function
Ability to <i>collect and consolidate</i> many forecast	➤ <i>Worksheet Series Definition</i> - Provide users with a limitless number of data series that can be viewed and manipulated
<i>Role-base workflows</i> and analysis	➤ <i>Demantra User Roles</i> - Creation of several business user roles that define methods, data access, and approval capabilities
<i>Forecast to Actual</i> analysis	➤ <i>Client & Server Expressions</i> - Pre-defined set of user callable methods that display calculated data as requested
Limit viewing of <i>compliance sensitive data</i>	➤ <i>Security Configuration</i> - Limit access edit & viewing ability based on role based security levels

Business Process Flow

Demantra Demand Management



User Interface Examples

Demantra Forecast Entry

Time	Maxtek	Maxtek	Maxtek	Maxtek	Maxtek
10/22/07	2	46%	4,569	\$45,000	2
11/26/07	13	42%	282,873	\$46,000	0
12/31/07	2	44%	1,958	\$47,000	2
01/21/08	2	44%	4,569	\$48,000	2
02/25/08	2	44%	3,307	\$45,000	2
03/24/08	2	57%	3,482	\$42,000	2
04/21/08	2	23%	6,528	\$45,222	2
06/02/08	2	25%	1,958	\$41,222	2
06/23/08	0	57%	870	\$48,555	0
07/21/08	2	45%	3,482	\$46,000	2
08/25/08	2	45%	3,307	\$32,000	2
09/22/08	2	46%	3,482	\$31,000	2

Electro Optic Product Line - 119-4283-00EP

0.6

User Interface Examples

Collaboration & Notes

The screenshot displays the Oracle Collaborator Workbench interface. The main window shows a forecast view for 'Electro Optic Product Line - 119-4283-00EP - TEKAP - TEKAP::1116:MAX LE/OE'. A 'Notes' dialog box is open, showing a table of notes and a list of details.

Time	Maxtek Revenue	Maxtek Current	Maxtek Approved	Maxtek Margin	Maxtek Standard
10/22/07		2	2	46%	4.569
11/26/07		130	0		
12/31/07		2	2		
01/21/08		2	2		
02/25/08		2	2		
03/24/08		2	2		
04/21/08		2	2		
06/02/08		2	2		

The 'Notes' dialog box contains the following information:

- Description:** CONFIRMED ORDER 12/1/07 SHIP REQUEST
- Owner:** rbeltrone
- Date:** 2007-10-31 1
- Product Category:** Electro Optic Product Line
- Item:** 119-4283-00EP
- Customer:** TEKAP
- Site:** TEKAP::1116:MAX LE/OE

The 'Notes/Attachments' section at the bottom of the main window shows a list of notes:

Owner	Date	Note
rbeltrone	10/31/07	CONFIRMED ORDER 12/1/07 SHIP REQUEST

Case Study Conclusions

- *Demantra is a straight forward forecast collaboration and generation tool*
 - Emulates a Microsoft Desktop Environment
 - Sufficient integration with Oracle EBS for a large enterprise
- *Many more features/functions to be deployed*
 - As the business users evolve the tool will scale
 - 100% requirements fit now and into foreseeable future

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Visit www.OnPlanSolutions.com
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Demantra Case Study White Paper