

**July  
Professional  
Development  
Meeting**

## Multi-Enterprise Synchronization Across Outsourced Supply Chain

Speaker: **Ray Barger**,  
Director Procurement, ViaSat, Inc.

Today's demand-supply chain management requires a meaningful way of handling demand, supply, networks, and web based optimized systems. There are many categories of the buzz words that are used, and ways that those words are ranked. However, the synchronization of key trading partners, distributors, and suppliers, where "trust" becomes paramount in sharing critical information and engaging in collaborative ways is the key to a company's success in today's competitive world.

Ray's presentation will cover ViaSat's management strategy in major areas such as:

- Business Focus– OEM Lines of Business.
- Government and Commercial – Mixed Model Complexity.
- Lead Times – Compression and Synchronization.
- Risk Sharing – Sharing Resources In Product Development.
- Practitioners Techniques – Building Trust and Sharing Information.
- Lessons Learned – Relentless Collaboration, and Full Compliance.

*WHEN:*

**June 18, 2007, 5:30 -- 8:00 PM**

*WHERE:*

**Embassy Suites 4550 La Jolla Village Drive**

*COST:*

**APICS Members: \$27 \* Non Members \$37**

### OUR SPEAKER

Ray's experience includes serving as Vice President of Operations at MultiSpectra Engineering, Inc. ( now merged into Tachyon) and as Director of Hughes Network Systems. He also held Program Manager, Finance Manager, and Production Supervisor roles at Linkabit and General Dynamics Electronics.

Ray has a BSME from the University of California, an MBA in Production Management from San Diego State University, is a C.P.M. (ISM) Professional, an APICS CSCP, CIRM, and is also Certified in Business Computer Systems from UC San Diego Extension.

He is leading the redefinition of the company's operating model to reduce cost and increase agility through development of an outsourced high performance supply chain.



## Tid Bits

Summer is in full swing and time to relax and enjoy family and friends. We all need a little R&R to get the fire going again and we here at APICS have another way to get you fired up. We're all about education and helping you be successful, so take a look at our July menu as we have something for everyone.

### **Back to Basics** Same great program new location!! (South Bay)

This San Diego standard teaches a quality overview of Materials Management in just 6 short weeks. This exciting program is packed with ideas and concepts that companies must do well to be competitive and increase their bottom line. Participants gain practical, essential skills that help them become more effective and productive in their jobs. Each week covers a new topic and participation of all 6 weeks earns a certificate of completion. This is perfect for individuals and teams that want to fire up their processes.

**Starts:** July 24th, 2007 at 4 p.m

#### **Who should attend?**

Those who are interested in a base foundation before beginning their CPIM (Certified in Production & Inv Mgmt)

People new to materials and operations management, or people working in positions that interact with this field such as Purchasing, Engineering, Customer Service, Accounting, IT, Sales and more...

Those looking for ideas on how to improve the overall effectiveness of their processes

#### **To Enroll:**

**Deadline Fri, July 20, 2007 (noon)**

On line: [www.apics-sd.org](http://www.apics-sd.org)

Or contact: Ken Allaire

[vpseminars@apics-sd.org](mailto:vpseminars@apics-sd.org)

or 619-788-3646

## **Professional Dinner Meeting** Learn from the experts!

### **What:**

### **Multi-Enterprise Synchronization Across Outsourced Supply Chain**

**SPEAKER:** Ray Barger, Director  
Procurement, ViaSat, Inc.

Today's demand-supply chain management requires a meaningful way of handling demand, supply, networks, and web based optimized systems. There are many categories of the buzz words that are used, and ways that those words are ranked. However, the synchronization of key trading partners, distributors, and suppliers, where "trust" becomes paramount in sharing critical information and engaging in collaborative ways is the key to a company's success in today's competitive world. (See Page 1)

### **When:**

Wednesday - July 18th @ 5:30

### **CPIM Review - Give yourself the stamp of distinction!**

### **What/When:**

#### **Execution & Control of Operations**

Wednesday - July 11th - (Sibyl Melin Instructor) North County Location

Thursday - July 26th - (Sue Franks instructor) Mira Mesa Location.

This course focuses on three main areas: prioritizing and sequencing work; executing work plans while implementing controls, and performance measurements for continuous improvement. This class teaches you how to execute your plan while hitting your targets and controlling inventory and operations.

#### **Master Planning of Resources**

Thursday - July 12th - (Sibyl Melin Instructor) North County Location

The focus on this course is Demand Management which includes Forecasting and Customer Service, Sales and Operations Planning and Master

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Production Scheduling. This course teaches you the importance of a good plan and how to stabilize your schedules. The better you plan, the smoother the execution.

### **Mark your calendars for the upcoming Fall events:**

#### **Operations Resource Management**

(ORM) Certificate in partnership with Cal State San Marcos.

Now we're offering the program in two locations - North County and Mira Mesa!!

Fall topics include: Lean Manufacturing - Strategic Planning - Inventory and Logistics

**Lean Six Sigma** - 6 week seminar starting September 13th

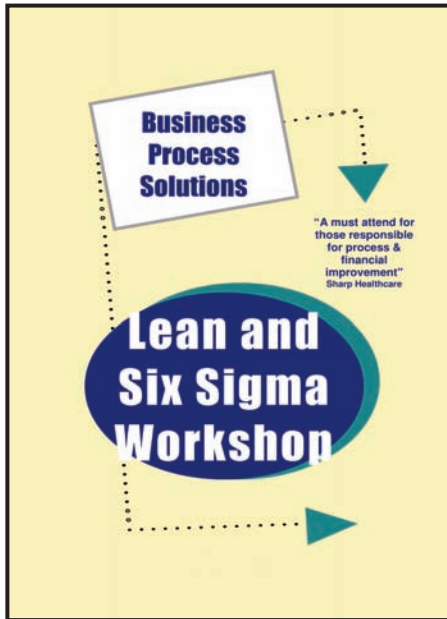
**CSCP Certification Workshop** - 4 alternate Saturdays starting October 13th

**International Conference** - celebrating 50 years in Denver - starts October 21st

**Smart Tracks - Lean Mean Inventory Machine** - One day seminar on November 15th

On behalf of the San Diego APICS chapter, we wish you a healthy, happy and safe summer.

# Create Value for your Company



## What you will learn:

- ❖ Effective tools & techniques for Lean & Six Sigma
- ❖ Industry applications for production & administration
- ❖ Teambuilding & change management techniques
- ❖ Meet other Lean professionals and share ideas

For More information and to sign up go to:

[www.apics-sd.org](http://www.apics-sd.org)

**Minimize Inventories! Reduce defects!  
Improve delivery schedules! Reduce costs!  
Learn how in the Lean and Six Sigma Workshop™**

This comprehensive training session will provide you with tools and techniques to identify non-value added activities, streamline operations and administrative activities, and reduce costs while improving focus on your customers!

### Who should Attend

**Good for beginners and as a refresher for those in operations management, materials, quality, sales, finance, and others wanting to dramatically improve their performance and learn effective teambuilding skills.**

Specific examples of real life implementations, videos, and fun activities will enhance the learning of Lean and Six Sigma tools and techniques. The Workshop will be limited to encourage participation and problem solving.

**Call 760-940-1858 or visit [www.bps.net](http://www.bps.net)**

**In-house programs available too!**

Sponsor: [Business Process Solutions International](http://www.bps.net) is a recognized leader with more than 20 years experience assisting companies with Lean and Six Sigma implementations to improve quality and productivity in the Southwest US and Mexico business communities.

[BPS](http://www.bps.net) helps companies improve deliveries and streamlines operations by targeting wastes such as defects, inventory, and non-value add activities in industries that include; electronics, communications, pharmaceuticals, medical device, wholesale food, military services, textile, metal fabrication, furniture, and industrial commodities.

### Module 1 - Lean & Six Sigma

Learn essential building blocks of Lean and Six Sigma and how they work together to target and minimize waste. Understand the concept of value as perceived by the customer. Learn how we evolved to the functional model and how to adapt to the flow production. Discover how waste erodes profits and productivity.

### Module 2 - Value Stream & Kaizen

Understand the concepts of workplace balancing by mapping your value streams in production and administration. Find your bottlenecks and target Kaizen efforts to improve deliveries and eliminate wastes. Calculate take time, review set ups and mix model scheduling to flow products and services to your customers.

### Module 3 - 5S, Visual, TPM Tools

Learn tried and true methods for workplace organization and standardization. Look for areas consumed with the 7 Wastes. Complete a 5S Checklist to see how your workplace compares. Learn simple yet effective ways of communicating priorities and improve productivity through visual basics.

### Module 4 - Kanban & Scheduling

Understand how Kanbans work and how to calculate required WIP to improve flow and minimize inventory. Understand the difference between push and pull methods and when to use each. Learn the rules of kanban use and with visuals how to possibly eliminate work orders and nonvalue add activities

### Module 5 - Six Sigma & Quality

Understand the basics of six sigma tools and how they work with Lean to reduce defects. Review examples of statistical deviation, process variation, and learn how to calculate process capability and more. Review the effective use of other quality tools to focus on solving the right problems.

### Module 6 - Change & Teamwork

Learn effective methods to improve employee involvement and support change effectively. Understand why Lean and Six Sigma must be shared with the employees to sustain the process of continuous improvement.

Review methods for measuring success including performance scorecards.

# FORECASTING BASICS

BY: ROBERT SPIVEY



Most any business enterprise can benefit from accurate forecasts. Regardless of the production environment or industry, the objective of a demand forecast is to predict sales demand as accurately as possible - and therefore improve customer service, operating effectiveness and profitability.

First some basic definitions, forecasts can be created using quantitative and qualitative methods.

- Quantitative is defined as using data to calculate a forecast. There are two main types of Quantitative forecasting methods:
  - ♦ Intrinsic: Defined as a forecast based off internal factors, such as past sales.

- ♦ Extrinsic: Defined as a forecast based on a correlation to an external leading indicator.<sup>1</sup>
- Qualitative is defined as the use of judgment to arrive at a forecast.

A good methodology when creating forecasts is to use a process that begins with quantitative methods to first establish a baseline forecast and then adjust the baseline forecast using qualitative methods.

The most familiar quantitative method used to generate a forecast is based on historical demand. There is a wealth of information in demand history, use it!

Historical demand is generally represented in a time series that can be separated into base pattern elements. A thorough understanding of demand pattern elements can have a posi-

tive impact on the quality of the forecast. The most common demand elements are:

- Average
- Trend
- Seasonality
- Cycles

There are an almost unlimited number of methods and formulas that can be used to evaluate demand history and extrapolate a forecast. Forecasting software is available that offers powerful time series forecasting capability, but can sometimes be difficult to manage. Some of the basic forecasting methods are:

- Simple moving average
- Exponential smoothing
- Regression
- Seasonal indices

Continued on Page 5

An often overlooked method to create forecasts is to use an extrinsic method that ties the forecast to an outside leading indicator. A simple example of an extrinsic forecast is a furniture maker estimating sales demand based on housing starts. The assumption is that housing starts will drive furniture sales demand some period of time in the future. The challenge when using extrinsic forecasting is to verify that there is a strong, consistent correlation between the indicators and the demand being forecasted.

Additionally, correct lag times must be determined and maintained. Both the strength of the correlation and lag times can vary with changes in the market, competition, or season and must be monitored and modified as needed. Extrinsic methods can be one extra tool to help predict demand; however, this type of forecasting can have its limitations. For example, extrinsic methods are generally only beneficial in predicting demand at a high level.

The output of the quantitative forecasting should be a baseline forecast that is as unbiased and accurate as possible given the known data inputs. The baseline forecast is the foundation used as an input to the next forecasting stage, qualitative, or subjective forecasting.

Qualitative forecasting is essential in the creation of an accurate forecast. Qualitative forecasts can range in sophistication from complex focus groups to a simple 'hunch', but, if done correctly, can add detail or nuance that would be almost impossible to capture or model with a quantitative forecast alone. Some areas where a more subjective analysis can add value are:

- **Market trends/potential**
- **Technology trends**
- **Competitive environment**
- **Political environment**

#### **Attitudes**

- **Relationships**
- **Opportunities**
- **And, of course, gut feeling!**

After the baseline forecast has been modified by a qualitative estimate, the final step in preparing the forecast is to adjust the forecast with any known events. Events are future occurrences that can either increase (bump) or decrease (suppress) the demand forecast. Some examples of events are:

- **Sales promotions or campaigns**
- **Price changes**
- **Product cannibalization**
- **Product life cycle changes**

When evaluating events, it is appropriate to use both quantitative and qualitative analysis. For example, a quantitative model can be devised to determine demand elasticity of a price change, whereas a more subjective opinion might be needed to estimate product cannibalization among products with new or improved features.

At this point, the demand forecast is ready to be used. However, the final stage of the process is to measure the original objective – how accurately did the forecast predict sales demand? This is accomplished by comparing the forecasted values to actual demand values after the end of the period. When determining forecast accuracy, two of the main measures are:

**Bias:** A consistent deviation from the mean in one direction (high or low).<sup>2</sup> This is the tendency of the forecast to be consistently too high or too low compared to actual demand.

**Forecast errors:** The difference between actual demand and forecasted demand, stated as an absolute value or as a percentage.<sup>3</sup> The most common measures are:

- **Average forecast error**
- **Mean absolute deviation**
- **Standard deviation**

Forecast accuracy measurement and evaluation should be part of the process in an effort to determine the cause of forecast errors and continually improve forecast accuracy for the next forecasting cycle. Methods, models and assumptions should be constantly reevaluated in an attempt to minimize forecast errors.

To reap the benefits of quality forecasting it must be a process with input and support from many functional areas within the organization that blends the science of quantitative methods with the art of qualitative methods. A forecast should not be a product of mere number crunching or a raw hunch, but rather an informed, systemic, data driven, flexible process designed to mitigate demand uncertainty.

Note:

Much of the information for this article comes from the San Diego APICS Back-to-Basics seminar. For more details on the Back-to-Basics, and other seminars offered by your San Diego APICS chapter, visit the website at:

[http://www.apics-sd.org/education/ichapter\\_smnr\\_ver\\_2\\_0\\_css.aspx](http://www.apics-sd.org/education/ichapter_smnr_ver_2_0_css.aspx)

Footnotes:

1, 2, 3 See the APICS Online Dictionary.

## Back to Basics

### South Bay Session - Summer 2007

Six Sessions, 4 - 7 p.m. • Tuesdays, July 24th - August 28th  
At: Axys Technologies, 7603 St Andrews Ave, Suite H , San Diego, CA 92154

#### 1. PRODUCTION PLANNING & SCHEDULING 7/24

- Sales operations planning
- Forecasting Techniques
- Relationships between planning, scheduling, and dispatching for different manufacturing environments
- Multi-level master scheduling
- Rough cut capacity planning

#### 2. INVENTORY MANAGEMENT & STOCKROOM CONTROL 7/31

- Types and purposes of inventory
- Valuation methods
- Physical control
- Reorder systems
- Lot sizing
- Cycle counting

#### 3. PARTS, BOMS, ROUTINGS & ECO'S 8/7

- Part master file elements
- Bills of materials
- Routings
- Engineering change orders
- Document control

#### 4. MATERIAL REQUIREMENTS PLANNING 8/14

- How MRP works
- Differences between MRP and reorder point methods
- Dependent vs. independent demand
- Firm planned orders
- Responsibilities of inventory planner

#### 5. PRODUCTION CONTROL & CAPACITY PLANNING 8/21

- Capacity requirements planning
- Constraint management
- Dispatching and prioritizing
- Input/output control
- Work orders, kanbans

#### 6. METHODOLOGIES FOR CONTINUOUS IMPROVEMENT 8/28

- The continuous improvement process
- Big JIT
- Business process re-engineering

**Note:** Completion of the Back to Basics Seminar does not certify you as "CPIM"

## REGISTRATION DETAILS

**\$315** for non-members, includes one year membership (**Best Value**)

**\$275** for non-members without membership

**\$199** for APICS members

**\$ 50** for single session

**\$ 0** Repeat or Makeup sessions

(attend as often you like – guaranteed!)

A sixth person may attend free with five Pre-paid reservations. (**What a deal!**)

For questions, please contact

**Ken Allaire**  
**(619) 788-3646**

- Expect to stay 3 hours per night for six consecutive Tuesdays.

- You may bring your own dinner into the classroom.

- Registration deadline is one week prior to first class session, only 25 seats available!

- Registration fees include class materials and handouts.

- Individuals attending all six sessions will receive a Certificate of Completion.

- You may enroll on line at [www.apics-sd.org](http://www.apics-sd.org) or download the registration form, fill out and send along with payment. (Checks are payable to **San Diego APICS**).

Send to:

**Ken Allaire**  
2430 44<sup>th</sup> St.  
San Diego, CA 92105

# Upcoming Events

	Start Time	Sign-Up	Description	Speaker	Location
<b>Jul-07</b>					
11th	Wed, 4:30p	CPIM Class	Execution and Control of Operations	Sibyl Melin CPIM CIRM	North County-Melles Griot
12th	Thu, 4:30p	CPIM Class	Master Planning of Resources	Sibyl Melin CPIM CIRM	North County-Beckman Coulter
18th	Wed, 5:30p	PDM	Multi-Enterprise Synchronization Across Outsourced Supply Chain	Ramon Barger CIRM	Embassy Suites La Jolla
24th	Tue, 4:00p	Seminars	Back to Basics - South Bay Summer 2007	Various Instructors	Axsys Technologies
26th	Thu, 6:00p	CPIM Class	Execution and Control of Operations	Susan Franks CPIM	Verari Systems, Inc
<b>Sep-07</b>					
4th	Tue, 6:00p	Announcement	ORM - Lean Manufacturing Principles and Techniques		CSUSM Campus
4th	Tues, 6:00p	CPIM Class	Education and Control of Operations		Avail Medical Systems
12th	Wed, 4:30p	CPIM Class	Strategic Management of Resources	Sibyl Melin CPIM CIRM	North County-Melles Griot
12th	Wed, 6:00p	CPIM Class	Master Planning of Resources		Verari Systems, Inc.
13th	Thu, 4:30p	CPIM Class	Detail Scheduling and Planning	Sibyl Melin CPIM CIRM	Avail Medical Systems
13th	Thu, 6:00p	Seminars	Lean Six Sigma Workshop	Jane Marshall	Country Inn & Suites Carlson
<b>Oct-07</b>					
4th	Thu, 6:00p	CPIM Class	Strategic Management of Resources	Kenneth Allaire CPIM	Verari Systems, Inc.
9th	Tue, 4:00p	Seminars	Back To Basics- Mira Mesa Fall 2007	Various Instructors	Favrille
13th	Sat, 8:00a	CSCP	CSCP-Certification Workshop	Various CSCP Instructors	TBD
<b>Oct-07</b>					
13th	Tue, 6:00p	CPIM Class	Strategic Management of Resources		Avail Medical Products
15th	Thu, 8:30a	Seminars	Smart Tracks - The Lean Mean Inventory Machine	Various Instructors	TBD
28th	Wed, 6:00p	CPIM Class	Detailed Scheduling and Planning	Kenneth Allaire CPIM	Verari Systems, Inc.

## BOARD OF DIRECTORS CONTACT INFORMATION

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