

TMF APIs for Dummies

Nice Hackathon

Jean Luc Tymen Orange

Pierre Gauthier TM Forum

TMF Hackathon APIs

**Product Ordering
API**

**Product Catalog
API**

**Product Inventory
API**

**Billing
API**

**SLA Management
API**

**Trouble Ticket
API**

You have something to sell ?

- Create your Prospective Customers **Party API**
- Put what you have to sell in a Catalog **Catalog API**
- Enroll your Customers **Customer API**
- Let the Customers Order what they want **Order API**
- Make them happy with good SLAs and Trouble Ticketing ! **SLA and Trouble Ticketing API**
- Record their usage of the Product **Usage API**
- BILL THEM **Billing API**

What APIs ?

- Create Prospective Customers **Party API**
- Put what you have to sell in a Catalog **Catalog API**
- Enroll your Customers **Customer API**
- Let the Customers Order what they want **Order API**
- Make your Customers happy with good SLAs and Trouble Ticketing ! **SLA and Trouble Ticketing API**
- Record Customer usage of a Product **Usage API**
- BILL the Customers **Billing API**
- **More in TMF APIs for Dummies**

Do you have Customers ?

- Yes then you must have **Customer Accounts**
- Otherwise they are just someone or some organization ...a Party



Lets Add the Customer

- At minimum we need a Payment Mean and a way to Contact the Customer



Lets Create a Customer Account

The image shows a handwritten ledger on lined paper with a blue watermark that reads "Customer Account API". The ledger contains three entries with columns for dates, descriptions, and numerical values.


Date	Description	Value 1	Value 2
Aug. 14	<u>Bath to Rylobury Sid.</u> "Com. p. 9 11"	3	6
Oct 12	<u>Map to L...</u> "Will p. 34 5 6"	10	4
19	W. S. Al...	6	1

When to use the Catalog Management API

- When we want to expose Product Offers and Product Specifications ...
- To create and expose entries in the menu !

Pleasant Family Dining...

All items available around the clock



Sazambo SPECIAL
Six Sazambo Cakes - One Fresh Ranch Egg
Two Strips of Lean Bacon
Tiger Butter and Your Choice of Syrup
85c

PAPA Jumbo SPECIAL
Choice of Fruit Juices
Two Fresh Ranch Eggs
Ham, Bacon or Sausage
Six Delicious Sazambo Cakes
Tiger Butter and Choice of Syrup
\$1.45

MAMA Muzambo SPECIAL
Choice of Juice - One Fresh Ranch Egg
Four Delicious Sazambo Cakes
Choice of Syrup and Tiger Butter
75c


BREAKFAST STEAK AND EGGS
Choice Cut Steak
Two Fresh Ranch Eggs
Served with Six Sazambo Cakes
Choice of Syrup and Tiger Butter
\$1.85

Sazambo SANDWICH
Bacon, Ham or Sausage and One Egg
Between Three Large Sazambo Cakes
85c


HAM, BACON OR SAUSAGE AND TWO FRESH RANCH EGGS
Served with Six Delicious Sazambo Cakes
Tiger Butter and Your Choice of Syrup
\$1.25

CORNED BEEF HASH with EGG
Choice of Syrup and Tiger Butter
\$1.49

BURGER STEAK AND EGGS
Two Fresh Ranch Eggs and Burger Steak
Served with Six Sazambo Cakes
Choice of Syrup and Tiger Butter
\$1.65




SIX SAMBO CAKES
Choice of Syrup and Tiger Butter
50c



TWO FRESH RANCH EGGS
Cooked the Way You Like Them -
Served with Four Sazambo Cakes
Tiger Butter and Choice of Syrup
75c



FRENCH TOAST
Sprinkled with Powdered Sugar
Tiger Butter and Your
Choice of Syrup
75c



**MINCED HAM AND
SCRAMBLED EGGS**
with Four Sazambo Cakes
Tiger Butter and Choice of Syrup
90c

OMELETTES

Plain	85
Ham	1.10
Bacon	1.10
Jelly	1.10
Cheese	1.10

All Omelettes Made with Cream
Fresh Six Sazambo Cakes Served
with Tiger Butter and Syrup


SIDE ORDERS

Ham, Bacon or Sausage	60
Eggs, (each)	25
French Fries	25
Toast	25

Sazambo RECOMMENDS

TIGER CAKES
Six Sazambo Cakes Cinnamon with
Sauce American Cheese
Tiger Butter and Your Choice of Syrup
85c

Buttermilk Pancakes	50
2-Ingredient Pancakes	50
Apple Pancakes	55
Cherry Pancakes	55
Peach Pancakes	55
Raspberry Pancakes	55
Strawberry Pancakes	55
<small>All Tiger Cakes Served with Tiger Butter and Syrup</small>	
Danish Pancakes	90
<small>Served with Sour Cream</small>	



Chocolate Pancakes - 85



French Pancakes - 90




Strawberry Pancakes - 90



Raspberry Pancakes - 90

Pecan Pancakes - 90

Concantal Pancakes - 90
Loaded Served with
Tiger Butter and Syrup



Golden Crisp Waffle - 50

Choice of Syrup

Strawberry Waffle - 50

Blueberry Waffle - 50

Pecan Waffle - 50

Loaded Served with
Tiger Butter and Syrup

Sazambo BURGER
1/2 lb. of Choice Ground Beef Served on
Toasted Bun, Garnished with Tomato,
Lettuce, Pickle and Our Special Dressing
85c

SAMBO-BURGER WITH CHEESE 65c

DELUXE Sazambo BURGER
Our Delicious Sazambo Burger Garnished with
Tomato, Lettuce, Pickle and Dressing
Served with Fresh Fried Potatoes
75c

SANDWICHES



DE LUXE N.Y. STEAK SANDWICH - - - - - **\$1.60**
Choice Cut Steak Served on Buttered Toast with
French Fries and Sliced Tomato Garnish

ALL Sandwiches Served with Side of Cole Slaw

GRILLED CHEESE	59
GRILLED HAM or BACON and CHEESE	75
FRIED HAM	65
FRIED HAM or BACON and EGG	75
TUNA SALAD	55
FRIED EGG	59
LETTUCE and TOMATO	59
BACON, LETTUCE and TOMATO	69

JUICES

Orange	Small Large	20 35
Grapefruit	20 35	
Tomato	20 35	
V8	20 35	
Pruze	20 35	


FRUITS

Juicy Prunes	39
Nutlets (In Season)	40
Berries (In Season)	40
Apple Sauce	35
Hot Grapefruit	35

CEREALS
(Served with Cream)

Assorted Dry Cereals	40
Oatmeal	40
Cream of Wheat	40

Desserts



Ice Cream or Sherbet
Small - 35
Large - 45

Sundae - Small 35 Large 45

Fruit Tarts - 35

Strawberry Shortcake - 45

Chocoecake - 35

BEVERAGES

COFFEE	30
TEA	35
HOT CHOCOLATE	35
BUTTERMILK	35
MILK	35
ICED TEA	20
COCA-COLA	35

BREAKFAST • LUNCH • DINNER

Ok then ...what is a Product Offer

- A Product Offer is a Product Specification made available to the market with some Price



You said a Product Specification what is that ?

- A Product Specification is a resource capturing the attributes or features that a Product will have when you consume it
- I am a Canoe my color could be RED or ORANGE



Order Management API

- When Ordering a Product from a Partner....
- Think about sending a Command !



What can we Order ?

- We can Order Product Offers from the Catalog
- Passing a Command based on a Menu !

Ok you got me confused now you were talking about Products ...

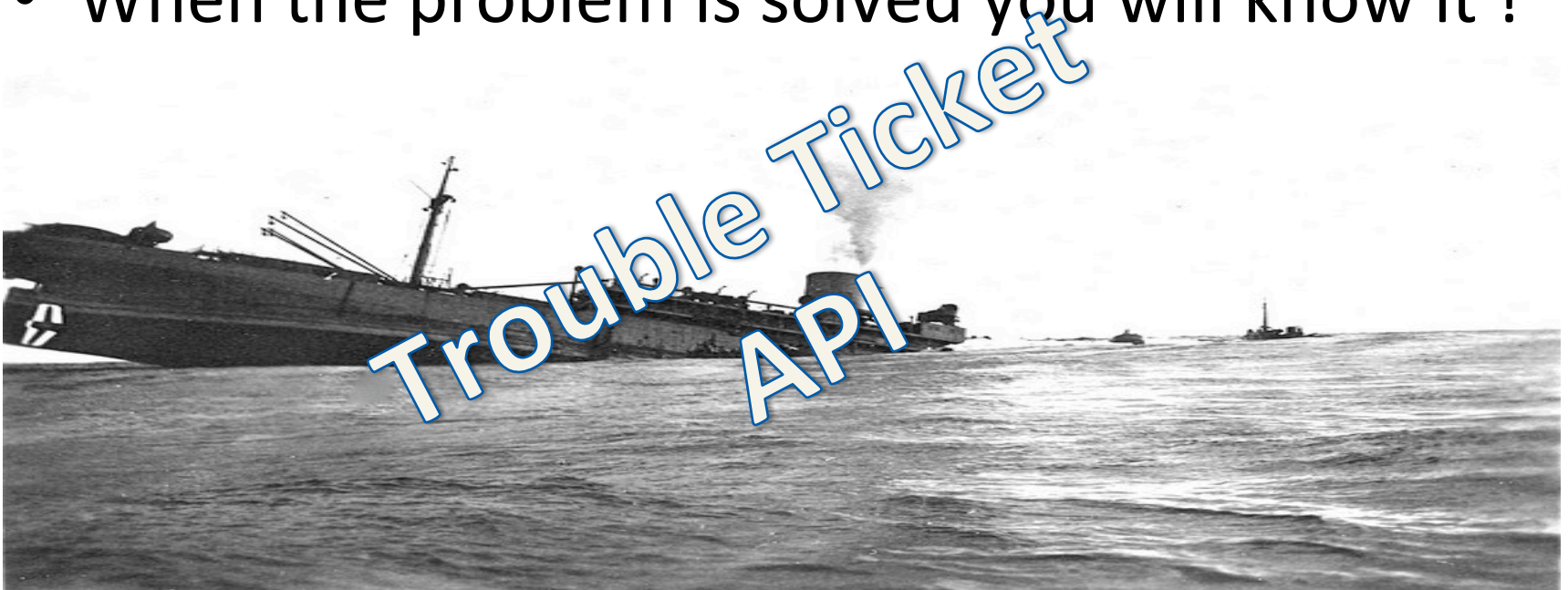
- Think about your laptops MacBook , MacBook Air etc.. they all have different attributes or features
- They are in Apple Catalog however when you get a laptop you get a Product not an entry in a Catalogue got it ?

And now a Product Inventory !

- Products with well know characteristics can be stored in an Inventory prior to their use or as they are manufactured

Oops something is going wrong with the Product!

- Lets create an Incident or Ticket and get our support staff to look after it...
- When the problem is solved you will know it !



But in the mean time this constitutes an SLA violation

- Product should be working continuously within its quota ...
- We will pay you if it does not !



Ok now what about Service Level Agreement ?

- Service Level Agreements are contracts representing what we expect from a Product when we buy it ...
- And it has **consequences** !

Ok lets gather the product Usage

- Usage Line and then Charge it !
- Applied Customer Charge

And Bill the Customer

- At minimum we need to create a Billing Account
 - Customer Account ID
 - Related Party (Role par rapport a la facture payer= customer)
 - billingAccountBalance track payments
 - Payment mean

appliedCustomerBillingCharge

- Charges pour Service rendus
- Relation avec le Billing Account
- Billing System
- Settlement Note (Montant reverse a un partenaire)
- Customer Bill /Facture