

FINDING IMPORTANT BUSINESS PATTERNS IN YOUR CALL CENTER USING TIGERGRAPH

By Bill Inmon
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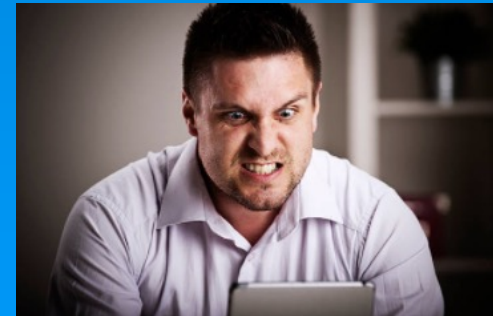
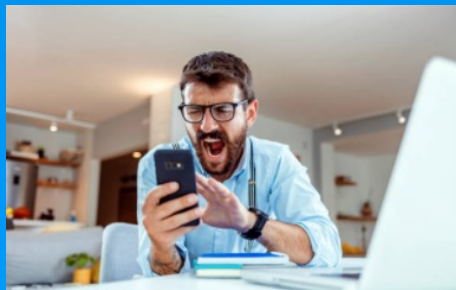




A large telecommunications company had a problem –

Its customers complained that the company was unresponsive to their needs

Customer satisfaction was at a low ebb



The telecommunications company wanted to provide better service for their customers but the company did not exactly know how to -





Bright idea –

Let's listen to what our customers are saying in our call center

That ought to tell us where our problems are

And how we can improve service



And if we look hard enough in our call center conversations, we can find patterns of problem areas.

Once we find the patterns where the problems are we will know where to concentrate our resources

Some sample calls



CHANNEL UNAVAILABLE MESSAGE

WED AUG 21 12:51:56 EDT 2013set top box ISSUES

MR LIN IS HAVING ISSUES WITH DROPSHIPED set top box N...

WED AUG 21 20:32:38 EDT 2013MS GAVINETT HAS ISSUES O...

CUST CALLED IN NOT HAPPY THAT EVERYTIME HE TURNS ...

INPUT ISSUE CUST FRUSTRATED AND DID NOT WANT TO T...

DROP SHIP REQUEST TO REPLACE computer power equipment

MICHELLE CALLED ASKING WHY THE TECH IS GOING TO CH...

WED AUG 21 12:55:25 EDT 2013NO GUIDE ON MAIN TV HAS ...

PIXELATION ISSUES

WED AUG 21 12:56:27 EDT 2013customerS BOX WILL NOT PO...

RH:COMING FROM COA

PHONE#: 9093071614 ALT: 9099365617 NAME: BARBARA HA...

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RI:COMING FROM COA
PHONE#: 9093071614 ALT: 9099365617 NAME: BARBARA HA

There were all kinds of problems -

Set top boxes –
loading
pixelation
button confusion

Channel access

Coax issues

No signal

Screen blanked

Broadband issues

VOD

Sound is off

Weather delays



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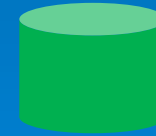
WHERE TO START???



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Textual
ETL



The call center conversation (unstructured data) is sent to Forest Rim Technology's Textual ETL.

There text is analyzed and turned into a standard data base.

There is no limit as to how many records or how much text can be read and analyzed

67	stb	C:\tg\2178.txt	taxonomy null	store	set up box	n	8/28/2021 14:29
139	aco	C:\tg\2475.txt	taxonomy null	store	equipment	n	8/28/2021 14:29
13	call	C:\tg\2475.txt	taxonomy null	store	communication	n	8/28/2021 14:29
13	called	C:\tg\2475.txt	taxonomy null	store	communication	n	8/28/2021 14:29
72	lease	C:\tg\2475.txt	taxonomy null	store	financial status	n	8/28/2021 14:29
4	call	C:\tg\2157.txt	taxonomy null	store	communication	n	8/28/2021 14:29
58	poll	C:\tg\2475.txt	taxonomy null	store	status check	n	8/28/2021 14:29
79	power	C:\tg\2475.txt	taxonomy null	store	power	n	8/28/2021 14:29
106	power	C:\tg\2475.txt	taxonomy null	store	power	n	8/28/2021 14:29
79	power cyc	C:\tg\2475.txt	taxonomy null	store	operation	n	8/28/2021 14:29
106	power cyc	C:\tg\2475.txt	taxonomy null	store	operation	n	8/28/2021 14:29
79	power cycle	C:\tg\2475.txt	taxonomy null	store	operation	n	8/28/2021 14:29
106	power cycle	C:\tg\2475.txt	taxonomy null	store	operation	n	8/28/2021 14:29
91	reseat	C:\tg\2475.txt	taxonomy null	store	position	n	8/28/2021 14:29
118	reseat	C:\tg\2475.txt	taxonomy null	store	position	n	8/28/2021 14:29
98	router	C:\tg\2475.txt	taxonomy null	store	equipment	n	8/28/2021 14:29
57	new	C:\tg\2157.txt	taxonomy null	store	status	n	8/28/2021 14:29
35	stb	C:\tg\2475.txt	taxonomy null	store	set up box	n	8/28/2021 14:29
47	stb	C:\tg\2475.txt	taxonomy null	store	set up box	n	8/28/2021 14:29
125	stb	C:\tg\2475.txt	taxonomy null	store	set up box	n	8/28/2021 14:29
21	vod	C:\tg\2475.txt	taxonomy null	store	equipment	n	8/28/2021 14:29
26	vod	C:\tg\2475.txt	taxonomy null	store	equipment	n	8/28/2021 14:29
15	call	C:\tg\2476.txt	taxonomy null	store	communication	n	8/28/2021 14:29
131	cell	C:\tg\2476.txt	taxonomy null	store	cellular	n	8/28/2021 14:29
88	empathy	C:\tg\2476.txt	taxonomy null	store	sentiment	n	8/28/2021 14:29
99	name	C:\tg\2476.txt	taxonomy null	store	identification	n	8/28/2021 14:29
23	verizon	C:\tg\2476.txt	taxonomy null	store	company	n	8/28/2021 14:29
68	black	C:\tg\2476.txt	taxonomy null	store	company	n	8/28/2021 14:29

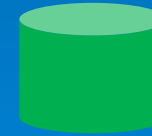
Sample data base created from text



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ETL



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60	bluk	C:\tg\2476.txt	taxonomy.null	store	company	n	8/28/2021 14:29

So what's in the data base?

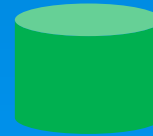
Incidences, failures, problems, complaints, equipment issues, Installation issues, blackouts, Etc. are all –

analyzed
 recorded
 put into a data base format

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Textual
ETL



Tiger
Graph

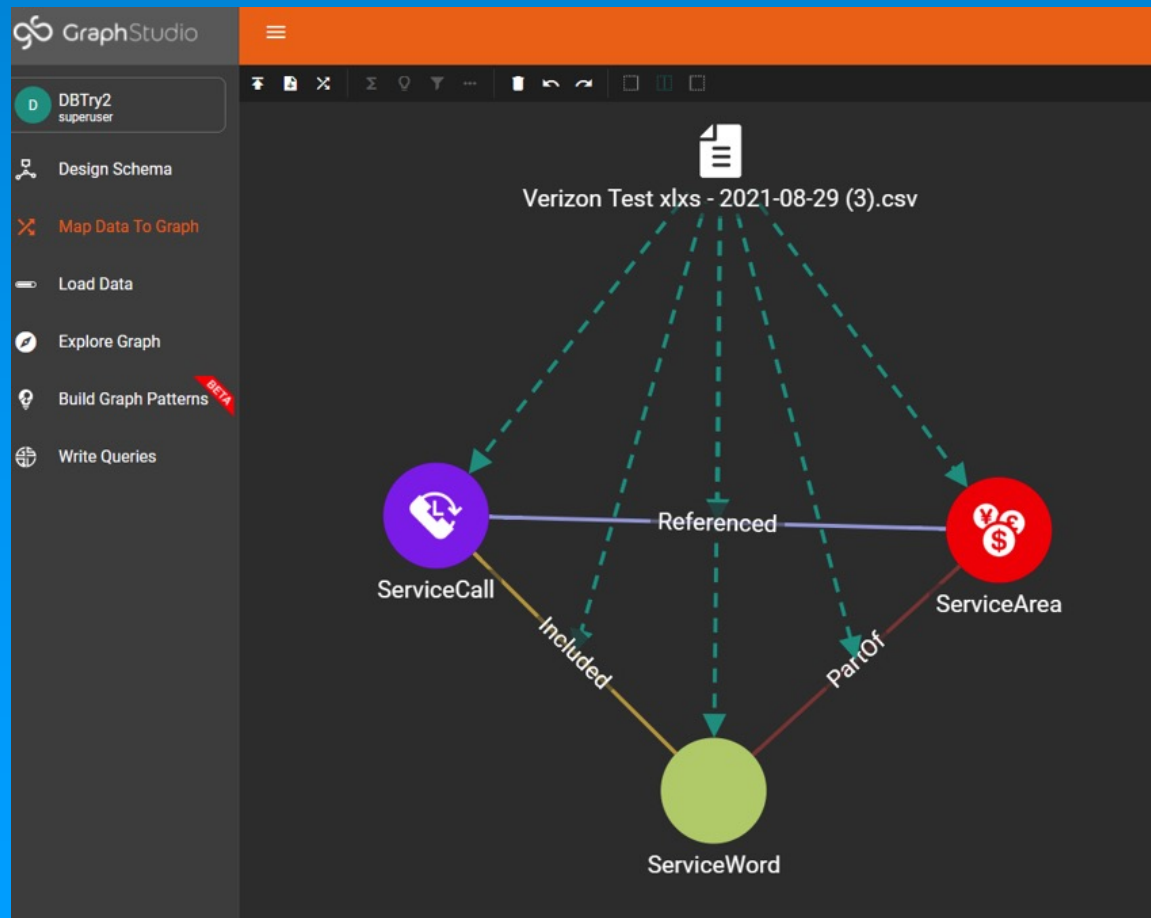
Next the data base output from textual ETL is sent to TigerGraph

Once the data arrives in TigerGraph, a schema is built

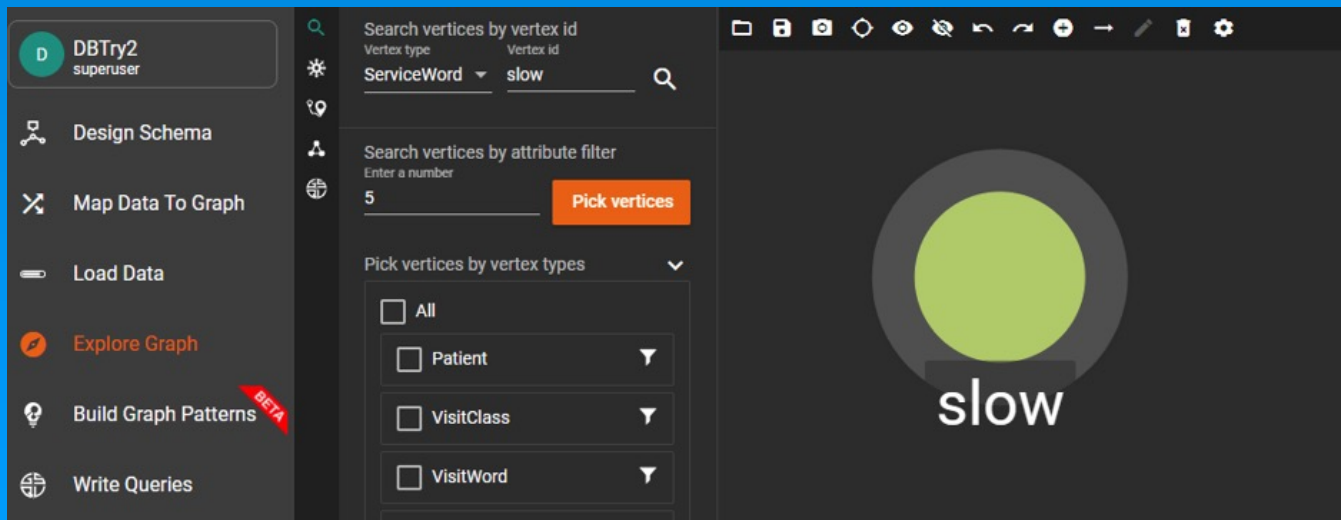
The screenshot displays the GraphStudio interface. On the left, a sidebar contains navigation options: Design Schema, Map Data To Graph, Load Data, Explore Graph, Build Graph Patterns, and Write Queries. The main workspace shows a graph with vertices labeled Patient, VisitWord, VisitCase, ServiceCall, and ServiceArea, connected by edges labeled with relationships like Logged, Exhibited, and Referred. On the right, the 'Edit vertex type' panel is open for 'ServiceWord'. It shows the primary ID as 'WordID' (STRING) and lists attributes: 'CallID' (STRING, indexed), 'ServiceArea' (STRING, indexed), and 'WordLevel' (INT).

Attribute name	Attribute type	Indexed
CallID	STRING	Yes
ServiceArea	STRING	Yes
WordLevel	INT	No

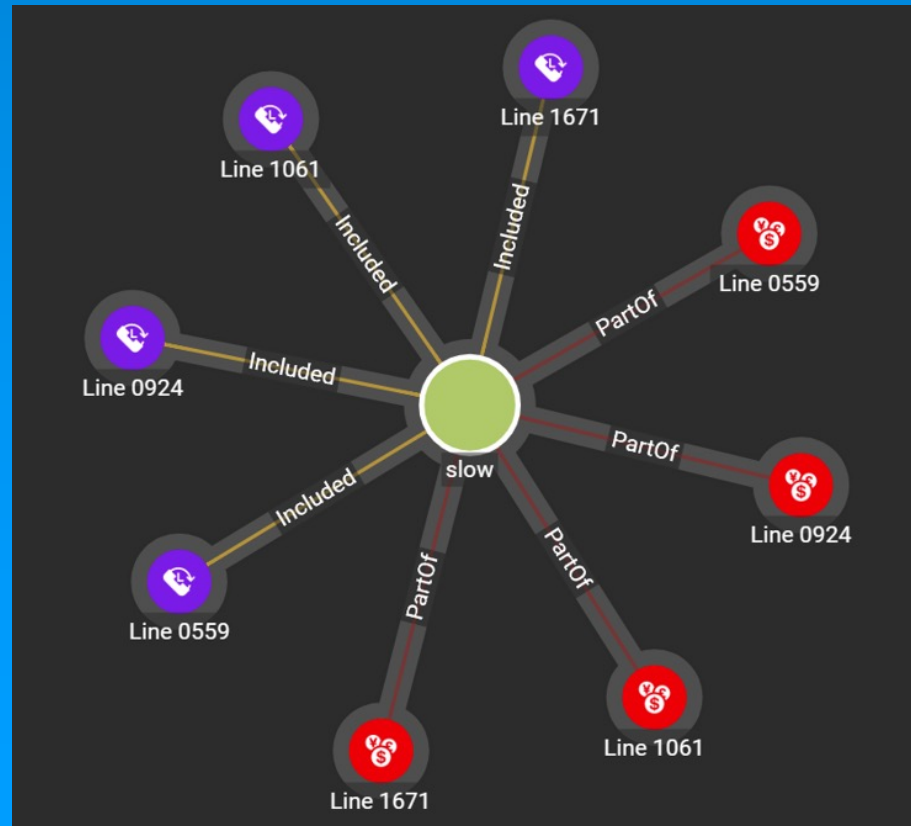
Then the data is loaded into TigerGraph



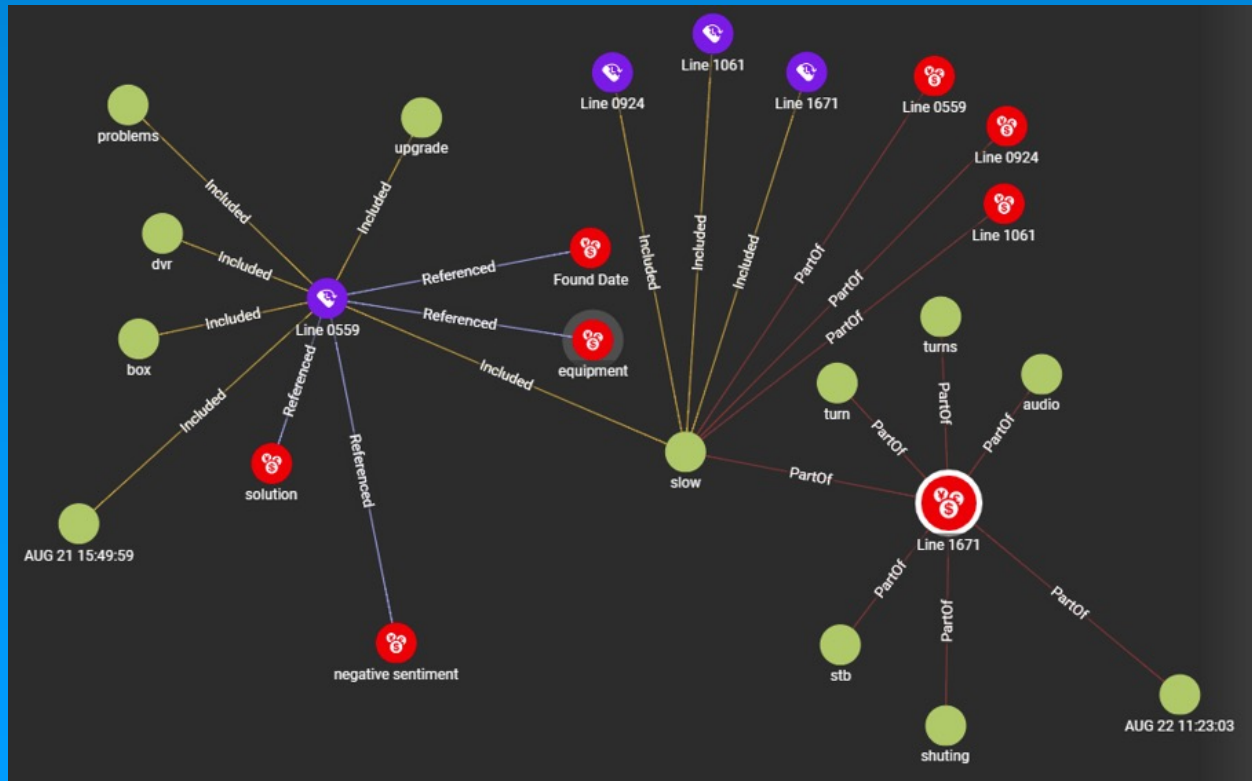
Then the exploration process begins



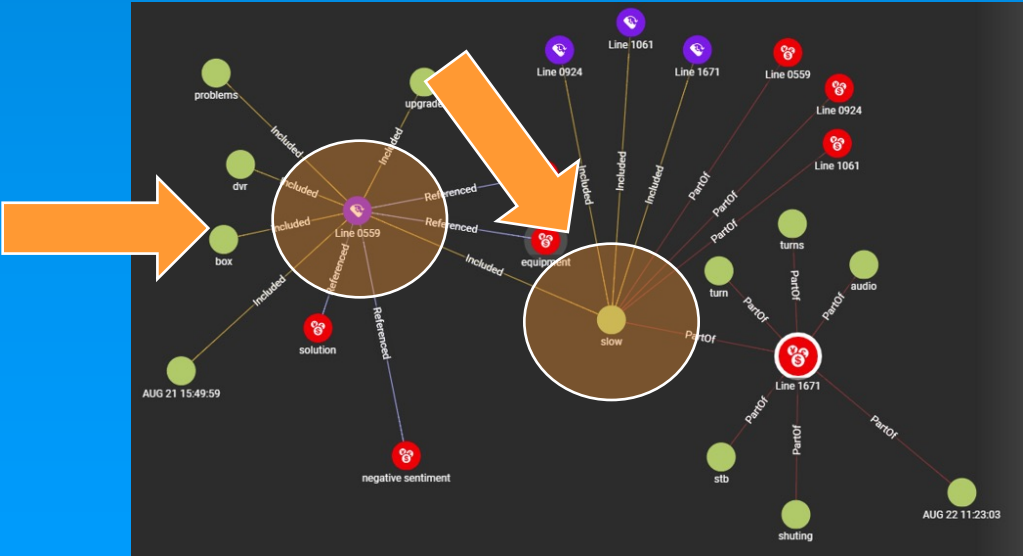
The exploration process continues



The processing continues until the patterns are discovered



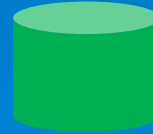
Once the patterns of customer complaints start to develop, the telecommunications company knows where to start to improve customer satisfaction



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Textual
ETL



Tiger
Graph

So how long does this process take?

One time set up efforts -

Text – 1 day to 5 days

TigerGraph – 30 minutes

Ongoing processing -

100 – 10,000 records

10 minutes

10,000 – 100,000 records

20 – 30 minutes

100,000 – 10,000,000 records

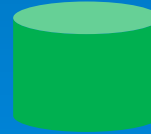
1 hour – 2 hours



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```



Textual
ETL



Tiger
Graph

Now you can start to do analytics directly on your text.
No fuss. No bother.
And you can do it today

For more information contact –
Carol Renne at carol@forestrimtechnology.com

xxxxxxxxxxxxxxxxxxxx. At tigergraph.com





Give your customers something to cheer about!!!!