

**BusinessConnect**

A New Era of Smart

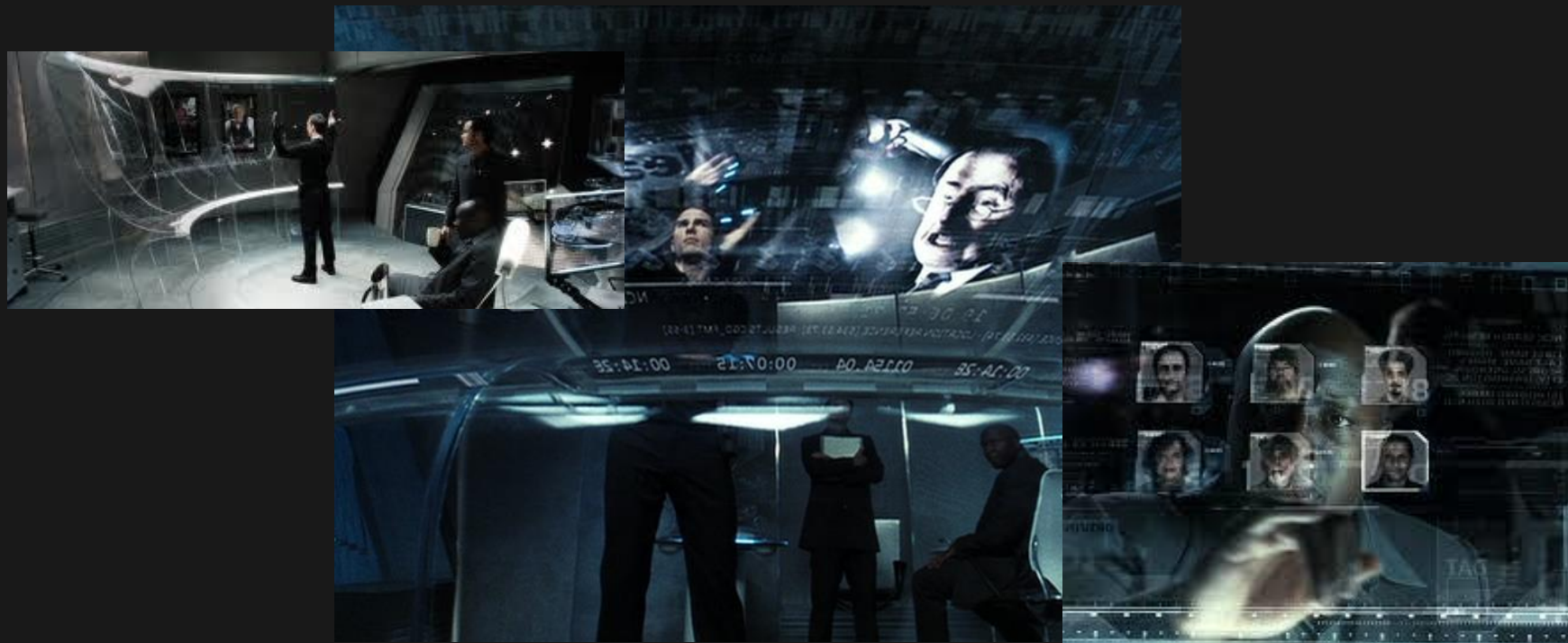
6/20/2014

# The Modern Intelligence Platform



# What would you expect?

# Lots of arm waving?



# Three dimensional holographic models?



Errr?

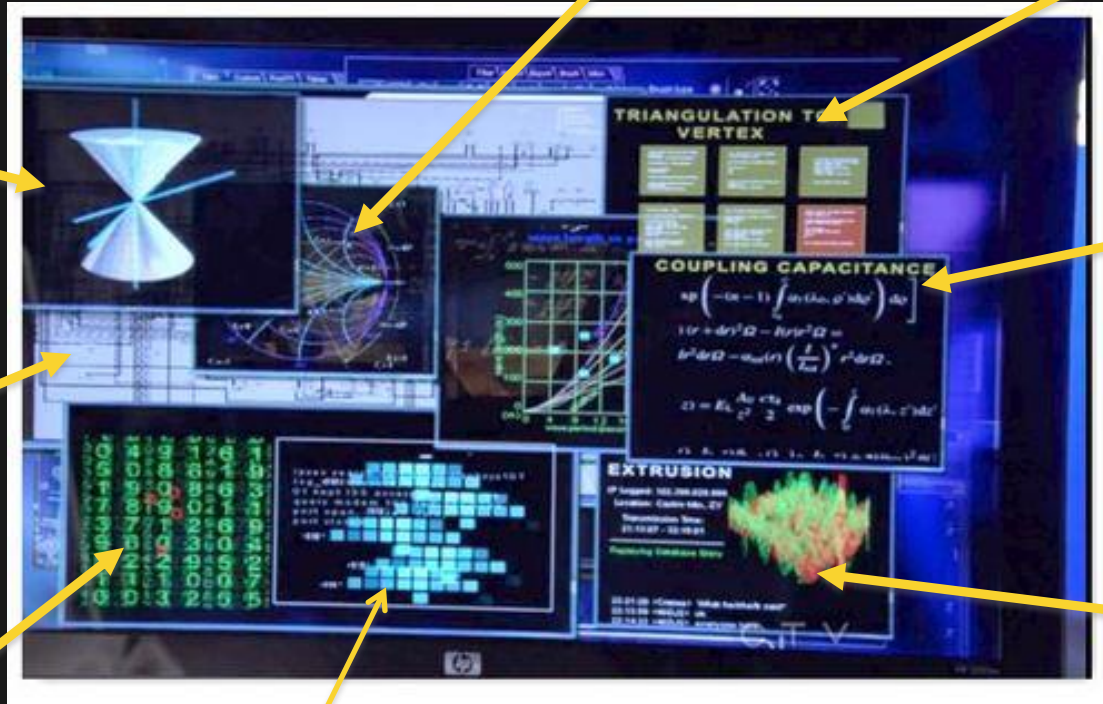
Spin shape spin, as fast as you can....

Flux Capacitor?

I didn't realise I needed my Vertex triangulated?

Circuit diagram for a microwave oven?

Coupling Capacitance?



The Matrix

Tetris?

Exactly what are we Extruding?

# And then back to pen, paper and a whiteboard to understand it all.....



# Imagine the Challenges

## Vast Amounts of Information



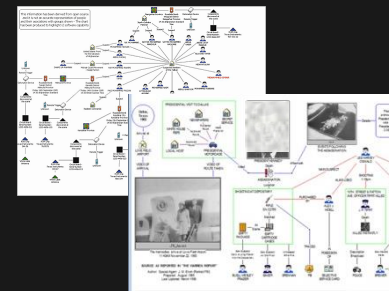
- Siloed Repositories
- Structured and Unstructured Data
- Security Restrictions
- Social Media
- Biometric
- Big Data

## Multiple Applications



- Web Based
- Thick Clients
- Multiple Searches
- Manual Data Entry
- Data Duplication

## Intelligence Asset Creation

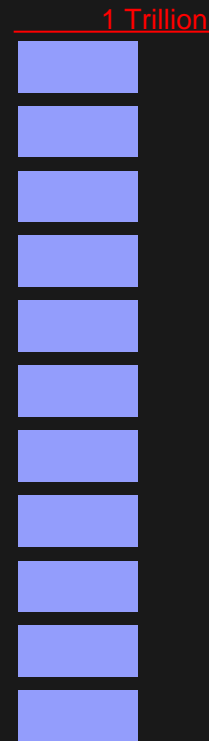


- Entities and Relationships
- Provenance
- Temporal Analysis
- Social Network Analysis
- Geospatial
- Relationship Detection



# How big is 1 Trillion records

Imagine the population of the world: 7.2 Billion People

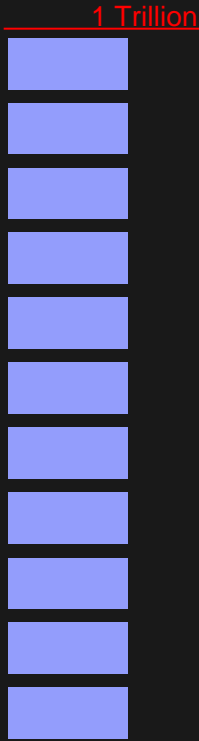


Running Total: 7.2 Billion Entities



# How big is 1 Trillion records

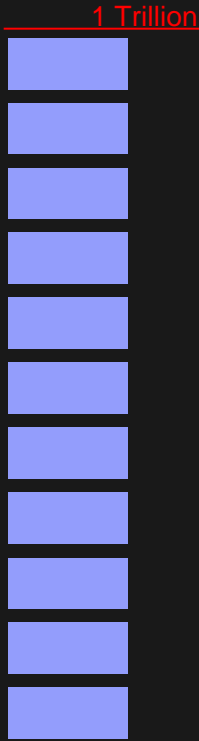
Imagine if everyone had a facebook, twitter and Linked in account



Running Total: 28.8 Billion Entities 21.6 Billion Links

# How big is 1 Trillion records

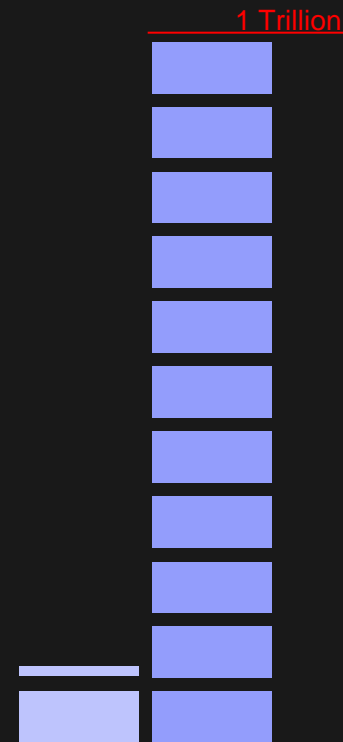
Now imagine we all have three phones (Work, Home, Mobile)



Running Total: 50.4 Billion 43.2 Billion Links

# How big is 1 Trillion records

Assume there were 500 Million companies employing us all



Running Total: 50.4 Billion Entities 64.8 Billion Links

# How big is 1 Trillion records

We all lived in a house with 1 other person



Running Total: 54 Billion Entities 72 Billion Links

# How big is 1 Trillion records

We all had three bank accounts



Running Total: 75.6 Billion Entities 93.6 Billion Links

# How big is 1 Trillion records

Now imagine we each have 200 followers on Social Media



Running Total: 75.6 Billion Entities 1.53 Trillion Links

# From Data & Information to Intelligence to Action

## Smarter Decisions Faster

**Channels**

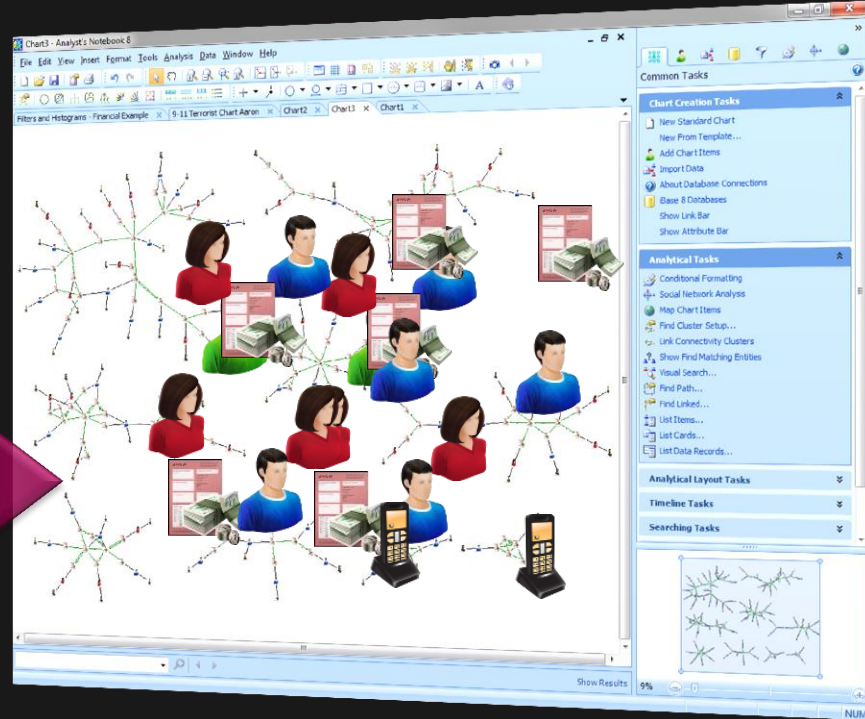
- Branch
- ATM
- Merchants
- Mobile
- Online
- Call Center
- Relationship Manager

**Business Silos**

- Retail

**Computer Log**

ID	Age	DOB	Gender	Address	City	State	Zip	Phone	Occupation	Income	Education	Marital	Religion	Ethnicity	Height	Weight	Eye	Hair	Complexion	Smoker	Alcohol	Drug	Other	
1	Young	01/11/89	American	952 244 1527	Male	1642-4913	Jeff	Barrs	609 447 8154															
2	Young	11/11/80	American	952 244 1527	Male	2003-6263	Justin	Lacke	401 1514 American	Female	40 200 160													
3	Young	11/11/80	American	952 244 1527	Male	4341-4122	Derek	Homer	401 1514 American	Female	40 200 160													
4	Young	13/01/81	American	952 244 1527	Male	4550-8021	Sean	Kent	602 917 802 American	Female	476 322 636													
5	Young	12/01/81	American	952 244 1527	Male	4521-6019	David	Heagy	602 917 802 American	Female	476 322 636													
6	Adolescent	5/28/1985	American	511 303 9182	Male	5184-2007	Peter	Ingam	528 1901 Delian	Female	10244 12502													
7	Adolescent	5/28/1985	American	511 303 9182	Male	9382-3578	Tania	Yeares	60 9170 52029															
8	Adolescent	5/28/1985	American	511 303 9182	Male	6302-6537	Helek	Helek	61 9152 American	Female	611 601 4322													
9	Adolescent	5/28/1985	American	511 303 9182	Male	6881-7054	Oscar	Rivers	1828 1971 American	Male	136 731 9691													
10	Adolescent	01/27 0830	British	01207 36320	Male	7982-4508	Donald	Charmen	528 1901 Delian	Female	6112 102 020													
11	Adolescent	5/28/1985	American	511 303 9182	Male	4281-3446	Helek	Helek	61 9152 American	Female	6112 102 020													
12	Professional	Lee@www.galaxytel.com	Organization	0811-8273	Joe	Weyeg	James	Zanadich	618 1980 Delian	Female	6121 2 60228													
13	Professional	Lee@www.galaxytel.com	Organization	0811-8273	Joe	Weyeg	James	Zanadich	618 1980 Delian	Female	6121 2 60228													
14	Professional	Lee@www.galaxytel.com	Organization	1183-2937	Ging	Reed	James	Zanadich	1218 1954 Delian	Female	6109 423 112													
15	Professional	Lee@www.galaxytel.com	Organization	4203-6287	Jim	Zanadich	James	Zanadich	618 1980 Delian	Female	6121 2 60228													
16	Professional	Lee@www.galaxytel.com	Organization	0711-3074	Michelle	Michelle	Michelle	Michelle	61 9152 American	Female	6182 16209													
17	Adolescent	5/11/80	British	01207 36320	Male	0803-8363	Scott	Upham	528 1901 Delian	Female	6182 16209													
18	Adolescent	5/11/80	British	01207 36320	Male	5214-6273	Connie	Hagan	528 1901 Delian	Female	276 547 3291													
19	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
20	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
21	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
22	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
23	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
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25	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
26	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
27	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
28	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
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35	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
36	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
37	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
38	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
39	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
40	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
41	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
42	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
43	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
44	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
45	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
46	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
47	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
48	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
49	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															
50	Adolescent	8/19/85	American	439 384 4028	Female	1834-7032	John	Palmer	601 841 2357															





# Tenants of the modern Intelligence Platform



## Scalable

Supports a wide range of missions as well as operational and user environments



## Interoperable

Integrates with existing environments and eases information sharing



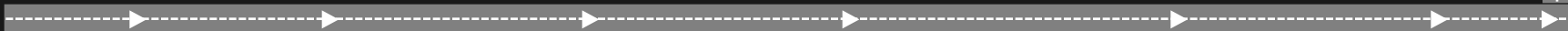
## Modular

Modular architecture can deliver maximum mission flexibility with ability to add complimentary analytics



## Cost Effective

- Reduces training, maintenance and deployment costs
- Modular design
- Role based packaging



# Now Imagine the solution

## Federated Search



- Single search
- Specify Source(s)
- Analyse Results

## Geospatial



- Plot items
- Query based on region or path
- Additional data sets

## Relationship Detection



- Non obvious relationship Detection
- 32 degrees of separation

## Unstructured



- Natural Language Processing
- Entity and Relationship extraction

## Social Media



- Relationship identification

## Facial Recognition



- Recognition from photos on social, phones, cameras, hard disks, etc.

Single User Interface

Intelligence Repository

# Capabilities Are Used by Clients In Multiple Sectors



## National Security

- Counter Terrorism
- Counter Intelligence
- Intelligence Analysis
- Border Security
- Cyber Risk

## Defense

- Establishing Civilian Structures
- Counter Intelligence
- Intelligence Analysis
- Target Analysis and Defense
- Peacekeeping
- Force Protection
- Pattern of Life Analysis
- Human Terrain Mapping

## Law Enforcement

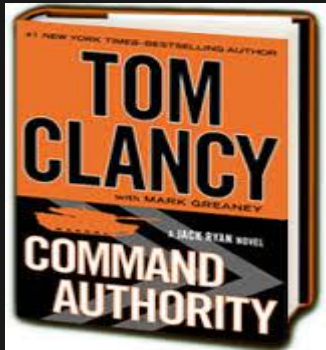
- Tactical Lead Generation
- Counter Terrorism
- Major Investigations
- Organized Crime
- Neighborhood/Community Policing
- Public Order/Major Event Management
- Volume Crime
- Fusion Centers

## Private Sector

- Security Investigations
- Industry Oversight & Compliance
- Cybercrime
- Risk Management
- Anti-Money Laundering
- Fraud

## Government

- Industry Oversight & Compliance
- Cybercrime
- Securities Investigations
- Anti-Money Laundering
- Fraud



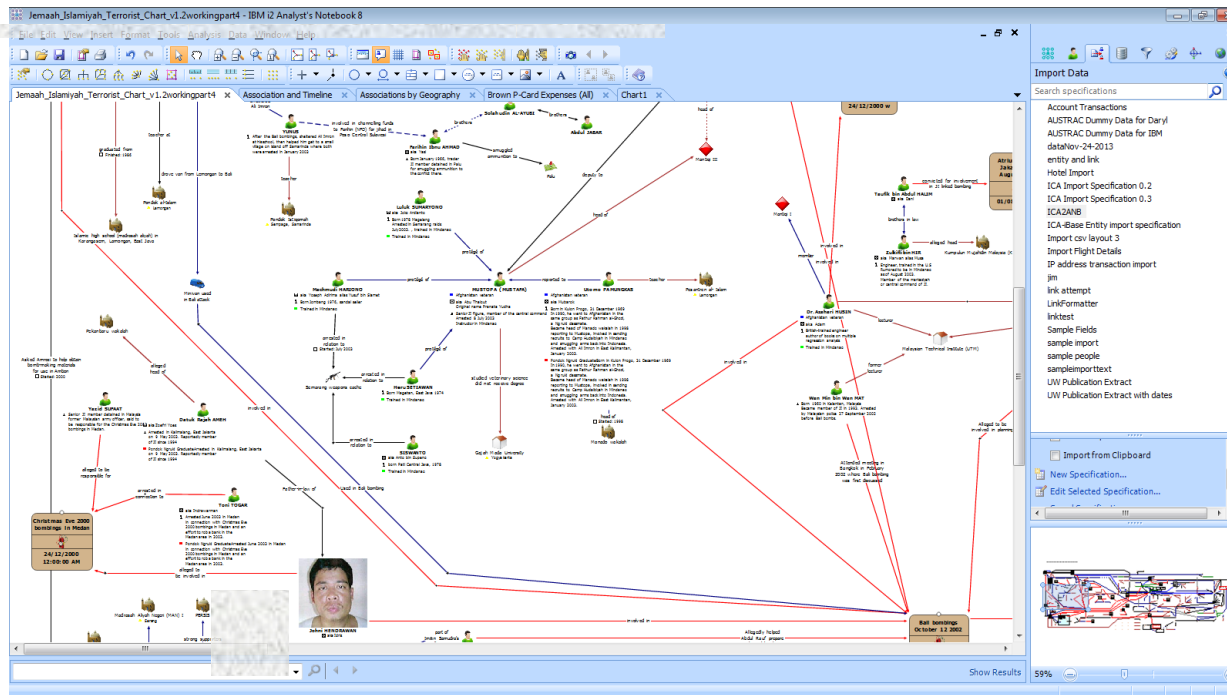
He (Jack) soldiered on, and through his work on the theft of Galbraith's company he discovered that Gazprom had purchased the pieces of the Scottish-owned gas firm from a series of small foreign companies that sprang up out of nowhere to bid in the auction...To unravel it all, Ryan had a few weapons he could call on...Another tool Jack made use of was **IBM i2 Analyst's Notebook**. It was a data analysis tool that allowed him to put in all manner of different data sets, and then generate quick visual representations via graphs and charts that he could manipulate to track trends, see relationships between people in a target network, and allow himself a more dynamic way of interpreting whichever environment he was studying...Jack knew good data organized effectively was the most important commodity for any analyst.

## Example Scenario

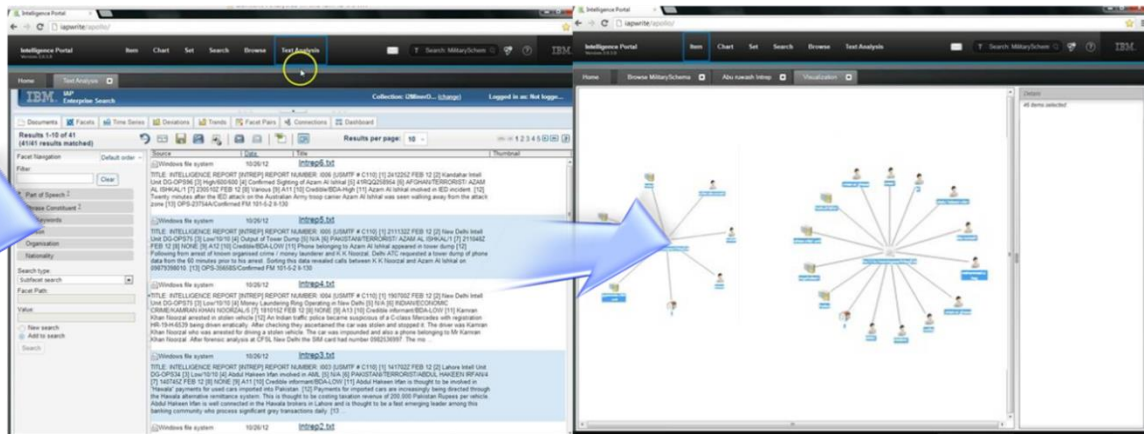
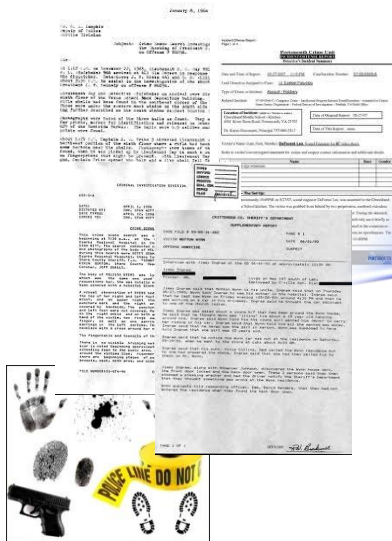
- Bomb detonated damaging a main rail network
- Need to identify and capture individuals responsible
- A group has claimed responsibility



# What do we know about the group network

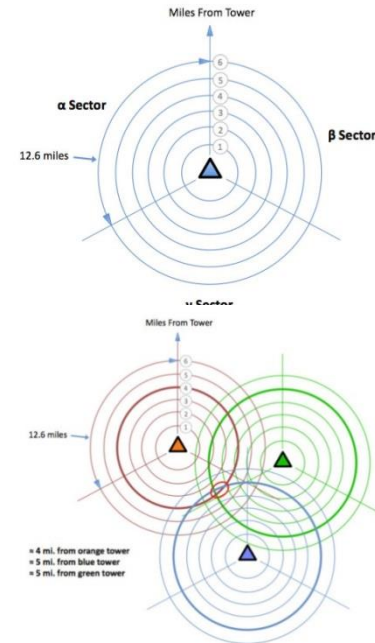
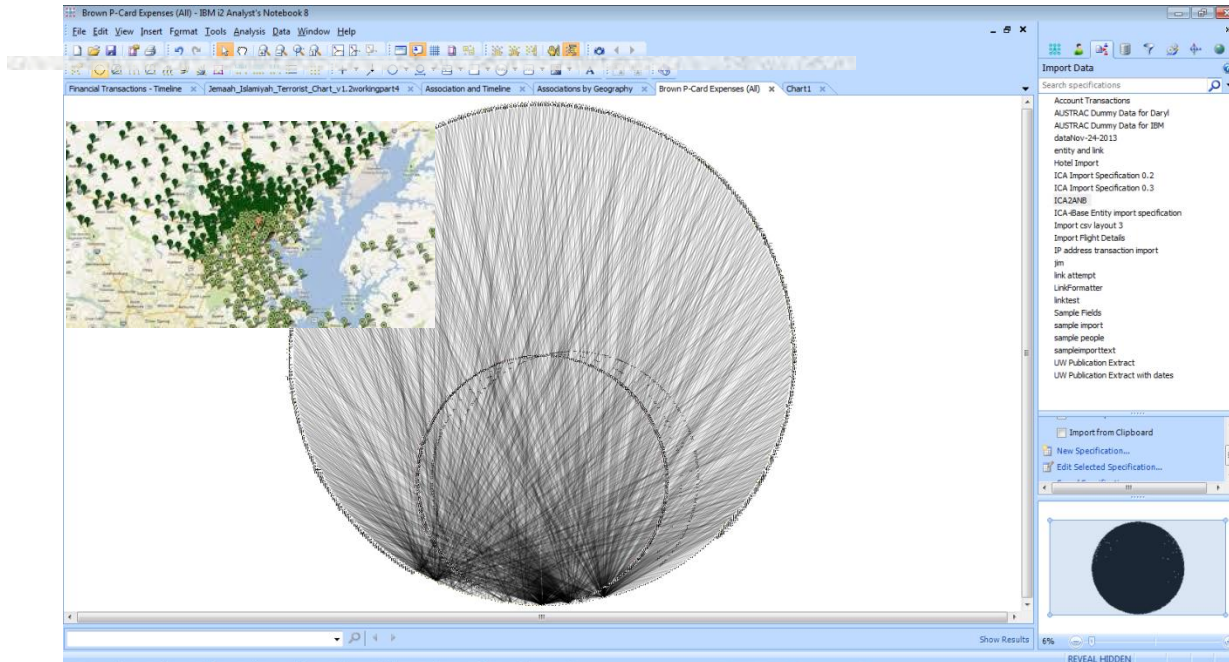


# What do we know about the scene – Read through the location reports – other reports



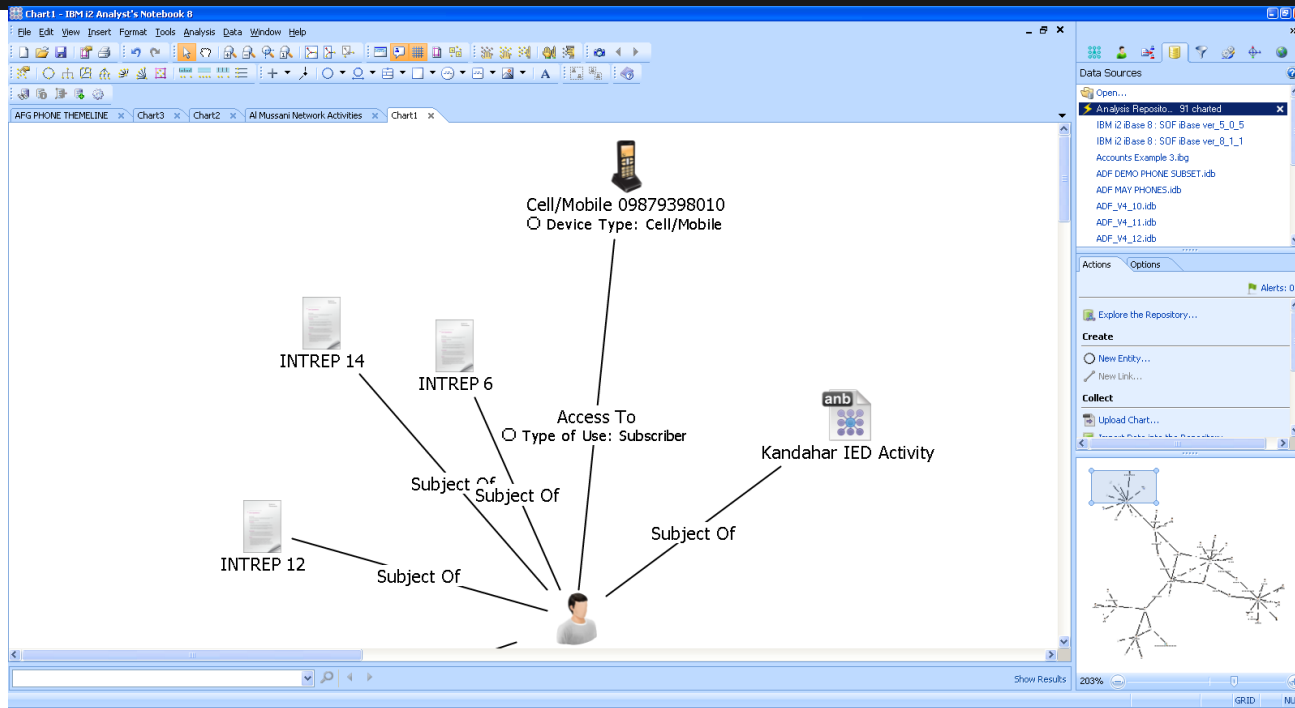


# Gain information from local cell towers





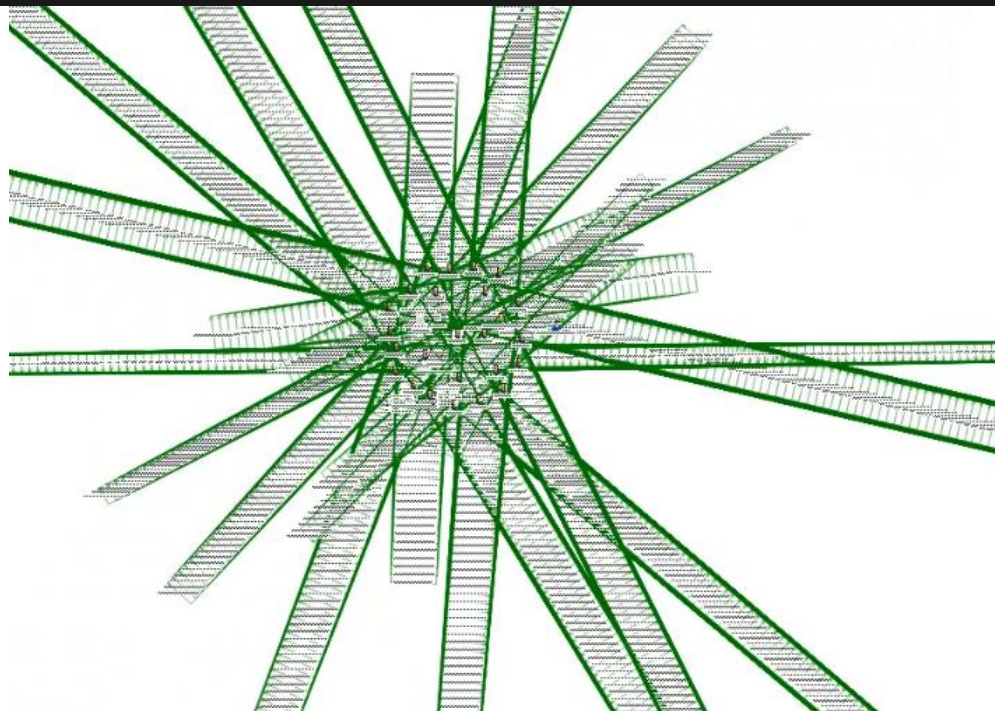
# Do we recognise any of the numbers



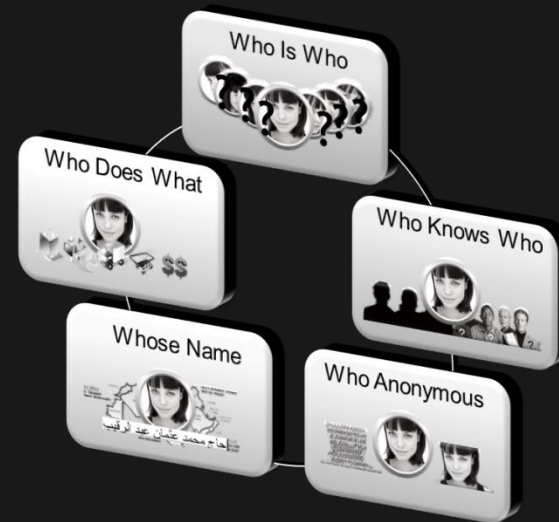
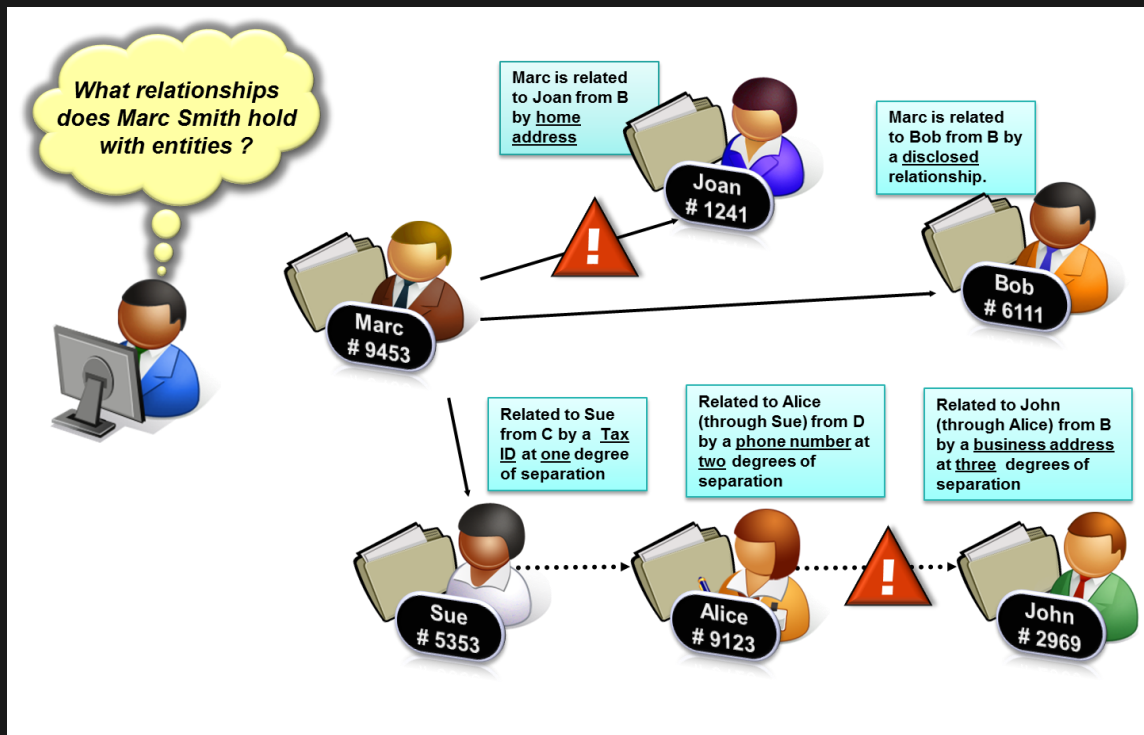
# Request call logs for relevant numbers and owners from cell companies



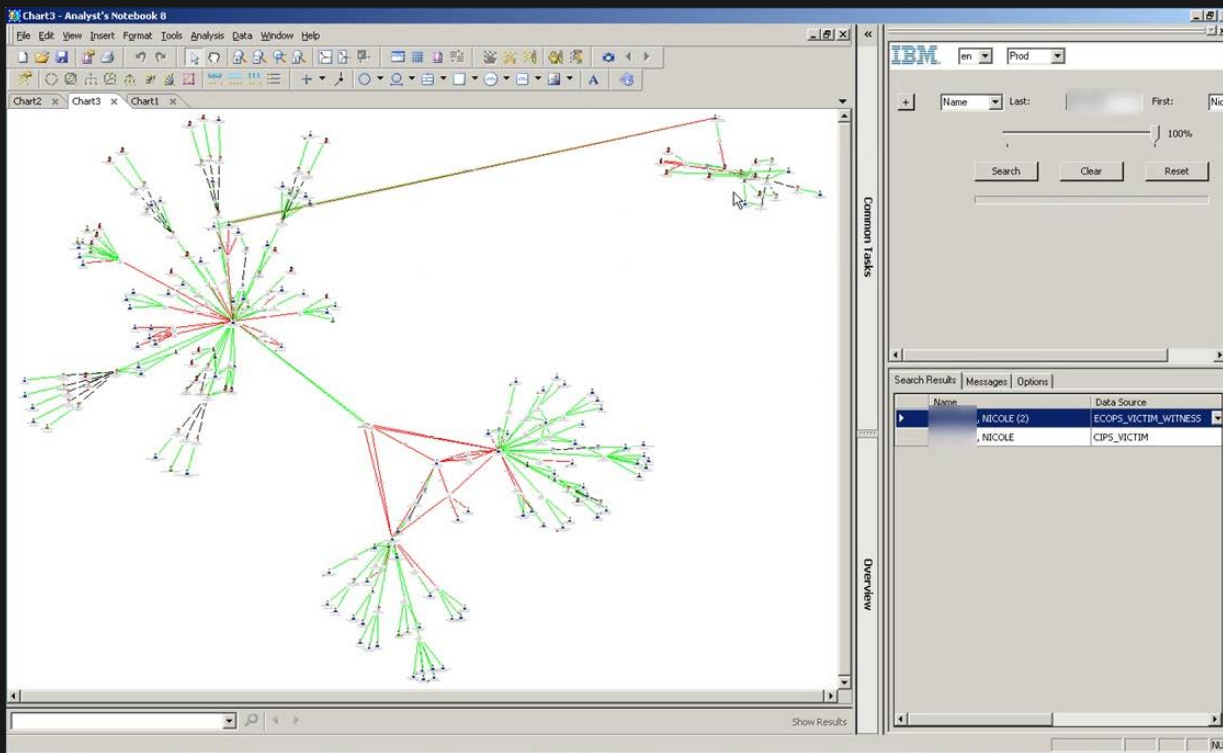
# Any calls between these numbers, or known numbers



# Non-obvious relationship detection

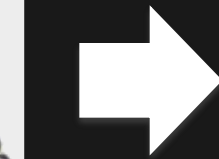


# Non-obvious relationship detection



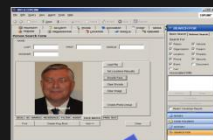
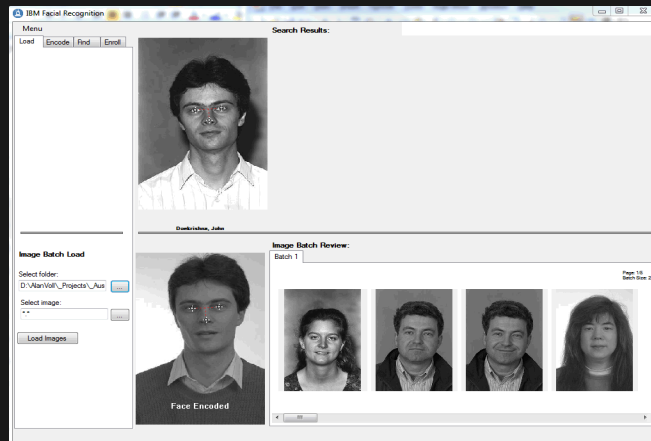


# Pull in suspects – seize mobile phone – Rip off information and photographs



Identity	Remark	Type	Representation	Date	Time	Label Value	Location - City	New Attribute
50153	0119500124251033	Telecom	Theme Line	1.19500142		Mazr o Sharf	Afghanistan	
701610	0119500146251610	Telecom	Theme Line	1.19500146		Mazr o Sharf	Afghanistan	
336241	01195000452386241	Telecom	Theme Line	1.19500045		Mazr o Sharf	Afghanistan	
1413214	01195000462413214	Telecom	Theme Line	1.19500046		Mazr o Sharf	Afghanistan	
752000	01195000462521000	Telecom	Theme Line	1.19500046		Mazr o Sharf	Afghanistan	
8223750	011950006846223750	Telecom	Theme Line	1.19500068		Mazr o Sharf	Afghanistan	
19462095	0119294307731462095	Telecom	Theme Line	1.19504307		Chah	Pakistan	
2047604	0119290707507604	Telecom	Theme Line	1.19500707		Mardan	Pakistan	
330691	01193000216330691	Telecom	Theme Line	1.19500021		Kandahar	Afghanistan	
1412295	01195000462412295	Telecom	Theme Line	1.19500046		Mazr o Sharf	Afghanistan	
1047712	01192020201047712	Telecom	Theme Line	1.19502020		Maidard	Pakistan	
6574953	0119500123236574953	Telecom	Theme Line	1.19500123		Mazr o Sharf	Afghanistan	
1411243	01195000462411243	Telecom	Theme Line	1.19500046		Mazr o Sharf	Afghanistan	
282275	0119500046282275	Telecom	Theme Line	1.19500046		Mazr o Sharf	Afghanistan	
2224477	01195000242224477	Telecom	Theme Line	1.19500024		Mazr o Sharf	Afghanistan	
3381295	01195000452381295	Telecom	Theme Line	1.19500045		Mazr o Sharf	Afghanistan	
8517210	01195000394517210	Telecom	Theme Line	1.19500039		Mazr o Sharf	Afghanistan	
3304523	01195000452304523	Telecom	Theme Line	1.19500045		Mazr o Sharf	Afghanistan	
2533108	01195000242533108	Telecom	Theme Line	1.19500024		Mazr o Sharf	Afghanistan	
4294920	01195000694294920	Telecom	Theme Line	1.19500069		Mazr o Sharf	Afghanistan	
6947426	01195000704947426	Telecom	Theme Line	1.19500070		Kandahar	Afghanistan	
9527953	01195000452827953	Telecom	Theme Line	1.19500045		Mazr o Sharf	Afghanistan	
8831201	011950004528831201	Telecom	Theme Line	1.19500045		Mazr o Sharf	Afghanistan	
7311700	011950004527311700	Telecom	Theme Line	1.19500045		Mazr o Sharf	Afghanistan	
8944880	01195000594844880	Telecom	Theme Line	1.19500059		Mazr o Sharf	Afghanistan	
5522193	01195000452522193	Telecom	Theme Line	1.19500045		Mazr o Sharf	Afghanistan	
7948223	011950004527948223	Telecom	Theme Line	1.19500045		Mazr o Sharf	Afghanistan	
8222324	01195000594822324	Telecom	Theme Line	1.19500059		Mazr o Sharf	Afghanistan	
2911895	01195000242911895	Telecom	Theme Line	1.19500024		Mazr o Sharf	Afghanistan	
5213321	011950004525213321	Telecom	Theme Line	1.19500045		Mazr o Sharf	Afghanistan	
7603004	011950004527603004	Telecom	Theme Line	1.19500045		Mazr o Sharf	Afghanistan	
3331881	01195000462331881	Telecom	Theme Line	1.19500046		Mazr o Sharf	Afghanistan	
2321895	01195000462321895	Telecom	Theme Line	1.19500046		Mazr o Sharf	Afghanistan	
6050495	01192420128560495	Telecom	Theme Line	1.19504201		Lahore	Pakistan	
3005947	011950004623005947	Telecom	Theme Line	1.19500046		Mazr o Sharf	Afghanistan	
2311774	01195000462311774	Telecom	Theme Line	1.19500046		Mazr o Sharf	Afghanistan	
1194676	011950195041194676	Telecom	Theme Line	1.19501950		Kulu	Afghanistan	

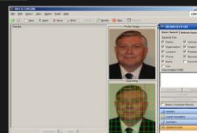
# Facial Recognition



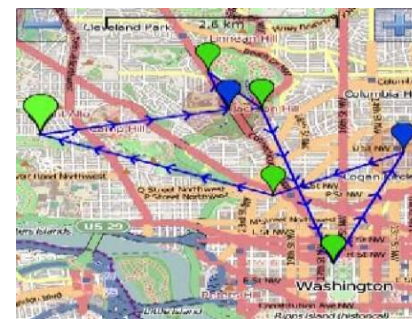
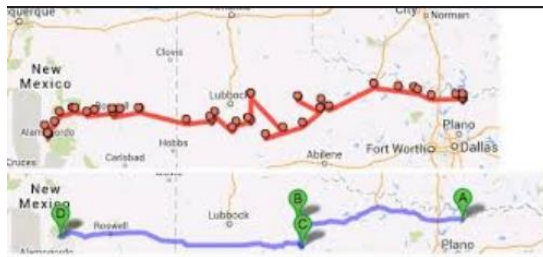
Ingest



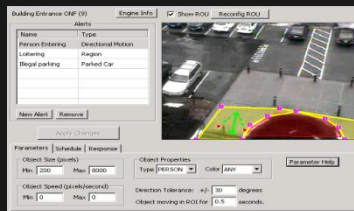
Search



# Phone whereabouts – waypoint tracking



# Pull in data from CCTV and run analysis



## Motion Detection

Triggers on any motion that fits size/duration constraints

## Tripwire

Triggers when object center passes over a virtual line

## Directional Motion

Triggers when object moves in a certain of directions

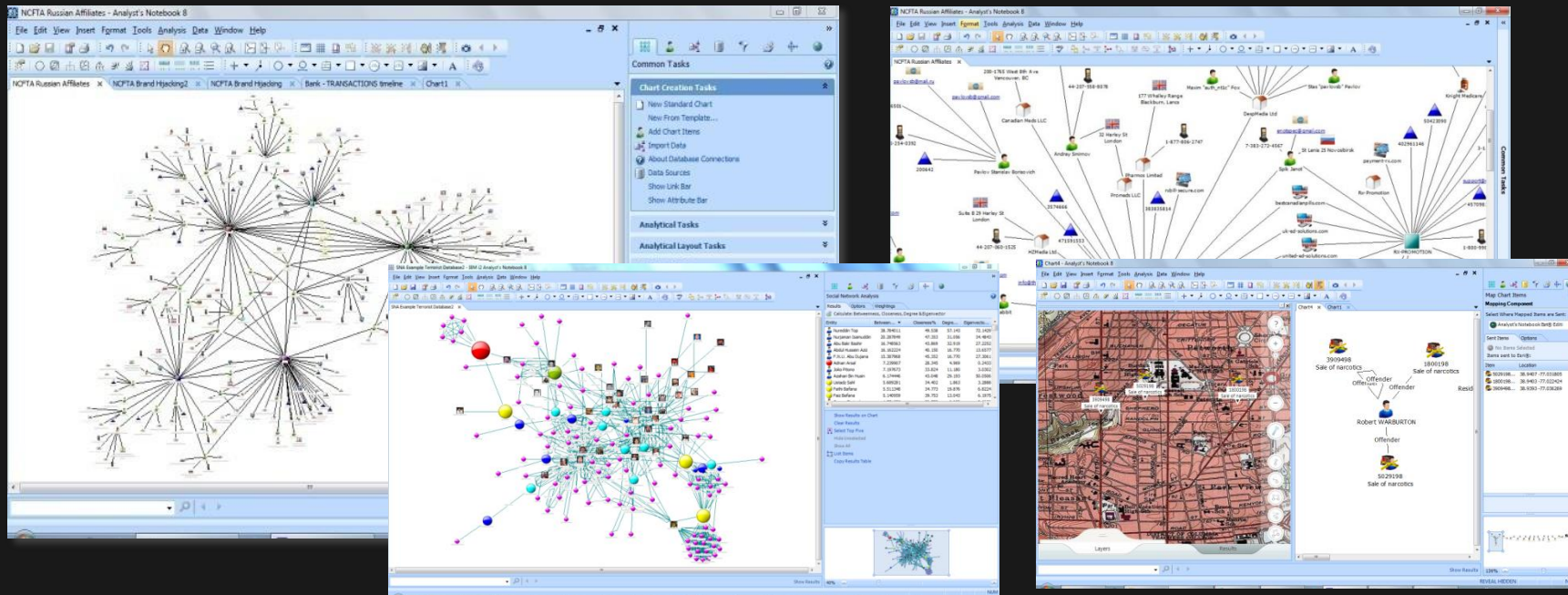
## Abandoned Object

Triggers when object appears in region, stops still for period of time.

## Object Removal

Triggers when object which has been still in image for long time starts to move.

# Identifies Individuals, Groups, Events, Locations, Commodities, Communications, etc. and build relationships



## In Summary

- Accessing VAST amounts of information
- Improve productivity during investigations
- Quickly identifying non obvious relationships
- Turning Information into Intelligence
- Reduce the Analysis time cycle through to enforceable actions







[adrian.barfield@au1.ibm.com](mailto:adrian.barfield@au1.ibm.com)

