

# Sentinel Visualizer<sup>®</sup>

## Analysis

All data has hidden meanings, patterns, and trends, but identifying them is a challenge that only advanced automated analysis can address. Sentinel Visualizer offers some of the most sophisticated analytic capabilities available. With Sentinel Visualizer automated Analysis you can:

- Automatically identify central players
- Locate organizational cut-points
- Perform timeline analysis
- Organize data relationships into cells and cliques
- Include your own metadata in the analysis process
- Find all paths, the shortest path, or the best paths between two entities
- Build simple or complex models that mirror your needs

## Network Metrics

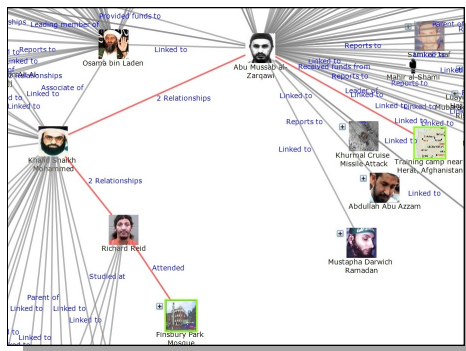
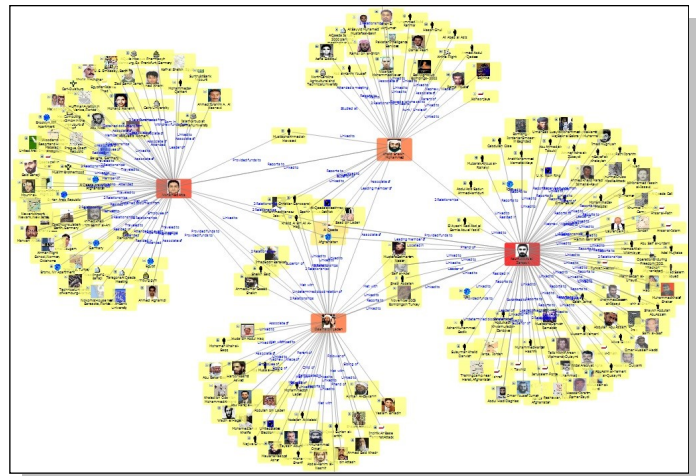
Sentinel Visualizer includes Network Metrics—our advanced technology for identifying, grouping, and ranking complex inter-related data. With a foundation in Social Network Analysis (SNA), our system provides the ability to rank centrality, closeness, and other key metrics even within large complex datasets.

But unlike other SNA-based systems, Network Metrics extends the analysis model by assigning specific meaning and weighting that models your data and mission.

## The Big Picture

Network Metrics are generated as a set of sortable numbers so you can quickly see central and highly connected players in a network. Sentinel Visualizer takes this capability to the next level with Gradient Metrics so you can automatically apply numeric rankings to the visual appearance of the network. Specify colors for high and low values, and Sentinel Visualizer does the rest. This feature makes it easy to visually acquire meaning in even the most complex inter-related data.

Name	Type	Degree	Betweenness	Closeness	Eigenvalue	Hub	Authority
Osama bin Laden	Person	44	1	1	0.7071	0	0.7071
Abdallah Al-Halabi	Person	1	0	0.560606...	0.0049	0	0
Abu Mussab al-Zarqawi	Person	3	0	0.632478...	0.0049	0.7071	0
Al Qaeda	Terrorist Organiz...	1	0	0.560606...	0.1254	0	0.2887
Ayman Al-Zawahiri	Person	1	0	0.560606...	0.0049	0	0
Enaam Arnaout	Person	1	0	0.560606...	0.0049	0	0
Imad Eddin Barakat Yarbas	Person	1	0	0.560606...	0.0049	0	0



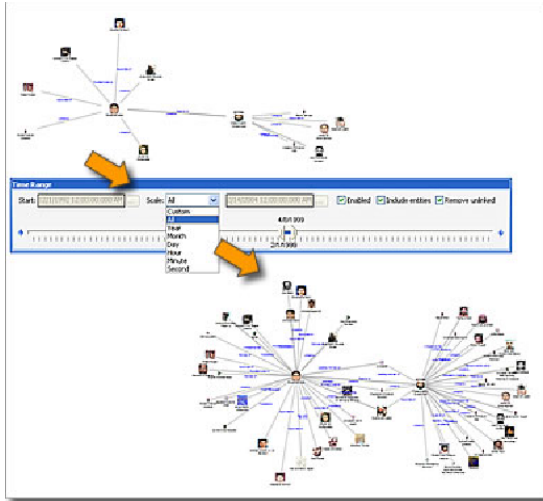
## Finding Paths

How are things connected? What connection paths do people work through? What is the shortest or best path between two data elements? Sentinel Visualizer provides a variety of tools that make it easy for you to answer such questions. With highly optimized graph algorithms, you can quickly see all paths, the shortest path, or only the best paths between entities based on your specific criteria.

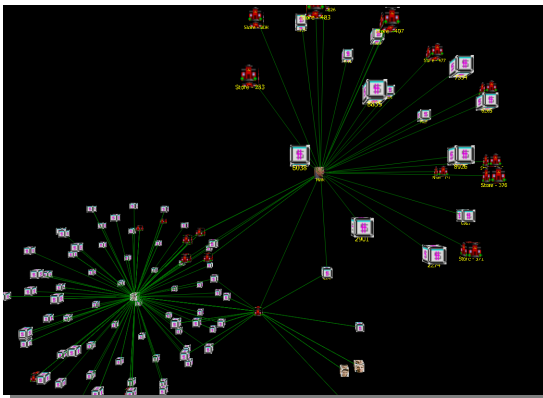
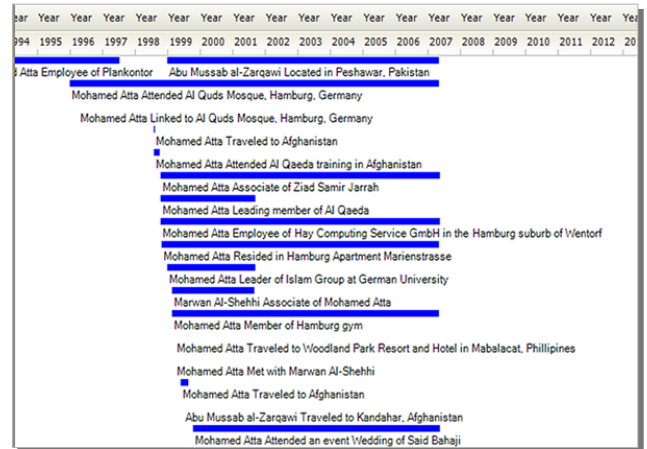


# Temporal Analysis

Sentinel Visualizer provides a powerful Time Range interface that hides or shows data based on a time slider control. Temporal Analysis makes it easy to see how networks form, change, and interact with each other over time. This capability allows you to spot patterns and predict actions and behaviors. The Time Range interface supports ranges down to the second level, and includes the ability to visually define time spans and ranges.

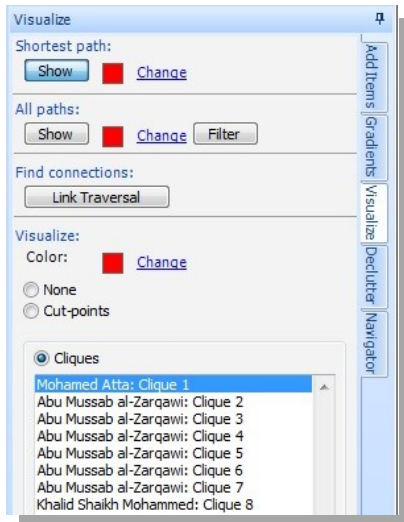


Additionally, you can use the Timeline View to quickly see events in a linear time format.



# Granular Control and Tuning

All information is not equal, just as all objects and all links between objects are not equal. While traditional link analysis fails to take this into account, Sentinel Visualizer Automated Analysis provides you with unprecedented accuracy through weighting. Sentinel Visualizer gives you the ability to accurately model simple or complex systems by specifying the weight of entity and relationship types, information credibility, and a variety of other parameters.



# Key Nodes, Cliques, and Cells

By analyzing the results of network statistics, Sentinel Visualizer provides tools that help you find meaning in your data. Sentinel Visualizer pinpoints and provides a visual representation of cliques: groups of entities within a network that are closely connected to each other.

Sentinel Visualizer also locates and displays cut-points, or entities whose removal can seriously disrupt or destroy the link between sub-groups. This may help your prioritize areas of interest to devote your resources.

