



NETWORK MAPPING PLATFORM

TECHNICAL BACKGROUND PAPER

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PeopleLink

NETWORK
ANALYSIS

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1.0 Network Mapping – Practical and Theoretical Basis

1.1 Application of Social Network Analysis

Application of Social Network Analysis (SNA) tools for Network Mapping assists in providing service performance analytics and reporting. A lack of reporting means that it is increasingly likely that resources will be misallocated, innovative ideas will be rejected, money wasted, quality of service jeopardized, and service reputation put at risk.

Network Mapping using a SNA method is key to improving the efficiency, effectiveness and innovation within the network. Application of a 'Network Lens' exposes the interactions between people, allowing the exchange of information and knowledge to surface, and exposing dependencies and gaps within the system. A traditional hierarchical organizational system is optimized for top down communication, however to increase efficiency and facilitate communication between organizations in the service delivery system an examination of the network is required. Using the SNA approach, organizational effectiveness (capability) is assessed by understanding how individuals apply their competence, and how they interact and collaborate. Using SNA techniques we can measure connectedness between individuals. It has been discovered that outcomes and inter-organizational relationships are enhanced when partnerships are formed to meet certain programmatic and organizational goals and partners selected because they share common vision increase effectiveness. Additionally, when partnerships use an inter-organizational coordination mechanism, client outcomes are improved. Network mapping can also help to develop connections between nodes within the system to encourage connections and communication that can lead to innovation.

A highly functioning system will also have some intuitive intelligence, and would be expected to evolve and adapt to changing needs. It requires that each part of the system knows its unique role and how it fits into the system, and its specific relationship with other closely related parts. Fundamental to this concept is that the parts of the system fit together for the good of the whole.

1.2 Developing world class networks

The term network could best be described as meaning 'the exchange of information or services among individuals, groups, or institutions; specifically: the cultivation of productive relationships for employment or business' (Webster Dictionary). This term is used in an active sense, to imply the dynamic nature of information flows and exchange, and the active creation of collaborative groups and approaches.

Networks have been established in the public and nonprofit sectors to create collective solutions to complex problems through cross-boundary action, whether those boundaries are jurisdictional, organizational, programmatic, geographic, professional, or sectoral. Those looking to maximize results on complex social issues will find investment in networks to be particularly useful in a comprehensive strategy, as networks have been demonstrated to facilitate progress by:



- Leveraging scarce resources and achieving economies;
- Strengthening integration, collaboration and coordination across and within programs, funders, organizations and sectors, while maintaining the benefits of diversity;
- Leveraging change by increasing shared learning, creativity, and innovation among individuals and organizations;
- Addressing needs in a more comprehensive way and improving responsiveness by enhancing the flow of information; and
- Empowering communities to respond to change and problems with greater capacity and resilience.

Networks are collaborative structures that rely on trust and reciprocity for exchange and accountability, rather than price systems (markets) or chain of command (hierarchies). Networks create new patterns of relationships that go beyond members' primary affiliations and are thus effective mechanisms to integrate otherwise isolated capacities for a common purpose. They establish the infrastructure of processes, information, people, and relationships needed to create synergies across multiple organizations, and across wide geographic areas.

1.3 Network Connectors and Navigators

The need for network connectors and navigators is essential in every network. These roles are critical to the formation and operations of a functional network and system. The unique difference in these terms could be considered as:

- Connectors – people who build the connections in a network, and look for, and facilitate opportunities for new connections to be formed, and are able to pass information and resources around the network. By nature, they are two or multi-direction in orientation and accelerate information flows and understanding.
- Navigators – people who can identify the most useful pathways through the network.



2.0 Network Mapping Platform

2.1 Rationale behind Network Mapping Platform methodology

Future iQ Partners is using the following key methodology for this Network Mapping Platform. The rationale for each key approach is outlined below.

2.1.1 Network Mapping – PeopleLink

This virtual interactive network mapping tool and associated methodology is perfectly suited for application in this project. Future iQ Partners has been conducting network mapping for four years (and Optimice for 12 years). Recently our network mapping process has transferred onto the new virtual interactive mapping platform, which has been applied in a number of settings. It has been commercially tested and applied, and has proven to be incredibly powerful in uncovering network dynamics, previously unable to be seen in static mapping tools and platforms. The interactive feature allows true interrogation of the network to determine and identify key network dynamics and patterns.

2.1.2 Network Mapping Platform

The reason for using an online methodology includes:

- It provides an ideal format and medium to embed the PeopleLink network maps, which can then be used in the regional and community context
- Allows for all associated tools and supports, such as the videos and training module elements to be hosted on an integrated and seamless training platform
- It allows widespread use and utility, being available 24/7 and in all locations simultaneously via online access.
- Allows for application of modern and cutting edge learning experiences such as interactive training packages and modules designed specifically for the project

What is PEOPLE LINK?

PeopleLink – Network Analysis

We are learning that successful organizations and sectors have definable networks that build an environment that is conducive for innovation, collaboration, creativity and sustainable systems.

In order to fulfill on powerful future visions and actions, groups of entities are dependent on the strength of their 'people connections'. When there is an understanding of interaction and information patterns among organizations and people, strategies to organize networks become available. Network analysis is focused on people networks. We evaluate several key network roles and develop strategies for alignment of those networks toward desired outcomes.



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2.2 Value in Network Mapping Platform

Having clearly visible network maps takes the 'mystery out' of network performance. As the surveys are done on the basis of an individual 'outward looking assessment', the maps give a very clear peer based view of people's performance within the network. This visual display gives critical information to individuals and organisations about how they improve their linkages within the network, and their own personal network. It is important to note, that 'network' does not refer to a set of personal relationship (although it may reflect this); but in fact visualises who people see as sources of information and resources relative to the questions asked in the survey process.

The following outcomes are available by using the Network Mapping platform:

- Network transparency – Building a system that is easy to use, navigate, and is transparent is critical.
- Network system – People do not generally see themselves as belonging to a system, and typically operate in a 'silo mentality'. Facilitating a culture change to an overall system thinking approach is critical.
- Network performance – Being able to define, and then measure, metrics that drive a highly functioning network will help encourage and stimulate cultural change.

2.3 Design of the Network Mapping Platform

Key attributes of the various tools, include:

- The network-mapping tools are 'tried and tested'. They have been applied in many settings, and are known to be practical, robust and easy to use. They are extensively tested and have been applied in multiple settings in Government, regional, industry and corporate environments.
- The virtual interactive network-mapping platform (PeopleLink) provides great transparency of network function and behaviour, and is easy to navigate and interrogate. This platform offers the ability for people to visually see key relationships, information and client flows.

Network Mapping Platform. The network maps are hosted on an on-line platform. The platform and associated content allow organisations, regions and communities to assess strengths and gaps in their support network and allow for identification of how to more effectively build the network on an ongoing basis. The platform is built around the subset of network maps, and will enable a critical assessment and measurement of the network effectiveness at that point in time.



The platform includes:

- Embedded PeopleLink maps and associated interrogation functions to determine 'connectedness'.
- Videos to introduce network principles and provide a simple and effective user guide. This will quickly train people in how to use the network maps.
- Resources, which educate the user on network mapping analysis. These include published papers on Social Network Analysis.

These are unique proprietary tools to Future iQ Partners and Optimice, and represent many years of detailed research and development. In some cases, these tools and their application have been published in scientific journals.

2.4 Technical Basis of Network Mapping Platform

Much of the network mapping platform success relies on the ability for the technological platforms to work as planned. The use of virtual interactive network maps and online resources places a dependency on technological effectiveness. Strategies used to ensure successful operation include:

- **Using 'tried and tested tools'** - Future iQ Partners uses a range of tools and approaches that are extremely well tested and robust. These tools are mature, in that they are not developmental, and have been applied in numerous settings over a number of years. They are practical, well designed and function. They are not experimental or research tools.
- **Data storage** - The various survey and mapping platforms are hosted on servers and have multiple back-ups and storage safeguards that comply with industry standard and practice.
- **Internet Browsers** - the viewing of the virtual interactive maps requires more recent browsers. However, these browsers are all available as free downloads, and therefore does not cause any significant issue.

The specific programs used to help support the network mapping platform include:

- **ONA (Organizational Network Analysis) Survey Tool** - The PeopleLink tool is built on the network survey data collected via the ONA Survey Tool. This tool has been specifically developed and designed for network survey data collection. This is unique Optimice proprietary software, licenced by Future iQ Partners. It has been tried and tested since 2008 in Government, University, and Corporate environments and is regarded as the most practical, fast and easy to use network survey tool available. It provides a robust and simple interface that helps increase survey engagement and completion. It is fully customisable, and can be adapted for the scope of questions and outputs envisaged as part of this project.



- **Community Mapper Tool** - This tool is a highly effective conference and workshop tool to help rapidly form working groups, by mapping and clustering people who have shared interests.
- **PeopleLink** – Virtual Network Mapping Platform We are using the PeopleLink virtual and interactive network mapping tool and platform, built on the unique Optimice WebMapper proprietary software (licenced by Future iQ Partners). This is an online visualisation platform that is easy to use and provides practical benefits.

The platform is hosted on a unique URL, which will allow easy future portability of the platform.

2.5 Functionality of the Network Platform

To develop this platform, we are using the PeopleLink virtual and interactive network mapping tool and platform, built on the unique Optimice proprietary software (licenced by Future iQ Partners). This is an online visualisation platform that is easy to use and provides practical benefits.

The key functional features of this platform includes:

- Ability to visually display a network in excess of 1000 nodes or network points (people / organisations), revealing patterns of collaboration and partnership.
- Ability to ask multiple questions to produce a range of maps, which for example might focus on network patterns in response to questions such as ‘Who do you collaborate with?’; ‘Who do your refer clients to for support?’ and so on. The specific questions are determined with the client, but target the metrics and network behaviours most meaningful to create a clear understanding of the Service Delivery network.
- Ability to interactively interrogate the network with the following features:
 - Selective search and display of individual people and their key networks helping people rapidly find and follow the network pathways to the right resource and contact person. Maps will have the ability to reveal contact details for each person via ‘pop-up’ information boxes.
 - Turn on or off key categories that could represent sector interest, expertise and organisation. This feature allows in-depth interrogation of the network and reveals the critical role that each specific category has in the overall network vitality and connectedness.
 - Display and interrogate ‘sub-networks’ based on criteria such as geographic location, speciality or industry sector. This will allow organizational, community or regional groups to understand how well connected they are within the broader network, and what expertise is located within their organization, community or region.
 - Detailed measurement of network metrics, which can be used to understand collaboration



patterns, information flows, and the overall network importance of individual people or organisations.

- Clear visual ability to identify key 'Network Connectors' and 'Network Navigators' – those people who have an existing key role in connecting the network together and encourage information flows. The visual interactive maps will also allow a deep understanding of how individual people and organisations perform within the network systems - those that are central and network buildings and those that are peripheral or not engaged.
- PeopleLink platform has the ability to pre-set filters and controls on data presentation, that can limit what is viewed by different users. This can be useful to reveal only critical data in a public use, or access more detailed data for more advanced network analysis.

3.0 Survey Data - Mapping the Service Provider Network

3.1 Survey Process

3.1.1 Survey questions

Respondents are asked a number of profiling demographic questions to capture or validate, for example:

- Name
- Address
- Title
- Size of organization
- Type of organization
- Sectors that best represents the client base
- Services provided



Next, the respondents are asked to nominate their top 20 contacts (among the 300+ people invited to complete the survey) for optional different contexts:

- **Collaboration** – An example question: “Please select from the list below up to 20 key people that you have been interacting with over the last 12 months to deliver integrated services to your clients.” For each selected person the respondent was asked:
 - Which of the following categories best describes the nature of your interactions with the other service providers? (Networking/Coordinating/Cooperating/Collaborating)
 - How important has this interaction been in assisting you to deliver high quality services to your clients? (High/Medium/Low)
- **Referrals** – An example question: “From the list below, please select up to 20 key people to whom you have referred your clients, during the last 12 months.” For each selected person the respondent was asked:
 - How many clients have you referred to each person in the last 12 months? (<5, 5-10, 6-10, 11-20, 21-50, >50)
 - To what extent do you believe this service provider is adding value to your client’s business? (High/Medium/Low)
- **Technical knowledge** – An example question: “Please nominate up to 20 key people in the service delivery network (list below), whom you have contacted in the last 12 months, in order to obtain specific program and technical information for your clients.” For each selected person the respondent was asked:
 - How important has the information received been in assisting you to deliver a high quality service to your clients? (High/Medium/Low)

These questions are designed in conjunction with the client, and aimed to capture detailed information about the current network patterns and linkages, and explore some value information regarding how important the various relationships and connections were within the network.

3.2 Survey data – formats and databases

The survey data provides the backbone of the network map visualisation. Key points regarding the databases are: It provides an ideal format and medium to embed the PeopleLink network maps, which can then be used in the regional and community context



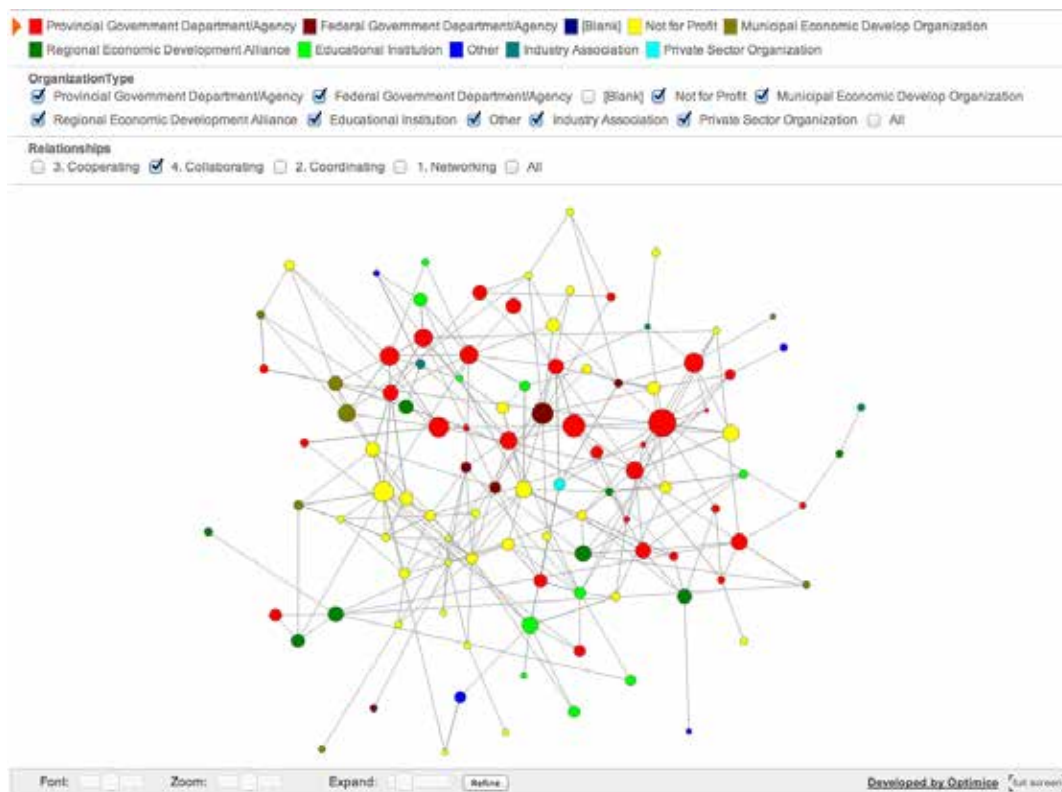
- All survey data is held on an ONA survey platform, hosted on a server. This data is used to create the virtual online mapping visualisation.
- The database is produced in Excel format, and input into the ONA system. The key information for the database is name and e-mail address.
- All data can be reviewed and exported in Excel format. Future iQ Partners make additional limited updates to this database, up until the completion of network mapping platform.

4.0 Key Components on the Network Mapping Platform

The Network Mapping Platform is populated by a series of maps, associated metrics, and supporting video tutorials and downloads.

4.1 Collaboration Maps

Based on the respondents' nominations of other people from the list the following collaboration patterns emerged (note – the map only shows the 'Collaborating' connections). The full functionality of the collaboration maps will allow options to filter on the nature of the collaboration, direction of relationship and organizational type filters.



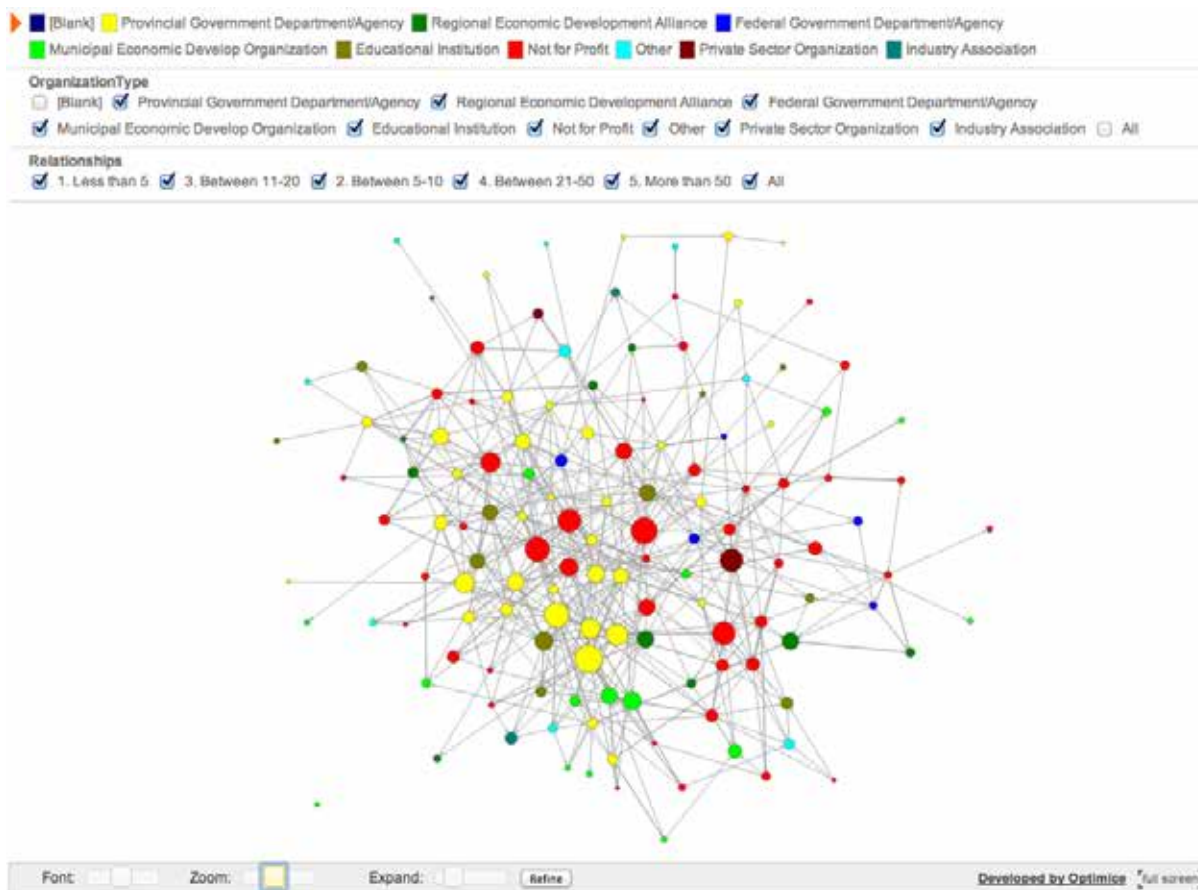


These maps provide an important baseline of the collaboration patterns between key people in the network. These maps can be used to identify clusters of collaboration, and gaps in the network connections. The various categories of collaboration (i.e. networking, co-operating etc.), to some degree reflect depth and trust levels in the collaboration patterns.

4.2 Client Referral Maps

The client referral maps track where people are referring clients to within a service provider network.

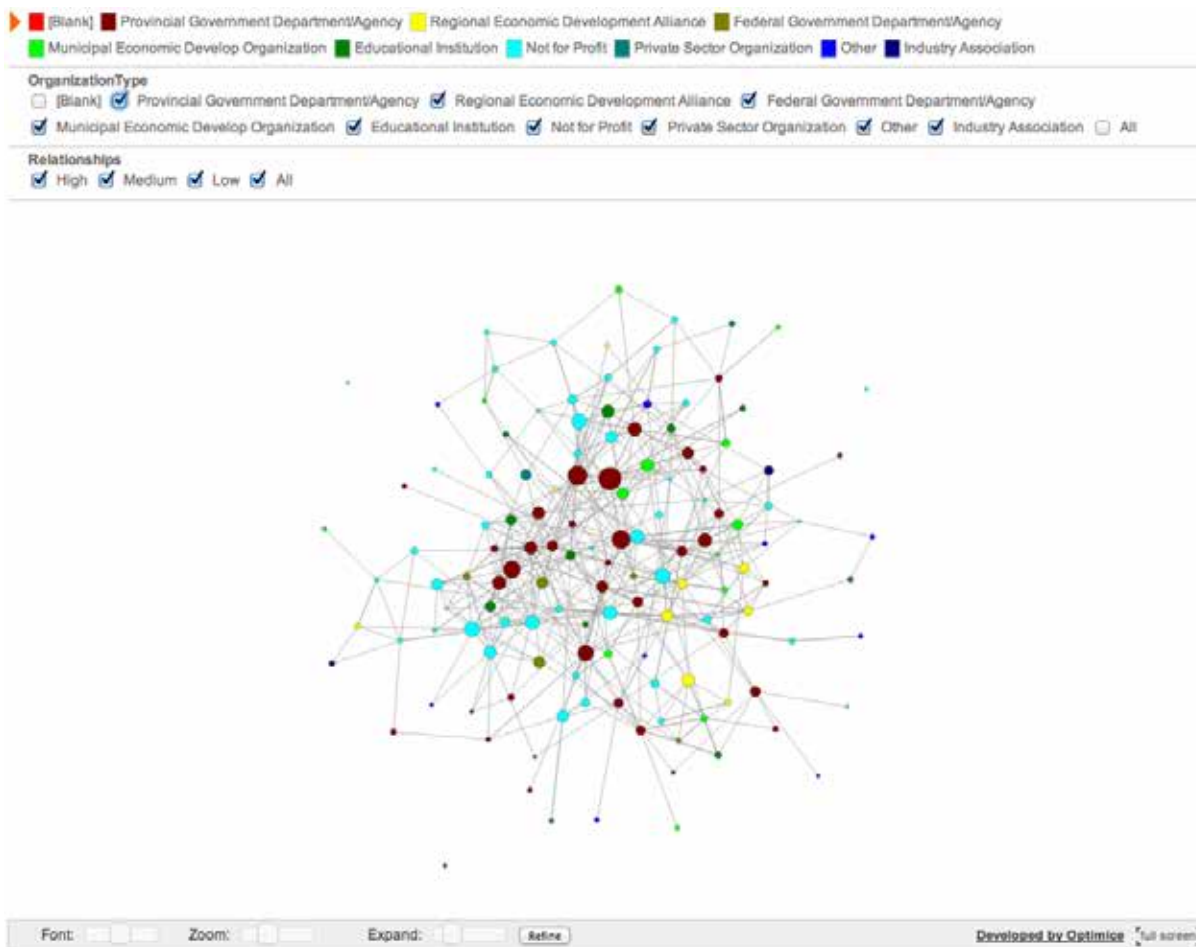
This behavior of referrals helps build a system of helping clients navigate quickly through the network to find the right resource. Below is an example of the client referral map. Once completed, these maps will have enhanced functionality, and allow people to see their own relevance within the network, and the importance of various service provider groups. These maps can also be filtered based on the perceived value the referral made to the clients business. This will provide greater insights into the 'value' service providers are creating within the overall system, and for clients.





4.3 Technical Information Map

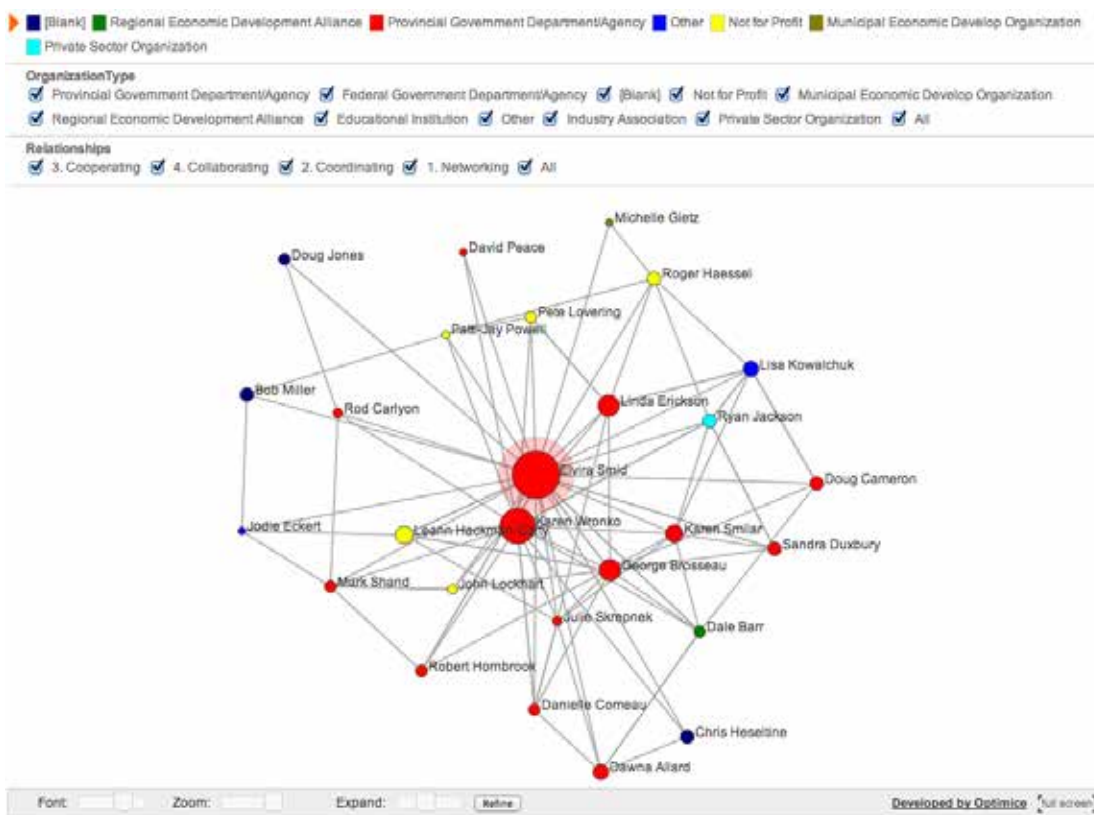
The technical information maps examine and visualize where people within the network are going to seek specific technical information. These maps can also be filtered based on the question 'How important has the information received been in assisting you to deliver a high quality service to your clients?' (High/Medium/Low). Again, this filter will allow a deeper understanding of the value and performance as perceived within the network.





4.4 Individual Maps

Each participant will have the option to explore their own personal network maps, for each of the three key areas. Below is an example map of a personal collaboration network map for Elvira Smid in response to the surveys. When the full functionality is included, the lines will include arrowheads that will indicate in this case, the direction of the collaboration. Where people are both pointing to each other, this will indicate a very high collaboration relationship.





4.5 Network Navigators and Connectors

An important aspect of the network-mapping platform will be the ability to identify 'Network Navigators' and 'Connectors'. This is achieved through two mechanisms:

- **Map visualization.** The maps represent people as nodes (circles). The greater number of people 'pointing' to an individual, the larger the circle that represents them. This allows people to see, at a glance, the key people in each map. This has a high correlation to their importance or relevance to the overall network.
- **Map metrics.** Each map has attached analytics (see example below). The Network Navigators list shows a subset of the people who received a relatively high number of nominations. (People towards the top of the list can be considered 'Network Navigators', as they are in a position to broker connections to others. Knowing just a few of these people can be a very effective way to navigate an otherwise invisible network of service providers.

Below is an example of the analytics from the Collaboration Map. This breaks down the highest nominated people, based on the four levels of collaboration, and a total number of nominations. This allows an insight into the roles that key people are playing within the overall network.

Total Nominations	4. Collaborating	3. Cooperating	2. Coordinating	1. Networking
25 - Karen Wronko	14 - Karen Wronko	7 - Jon Close	7 - Bruce Graham	8 - Leann Hackman-Carty
22 - Doug Maley	13 - Doug Maley	7 - Darlene Sinclair	6 - Sandra Duxbury	7 - James Cumming
20 - Elvira Smid	10 - Holly Sorgen	7 - Michelle Andrishak	5 - Paul Cabaj	6 - Doug Cameron
19 - Linda Erickson	10 - Bill Halley	6 - Karen Wronko	5 - Judy McMillan-Evans	5 - Cheryl Dick
19 - Jon Close	10 - Sean Blewett	6 - Elvira Smid	5 - Tracey Scarlett	5 - Bill Halley
18 - Leann Hackman-Carty	10 - Rollie Dykstra	5 - Linda Erickson	5 - Wendy Blackwell	5 - Elvira Smid
18 - Judy McMillan-Evans	8 - Judy McMillan-Evans	5 - Dale Barr	4 - Elvira Smid	5 - Dan Dibbelt
18 - Bill Halley	8 - Justin Riemer	5 - Alex Umnikov	4 - Dawna Allard	5 - Brenda Feenstra
18 - Dawna Allard	8 - Cheryl Dick	5 - Judy McMillan-Evans	4 - Darlene Sinclair	5 - Rick Bastow
17 - Cheryl Dick	7 - Linda Erickson	5 - Karen Smilar	4 - Dan Pearcy	4 - Bev Thornton
17 - Justin Riemer	7 - Matt Cornell	4 - Justin Riemer	4 - Jay Ball	4 - Dale Barr



5.0 More Information

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