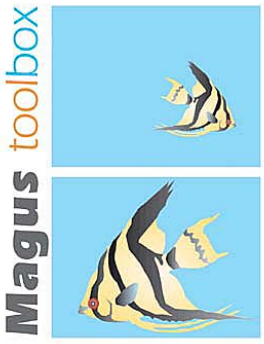


Magus Networker and Information Strategy

Many IT directors have discovered a paradox related to definition of information strategy; some have yet to discover a solution. The paradox:

- Ask the users of information about the information they need, and the resulting specification is likely to be somewhat distant from the ideal of the support that a good information system can provide. IT functions that develop such systems often stand accused of failing to deliver what is really needed.

- Using the technical knowledge and expertise within the IT function to design and provide a good information system can result in a design that is rather distant from the real information needs of the user. The IT function can also end up standing accused of being dictatorial in its approach to information provision.

The problem, on the one hand, is that few line managers have a really good grasp of their information needs, as analytical and predictive tools, beyond the simple stuff of management accounts or other systems focused on short-term operational performance.

On the other, there will be many people in IT functions, including good or better performers, who will not have a detailed understanding of the jobs being done by line managers, the jobs that line managers should be doing, where there is a difference, and the sort of decisions that a good information system could make more effective.

There are several solutions to this problem, including the appointment of 'business managers' within IT. These roles are generally designed to handle the interface between the provider and user of information to ensure that what is needed is actually provided. The role may be helpful, and often is, but it and other solutions like it fail to handle one particular problem relating to the specification of users' needs for good information – the twin issues of variability and complexity.

One effective solution to this problem is Magus Networker. Originally designed as an analytical and data visualisation tool for organisations, the 'nodes' in the networks portrayed are normally people, and the links joining network nodes are people-to-people relationships. If, however, some of the network nodes are not people but information items, then the links can be people-to-information-item relationships. This simple step opens the door to very powerful analyses of information provision and need.

The technique has been refined in a number of police forces in the UK, possibly because these are all information-rich environments, and because the success of modern policing depends to a very great degree on effective use of good information. Crime and criminal intelligence are obvious contenders, but just two out a multitude of different information sets, where good provision is critical to the delivery of successful police services. Assessment, feedback and operations information are but three other contenders for critical analysis.

Every Networker database is designed starting with a 'blank sheet of paper'. This is necessary as the information sets to be reviewed are themselves highly variable as is the design of the sample. The design questions cover both the selection of information sets to include, and the people who will be asked to provide information. There is a third variable, however, and this is the design of the questions to be asked.

There is a common approach here, but the final design is always application-specific questions overlaid on the common basis. The common basis assumes a form similar to a truth table.

The truth table would generally be:

Status	***Requirement***	***Data***
Available	Needed	Actions enabled
Available	Not needed	Reasons why not needed
Not available	Needed	Actions to be enabled

(The last line that would normally be in such a truth table is not addressed since it would contain no useful information – information not available and not needed).

The reason for requiring information about actions, by the way, is to ensure that the application of Magus Networker does not support the development of a costly 'just-in-case' information system. Requests for information that are not supported by a description of useful operational or analytical actions that would be enabled do not generally get much support – 'for reference' would not count!

To provide a sense of what might be in a typical Networker database, here is the question-set from the police-service application used to generate maps to illustrate this paper:

Please insert a tick (✓) against each information item that is currently available to you, and needed for you to do your job?
How important is this information to you, in order to do your job?
In its current form, how usable is this information to you, to enable you to do your job?
How is this information made available to you?
How often is this information provided or made available to you?
What is the biggest quality problem with this information?
What is the second biggest quality problem with this information?
How do you need to be able to search this information that is currently not possible, that would most help you to do your job better?
What is the most important action that you take, as a result of having this information?
What is the second most important action that you take?
Which are the information items that are currently not available to you, that would enable you to do your better, if they were made available to you? Please insert a (✓).
How important would this information be to you, to enable you to do your job?
How should this information be provided or made available to you?
How often should this information be provided or made available to you?
What is the most important action you would take, as a result of having this information?

What is the second most important action you would take, as a result of having this information?
Which information items available to you, are not necessary for you to do your job? Please insert a (✓).
Which of the following is the main reason why you do not need this information?
What support do you need that would enable you to make better use of crime information in your job?
What would be the most important thing to change?
What would be the second most important thing to change?
What method do you currently use to record reports of crime?
What method do you currently use to record crime intelligence?

In the country in question, the force that was involved in this particular project has a national responsibility. 130 officers and staff participated in the generation of the data. The results were made available to most of them through their routine meeting structure. And yet, using web based data collection, the entire process of defining the specification of the database, collecting the data, interpreting and providing feedback to the officers and staff participating took less than 2 months. The design of a new information strategy took a little longer, but not much.

This compares sharply with the time and cost of interviewing 130 people, with high travelling costs to be added to the final bill. Given the complexity of the data set that was produced and analysed, it is to be doubted that a more normal manual intervention could have produced the same results, at all – within the time frames and costs actually achieved it is even less likely.

As a foot note to the exercise, and a not uncommon outcome, the information provided about information not needed to get the job done led to substantial savings, both in the IT department itself, in terms of operating costs and materials, and in officer-time scanning redundant information – just-in-case there might be something in there that they might need to know ... The main outcome, however, was the development of an information strategy that was fully in line with the force strategy, which itself was largely about the application of good intelligence.

As a note of caution here, it might be noted that there is a world of difference between an information technology strategy and an information strategy. Sadly, it is often the technology piece that comes first, with the information system subsequently constrained by the technology – if not by its design then maybe by the cost of acquiring it. Logically, it should be the other way around, with the information strategy coming first, and the technology following on behind as an enabler of the information strategy.

Illustrative Maps

A typical Magus Networker information strategy can produce many thousands of maps. Probably no more than 100 or so of these will contain all the critical information needed to drive the design of a new information strategy. Even a 100 maps would be far in excess of what is needed here – and would be sufficient to drive the average reader to total distraction. The illustrative maps included here are few, but hopefully they will serve to show how Magus Networker illuminates the information needs of complex organisations – and highlights other issues as well.

There is also a limitation in the maps that can be used to illustrate a document intended for possible printing on A4 paper. High resolution PC monitors can show much more information, in greater detail, as can prints on A3 paper. Moreover, the image on the PC monitor can be manipulated to examine issues identified, in detail. For example, just one grouping and colouring scheme has been used for the maps included below – many others are possible. Similarly, only one example of examining one information set at a time has been used.

The information items are those with sequential numbers; people are referred to by their initials. The information sets are Assessment –; AS1 to AS8; Intelligence – INT1 to INT16; Feedback – FB1 to FB4; Operations – OP1 to OP4; Crime – CR1 to CR5. **On this page and the next, click on the underlined paragraph headings to go to the illustrative maps.**

Additional information needed – Modus Operandi – Intelligence information only

This map show the people in the sample who stated that, in respect of intelligence information only, their greatest need for additional information related to their need to identify criminal MOs. For most items in the information set, there is a considerable demand for more information, suggesting that this is an area where a new information strategy might focus.

Additional information needed – Non-local crime – all information

This map shows the people in the sample that stated that, for **ALL** information items, their greatest need was for finding out about crime, not related to their particular area of operations. The level of interest is quite low, and when compared with the previous map, which was for intelligence information only, very low.

These two maps, taken together, might suggest a rather local focus of attention, and that in turn might suggest a need to find out why. Given that criminals do not generally cooperate with police by operating in police defined areas only, it might be considered that this represents an interesting result. Could it be that there are performance indicators that encourage this very local view of the job? Or is there something else driving the result? Whatever, there is an implication that possibly performance could be improved by widening the view of criminal life taken by the officers who DID NOT require more information on non-local crime.

The force in question had a strategy that depended on cross-border collaboration with other forces, so this result suggested that there was a little more work to do in that respect.

Information that is out-of-date – intelligence information only

Again only for the intelligence information set, this map shows where information is regarded as out-of-date. The picture that applies to all information items is much the same, but the map is far too busy for reducing down to A4 size. The map shows a good selection of ranks and roles bothered by out-of-date information. In the particular case, good intelligence information is amost synonymous with 'on-time'.

Information that is inaccurate – all information

This map shows, for all information sets, a much lower level of reporting of the main quality issue being with inaccurate information.

Taking the two maps together implies that any major investment in improving the accuracy of information would probably be a waste of money, individual exceptions excluded. Where a major investment is needed is in getting information, including intelligence information, to officers and other operational staff much quicker than was being achieved at the time.

Better search facilities needed – for patterns and trends – intelligence information only

This map shows a significant demand for improved search facilities to help officers and staff identify patterns and trends in crime offending. Much the same sort of picture emerged for the other information sets, especially crime and operations information.

Better search facilities – to identify linked offenders – all information

This map shows that the demand for search facilities to help officers and staff identify linkages between offenders runs at a much lower level than in the case of crime patterns and trends. Even in the case of intelligence, operations and crime information, the demand is low, except for a few specific individuals, who would need to be accessed to discover why.

The issue here is that the need for investment for improved search facilities should be targeted very much on crime patterns and trends rather than any other search facility. Given the comments made above, it might be that the search facility could usefully include crime and intelligence information accessed through other local police forces.

There are four maps in this last set, which taken together reveal both information strategy needs and something about the nature of this specific police force, as an organisation.

Most important action taken – inform other people – all information

This maps reveals a significant activity across the sample involving provision of information to other people. If this level is replicated across the entire force, a lot of energy is being consumed by recipients of information providing that information to other people. This begs the question of who these other people are and why they are not getting their information directly, instead of through a third party. If the receivers of the information are merely passing it on, there are substantial cost savings to be made. If the receivers are summarising that information in some way, perhaps that could be built into the design of the system – sounds like more cost savings on the way.

If the receivers are interpreting the information in some way, before they pass it on, that might make sense, but leaves on the table the question of whether or not the information should possibly go directly to the final user.

Most important action taken – make arrests – all information

This is the 'busiest' map of the 'action set'. On its own, it sounds OK that so many officers are using crime, intelligence, operations and feedback information to help make arrests. But then consider the next two maps.

Most important action taken – supervise work quality – all information

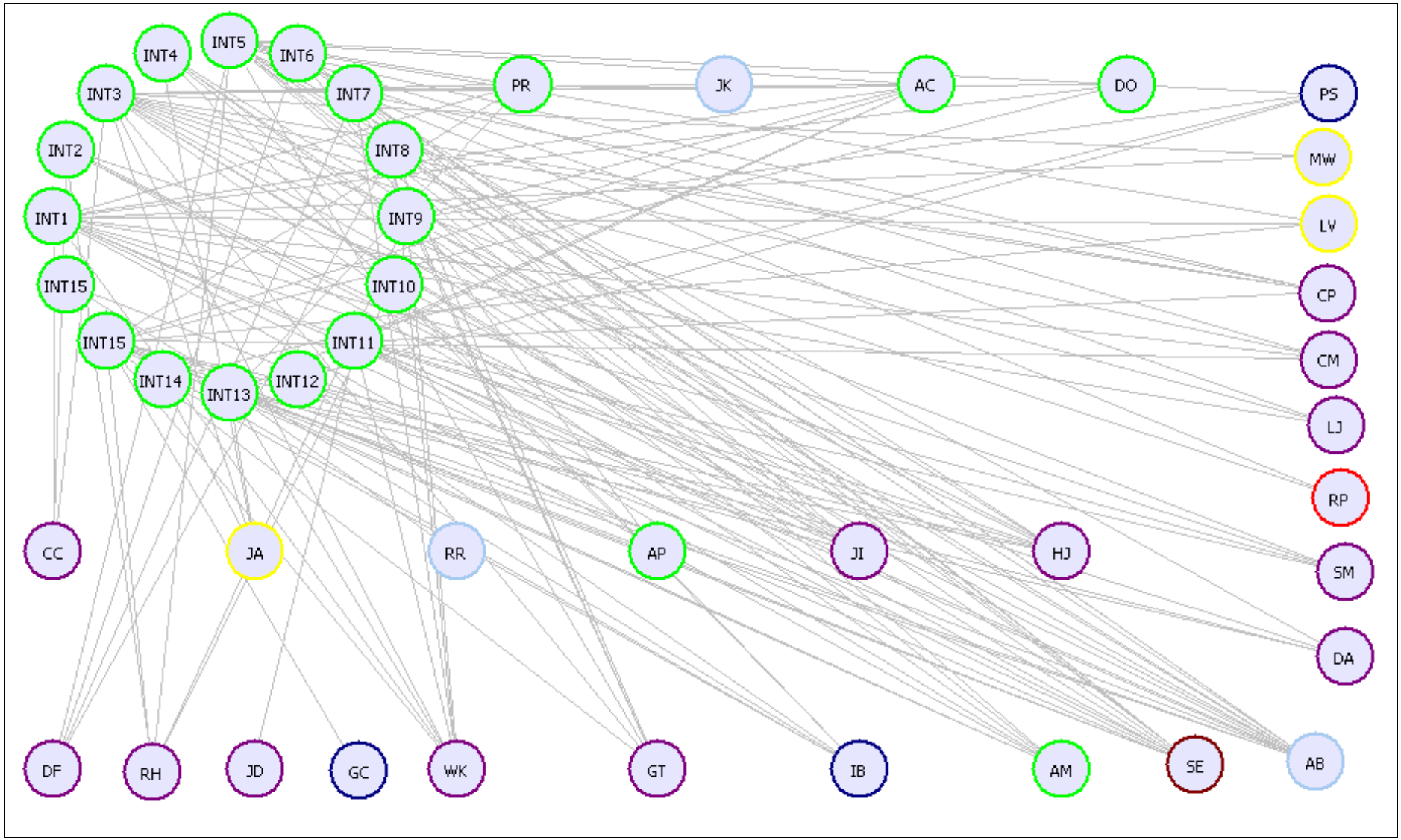
Most important action taken – investigate crime – all information

The first map represents a picture of a non-activity. It might be thought that only officers in supervisory roles would be expected to use information in this way, and that is true, up to a point. Even police constables, however, have a supervisory role when working with newly recruited and trained officers. In any case, the lack of activity in this respect covered **ALL** of the supervisory ranks in the sample – only a handful of senior officers appeared to think that there was a useful link between good information and work quality.

Finally, the map showing information used to investigate crime is at a much lower level of 'busyness' than the one for arrests.

These add up to an organisation culture which is more about 'nicking offenders' than a more thoughtful, reflective and analytical approach to the use of information. The key question to be addressed through a new information strategy is about how to shift the mind set of officers and staff about the application of information as well as the provision of better information itself.

Additional information needed – Modus Operandi – Intelligence information only – grouped and coloured by rank



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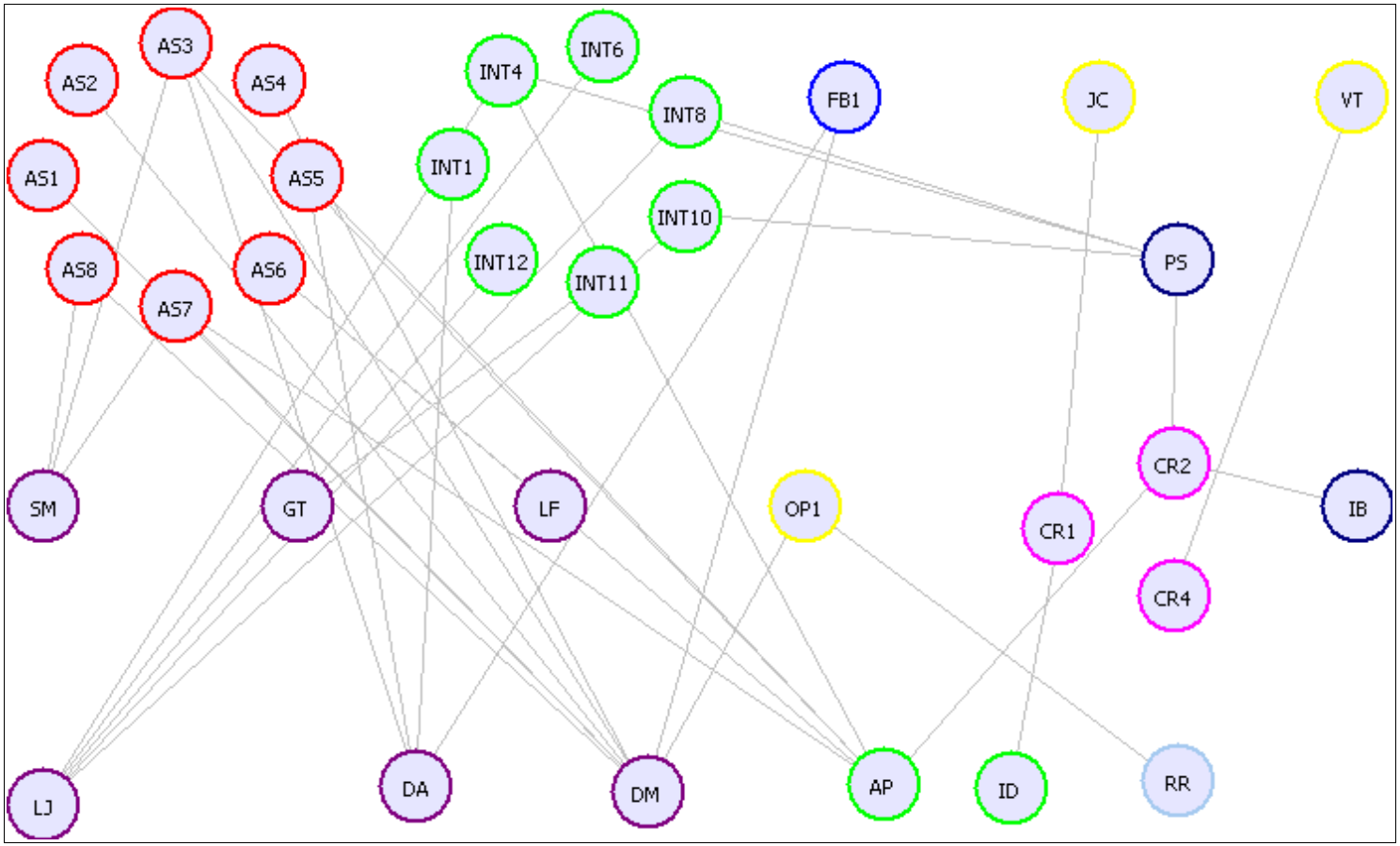
Additional information needed – Non-local crime – all information – grouped and coloured by rank



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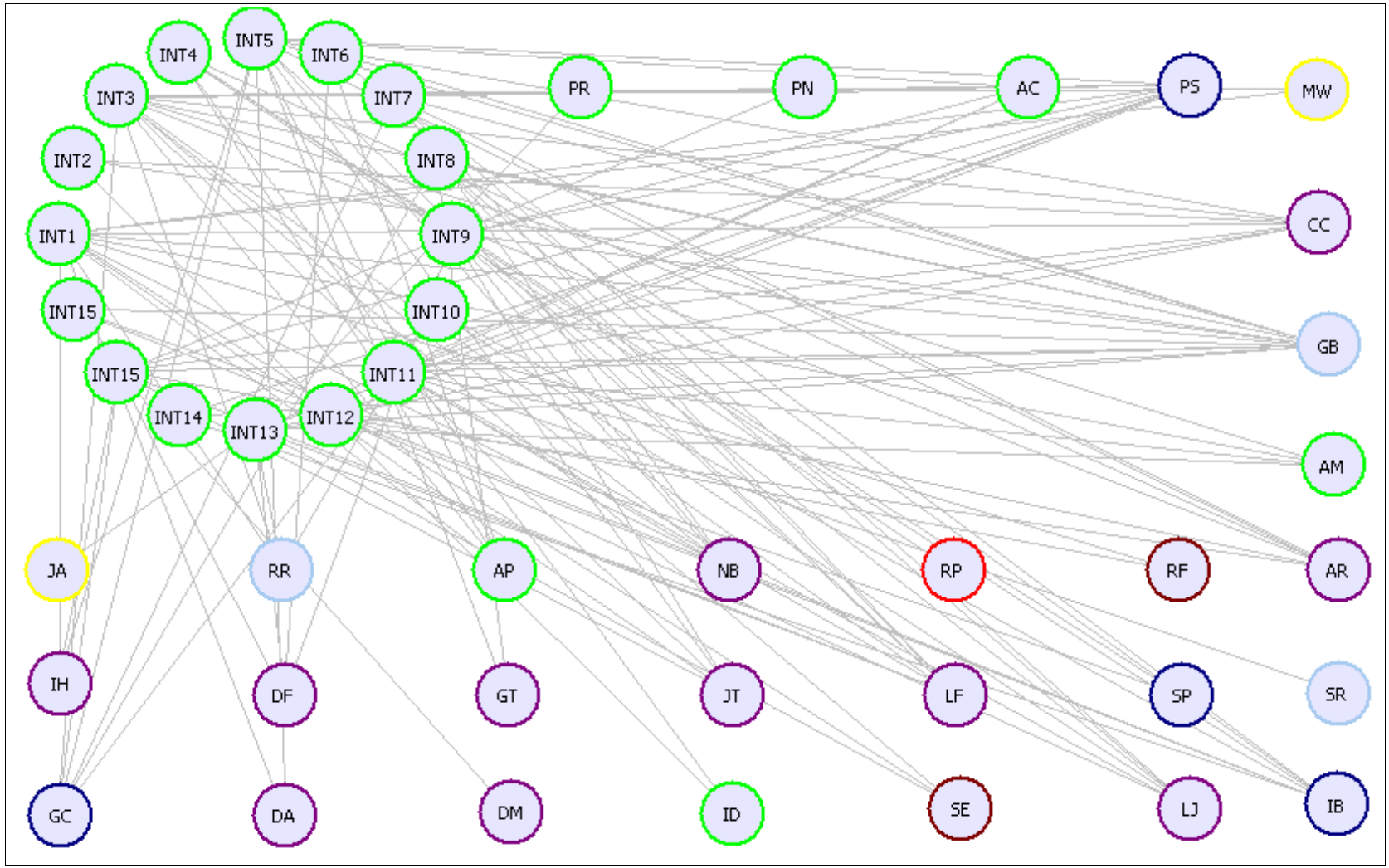
Information that is out of date – intelligence information only – grouped and coloured by rank



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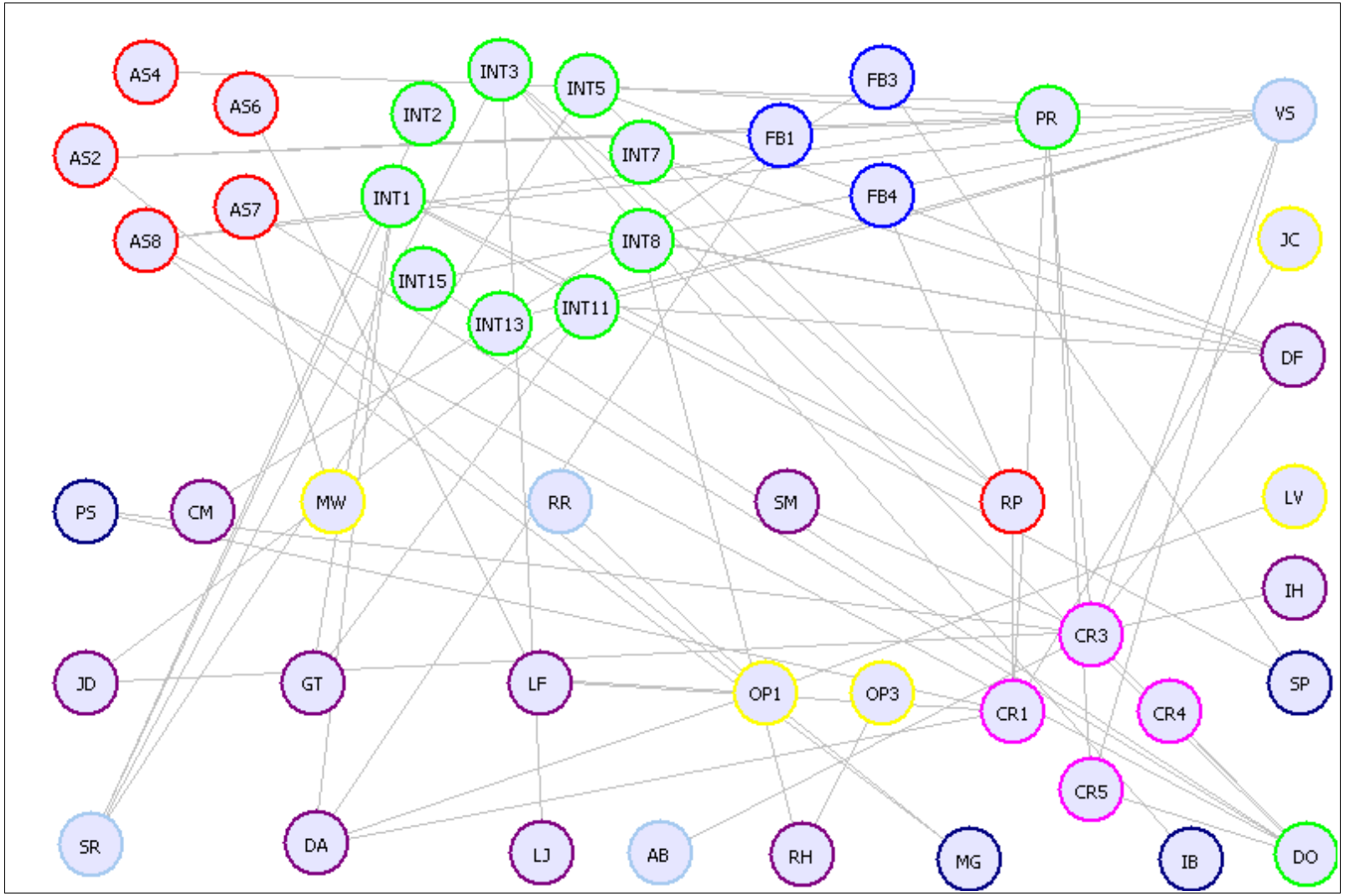
Information that is inaccurate – all information – grouped and coloured by rank



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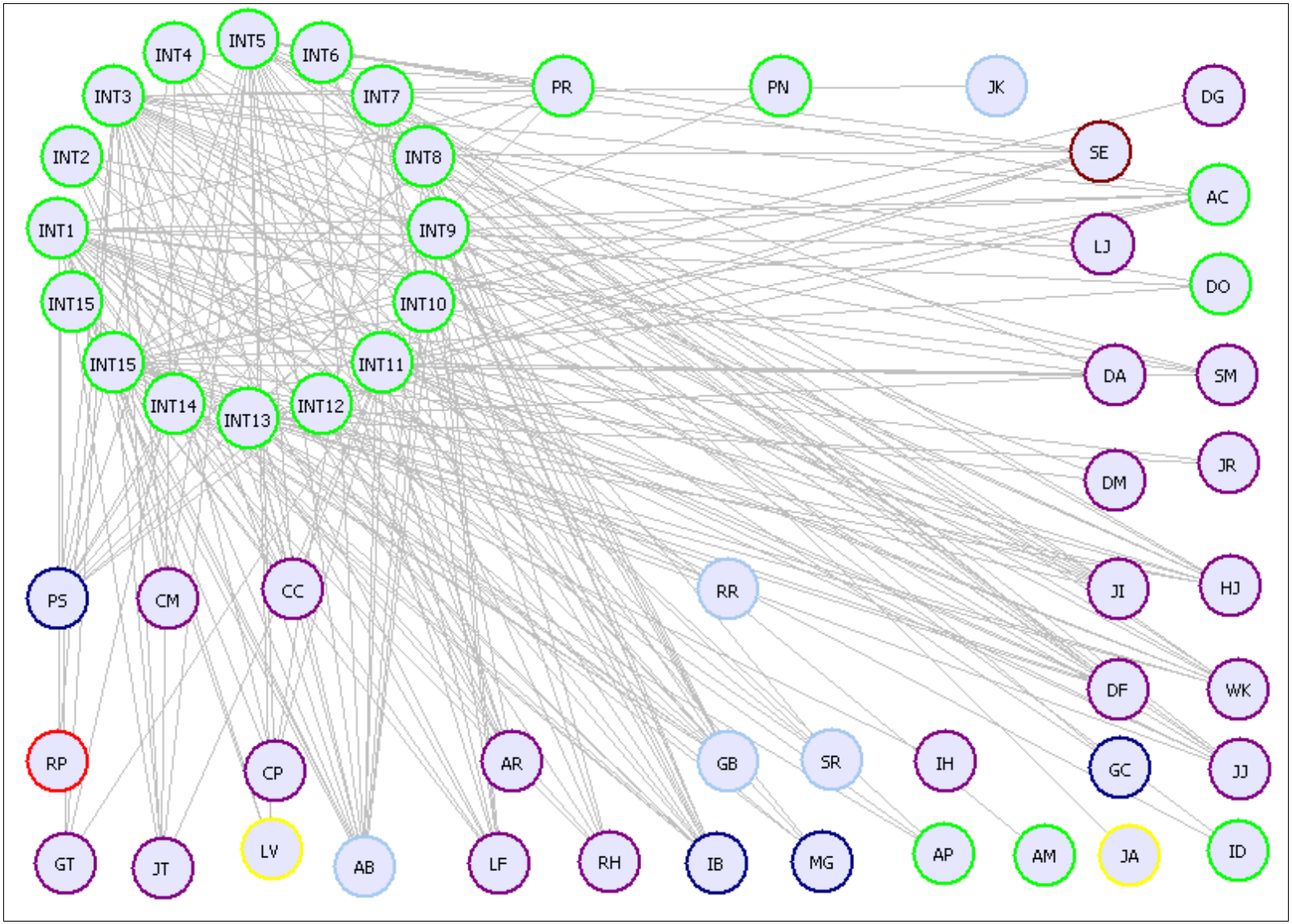
Better search facilities needed – for patterns and trends – intelligence information only – grouped and coloured by rank



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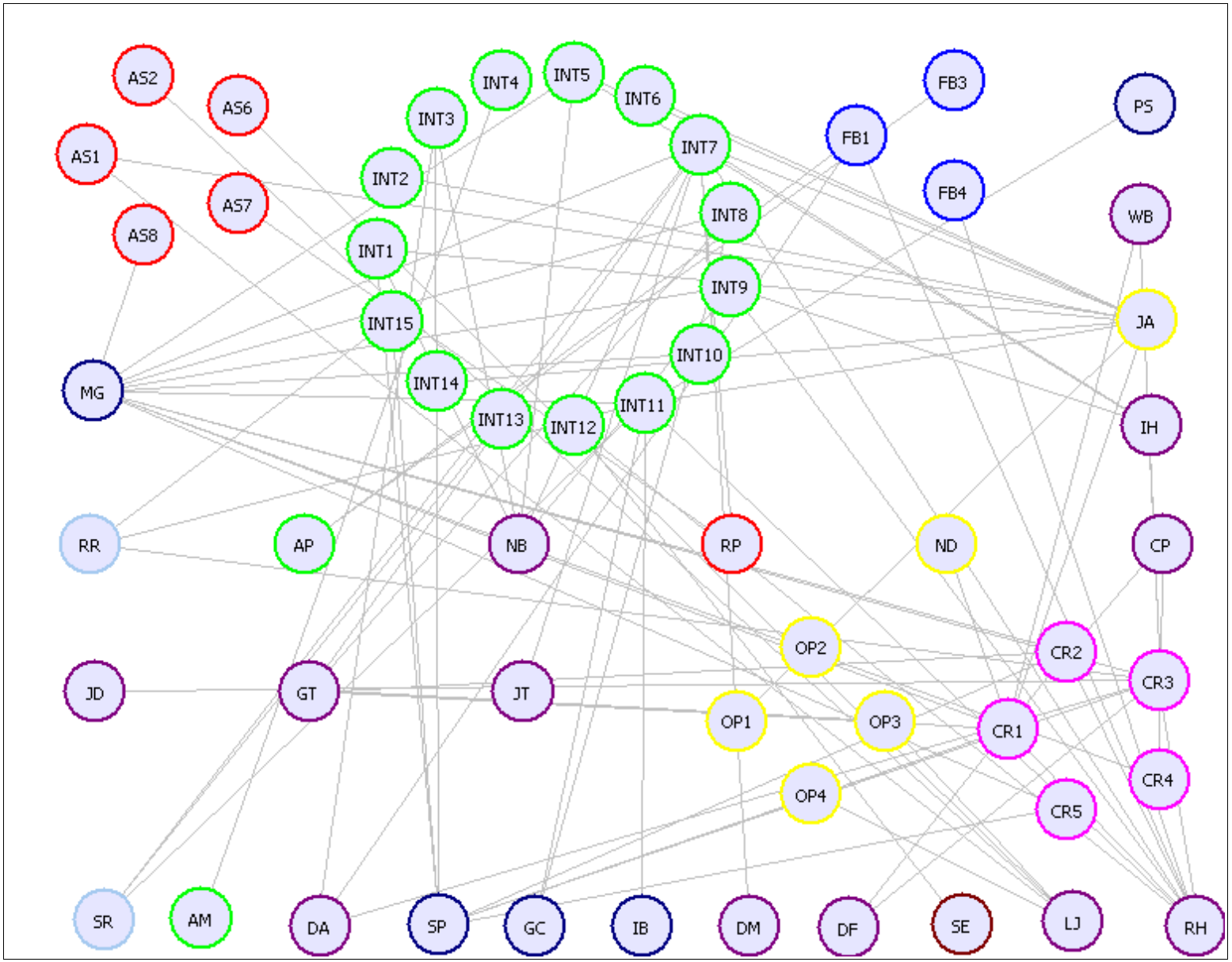
Better search facilities needed – to identify linked offenders – all information – grouped and coloured by rank



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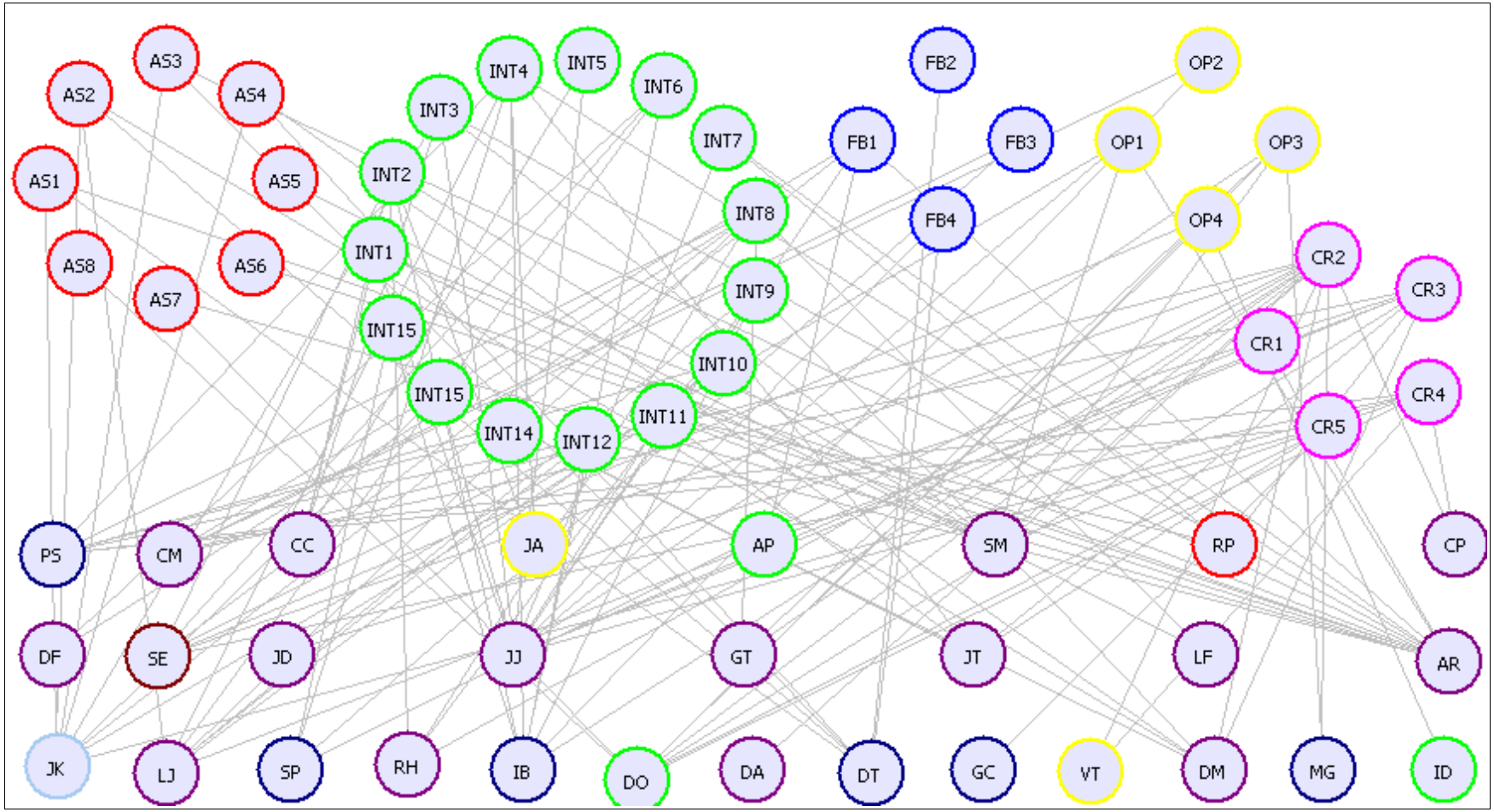
Most important action taken – inform other people – all information – grouped and coloured by rank



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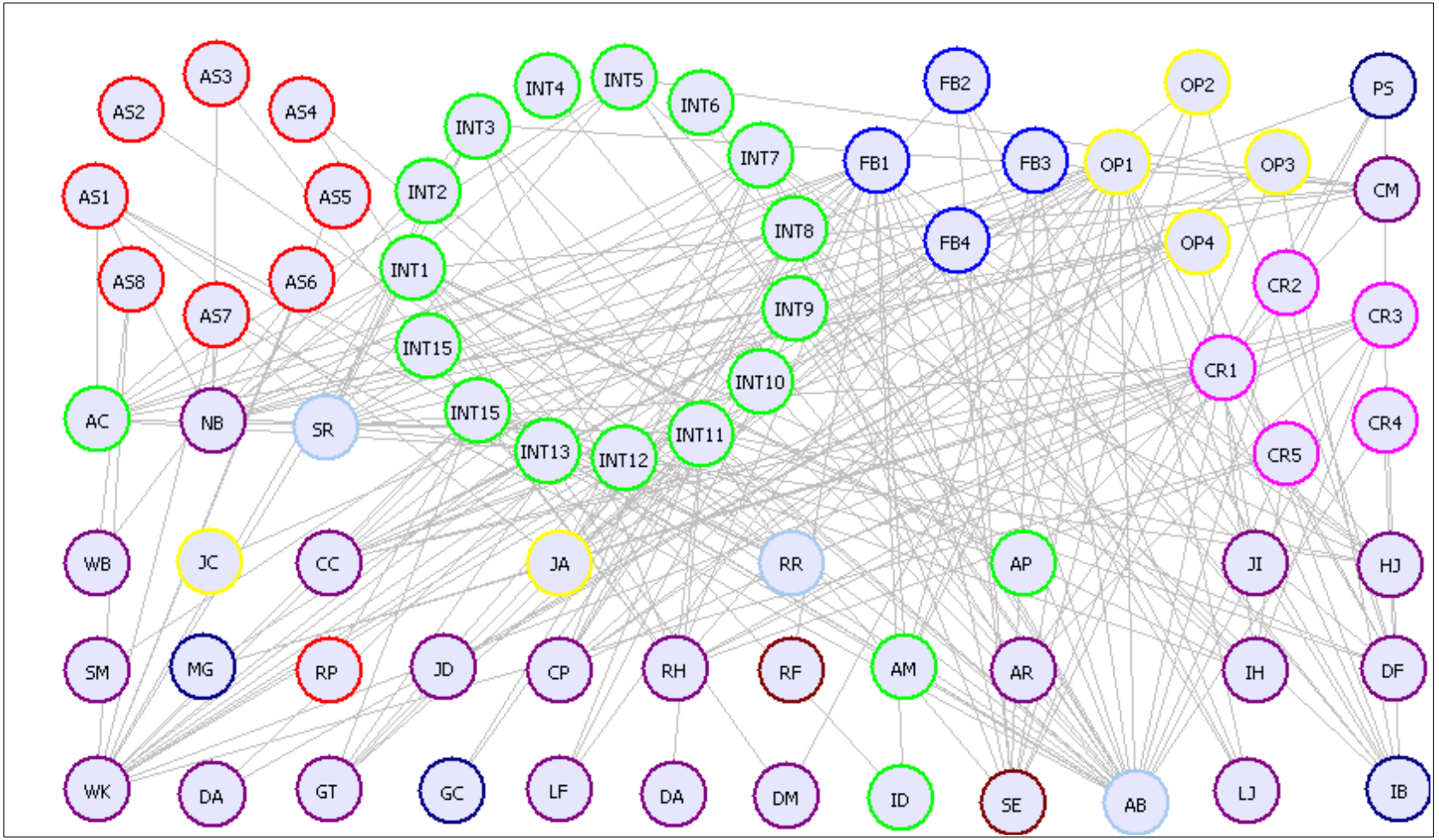
Most important action taken – make arrests – all information – grouped and coloured by rank



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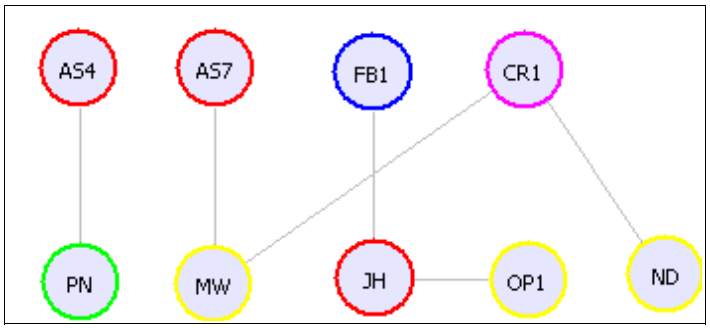
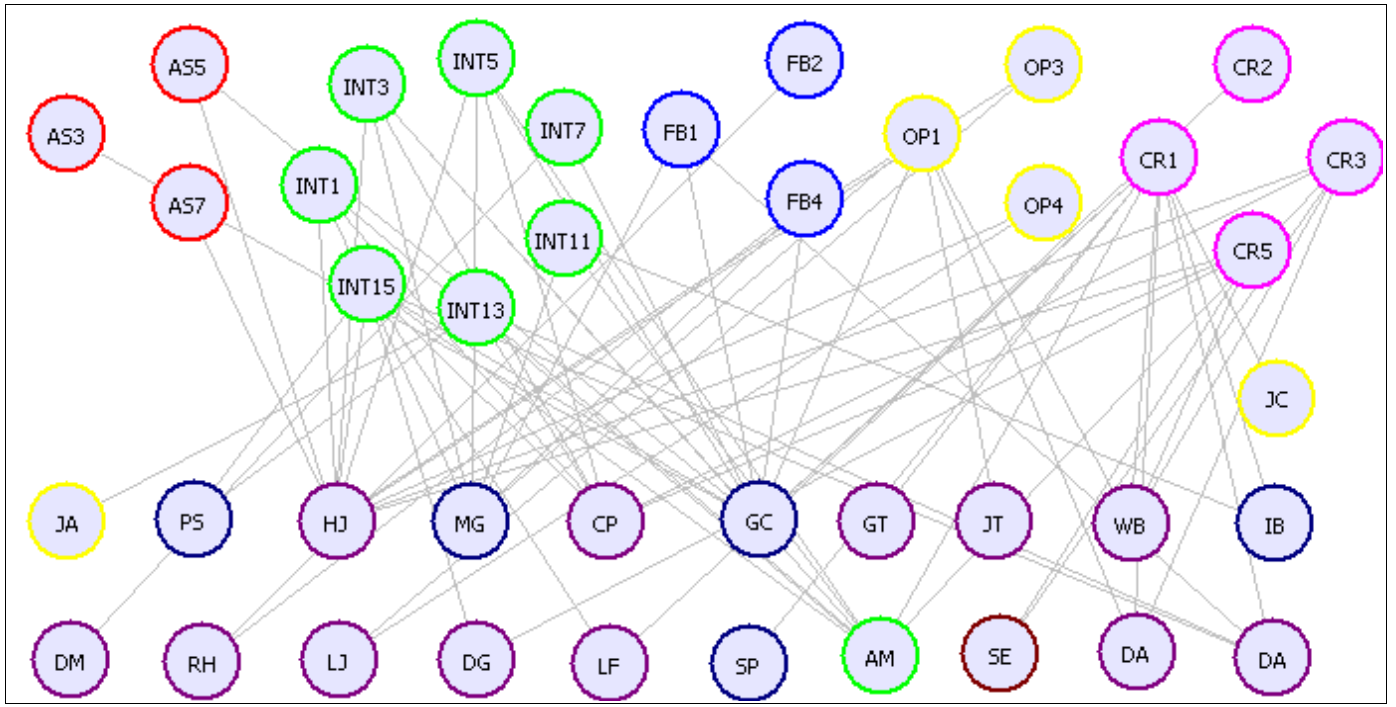
Most important action taken – supervise work quality – all information – grouped and coloured by rank



Most important action taken – investigate crime – all information – grouped and coloured by rank



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