ENOTE059 – How to Decide Implicit or Explicit Addressing

A FieldServer can be installed into a LonWorks network in many different configurations. These configurations are essentially set up by choosing the required Lon_Function parameter in the LonWorks Map descriptors. Understanding the correct configuration needed is key to making the correct selection of the Lon_Function parameter. Herewith are some guidelines to assist in making the correct choice of network configuration for the required application:

1) Calculate the number of nodes that will be communicating with the FieldServer. LonWorks address tables only permit any single device to be bound to no more than 15 other nodes when set up in an implicit addressing configuration. So, if connection to more than 15 other devices is necessary, then implicit Lon_Functions are not an option.
2) When considering an explicit configuration, take note that it is necessary to know the domain, subnet, node and variable index information of the remote devices to configure this option. This information can be acquired using an LNS Browser (after devices have been commissioned) or equivalent.
3) Consider using NMFETCHC as the recommended explicit method for configuration. This function allows read/write capability on inputs and can read outputs as well. It can be compared to the method used by LonMaker Browser for viewing data as it uses the same mechanism. If the device information is known (see point 2 above), then this is the most robust method of polling a device for information.
4) Should an implicit configuration setup be chosen, there are still several different functions available in this category. The most common functions used are NVUI for inputs and NVUOIMX for outputs, so consider using these functions as a departure point. Some of the other functions may appeal depending on application need.
5) Note that changes to an implicit configuration usually result in changes to the external interface file. Hence, it becomes necessary to re-commission and rebind the FieldServer when changes are implemented. Explicit addressing does not suffer from this drawback, but does require that the address information of the remote devices is known. These are important factors to consider when deciding between implicit and explicit configuration.

Choosing functions other than those mentioned above should only be necessary in rare circumstances where the application specifically calls for these features.

Revision History

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