

Physical Inventory - is it Logical?

Telcos use inventories for all sorts of things, and there are different solutions for different purposes.

One distinction often made is between a Physical Inventory system typically geospatial in nature and for example used for physical planning, and a Logical Inventory System typically more abstract representation of the network, and used for logical capacity management and service fulfillment.

For some use cases it can be obvious which system should provide the desired functionality. In other cases there is an overlap of data and processes, but again it can be clear how processes should act on each system and how common data is to be mastered and shared across systems.

But there is one Telco process from the world of service fulfillment that has always troubled me. Before a service order can be fulfilled checks are usually made to determine what service offering can be provided to a customer premise using which technologies. This can involve both capacity checks in a logical inventory system and geospatial checks in a physical inventory system. For example is there enough bandwidth to support the service on existing network or is there a network access point "close enough" to the address.

Determining the service delivery options for a customer is really a series of questions, each one further honing in on the best option for the Telco to use to deliver the product being purchased by the customer. Which kind of inventory system do you ask which questions? I guess one obvious difference is the Physical system models the actual physical constraints of the network for that location, whereas the Logical system represents other technical capabilities.

There can be a similar dilemma in fulfillment where some network capacity short falls can be automatically designed by the logical inventory system to generate the network jobs to bridge the shortfall, and other gaps where the network shortfall is more difficult to address cheaply or quickly, and some

kind of physical planning request may be needed. This brings into play an interaction between Physical and Logical.

I would be very interested to hear other people's experiences and opinions on recommended architecture, design patterns and / or business process across Physical and Logical Systems for these kinds of scenarios...

Professional Insight: Dr. Richard Coles