



Managing BPM

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The IT Chain Material Flow

When I teach how to optimize the IT Supply-Chain with SCOR® I take the experiences of the re-engineering my team did with HP, and I encapsulate it with a fictional organization called “Helping Hand.” This organization is a business set up to provide disaster relief – rebuilding, counseling, shelter, food, clothing, and so forth. One of the key things this organization does is providing support for documentation – applications for disaster relief, insurance filings, temporary housing, all the myriad types of documentation and on-line applications necessary after an upheaval. Of course, since the United States is made up of 50 states, each with its own particular rules and organizations providing support, the documents are totally different for each state. Layered on top of this is, of course, federal disaster aid and documentation. Field agents for “Helping Hand,” when they move into a disaster area, are equipped with laptop computers fully stocked with appropriate forms and tools for connectivity for filing and tracking. That’s our premise. First, we created an IT supply-chain definition matrix to see what the critical components of their IT services were. Prioritizing it, we selected laptops and field automation IT as a critical component of the organization’s performance (as a company) We have created a SCORcard™ for this organization to look at their field automation performance, and then, comparing it with other similar not-for-profits and businesses, we find that it has less-than-parity performance around perfect delivery of materials – that is, on-time, complete, up-to-date, and so forth. (Remember, this is IT, not the company’s core services). The gap is significant: The Company is performing at perhaps 90% level when it should be at least a 95% level for perfect field automation delivery. In this article, I want to demonstrate how to create what is called a “geographic map” and “thread diagram” of the material flow through processes in “Helping Hand” to manage the IT infrastructure around field automation (particularly laptops), and to identify high-level SCOR processes for further identification of sources of the 5% gap.

The first step for creating the geo-map of a process network is to identify the “customers” of goods and services. Typically, if we’ve already used the IT Supply-Chain definition matrix, we could use the matrix columns to identify all the key customers. For our purposes, we’ll identify the customers as the **field agents** who are experts in disasters in four distinct geographies – Northeast (Snowstorms, Hurricanes, Floods), Southeast (Hurricanes, Tornadoes, Floods), Midwest (Tornados), and West (Earthquakes, Floods, Mudslides, Fires, Tsunamis).

The second step (Figure 2) is to identify the organization’s **internal process activities** at the highest SCOR® level – Plan, Make, Source, Deliver, Return. In this case, the “head office” for the organization is in **Chicago**, where all the Planning activities around laptops are managed. Likewise at the central office, the “software image” that is the organization’s laptop standard is designed and maintained, i.e., Windows (XP, Vista), the document management software, the connectivity software. The central office is also where all new laptops are received and configured. There are regional laptop depots (Atlanta, New York, Omaha, Las Vegas) placed in strategic centers from which field agent volunteers receive their laptops. These centers are also where laptops are returned after an event, cleaned, stored, and prepared to be sent out again.

The third step is identification of the external suppliers of the IT Supply-Chain. In this case, laptops are purchased from **Dell**, the document management software (that maintains special electronic versions of all key disaster documents for all 50 states and the federal government) is purchased from a company in San Francisco, “**Papertronix**,” and the connectivity equipment

(high-speed Cellular network cards) is purchased from **Sprint**.

In the biggest picture, we frequently also look at “the customer’s customer” who ultimately receives the results of the automation (here, disaster relief clients and government agencies), and “the supplier’s supplier” (providing raw material to the suppliers). In this case the “supplier’s supplier” may be governmental agencies (original documents), platform vendors (Microsoft), and component suppliers to the manufacturing entity. To simplify the picture we will leave them out of this consideration.

Creating the Geo Map now goes through a set of eight simple steps.

- 1) Create a base map of the region in scope for the program.
- 2) Place the suppliers on the map. (Figure 1)
- 3) Place the organization’s internal process entities on the map. (Figure 2)
- 4) Identify material flow from suppliers to the internal process entities, and between internal process entities. (Figure 3)
- 5) Place the customers on the map. (Figure 4)
- 6) Identify material flow to and from the internal process entities and suppliers to the customers.
- 7) Identify each map entity according to what SCOR® level-2 processes are present. (Figure 5)
- 8) Transform the geographic map to a SCOR thread diagram to visualize the end-to-end flow of material. (Figure 6)

Geographic Diagram

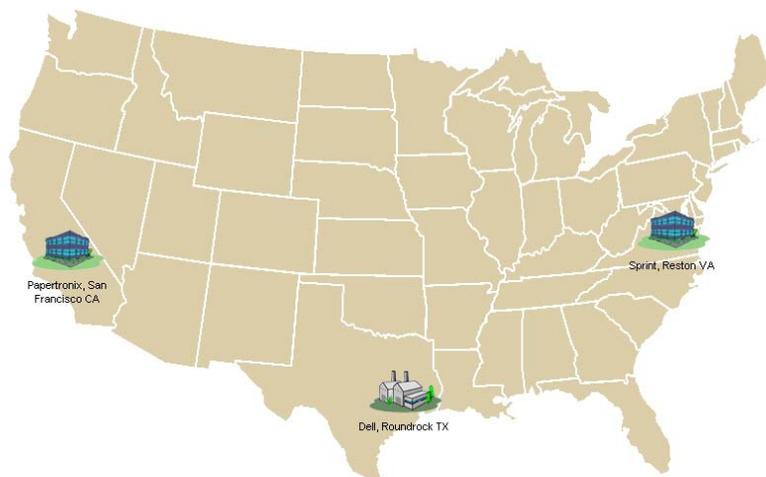


Figure 1. Place the suppliers on the map.

Geographic Diagram



Figure 2. Place the organization's internal process entities on the map.

Geographic Diagram



Figure 3. Identify material flow from suppliers to the internal process entities and between internal process entities.

Geographic Diagram

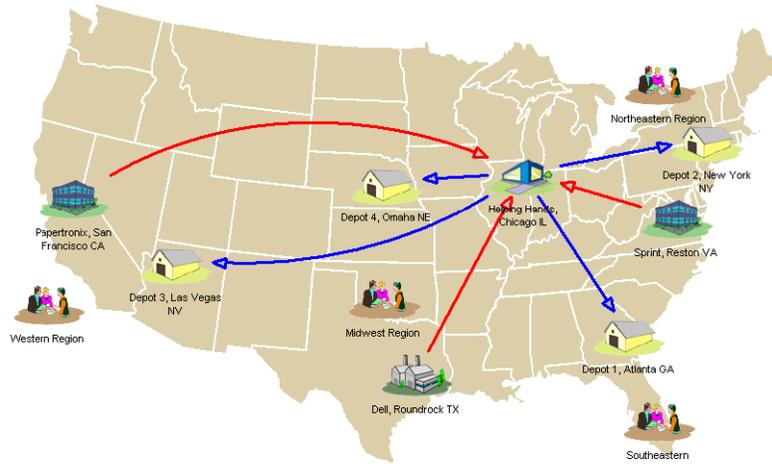


Figure 4. Place the customers on the map.

Geographic Diagram

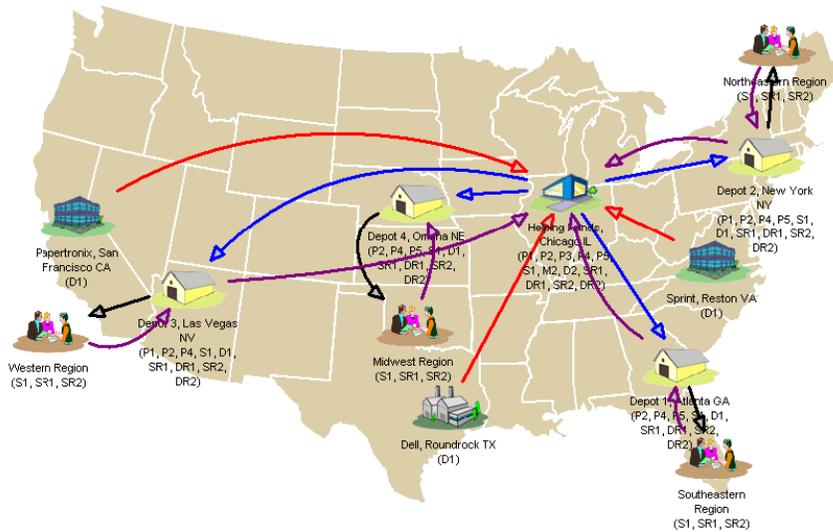


Figure 5. Identify material flow from the internal process entities and suppliers to and from the customers and identify each map entity according to what SCOR® level-2 processes are present.

In the final diagram, we now understand the complete material flow model from suppliers to end-customers, and we can also begin to see things which “jump out” – the major bottleneck in Chicago for all materials, the multi-touch flow out to the end-user for materials, and the multi-touch flow from end-users who are finished with materials, or for damaged materials, back to the central office for reconfiguration or refurbishing. In the next article, we will start to put metrics on all these nodes and flows, and link the 5% gap in performance back to the processes in each

node to begin first stage analysis of where the disconnect is occurring. This will drive the 2nd stage of analysis of a brainstorm event for opportunities to solve the IT Supply-Chain performance problems in our example.

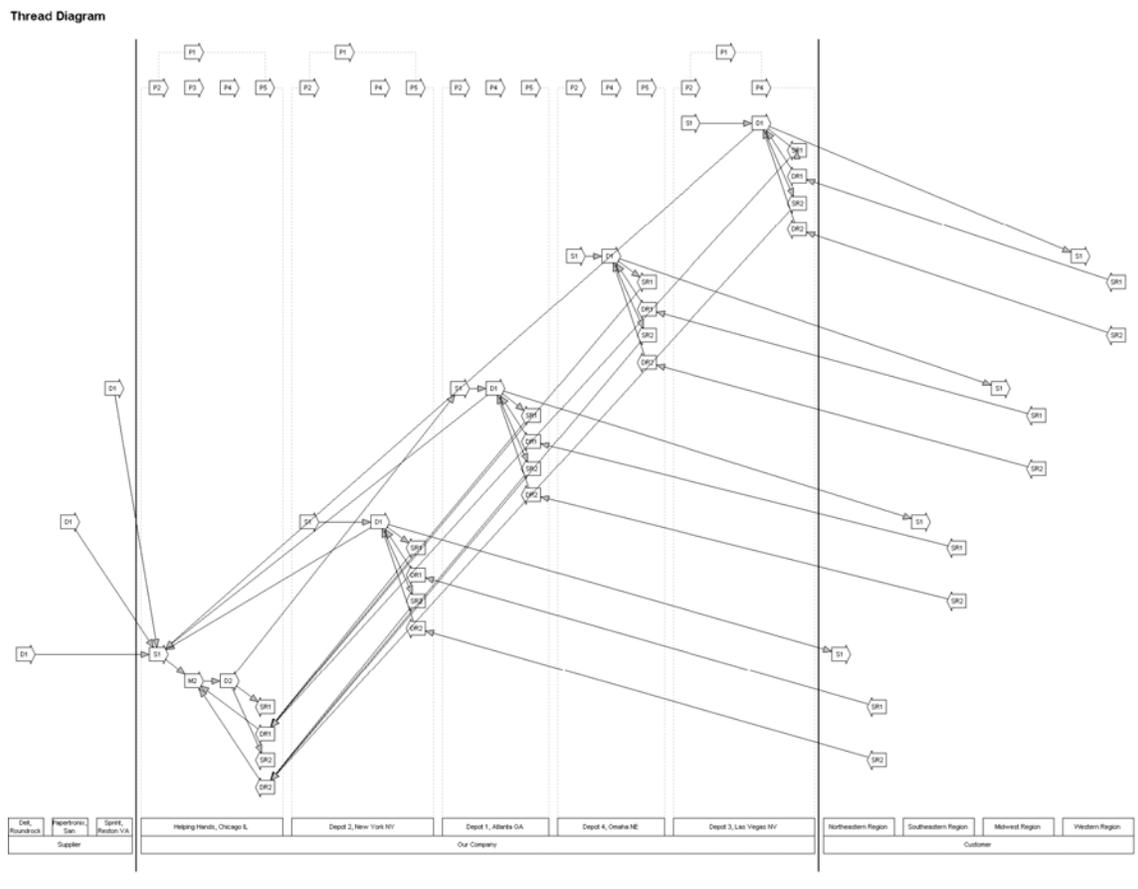


Figure 6. Transform the geographic map to a SCOR thread diagram to visualize the end-to-end flow of material.