Valueflows

A vocabulary for economic networks

https://valueflo.ws

Valueflows is a standard vocabulary

Valueflows

- Valueflows is a vocabulary to describe flows of economic resources of all kinds within distributed economic ecosystems
- Its purpose is to enable inter-networking among many different software applications, used by many different kinds of economic formations
- Examples are value networks, supply chains, joint ventures, business collaboration networks…. as well as individual organizations
- Valueflows supports
  - Exchange/transfer (mutual credit, marketplace, e-commerce, offer/request matching, gift economy, contribution economy, mutual aid, etc.)
  - Production/creation (manufacturing, supply chain, distribution, digital and knowledge works, services, etc.)

Valueflows is based on REA

Valueflows

REA stands for Resources, Events, Agents.

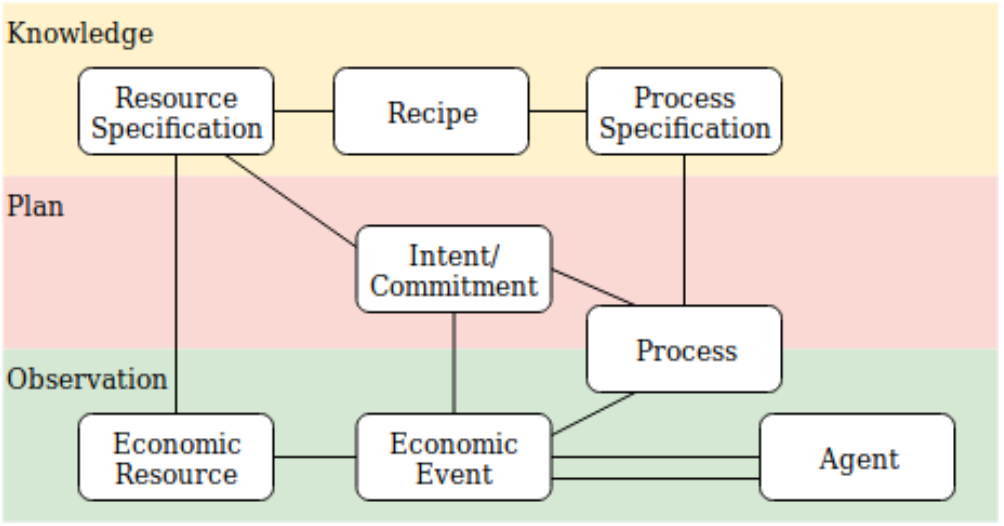
Agents are individual persons or organizations or ecological agents, who perform Economic Events affecting Economic Resources.

An Economic Event can take actions like produce, modify, consume, or use Economic Resources, or transfer them from one Agent to another.

Economic Resources could be

- Useful goods and services
- Knowledge, designs
- Money, alternate currencies, tokens, credits
- Types of work, skills
- CO2, methane, heat
- Air, water, soil microbiota
- . . .

Levels of the Valueflows ontology



- The Knowledge level represents classification, policies, procedures, rules and patterns. This is where each network or community can configure the core concepts to fit their needs.
- The Plan level represents offers and requests, schedules and promises. This level can also support budgeting or other pre-operational general planning.
- The Observation level represents what really happened. This is used for coordinating operations, accounting, other reporting and analysis.

Flows: input-process-output

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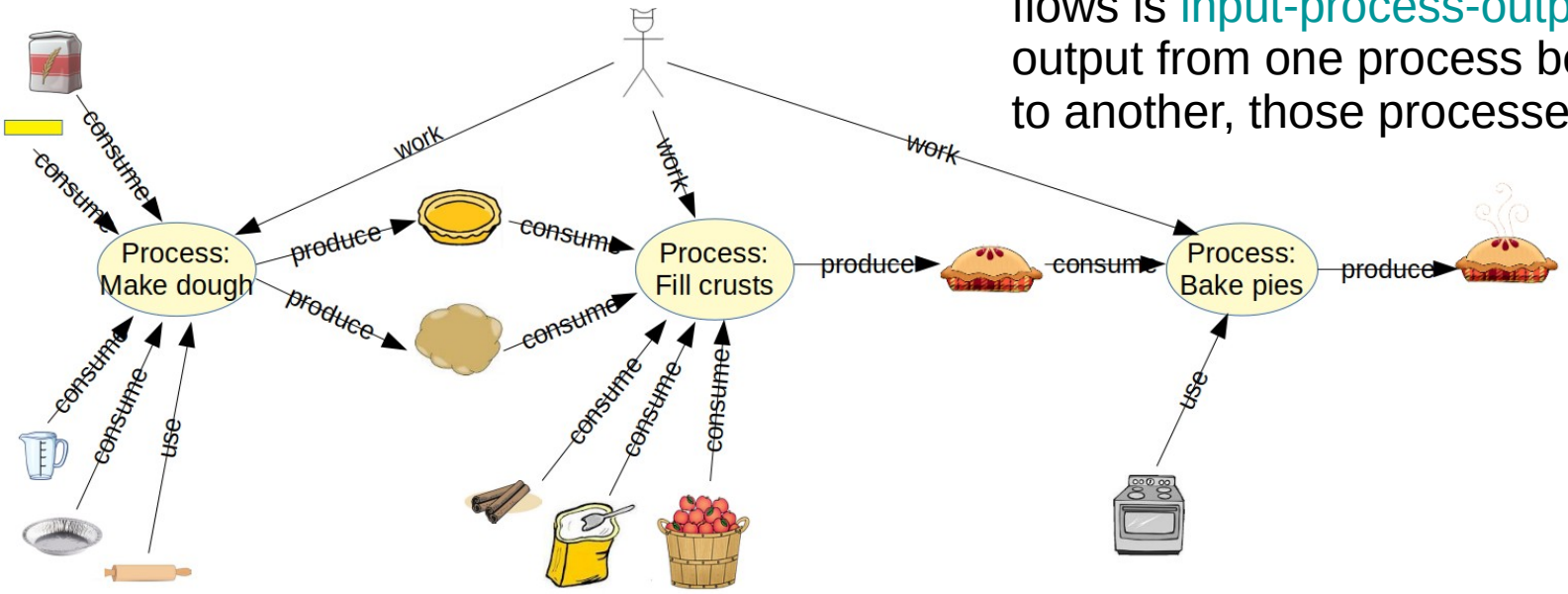
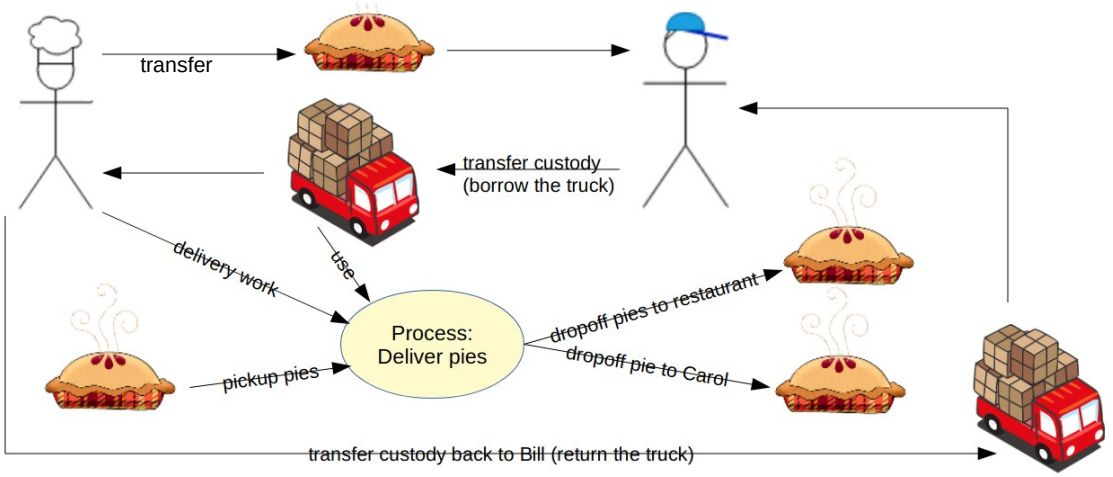
The first basic pattern for modeling resource flows is input-process-output. When an output from one process becomes an input to another, those processes are connected.



Processes can be defined at whatever level makes sense. For example, having 3 processes in this flow allows operational flexibility: The baker can make a lot of dough and use it for blueberry and pumpkin pie, as well as apple pie. Then she might want to bake different kinds of pies in one oven at the same time too, or freeze half of the unbaked apple pies to bake later.

Flows: exchange and distribution



The second basic pattern for modeling resource flows is transfer, where a resource goes from one agent to another, without being changed. If there is another transfer reciprocal to the first, they are an exchange of resources.

Transfer of resources, transformation and transportation of resources, can all connect into larger resource flows. Resource flows can be of any length, and can be circular.

Flows: tracking and tracing

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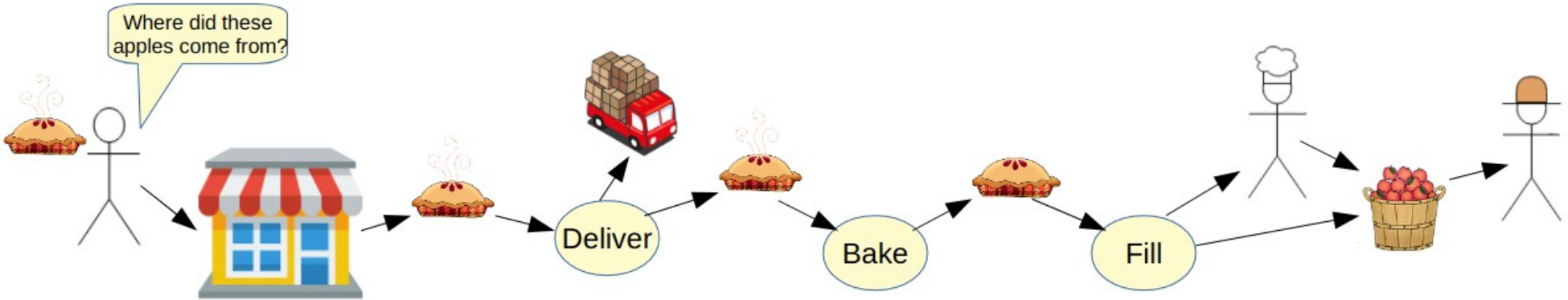
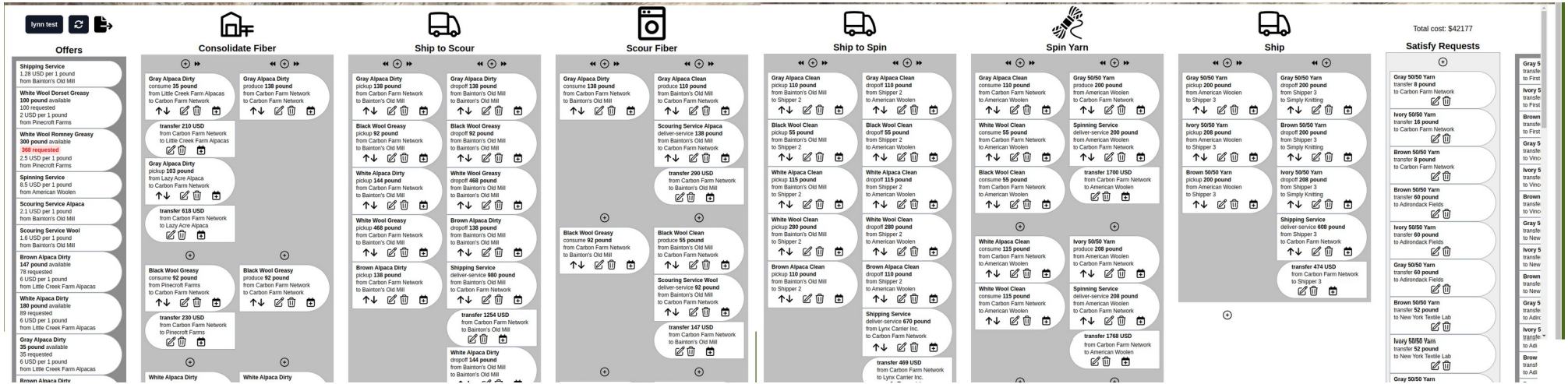


One of the most often used traces is to find the origin(s) of health problems like mad cow disease, and tainted drugs and food; then the flows are tracked forward to find all possible effects from the original problem.

A nicer story: A restaurant customer might find out that the pies are made by a local baker who uses all organic ingredients. They might find out that the apples come from a cooperative worker-owned apple orchard.

A demo of a textile supply chain



This textile supply chain includes sheep and alpaca farmers, scouring mills, spinning mills, shippers, and textile designers. Each of these is a node in the network who needs to coordinate with other nodes. In this case, the cooperative of designers coordinates the whole supply chain.

A farming app for short supply chains

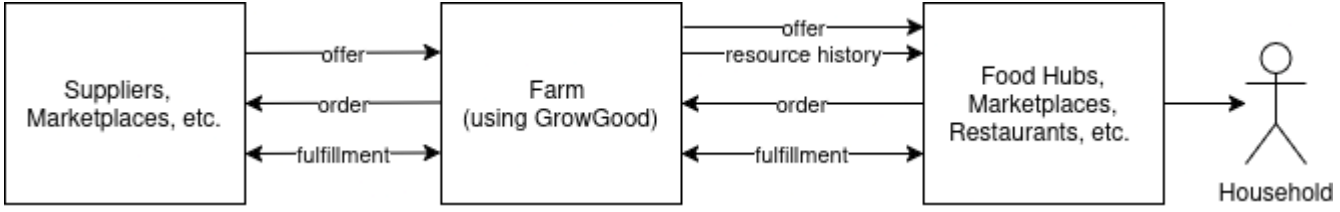
Valueflows

“GrowGood empowers farmers to track their operations from seed to sale, creating a verifiable, auditable record of their entire production process. We are building the digital backbone for a more transparent and regenerative food system.”

GrowGood will support farm operations configurable from starting blueprints by type of farm; also sensor input, and climate and ecosystem accounting.

The arrows below are resource flows (intents, commitments, economic events) using Valueflows and JSON-LD. The software used by suppliers, marketplaces, etc. does not have to be Valueflows internally. Although one standard is best, if the api can’t be Valueflows JSON-LD, a translation layer can be written.

GROW GOOD



Valueflows

Valueflows documentation: https://valueflo.ws
Apple pie story: https://www.valueflo.ws/assets/ValueFlows-Story.pdf
Projects using VF, links to code: https://www.valueflo.ws/appendix/usedfor/

Carbon Farm Network: https://www.nycfnhub.com/
Video of CFN: https://www.youtube.com/watch?v=DlnaWGtIsBQ

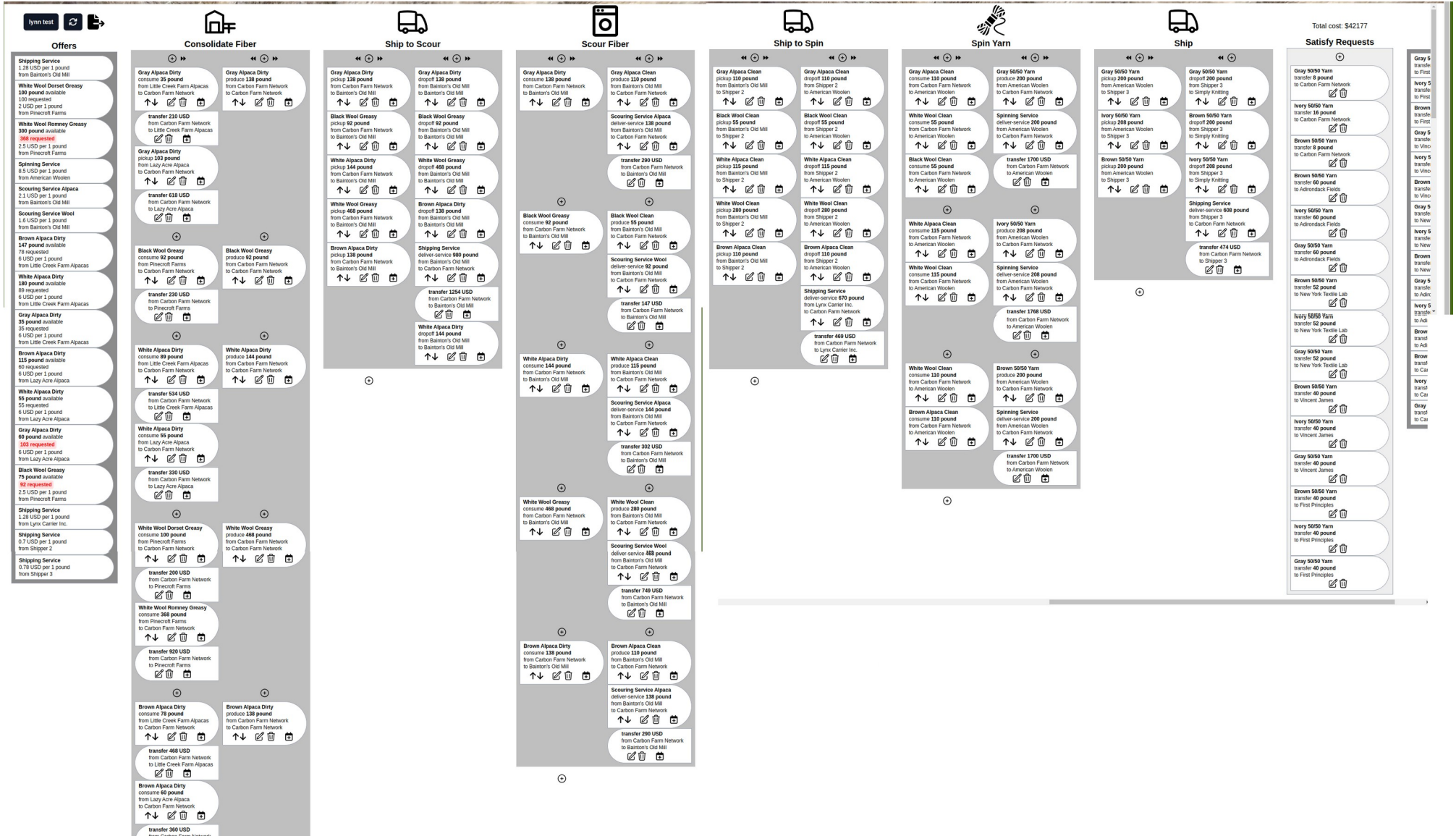
GrowGood: https://growgood.org.au/en/
GrowGood slide deck:
https://docs.google.com/presentation/d/1JhNjICVYa0OzzWVmz3qQcKI3FljcbyZuMi-QNHJH0GA/edit?usp=sharing

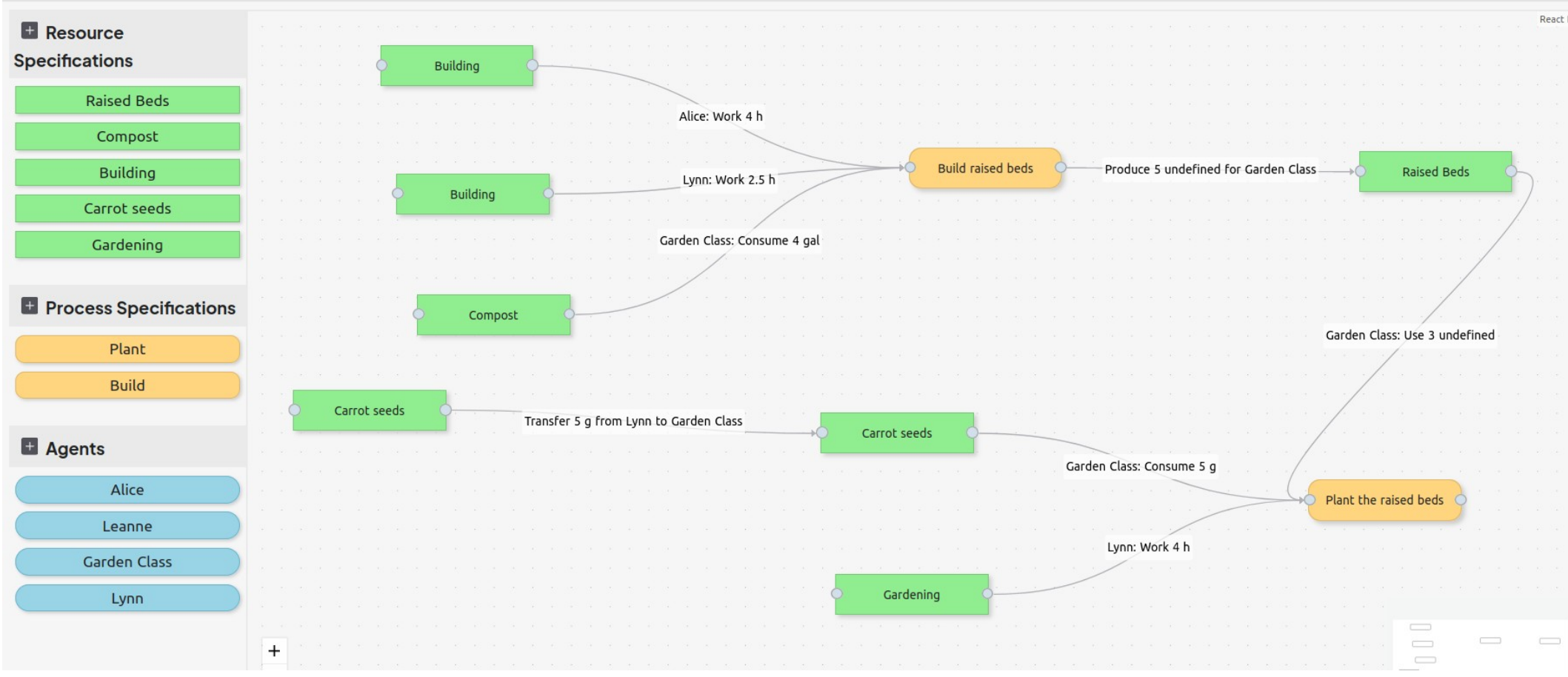
Valueflows

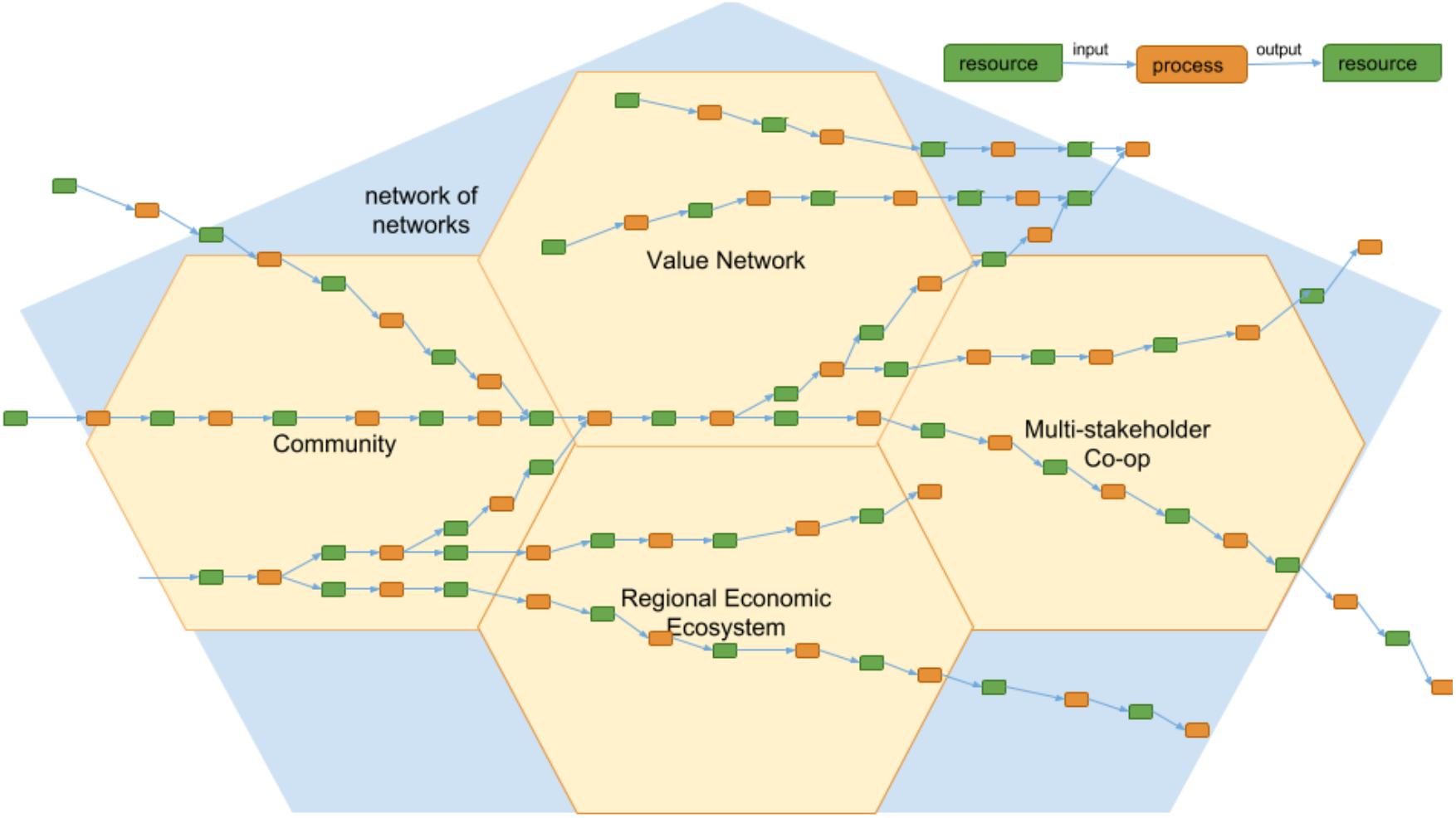
Thank you!

If anyone wants to do a Solid project using Valueflows, I'd be happy to help out from the Valueflows side!

Best way to contact is to ping @lynnfoster in Matrix #valueflows:matrix.org, the Valueflows Welcome channel. Also a good place if anyone just has more questions or comments.


lynn test
Offers
Shipping Service
1.28 USD per 1 pound
from Bainton's Old Mill
White Wool Dorset Greasy
100 pound available
100 requested
2 USD per 1 pound
from Pinecroft Farms
White Wool Romney Greasy
300 pound available
368 requested
2.5 USD per 1 pound
from Pinecroft Farms
Spinning Service
8.5 USD per 1 pound
from American Woolen
Scouring Service Alpaca
2.1 USD per 1 pound
from Bainton's Old Mill
Scouring Service Wool
1.6 USD per 1 pound
from Bainton's Old Mill
Brown Alpaca Dirty
147 pound available
78 requested
6 USD per 1 pound
from Little Creek Farm Alpacas
White Alpaca Dirty
180 pound available
89 requested
6 USD per 1 pound
from Little Creek Farm Alpacas
Gray Alpaca Dirty
35 pound available
35 requested
6 USD per 1 pound
from Little Creek Farm Alpacas
Brown Alpaca Dirty
115 pound available
60 requested
6 USD per 1 pound
from Lazy Acre Alpaca
White Alpaca Dirty
55 pound available
55 requested
6 USD per 1 pound
from Lazy Acre Alpaca
Gray Alpaca Dirty
60 pound available
103 requested
6 USD per 1 pound
from Lazy Acre Alpaca
Black Wool Greasy
75 pound available
92 requested
2.5 USD per 1 pound
from Pinecroft Farms
Shipping Service
1.28 USD per 1 pound
from Lynx Carrier Inc.
Shipping Service
0.7 USD per 1 pound
from Shipper 2
Shipping Service
0.78 USD per 1 pound
from Shipper 3
Consolidate Fiber
Gray Alpaca Dirty
consume 35 pound
from Little Creek Farm Alpacas
to Carbon Farm Network
Gray Alpaca Dirty
produce 138 pound
from Carbon Farm Network
to Carbon Farm Network
transfer 210 USD
from Carbon Farm Network
to Little Creek Farm Alpacas
Gray Alpaca Dirty
pickup 103 pound
from Lazy Acre Alpaca
to Carbon Farm Network
transfer 618 USD
from Carbon Farm Network
to Lazy Acre Alpaca
Black Wool Greasy
consume 92 pound
from Pinecroft Farms
to Carbon Farm Network
Black Wool Greasy
produce 92 pound
from Carbon Farm Network
to Carbon Farm Network
transfer 230 USD
from Carbon Farm Network
to Pinecroft Farms
White Alpaca Dirty
consume 89 pound
from Little Creek Farm Alpacas
to Carbon Farm Network
White Alpaca Dirty
produce 144 pound
from Carbon Farm Network
to Carbon Farm Network
transfer 534 USD
from Carbon Farm Network
to Little Creek Farm Alpacas
White Alpaca Dirty
consume 55 pound
from Lazy Acre Alpaca
to Carbon Farm Network
transfer 330 USD
from Carbon Farm Network
to Lazy Acre Alpaca
White Wool Dorset Greasy
consume 100 pound
from Pinecroft Farms
to Carbon Farm Network
White Wool Greasy
produce 468 pound
from Carbon Farm Network
to Carbon Farm Network
transfer 200 USD
from Carbon Farm Network
to Pinecroft Farms
White Wool Romney Greasy
consume 368 pound
from Pinecroft Farms
to Carbon Farm Network
transfer 920 USD
from Carbon Farm Network
to Pinecroft Farms
Brown Alpaca Dirty
consume 78 pound
from Little Creek Farm Alpacas
to Carbon Farm Network
Brown Alpaca Dirty
produce 138 pound
from Carbon Farm Network
to Carbon Farm Network
transfer 468 USD
from Carbon Farm Network
to Little Creek Farm Alpacas
Brown Alpaca Dirty
consume 69 pound
from Lazy Acre Alpaca
to Carbon Farm Network
transfer 360 USD
from Carbon Farm Network
Ship to Scour
Gray Alpaca Dirty
pickup 138 pound
from Carbon Farm Network
to Bainton's Old Mill
Gray Alpaca Dirty
dropoff 138 pound
from Bainton's Old Mill
to Bainton's Old Mill
Black Wool Greasy
pickup 92 pound
from Carbon Farm Network
to Bainton's Old Mill
Black Wool Greasy
dropoff 92 pound
from Bainton's Old Mill
to Bainton's Old Mill
White Alpaca Dirty
pickup 144 pound
from Carbon Farm Network
to Bainton's Old Mill
White Wool Greasy
dropoff 468 pound
from Bainton's Old Mill
to Bainton's Old Mill
White Wool Greasy
pickup 468 pound
from Carbon Farm Network
to Bainton's Old Mill
Brown Alpaca Dirty
dropoff 138 pound
from Bainton's Old Mill
to Bainton's Old Mill
Brown Alpaca Dirty
pickup 138 pound
from Carbon Farm Network
to Bainton's Old Mill
Shipping Service
deliver-service 980 pound
from Bainton's Old Mill
to Carbon Farm Network
transfer 1254 USD
from Carbon Farm Network
to Bainton's Old Mill
White Alpaca Dirty
dropoff 144 pound
from Bainton's Old Mill
to Bainton's Old Mill
Scour Fiber
Gray Alpaca Dirty
consume 138 pound
from Carbon Farm Network
to Bainton's Old Mill
Gray Alpaca Clean
produce 110 pound
from Bainton's Old Mill
to Carbon Farm Network
Scouring Service Alpaca
deliver-service 138 pound
from Bainton's Old Mill
to Carbon Farm Network
transfer 290 USD
from Carbon Farm Network
to Bainton's Old Mill
Black Wool Greasy
consume 92 pound
from Carbon Farm Network
to Bainton's Old Mill
Black Wool Clean
produce 55 pound
from Bainton's Old Mill
to Carbon Farm Network
Scouring Service Wool
deliver-service 92 pound
from Bainton's Old Mill
to Carbon Farm Network
transfer 147 USD
from Carbon Farm Network
to Bainton's Old Mill
White Alpaca Dirty
consume 144 pound
from Carbon Farm Network
to Bainton's Old Mill
White Alpaca Clean
produce 115 pound
from Bainton's Old Mill
to Carbon Farm Network
Scouring Service Alpaca
deliver-service 144 pound
from Bainton's Old Mill
to Carbon Farm Network
transfer 302 USD
from Carbon Farm Network
to Bainton's Old Mill
White Wool Greasy
consume 468 pound
from Carbon Farm Network
to Bainton's Old Mill
White Wool Clean
produce 280 pound
from Bainton's Old Mill
to Carbon Farm Network
Scouring Service Wool
deliver-service 468 pound
from Bainton's Old Mill
to Carbon Farm Network
transfer 749 USD
from Carbon Farm Network
to Bainton's Old Mill
Brown Alpaca Dirty
consume 138 pound
from Carbon Farm Network
to Bainton's Old Mill
Brown Alpaca Clean
produce 110 pound
from Bainton's Old Mill
to Carbon Farm Network
Scouring Service Alpaca
deliver-service 138 pound
from Bainton's Old Mill
to Carbon Farm Network
transfer 290 USD
from Carbon Farm Network
to Bainton's Old Mill
Ship to Spin
Gray Alpaca Clean
pickup 110 pound
from Bainton's Old Mill
to Shipper 2
Gray Alpaca Clean
dropoff 110 pound
from Shipper 2
to American Woolen
Black Wool Clean
pickup 55 pound
from Bainton's Old Mill
to Shipper 2
Black Wool Clean
dropoff 55 pound
from Shipper 2
to American Woolen
White Alpaca Clean
pickup 115 pound
from Bainton's Old Mill
to Shipper 2
White Alpaca Clean
dropoff 115 pound
from Shipper 2
to American Woolen
White Wool Clean
pickup 280 pound
from Bainton's Old Mill
to Shipper 2
White Wool Clean
dropoff 280 pound
from Shipper 2
to American Woolen
Brown Alpaca Clean
pickup 110 pound
from Bainton's Old Mill
to Shipper 2
Brown Alpaca Clean
dropoff 110 pound
from Shipper 2
to American Woolen
Shipping Service
deliver-service 670 pound
from Lynx Carrier Inc.
to Carbon Farm Network
transfer 469 USD
from Carbon Farm Network
to Lynx Carrier Inc.
Spin Yarn
Gray Alpaca Clean
consume 110 pound
from Carbon Farm Network
to American Woolen
Gray 50/50 Yarn
produce 200 pound
from American Woolen
to Carbon Farm Network
White Wool Clean
consume 55 pound
from Carbon Farm Network
to American Woolen
Spinning Service
deliver-service 200 pound
from American Woolen
to Carbon Farm Network
Black Wool Clean
consume 55 pound
from Carbon Farm Network
to American Woolen
transfer 1700 USD
from Carbon Farm Network
to American Woolen
White Alpaca Clean
consume 115 pound
from Carbon Farm Network
to American Woolen
Ivory 50/50 Yarn
produce 208 pound
from American Woolen
to Carbon Farm Network
White Wool Clean
consume 115 pound
from Carbon Farm Network
to American Woolen
Spinning Service
deliver-service 208 pound
from American Woolen
to Carbon Farm Network
transfer 1768 USD
from Carbon Farm Network
to American Woolen
White Wool Clean
consume 110 pound
from Carbon Farm Network
to American Woolen
Brown 50/50 Yarn
produce 200 pound
from American Woolen
to Carbon Farm Network
Brown Alpaca Clean
consume 110 pound
from Carbon Farm Network
to American Woolen
Spinning Service
deliver-service 200 pound
from American Woolen
to Carbon Farm Network
transfer 1700 USD
from Carbon Farm Network
to American Woolen
Ship
Gray 50/50 Yarn
pickup 200 pound
from American Woolen
to Shipper 3
Gray 50/50 Yarn
dropoff 200 pound
from Shipper 3
to Simply Knitting
Ivory 50/50 Yarn
pickup 208 pound
from American Woolen
to Shipper 3
Brown 50/50 Yarn
dropoff 200 pound
from Shipper 3
to Simply Knitting
Brown 50/50 Yarn
pickup 200 pound
from American Woolen
to Shipper 3
Ivory 50/50 Yarn
dropoff 208 pound
from Shipper 3
to Simply Knitting
Shipping Service
deliver-service 608 pound
from Shipper 3
to Carbon Farm Network
transfer 474 USD
from Carbon Farm Network
to Shipper 3
Total cost: $42177
Satisfy Requests
Gray 50/50 Yarn
transfer 8 pound
to Carbon Farm Network
Ivory 50/50 Yarn
transfer 16 pound
to Carbon Farm Network
Brown 50/50 Yarn
transfer 8 pound
to Carbon Farm Network
Brown 50/50 Yarn
transfer 60 pound
to Adirondack Fields
Ivory 50/50 Yarn
transfer 60 pound
to Adirondack Fields
Gray 50/50 Yarn
transfer 60 pound
to Adirondack Fields
Brown 50/50 Yarn
transfer 52 pound
to New York Textile Lab
Ivory 50/50 Yarn
transfer 52 pound
to New York Textile Lab
Gray 50/50 Yarn
transfer 52 pound
to New York Textile Lab
Brown 50/50 Yarn
transfer 40 pound
to Vincent James
Ivory 50/50 Yarn
transfer 40 pound
to Vincent James
Gray 50/50 Yarn
transfer 40 pound
to Vincent James
Brown 50/50 Yarn
transfer 40 pound
to First Principles
Ivory 50/50 Yarn
transfer 40 pound
to First Principles
Gray 50/50 Yarn
transfer 40 pound
to First Principles


Resource Specifications
Raised Beds
Compost
Building
Carrot seeds
Gardening
Process Specifications
Plant
Build
Agents
Alice
Leanne
Garden Class
Lynn
Building
Building
Compost
Carrot seeds
Carrot seeds
Gardening
Alice: Work 4 h
Lynn: Work 2.5 h
Garden Class: Consume 4 gal
Transfer 5 g from Lynn to Garden Class
Build raised beds
Produce 5 undefined for Garden Class
Raised Beds
Garden Class: Use 3 undefined
Garden Class: Consume 5 g
Lynn: Work 4 h
Plant the raised beds


resource
input
process
output
resource
network of networks
Value Network
Community
Multi-stakeholder Co-op
Regional Economic Ecosystem