



**It's hard to see the big  
picture from your patch.**

**IT Ecosystem**

<https://biofix.uchicago.edu:8080/download/iteco>



THE UNIVERSITY OF CHICAGO  
NSIT Networking Services & Information Technologies

<http://wiki.uchicago.edu/display/integration/IT+Ecosystem>

# What is it?

- ◆ Map dependencies between network elements, systems, DBs, applications, services, ...
- ◆ Mid-level aggregation of what technical leads know
- ◆ Semantic web stuff
  - simple ontology of Elements and Relations
  - RDF store
- ◆ Java client-server
- ◆ Visualize & report
- ◆ Lots of on-going work to keep it fresh

# Instances in the IT Ecosystem

Application	379
Database	114
Hardware/Special Processor	24
Hardware/Storage	7
Liveware/Program	5
Platform/ASP	23
Platform/Appserver	24
Platform/DBserver	53
Platform/Host	735
Platform/VMpresenter	26
Platform/Webserver	50
Service	31*
<b>Total Elements</b>	<b>1393</b>

Has-part	7
Hosts	1350
Is-part-of	129
Is-server-to	437
Modifies	172
Other	2
Supports	14
Xfers-data-to	213
<b>Total Relations</b>	<b>2324</b>



# Demo



# Integrations completed

## ◆ Zenoss monitor

- Zenoss view linked to hosts in IT Ecosystem
- IP and MAC addresses help correlate IT Ecosystem hosts with those in other management systems

## ◆ VM management system

- All “real” VMs
- Hosts mapped to cluster running them

## ◆ DNS

- FQDN & IP address(es) to help correlate IT Ecosystem hosts with those in other management systems



# Integrations in progress

- ◆ Server inventory system: 2-way integration
  - Get authoritative list of servers we care about & contact info
  - Provide what's impacted & VM status
  
- ◆ SAN
  - Link hosts to disk clusters where their volumes live
  - Waiting for Fibre Channel Management system (DCFM) to map LUNs/WWPNS from SVC through to host

# Integrations in progress

## ◆ Network management system

- All switches and VLANs in server subnets
- New Types: Switch, VLAN, Connects-to
- Hosts in the IT Ecosystem automatically connected to switches and VLANs

Switch	2363
VLAN	337
Connects-to	5080*



# Integrations in progress

## ◆ ProdShop – batch data transfers

- New “layer” in the IT Ecosystem
- Place to add info about content of interest, eg, SSN
- Know impact should a data feed fail

PSElement/AutomationObject	442	PSRelation/Controls	573
PSElement/LFile	2496	PSRelation/Goes-to	1257
PSElement/PSDataTransfer	442	PSRelation/Starts-with	442
PSElement/PSNode	113	PSRelation/Stores	2497
<b>Total PSElements</b>	<b>3493</b>	PSRelation/Transforms	917
		<b>Total PSRelations</b>	<b>5686</b>





# On-deck

- ◆ What's impacted? web service
- ◆ Request Tracker integration
  - Insert list of what's impacted if specified item fails
- ◆ Web UI
  - Visualize and explore the ecosystem
  - URLs placed in other systems resolve to ecosystem views and info
  - Ecosystem browser web service

# Where is this heading?

- ◆ What's impacted? list automatically attached to change requests
- ◆ Maintain Service elements in parity with service catalog
- ◆ Aid to configure service monitoring
- ◆ Improved operational practices
  - Comprehensive monitoring
  - Consistent practice of host name use in management systems
- ◆ Improve visibility of where what data is replicated or used
- ◆ Improved manual IT Ecosystem maintenance
  - Changes in management systems trigger focused manual updates
- ◆ Jasig incubation