

Session 1: Flip Charts

Operations and Sustainment

5 Questions

What is stability? Question 1

1) tools & procedures still work next semester

2) Resources available when you need them. Not Fragile

Handing over from research team to operations team

- Is new capability the opposite of stability? \$

- Does it have to be?

Session 1: Operations and Sustainment Question 1 (2/2)

Question 1
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Question 1
continued

- In most NSF funding, difficult to get staff support vs. researcher support.
- so maintenance gap support may be difficult thus impacting stability
- support for new capabilities is generally easier to obtain.

Need to ask community which is the priority

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key:
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Session 1: Operations and Sustainment Question 2 (1/1)

Question 2
- Shared infrastructure: how to segment it?

- coordination

- campus plays

- spectrum: central to fully distr (no ops equiv)

a key role
different organizations

- qualities:

key: - deep engagement
- w/ operational & research folks.

* Possible candidates: - RENS?

- kernel 2?

- campus CIO/OT staff

- but they need to keep listening to researchers

- may need bring in additional personnel/ support as needed

to segment it?
ampus plays
key
role
fferent
organizations

may need
in additional
support
needed

Question 3: HW Refresh SCSS, on 1
* 3 aspects:
repair vs upgrade vs new site

Upgrade:
Use common components ↙ building blocks
run like IT projects
Phase In ^{new} while maintaining old
~~Committee to balance needs of~~
~~researchers vs~~
Committee to look at whole
ecosystem

repair:
base on operation statics. the project.
the need. also input from providers

new site: use committee recommendation.
~~not~~ - Anticipate / Address future needs

4: Session 1

Define "Obsolescence"

What to do with old software: 1. transfer ownership?
2. ~~also~~ Funding / Funded?

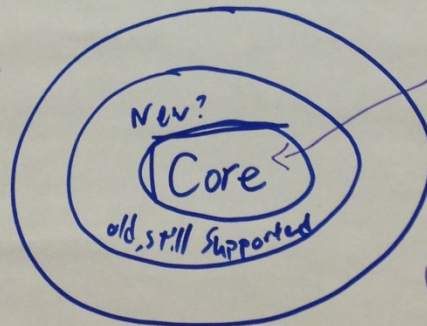
Categories of Software:

A. Control:

B. Tools: UI,

C. "Misc.": Disc Images, data?

Tiered:



Limited to what we can afford

When to switch sw bases?

Hardware dependence

Encourage documentation of software's ~~depend~~ dependence on other software/hardware

Additional Q:

5. How do we address the competing needs of the Stakeholders?

(Researchers, Educators, IT, Builders)

Question 5 (1/3) Session 1

- List of stakeholders

 - List in pg 2

 - + Cities, Appln. Developers?
 - Domain Scientist (Genomic Science, CC-Star)

- The plan under discussion is for 2017 & beyond?

Question 5 (2023)
Session 1

- What are the competing needs

Researchers Needs

- Programmability
- S/W Framework Stability
- Repeatability
- Ability to extend

Question 5
(3 of 3)
Session 1

Educators

- Availability
- User support
- Usability

Session 2: Flip Charts

Community Development

3 Questions

0252 10/3
 Constituencies of GENI

1. Researchers - stability, extensibility, STATE-OF-THE-ART RESOURCES, low level Hw/SW access, availability, tds minimal interference from ^{IT} managers, ops, ^{+ students}
2. Educators - all of above ⊕ for course project timely stability ⊖ STATE-OF-ART in some cases Also real-time performance for labs & courseware

0252 20/3
 NO SERIOUS CONFLICTS EXCEPT DEADLINE TIMING

~~IT Admin, Prof who work on Res or course prog~~

CIO + XERO IT PROF

- GENI MUST PROVIDE RESOURCES (Don't ask for resource)
- STABILITY, NO WAVES

NEW QUESTION 1

① GENI STAKEHOLDER SEGMENTS

Ⓐ WHAT ARE THE NEEDS OF COMMON SEGMENTS?

Ⓑ Where do they conflict?

Ⓒ How to resolve the conflicts?

APPLICATIONS/USERS

D152303

- Domain science
- Cities / Public Safety

Needs:

Stability — 24/7

Service

Infra Providers: 12, Merit

D1 Session 2, Table 1
To date, GENI has blurred the users and builders.

- Looked for people who would do both.

Researchers

- More GENI - Network / dist. computing
- CS
- More HPC, Collocation - All other science

Educators need more predictability & user support

D1 Session 2 2 of 2 (2)

CIOs

- Can't own a tar baby
- Need happy faculty & provost or pres.
- Participating in a collaboration needs to be better than buying their own
- Community infrastructure must benefit my campus.
- Support model

Infra Builders

- Need to do cool stuff (and get paid)

D1 S2

• Supp

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• Clie

• Add

New Question:

② ARE WE DOING A
GOOD JOB REACHING
CURRENT LIST OF COMMUNITIES?

NOW, WHO DO WE ADD
TO THE LIST?

How Reach THEM?

②
 'provst
 or
 pres.
 be
 - own
 - must

D2 S2 1 of 2

- Support Community: CIOs, IT Pros, Infra builder, industry, local govt.
 - Should be client driven
- Client Community:
 - Current Educators (Colleges & universities),
 - network researchers, domain scientists
 - Left-out communities:
 - Municipalities,
 - Coding groups
 - K-12
 - Industry
- Add to the list: Work with US Ignite
 - local govt.
 - provide outreach, conferences
 - encourage researchers to cite GENI

①

D2 S2 2 of 2

- The Room for improvement
 - Show IT staff value add in terms of campus connectivity
 - Make things more
 - stable
 - accountable
 - transparent

②

ties?
 =

~~Brain power~~

D2 S2 1 of 2

What is being done	Observations
GENI Wiki	• Easy to find wrong thing
Tutorials	• Hard to find right thing
Summer Camp	• on site tutorials do a good job
Other docs	• Need better online tutorials to scale to <u>communities size</u>
Feedback	
Travel grants	
General	• Need more pull, discoverability
	• Move from ad-hoc to systematic processes on outreach outreach

D2 S2 2 of 2

Additional Stakeholders

- Cities
- App developers
- Domain scientists
- Self-sustaining industry partners

Question 3

In addressing the needs
of various GENI Segments

- a. WHAT COVERED BY
GENI and WHAT
SHOULD BE COVERED BY
~~THE~~ NEW RESEARCH PRGMS?
- b. HOW SHLD DIV OF THAT
COVERAGE BE NEGOTIATED?

0352

Stakeholders	Part of GENI? (Coverage)	Gvn Relation
Net Researchers	✓	✓
Domain Sci.	indirect	shared infrastructure shared governance
Educators (not entirely, not art)	✓	input
R&E net ops (Inst, Univ, REN)	many not all	✓
Commercial ops.	How to engage? coerce?	observer
Others, e.g. US Ignite		

Infrastructure builders, e.g. Cloudlet

engagement | bilateral

engagement | "

0352

Q: INFRASTRUCTURE VS. POLICY?

A: NOW IT IS BOTH TO SOME DEGREE

Q: SHOULD IT BE SPLIT?

NO? YES?

A: DEPENDS ON STAKEHOLDERS

Q: HOW TO EVOLVE BOTH?

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Session 3: Flip Charts

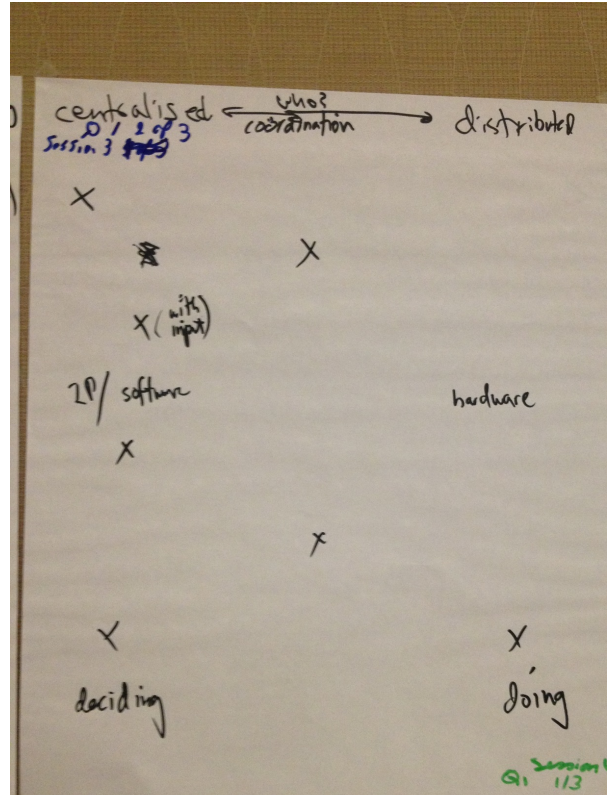
Governance, Administration and Finance

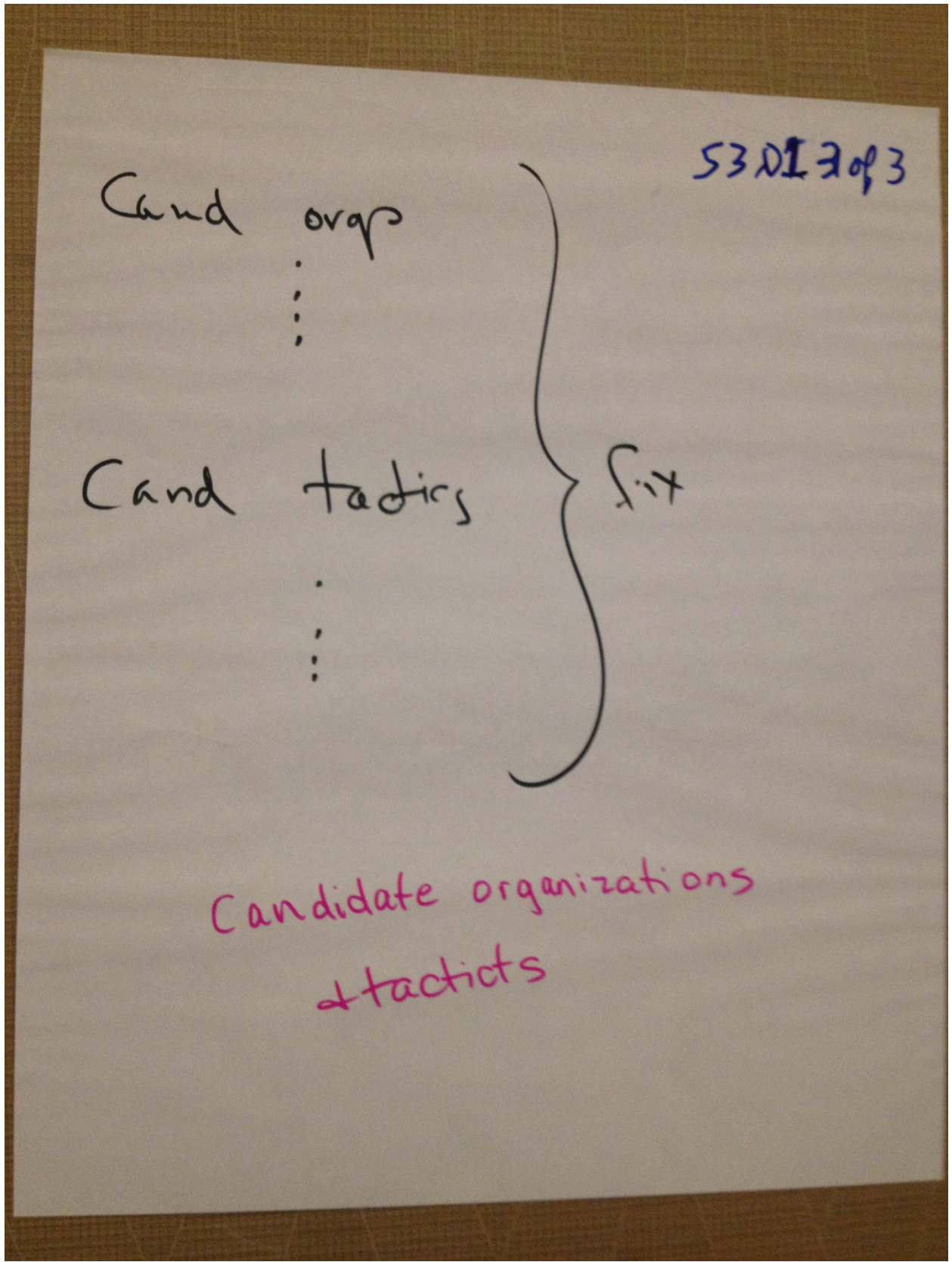
4 Questions

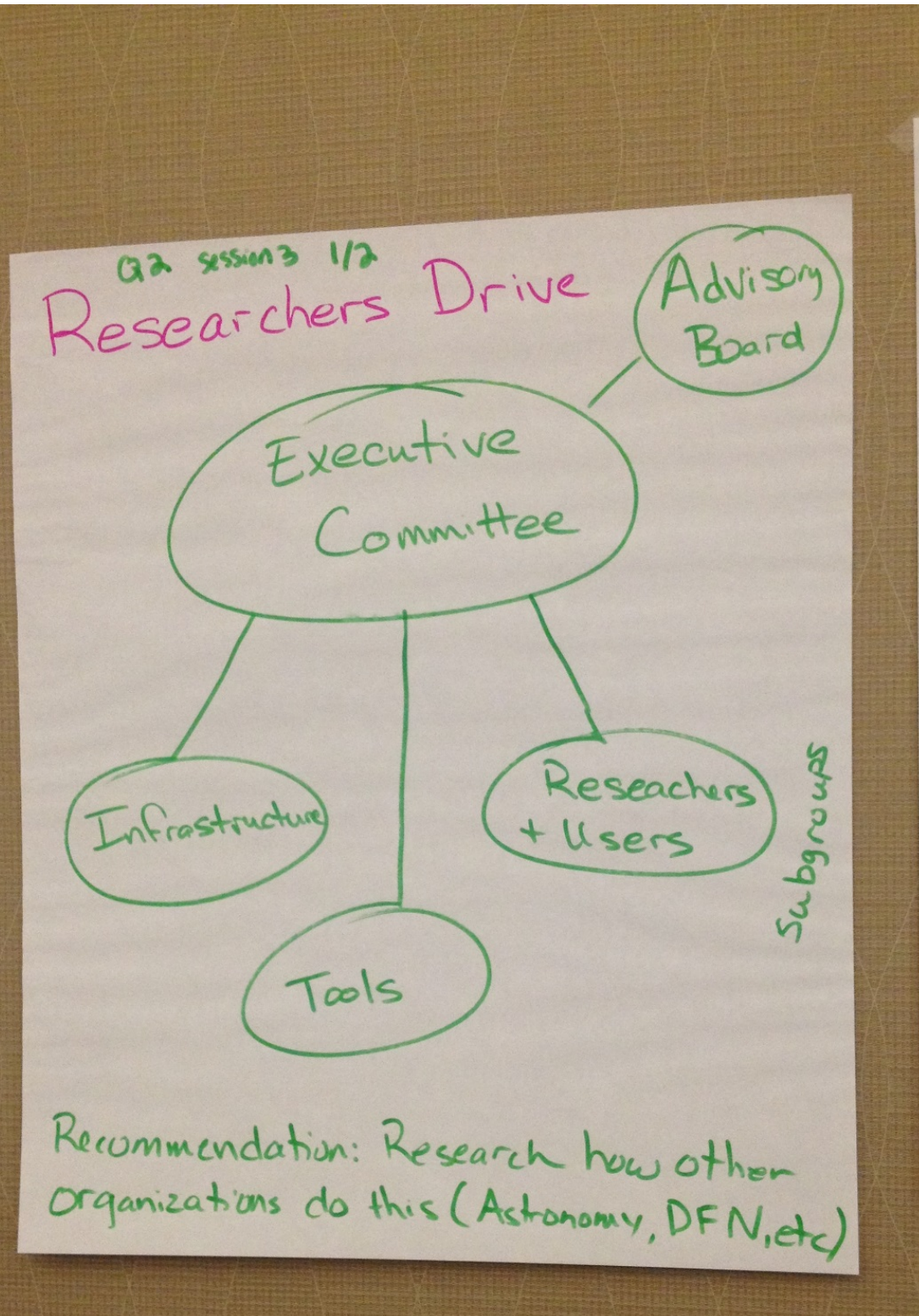
Session 3: Governance, Administration and Finance Question 1 (1/3 & 2/3 -read side by side)

What does governance need to do

- Proj mgmt / fundraising / budget / legal
- Sys engr
- Strategic planning / priority
- Asset ownership mgmt
- Ops / doc / helpdesk
- Infr deployment + expansion
- GENE community outreach + growing
- Enhancing GENE capabilities
- * Governance structure + process







Q2 session 3 212

• Modeled after DFN

- cross representation on subgroups
- 1 representative on Exec Com
- meet every 1-2 yrs (all hands) to hash out priorities
- address how to foster collaboration w/ international efforts
- small group formulates policy proposals. Large group votes.
- how decide where funding goes?
- DFN: universities pay to join

Advisory Board

Subgroups

then
(N, etc)

③ Session

With

Variation
over

(How

How

Provid

Session 3: Governance, Administration and Finance New Question 3 (1/3)

③ Session 3

WHAT ARE THE
VARIAS NEEDS / Reqmts
OVER N+T 5 YRS?

(~~How much will it cost?~~)
- SKIP

How will various stakeholders
Provide input on those needs?

QUESTION 3] S3 ~~1/3~~ 1 of 3

- maintaining relations / liaising w/ GENI-enabled stakeholders | "Core" GENI
INFRASTRUCTURE MAINTENANCE
- relationships w/ experimenters | "Users"
EXPERIMENTAL SUPPORT
- Ongoing evolutions of GENI] MSP, Federated, etc.
- relationships w/ GENI 'press' and other external stakeholders

3
"Core"
GENI
"scr's"
SF Future Cloud
etc.
her

QUESTION 3

+ Ongoing operations

- monitoring functions

53 2 of 3
Keep things running
debugging +
maintenance
(helpdesk)

+ Maintenance - HW + SW upgrades

Same cat.
as ongoing ops.

- emergency vs. normal (every 2-3 yrs)

- hosting of tools; development

+ new elements (new SW, e.g.) - Both dev. + int.

+ Existing investments for IT infra. @ univ's.

- Internet 2 - "Hidden costs" - Staffing for GENI

+ User support + training (local + global)

~~particular~~

- user management + verification

- documentation

QUESTION 3

~~SAD~~
53 3.13

(2)

- + developing/growing out the community
- + evolution of GENI $\left\{ \begin{array}{l} \text{internal} \\ \text{external} \end{array} \right.$
- + Law enforcement/regulatory requirements
(as distinct from monitoring)
- + standards work \rightarrow collab w/ other orgs/nations

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④ HOW ARE THE
VARIOUS FUNDING
NEEDS BEING MET OVER
NEXT 5 YRS?

- who will pay?
- who will secure the funding sources?

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\$ for Operations [incl. refresh] Q4 53 1/2

~~Support~~ WIKI: Keeping GENI up & running
- Growing Phys. GENI

(look at stakeholders!)

WHO WILL PAY

- 1 IT (CI Plan)
- 2 Regional
- 3 Local govern. (USTGairte)
- 5 Student fees
- 4 Industry funds

\$/use
- Part of NSF budget @ Proposal
- IDC re-alloc mechanism to be invented (depends on campus policies)

WHO WILL SECURE?

- Experimenters budgets usage [FROM]
- CIO [F&A, state appx]
- Regional [state appx]
- PR @ Univ. [industry]

TOP
BOT
OP

53 1/2

04 53 2/2

TOP-DOWN

Consortium [fees by members]

BOTTOM-UP: usage pays for resources

OPEN QUESTION (UNANSWERED)
HOW CAN NSF HELP?

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