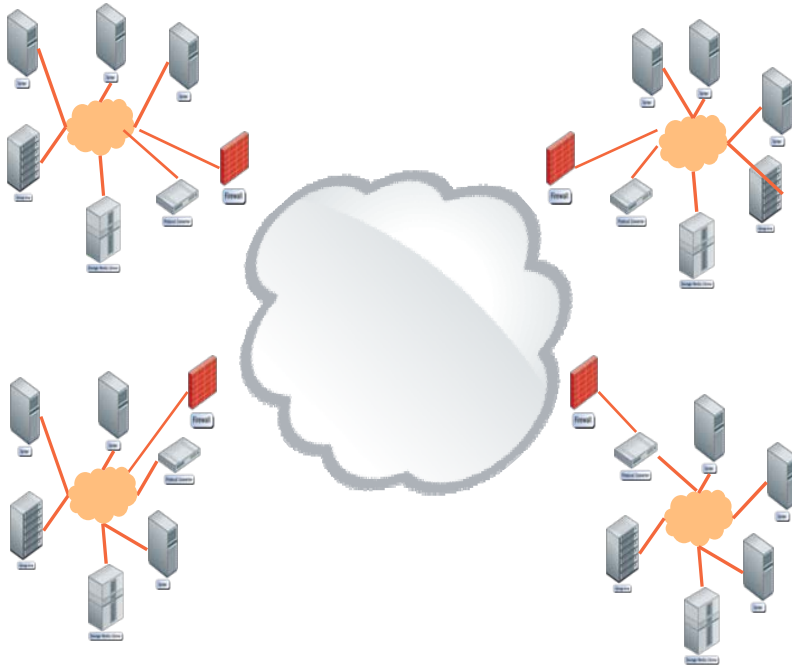


Global Team Management Best Practices

Tom Hickman
and
Abhinav Jawadekar

Global SANs and Global Teams



Common Challenges:

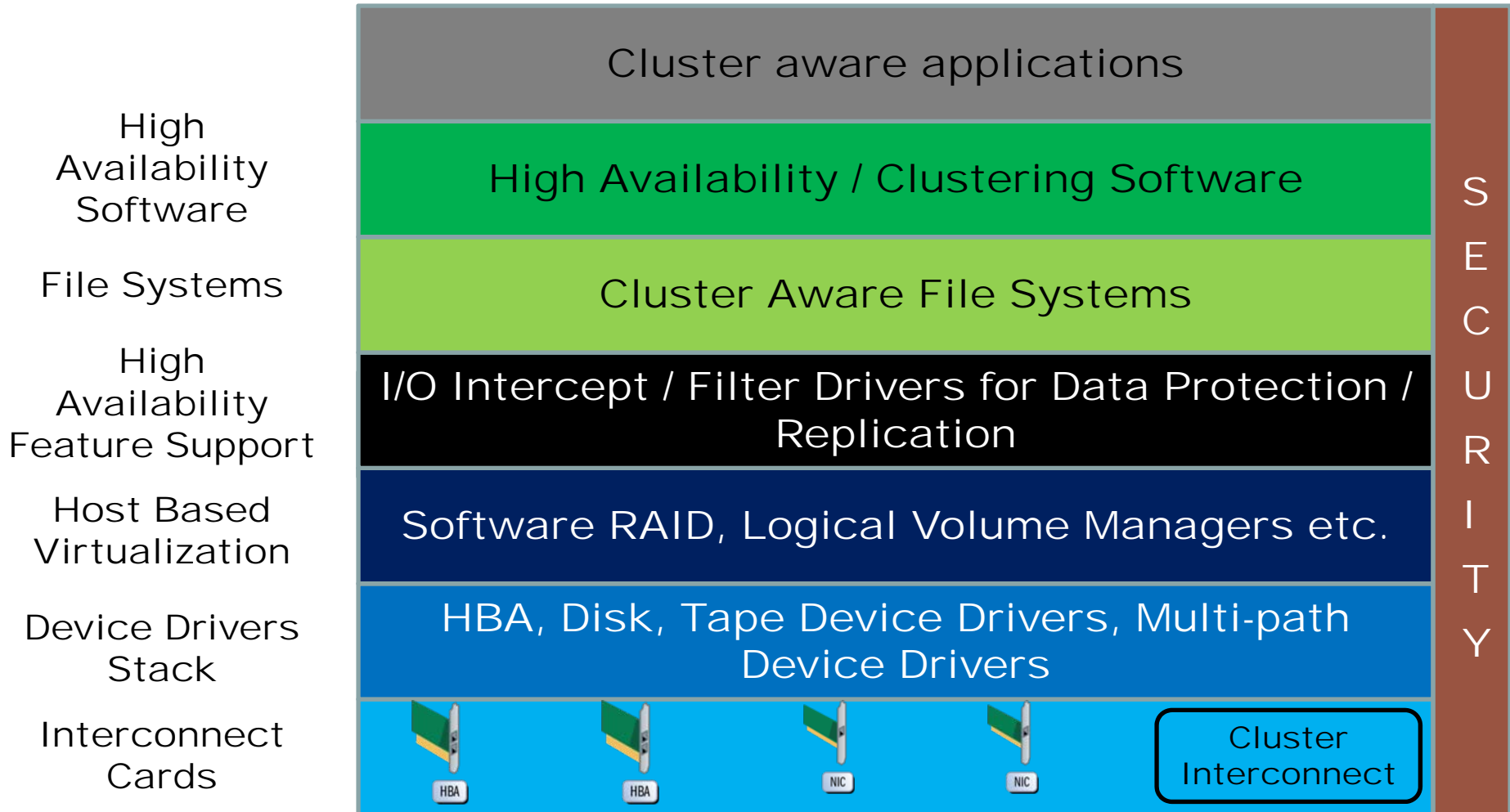
Correlate data and information.

Synchronize and persist that information.

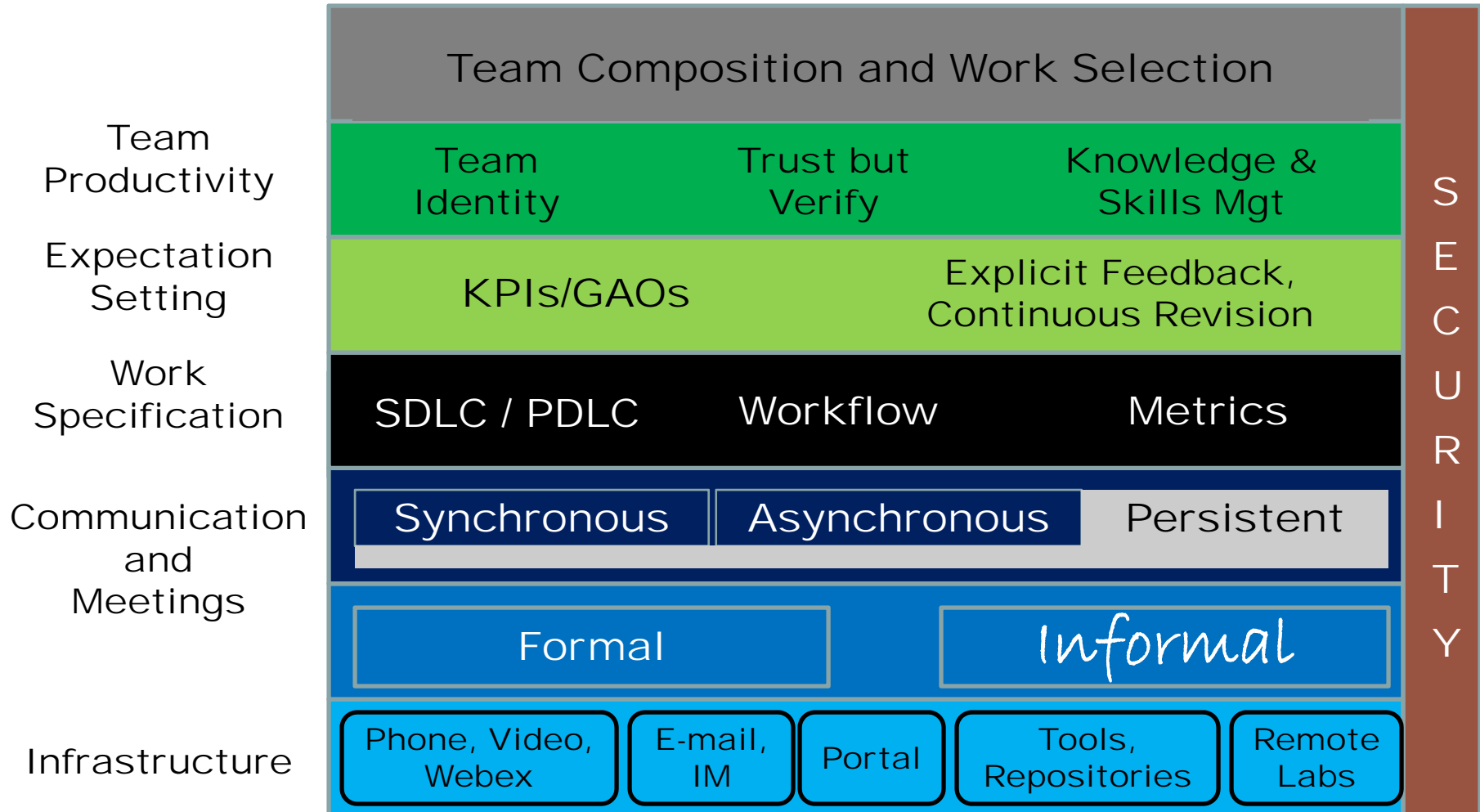
Do it over expensive and slow communication channels.

- ❑ The Global Team Operations Stack
- ❑ Communication, persistence of information
- ❑ Global Team Building and Culture
- ❑ Expectation setting and management
- ❑ Work Specification and measurement
- ❑ Work selection and proficiency mapping
- ❑ Global SDLC
- ❑ Global Build, Test and Lab Infrastructure

High Availability SAN I/O Stack



Global Team Operations Stack

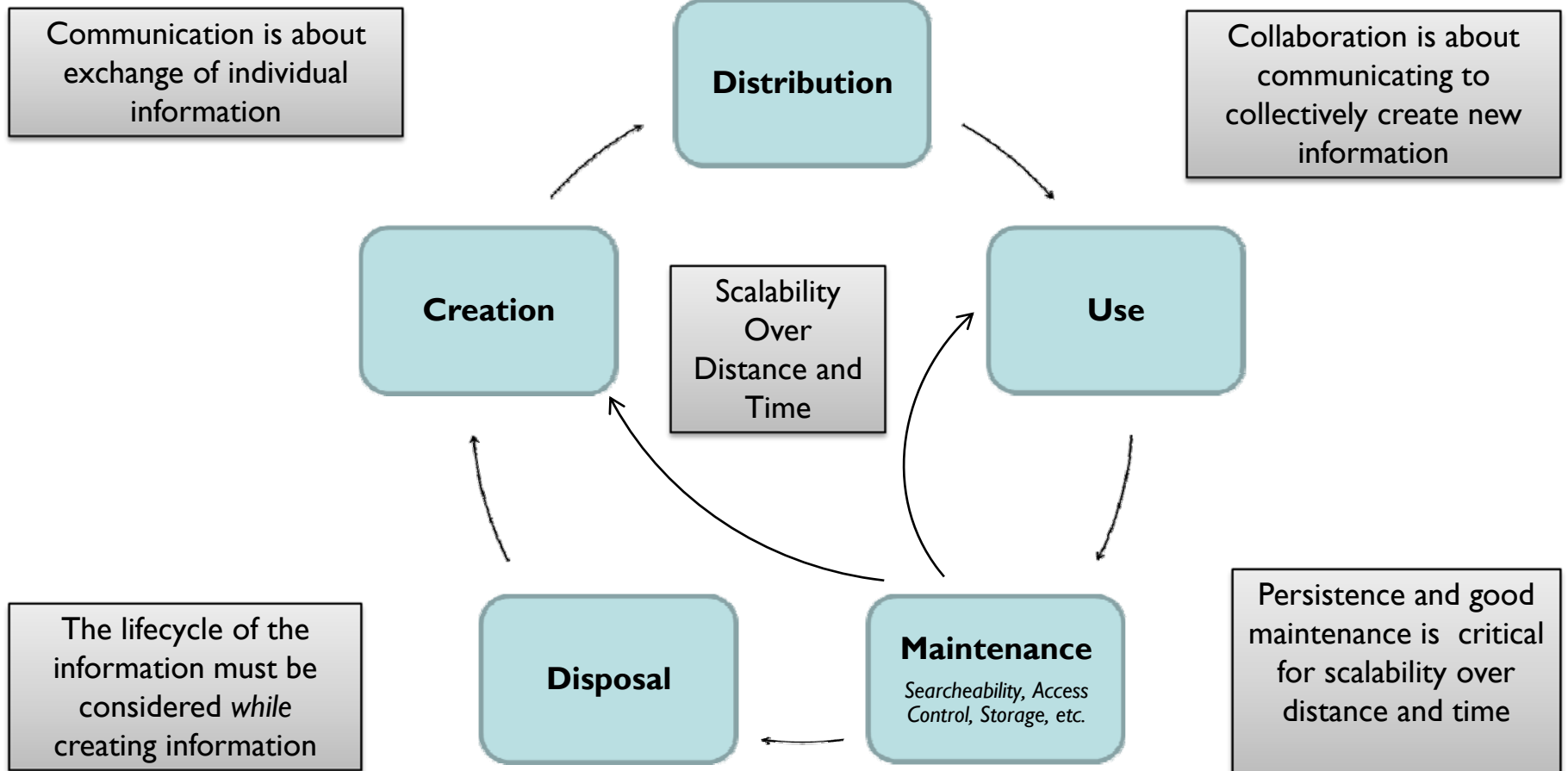


Foundation layer

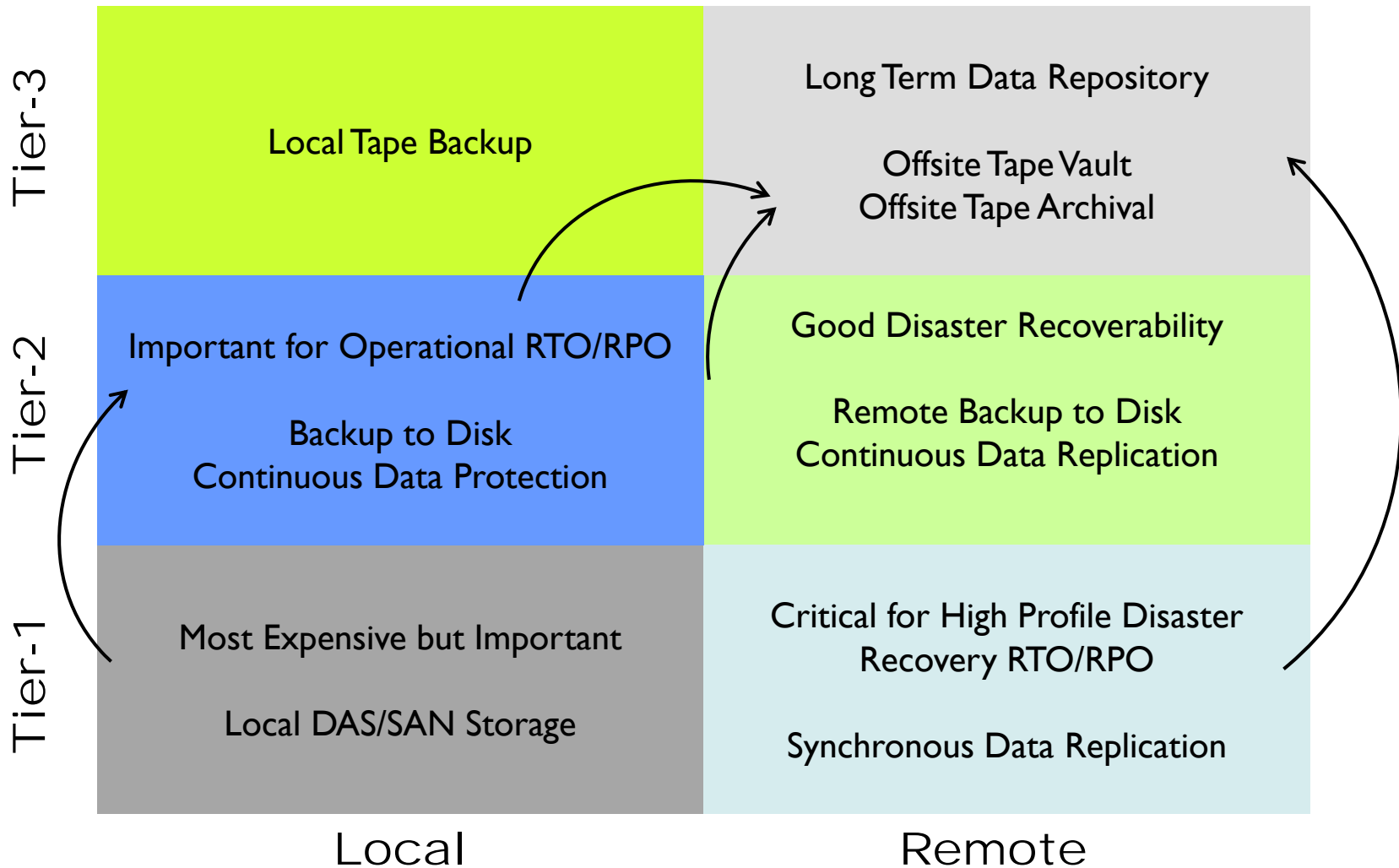
- ❑ Communication and collaboration tools
 - ❑ Tools matter less than mission
 - ❑ Good engineers will figure out how to work and communicate
- ❑ Create a culture of creativity, provide autonomy, insist on documentation
- ❑ Periodically “sample” the tools – use them and don’t tolerate mediocrity
- ❑ Emphasize skill in communication (written and verbal) in all your staff
- ❑ If you don’t communicate, you don’t exist.



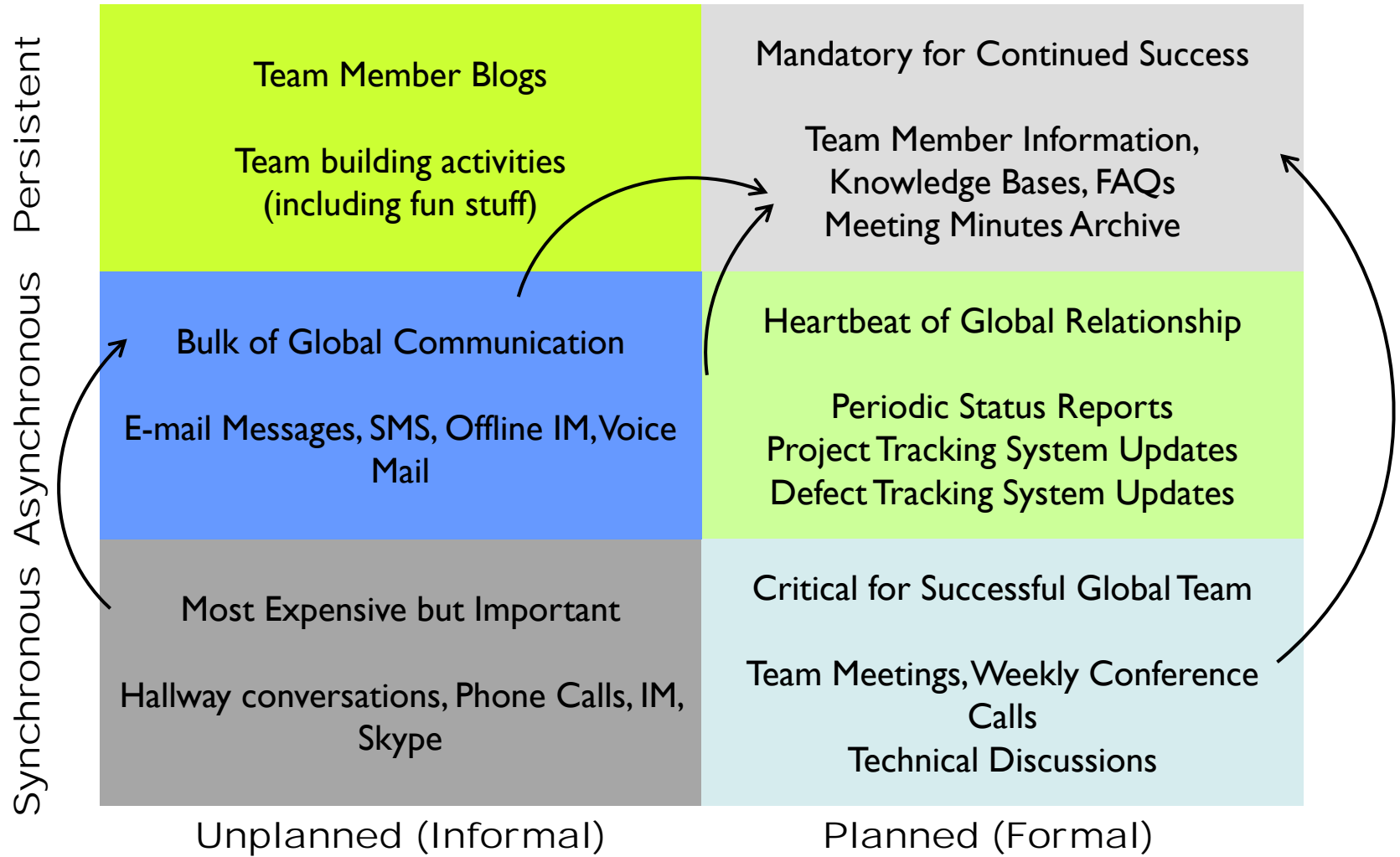
Communication – The ILM Perspective



Storage Tiers – Mandatory Persistence



Communication – Persistence is the Key to Success!



Global Team Identity and Trust

- ❑ Set a “Charter” with vision, mission, goals and objectives
- ❑ Define and socialize your “Team Identity”
 - ❑ Org Charts with Names and Pictures
 - ❑ Roles and Responsibilities
 - ❑ Team “Face Book”, blogs, tweets
- ❑ Publicize who your customers and stakeholders are.
- ❑ Trust is even more crucial with global teams
- ❑ Trust is bidirectional
 - ❑ You have to trust your team to deliver
 - ❑ They have to trust that it is OK to ask questions, say no, or deliver bad news
- ❑ Establish a non-adversarial “trust-but-verify” model



- ❑ Celebrate cultural differences - don't make fun of them
- ❑ Avoid prototypical biases
- ❑ Respect individual and location specific preferences

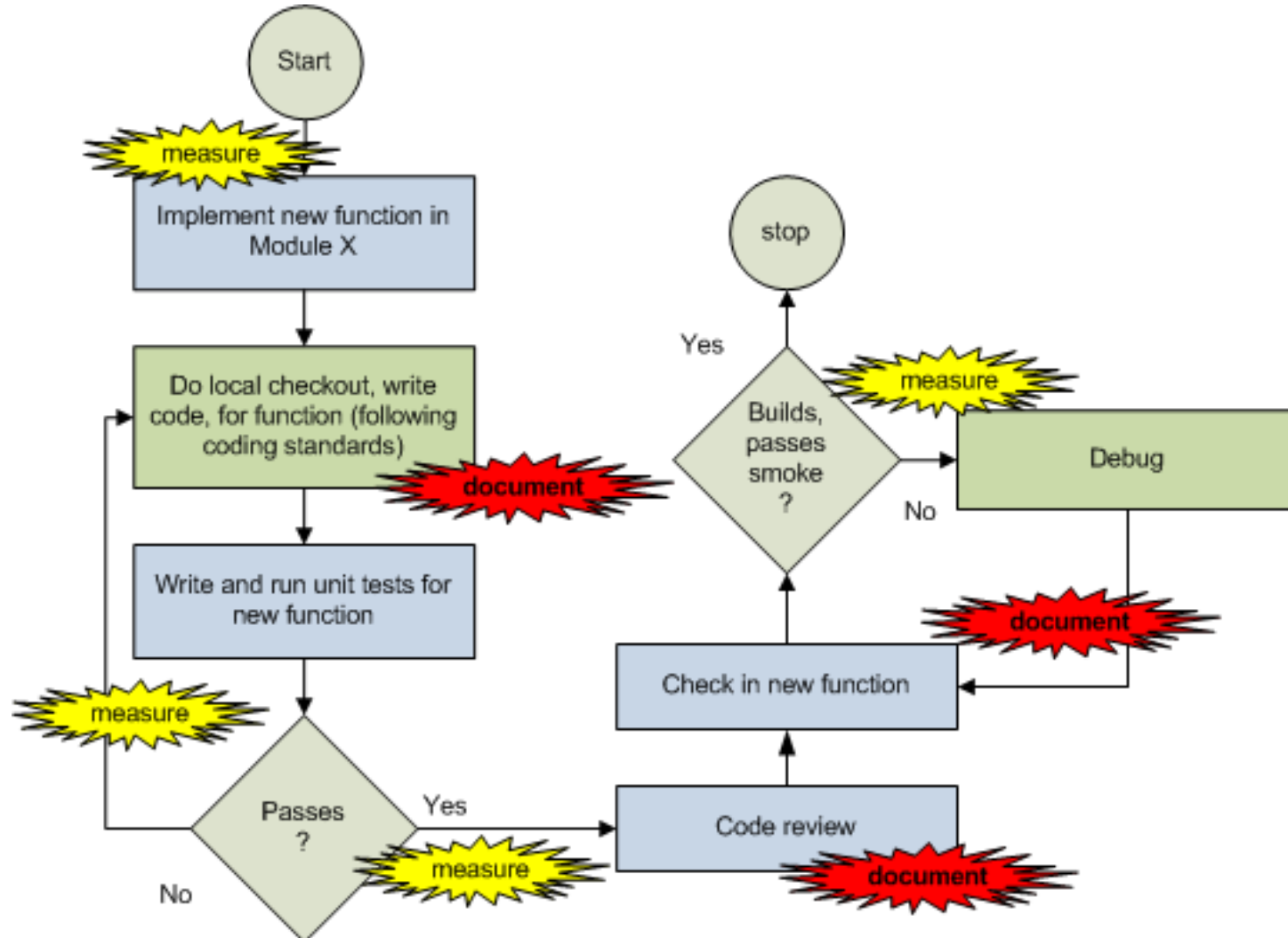


Expectation Setting and Management

- ❑ You have expectations for every single aspect of your work
- ❑ With local teams these expectations can remain implicit
- ❑ In a global context, it's critical to make these expectations *explicit*
- ❑ Evolve written expectations into performance goals for your offshore team
- ❑ Express all future disappointment as revisions to this document
- ❑ Use this tool to manage your team so they meet or exceed your expectations



Workflow and Metrics for Predictable Outcome



Tasks and Proficiencies

Proficiencies → (Common Tasks)	C++	SAN / NAS	Device Drivers	Unit Testing	iSCSI Protocol
Write device drivers	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
Test iSCSI feature	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
Analyze R/W performance	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤

Proficiencies → (Team members)	C++	SAN / NAS	Device Drivers	Unit Testing	iSCSI Protocol
Team Totals	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
Joe	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
Amit	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
Devra	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤

Classifying Knowledge

□ Types

- Product Knowledge
- Organization, Knowledge about the organization, Organization (team/sub team/individual) specific knowledge
- Business, Business Domain
- Processes
- Infrastructure
- Technology, Technology Domain
- Tools (with respect to every type)



- ❑ SDLC does not matter! What matters is:
 - ❑ Documentation of expectations, engineering practices & tools
 - ❑ Recognition that practices & tools must adapt to lack of proximity, higher latency, and tougher communication
- ❑ If you follow best practices on communication, expectation setting, measurement and feedback, your SDLC can work globally or locally
- ❑ Tips for adapting Agile methodologies in global teams:
 - ❑ Remember that these depend on mature team members, availability of information to everybody and substantial team communication
 - ❑ Define location specific “sub-scrums”
 - ❑ Blog “scrum” meetings



Global Build, Test and Lab Infrastructure

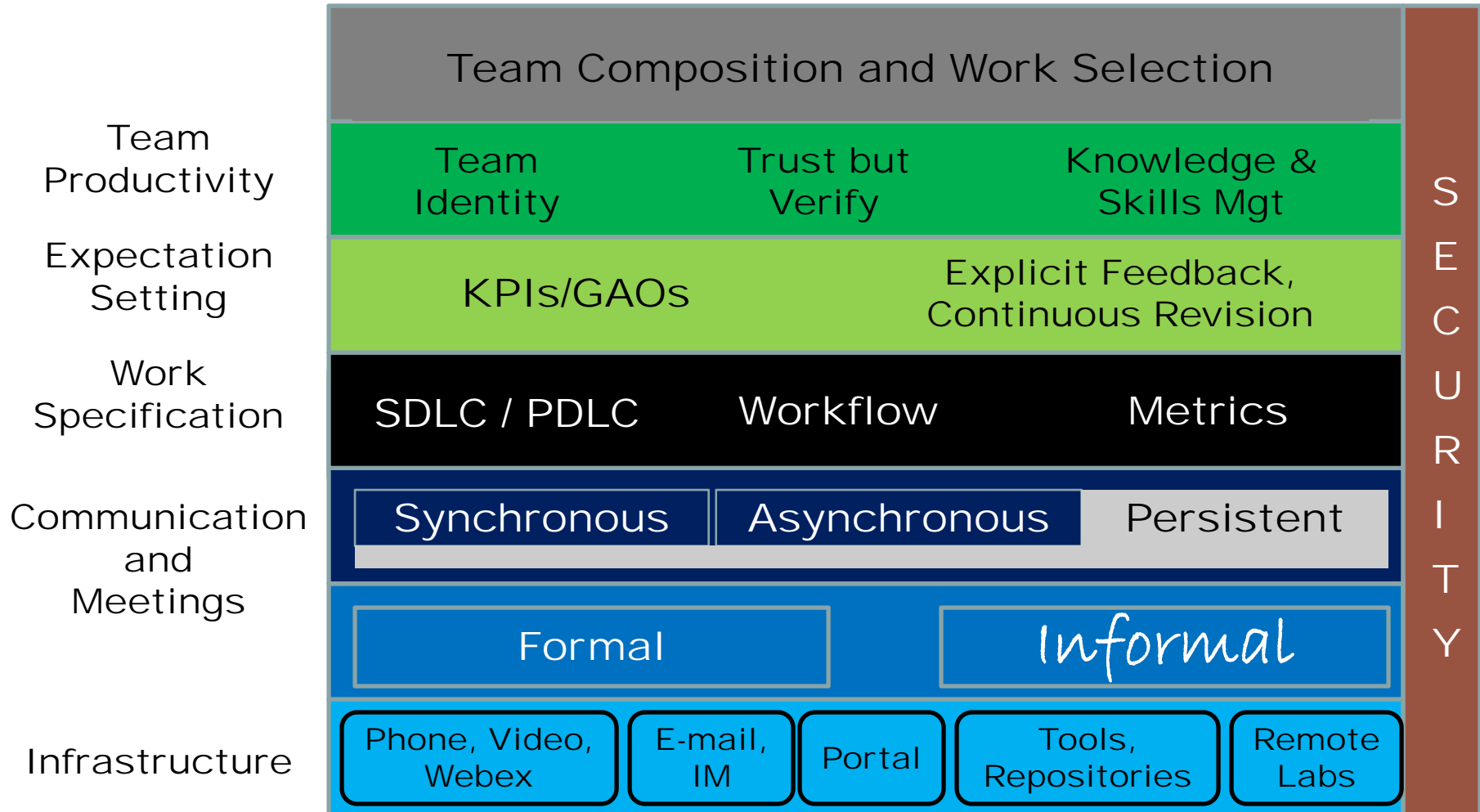
- ❑ If you're just starting to go global, your local infrastructure probably isn't good enough
 - ❑ Your build system must support check-ins 24X7
 - ❑ Your test lab must support completely remote access and administration
- ❑ Aim for about 125% of the "local" latency for tasks like check-ins
- ❑ Absent those capabilities, you'll need redundant "local" infrastructure
- ❑ Some things to consider:
 - ❑ Network enabled infrastructure (Serial consoles, IP Enabled power switches, IP Enabled KVM switches, Programmable fiber channel patch panels)
- ❑ Server Virtualization and Virtual Machine Repositories
- ❑ Documentation, establishment and adherence to lab usage procedures
- ❑ Dependable lab station reservation systems





- ❑ In globally distributed data centers or global engineering teams, the challenge is the same: *synchronizing information over expensive and slow communication channels*
- ❑ Take a comprehensive approach to the *Global Team Operations Stack*

Global Team Operations Stack



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