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The Transformational Power Of Networks, Teamnets, and Virtual Teams

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www.NetAge.com

Presentation Agenda

- Introduction
  - Evolution of organizations
  - Full knowledge spectrum must include teams
- Recognizing organizations as networks
- The “Stadium Parable” of the real organization chart
- OrgScope demo: Technology for visualizing and analyzing organization networks
- Working organization as a network of teams
- Virtual teams today
- Virtual team principles
- Team rooms remember personal know-how
- Wrap up

NetAge Background

2004

1982

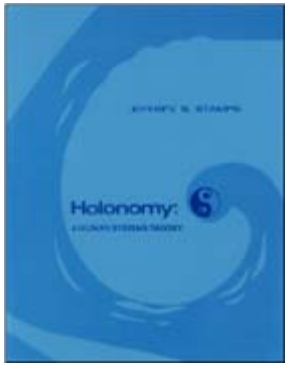
1986

1993

1994

1997

2000



1980
Holonomy: A Human Systems Theory
Foreword by Prof. Kenneth Boulding

1992 1994 2006

2004

1997

1994

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1984

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1998

2003 1982 1997 2007

FINANCE

2001

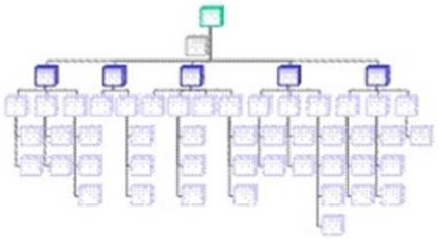
Livelink virtualteams

NetAge OrgScope

2007

Evolution of Organizations

It takes variety to survive in variety
Internal complexity must match or exceed external complexity (Ross Ashby)

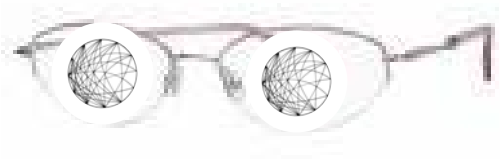


Today

Nomadic	Agricultural	Industrial	Information
Members **Small groups**	Levels **Hierarchy**	Specialties **Bureaucracy**	Links **Networks**
Tribes	Empires	Corporations	Networks

Diagram developed with Shell Oil Co

Put on Your Network Glasses



- "Networks are nodes linked with common purpose"
- Nodes are people, positions, teams, and/or organizations
- Networks are as big as cross-enterprise, cross-industry, cross-sector alliances working on global scales or as small as virtual teams of two
- Organizations are growing more networked
- All organizations are networks

The New Vocabulary of Networks

Today's focus

- **Virtual teams** = small **groups** of people working interdependently across boundaries of space, time, organizations, discipline, language, culture; both ongoing or temporary
- **Teamnets** = **net**works of **team**s, both virtual and collocated, linked by shared purpose that reach across boundaries
- **Organization networks** = all large-scale human structures, including hierarchies and bureaucracies
- **Networks of organizations** = external connections among organizations working in common pursuit

- **Communities of practice** = people learning and exchanging information related to their "practices," their expertise
- **Social networks =** people connecting with others on basis of personal relationships

Full Knowledge Spectrum Must Include Teams

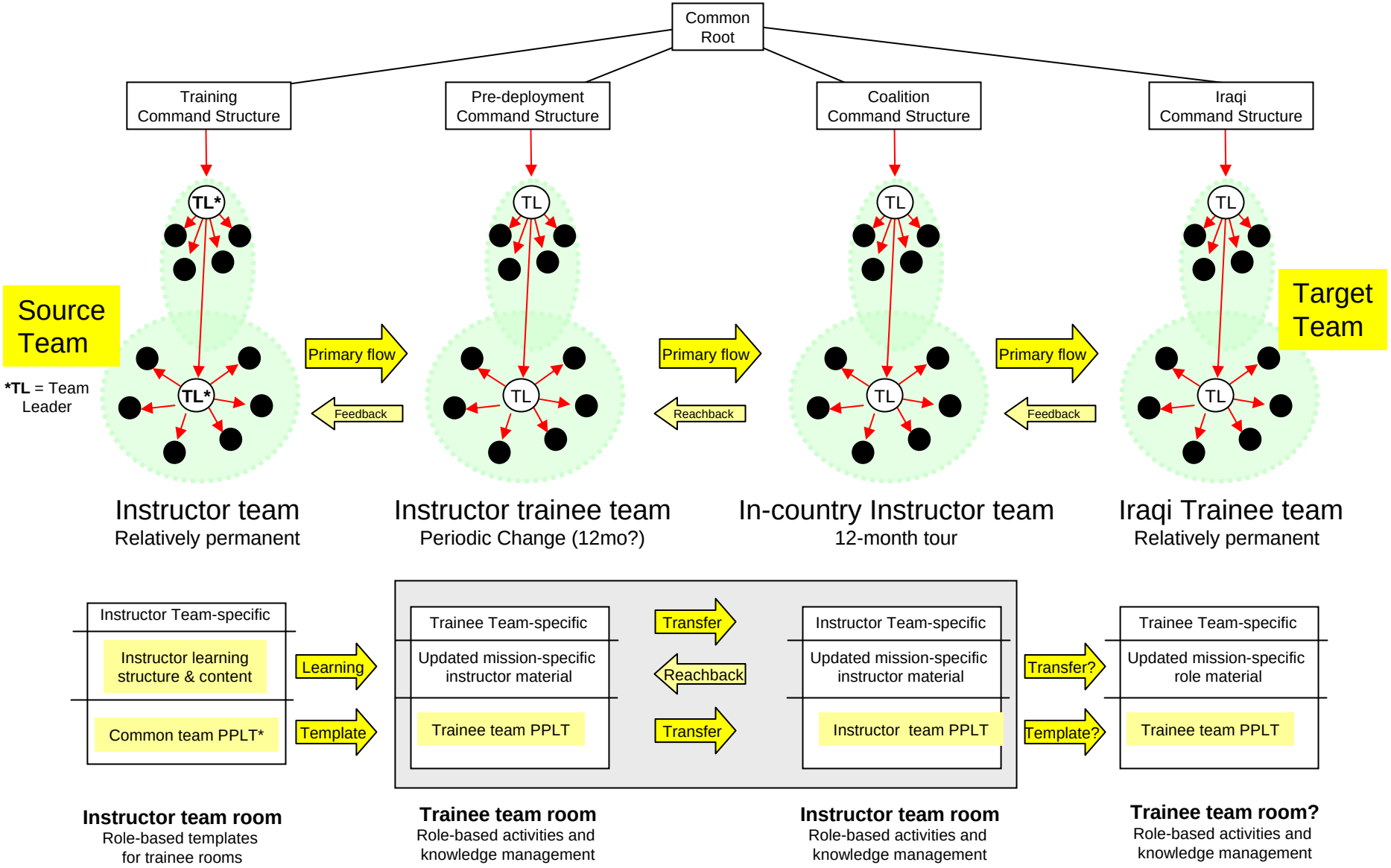
Three Scales

1. Formal hierarchy is at science end of knowledge spectrum
2. Teams, groups of people acting together to accomplish a purpose, in middle
3. People acting in their positions and one (or more team roles) are at "art" end

Teams are "middleware" of organization

"Mastery of the Entire Spectrum is necessary for success"

Core TeamNet Workflow: Iraqi Training Example

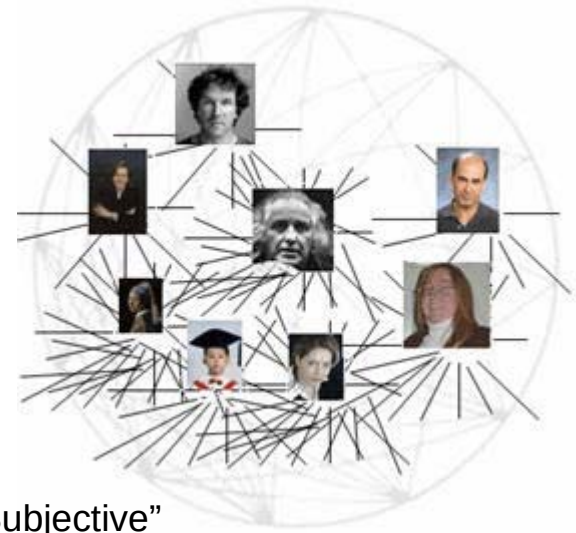


***PPLT** = **People, Purpose, Links, Time**: NetAge virtual teams model-methodology

Recognizing Teams and Organizations as Networks

Social Networks and Positional Networks

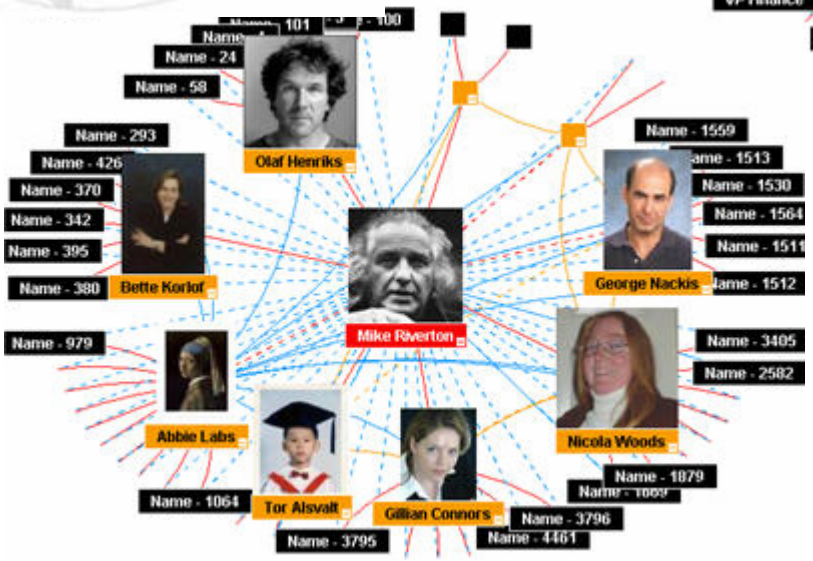
People with their social networks



Organizations with their position networks

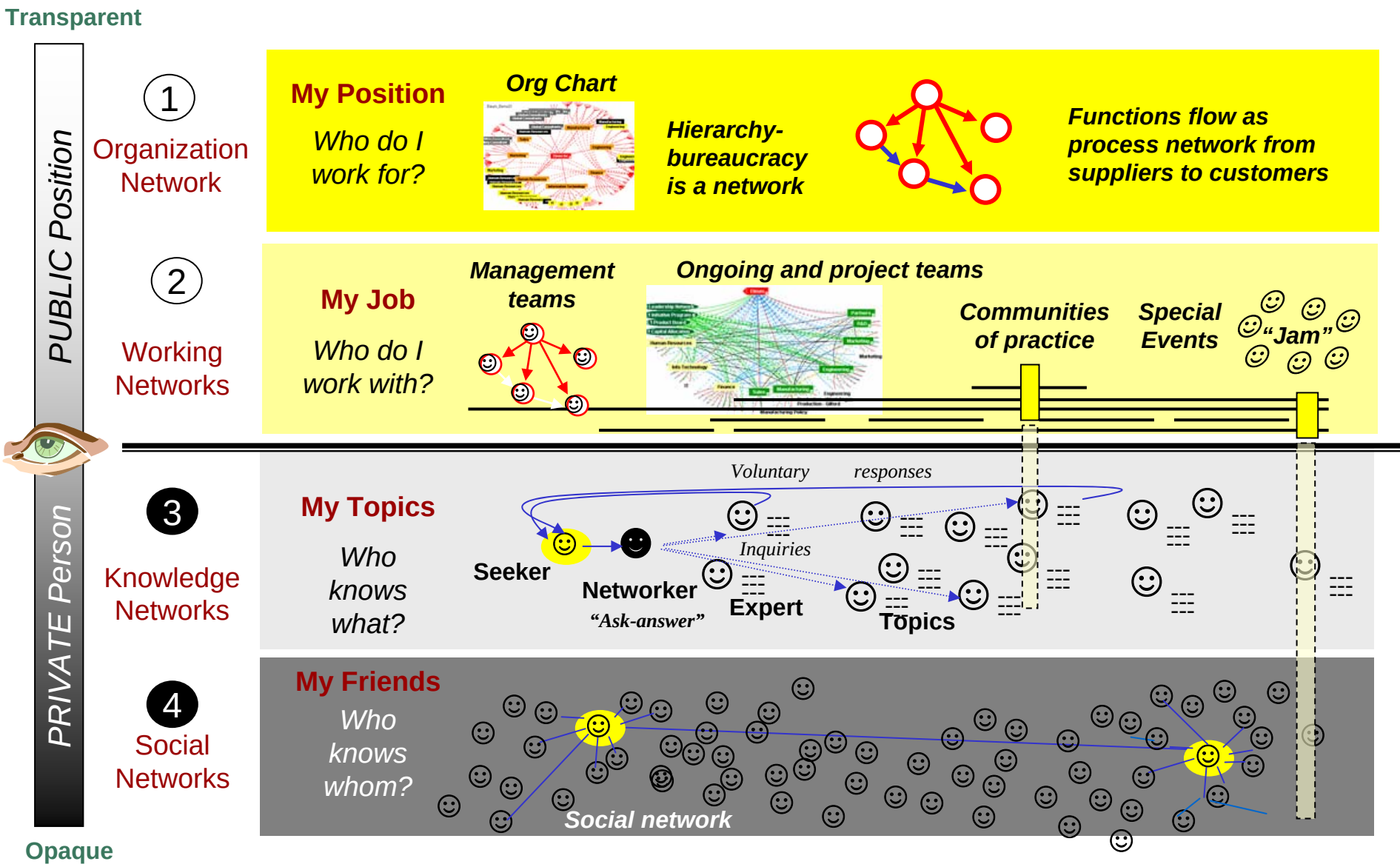
"Objective" organization

"Subjective" organization



Organizational networks at intersection of people and positions

Positions and People Weave the Organization



Hierarchy Comes In Two Forms, But One Relationship

Myth #1: Networks are flat. They are not. They are multi-leveled. All networks and virtual teams are hierarchical in scientific sense. Even simplest networks comprise interacting parts that are themselves complex, i.e. people or groups

- Hierarchy is most general principle of general systems theory, but only in organizational sense. Wikipedia entry on "hierarchy" provides excellent summary of crucial distinction in two uses of word. Both have same logical structure:
  - **Ranking**, most socially-common meaning of hierarchy, is system of higher-lower relationships, where high is usually judged as better than lower
  - ★ **Organizing** is scientific meaning, sets-within-sets, parts-within-wholes-within-larger-wholes, sense of hierarchy

Ranking – Social network

★ **Organizing – Organization network**

Basic hierarchy relationship

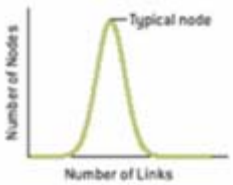
From

To

Each element, thing, or person (1 node) has single (unique) superior-subordinate relationship (1 link) to another thing or person that is part of pre-existing system with top element

Quest for an "Organization Network" Science

Random networks

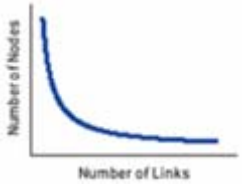


US road network

For past 50 years, scientists have regarded networks in two ways: either as relatively static node structures of uniform lattices or as webs of **randomly** distributed links (with averages).

More recently, scientists have found that networks have a few highly-connected nodes — **hubs** — that link to many nodes, but that most nodes have very few links. This dynamic model grows and changes over time, with new nodes preferring to attach to the hubs.

Scale-free networks



US airline network

Summary of key data from original paper by Réka Albert and Albert-László Barabási' in Reviews of Modern Physics, *January, 2002*

Network	Type	Nodes	Links
Cellular metabolism	Biology	Molecules involved in burning food for energy	Participation in same biochemical reaction
Protein regulatory network	Biology	Proteins that help to regulate a cell's activities	Interactions among proteins
Sexual relationships	People	Individuals	Sexual contact
Hollywood	People	Actors	Appearance in same movie
Research collaborations	People	Scientists	Co-authorship of papers
Internet infrastructure	Technology	Routers	Optical and other physical connections
World Wide Web	Knowledge	Web pages	URLs

From "Scale-Free Networks" by Albert-László Barabási and Eric Bonabeau, Scientific American, May, 2003

?

Hierarchy (org chart)	Organization	Positions	Reporting relationships
Working organization	Organization	Position, group, and organization nodes People-in-positions	Matrix reports Process links Group memberships Information flow Personal relationships

The Stadium Parable of the Real Organization Chart

Prologue: Stand in CEO's Shoes

At a time when large organizations:

- Depend on contractors, partners, and vendors for key functions
- Assign people with matrix (dotted-line) reports next to those with solid-line reports, and
- Make use of teams and other groups for complex operations, then…

Simple box-and-wire org charts no longer give true picture of formal enterprise, real leadership, true workflow dynamics, or built-in connections that come with each job

- An org-chart page with 40 boxes for enterprise of 4000 shows **1%** of structure
  - If 40,000 jobs in enterprise, org chart with 40 boxes = **1/10th of 1%** of positions
- Such views give false impressions of how things work, how rapidly they are changing
- Lacking accurate representations of structure, enterprises make decisions:
  - Without input from right people
  - Set policies based on impressions/gut feelings rather than data, and
  - Put forward objectives without equipping people with resources to achieve them

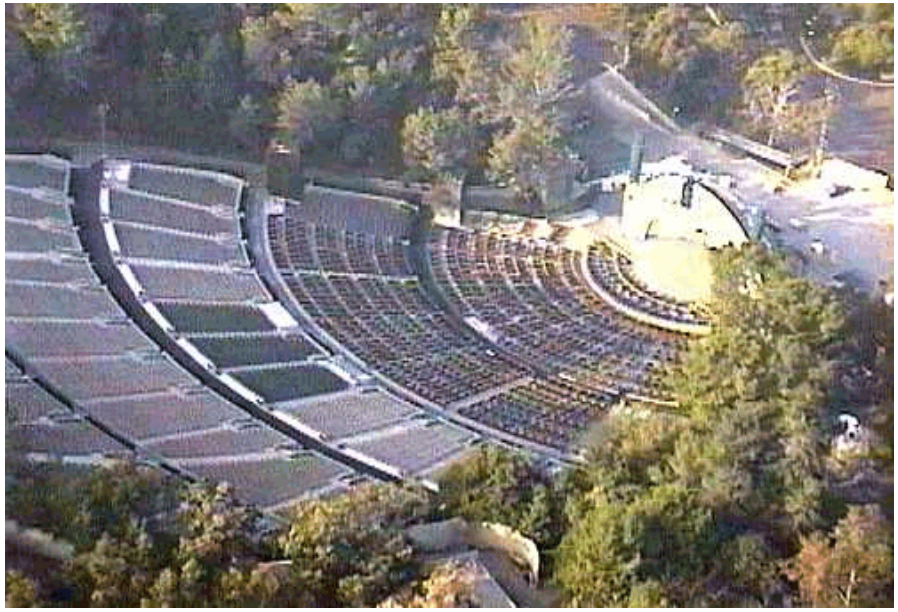
Purpose of Parable

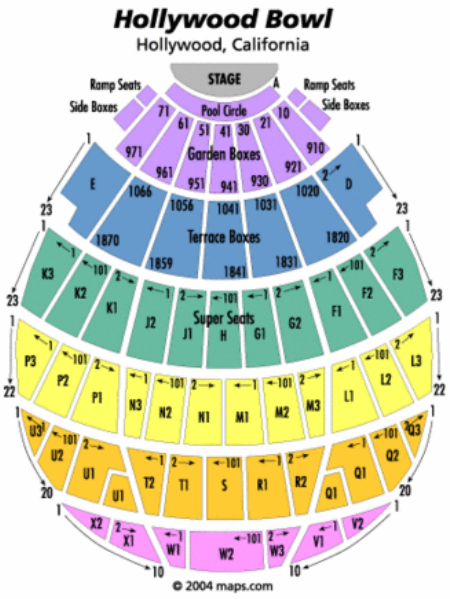
- Provides metaphor for mapping and visualizing whole organization
- Suggests three straight-forward steps to develop more complete picture of organization
- Offers accurate model addressing questions that senior executives grapple with:
  - *Does it take too long to communicate within your organization?*
    - These maps identify shortest formal leadership communications paths, providing alternatives to level-by-level cascade, whisper-down-line method
  - *Do you really understand comparative complexity of positions?*
    - Network analysis provides unique metrics, based on each position's place in whole configuration, that can be compared with budgets and performance measures
    - Offers quick view of which positions are under greatest stress, which jobs are most complex, most simple, and whether people properly equipped for real requirements of their jobs
  - *What is impact of proposed reorganization, large or small?*
    - Approach enables simulation of possible new designs, analysis of implications, and ability to compare alternatives
    - Quickly reveals how eliminating, adding, or changing jobs will impact organization
    - Provides alternatives to just putting organization into new configuration that often is compromise, not ideal

Parable is annotated with links to web pages from www.netage.com that describe conceptual basis for model and for OrgScope, the tool that illustrates and analyzes organizations as networks

Welcome to the Stadium

- "Org-chart blindness" prompts CEO to invite whole organization to stadium
  - Purpose is to build objective, life-sized model of complete 4000-person organization
  - Seat for every position, arranged in semi-circular tiers facing dais where CEO stands
- People arrive in street clothes wearing nametags, mingle

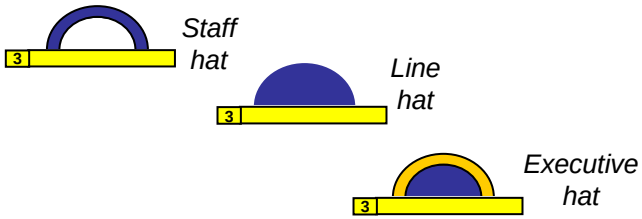




Stadium Parable 1: Seating the Hierarchy

- At CEO's signal, everyone takes seat labeled with position title and their name, dons uniform on chairs

  - Seats and uniforms in color of their functions, e.g., dark blue for Engineering; hats and coats indicate position type (staff, line manager, or "executive" manager)
    - "Staff" means no one reports to them; wear white hats and coats trimmed in function's color
    - Line managers wear hats and coats in function's color
    - Executive managers (lead other managers) have gold trim on coat shoulders and hats

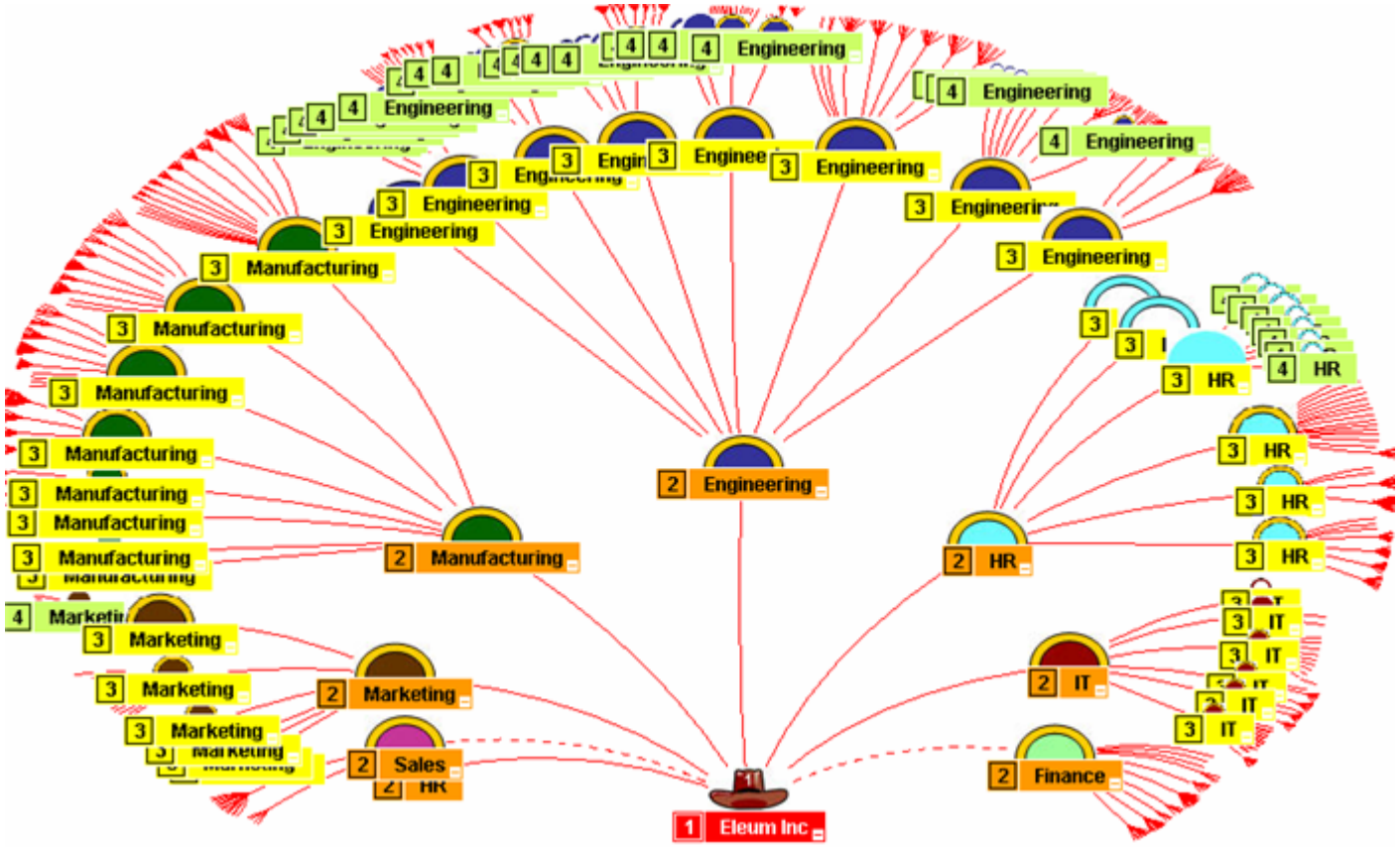


  - Everyone has team patches with group's level number (indicated by manager's level)
    - Managers have two team patches, one for teams they lead, one for boss's team
    - Staff coats have only one patch

- Everyone now seated in hierarchy of sub-organizations
  - Senior leadership team sits in orange Tier 2 in front of CEO's red Tier 1 on dais
  - Each senior leader's team sits one row behind, in yellow Tier 3
  - Each manager's team seated one row higher; pattern repeats for each manager, tier after color-coded tier
    - Hats also show position's level number (e.g., CEO=Level 1) and color (Level 2=orange) on brim

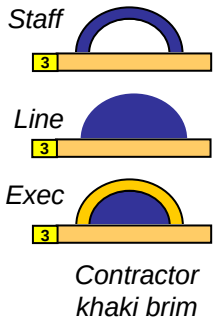
- Establishes simple orderly hierarchy where everyone has seat in interlocking sets of management teams

How the Hierarchy Appears in the Stadium



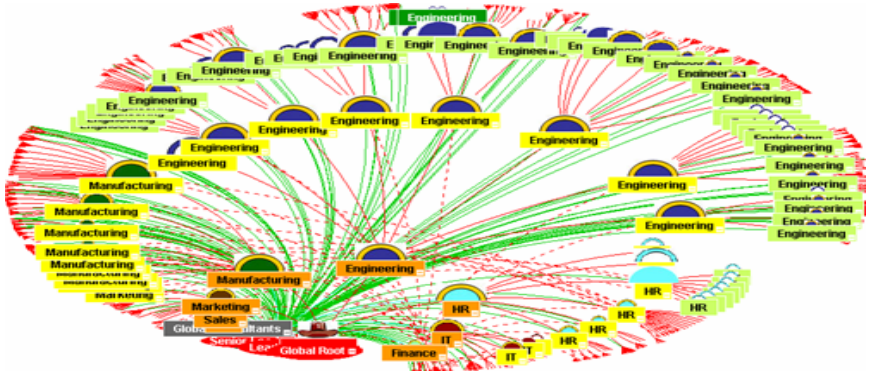
Stadium Parable 2: Adding Contractors

- Now CEO invites in contractors
  - Doors open all around stadium, walls push back, chairs appear for several thousand contractors who flow into all functions along all tiers
    - Contractor chairs and uniforms khaki-color and trimmed in color of functions
    - Contractors' uniforms and hats also show leadership status, except khaki brim
  - Existing teams and leadership spans swell, organizations balloon in size, and tiers broaden, lengthen, deepen
    - More of organizational pattern tumbles out of sight of front tiers
- Inclusion of contractors sets off flurry of activity as leadership enlarges
  - Many staff exchange white coats for line manager or even executive coats; some line managers add executive braid, reflecting increased level of responsibility for their positions
- CEO notes that each person's view limited by their seat's perspective
  - Steps between tiers steep, stadium vast, thus everyone's field of vision restricted by position
    - Even from front, only faces of first 100 or so people in second and third tiers clearly recognized
    - Farther out, individual faces harder to see, dots of color as upper tiers blur
  - Patterns that seem clear up close become indistinct, tumbling "over visible horizon" about three levels deep, depth of typical org chart



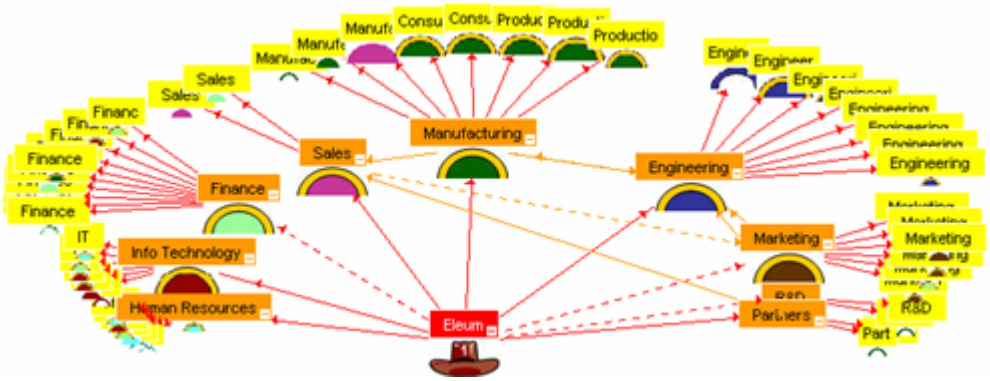
Stadium Parable 3: Adding Reporting and Team Links

- CEO asks people to connect formal relationships with other seats in four rounds:
  - Direct reports (solid-line); matrix reports (dotted-line); key teams; and basic workflow links
- First, each manager extends solid red ribbon marked with arrows from their chair to each staff member's seat, one tier above
- Second, managers extend dotted red ribbons to matrix reports (and gives each new team patches)
- Third, non-management team leaders, all those managing funded and authorized working groups, run green ribbons with membership arrows from their chairs to team members' seats
  - Many managers and large number of "white coats" extend green teaming ribbons
  - Team leaders repeat process to cover each team they lead
  - Team members receive patches for each team where they play role
- As more staff identified as team leaders, more people change uniforms
  - More don line-leader or executive uniforms; line leaders add executive braid indicating they manage network of teams
- Now more extensive true leadership network reveals itself from bottom-up, bringing great tangle of green lines connecting some stadium seats many times over



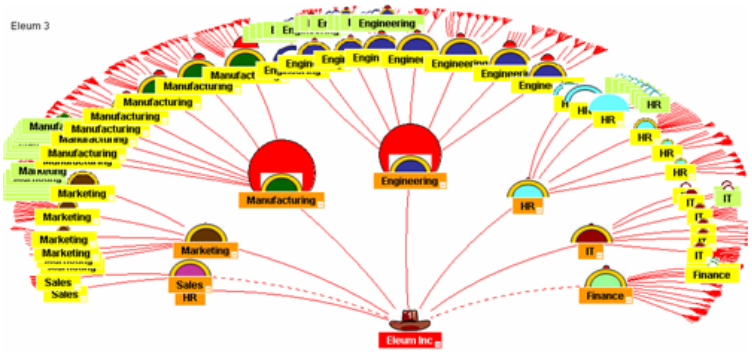
Stadium Parable 4: Adding Workflow Links

- CEO asks people to add implicit workflow links between their organizations and teams
  - Asks all management and team leaders to hold cards that read "Resource" or "Workflow" indicating each team's function type
  - Workflow team leaders string orange ribbons with arrows that point from their seats to their internal customer's seat(s)
- CEO watches as top-level workflow diagram forms in Tier 2 as R&D senior team leader ties orange-arrow ribbon to seat of Engineering team senior leader, who ties ribbon to seat of Manufacturing team leader, who ties one to Sales seat
  - Asks workflow team leaders to rearrange their chairs along tiers in order of process flow, resource/support functions to sit with team leaders
- Now operating network of teams lines up horizontally along internal critical paths, flowing from suppliers upstream to customers downstream to organization's ultimate external customer
- As with formal hierarchy, CEO and others see only snippet of workflow pattern a few links away, each team's horizon limited to its customer's customers and supplier's suppliers
- With exercise concluded, CEO invites all to Stadium Reception in Great Field that stretches behind stadium
  - People stay in uniforms, leave stadium, making plans with friends for evening event



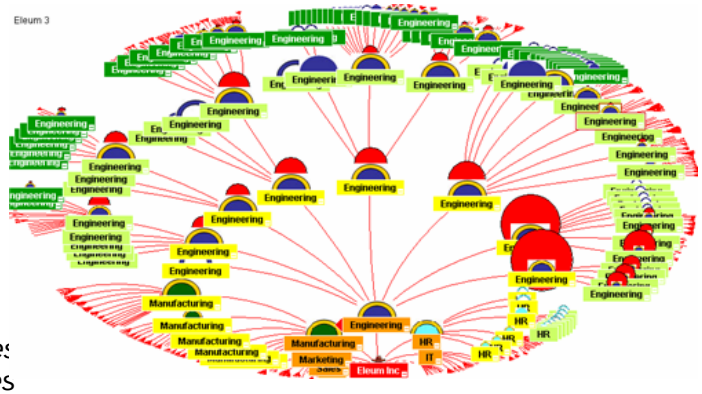
Stadium Parable 5: Seeing Whole from Any Seat

- Everyone gathers on field, mingling in familiar workgroups
- As sun sets, seats glow in hue of functional colors while ribbons linking them light up and pulse in direction of arrows
  - From field, real size of whole organization, multiplicity of teams, complexity of workflow, and true responsibilities of each position become apparent
- CEO brings attention to emerging network display, and notes big differences in size of major organizational components that fan out behind senior leadership team seats
  - Two functions comparatively huge and extend many tiers more, invisible to senior leaders
  - Top leadership posts mostly limited to three front tiers, under-representing big functions
- Encourages people to walk through tiers, look around from different vantage points, stopping at various seats to see what someone's real responsibilities are
  - Next to each seat is post listing position's basic network measures and distributions: level, size of sub-organization, span of direct and matrix reports, number of team member locations, number and type of links



CEO view of size

Red disk indicates comparative sizes of organizations

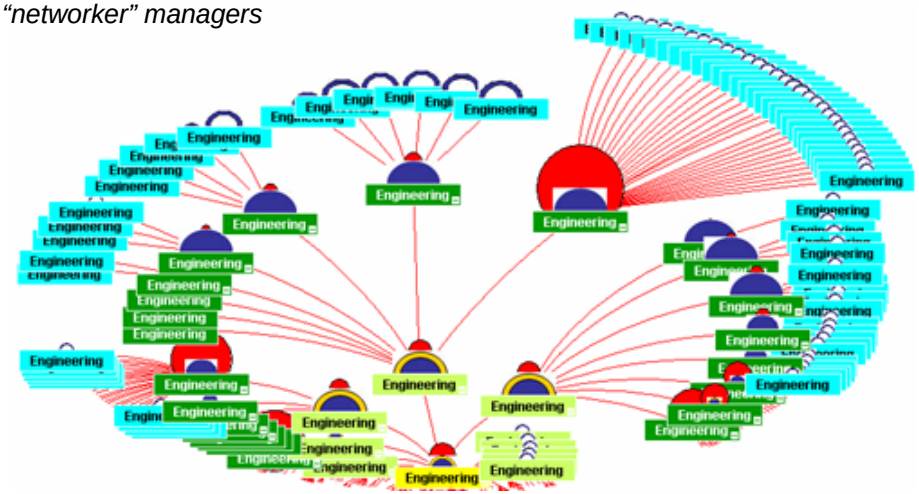


SVP Engineering view of size

Stadium Parable 6: Taking the CEO Perspective

- CEO encourages standing in front to look at whole organization network from Tier 1 perspective
  - See how organization gets wider as expected to middle tiers, but grows smaller with each higher tier, a great diamond taking shape between first and last level
  - Note high-intensity colors of "size hub" leaders of large organizations, some near front as expected but surprising number evident many levels out in larger functions
  - Notice also the "networker" seats with many direct connections, positions with a large circle of links just "one-degree of separation" away, arrows pointed both in and out
    - Even one-link hierarchy has very high-span managers
    - See how these "networker" positions seem to bind the whole organization together, each working link indicating a personal relationship?
  - Especially intense are hotspots, positions with large size and high degree of connections

Red disk indicates comparative spans of "networker" managers



VP Eng view of span

- Lights flicker and people turn to gather with friends for dinner
- As stadium lights dim, chairs and ribbons remain in shrouded darkness, ready for occupancy by next day's cast of characters

The Value of Building the Stadium Model

- Map of whole organization allows people to make decisions and choose to act within shared context
  - While useful for everyone, the “view of the whole” is mandatory for those with executive roles—positions that lead leaders, as identified by real organizational structure
  - Executives, on the order of only 5% of positions, tie senior-level strategy to “remaining” 95%, tactical teams of line leaders and staff that execute it
- Organization already has much of data needed to construct its own “virtual stadium” model in three steps
  - Each step brings rewards in improved understanding, design, and decisions
  - Getting started is particularly easy and rewarding

Build Stadium Model in Three Steps
Steps 1 and 2: Map All Positions

Step 1: Map the hierarchy

- Map basic reporting hierarchy as network, whole enterprise as single org chart
- Relatively easy to do as basic data of employee positions and whom they report to is usually housed in several enterprise information systems
- Hierarchy map provides "ground truth" of organization's terrain, which shifts and changes with each refresh of baseline data
- As one layers information onto physical-surface terrain maps in apps like Google Earth, so does one add more layers of organization information

Step 2: Map the contractors

- Great workplace shift underway reducing number of employees and increasing number of contractors; jobs once held only by employees now go to contractors.
- Contractors appear in every function at every level in increasing numbers
  - Despite their necessary contributions, contractors are rarely already in the data system that holds the org chart of employees
  - While enterprise financial systems typically bury contractor "heads" within total contract fees, IT systems give essential contractors access to computer network as registered users

Step 3: Layer on Networks of Working Relationships

- Step 3: Map the relationships
  - Positions connect to other positions through multiple established relationships—direct reporting, matrix, team, and workflow links
    - Direct - Gold standard is link that generates paycheck: direct, solid-line, singular reporting relationship, found in most enterprise data systems. Already in place in Steps 1 and 2.
    - Matrix - Next most formally (and frequently) recognized link is matrix relationship, dotted-line report. Rarely captured in any data system; tend to be relatively few in number and not that difficult to collect
    - Team - Augmenting formal management-team network are all other teams where work gets done. While rarely captured as such, IT has much of it housed in permission lists, access to shared files, team room memberships, and the like
    - Workflow - Complete picture of organization's built-in complexity by mapping horizontal workflows. Critical links between sub-organizations and teams, few in number and not likely to change often

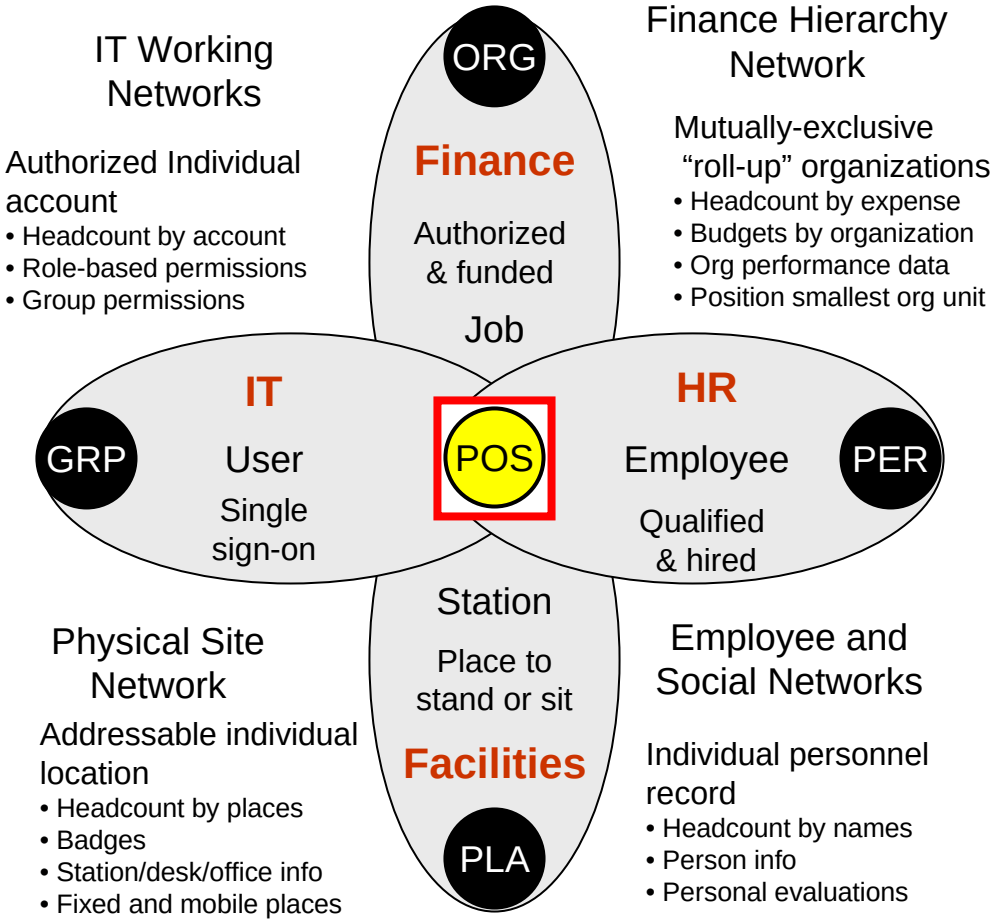
How Hierarchy Mapping Influenced One Organization

- Here's what one organization of 5000 people, working across eight countries, discovered when it mapped its formal hierarchy (Step 1)
  - **Shorter communication paths:** direct to managers
  - **Highly-connected managers:** A few "span hubs" spoke to much of organization on a regular basis
  - **Managers with largest organizations:** Buried deep in hierarchy, these people were not part of existing leadership development programs
  - **Managers missing from leadership forums:** Again, because of their placement deep in organization, people with unusually large or complex leadership responsibilities were not visible
  - **The truly virtual teams:** By comparing locations of members, distributed management teams could be identified
  - **The people at risk:** By comparing measures of organization size, span, and physical distribution, they were able to spotlight positions where people's loads were unusually complex, dubbed "hotspots"

IT Integrates Data on Real Networked Organization

One position: one job, one person, one user, one place

- **Finance** views position as authorized job, "head" with cost to be attributed to budget held by logically distinct sub-organization.
- **HR** sees people, positions filled by individuals who are employees that compile personnel records.
- **IT** treats people-in-positions as users with permission profiles based on multiple roles and group memberships, and, increasingly, single sign-on.
- **Facilities**, often part of Finance, matches position with place, traditionally fixed station or desk, which is often related to job-required capabilities or assets, association that is getting more complicated in "age of the network"



Position (POS) is "seat" that is a common point of reference for enterprise data systems

Five Node Types
POS = Position
ORG = Organization
GRP = Group
PER = Person
PLA = Place

OrgScope Demo: Technology for Visualizing and Analyzing Organization Networks

Seeing Detail in Context Hyperbolically

“Seeing is believing”

Detail in Context:
A way to see positional “trees” in the context of their organizational “forests”

The OrgScope display is a hyperbolic viewer. An organization is spread on a transparent globe which the user can “fly” over

“Hyperbolic trees are very valuable to visualize hierarchical structures such as file directories, web sites, classification hierarchies, organization hierarchies, newsgroup structures, etc. While traditional methods such as paging (divide data into several pages and display one page at a time), zooming, or panning show only part of the information at a certain granularity, hyperbolic trees show detail and context at once.”

Ref InfoVis

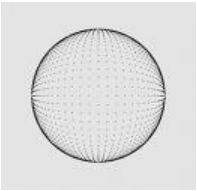
Seminal paper on hyperbolic visualization of complex information:

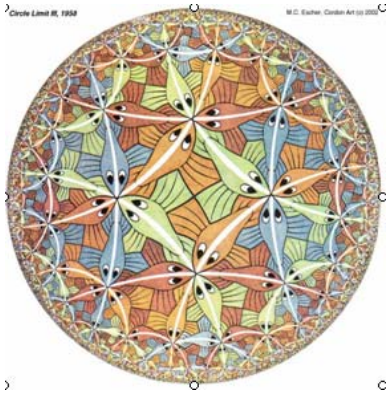
John Lamping, **Ramana Rao**, and Peter Pirolli (1995) “A focus+context technique based on hyperbolic geometry for visualizing large hierarchies.” In *Proceedings of the Conference on Human Factors in Computing Systems*, 1995, 401-408.

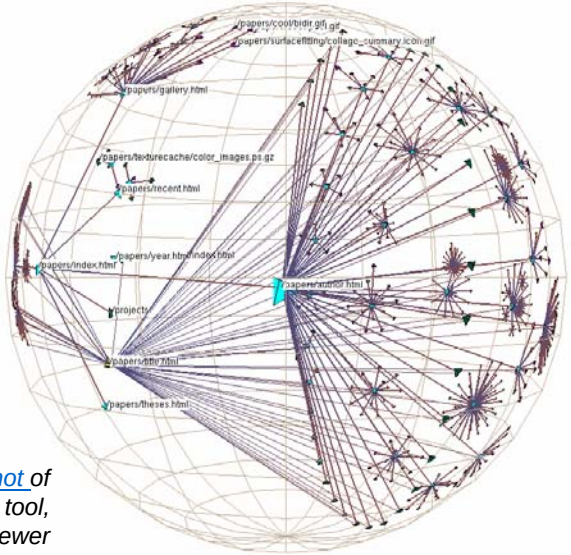
Ramana Rao, youngest member of John Seely Brown’s team at Xerox PARC, was one of founders of Inxight (that makes OEM platform for OrgScope), and who advises NetAge on tool development

“Hyperbolic graph layout uses context + focus technique to represent and manipulate large tree hierarchies on limited screen size. Hyperbolic trees are based on Poincare's (1854-1912) model of (hyperbolic) non-Euclidean plane.”

M.C. Escher (1898-1972) created original art using non-Euclidean perspective

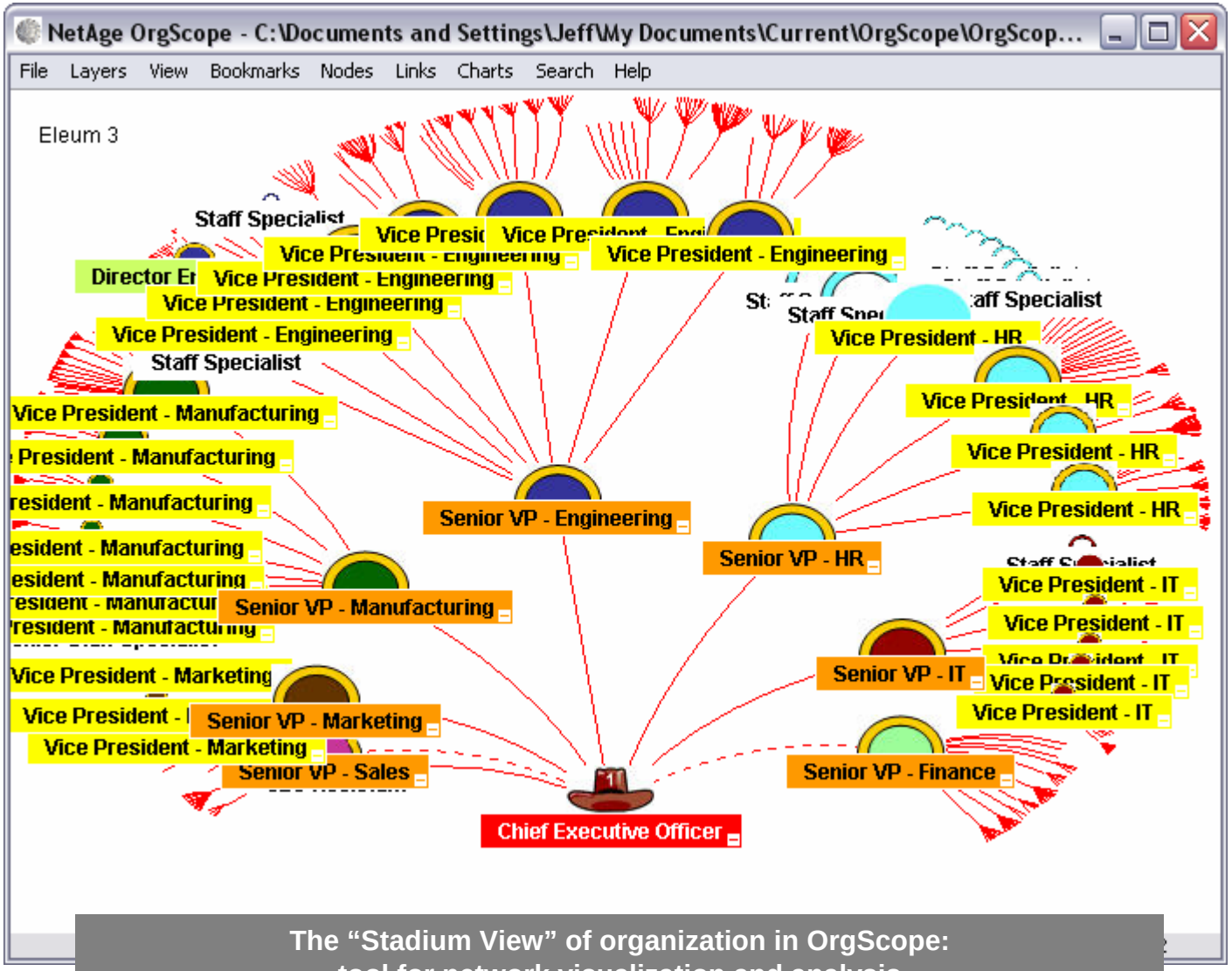






Snapshot of an early tool, H3 Viewer

The Virtual Organization Stadium Demo

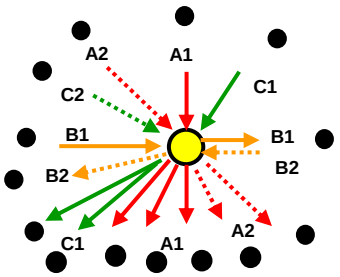


The "Stadium View" of organization in OrgScope: tool for network visualization and analysis

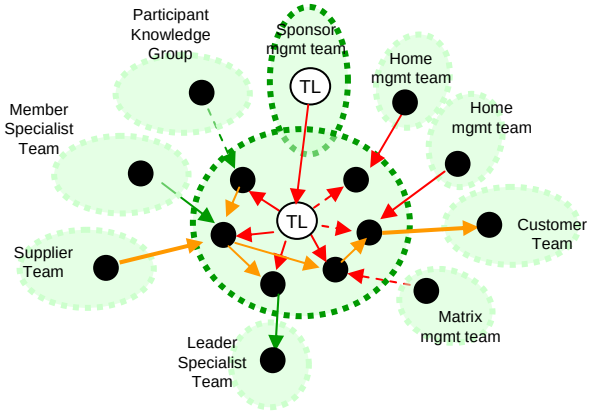
Working Organization as a Network of Teams

Three Scales of "One-Degree" Circles of Relationships

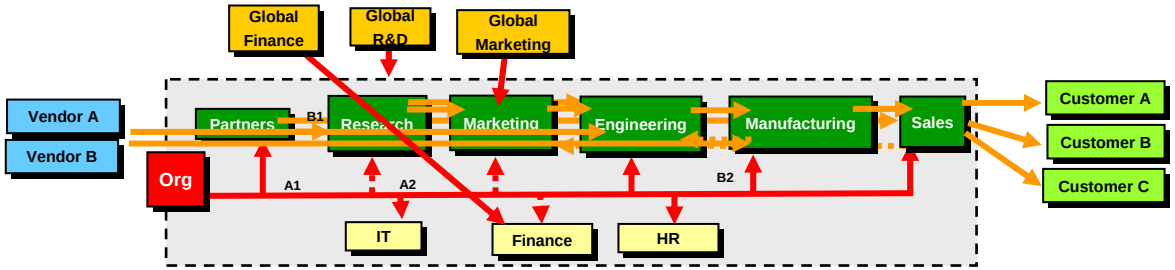
- **Positions** have a 1° network of incoming and outgoing links that represent membership and workflow roles



- Positions in **teams** may connect to positions in other teams, which establishes a team's 1° network of team relationships



- Positions may connect to positions in other **organizations** and thereby establish part of an organization's 1° external network of customers, vendors, regulators, partners



Hierarchy of Teams:
Formal Organizations Are Interlocked Management Teams

Team Leaders with direct reports are “managers” of their “management teams.” These management teams spring directly from solid-line boss-employee relationship

Hierarchy is a structure of management teams interlocked by manager positions

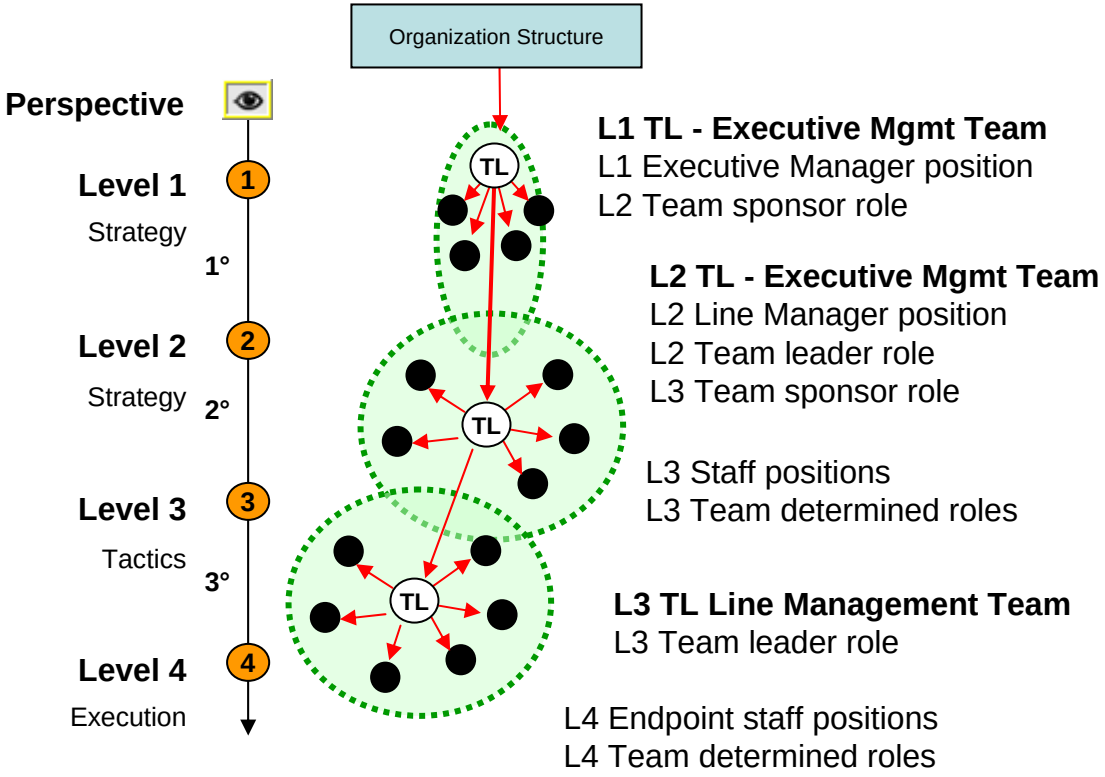
A position represents:

- an exclusive vertical organization membership **link**
- an organization title **role**
- leadership or membership in a management **team**

The vertical flow of authority through the mutually-exclusive “paycheck” link creates interlocked set of teams made up of managers and their staff

Staff without reports may operate at any level

All managers are line managers to their staff - “my boss does my performance report” - is as true for a VP as it is for a front line worker



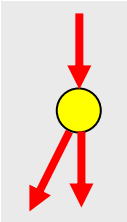
Counting Real Working Responsibilities

A + B + C

What is my real management load?
Is mine a hub position? Depends on the links you count

How the hierarchy sees my position

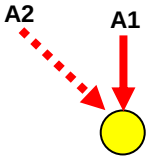
My real responsibilities



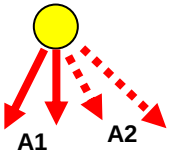
Direct Span = 2

Conventional manager measures

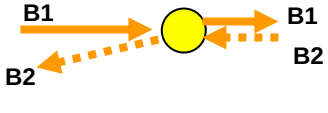
My bosses



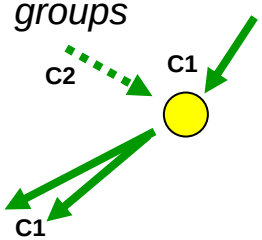
My reports



My suppliers and customers



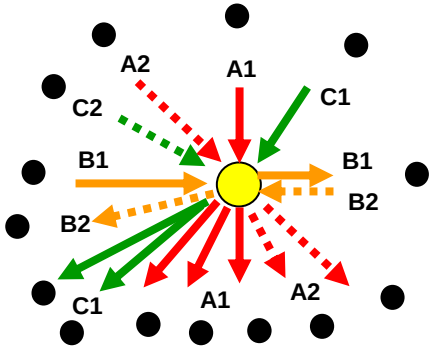
My key groups



Matrix span = 4

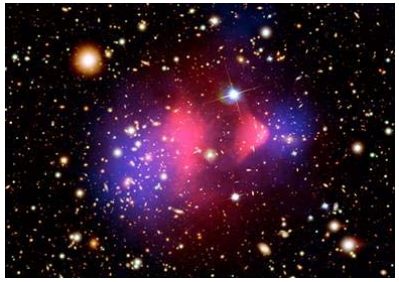
All report links = 6
All process links = 4
All group links = 4

Total Position degree = 14



A position's 1-degree circle of relationships

Contractor "Dark Matter"

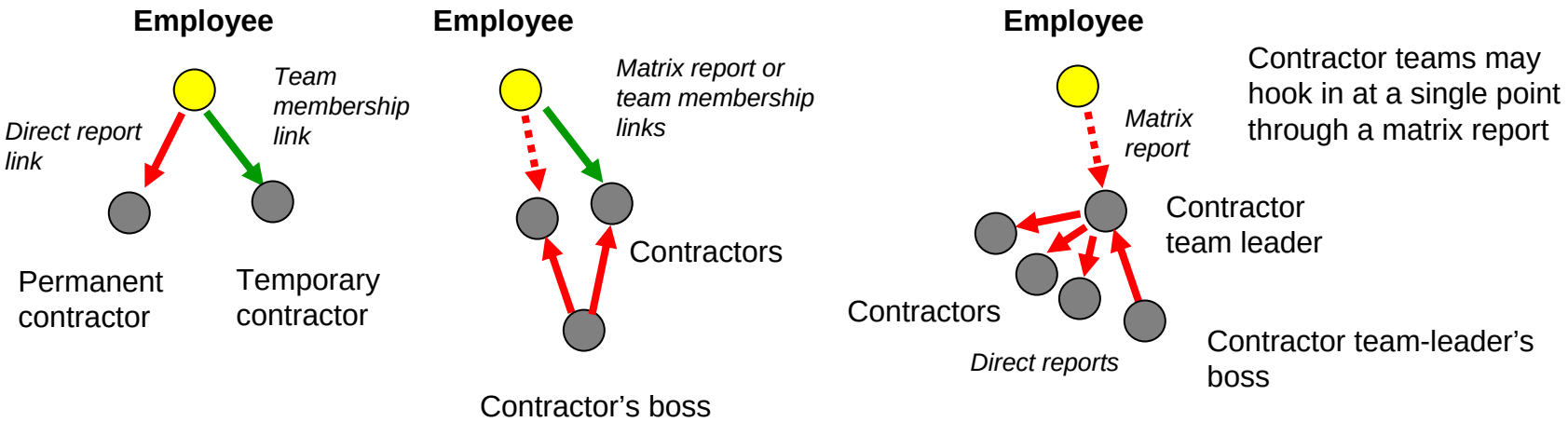


Two galaxy clusters colliding, revealing 1st "picture" of dark matter, by Chandra X-Ray Observatory, reported on 21 August 2006

Contractors are rapidly becoming significant parts of organizations, and, like "dark matter," can't be "seen" in typical enterprise data systems. Yet contractors have powerful "gravitational" effects on management load, communications patterns, and performance

You know how many employee seats you have, but do you know how many contractor seats you have? And where they are? And the pattern of change over time?

Should contractors be hooked to the org chart? If so, how?



Interlocking Team Networks Establish Overall Structure

Old model of employees doing all the work of the organization in a single rigid configuration is gone but not forgotten

Early 21st century work is performed by network of teams populated by employees, contractors, and partners

Management hierarchy

Interlocked management teams, baseline hierarchy of (fiscal) accountability with singular direct reporting link

Matrix hierarchy

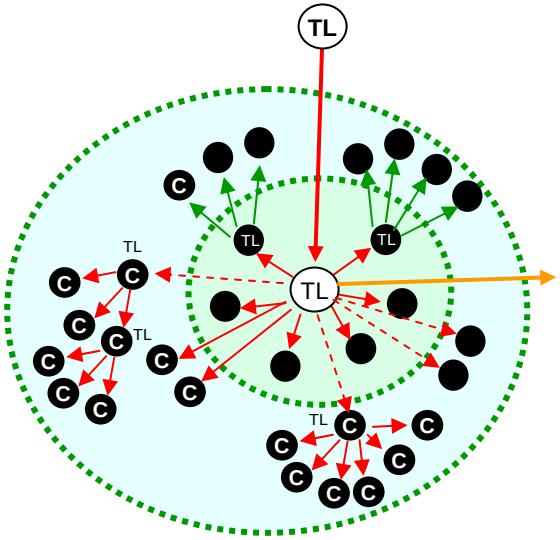
Matrix management teams interlocked cross-organizationally, secondary hierarchy of responsibilities

Network of team leaders

Specialized resource and workflow teams required to complete the overall organizational purpose

Contractors

Non-employee positions may be few or many in number playing roles throughout the team organization and significantly impacting operating network and its team leader



How big is this line manager's team?

From a 2-level line management team of 7 employees to 4-level executive leadership organization of 25 positions with mixed membership links creating 5 additional relative leadership roles

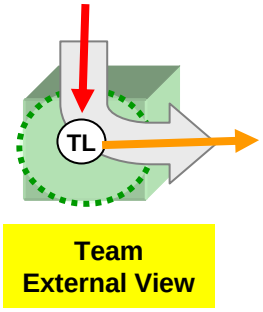
Purpose Flows From Authority and Work Process

Purpose for a team has two parents:

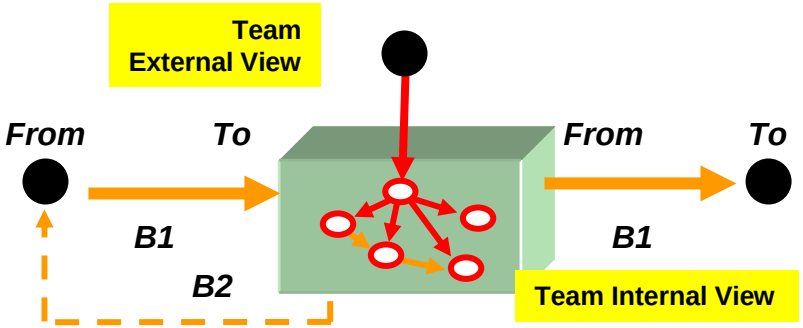
(1) a mission directed from a vertically-linked executive sponsor; and,

(2) a result produced in the horizontally-linked workflow from suppliers to customers

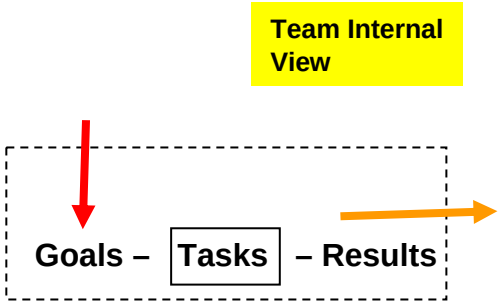
Purpose flows from authority and work in a purpose-driven work process

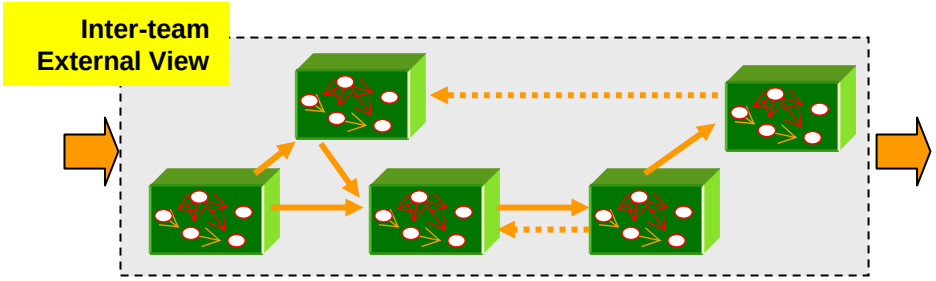


Curve of Purpose
- Mission from superior
- Result to customer



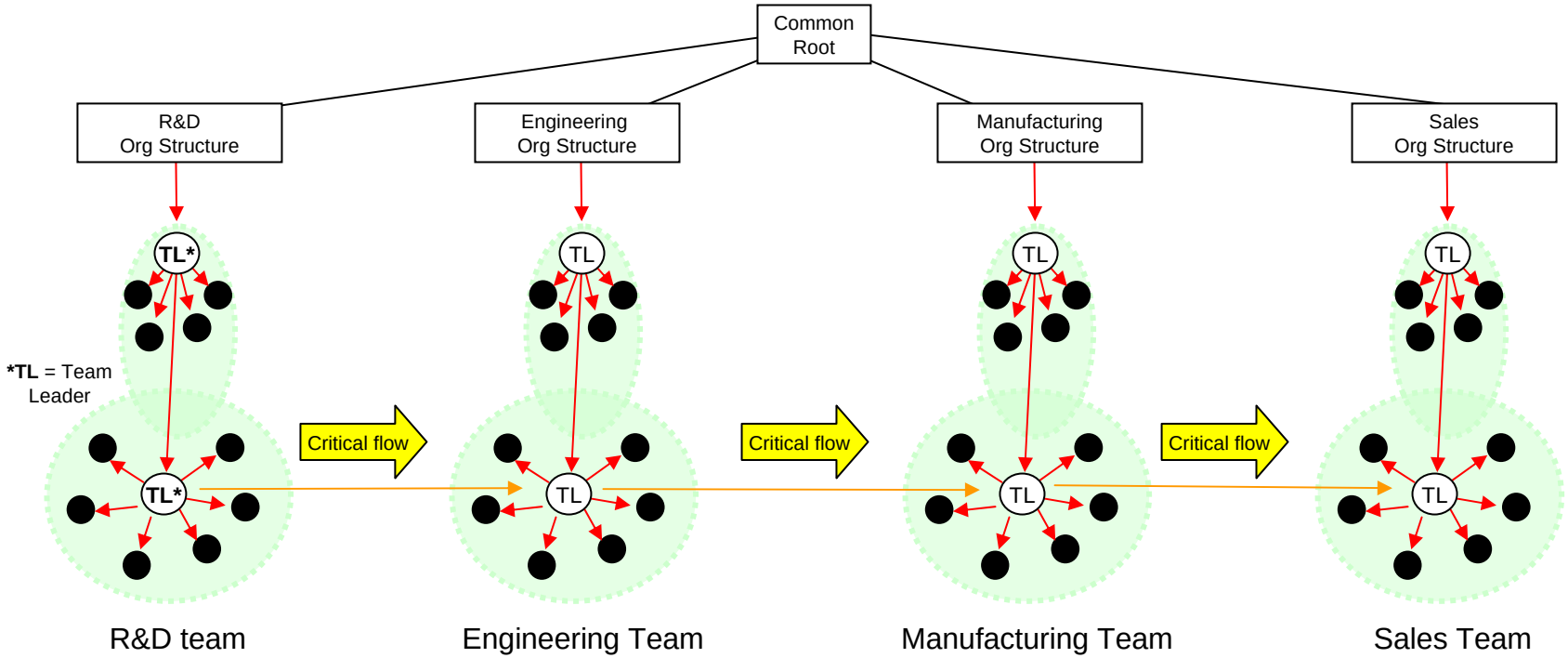
Team Internal and External Workflow Links





Team Workflow Network

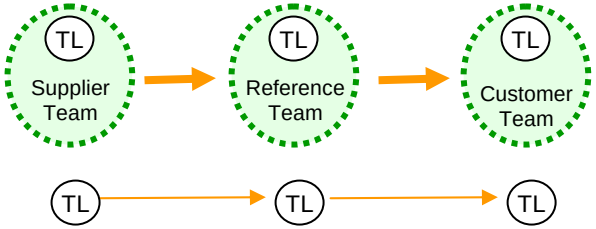
Critical Path TeamNet Workflow



Workflow links map the workflow between teams, some chain of which must add up to the overall input-output system of the organization as a whole

All complexity of team's internal workflow can be simplified as an external process flow between two team leaders who represent the respective supplier-customer teams

External inter-team critical-path workflow



Tactical leadership workflow

Virtual Teams Today

"Can Absence Make A Team Grow Stronger?"

- Comprehensive, best-practice study of "far-flung" teams
  - Core work not done face-to-face
  - Membership changes over time
  - Cross-function, -discipline, -organization
- Researchers posed two kinds of questions:
  - People: Management practices?
  - Tools: Technology features?
- Collaboration of university researchers Majchrzak (USC) & Malhotra (UNC), Society for Information Management (SIM), and NetAge
- 54 teams from 26 primarily global companies across 15 industries
- "Can Absence Make a Team Grow Stronger?" - Harvard Business Review, May, 2004

HBR Article: The Three Rules of Far-Flung Teams

Rule no. 1: Exploit diversity

Rule no. 2: Use technology to simulate reality

Rule no. 3: Hold the team together

Industries

- High-Tech
- Industrial manufacturing
- Telecommunications
- Consumer products
- Chemical
- Automotive
- Engineering design
- Medical device manufacturing
- Consulting
- Printing
- Financial services
- IT research analysis
- Health care
- Non-profit
- Logistics

Companies

Agilent • Air Products • AMP • Childrens Health • Digitas • Dupont Dow • Emery • EDS • Freelances • Fullcircle • Gartner • GSK • HP • Heidelberg • IDS Scheer • IBM • Intel • International Truck & Engine • Kraft • LDS Church • Lucent • Marinos • Medtronic • MSC • Motorola • NGIS • RFG • RealWorldSystems • Shell Chemicals • Tektronix • Unilever Latin America • Verizon

Case Study: It *Is* Rocket Science

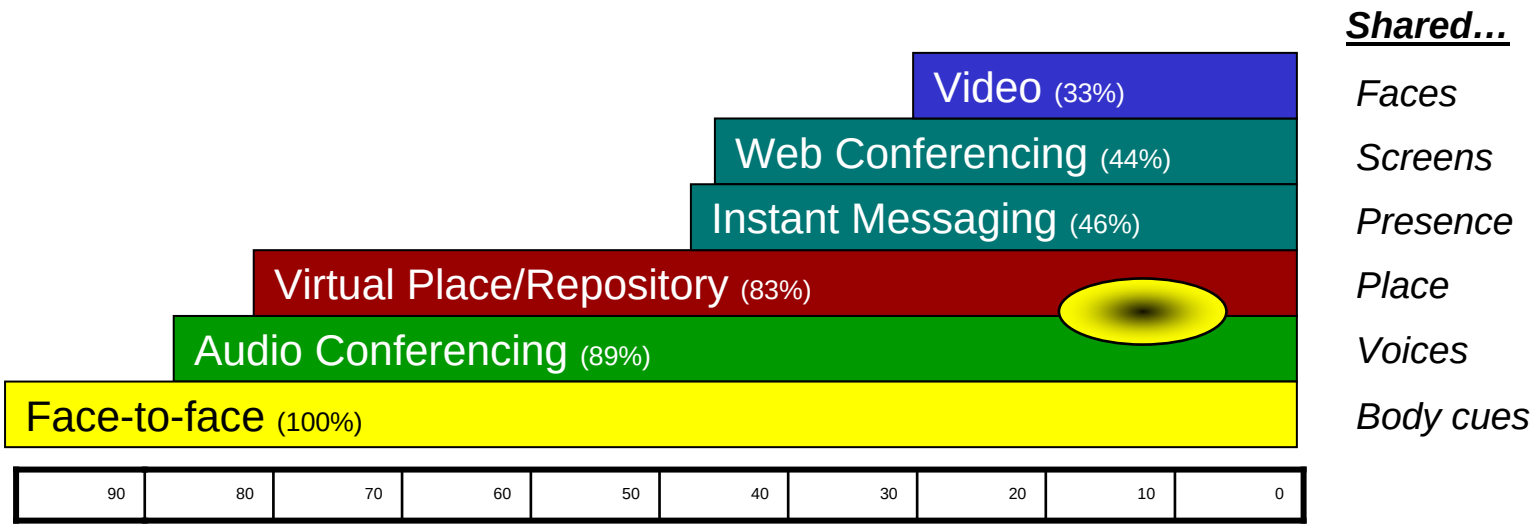
- Boeing-Rocketdyne project to build new rocket engine
  - Recruited two experts from outside Rocketdyne location
- Came up with breakthrough design for thrust chamber and turbo pumps that reduced:
  - Number of parts from 100s to a few
  - Design time to 10% of schedule
  - Number of hours to 1% of normal
  - Manufacturing cost by millions
- Q: How did they do it?
  1. Weekly face-to-face meetings, or
  2. Working at a distance, no face-to-face

1. Exploit Diversity

- Make the most of people's differences
- "Storm to form," not "form to storm"
- Engage detailed conversations
- Allow conversations to wander
- Use team assessments; share results among members
- Rotate pairs who don't know each other on subtasks
- Pair people with differing perspectives
  - Greater differences in pairs working together produced breakthrough solutions

2. Use Technology to Simulate Reality

- Combine teleconferencing (86%) with virtual workspace (83%)
- Instant Messaging used by 50% even when prohibited
- Videoconferencing used by only one-third
- Online threaded discussions used between meetings
- E-mail poorly regarded for team communication



Note: % Use of Technology Characteristics from Far-Flung Teams Study, SIM Benchmarking Study, reported in Harvard Business Review, May, 2004

3. Hold the Team Together

- Communicate daily, intensely
- Adopt common language
- Blend work processes of members
- Encourage cultural descriptions, expressions (e.g., Portuñol)
- Protect members by agreeing time commitments with their managers
- Orchestrate conference calls as “can’t miss” events
  - Begin with news, unexpected query to “get voices in room”
  - Introduce topics that generate heat
  - Discourage status reporting
  - Actively encourage conversation
  - Close with “self-propelling endings”

Virtual Team Principles

Enterprise and Team Collaboration Requires New Principles, Behaviors, and Tools

Use four common principles to …

Why and What?

- Goals
- Tasks
- Results

When?

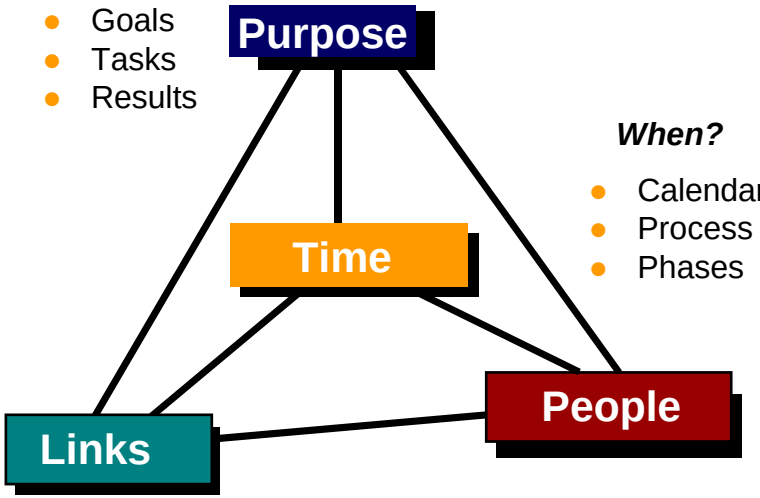
- Calendar
- Process
- Phases

How?

- Media
- Interactions
- Relationships

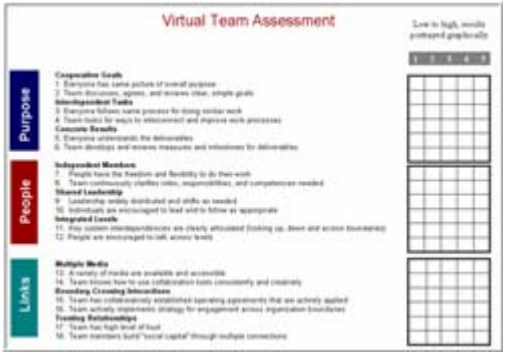
Who?

- Members
- Leaders
- Levels



… help shape technology

… help develop virtual team behaviors



Network Model as a System

	Inputs	Processes	Outputs
Purpose	Goals	Tasks	Results
People	Members	Leadership	Levels
Links	Media	Interactions	Relationships
Time	Calendar	Projects	Life Cycles

Virtual Team Assessment: How Are We Doing?

Purpose	**COOPERATIVE OBJECTIVES**	1. Everyone has same picture of overall purpose
	INTERDEPENDENT TASKS	2. Team discusses, agrees, and reviews clear, simple goals 3. Everyone follows same process for doing similar work 4. Team looks for ways to interconnect and improve work processes
	CONCRETE RESULTS	5. Everyone understands the deliverables 6. Team develops and reviews measures and milestones for deliverables
People	**INDEPENDENT MEMBERS**	7. People have the freedom and flexibility to do their work 8. Team continuously clarifies roles, responsibilities, and competencies needed
	SHARED LEADERSHIP	9. Leadership widely distributed and shifts as needed 10. Individuals are encouraged to lead and to follow as appropriate
	INTEGRATED LEVELS	11. Key system interdependencies are clearly articulated (looking up, down and across boundaries) 12. People are encouraged to talk across levels
Links	**MULTIPLE MEDIA**	13. A variety of media are available and accessible 14. Team knows how to use collaboration tools consistently and creatively
	BOUNDARY-CROSSING INTERACTIONS	15. Team has collaboratively established operating agreements that are actively applied 16. Team actively implements strategy for engagement across organization boundaries
	TRUSTING RELATIONSHIPS	17. Team has high level of trust 18. Team members build “social capital” through multiple connections

Six Key Behaviors to Keep in Mind

Purpose

1. Everyone shares same picture of overall purpose
2. Everyone follows same process for doing similar work

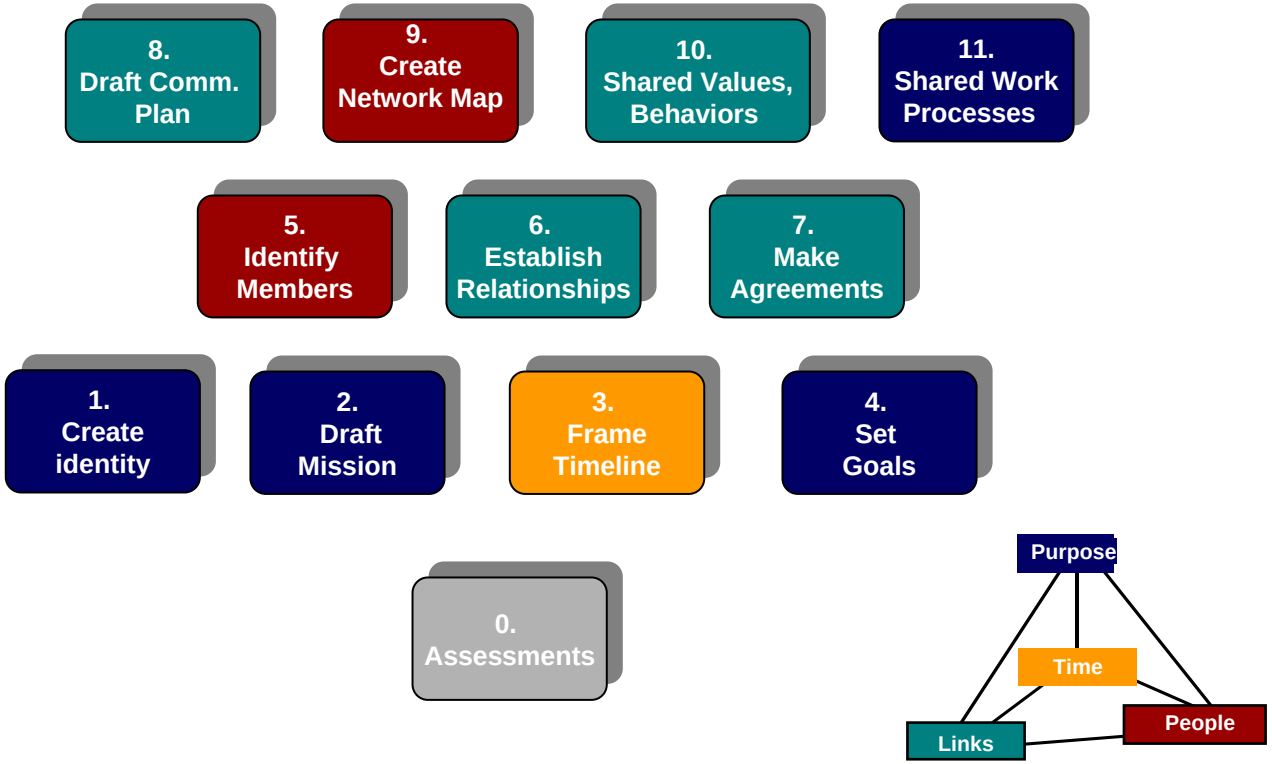
People

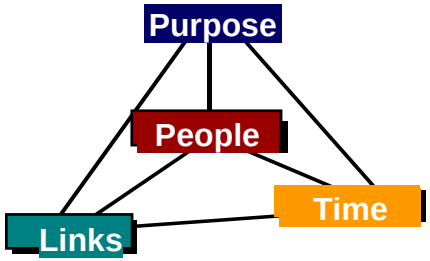
3. People have the freedom and flexibility to do their work
4. Everyone continuously clarifies roles, responsibilities, and competencies needed

Links

5. People collaboratively set operating agreements that they actively apply
6. High level of trust enjoyed by everyone

Building Blocks for High-Performing Virtual Teams

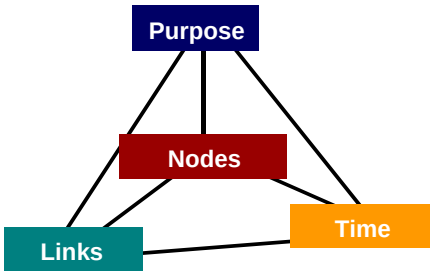




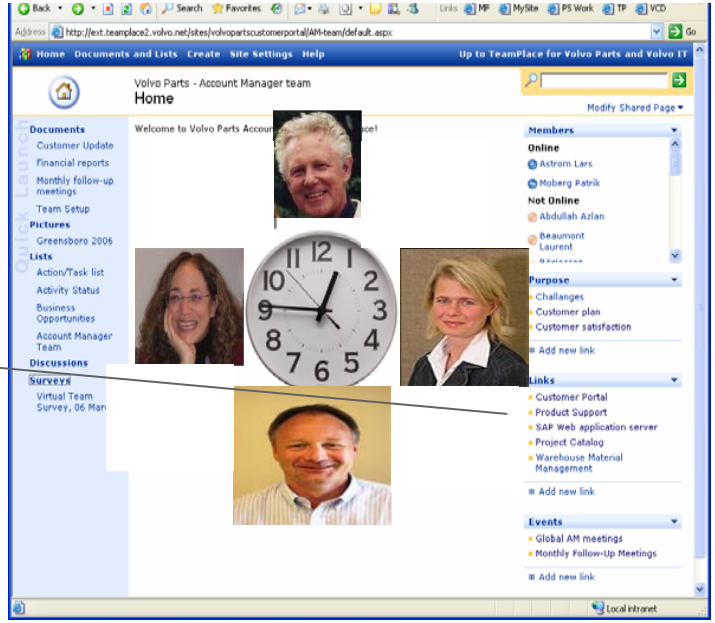
The Model at NetResults Launch

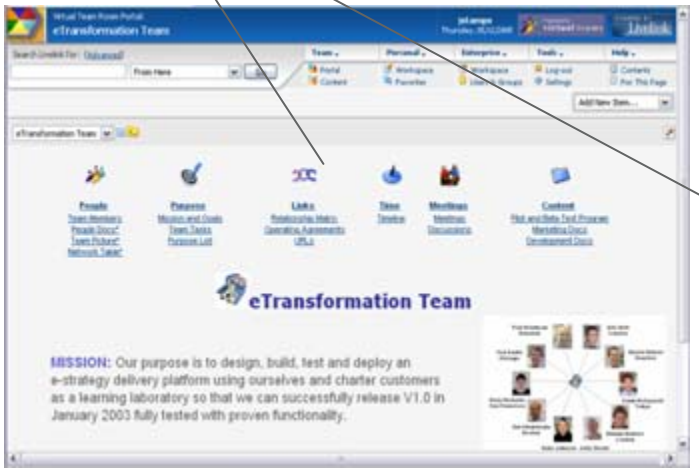
		August 26 Thursday	*August 27 Friday*
AM	Overview of process and interviews, brainstorm purpose and issues	System-team workshops ("fair") and agency cluster meetings	Affirm top 4 plenary goals, develop outcomes, and identify tasks
PM	Develop goals and communication options for plenary, finalize design and hand-outs	Develop network vision; multi-vote on goals and decide how to link (communication channels)	Endorse mission, choose network name, identify people, assign tasks on cross-boundary process map, and agree timeframe for next steps

Principles Provide Consistency When Teams Work Online



Sharepoint/Volvo IT





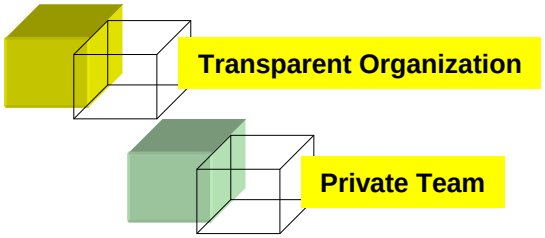
Livelink virtualteams/Shell

Confluence Wiki

Team Rooms Remember Personal Know-How

People, Teams, and Organizations Need Team Rooms

- Team rooms support people-in-positions, teams, and organizations
  - For people: team rooms meet the traditional need to support both social and task aspects of doing work together
  - For teams: Digital team rooms that capture the full range of internal structures and processes (people, purpose, links, time, meetings, and content) serve the need of the team as a whole to produce results
  - For organizations: Virtual rooms serve the organization's needs by encoding the local team knowledge and enabling inter-team interactions—at a fraction of physical space
- Virtual team rooms can retain role-based tactical knowledge as it operates daily and over time through a changing cast of characters
  - This supports new people coming into existing roles, enables teams to retain and improve local knowledge and processes, and serves the organization's need to hold onto the practical knowledge generated by people doing their job.

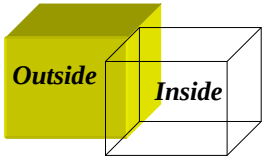


Transparent Organizations, Private Teams

Organizational structures and processes need to be as transparent as possible to its members in an internal public space

Teams need private spaces to do their work before presenting results to other teams within the organizational public space

Organization external "public" surface is available to "outside" observers, e.g., the external Internet web site



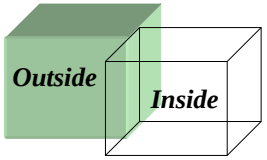
Org has private inside that is open and "public" to org members, e.g., the internal Intranet

Transparent Organization

Inside-org-outside-team internal enterprise collaboration space transparent to members

Enterprise collaboration takes place in the inter-team organizational spaces, while intra-team collaboration takes place within team rooms

Team has public face and external communications to other teams and the org as a whole



Team has private space inside, public to "insiders," with internal communications

Private Team

Outside Team Rooms

- Organizations need to be as transparent as possible to its members so people can make good local decisions that work in the strategic context of the whole
- Organizations seek simplification of local tactical complexity to manage the global complexity
- Organizations need basic information about each team's membership and purpose

Inside Team Rooms

- Teams need private ("back stage") places to work and prepare for the team's output performance ("front stage")
- Teams need back stage places to create identity, socialize new members, and recognize personal status
- Teams are the keepers of the organization's role-based knowledge

Team Rooms Must Support Both Social and Task Factors

Independent people have skills and experience they bring to a job-position with one or more roles

Interdependent positions have relationships played as roles in structures and processes within and between teams

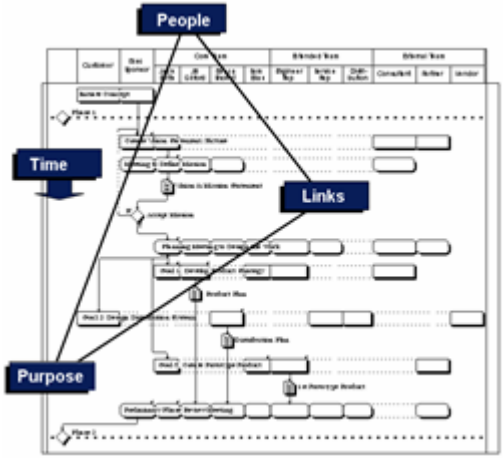
People Factors

A virtual teams methodology and its associated training must include deep attention to people factors. "It's all about the people" is as true of the new distributed way of working in virtual as it has always been with physical places. Historically, three key factors of team formation and persistence have been associated with a shared place:

- **Identity**
  "Shared but secret information" separates members ("us") from others ("them")
- **Socialization**
  New people become members of a group through "controlled access to group information"
- **Rank**
  According to tradition, authority is highly dependent on access to exclusive places that houses special knowledge

Task Factors

A virtual teams methodology includes formal and informal ways to collect, or create, key information regarding the who, what, why, and when for a team. Digital virtual team rooms are essential and the methodology should help shape basic common team room architecture

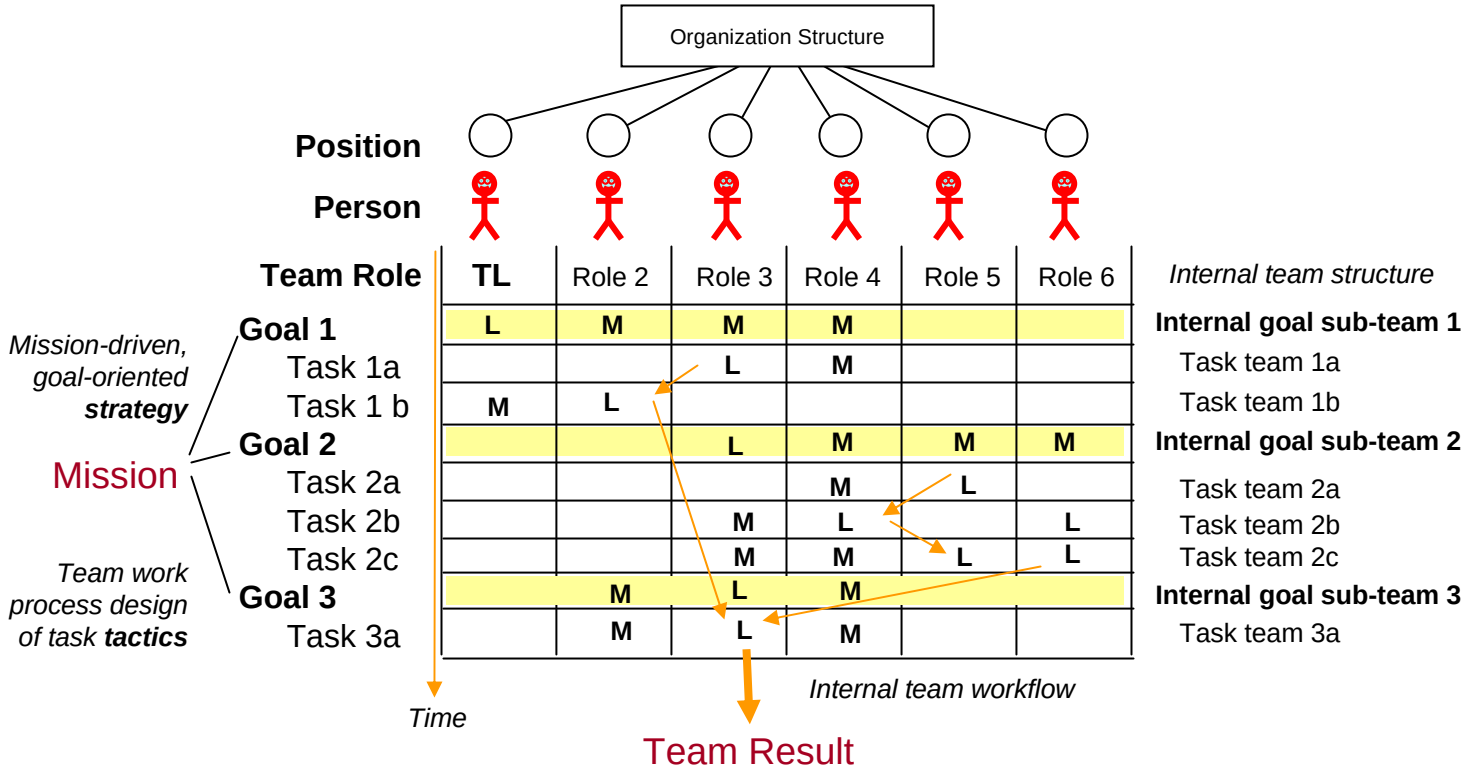


Role-Based Work Network Inside Teams

Teams are the source and repository of an organization's "how-to" practical knowledge

Enhanced Deployment Flow Chart

A.k.a Relationship Matrix

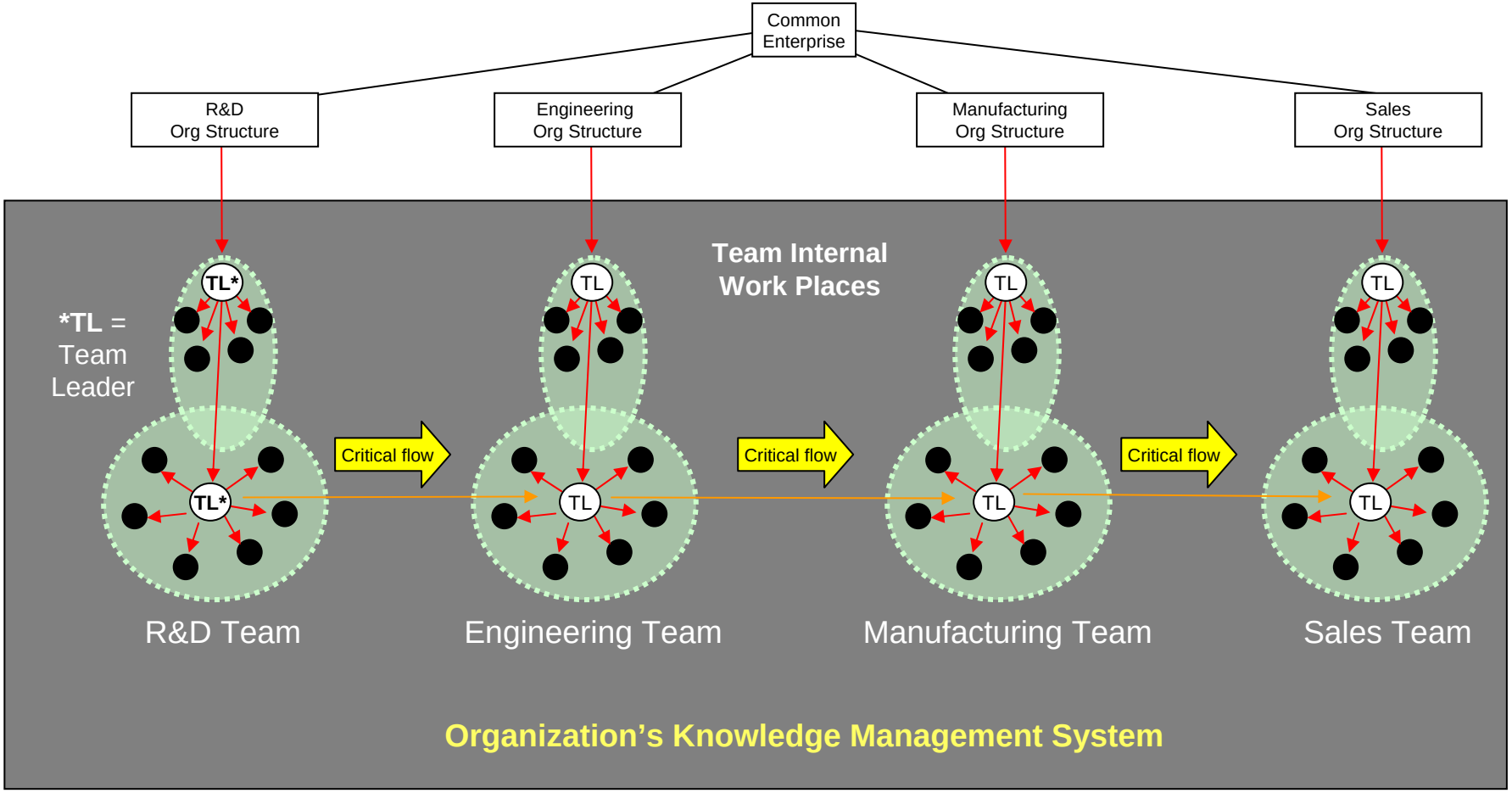


Triple-Tag (Who) Each Knowledge Contribution (What)

Every message, post, or other interaction that passes through team room has three simultaneous "authors:"

- a person, you and me
- a position in organization at that time, your job
- a role in a team, the group context of your contribution
  - A position represents a "title role" in your line manager's team

Embed Network of Teams in Enterprise KM

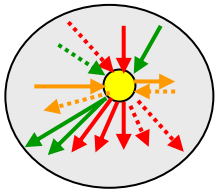


Are You Using or Losing Your Critical Knowledge?

Who Benefits From Team Rooms and Role-Based Workflow?

- **Incoming** people to a new position
  - Introducing new hires to their job's organizations and teams
  - Existing employees and contractors moving between positions learn new roles in the context of new teams

How do people learn new jobs? How fast? How well? How will they shape it?



- **Changing** people's position responsibilities
  - People changing with position's place in organization network structure (e.g., my unit got moved)
  - Changes in position's roles (links) in team resource-workflow patterns (team focus changed)
  - Organizational redesign (strategic changes)

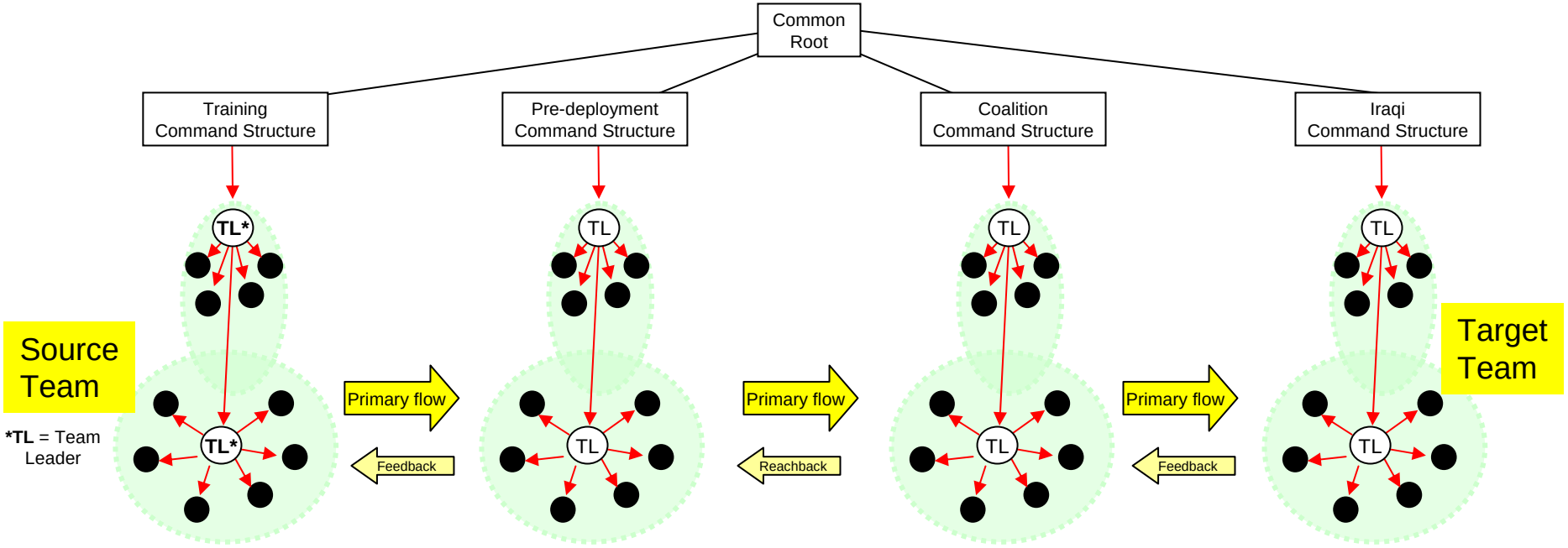
Is your design too complex for people? Or too simple for its purpose and context?

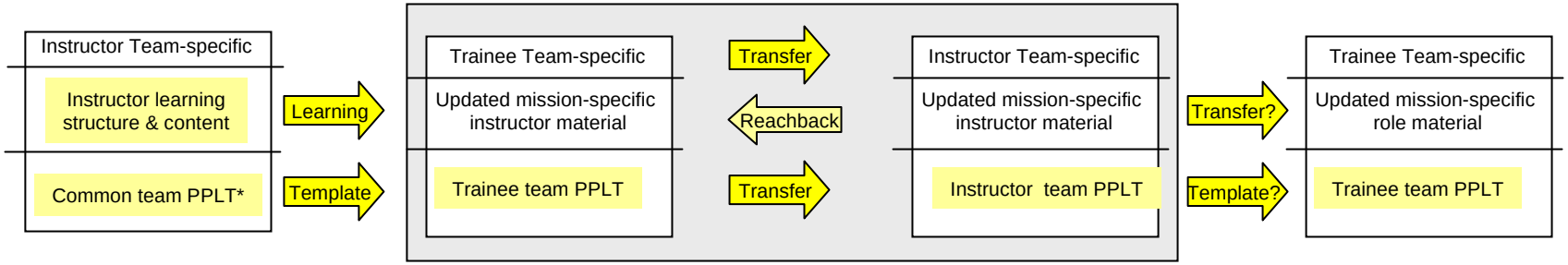
- **Outgoing** people from position
  - People leaving team role have embedded their best practice in record and current state of intra-team network
  - People leaving their current job-position have embedded information about multiple role responsibilities in multiple team rooms
  - People leaving organization have left trail of learning experiences for each position and team they passed through, enabling organization to improve its intelligence over time and across changing population of people

Do people leave usable knowledge behind for next person?

Wrap Up

Summary: Did We Explain Iraqi Training Example?





Instructor team room
Role-based templates for trainee rooms

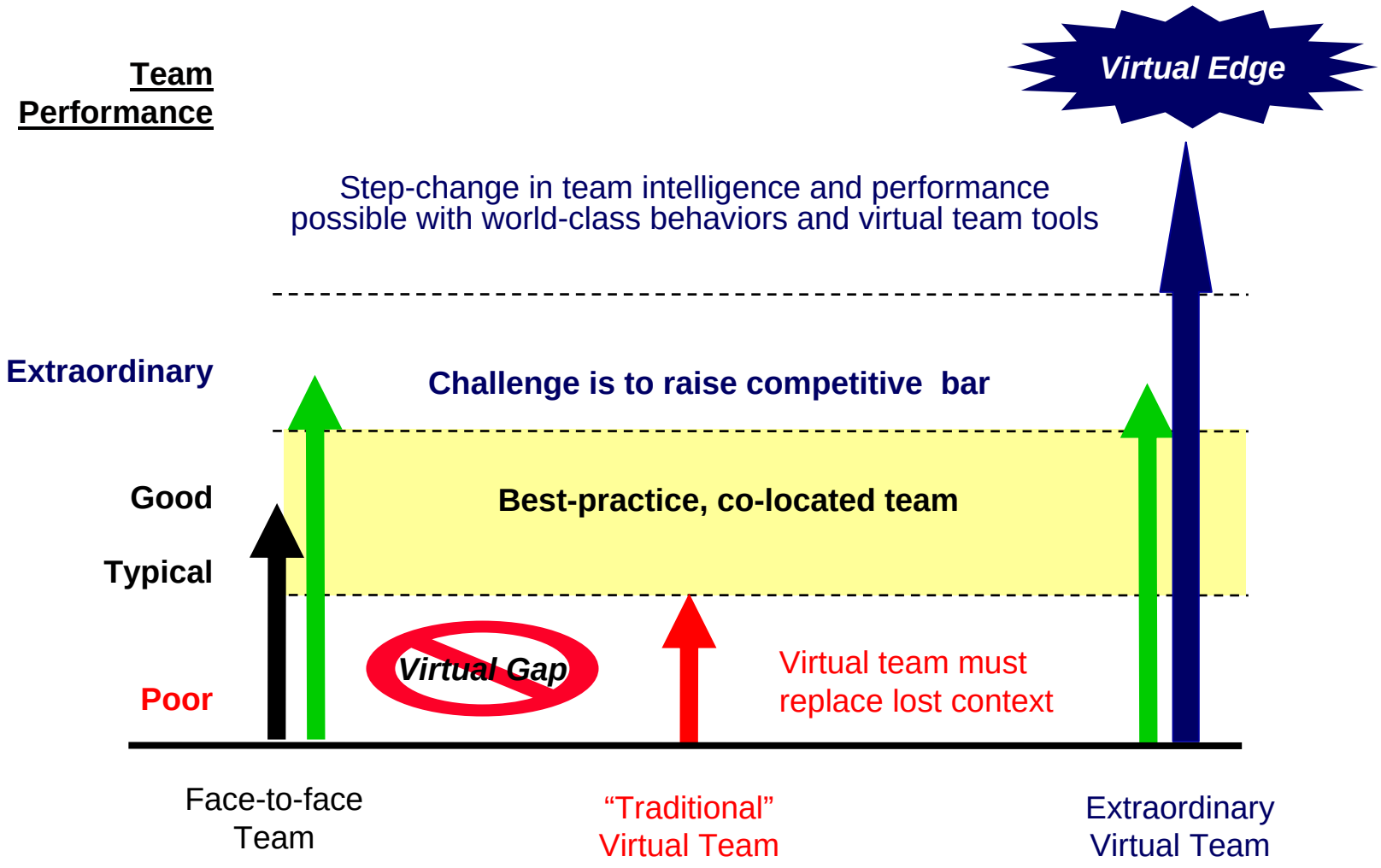
Trainee team room
Role-based activities and knowledge management

Instructor team room
Role-based activities and knowledge management

Trainee team room?
Role-based activities and knowledge management

***PPLT** = **People, Purpose, Links, Time**: NetAge virtual teams model-methodology

Aspiration for Thriving Collaboration: Leap to Virtual Edge



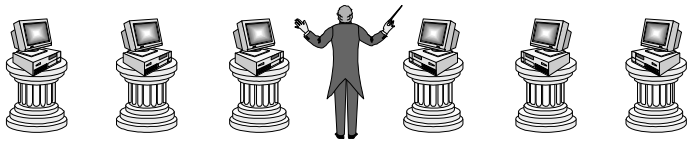
90% People + 10% Technology

Myth:

Leading virtually is about using right technology.

Reality:

Leading virtually requires understanding people, culture, organization, and collaboration.

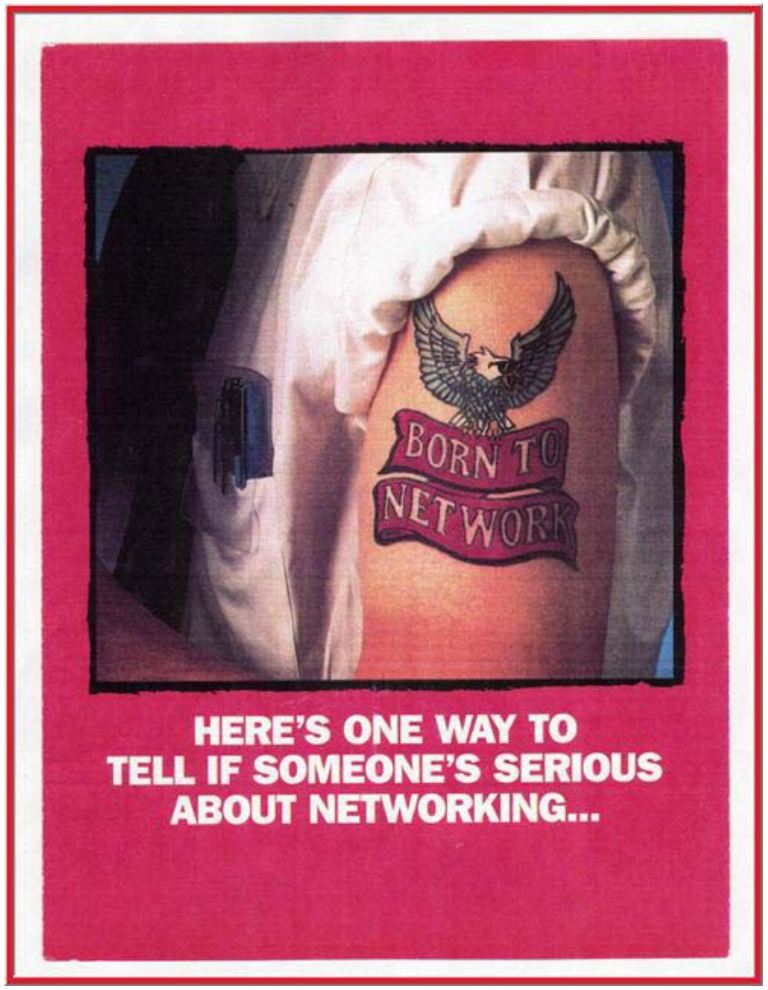


"We always get the technology right and the sociology wrong"—Paul Trevithick

"Only Connect"--E.M. Forster

"We are born
to work and play together in teams,
but we have to give enough
of ourselves
to let the filaments connect"

Paul F. Levy, soccer coach;
CEO, Beth Israel Deaconess Medical Center;
and blogger: Running a Hospital



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