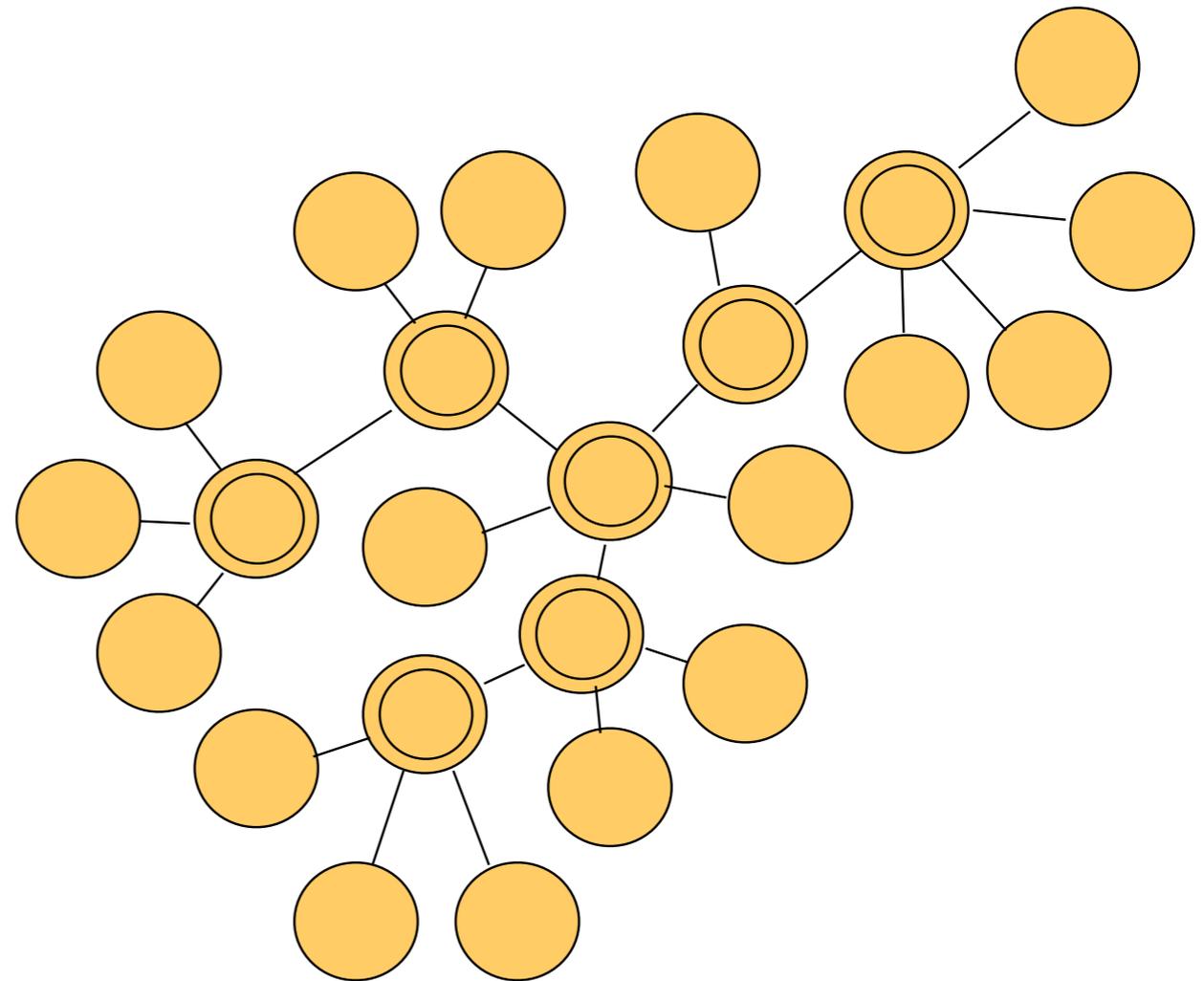
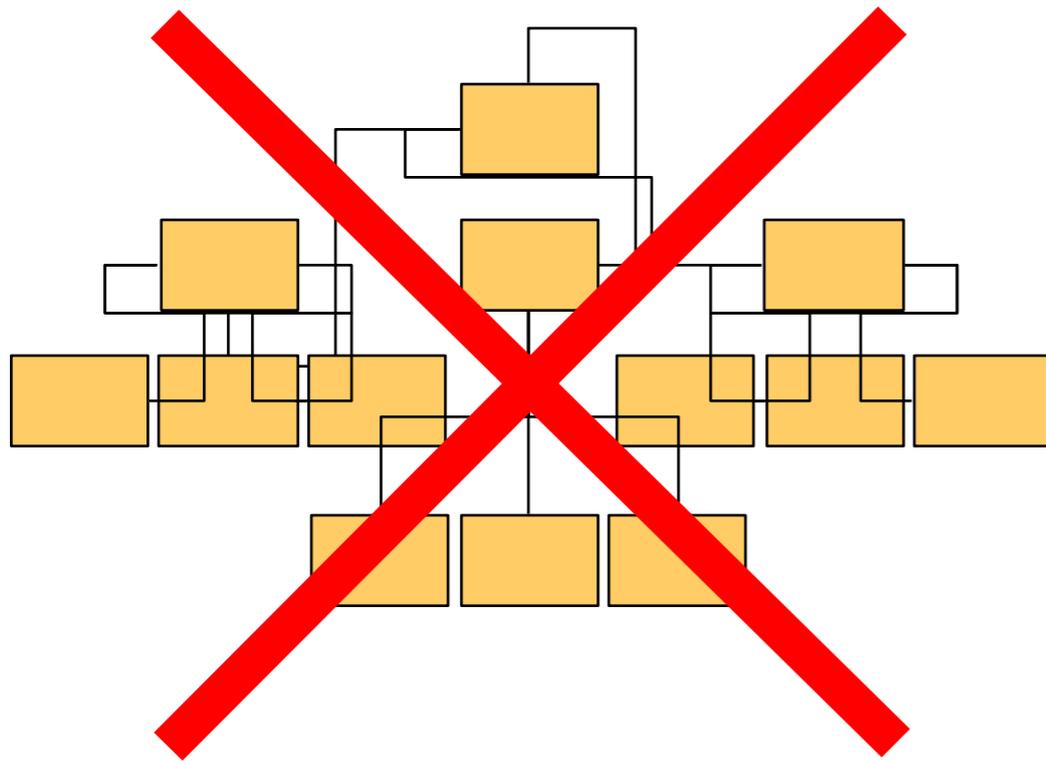


**As a Agile Leader, a case study on the
First Scaled Scrum
will help me understand scaling**

Case Study: The First Scaled Scrum

Scrum Scales "Fractally" Rather than "Hierarchically"



IDX Systems (now GE Healthcare)

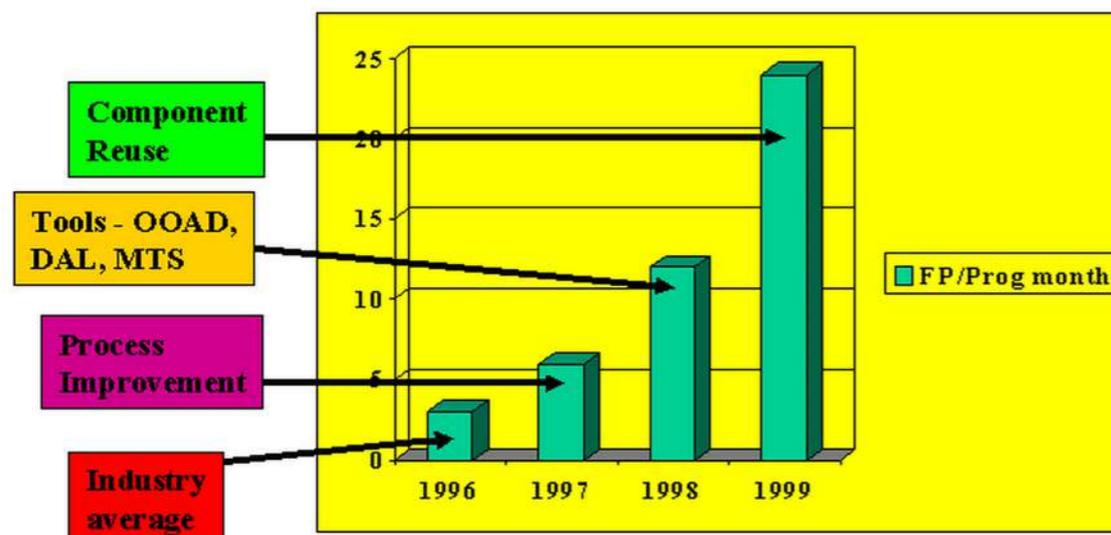
- IDX had 8 business units
 - Each business unit had at least 3 products
 - Many products were from acquired companies with incompatible technologies
 - Some of the thousands of customers were very large like Stanford Medical Center which owned many healthcare institutions across northern California and used all IDX products.
 - Achieving a common branding, integration of all products, plug and play of new products (and companies) into a common framework, and adoption of the latest internet technologies were senior management top priorities.



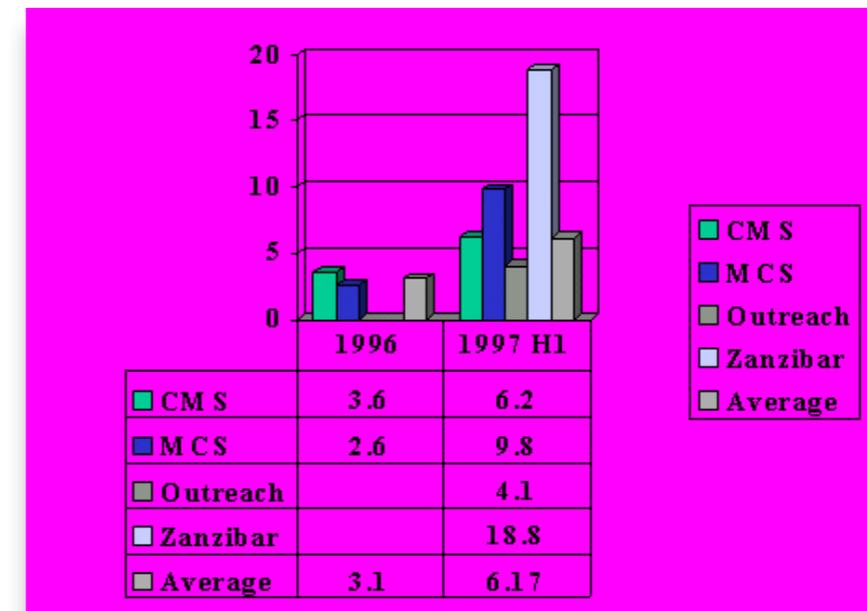
IDX Systems (now GE Healthcare)

Started in 1996

- Managers self-organized company into teams
- Managers became leaders
 - Directors ran Scrum of Scrums
 - VPs became leaders of sites with multiple Scrum of Scrums
 - Grew to over 600 developers in eight business units
- All products on maximum 3 month release cycle
- Whole corporation on 6 month release train



Hyperproductive Strategy



Audited Results

IDX Biggest Problem - Team Size



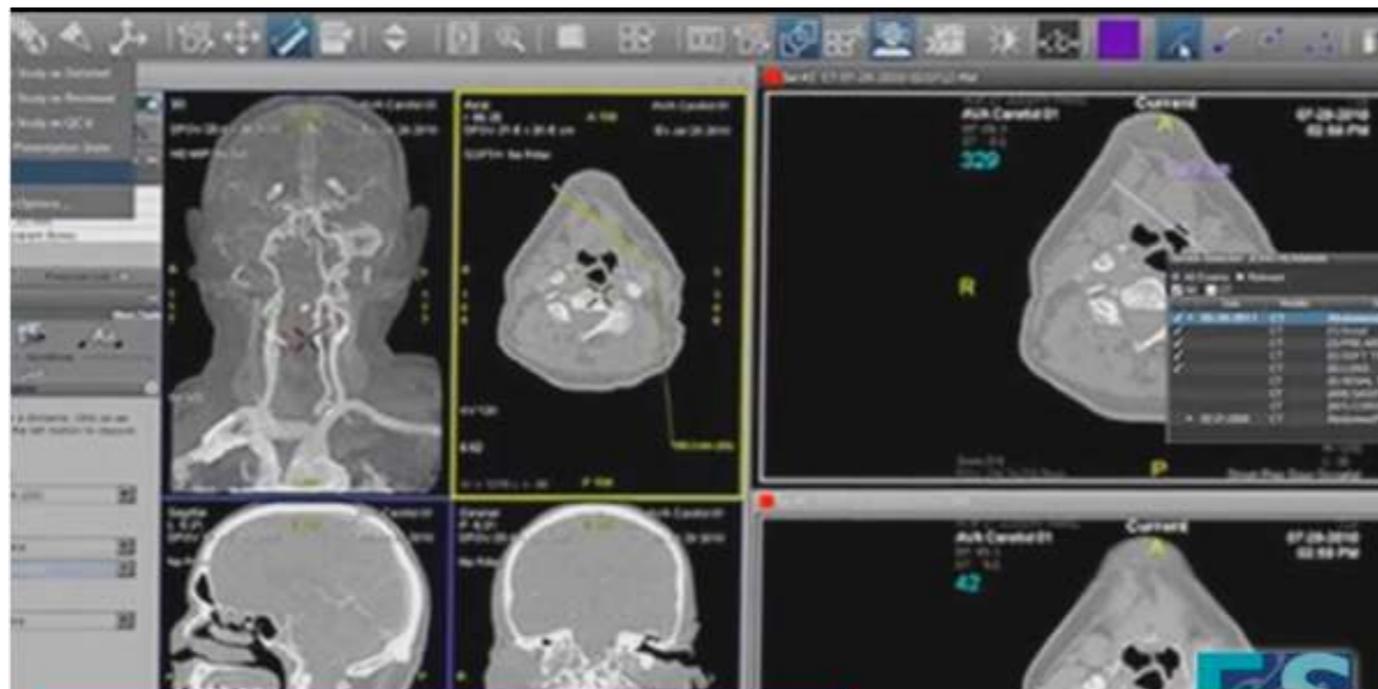
Rubin, Howard (Ed.) A Metrics View of Software Engineering Performance Across Industries. IT Metrics Strategies V:9:3, September 1999.

Average cost per function point across over 1000 projects in Rubin's Worldwide Benchmark database is \$2970. For teams of size 7, the average cost was \$566 per function point. IDX was typically around industry average in function point analyses done by Software Productivity Research and spent about 10 times the necessary cost for each project on average.

Core Measure	1st Quartile	Median	3rd Quartile	Average
Function Points	266	758	2574	9865
Work Months	19	51	145	267
Duration in Months	7	12	17	15
Project Cost	\$89,600	\$330,000	\$857,000	\$1,290,000
Team Size	4	7	13	14
Cost/Function Point	\$290	\$566	\$1,618	\$2,970

IDX Architecture Strategy

- The IDX strategy is to own the desktop; ownership of the desktop is facilitated by an all-IDX totally interoperable solution.
 - IDX product modules are integrated-by-design.
 - OutReach is pre-defined to work with all IDX integrated product modules.
 - OutReach is faster, less costly to implement with all-IDX desktop solution.
 - OutReach is designed to read and write to IDX product modules' databases and to utilize their business logic.
- IDX is committed to customer closeness; if a customer has a competitive product installed, IDX will deploy OutReach as the Web browser front-end to the non-IDX system.



IDX Architecture Execution

- Enterprise architecture team met weekly with lead architects from all business units
 - Define architecture strategy
 - Develop process for new technology introduction
 - Provide architectural backlog for Product Owner team
- Each business unit architecture had an architecture team with a representative from every Scrum team
- Senior management committed 10% of every team sprint to architecture enhancement/technical debt removal

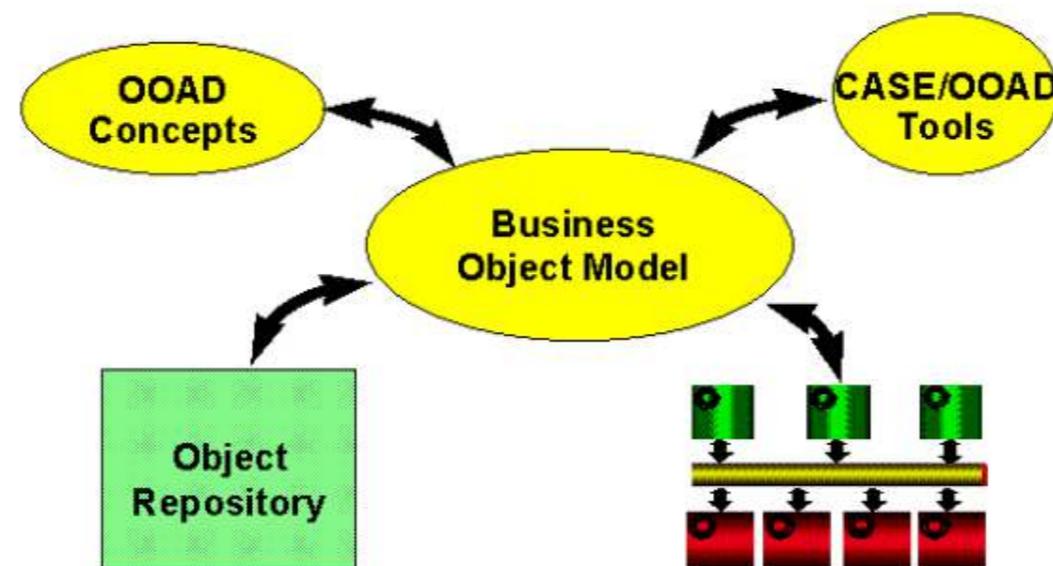
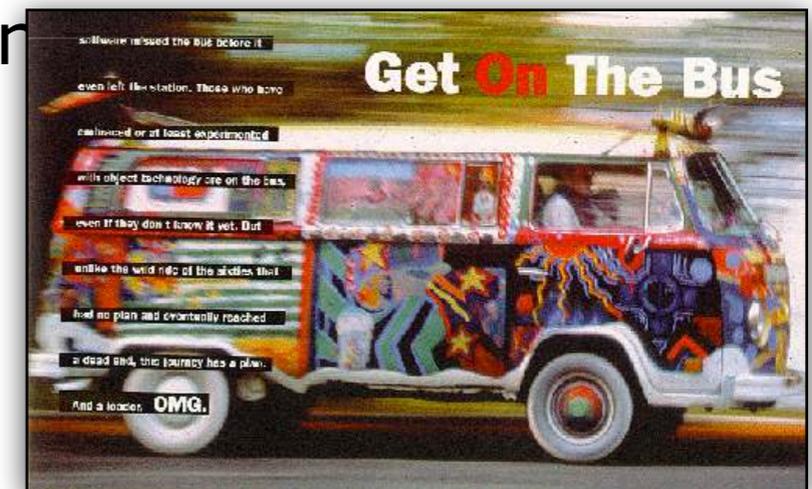


Figure 3. ANSI X3H7 Standardization Targets. 24 Sep 1994.

Key Issues in IDX Scaling

- Cross-functional self-organizing teams
- Managers become servant leaders
- All product releases three months or less
- Integrated portfolio of all products released every six months
- All work for all teams visible on the web
- Virtual teams for cross-team coordination
 - User interface design
 - Architecture
 - Quality assurance
- Chief Product Owner with one backlog
 - VP of Marketing was CPO
 - Portfolio management across the enterprise
- Senior management commitment to technical excellence and delighting the customer



IDX Retrospective

- During 1996-2000 entire company more than doubled production
- Best teams achieved 15-20x
- Could not get whole company to 400% production increase
- Root cause
 - Many teams too large - 15 people instead of 5
 - Large legacy waterfall acquisition not fully converted to Scrum
 - However, iterative monthly releases increased production deliveries 10x

