

Developing a Standards-Approach for Knowledge Design, Development, Delivery & Disciplines

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Purpose and Objective

Research various methods of ROI-Return On Investment in training, compare and examine various business models/concepts and present a "standards" model for ROI methodology.

Executive Summary

There is, presently, no standard or common methodology to determine ROI on training and performance improvement. In addition, **all** the companies interviewed for this report are interested in developing and building ROI models. This report outlines one proven system for building "standards" from which a ROI model can be created. In addition, this report contains a detailed process for building standards. That is, like accounting standards are used to build and maintain financial ROI systems, a similar process is required for training and performance improvement. In addition, this report contains a copy of all the slides presented in the workshop meeting with detailed annotations.

Report Highlights

- 1 - One definition ROI is the "measurable value of effort"
- 2 - User/student involvement
- 3 - Building Careers by Building a Standards Layered Model



1 - ROI-Return on Investment Defined

The simplest definition of ROI that I could create is the "measurable value of effort." I reviewed more than twenty white papers, articles, in-depth reports and theses in doing this analysis. There are many great ideas on ROI, some of them I have included as Exhibits at the end of this report. Most ROI concepts include: hard dollar (real costs) savings versus soft dollar (perceived benefits) savings. However, none of the ROI concepts that I researched and reviewed, focused on the ROI as perceived by the student or learner. For example, in one of the people interviewed for this report mentioned that a "student" who had received training failed to operate a device properly causing an issue with delivery. Even if there was an ROI on the training, the training never less failed because the student was not involved in the outcome. In other areas of work, we all see activities performed every day, however, do we ever look through our "ROI-glasses" at the "value of effort" being performed and what is the measurement criteria do we place on the effort. ROI is generally based on the "investment" of the organization, not the individual. The individual or participant gives their time and usually benefits from the training in their own personal career and resume. Everyone is interested in the "feedback" of the individual, but is the measurement of the value, effort, and return determined by the student or the organization? In most cases, the individual student is even not aware of the financial return of the organization. This means that ROI in any form is meaningless until all those involved understand it.

Value of

I did think of just using the concept of just "value of effort," however some form of unit or quantity helps gauge the progress, level of effort and ultimately the value of activity. You may in your own organizations, develop your own terminology and approach, as this is just one. That is, the purpose of this exercise is to bring into focus the need for ROI both in terms in your own organization but in terms of how your organization is measured against industry "best practices." ROI or value in business is pretty easy, total revenue less expenses is profit and with \$100 invested yielding a \$10 profit, is a 10% ROI. Easy enough but success or failure in training or other corporate activity achieving that 10% return on investment is the real challenge. Training is, however, the single most important component or "value" to all of it because "you can't do what you don't know." The value of training though illusive by most standards, however, is critical to every job, every day, yet most organizations pay little attention to it. However, when there is a "miracle on the Hudson" referring to Captain Sullenbergers' safe landing, few question the value of training. However, pilot fatigue and other problems are often the cause of most airplane crashes and then it is referred to as "pilot error." The point is that both when something good or bad happens, training is the cause. Consumer, health and nearly all other human benefits point to training. A person who is healthy is often referred to as "health smart." However, without a measurement like "lowered cholesterol by 30%" there is no way to determine the success or failure.

Effort

Reaction time, attitude and lifting a box are just few examples of effort. However, each has human elements critical to the effort or activity. Meetings, negotiation, socializing, and presenting are other types of activity. Understanding and analyzing effort is complex and needs more analysis to determine a "measurable value." For example, the "miracle on the Hudson" is a unique event and unlikely ever to be repeated. Going to staff meetings and doing reports is something that will be repeated often and, most people believe they have little value. As you will see, there needs to be some "standardized" means to measure or ways to apply effort common to all human activity.

Measurable

The "bean counters" are going to enjoy this, yet measurable is not just dollars, it is anything you choose to capture, explain, analyze and report on. Measurable means allowing and even engaging the user in determining their own metric or value (ROI). This opens up the understanding that two people may have the same job, but they do it differently. We are all unique and apply our skills differently even to the same problem. Adding diversity, language, education, years of service and so many other factors begs, if not demands, that user is the one to determine the measure of success or failure (ROI). From my experience in training thousands in telecommunications, sales and graduate school, if you give the same "problem" to two people, there will likely be two answers. With twenty people, you get twenty answers. Yet, within the answers you receive you will see patterns arise, ideas coalesce, and similar methods emerge to be able to build common measures. That is, they may be twenty answers, however, their may be less than five significant differences when analyzed. Then asking the student you may have there is "common ground" that all twenty might agree upon as a common measurement of all the ideas. The challenge is to get "buy-in," "being in the loop" and otherwise feeling involved in the process, not just corporate objectives. These are just other examples of getting the student involved in building "standard" measures as well as commitment to the measurable value of the effort.

Before moving forward, let's review the terminology:

- Measurable - any kind of metric, qualitative, quantitative, unit, time, space, applied
- Value - any kind of dollar amount, calls process, lives saved, miles driven, ideas created
- Effort - any kind of activity including thinking, walking, lifting, talking, non-talking, etc.

2 - User/student involvement

ROI must be built and maintained not just by the teacher or course developer but by the student, the user, the driver, the person providing the value, not the just the organization. That is, the role of the organization is to provide the tools to the student to make their own measurements. This dramatically shifts the burden

from the organization to person doing the effort. I prefer to not use the term work as it implies "lifting a box" or manual labor. The term effort or others if you prefer, broadens the scope to incorporate all kinds of activities including that illusive concept so-often needed - thinking.

3 - Building Careers by Building Standards

After investigating many different ROI models, none were relevant or appropriate to training. Often solutions are found not just by stepping "out of the box" but by building a new box. Rather than just a model, it is proposed that companies build standards for its members, by its members. While daunting, standards or protocols come from the simplest activities in our lives. So, what is a protocol or standard? It is what the Secretary of State does every day; protocol is a set of rules, customs and manners. One of the simplest human protocols is when you walk up to another person you extend your hand in order to shake the hand of the person you are greeting.

Many people ask why we need a "standard" for training. Like in computing and communications, there are so many different systems, software, devices that need to communicate with one another today and in the future, a structured system or standard is needed. We need "open systems" to interconnect literally anything and everyone together. The same applies to training. That is, the multitude of training techniques such as hands-on, instructor-led, online, web, mobile and others. Moreover, there are no standards at all in the way the course developer builds a class much less the way an instructor teaches it. As comparable to cooks and cookbooks, each has a purpose. In computing, what the OSI-Open Systems Interconnection protocol does is to provide the basis for understanding and measuring effort and errors. It does not provide an absolute guarantee that devices, systems and services will work together or the term that is often used - interoperate. It does provide a means for different parties to understand the role of the function in "layers." One other point is that the OSI protocol isn't friendly - there are competing interests very much at work pushing their own standard. It is not final - in the sense that there will always be new technologies and services that need to be in the vegetable soup. Nor is it friendly - interconnection is a great goal but needs collaboration and consensus to be completed. In order for the OSI protocol to work, there have to be some ground rules. Here are a few:

- Specifications are open to the public
- Changes managed in a public forum
- Allows for private enhancements
- Open to new technologies and ideas

Looking at the way other industries building protocol, we find that there are a number of very different organizations who establish features and functions for different interfaces between networks and devices.

For example, the SIP Forum (telecommunications) and other organizations do not per se say they are standards bodies, but they do establish “agreements” so that different types of equipment work or interoperate together. Whereas, the ITU or International Telecommunications Union is an international body that establishes standards for countries and companies throughout the world. The IEEE is a non-profit organization while not a governmental agency does establish standards adhered to by all through the world. In the U.S., the Federal Communications Commission does not establish standards but rules and tariffs (prices) for telecommunications carriers. Whereas, in most other countries, the government dictates rules for companies and, in many cases, sells or provides equipment for customers.

One of the best examples for any company to consider is the IETF-Internet Engineering Task Force which manages the protocols for the internet. Operated by volunteers, the IETF issues RFC-Request for Comments to the public for a proposed protocol. RFCs are open to all those interested. They in turn can send in their own proposed protocols or offer suggestions for the one proposed. This goes back and forth until there is general agreement about the protocol. Then it is adopted and published. At the same time, individual players like in the case of Mr. Coffee or Starbucks, each modify or enhance for specific uses.

A company could operate conceivably operate the same way. A Company Standards group would be formed and then create a framework for various protocols. For example, one approach is to use a "layered" approach like the layers in the OSI protocol. See chart below.

OCI-Open Communications Standards Model

Level 7	Strategic – Public/Private Policy, Environmental, Regulatory	T E C H N O L O G Y O V E R L A Y
Level 6	Executive - C-Level – Strategy and External Policy	
Level 5	Organizational interfaces – up/down, interdepartmental, governance	
Level 4	Policy & Analysis – Internal, Design, Development, Delivery	
Level 3	Process – organizational, compliance, security, process automation	
Level 2	Interface – Language, tone, instruments, machine learning,	
Level 1	Physical – Touch, drive, turn, access, lift, open, robots, machines, devices	

Tactical Assessment Effort – Review, assess and catalog content into these areas understanding overlaps may exist and then place content into an organization framework such as on the next page or others.



In this slide we explore the various issues that are performs within each layer of the OSI or OCI protocol.

Each layer provides unique functions

- Breaking issues into distinct activities - separates the functions from one another
- Simplify processes - provide unique functions
- Means to create standards - allows all the different companies to work together
- Means for compatibility - at least gives it a chance - that is, how "common" training programs are used by staff such as fundamentals of management, supervisory skills, communications skills, regulatory compliance, etc.
- Don't have to do everything at once - solves the problem of too few or too many functions
- Allow for overview and management checks at each layer
- Provides for management view and consensus building

The process might work like this:

- 1 - Members and most importantly "users" (students) select to participate in various OCI Layer Committees
- 2 - OCI Layer Committees organize and begin building RFC documents such as communications skills, business process, ROI, strategic planning, fork-lift training
- 3 - OCI Layer Committees assign unique number and principal responding manager and issue RFCs to all interested parties
- 4 - Comments are received and evaluated by OCI Layer Committees
- 5 - OCI Layer Committees review comments and accept/reject comments
- 6 - OCI Layer Committees issue final RFC with notations as appropriate, 1-Informational, 2-Best Practice, 3-Experimental and others.

Users of the RFC's respond and report to the OCI Layer Committees as necessary and appropriate, the use of the RFC's in their business operations.

The OCI Layer Committees also seek information regarding use and then can build ROI models based on further investigation.

In addition, the OCI process allows for technological change, new learning methodologies and a wide array of members from startups, public and global companies.

Summary

It is proposed that in order for a "common" understanding of ROI by all a "common" standards-approach be created and managed by the company.

That is, the development of the ROI, as mentioned, in the beginning of this report is based on building common terms in which values can be assigned and then measured against the results and presented in a way that there is a common agreement to be understood and then applied to any organization. The goal is to prepare colleagues through the layers from the classroom to the boardroom, from the factory, field and office from entry-level to C-level.

And, one last thought I have learned in training for more than thirty years,

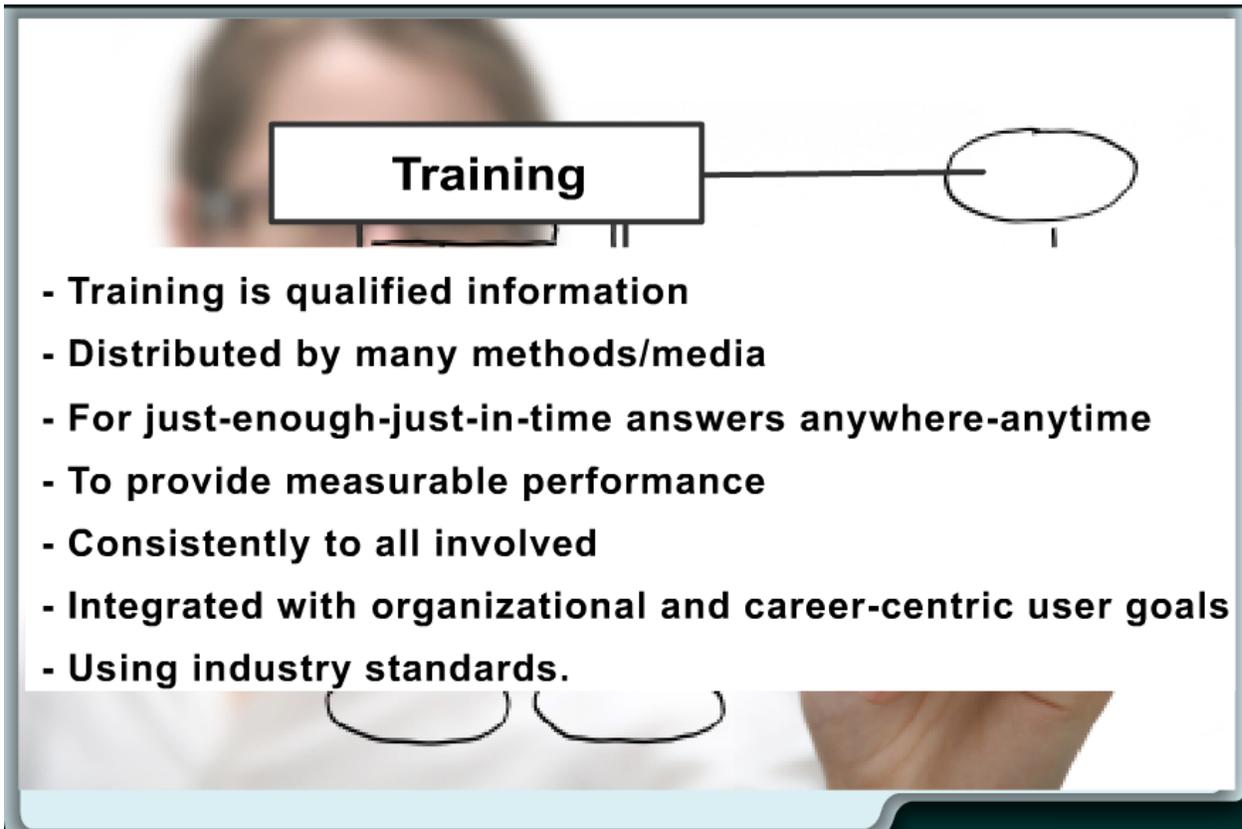
strategically, the faster you can communicate, the faster you can change, and those that change the fastest will be the most successful.

Expectations

- This is a "brainstorming" process, not an end game.
- Introduces a new "box" standards process for building ROI models and methodologies for "same view" of career-centric positions.
- Focuses ROI on each user, not just corporate ROI.



Key point – there is no single definition of ROI-return on investment. In other words, in order to develop an ROI such as found in accounting systems, then the “same view” must be developed for training. In addition, until ROI is understood and accepted by users, just like accounting standards, then the measurement is not comparable within and to other organizations.



Training

- Training is qualified information
- Distributed by many methods/media
- For just-enough-just-in-time answers anywhere-anytime
- To provide measurable performance
- Consistently to all involved
- Integrated with organizational and career-centric user goals
- Using industry standards.

Key point – let’s begin by coming together in building a common standard definition for training. Here is one. We will go through this definition to “see” if there is common agreement.

"Training is qualified information,

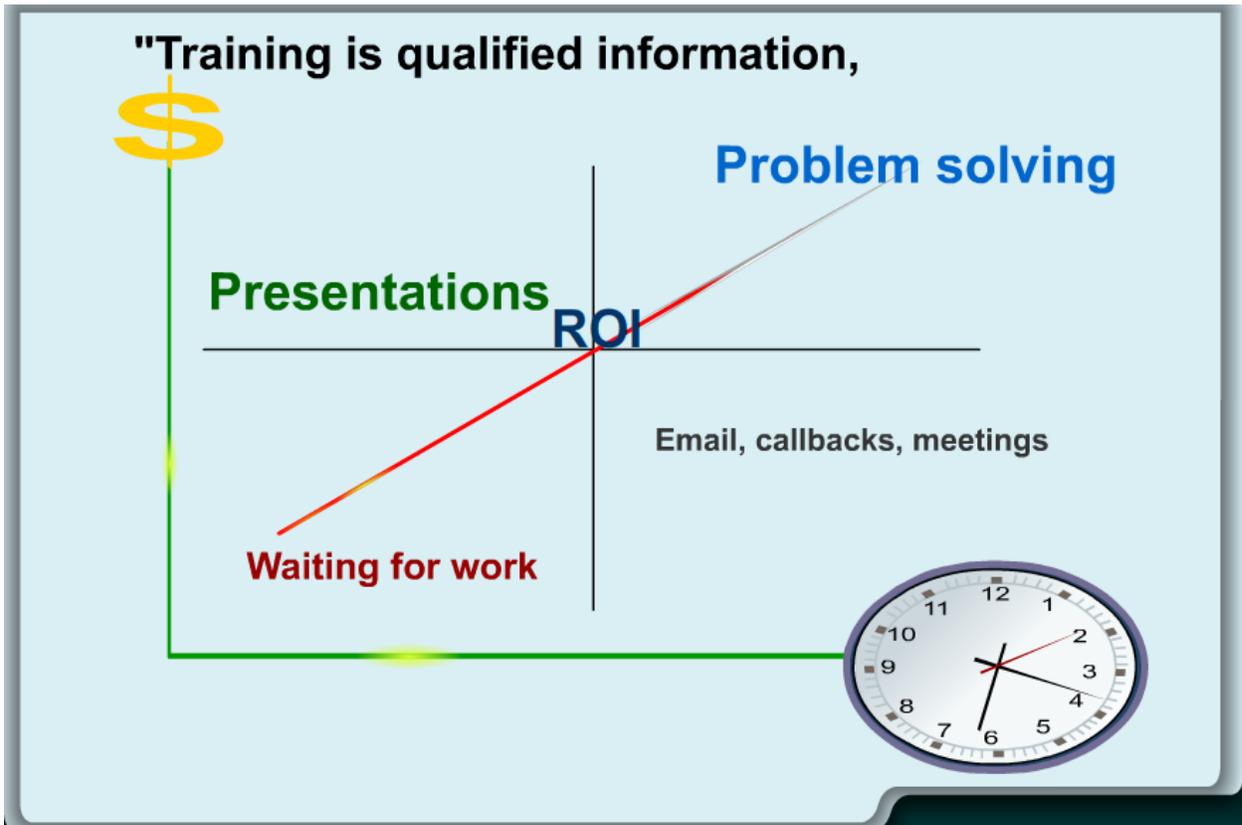
Development

Document

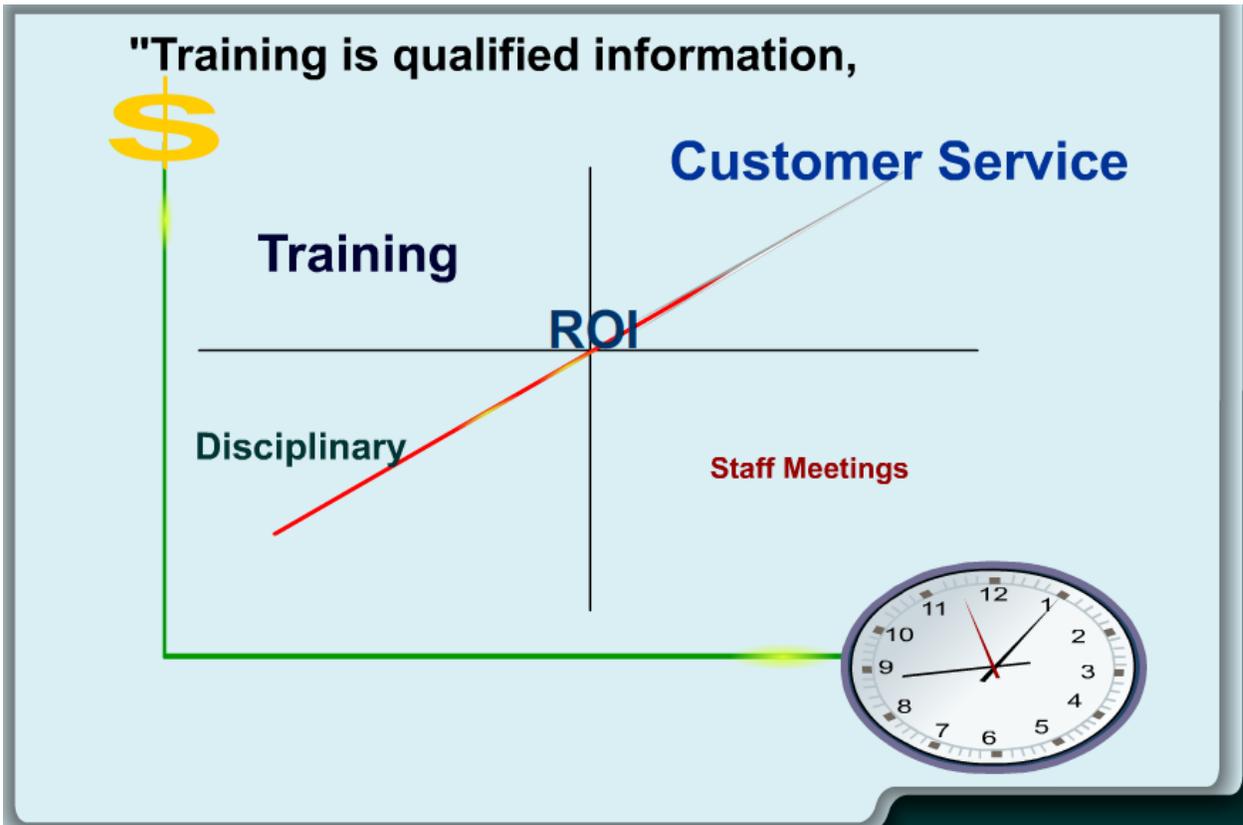
Design

Delivery

Key point – training is qualified information based on four key concepts. Design is the pedagogy (as defined in Wikipedia the term generally refers to strategies of instruction, or a style of instruction) from which development or production, delivery formats such as ILT, elearning, online, video and other formats including multi-language are produced and document or documentation – maintenance and ongoing development is continued.



Key point – one of the innovative approaches suggested by this presentation is to focus on key areas of work or effort to maximize value or ROI. That is, focus on the highest ROI for each person and then organize and allocate the work by ROI.



For example, this person's highest ROI is on customer service.



The next step is for each person to build and most importantly, maintain their own ROI chart. This can be reviewed by the manager and higher levels to maximize performance and ROI to the organization.

...distributed by many methods "just enough - just in time"

Clarity – Same message, each time, each method

Communications – Roadmap of succession success

Content - "Just Enough - Just-in-Time" approach



The image is a composite of two parts. On the left, a woman is seated at a desk in an office, looking at a computer monitor. The text 'Just-in-Time' is overlaid in white on a black background at the bottom of this section. On the right, a person is seen from behind, sitting at a desk and looking at a large, futuristic, glowing blue and white interface. The text 'Just Enough' is overlaid in white on a black background at the top of this section.

Meanwhile, back to the definition of training and a breakdown of the words into actionable effort. "Just enough – just in time" was coined years ago as part of my own efforts in building training content. You can have more than "enough" and all too often not at the right time resulting in ineffective learning. Companies often fail to understand the timeliness and context of work. We all know "we can't do what we don't know" but how much and how often is the key elements. That is, in order to build an effective ROI model "just enough and just-in-time" need to have measurable events or metrics in order to be relevant. In accounting terms, if you don't count the product on the shelf, you may have more or less inventory for sale.

to provide measurable performance consistently to all involved...

- ROI is achieved when the "just enough" curriculum and is focused on the delivery of that curriculum - "just in time"**
- Then validated against "best practices" standards-approach**
- Then evaluated the students performance against above and other corporate metrics, such as customer service, revenue, policy and others.**



Taking this concept to “granular” level, each course or activity is measured against best-practices standards. Without standards there is no means of measurement or metric. Without a standard “inch” an inch can be anything that anyone anywhere, anytime. The same applies to training. Standards are not hard to build, nor the only form of measurement, however, it sets a “benchmark” from which courses, activities and ROI can be applied.

to provide measurable performance (ROI) consistently to all involved...

- Build and manage metrics with corporate goals
- Authenticate curriculum "just enough" and usage timing - "just in time"
- Evaluate on-the-job learning experiences with curriculum
- Audit and analyze user/employee "customer experiences" to develop future offerings (videos, retreats, brown-bags, skill-gap, lunch-n-learn)



Once the concept of a “standards” approach is accepted, like in the accounting world, then ROI can be built and maintained. Existing programs can be updated to the standard, new courses built to the standard and training organizations can work more closely together.

..integrated with organizational, career-centric user goals ..

Logistics + Transportation Industry Partnership Career Ladder

	Title	Description*
Warehousing and Distribution Operations – General	Quality Control Lead/Auditor	Unloads merchandise from trailers. Checks, verifies and audits merchandise and enters data into remote data terminal to ensure that merchandise is as ordered and not damaged or defective. Certifies, separates, labels and palletizes merchandise on pallets to ensure accuracy.
	Loss Prevention Auditor	Facilitate the objective and independent measurement of the accuracy of our shipping and receiving of merchandise. This person will include but not be limited to: shipping accuracy, repack accuracy, load safety compliance, checker accuracy and other audits that are developed to maintain our accuracy in our distribution network.
	Quality Assurance Auditor	Weigh, measure, and check materials, supplies, and equipment for the purpose of keeping relevant records. Duties are primarily directed at ensuring accuracy of our shipping and receiving of merchandise.
	Forklift Operator	Responsible for safe and efficient operation of a forklift, clamp truck or other powered/motive material handling equipment (MHE) loading and staging equipment.
	Safety Technician	Collect data on work environments for analysis by occupational health and safety specialists. Implement and conduct evaluation of and ergonomic risks to workers.
Warehousing and Distribution Operations – Shipping/Receiving, Packaging	Production, Planning, and Expediting Clerk	Coordinate and expedite the flow of work and materials within or between departments of an establishment according to product work and shipment schedules; confer with department supervisors to determine progress of work and completion dates; and and production problems.
	First-Line Supervisor/Manager of Helpers	Supervise and coordinate the activities of helpers, laborers, or material movers.
	Loss Prevention Supervisor	Assist manager in supervising loss prevention and safety programs for a distribution center. Assists in enforcing policies and procedures, food safety and fire prevention and protection.
	First-Line Supervisor/Manager of Transportation and Material-Moving Machine and Vehicle Operators	Directly supervise and coordinate activities of transportation and material moving machine and vehicle operators and helpers.
	Loss Prevention Manager	Manages the protection of company assets, health, safety, security and fire prevention programs. Monitors and adheres to the policies, environment, security and fire prevention/protection.
Warehousing and Distribution Operations – Shipping/Receiving, Packaging	Warehouse Manager	Plan, direct, and coordinate the storage and distribution operations within an organization or the activities of an organization that a
	Picker/Order Filler	Responsible for filling orders and delivering them to the dock or staging area, meeting company standards for safety, security, and accuracy.
	Laborer/Freight, Stock & Material Mover - Hand	Manually move freight, stock, or other materials or perform other unskilled general labor. Includes all unskilled manual laborers or
Warehousing and Distribution Operations – Shipping/Receiving, Packaging	Traffic, Transportation, Shipping, and	Verify and keep records on incoming and outgoing shipments. Prepare items for shipment. Duties include assembling, addressing,

In addition, career paths or ladders can be maintained and compared against one another. This brings increased ROI to the organization and to all involved.

... with industry standards.

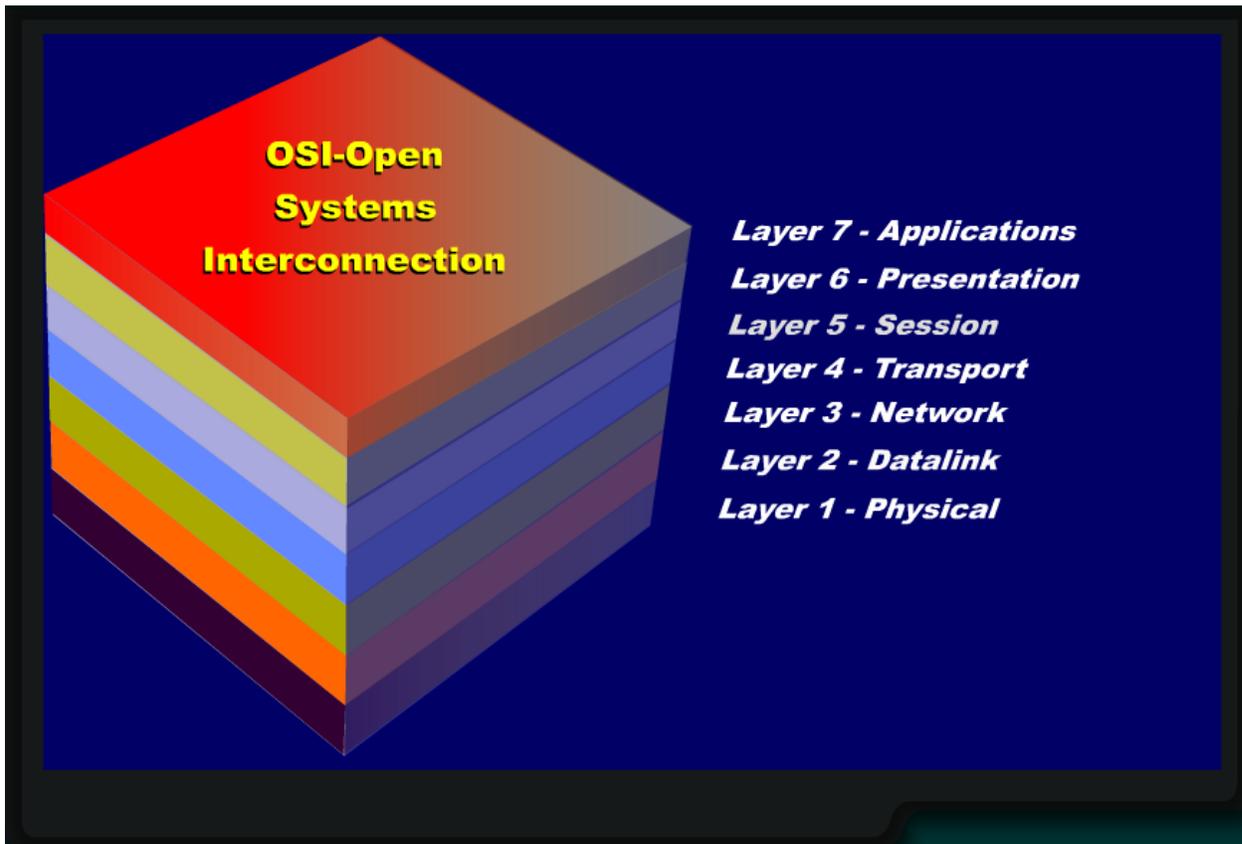
What Standards?

What are Standards?

Why do we need Standards?

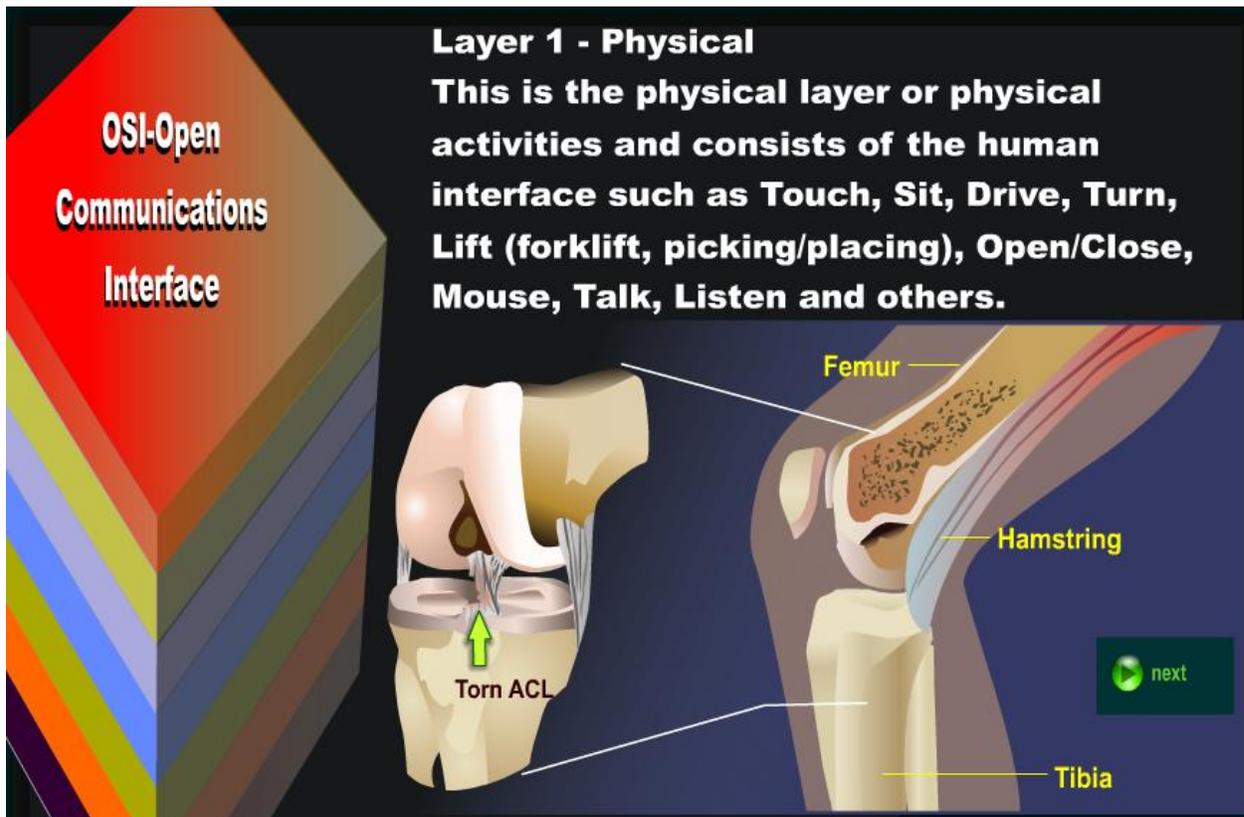
Who builds Standards?

By now, I hope you see the value in standards but we, as yet, don't have any standards. So where do we get them and then build them.



One way to build standards is to see how other industries build them under similar circumstances. There are many organizations that work on standards but few where the standards are built by volunteers. Of course, this is not the only one but having worked in and followed the progress of the internet for nearly 15 years; it provides an interesting approach to building standards. The IETF or Internet Engineering Task Force <http://ietf.org> The Internet Engineering Task Force (IETF) is an organized activity of the Internet Society (ISOC). ISOC is a not-for-profit organization founded in 1992 to provide leadership in Internet related [standards](#), [education](#), and [policy](#). ISOC is supported by more than 90 [organizational members](#) and 26,000 [individual members](#). The point is that the IETF is a global organization devoted to expanding the use of the internet and since we all use the internet every day and will increasingly do so, it may be a relevant model to consider as a standards organization.

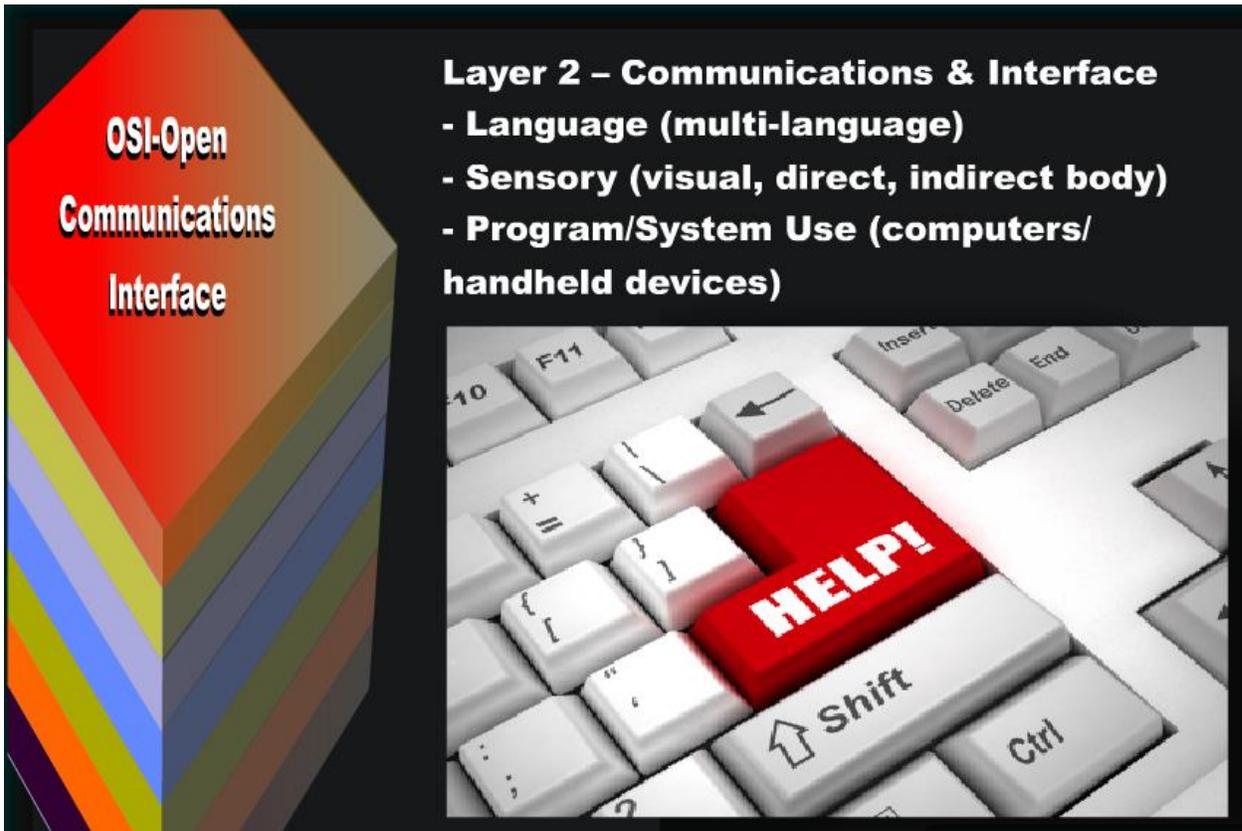
Attached at the end of this document is a revised standards approach modified from the IETF for this use.



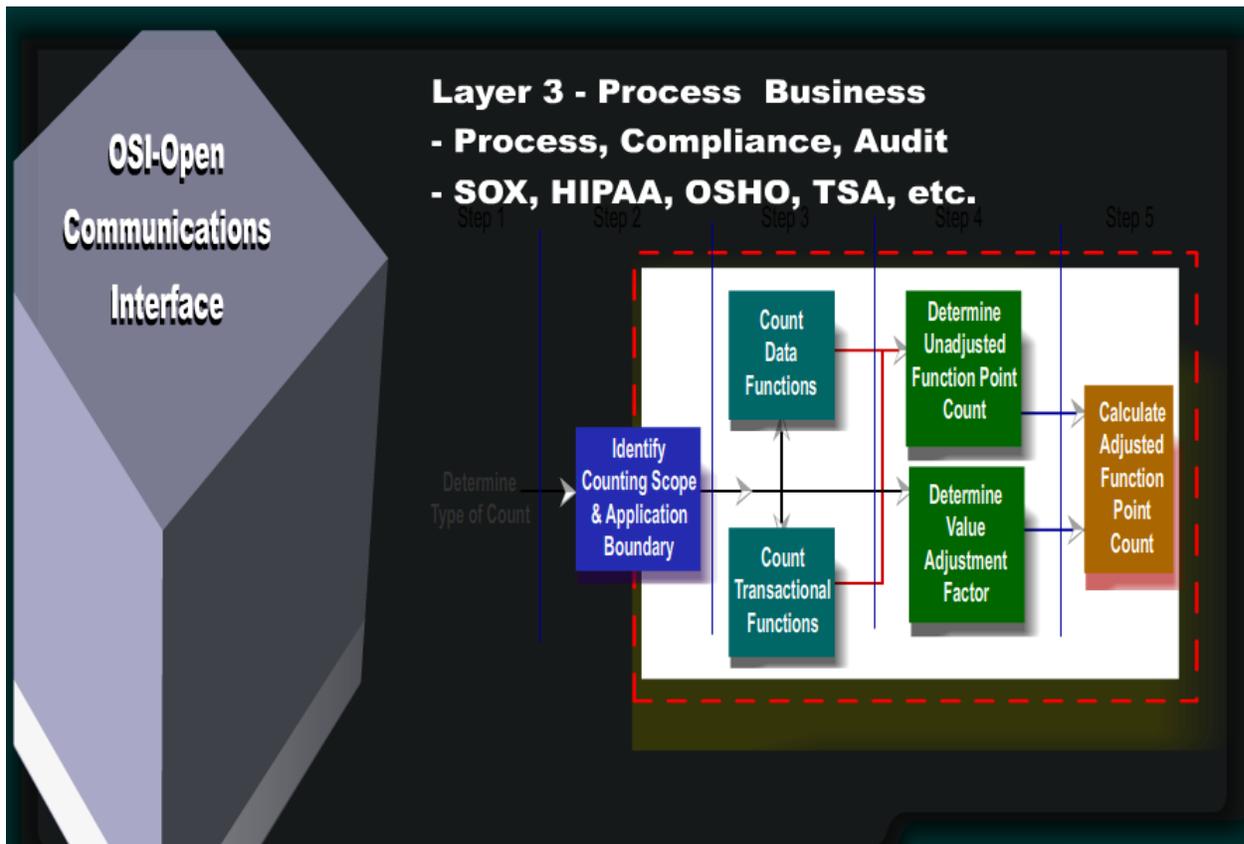
In order for everyone to “see the sing the same song” and then begin to build standards, breaking key elements into identifiable areas needs to occur. By combining the collaborative approach of the IETF and the OSI model, we can begin.

Of course, this can be modified and debated going forward; however, we need to start somewhere. Layer 1 or Physical Layer is where humans touch, lift, sit, drive, turn, open/close, move a mouse, talk, listen or interface systems other humans, equipment, tools or even observe. The point of this graphic is that one of the greatest challenges to the Physical Layer is to reduce/eliminate injuries and worse but also increase safety beyond the minimums. Safety is a great concept; however, as you will see that unless safety is addressed at the highest levels including public policy, then Physical Layer activities are at risk.

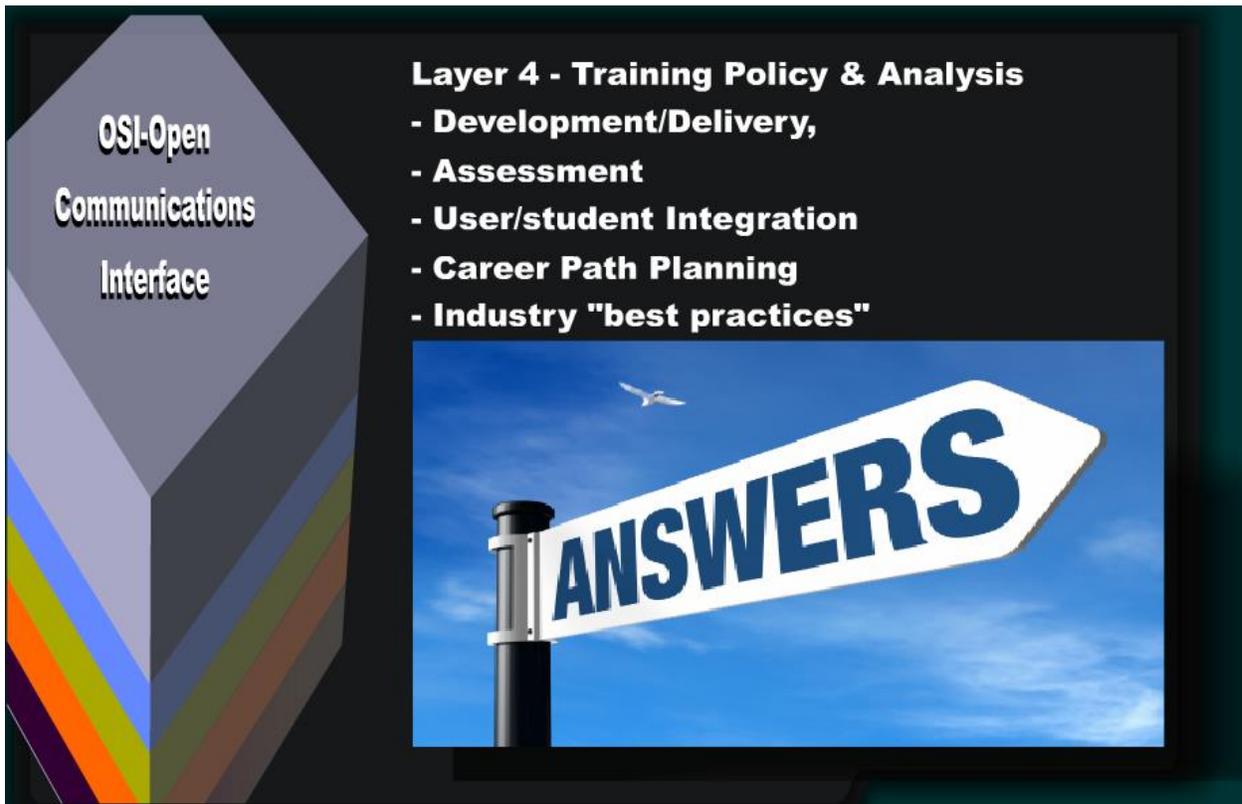
Physical Layer 1 standards could be as simple as the processes for lifting a box or as complex as flying an airplane.



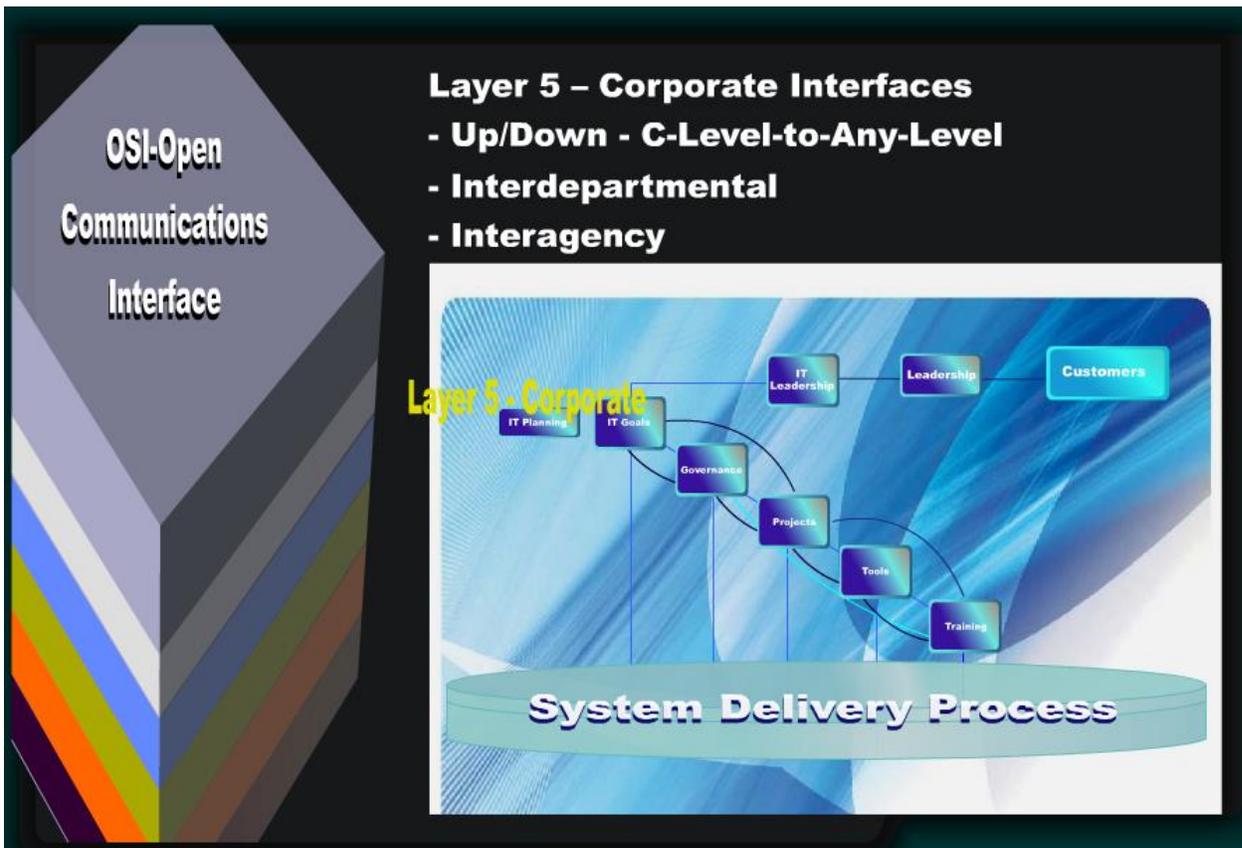
At Layer 2 Communications and Interface begins. That is, many Physical Layer 1 activities can occur without human interaction and interface. At Layer 2, language, communications and response takes place. That is, you need to direct the activities of another human or retrieve/enter information from a computer database. In many industries, training on how to use a computer/software program is the principal form of staff/user training. All of us have entered the wrong information or control functions causing errors. Reducing keyboard errors or verbal instructions is the “standards” goal of Layer 2. A long time ago, my manager had a paper notebook with carbon paper for a copy upon which the form said, “avoid verbal orders.” He felt that this was an effective means of directing his staff. We all know of the common problem of “communications will always fail, except by chance.” This is a humorous but telling challenge for all of us to overcome the often mistakes made because the person receiving the direction did not understand what was being said. Certainly, considerable standards can be built and maintained to reduce errors and even the most common confusion we all encounter.



At Layer 3, we see business process either internally or externally created. Often governmental regulations demand activities or standards in order to protect customers such as food safety, medical records privacy and financial accounting. In addition, corporations have their own sales order, customer service, return merchandise, career promotion and hundreds of others. However, few organizations train the same standards way of training on these topics. Layer 3 standards may be one of the easiest ways to approach standards between different organizations.



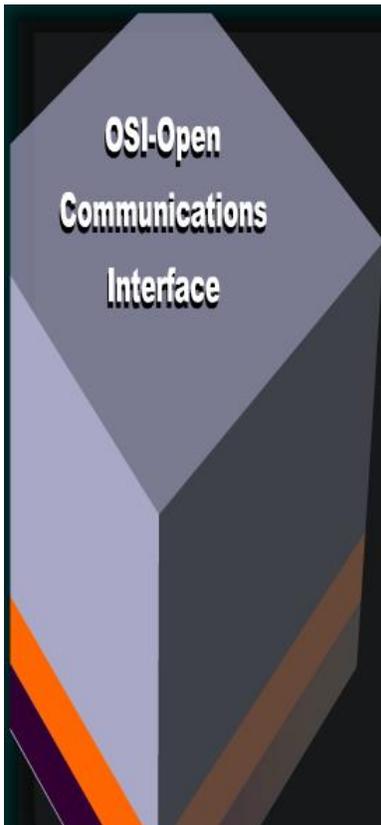
At Layer 4 Training Policy & Analysis increases collaboration and cooperation between organizations. All organizations train their staff; however, you wonder why they do it all differently. Much can be written or said on this subject as each organization think the way they do it is often better than the next, but few ever look at the way other organizations perform this task to see if it's better or worse than another. Similar to other key points is that a "standard" process can be shared between different organizations which from "great ideas" can be created together creating the opportunity to "lift all boats."



At Layer 5 – Corporate Interfaces can be found. This function was added as understand and accommodate different training needs and goals. That is, everyone in the company needs to know corporate policies for travel, payroll, OSHA, EEO and other corporate/government regulations. However, within each department there are specific needs. For example, customer service needs to be training on certain elements of CRM-customer relationship management software and sales on other parts of the same or sales tracking software. Manufacturing, repair, service delivery and driver training will other job specific functions. This means there is an opportunity to provide for industry standard training on many “core” functions while there may likely be proprietary corporate trade secret training on specific programs. That is, the concept of a standardized approach recognizes that probably 90% of all training programs are the same whether you work for a public or private organization. Word, PowerPoint and Windows are used by the majority of organizations, however, Salesforce.com is used by only those that sell goods or services.

The image features a diagram on the left side of a dark background, labeled "OSI-Open Communications Interface". The diagram consists of a large, downward-pointing arrow shape, divided into several horizontal layers of different colors (purple, blue, green, orange, red, brown). To the right of the diagram, the text "Layer 6 – Leadership" is displayed in white, followed by two bullet points: "- C-Level - 'walking in their moccasins'" and "- Senior Management". Below this text is a photograph of five business professionals (three men and two women) in business attire, gathered around a laptop computer, appearing to be in a collaborative meeting.

Training is often the first-to-go and last-to-come-back when there is financial pressure to increase financial ROI. This is where training fails to provide the C-Level with viable, proven means for ROI. However, without a standards approach to compare one organizations' ROI against another organizations ROI, there is no way for the C-level to measure its value. That is, until an "inch" is an inch which everyone can measure, then training will be perceived as little more than a waste of time. One of the other elements to this process is the concept of the corporate university. Tried by many with various levels of success and disbanded by others, the concept of a centralized training organization using a standards approach measured by other entities has merit. That is, course development, delivery, testing and auditing can be performed by a single entity. This reduces costs and provides C-level management with tools to measure and gauge ROI for training.



**OSI-Open
Communications
Interface**

Layer 7 - Strategic

- **Public/Private Policy**
- **Environmental**
- **Citizenship**
- **Community**



Certainly, the image on the screen is very “time relevant” to the oil leak in the Gulf of Mexico. However, whether a bus, train, plane or product accident, companies are increasingly faced with public scrutiny for nearly every event. While government response is sometimes slow to react with legislation such as Fin-Reg regarding the bank crisis or health care, the role of training is most often impacted sometimes significantly. Training is not something that is an after-thought, however, with a standards approach it can be recognized as a critical part in the response to a crisis. One will never know but it is certainly possible that the Gulf crisis could have been avoided if training policies were enforced. At least one could guess that any oil drilling anywhere will be closely watched going forward. In this case and others, training or performance management becomes integrated with every aspect of the organization’s efforts.

Expectations

- This is a "brainstorming" process, not an end game.
- Introduces a new "box" standards process for building ROI models and methodologies for "same view" of career-centric positions.
- Focuses ROI on each user, not just corporate ROI.



To summarize, this is the beginning of the process, not the end. As training never ends, so does the process. Like the airplane shown here on the taxi way, planes are safe on the ground but that's not airplanes are built for. This presentation is designed to provide a model based on a proven, global approach to building and maintaining standards for everyone. From this vantage, every organization can have the "same view" or "sing the same song" allowing common training efforts to be shared and expenditures optimized. I don't like to think of cost reductions in training or performance management (or whatever term you prefer) because this is so much training that is not done now. That is, training is always part of a cost-reduction and rarely has the funds to do more than the minimum. Lastly, once an "inch" is an inch, then a common or standards approach to financial ROI can be created.

Next Steps

- **Break into committees**
- **Build "proposed" standards**
- **Seek comments**
- **Review and approve**
- **Issue standards for all to use**



As mentioned earlier, I have prepared a document which outlines the steps toward building, debating, publishing and maintaining standards. It is neither the final solution, nor the only solution but it is a beginning, and this is what this presentation is all about.



I lead with my own belief about change. While I often say “the only person who really wants change is a wet baby” wanting their diapers changed, the rest of us resist change all our lives. However, change is like evolution, change or become extinct. We have seen that with many occupations throughout our careers and the pace of “new, rise and become obsolete” is, indeed, occurring at a faster pace.

Training, in many cases, has changed little in 100 years, which is why, in my humble opinion; its value has not changed either. We as trainers, educators and life-long learners must accelerate our pace of change, just as the pace of technology around us is changing at a faster and faster rate.

EXHIBITS

While there were **many more** concepts found and evaluated, here are some of the ROI concepts gathered during the research.

- Determine the scope of an evaluation project.
- Analyze pre-training baseline and expected performance.
- Determine organizational support for training evaluation.
- Prepare an evaluation plan.
- Design evaluation instruments.
- Collect evaluation data.
- Verify the validity and reliability of evaluation data.
- Calculate the return-on-investment (ROI) of training.
- Assess the return-on-expectations (ROE) of training.
- Determine the results obtained from training.
- Isolate non-training variables from training results.
- Identify employee application of new skills.
- Identify employee learning level.
- Identify employee reactions to training.
- Analyze training problems and improvements.
- Prepare an evaluation report.
- Communicate evaluation results with impact.

Definitions of **ROI** on the internet:

- Return on invested capital: (corporate finance) the amount, expressed as a percentage, that is earned on a company's total capital calculated by dividing the total capital into earnings before interest, taxes, or dividends are paid
- In finance, rate of return (ROR), also known as return on investment (ROI), rate of profit or sometimes just return, is the ratio of money gained or lost (whether realized or unrealized) on an investment relative to the amount of money invested. ...

- A measure of the financial gain (or loss) of a project in relation to its cost. It is calculated by taking: $\text{Financial Gain or Loss} - \text{Project Cost} / \text{Project Cost} \times 100$.
- A figure of merit used to help make capital investment decisions. ROI is calculated by considering the annual benefit divided by the investment amount. [GAO]
- A financial ratio indicating the degree of profitability of a business. ROI is of particular importance to owners because it can be used to compare with other investments. ROI is calculated by dividing net profit for the period by net worth (total equity). ...
- The ratio of income produced by an asset divided by its investment cost.
- This is the ratio expressed in dollars between the WTF funds invested and the projected monetary value of the benefits of the investment. ...
- A measure of budget spent on a campaign, versus the income generated through the activity.

Four Steps to Computing Training ROI

CONVERTING THE EFFECTS OF TRAINING INTO MONETARY VALUES

The effects, or benefits, of a training program should always be identified, qualified and converted to dollars with input from management. Trainees' supervisors, department or division heads, senior level executives or even the board of directors are in excellent positions to observe changes in performance or impact on the bottom line. Their decisions and data may be far more objective and credible than if the HR manager makes all of the decisions regarding the scope, impact and duration of training benefits. Costs are known up front. Benefits may accrue slowly over time. Accurately estimating the number of times, a course will be used, the number of employees that will be affected, the dollar impact of changes in quantity or quality, and the extent to which training will affect results requires skill, insight, and clearly defined objectives.

Effects can be tangible or intangible and are frequently referred to as "hard data" and "soft data." Hard data is quantitative, statistical, number oriented and easily translated into monetary benefits. Soft data is qualitative and refers to intangible benefits that are subjective and thus are more difficult to measure and translate into monetary benefits. Samples of both kinds of data are listed below.

Sample "Hard" Data for Determining the Effects of Training Data

- Productivity measures (quantity or market value)
- Quality measures (number of rejects or cost of rejects)
- Materials costs (amount per unit of production or amount of waste or scrap)
- Labor hours per unit of production
- Labor costs per unit of production
- Hours of "down time" due to equipment failure, etc.
- Absenteeism and tardiness rates
- Turnover rate
- Workers' compensation claims - nature and number of injuries or illnesses, days of lost work or "light duty" work
- Number of grievances/legal claims/lawsuits
- Time required to fill vacant positions
- Time required filling an order; responding to a telephone call; resolving a complaint, etc.
- Number of sales or dollar value of sales per customer

- Percent of market share
- Customer satisfaction rating or index
- Number of repeat customers
- Number of accounts or dollar value of accounts more than 30, 60, 90 days past due

Sample "Soft Data" Effects or Benefits of Training

- Improved job satisfaction
- Improved teamwork
- Increased organizational commitment
- Improved succession planning
- Increased communication regarding career paths
- More clearly defined promotion opportunities

The OCI-Open Communications Interconnection Standards Process -- Revision 0.1

Status of this Memo

This document specifies an OCI Best Current Practices for the OCI Community, and requests discussion and suggestions for improvements. Distribution of this memo is unlimited.

Abstract

This memo documents the process used by the OCI community for the standardization of training and performance protocols and procedures. It defines the stages in the standardization process, the requirements for moving a document between stages and the types of documents used during this process. It also addresses the intellectual property rights and copyright issues associated with the standards process.

1. INTRODUCTION

This memo documents the process currently used by the OCI community for the standardization of protocols and procedures. The OCI Standards process is an activity that is organized and managed on behalf of the OCI community by the OCI BOARD.

1.1 OCI Standard

The OCI, a loosely-organized collaboration of autonomous, interconnected organizations and the public, supports communication through voluntary adherence to open protocols and procedures defined by OCI Standards. There are also many organizations, which are not organized by or connected but use the OCI Standards.

The OCI Standards Process described in this document is concerned with all protocols, procedures, and conventions that are used in or by the OCI, whether or not they are part of the OCI Layers. In the case of protocols developed and/or standardized by non-OCI organizations, however, the OCI Standards Process normally applies to the application of the protocol or procedure in the OCI context, not to the specification of the protocol itself.

In general, an OCI Standard is a specification that is communicated and adapted, is management and technically competent, has multiple, independent, and interoperable implementations with substantial acceptance, enjoys significant public support, and is recognizably useful in some or all parts of the OCI.

1.2 The OCI Standards Process

In outline, the process of creating an OCI Standard is straightforward: a specification undergoes a period of development and several iterations of review by the OCI community and revision based upon experience, is adopted as a Standard by the appropriate body (see below) and is published. In practice, the process is more complicated, due to

- (1) The difficulty of creating specifications of high technical and/or management use;
- (2) The need to consider the interests of all of the affected parties;
- (3) The importance of establishing widespread community consensus; and

(4) The difficulty of evaluating the utility of a particular specification for the OCI community.

The goals of the OCI Standards Process are:

- O Management and technical excellence;
- O Implementation and use training/testing;
- O Clear, concise, and easily understood documentation;
- O Openness and fairness; and
- O Timeliness.

The procedures described in this document are designed to be fair, open, and objective; to reflect existing (proven) practice; and to be flexible.

O These procedures are intended to provide a fair, open, and objective basis for developing, evaluating, and adopting OCI Standards. They provide ample opportunity for participation and comment by all interested parties. At each stage of the standardization process, a specification is repeatedly discussed, and its merits debated in open meetings and/or public electronic mailing lists, and it is made available for review via world-wide on-line directories.

O These procedures are explicitly aimed at recognizing and adopting generally-accepted practices. Thus, a candidate specification or standard must be implemented, trained and tested for correct operation and interoperability by multiple independent parties and utilized in increasingly demanding environments, before it can be adopted as an OCI Standard.

O These procedures provide a great deal of flexibility to adapt to the wide variety of circumstances that occur in the standardization process. Experience has shown this flexibility to be vital in achieving the goals listed above.

The goal of management and technical competence in any field, the requirement for prior implementation and testing, and the need to allow all interested parties to comment all require significant time and effort. On other hand, today's rapid development of training and performance demands timely development of standards. The OCI Standards Process is intended to balance these conflicting goals. The process is believed to be as short and simple as possible without sacrificing technical excellence, thorough testing before adoption of a standard, or openness and fairness.

From its inception, the OCI has been, and is expected to remain, an evolving system whose participants regularly factor new requirements and technology into its design and implementation. Users of the OCI and providers of training, communications, collaboration and other performance services that support it should anticipate and embrace this evolution as a major tenet of OCI philosophy.

The procedures described in this document are the result of a number of years of evolution, driven both by the needs of the growing and increasingly diverse OCI community, and by experience.

1.3 Organization of This Document

Section 2 describes the publications and archives of the OCI Standards Process.

Section 3 describes the types of OCI standard specifications.

Section 4 describes the OCI standards specifications track.

Section 5 describes Best Current Practice RFCs.

Section 6 describes the process and rules for OCI standardization.

Section 7 specifies the way in which externally-sponsored specifications and practices, developed and controlled by other standards bodies or by others, is handled within the OCI Standards Process.

Section 8 describes the requirements for notices and record keeping.

Section 9 defines a variance process to allow one-time exceptions to some of the requirements in this document.

Section 10 presents the rules that are required to protect intellectual property rights in the context of the development and use of OCI Standards.

Section 11 includes definitions.

2. OCI STANDARDS-RELATED PUBLICATIONS

2.1 Requests for Comments (RFCs)

Each distinct version of an OCI standards-related specification is published as part of the "Request for Comments" (RFC) document series. This archival series is the official publication channel for OCI standards documents and other publications of the OCI community. RFCs can be obtained from a number of OCI concepts.

The RFC series of documents on training and performance began now as part of our research into ROI. RFCs cover a wide range of topics in addition to OCI Standards, from early discussion of new research concepts to status memos about the OCI. RFC publication is the direct responsibility of the RFC Editor (a person or persons who take responsibility for recording, tracking and publishing), under the general direction of the OCI.

The rules for formatting and submitting an RFC are defined. Every RFC is available in electronic format. Some RFCs are also available in other formats. The other versions of an RFC may contain material (such as diagrams and figures) that is not present in the electronic format, and it may be formatted differently.

Some RFCs standardize the results of community deliberations about statements of principle or conclusions about what is the best way to perform some operations or OCI process function. These RFCs form the specification has been adopted as a Best Practices Process, it is given the additional label "BCPxxx", but it keeps its RFC number and its place in the RFC series.

Not all specifications of protocols or services for the OCI should or will become OCI Standards or BCPs. Such non-standards track specifications are not subject to the rules for OCI standardization. Non-standards track specifications may be published directly as "Experimental" or "Informational" RFCs at the discretion of the RFC Editor in consultation with the OCI BOARD.

It is important to remember that not all RFCs are standards track documents, and that not all standards track documents reach the level of OCI Standard. In the same way, not all RFCs which describe current practices have been given the review and approval to become Best Current Practices (BCPs) described later.

2.2 OCI-Drafts

During the development of a specification, draft versions of the document are made available for informal review and comment by placing them in the OCI's "OCI-Drafts" directory, which is replicated on a number of OCI locations. This makes an evolving working document readily available to a wide audience, facilitating the process of review and revision.

An OCI-Draft that is published as an RFC, or that has remained unchanged in the OCI-Drafts directory for more than six months without being recommended by the OCI BOARD for publication as an RFC, is simply removed from the OCI-Drafts directory. At any time, an OCI-Draft may be replaced by a more recent version of the same specification, restarting the six-month timeout period. An OCI-Draft is NOT a means of "publishing" a specification; specifications are published through the RFC mechanism described in the previous section. OCI-Drafts have no formal status and are subject to change or removal at any time.

Note: It is acceptable to reference a standards-track specification that may reasonably be expected to be published as an RFC using the phrase "Work in Progress" without referencing an OCI-Draft. This may also be done in a standards track document itself as long as the specification in which the reference is made would stand as a complete and understandable document with or without the reference to the "Work in Progress".

3. OCI STANDARD SPECIFICATIONS

Specifications subject to the OCI Standards Process fall into one of two categories: Technical Specification (TS) and Applicability Statement (AS).

3.1 Technical Specification (TS)

A Technical Training Specification is any description of a course, class, protocol/process, service, procedure, convention, or format. It may completely describe all of the relevant aspects of its subject, or it may leave one or more parameters or options unspecified. TS may be completely self-contained, or it may incorporate material from other specifications by reference to other documents (which might or might not be OCI Standards).

TS shall include a statement of its scope and the general intent for its use (domain of applicability). Thus, TS that is inherently specific to a particular context shall contain a statement to that effect. However, TS does not specify requirements for its use within the OCI; these requirements, which depend on the particular context in which the TS are incorporated by different system configurations, are defined by an Applicability Statement.

3.2 Applicability Statement (AS)

An Applicability Statement specifies how, and under what circumstances, one or more TSs may be applied to support a particular OCI capability. An AS may specify uses for TSs that are not OCI Standards, as discussed in Section 7. An AS identifies the relevant TSs and the specific way in which they are to be combined and may also specify particular values

or ranges of TS parameters or sub functions of a TS protocol that must be implemented. An AS also specifies the circumstances in which the use of particular TS is required, recommended, or elective.

An AS may describe particular methods of using TS in a restricted "domain of business applicability", such as OCI training for forklifts, inventory process, medical applications, device management or other systems. The broadest type of AS is a comprehensive conformance specification, commonly called a "requirements document", for a particular class of OCI systems, such as OCI courses or OCI career ladders. An AS may not have a higher maturity level in the standards track than any standards-track TS on which the AS relies. For example, TS at Draft Standard level may be referenced by an AS at the Proposed Standard or Draft Standard level, but not by an AS at the Standard level.

3.3 Requirement Levels

An AS shall apply one of the following "requirement levels" to each of the TSs to which it refers:

(a) Required: Implementation of the referenced TS, as specified by the AS, is required to achieve minimal conformance. For example, Business Processes and Strategic Layers must be implemented by all OCI systems using the lower Training, for example, Layer 4.

(b) Recommended: Implementation of the referenced TS is not required for minimal conformance, but experience and/or generally accepted technical wisdom suggest its desirability in the domain of applicability of the AS. Vendors are strongly encouraged to include the functions, features, and protocols of Recommended TSs in their training products, and should omit them only if the omission is justified by some special circumstance. For example, the Course Specification protocol should be implemented by all systems that would benefit from telecommuting or remote training.

(c) Elective: Implementation of the referenced TS is optional within the domain of applicability of the AS; that is, the AS creates no explicit necessity to apply the TS. However, a particular vendor may decide to implement it, or a particular user may decide that it is a necessity in a specific environment. For example, a specific web seminar service could be seen as valuable in an environment where the web seminars are used.

As noted in section 4.1, there are TS's that are not in the standards track or that have been retired from the standards track, and are therefore not required, recommended, or elective.

Two additional "requirement level" designations are available for these TS's:

(d) Limited Use: The TS is considered to be appropriate for use only in limited or unique circumstances. For example, the usage of a protocol with the "Experimental" designation should generally be limited to those actively involved with the experiment.

(e) Not Recommended: A TS that is considered to be inappropriate for general use is labeled "Not Recommended". This may be because of its limited functionality, specialized nature, or historic status.

Although TS's and AS's are conceptually separate, in practice a standards-track document may combine an AS and one or more related TS's. For example, Technical Specifications that are developed specifically and exclusively for some particular domain of applicability, e.g., for forklifts, machinery, medical use, often contain within a single specification all of the relevant AS and TS information. In such cases, no useful purpose would be served by deliberately distributing the information among several documents just to preserve the formal AS/TS distinction. However, TS that is likely to apply

to more than one domain of applicability should be developed in a modular fashion, to facilitate its incorporation by multiple AS's.

The "Official Protocol Standards" RFC lists a general requirement level for each TS, using the nomenclature defined in this section. This RFC is updated periodically. In many cases, more detailed descriptions of the requirement levels of particular protocols and of individual features of the protocols will be found in appropriate ASs.

4. THE OCI STANDARDS TRACK

Specifications that are intended to become OCI Standards evolve through a set of maturity levels known as the "standards track". These maturity levels -- "Proposed Standard", "Draft Standard", and "Standard" -- are defined and discussed. The way in which specifications move along the standards track is described later.

Even after a specification has been adopted as an OCI Standard, further evolution often then occurs based on experience and the recognition of new requirements. The nomenclature and procedures of OCI standardization provide for the replacement of old OCI Standards with new ones, and the assignment of descriptive labels to indicate the status of "retired" OCI Standards. A set of maturity levels is defined to cover these and other specifications that are not considered to be on the standards track.

4.1 Standards Track Maturity Levels

OCI specifications go through stages of development, testing, and acceptance. Within the OCI Standards Process, these stages are formally labeled "maturity levels".

This section describes the maturity levels and the expected characteristics of specifications at each level.

4.1.1 Proposed Standard

The entry-level maturity for the standards track is "Proposed Standard". A specific action by the OCI BOARD is required to move a specification onto the standards track at the "Proposed Standard" level.

A Proposed Standard specification is generally stable, has resolved known design choices, is believed to be well-understood, has received significant community review, and appears to enjoy enough community interest to be considered valuable. However, further experience might result in a change or even retraction of the specification before it advances.

Usually, neither implementation nor operational experience is required for the designation of a specification as a Proposed Standard. However, such experience is highly desirable, and will usually represent a strong argument in favor of a Proposed Standard designation.

The OCI BOARD may require implementation and/or operational experience prior to granting Proposed Standard status to a specification that materially affects the core OCI protocols or that specifies behavior that may have significant operational impact on the OCI.

A Proposed Standard should have no known technical or management omissions with respect to the requirements placed upon it. However, the OCI BOARD may waive this requirement in order to allow a specification to advance to the Proposed Standard state when it is considered to be useful and necessary (and timely) even with known omissions.

Implementers should treat Proposed Standards as immature specifications. It is desirable to implement them in order to gain experience and to validate, test, and clarify the specification. However, since the content of Proposed Standards may be changed if problems are found or better solutions are identified, deploying implementations of such standards into a business or community-sensitive environment is not recommended.

4.1.2 Draft Standard

A specification from which at least two independent and interoperable implementations from different code bases have been developed, and for which sufficient successful operational experience has been obtained, may be elevated to the "Draft Standard" level. For the purposes of this section, "inter-usable" means to be functionally equivalent or interchangeable components of the system or process in which they are used, e.g. forklifts are used the same way in any business. If patented or otherwise controlled training environment is required for implementation, the separate implementations must also have resulted from separate exercise of the distribution process. Elevation to Draft Standard is a major advance in status, indicating a strong belief that the specification is mature and will be useful.

The requirement for at least two independent and interoperable implementations applies to all of the options and features of the specification. In cases in which one or more options or features have not been demonstrated in at least two interoperable implementations, the specification may advance to the Draft Standard level only if those options or features are removed.

The OCI Layer Working Group chair is responsible for documenting the specific implementations which qualify the specification for Draft or OCI Standard status along with documentation about testing or use (e.g., classroom) of the interoperation of these implementations. The documentation must include information about the support of each of the individual options and features. This documentation should be submitted to the OBI Board. A Draft Standard must be well-understood and well-known to be quite stable, both in its semantics and as a basis for developing an implementation. A Draft Standard may still require additional or more widespread field experience, since it is possible for implementations based on Draft Standard specifications to demonstrate unforeseen behavior when subjected to large-scale use in training environments.

A Draft Standard is normally considered to be a final specification, and changes are likely to be made only to solve specific problems encountered. In most circumstances, it is reasonable for vendors to deploy implementations of Draft Standards into a disruption sensitive environment.

4.1.3 OCI Standard

A specification for which significant implementation and successful operational experience has been obtained may be elevated to the OCI Standard level. An OCI Standard (which may simply be referred to as a Standard) is characterized by a high degree of technical training maturity and by a generally held belief that the specified protocol or service provides significant benefit to the OCI community.

A specification that reaches the status of Standard is assigned a number in the RFC series while retaining its RFC number.

4.2 Non-Standards Track Maturity Levels

Not every specification is on the standards track. A specification may not be intended to be an OCI Standard, or it may be intended for eventual standardization but not yet ready to enter the standards track. A specification may have been superseded by a more recent OCI Standard or have otherwise fallen into disuse or disfavor. Specifications that are not on the standards track are labeled with one of three "off-track" maturity levels: "Experimental", "Informational", or "Historic". The documents bearing these labels are not OCI Standards in any sense.

4.2.1 Experimental

The "Experimental" designation typically denotes a specification that is part of some research or development effort. Such a specification is published for the general information of the OCI technical community and as an archival record of the work, subject only to editorial considerations and to verification that there has been adequate coordination with the standards process (see below). An Experimental specification may be the output of an organized OCI research effort (e.g., a Research Group of the OCI BOARD), an OCI Working Group, or it may be an individual contribution.

4.2.2 Informational

An "Informational" specification is published for the general information of the OCI community and does not represent an OCI community consensus or recommendation. The Informational designation is intended to provide for the timely publication of a very broad range of responsible informational documents from many sources, subject only to editorial considerations and to verification that there has been adequate coordination with the standards process.

Specifications that have been prepared outside of the OCI community and are not incorporated into the OCI Standards Process may be published as Informational RFCs, with the permission of the owner and the concurrence of the RFC Editor.

4.2.3 Procedures for Experimental and Informational RFCs

Unless they are the result of OCI Working Group action, documents intended to be published with Experimental or Informational status should be submitted directly to the RFC Editor. The RFC Editor will publish any such documents as OCI-Drafts which have not already been so published. In order to differentiate these OCI-Drafts they will be labeled or grouped in the OCI Directory, so they are easily recognizable. The RFC Editor will wait two weeks after this publication for comments before proceeding further. The RFC Editor is expected to exercise his or her judgment concerning the editorial suitability of a document for publication with Experimental or Informational status, and may refuse to publish a document which, in the expert opinion of the RFC Editor, is unrelated to OCI activity or falls below the technical and/or editorial standard for RFCs.

To ensure that the non-standards track Experimental and Informational designations are not misused to circumvent the OCI Standards Process, the OCI BOARD and the RFC Editor have agreed that the RFC Editor will refer to the OCI BOARD any document submitted for Experimental or Informational publication which, in the opinion of the RFC Editor, may be related to work being done, or expected to be done, within the OCI community. The OCI BOARD shall review such a referred document within a reasonable period of time and recommend either that it be published as originally submitted or referred to the OCI as a contribution to the OCI Standards Process.

If the OCI Board recommends that the document be brought within the OCI and progressed within the OCI context, but the author declines to do so, or (b) the OCI BOARD considers that the document proposes something that conflicts with, or is actually inimical to, an established OCI effort, the document may still be published as an Experimental or

Informational RFC. In these cases, however, the OCI BOARD may insert appropriate "disclaimer" text into the RFC either in or immediately following the "Status of this Memo" section in order to make the circumstances of its publication clear to readers.

Documents proposed for Experimental and Informational RFCs by OCI Working Groups go through OCI BOARD review. The review is initiated using the process described later.

4.2.4 Historic

A specification that has been superseded by a more recent specification or is for any other reason considered being obsolete is assigned to the "Historic" level. (Purists have suggested that the word should be "Historical"; however, at this point the use of "Historic" is historical.)

Note: Standards track specifications normally must not depend on other standards track specifications which are at a lower maturity level or on non standards track specifications other than reference specifications from other standards bodies.

5. BEST CURRENT PRACTICE (BCP) RFCs

The BCP subseries of the RFC series are designed to be a way to standardize practices and the results of community deliberations. A BCP document is subject to the same basic set of procedures as standards track documents and thus is a vehicle by which the OCI community can define and ratify the community's best current thinking on a statement of principle or on what is believed to be the best way to perform some operations or OCI process function.

OCI standards are concerned with the technical and management specifications for communications, collaboration and "same view" for training and performance. However, since the OCI itself is composed of activities operated by a great variety of organizations, with diverse goals and rules, good user service requires that the users, manager and administrators of the OCI follow some common guidelines for policies and operations. While these guidelines are generally different in scope and style from protocol standards, their establishment needs a similar process for consensus building.

While it is recognized that entities such as the OCI and OCI BOARD are composed of individuals who may participate, as individuals, in the technical work of the OCI, it is also recognized that the entities themselves have an existence as leaders in the community. As leaders in the OCI technical community, these entities should have an outlet to propose ideas to stimulate work in a particular area, to raise the community's sensitivity to a certain issue, to make a statement of architectural principle, or to communicate their thoughts on other matters. The BCP subseries is intended to create a smoothly structured way for these management entities to insert proposals into the consensus-building machinery of the OCI while gauging the community's view of that issue.

Finally, the BCP series may be used to document the operation of the OCI itself. For example, this document defines the OCI Standards Process and is published as a BCP.

5.1 BCP Review Process

Unlike standards-track documents, the mechanisms described in BCPs are not well suited to the phased roll-in nature of the three stage standards track and instead generally only make sense for full and immediate installation.

The BCP process is similar to that for proposed standards. The BCP is submitted to the OCI BOARD for review and the existing review process applies, including a Last-Call on the OCI Announce mailing list. However, once the OCI BOARD has approved the document, the process ends, and the document is published. The resulting document is viewed as having the technical approval of the OCI BOARD.

Specifically, a document to be considered for the status of BCP must undergo the procedures outlined elsewhere in this document. The BCP process may be appealed according to the procedures in section next.

Because BCPs are meant to express community consensus but are arrived at more quickly than standards, BCPs require particular care. Specifically, BCPs should not be viewed simply as Informational RFCs, but rather should be viewed as documents suitable for a content different from Informational RFCs. A specification, or group of specifications, that has, or has been approved as a BCP is assigned a number in the BCP series while retaining its RFC number(s).

6. THE OCI STANDARDS PROCESS

The mechanics of the OCI Standards Process involve decisions of the OCI BOARD concerning the elevation of a specification onto the standards track or the movement of a standards-track specification from one maturity level to another. Although a number of reasonably objective criteria (described below and in section 4) are available to guide the OCI BOARD in making a decision to move a specification onto, along, or off the standards track, there is no guarantee of elevation to or progression along the standards track for any specification. The experienced collective judgment of the OCI BOARD concerning the technical quality of a specification proposed for elevation to or advancement in the standards track is an essential component of the decision-making process.

6.1 Standards Actions

A "standards action" -- entering a particular specification into, advancing it within, or removing it from, the standards track -- must be approved by the OCI BOARD.

6.1.1 Initiation of Action

A specification that is intended to enter or advance in the OCI standards track shall first be posted as an OCI-Draft unless it has not changed since publication as an RFC. It shall remain as an OCI-Draft for a period of time, not less than two weeks that permits useful community review, after which a recommendation for action may be initiated.

A standards action is initiated by a recommendation by the OCI Working group responsible for a specification to the OCI BOARD and others or, in the case of a specification not associated with an IB Working Group, a recommendation by an individual to the OCI BOARD.

6.1.2 OCI BOARD Review and Approval

The OCI BOARD shall determine whether or not a specification submitted to it according to section above satisfies the applicable criteria for the recommended action and shall in addition determine whether or not the technical quality and clarity of the specification is consistent with that expected for the maturity level to which the specification is recommended.

In order to obtain all of the information necessary to make these determinations, particularly when the specification is considered by the OCI BOARD to be extremely important in terms of its potential impact on the OCI or on the suite of OCI protocols, the OCI BOARD may, at its discretion, commission an independent technical review of the specification.

The OCI BOARD will send notice to the OCI of the pending OCI BOARD consideration of the document(s) to permit a final review by the general OCI community. This "Last-Call" notification shall be via electronic mail to the OCI Announcement mailing list. Comments on a Last-Call shall be accepted from anyone and should be sent as directed in the Last-Call announcement.

The Last-Call period shall be no shorter than two weeks except in those cases where the proposed standards action was not initiated by an OCI Working Group, in which case the Last-Call period shall be no shorter than four weeks. If the OCI BOARD believes that the community interest would be served by allowing more time for comment, it may decide on a longer Last-Call period or to explicitly lengthen a current Last-Call period.

The OCI BOARD is not bound by the action recommended when the specification was submitted. For example, the OCI BOARD may decide to consider the specification for publication in a different category than that requested. If the OCI BOARD determines this before the Last-Call is issued, then the Last-Call should reflect the OCI BOARD's view. The OCI BOARD could also decide to change the publication category based on the response to a Last-Call. If this decision would result in a specification being published at a "higher" level than the original Last-Call was for, a new Last-Call should be issued indicating the OCI BOARD recommendation. In addition, the OCI BOARD may decide to recommend the formation of a new Working Group in the case of significant controversy in response to a Last-Call for specification not originating from an OCI Working Group.

In a timely fashion after the expiration of the Last-Call period, the OCI BOARD shall make its final determination of whether or not to approve the standards action and shall notify the OCI membership of its decision via electronic mail to the OCI Announce mailing list.

6.1.3 Publication

If a standards action is approved, notification is sent to the RFC Editor and copied to the OCI with instructions to publish the specification as an RFC. The specification shall at that point be removed from the OCI-Drafts directory. An official summary of standards actions completed and pending shall appear in each issue of the OCI Society's newsletter (optional). This shall constitute the "publication of record" for OCI standards actions.

The RFC Editor shall publish periodically an "OCI Official Protocol Standards" RFC e.g., RFC-1, summarizing the status of all OCI protocol and service specifications.

6.2 Advancing in the Standards Track

The procedure described in section 6.1 is followed for each action that attends the advancement of a specification along the standards track.

A specification shall remain at the Proposed Standard level for at least six (6) months.

A specification shall remain at the Draft Standard level for at least four (4) months, or until at least one OCI meeting has occurred, whichever comes later.

These minimum periods are intended to ensure adequate opportunity for community review without severely impacting timeliness. These intervals shall be measured from the date of publication of the corresponding RFC(s), or, if the action does not result in RFC publication, the date of the announcement of the OCI BOARD approval of the action.

A specification may be (indeed, is likely to be) revised as it advances through the standards track. At each stage, the OCI BOARD shall determine the scope and significance of the revision to the specification, and, if necessary and appropriate, modify the recommended action. Minor revisions are expected, but a significant revision may require that the specification accumulate more experience at its current maturity level before progressing. Finally, if the specification has been changed very significantly, the OCI BOARD may recommend that the revision be treated as a new document, re-entering the standards track at the beginning.

Change of status shall result in republication of the specification as an RFC, except in the rare case that there have been no changes at all in the specification since the last publication. Generally, desired changes will be "batched" for incorporation at the next level in the standards track. However, deferral of changes to the next standards action on the specification will not always be possible or desirable; for example, an important typographical error, or a technical error that does not represent a change in overall function of the specification, may need to be corrected immediately. In such cases, the OCI BOARD or RFC Editor may be asked to republish the RFC (with a new number) with corrections, and this will not reset the minimum time-at-level clock.

When a standards-track specification has not reached the OCI Standard level but has remained at the same maturity level for twenty-four (24) months, and every twelve (12) months thereafter until the status is changed, the OCI BOARD shall review the viability of the standardization effort responsible for that specification and the usefulness of the technology. Following each such review, the OCI BOARD shall approve termination or continuation of the development effort, at the same time the OCI BOARD shall decide to maintain the specification at the same maturity level or to move it to Historic status. This decision shall be communicated to the OCI by electronic mail to the OCI Announce mailing list to allow the OCI community an opportunity to comment. This provision is not intended to threaten a legitimate and active Working Group effort, but rather to provide an administrative mechanism for terminating a moribund effort.

6.3 Revising a Standard

A new version of an established OCI Standard must progress through the full OCI standardization process as if it were a completely new specification. Once the new version has reached the Standard level, it will usually replace the previous version, which will be moved to Historic status. However, in some cases both versions may remain as OCI Standards to respect the requirements of another RFC. In this situation, the relationship between the previous and the new versions must be explicitly stated in the text of the new version or in another appropriate document.

6.4 Retiring a Standard

As the technology changes and matures, it is possible for a new Standard specification to be so clearly superior technically that one or more existing standards track specifications for the same function should be retired. In this case, or when it is felt for some other reason that an existing standards track specification should be retired, the OCI BOARD shall approve a change of status of the old- specification(s) to Historic. This recommendation shall be issued with the same Last-Call and notification procedures used for any other standards action. A request to retire an existing standard can originate from a Working Group, an Area Director or some other interested party.

6.5 Conflict Resolution and Appeals

Disputes are possible at various stages during the OCI process. As much as possible the process is designed so that compromises can be made and genuine consensus achieved, however there are times when even the most reasonable and knowledgeable people are unable to agree. To achieve the goals of openness and fairness, such conflicts must be resolved by a process of open review and discussion. This section specifies the procedures that shall be followed to deal with OCI standards issues that cannot be resolved through the normal processes whereby OCI Working Groups and other OCI Standards Process participants ordinarily reach consensus.

6.5.1 Working Group Disputes

An individual (whether a participant in the relevant Working Group or not) may disagree with a Working Group recommendation based on his or her belief that either (a) his or her own views have not been adequately considered by the Working Group, or (b) the Working Group has made an incorrect technical choice which places the quality and/or integrity of the Working Group's product(s) in significant conflict. The first issue is a difficulty with Working Group process; the latter is an assertion of technical error. These two types of disagreement are quite different, but both are handled by the same process of review.

A person who disagrees with a Working Group recommendation shall always first discuss the matter with the Working Group's chair(s), who may involve other members of the Working Group (or the Working Group as a whole) in the discussion.

If the disagreement cannot be resolved in this way, any of the parties involved may bring it to the attention of the Area Director(s) for the area in which the Working Group is chartered.

The OCI Layer Director(s) shall attempt to resolve the dispute.

If the disagreement cannot be resolved by the Area Director(s) any of the parties involved may then appeal to the OCI BOARD as a whole. The OCI BOARD shall then review the situation and attempt to resolve it in a manner of its own choosing.

If the disagreement is not resolved to the satisfaction of the parties at the OCI BOARD level, any of the parties involved may appeal the decision to the OCI BOARD. The OCI BOARD shall then review the situation and attempt to resolve it in a manner of its own choosing.

The OCI BOARD decision is final with respect to the question of whether or not the OCI standards procedures have been followed and with respect to all questions of technical merit.

6.5.2 Process Failures

This document sets forward procedures required to be followed to ensure openness and fairness of the OCI Standards Process, and the technical viability of the standards created. The OCI BOARD is the principal agent of the OCI for this purpose, and it is the OCI BOARD that is charged with ensuring that the required procedures have been followed, and that any necessary prerequisites to a standards action have been met.

If an individual should disagree with an action taken by the OCI BOARD in this process, that person should first discuss the issue with the OCI Chair. If the OCI BOARD Chair is unable to satisfy the complainant then the OCI BOARD as a whole

should re-examine the action taken, along with input from the complainant, and determine whether any further action is needed. The OCI BOARD shall issue a report on its review of the complaint.

If circumstances warrant, the OCI BOARD may direct the decision be annulled, and the situation shall then be as it was before the OCI BOARD decision was taken. The OCI BOARD may also recommend an action or make such other recommendations as it deems fit.

The OCI BOARD decision is final with respect to the question of whether or not the OCI standards procedures have been followed.

6.5.3 Questions of Applicable Procedure

Further recourse is available only in cases in which the procedures themselves (i.e., the procedures described in this document) are claimed to be inadequate or insufficient to the protection of the rights of all parties in a fair and open OCI Standards Process. Claims on this basis may be made to the OCI BOARD. The OCI BOARD shall acknowledge such an appeal within two weeks and shall at the time of acknowledgment advise the petitioner of the expected duration of the BOARD review of the appeal. The BOARD shall review the situation in a manner of its own choosing and report to the OCI on the outcome of its review.

The BOARD decision upon completion of their review shall be final with respect to all aspects of the dispute.

6.5.4 Appeals Procedure

All appeals must include a detailed and specific description of the facts of the dispute.

All appeals must be initiated within two months of the public knowledge of the action or decision to be challenged.

At all stages of the appeals process, the individuals or bodies responsible for making the decisions have the discretion to define the specific procedures they will follow in the process of making their decision.

In all cases a decision concerning the disposition of the dispute, and the communication of that decision to the parties involved, must be accomplished within a reasonable period of time. These procedures intentionally and explicitly do not establish a fixed maximum time period that shall be considered "reasonable" in all cases. The OCI Standards Process places a premium on consensus and efforts to achieve it, and deliberately foregoes deterministically swift execution of procedures in favor of latitude within which more genuine technical agreements may be reached.

7. EXTERNAL STANDARDS AND SPECIFICATIONS

Many standards groups other than the OCI create and publish standards documents for training and performance. When these external specifications play an important role in the OCI, it is desirable to reach common agreements on their usage -- i.e., to establish OCI Standards relating to these external specifications.

There are two categories of external specifications:

(1) Open Standards

Various national and international standards bodies, such as IETF, IEEE, ITU, GATT, develop a variety of accounting, technical protocol and service specifications that are similar to Technical Specifications defined here. National and

international groups also publish "implementers' agreements" that are analogous to Applicability Statements, capturing a body of implementation-specific detail concerned with the practical application of their standards. All of these are considered to be "open external standards" for the purposes of the OCI Standards Process.

(2) Other Specifications

Other proprietary specifications that have come to be widely used in the OCI may be treated by the OCI community as if they were a "standard". Such a specification is not generally developed in an open fashion, is typically proprietary, and is controlled by the vendor, vendors, or organization that produced it.

7.1 Use of External Specifications

To avoid conflict between competing versions of a specification, the OCI community will not standardize a specification that is simply an "OCI version" of an existing external specification unless an explicit cooperative arrangement to do so has been made. However, there are several ways in which an external specification that is important for the operation and/or evolution of the OCI may be adopted for OCI use.

7.1.1 Incorporation of an Open Standard

An OCI Standard TS or AS may incorporate an open external standard by reference. For example, many OCI Standards incorporate by reference to process. Whenever possible, the referenced specification shall be available online.

7.1.2 Incorporation of Other Specifications

Other proprietary specifications may be incorporated by reference to a version of the specification set forth by the OCI BOARD. If the other proprietary specification is not widely and readily available, the OCI BOARD may request that it be published as an Informational RFC.

The OCI BOARD generally should not favor a particular proprietary specification over technically equivalent and competing specification(s) by making any incorporated vendor specification "required" or "recommended".

7.1.3 Assumption

An OCI Working Group may start from an external specification and develop it into an OCI specification. This is acceptable if (1) the specification is provided to the Working Group in compliance with the requirements of section 10, and (2) change control has been conveyed to OCI by the original developer of the specification for the specification or for specifications derived from the original specification.

8. NOTICES AND RECORD KEEPING

Each of the organizations involved in the development and approval of OCI Standards shall publicly announce, and shall maintain a publicly accessible record of, every activity in which it engages, to the extent that the activity represents the prosecution of any part of the OCI Standards Process. For purposes of this section, the organizations involved in the development and approval of OCI Standards includes the members of OCI, the OCI BOARD, all OCI Working Groups, and the public and press.

For OCI and Working Group meetings announcements shall be made by electronic mail to the OCI Announce mailing list and shall be made sufficiently far in advance of the activity to permit all interested parties to effectively participate. The announcement shall contain (or provide pointers to) all of the information that is necessary to support the participation of any interested individual. In the case of a meeting, for example, the announcement shall include an agenda that specifies the standards-related issues that will be discussed. The formal record of an organization's standards-related activity shall include at least the following:

- o The charter of the OCI BOARD;
- o Complete and accurate minutes of meetings;
- o The archives of Working Group electronic mail mailing lists; and
- o All written contributions from participants that pertain to the organization's standards-related activity.

As a practical matter, the formal record of all OCI Standards Process activities is maintained by the OCI BOARD, and is the responsibility of the OCI Secretariat except that each OCI Working Group is expected to maintain their own email list archive and must make a best effort to ensure that all traffic is captured and included in the archives. Also, the Working Group chair is responsible for providing the OCI BOARD with complete and accurate minutes of all Working Group meetings. OCI-Drafts that have been removed (for any reason) from the OCI-Drafts directories shall be archived by the OCI BOARD for the sole purpose of preserving an historical record of OCI standards activity and thus are not retrievable except in special circumstances.

9. VARYING THE PROCESS

This document, which sets out the rules and procedures by which OCI Standards and related documents are made, is itself a product of the OCI Standards Process. It replaces a previous version, and in time, is likely itself to be replaced.

While, when published, this document represents the community's view of the proper and correct process to follow, and requirements to be met, to allow for the best possible OCI Standards and BCPs, it cannot be assumed that this will always remain the case. From time to time there may be a desire to update it, by replacing it with a new version. Updating this document uses the same open procedures as are used for any other BCP.

In addition, there may be situations where following the procedures leads to a deadlock about a specific specification, or there may be situations where the procedures provide no guidance. In this case it may be appropriate to invoke the variance procedure described below.

9.1 The Variance Procedure

Upon the recommendation of the responsible OCI Working Group (or, if no Working Group is constituted, upon the recommendation of an ad hoc committee), the OCI BOARD may enter a particular specification into, or advance it within, the standards track even though some of the requirements of this document have not or will not be met. The OCI BOARD may approve such a variance, however, only if it first determines that the likely benefits to the OCI community are likely to outweigh any costs to the OCI community that result from noncompliance with the requirements in this document. In exercising this discretion, the OCI BOARD shall at least consider (a) the technical merit of the specification, (b) the possibility of achieving the goals of the OCI Standards Process without granting a

variance, (c) alternatives to the granting of a variance, (d) the collateral and precedential effects of granting a variance, and (e) the OCI BOARD's ability to craft a variance that is as narrow as possible. In determining whether to approve a variance, the OCI BOARD has discretion to limit the scope of the variance to particular parts of this document and to impose such additional restrictions or limitations as it determines appropriate to protect the interests of the OCI community.

The proposed variance must detail the problem perceived, explain the precise provision of this document which is causing the need for a variance, and the results of the OCI BOARD's considerations including consideration of points (a) through (d) in the previous paragraph. In a timely fashion after the expiration of the Last-Call period, the OCI BOARD shall make its final determination of whether or not to approve the proposed variance and shall notify the OCI of its decision via electronic mail to the OCI Announce mailing list. If the variance is approved it shall be forwarded to the RFC Editor with a request that it be published as a BCP. This variance procedure is for use when a one-time waving of some provision of this document is felt to be required. Permanent changes to this document shall be accomplished through the normal BCP process.

The appeals process in section 6.5 applies to this process.

9.2 Exclusions

No use of this procedure may lower any specified delays, nor exempt any proposal from the requirements of openness, fairness, or consensus, nor from the need to keep proper records of the meetings and mailing list discussions.

10. INTELLECTUAL PROPERTY RIGHTS

This document does not cover IP-intellectual property rights, corporate or vendor proprietary rights or other NDA-Non-Disclosure Agreement issues which may be explored by the OCI Board.

10.1. General Policy

In all matters of intellectual property rights and procedures, the intention is to benefit the OCI community and the public at large, while respecting the legitimate rights of others.

10.2 Confidentiality Obligations

No contribution that is subject to any requirement of confidentiality or any restriction on its dissemination may be considered in any part of the OCI Standards Process, and there must be no assumption of any confidentiality obligation with respect to any such contribution.

10.3. Rights and Permissions

In the course of standards work, the OCI receives contributions in various forms and from many persons. To best facilitate the dissemination of these contributions, it is necessary to understand any intellectual property rights (IPR) relating to the contributions.

10.3.1. All Contributions

By submission of a contribution, each person actually submitting the contribution is deemed to agree to the following terms and conditions on his own behalf, on behalf of the organization (if any) s/he represents and on behalf of the owners of any proprietary rights in the contribution. Where a submission identifies contributors in addition to the contributor(s) who provide the actual submission, the actual submitter(s) represent that each other named contributor was made aware of and agreed to accept the same terms and conditions on his own behalf, on behalf of any organization s/he may represent and any known owner of any proprietary rights in the contribution.

1. Some works (e.g., works of the U.S. Government) are not subject to copyright. However, to the extent that the submission is or may be subject to copyright, the contributor, the organization s/he represents (if any) and the owners of any proprietary rights in the contribution, grant an unlimited perpetual, non-exclusive, royalty-free, world-wide right and license to the OCI and the OCI under any copyrights in the contribution. This license includes the right to copy, publish and distribute the contribution in any way, and to prepare derivative works that are based on or incorporate all or part of the contribution, the license to such derivative works to be of the same scope as the license of the original contribution.

2. The contributor acknowledges that the OCI have no duty to publish or otherwise use or disseminate any contribution.

3. The contributor grants permission to reference the name(s) and address (es) of the contributor(s) and of the organization(s) s/he represents (if any).

4. The contributor represents that contribution properly acknowledges major contributors.

5. The contributor, the organization (if any) s/he represents and the owners of any proprietary rights in the contribution, agree that no information in the contribution is confidential and that the OCI and its affiliated organizations may freely disclose any information in the contribution.

6. The contributor represents that he has disclosed the existence of any proprietary or intellectual property rights in the contribution that are reasonably and personally known to the contributor. The contributor does not represent that s/he personally knows of all potentially pertinent proprietary and intellectual property rights owned or claimed by the organization s/he represents (if any) or third parties.

7. The contributor represents that there are no limits to the contributor's ability to make the grants acknowledgments and agreements above that are reasonably and personally known to the contributor.

By ratifying this description of the OCI process the OCI BOARD warrants that it will not inhibit the traditional open and free access to OCI documents for which license and right have been assigned according to the procedures set forth in this section, including OCI-Drafts and RFCs. This warrant is perpetual and will not be revoked by the OCI BOARD or its successors or assigns.

10.3.2. Standards Track Documents

(A) Where any patents, patent applications, or other proprietary rights are known, or claimed, with respect to any specification on the standards track, and brought to the attention of the OCI BOARD, the OCI BOARD shall not advance the specification without including in the document a note indicating the existence of such rights or claimed rights. Where implementations are required before advancement of a specification, only implementations that have, by

statement of the authors or users taken adequate steps to comply with any such rights, or claimed rights, shall be considered for the purpose of showing the adequacy of the specification.

(B) The OCI BOARD disclaims any responsibility for identifying the existence of or for evaluating the applicability of any claimed copyrights, patents, patent applications, or other rights in the fulfilling of the its obligations under (A), and will take no position on the validity or scope of any such rights.

(C) Where the OCI BOARD knows of rights, or claimed rights under (A), the OCI Executive Director shall attempt to obtain from the claimant of such rights, a written assurance that upon approval by the OCI BOARD of the relevant OCI standards track specification(s), any party will be able to obtain the right to implement, use and distribute the training process, technology or works when implementing, using or distributing technology based upon the specific specification(s) under openly specified, reasonable, non-discriminatory terms. The Working Group proposing the use of the "technology" with respect to which the proprietary rights are claimed may assist the OCI BOARD in this effort. The results of this procedure shall not affect advancement of a specification along the standards track, except that the OCI BOARD may defer approval where a delay may facilitate the obtaining of such assurances. The results will, however, be recorded by the OCI BOARD, and made available. The OCI BOARD may also direct that a summary of the results be included in any RFC publish containing the specification.

10.3.3 Determination of Reasonable and Non-discriminatory Terms

The OCI BOARD will not make any explicit determination that the assurance of reasonable and non-discriminatory terms for the use of a performance system has been fulfilled in practice. It will instead use the normal requirements for the advancement of OCI Standards to verify that the terms for use are reasonable. If the two unrelated implementations of the specification that are required to advance from Proposed Standard to Draft Standard have been produced by different organizations or individuals or if the "significant implementation and successful operational experience" required to advance from Draft Standard to Standard has been achieved the assumption is that the terms must be reasonable and to some degree, non-discriminatory. This assumption may be challenged during the Last-Call period.

10.4. Notices

(A) Standards track documents shall include the following notice:

"The OCI takes no position regarding the validity or scope of any intellectual property or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; neither does it represent that it has made any effort to identify any such rights. Information on the OCI's procedures with respect to rights in standards-track and standards-related documentation will be developed as needed and appropriate. Copies of claims of rights made available for publication and any assurances of licenses/users to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of the specification can be obtained from the OCI BOARD."

(B) The OCI encourages all interested parties to bring to its attention, at the earliest possible time, the existence of any intellectual property rights pertaining to OCI Standards. For this purpose, each standards document shall include the following invitation:

"The OCI invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights which may cover technology that may be required to practice this standard. Please address the information to the OCI BOARD."

(C) The following copyright notice and disclaimer shall be included

in all standards-related documentation:

"Copyright (C) The OBI Board (date). All Rights Reserved.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this paragraph are included on all such copies and derivative works. However, this document itself may not be modified in any way, such as by removing the copyright notice or references to the OCI BOARD or other OCI organizations, except as needed for the purpose of developing OCI standards in which case the procedures for copyrights defined in the OCI Standards process must be followed, or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by the OCI BOARD or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and THE OCI BOARD DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE."

(D) Where the OCI BOARD is aware at the time of publication of proprietary rights claimed with respect to a standards track document, or the technology described or referenced therein, such document shall contain the following notice:

"The OCI has been notified of intellectual property rights claimed in regard to some or all of the specification contained in this document. For more information consult the online list of claimed rights."

11. DEFINITIONS OF TERMS

To be developed.