Peer-to-Peer (P2P) based CPFR/Trading Exchange Case Study

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Introduction

This paper will discuss the current adoption of CPFR as well as outline the main business strategies employed for its deployment. The pros and cons of each deployment model will be outlined, and a review of the earliest pioneering examples of Peer-to-Peer (P2P) based CPFR will be presented. Finally, this paper will discuss how CPFR will evolve – both in form and content, in terms of extensions to the business process and how the deployment models will be played out.

The Importance of Being Collaborative

Almost every day that goes by is accompanied by an article, press release, case study or survey about how important collaboration is to business in general, and business-to-business (B2B) in particular. Several notable surveys have been published in recent months that describe the uses and abuses of the term "collaboration". One of the better reports was published by Deloitte Research, and was entitled, "Going Private to Get Results". The premise of the report from a survey of IT leaders in several industries, is that greatest value to a company's IT investment will more likely come from developing a private, extranet-based collaborative business processes than that could be achieved from public business processes such as auctions and so on.

Additionally, almost all reports have shown that this "public versus private" debate neatly aligns along business and competitive strategy arguments. What is interesting however is how business leaders came to this conclusion! It was only eighteen months ago that they were in favor of the public model! What does make some reports less than helpful is that some include the use of EDI and simple file-sharing or "visibility" activities in their categorization of collaboration. We would suggest that this is perhaps a "first step" to true collaboration; and that collaboration really is any shared business processes. This immediately eliminates most of Enterprise Resource Planning (ERP) which by definition is an Enterprise business model.

Deployment Alternatives for CPFR

CPFR, as the 9-step business model, is being implemented at many different levels of the consumer goods value chain, and beyond. The most active use is between retailers and suppliers, but it is spreading to the raw material/manufacturer supply chains as well. Further, it is being adopted or is being evaluated for adoption by other industry segments, including high tech electronics (RosettaNet), automotive (AIX), and the chemicals industry (CIDX). The primary technology or topological

models for deployment have been described at length in the VICS CPFR material (found at www.cpfr.org) but the major ways are:

- Hub-and-Spoke
- Centralized, or Net Market
- Hosted
- Peer-to-Peer (P2P)

The first three are all forms of "shared" deployments where both buyer and sellers physically use the same solution. In the case of a Net Market offering (like Transora, or World Wide Retail Exchange) the idea is that whole swathes of an industry use the same solution! This seems a little like wishful thinking. Even SAP failed to get established in every company. There are scenarios where competitors will share the cost of joint development or share the use of common services, but this is unlikely to be supported for those business processes or services that provide high value-add, or contribute greatly to competitive advantage.

'Hub-and-Spoke' was the initial deployment mode that was pioneered and deployed in 1997 and 1998. This model involved one company (buyer or seller) acting as the service provider to its partners (spokes). This was very attractive to early adopters as this enabled them to get their CPFR efforts underway and not be held back by any partner's lack of access to CPFR technology. The original VICS CPFR documentation did not use the phrase "hub-and-spoke" or "Peer-to-Peer" but they have become the generally recognized names for these models.

The 'centralized' offering for CPFR is what is being deployed now by the Net Markets. These "middle-men" act as agents to facilitate various B2B business processes, not least of which is CPFR. In this sense, neither buyer or seller who want to do CPFR with each other need access to their own solution as they can both use what is offered on the Net Market. In some cases, both partners use the same physical solution – although data is not replicated from their Enterprise data source on the Net Market. For pilots and small scale deployments this is a reasonable concept but taking an industry viewpoint, this is a huge challenge – not just for CPFR but for any other business process that seeks to replicate huge chunks of data that used to reside behind a company's firewall. The idea of Net Market interoperability evolved from this early realization. However, for various reasons, several large companies decided to operate as an independent Peer-enabled company such that they could leverage this Net Market interoperability (or Exchange to Exchange, X2X, as it has become known) and interoperate on a neutral basis with other hubs, Net Markets or spokes. That is what contributed to the most recent development, the Peer-to-Peer discussion shown below.

Some companies can also opt for a hosted model whereby they simply use a CPFR solution that is offered as an out-sourced offering. This would be no different to a company outsourcing their Human Resources solutions. However, irrespective of this, the company in question might still be party to hub and spoke, centralized or even P2P integration. In other words, the hosted offering is not a different integration option. It is simply a different way to access the service.

Evolving Value Chain Behavior leads to Peer-to-Peer

Peer-to-Peer (P2P) is perhaps the most interesting model of all. P2P Computing is normally associated with "file sharing" systems such as Napster, or "resource sharing" processes such as Set@Home. CPFR is one of the first "shared processes" but when it was conceived, P2P Computing had not yet been applied to B2B. Now it has been with great affect. When a company elects to act as a peer, they become insulated from all other forms of integration. Irrespective of whether they wish to join one or more Net Markets, or will interact with other CPFR peers, or act as a hub to partners (as spokes), they can do so without any change in their technology offering. P2P seems to offer more of a long-term solution. Indeed, P2P is impacting B2B in many other areas that are not addressed by CPFR. P2P connectivity maximizes the number of connection approaches a company can deploy and ensures that whatever technology they connect to, they do not need to change their technology platform.

However, these deployment options are not exclusive. It is likely that as a company grows in its use of Collaborative Commerce and CPFR, and within its competitive strategy, it will use most of these deployment models over time. We would suggest that there is a general evolution that is already being observed:

1. Initial leaders and pioneers will use their extranet to facilitate advanced collaborative business processes with a few, key partners
2. Immediate followers and first generation adopters seek to adopt similar business solutions, but use hosting or net markets as a way to gain critical mass or to "catch up" with the innovators
3. Dominant or dominant seeking companies build out their extranets and integrate Peer-to-Peer for CPFR with their key suppliers and customers
4. Hosting becomes a sustainable model for mid-market or smaller companies who cannot afford or who do not want to build out their extranet.

CPFR, Business-to-Business, and Net Markets

So what of the Trading Exchange or Net Market phenomena? In February 2000, at the height of the Net Market frenzy, the very seeds of disaster were sown. The automotive dinosaurs announced Covisant as a response to the dot.com start-ups that apparently for many, threatened their existence as surely as a comet supposedly eclipsed their namesake. Eight weeks later, the Consumer Goods and Retail segments, followed suit with Transora and World Wide Retail Exchange (WWRE). There intermediaries were set to revolutionize the way buyers and sellers were to operate in almost every industry. This was intended to be achieved through centralizing agents that would remove barriers to entry, this facilitating much more efficient business between many buyers and sellers.

The model that this centralizing, public service was built on was the clearing house-like, price driven, stock market. However, there was one fatal flaw. Most sellers seek to differentiate themselves; most buyers use price as a rational means to discount competing products in a given category. These conflicting goals settle into a form of co-habitation in the area of commodities, such as stocks and shares, but not when it comes to branded goods or differentiated services. Back in 1999 we forecasted that the centralizing net market functions as then being born would not logically survive. Today, this has been proven true. Today, conventional wisdom

supports two B2B business models including the public model of "many-to-many" and the private model of "one-to-some". CPFR is by definition is a private business model, and now is seen more as a core business process versus a public, non-core business process.

Public Exchanges Revealed.

Centralizing agents are best suited to environments and markets where increased visibility would improve efficiency. These are markets that serve commodity products; where there are many buyers and sellers – none of which can sufficiently influence price or availability; where products are not generally differentiated; and where buyers and sellers wish to enter and leave a market freely. Adam Smith, the godfather of economics, would call this Internet market a catalyst for "perfect competition" where information flows freely and almost invisibly between buyer and seller such that rational decisions are made almost instantaneously. This is the dead opposite of what a seller of branded products seeks and this is also detrimental to the long-term survival of a buyer of such products. For this scenario, the long-term relationship and its resultant revenue benefit for the two companies outweighs any short-term gain in price-cutting.

Private Exchanges Hidden.

A public mode, built on Internet technology is in fact a very old idea made much more up to date. Markets have been around for hundreds of years. Likewise, a private exchange is also not a new idea. What is very, very new is the concept of interoperability and what it brings to a member of a public and private exchange. If standards are developed, and for some business processes they have been, a member of an exchange can defect easily and join another exchange. And any partner, buyer or seller, can do likewise. In other words, the dynamic value chains dreamed up in the 1990's are now possible. However, as any buyer or seller knows real deep commitment and long term relationships are needed in order to re-define competitive advantage today. Consequently, collaboration is seen as a private model that is best realized in a private exchange where you and your invited, secure and approved tier one partners work with you. You can still activate public processes such as RFQ etc. to those members on the private exchange; a lack of takers will simply cause you to post the unsatisfied RFQ to a public exchange where you will take advantage of the greater publicity that that offering provides.

There is tremendous interest at this time in the hosting of CPFR on Net Markets. This represented a predictable shift in focus from public services that Net Markets were originally grounded in, to private services that offer far greater returns to the Net Market itself. In other words, it is very hard to secure liquidity in a Net Market that seeks to provide public services since by definition those processes are likely to be easy to replicate. Private services offer deep, rich, interactions between buyer and seller and thus attract their own liquidity.

Since CPFR is seen as valuable to Net Markets, it is a good working assumption that n-tier CPFR is also applicable. Any Net Market that seeks to facilitate business between buyers and sellers might extend its coverage and footprint to the suppliers of those sellers. The key concern is which level of a given value chain does a Net Market wish to serve. If a Net Market wishes to act as a demand aggregator for retailers in preparation for bidding of supply from primary sellers, then the basic CPFR model applies. If a Net Market wishes to serve the manufacturers (the buyers)

and their primary suppliers, a version of n-tier might be applicable in case the terminology, data dictionary and process differ from the basic CPFR model. If a Net Market wishes to act as the enabler of the entire value chain, then the n-Tier CPFR model is likely to be the preferred model.

The net result of this is that most deployment models will be used by companies as they develop their e-Business strategy, and as they migrate to focusing on strategic, core business process such as CPFR. The "best" model that supports the most standardized connection options is to become "peer-enabled". As the B2B space matures, and centralizing net markets continue to grow-and replicate more and more data that used to persist behind the enterprise firewall the issue of scalability will be surely tested. Then the value of distributed data management and P2P, or shared business processes, will come to the fore.

The Napsterisation of the Supply Chain

In a Harvard Business Review paper in 2000, Andrew McAfee suggested that Napster, or at least some of the technology introduced by Napster, would in time be applied to some aspects the supply chain and that as a result, a disruptive innovation would challenge the status quo. The paper was written early in the hype-cycle of the Peer-to-Peer wave and as such it was very light in terms of hard examples of how P2P would impact the supply chain. The key point however was that file sharing technology used to swap MP3 music files could also be used somehow to share other documents. Imagine what would happen Napster could be used to share Purchase Orders or RFP documents?

However, we think that P2P computing is far more important than just Napster, and further that the whole P2P impact is nothing less than complete dissolution of the previous client/server/web technology framework. We take a much broader view of what is meant as "peer-to-peer" computing, and we include several components that all have a common focus: sharing.

We suggest that P2P computing, as it relates to B2B, is made up of the following:

- File Sharing services, such as Napster, Grokster and so on;
- Resource Sharing services such as Seti@home;
- Business Process sharing services such as CPFR.

Napster is not in fact a true P2P technology. Napster was the file sharing service that caught the eye of the press as its use threatened the music industry. It allowed clients connected to the Napster network to share MP3 files without any middlemen. In other words, you were not forced into paying for CD's; you just downloaded the MP3 files you wanted. In reality, Napster did have a centralized directory and location service that all on-line users logged into. The central service enabled an easy way for Napster to communicate with all online clients. After a user submitted a "search" for their sought after music track, the results of the central directory was sent to the user, who then made a direct connection or P2P link to the remote client that stored the track. So Napster was at once a centralizing net market service with some elements of P2P.

As the hype has settled down on the Napster saga, and as they prepare to launch their new subscription service, the government is once again on the war path seeking to shut down the second wave or sons of Napster. The trouble is this effort

will be much harder to execute. As Napster ran into trouble, thousands upon thousands of Napster users turned off their old file sharing service only to turn on their new service that operated in much the same way but without the overhead of a centralization service. This centralizing service required servers to store all the software and information and it was a prime target for the federal agencies to focus upon. With the new batch of services, there is no central service. There is no company technically to shut down!

The new wave of P2P file sharing services operate as if an agent wanders around the network polling users logged on to see if their client has the desired file. The agent responds back to its sender when it finds a response, and continues on its tortuous journey through the Internet. Users might notice a small degradation in response time but the third wave of these tools are now on the market and they operate as fast, or faster than the Napster models. Even as the Napster model is being reborn, it is already dead in the water! The music industry has a real battle on their hands and they don't even know it.

Beyond File Sharing and the Napster Legacy

Other than file sharing, there is something that is known as resource sharing. This also is a simple concept but devilishly hard to model. When your office block shuts down at night, and you all go home, the fixed PC's in the office are doing nothing – other than the odd anti-virus scan of course! When you are all hard at work, your Asian colleagues are also at home or out and about, and their daytime PC's also at rest at night in their offices. The world is abounding with free CPU time that has been paid for but is not being productive.

If there is a CPU intensive operation that can be split up into discrete and independent work units, and distributed to these CPU's, then a whole more work could be done! And that is the brainchild of Seti@home. Seti@home is a program that sends small chunks of data gathered by space-facing receivers that are being analyzed for signs of little-green men. To process the gazillions of data stored would take a very large and very expensive computer – and a very long time. Since the process can be broken down into small enough chunks and can be operated on independently, the process can exploit some of that free CPU time.

So my home PC is a Seti@home PC! When it is idle, which is most of the time, the screen saver kicks in, and my PC starts to search for patterns. At the conclusion of its work load, it signals to me that it wants to send the results to the university from which it came. Then I connect to the Internet, and swap the completed work for a segment of new, raw data. And so the work continues. The process itself will work on almost any sized CPU and is therefore very friendly for a great number of computers. It is very efficient.

So are there B2B tasks that are CPU intensive, that can be broken up and "processed" in free time? I am not sure that there are too many although I do know a couple of folks who are building a company on just this area. For me, the light bulb came on when I looked at the deployment models of CPFR, and of how the mechanics of CPFR take place, and the Napster technology. I finally realized that:

- CPFR is a process that shares files between buyer and seller (for forecasting and replenishment planning)

- CPFR could share CPU time in order to process data, if there was enough data to process, and more importantly,
- CPFR is a shared business process.

CPFR as a Shared Business Process

Between making the CLM presentation, and writing this paper, I noticed the following article by a CSC supply chain expert. She was writing about the chemical industry and considering what would happen next:

The next generation of e-business will be defined
by unprecedented levels of networking among companies,
and will be powered by shared business processes.

Source: Web Business Ahead: Vision for the Next-Generation Chemical Company, CSC.

It is interesting to note the reference to "shared business process". These are the new wave of real innovation that is being developed to exploit the use of the Internet. Simply putting a web browser on the end of your legacy business systems and letting your customers check the status of their own order will not change the competitive landscape. Developing a wholly new and innovative business process that eliminates current status-quo steps is a means to delivering sustainable competitive advantage. It is these shared business processes that Gartner Group refers to when they introduced the phrase, "Collaborative Commerce", and the end of 1999.

Now, GartnerGroup is in awe of P2P like several others are:

"P2P's eventual impact will be profound, reflecting a swing to more decentralized computing, exploiting resources distributed at the "edge" of the network."

"Even those enterprises that choose not to engage in P2P at this stage must recognize that technology's longer-term impact and factor it into their strategic planning."

Source: "Peer to Peer: Something Old, Something New", GartnerGroup.

P2P and Trading Exchanges

As you have already seen there is a great argument over what should and should not succeed on a centralizing net market model versus a distributed model. With the advent of global standards a reality (see www.cpfr.org, www.vics.org, wwwglobalcommerceinitiative.org) the costliness of direct connections between partners becomes a lot less than it was. In affect, the "connect once, connect all" mantra of the net market marketing message is almost as good as for P2P connections! This is because all members of your private network would connect using the same XML!

We maintain and most industry analysts now support, the notion that there are clear times and places where centralizing net markets offer superiority over distributed models. Any business process that is predicated on visibility, or getting access to more people, gains efficiency when centralized. By definition, a centralized model should always beat the distributed model. Any product or service that demonstrates characteristics that are associated with a commodity also lends themselves to centralization. That is the definition of NASDAQ and the FT100.

Decentralization and distributed systems are today a bad world for many. However, evolution and normal competitive behavior is already kicking on. Even though the marketing would have you believe that all the members of Transora, the World Wide Retail Exchange, and GNX are all going to turn off their ERP systems and run their business on that exchanges, the reality is far, far different. Most of the larger members of these exchanges have already built out their own private extranets for direct, P2P connection to their strategic partners. The unwritten principle that is the Kings cloths, are that the larger companies will "do" procurement for supplies and indirect materials via the exchange format, and procure strategic and direct materials through their extranets! This is very predictable competitive behavior. Now dominant or near dominant companies will share investments in core business processes with its major enemies; smaller players will seek any opportunity to exploit such shared investments! Duh.

Directory Services and UCCnet

But there is a fatal conceit of the trade exchange model. The main CPG trade exchanges were formed just after Covisent was formed. Some suggest that they were actually a "knee jerk" reaction by the dinosaurs who thought they might "miss out" on the new economy. After all, when Transora, WWRE and GNX were announced, the New Economy was still on its ascendancy, so there might be some truth in this. The main issue for such exchanges is scalability.

Let us imagine that each company has 100 gigs of data in their legacy or ERP systems. Then let us imagine that the centralized net market wants to replicate 30 per cent of this data on its own servers. Such data might start out as representing catalog descriptions but might soon include transactions and all the supporting information. Then let us assume that the exchange seeks to "represent" the largest players in the industry in order to get to liquidity. That would give us the following calculation:

30 companies x 100 gig x 30 per cent
= 90,000 gig.

That is a pretty large database. But that's not all. What if we are replicating this data and we have promised "real time"? Then this becomes an almost insurmountable challenge. So scalability is a major issue for the exchanges. The answer however is not to change the volume or parameters of the calculation – it is to change what is stored, replicated, and how that is done. Distributed systems such as P2P and directory services are the key. The problem is that "directory services" are still no well understood. Take, for example, UCCnet.org.

UCCnet.org is a spin off from the Uniform Code Council. UCCnet was to some people, some of the time, a competitor to Transora and other exchanges. That was 18 to 24 months ago as then the UCCnet vision was different. Now it's clear.

UCCnet is a data synchronization service that seeks to align item and product data between CPG manufacturers and retailers. This includes item codes, descriptions, catalog and data sheet information – as well as anything else that needs synchronizing between buyer and seller. Poor data synchronization has little to do with competitive differentiation – so this is more about getting and keeping systems and data in order so that costs can be kept under control or eliminated. UCCnet is a lot like ViaLink, although it is my considered opinion that UCCnet is far more advanced in their thinking than ViaLink.

At the last UCC annual conference in Florida, UCCnet gave several presentations. At one, I had a few questions. I was rather impertinent as I knew the answers to the questions already, and worse, I asked them in open session in front of the packed audience – there must have been 150 consumer goods and retailer IT and EDI professionals in the room!

At the conclusion of their formal "sales pitch" and update, I asked the first question. My initial question was simple and innocuous enough: "Will UCCnet physically store any actual data pertaining to item or description or catalog?" The quick and encouraging response was, "YES!" I jumped to attack: "Given that you will store some amount of data for every item for every manufacturer, what volume considerations do you have, and how are you going to handle synchronizing and scalability?" With one question, the audience looked at me as if I had sworn at them! How could somebody ask such a question? Who was he to ask such rude things of these really nice people?

Taken aback, the UCCnet technical wizards fumbled a response about how they thought they could do it, and it was not well received. The audience was restless. Immediately the senior most UCCnet executive stood up and addressed the audience and myself in a calm and warm tone. It sounded like my mother telling me that everything would be alright. I was not happy of course but I knew I had the answer – so I proffered a little bone. My third question was really a comment, and I suggested that if they strip back and only store the bare minimum of data, in fact the bare minimum would be the document standard itself and NOT the data; they could use P2P technology and scale up to almost any industry model. Was that not the case? The UCCnet technical wizard almost jumped for joy and agreed gleefully that this was in fact what there plan was – as of very recently!

My last question came toward the end of the Q&A session. Since I was familiar with RosettaNet, I wanted to probe their understanding of it also. I asked, "Given that RosettaNet is also a directly service, and that they have recently stated that they want to branch out beyond high tech, does this mean that UCCnet and RosettaNet will become competitors, or partners?" Again, I could see and fell the eyes turning to me. The lady who had spoken so calmly before jumped in to save the day. "In fact our CEO and the CEP of RosettaNet met last week on just that issue. We have no news of the outcome of that meeting." And there you have it.

So UCCnet should be and could be a true directory service. And being a directory service should not entail storing data else it can soon become impossible to deliver as a robust, sustainable solution. However, if UCCnet and others like it simply host the document, process and file formats and standards, and buyers and sellers point to the formats now and again to verify that they each still speak the same language and release level, then their P2P connections will reign supreme. Of course, this is heresy to most today. So don't be surprised if your IT staff gets all defensive when

you tell them about this stuff! If P2P is to reign in the B2B space, directory services are needed.

And so we can now foresee the evolution of CPFR. It will result in a series of extranet-to-extranet, or P2P connections between larger companies; and some net market, hosted or outsourced CPFR will take place for small companies who cannot afford their own extranet.

Case Study: The Worlds First P2P Deployment

Pharmavite is a mid-sized vitamin supplement manufacturer, based on the West Coast. They service all the major drug chains and mass merchants. They promote heavily and work as close as they can with their generally much larger customers. Several years ago they were undertaking Vendor Managed Inventory programs that were converted in CPFR – and their first entry into pilot was with Kmart.

However, Pharmavite is a forward looking company. After initial training on the Kmart CPFR solution, back in 2000, they determined that there was high likelihood that they would want to "do" CPFR with several of their major customers. So therefore they had to "insulate" themselves from having to use and interface directly with each retailer system. They decided to license their own technology that had to be GCI/VICS CPFR compliant vendor neutral, and did so from Logility, Inc. In so doing, and in connecting their own CPFR platform with Kmart, they became the world's first P2P CPFR deployment.

Truly, this was a very rudimentary P2P implementation, but it was amazing to be part of it. The benefits to buyer and seller are remarkable. Both sets of users were able to see the same information pertaining to sales forecast and other information, and yet they were looking at their own application! Pharmavite users were then empowered to "do" CPFR with other retailers, and exchanges, all which could be using their own CPFR technology, and yet they could see all through the same system. This was unique to the CPFR community.

The CPFR project provided payback in very short order – and it is likely that the deployment model had little part to play in that Return on Investment. However, the point is that the manufacturer is now "peer enabled" and they can take their service to any number of customers or suppliers and be confident that their extranet is enabled to connect to any GCI/VICS CPFR compliant technology.

The last part of this saga was that the retailer replaced the original CPFR software they licensed for various reasons. Just before it was replaced, it was rumored that several Kmart users wanted to get CPFR alerts from their suppliers systems as their own, at the time, was deficient. As the retailer was reviewing their options being presented by another Supply Chain vendor, i2, Pharmavite continued to be CPFR-ready and was able to continue meeting their "insulation" strategy – it did not matter what Kmart did, as long as they supported the same industry standards. Kmart decided not to implement the i2 CPFR solution for various reasons, and decided to build out their own extranet. And this, in spite of being a founding member of WWRE! Again, from Pharmavite's perspective, this was all irrelevant. They could connect to any of these systems including WWRE, or Transora, and their integration to their front and back office applications were live.

Case Study: Bell Sports

Bell Sports is a supplier of sporting headgear and accessories for bicycles. They sell through all the major chains including Kmart, and The Sports Authority. Bell Sports became the second company on the planet to implement P2P CPFR. They, like Pharmavite, were aware that several of their customers had CPFR efforts underway and they also wanted to "insulate" themselves from all the technical hurdles that EDI forced on companies. So Bell Sports decided again, after using Kmart's systems then provided by Syncra, to license their own vendor neutral, GCI/VICS CPFR compliant solution from Logility, Inc.

This private extranet allowed Bell Sports to connect to Kmart in much the same way that Pharmavite did. Again, the front and back office integration was done once, and yet the "peer enablement" meant that Bell could in fact connect to anybody supporting the same industry standards.

The benefits for Bell Sports and Kmart were stupendous. Several case study write ups have taken place so we won't repeat them here. But the results included large increases in revenue and reductions in inventory – that was both shared with Kmart and Bell Sports. The last update from Bell Sports was they there were getting ready to test our P2P CPFR with a second major customer- and that they were looking to do some level of multi-tiered, or n-tier CPFR, with some of their key suppliers.

The Future of CPFR

It is clear how CPFR will evolve. What is not clear is the timing and where the value will stop.

The current phase we are in, that will last through 2002, will include many CPFR pilots – mostly on hub-and-spoke models. Trading Exchange or Net Market hosted CPFR will be in pilot mode also. The preferred and dominant deployment model will be form of or an adapted P2P model that will make itself known later in 2002.

Additional industry initiatives overlap with CPFR and collaboration in general. The good news is that CPFR is a shared business process and as such does not occur in the wild! That is, it has not materialized in many other industry initiatives that have sought global standards and therefore has a great chance to be adopted as "successful genetic make up". Take for example the Chemical Industry Data Exchange (CIDX.org) that has just released version 2.0 of their enterprise XML standards. True to form, taking an enterprise view for global standards will result in the predictable head ache of suggesting that all current inbound and outbound documents have to be formatted anew and probably with XML as the format. To most companies this will incur a great cost as much will already have been spent on formalizing unique or proprietary or customized connectivity – such as EDI. The real opportunity is that CPFR is new and unique and can therefore be introduced to most industries without any major threat to established documents and processes – until you or they are ready!

So CIDX could adopt some or all of the VICS XML documents and continue on their ongoing journey of increasing transaction transparency for chemicals companies. The point being that some companies buy in one industry (chemicals to make bottles) and sell to another (bottles for filling). So standards need to converge or at least interoperate via common hand-shakes.

The 9-step business model will also adapt. It is happening already today. There are several other initiatives that seek to extend its footprint both horizontally (wider functional footprint for 2-tier model) and vertically (deeper footprint across the chain itself). The former has resulted in efforts in the following areas:

- Collaborative Transportation Management, (CTM), that seeks to include the carrier in a collaborative frame work that build on load consolidation efforts (by Nestivo for example, that are not collaborative in the correct sense), in order to increase customer service and reduce costs;
- Collaborative Event Planning, (CEM), that seeks to broaden the explicit sharing of information that comprises product launches, replacement, promotions and so on between buyer and seller,
- And a host of other, less refined models that focus on collaborative sales and operations planning, collaborative category management and so on.

Perhaps the most exciting development of CPFR will be its crowing glory. And that is the development of a truly open standard for n-tier CPFR – the aligning of buyers and sellers along a whole chain, creating a value chain or value web that strives as a single operating unit to battle and dominate their industry segment. This n-tier CPFR revels in the network effect that suggests that the benefit accrued to members will increase in greater proportions than that from the addition of new partners. This is the end game for competitive advantage. It is the end state: a highly tuned value chain where partners collaboratively service consumer needs better than any other assembly of buyers and sellers. P2P will play as the catalyst that will enable buyers and sellers to connect and disconnect with ease, until and if they find their right partners. Then, an aligned value chain will adapt and seek to dominate. And the rewards to all in that chain will far surpass the early results we are seeing today.

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Web Business Ahead: Vision for the Next-Generation Chemical Company, CSC, October 2001 http://www.e-chemmerce.com/o/csc5.html.

Web Sites of Interest

www.b2b-icommerce.com – Logility web site listing some white papers that give you more background to this white paper
www.cpfr.org – Core, main CPFR web site
www.ean.org
www.globalcommerceinitiative.org – GCI
www.gnx.com – European trading exchange, smaller than Transora
www.transora.com – trading exchange made up of many US and European CPG manufacturers
www.ucc.org – standards body; Uniform Code Council
www.ucc*ean.org – combined standards body synchronizing across US and Europe
www.uccnet.org – spin off from UCC, CPG value chain directory/data synchronization service
www.vics.org – Voluntary Inter-Industry Standards association (keeper of CPFR)
www.worldwidereail.org – trading exchange made of up many US and European CPG retailers and some manufacturers