Managing Usage in the World of Unified Communications & Collaboration

The Global Impact on Employee Productivity

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Organizations are looking for ways to capitalize on the business application breakthroughs in unified communications. This white paper published by Calero Software, LLC introduces strategic management methodologies for deploying unified communications in an effective and sustainable way. This paper introduces the concepts and analytical frameworks that will be explored in more detail in subsequent Calero white papers.

Quantifying the Value of Workforce Communications

There is an abundance of published human resource studies on the economic value of effective workforce communication. A report published in 2005 by Gay, Mahoney & Graves resolved that internal communication is the most fundamental driver of business performance. The 2009/10 Towers Watson report on Communication ROI indicated that companies with highly effective communications experienced 47% higher returns to shareholders over companies with least effective communications. And a report published by Watson Wyatt in 2004 indicated that improvements in communication effectiveness in organizations was linked to a 29.5% rise in market value. Companies that are first to harness the benefits of unified communications will gain a significant competitive advantage.

Historical Perspective

The management adage, "you can expect what you inspect," often attributed to W. Edwards Deming, has obvious application to quality control and process performance in the manufacturing realm; where inputs + processes = outputs, close inspection of inputs and processes can help predict the outputs. Deming's insight still applies in today's information age, but digital inputs and computer-enabled processes require new methods of inspection.

Organizational leaders must adopt new multi-dimensional analytical methods of inspecting inputs and processes and correlate them to outputs and best practice benchmarks. Without structured measurements, it's impossible to see what is getting better and what isn't, to identify root causes of input or process problems, or to improve outputs in a consistent and repeatable way.

The Illusion of Communication

George Bernard Shaw's observation that "the single biggest problem in communication is the illusion that it has taken place" offers poetic insight to the types of management challenges facing organizations in the world of unified communications. The ever-growing virtual workforce often has members even within a particular workgroup located in different geographic regions and time zones. It's not uncommon for collaborative teams to span continents, communicating in real time from their desktop via any number of methods. This is a huge boon to business, allowing enterprises to

engage exceptional talent in every region of the globe. Of course, such powerful new capability is entirely dependent on the reliable performance of the technologies that make it possible. Furthermore, virtual collaboration can dull the feedback cues of interpersonal communication and create the "illusion that it has taken place" when it fact it has not.

It's not simply the nature of communication that poses new challenges for organizations in the unified communications and collaboration (UCC) world; it's the unprecedented volume and frequency of communications. Not surprisingly, as communication methods have become inexpensive and ubiquitous; usage has exploded on a global scale.

The following table summarizes the top five UCC applications deployed in the cloud*****. Another dimension to these statistics is that the remote workforce experienced a 79.7% growth rate from 2005 through 2012******. Lower cost and ease of use have virtually eliminated barriers of remote collaboration by even the smallest of teams and obviated reasons to relocate or travel for work. The ever-growing suite of always-on business applications that integrate the full spectrum of communication and collaboration technologies to support a specific business requirement are eliminating the distinctions between remote workers and the in-office experience.

Communication Method	Statistic
Email *******	~ 188 billion per day
Instant Messaging ********	~ 4.1 billion per day
Voice *********	~ 3 billion per day USA ~ 10 billion globally Each mobile worker places ~ 8 calls/day
Conferencing *****	~ $3.3billion year market by 2018
Collaboration **********	~ $20.8 billion annual market by 2016

* Infonetics Research
** Global Workforce Analytics
*** readwrite.com
**** Answers Corporation
***** Department of Labor Statistics
****** COMMfusion LLC

This information overload, facilitated by UCC technologies, can make it difficult for workers to identify the information that is most important for them, to understand and

then act on. Critical information loses definition against a background of grey noise. Ironically, the very technology that enables the greatest leap forward in global person-to-person communication in history also creates the risk that critical communications will be overlooked or ignored.

IT organizations must address this risk by employing solutions that help break the endless chain of empty and wasted communication. In the UCC world, employee communications with each other, customers, and suppliers are logged and can be analyzed and audited. The challenge and opportunity for organizational leaders is to understand how to combine, simplify, and share these new streams of information in a meaningful way to enable insights supporting continuous improvement and competitive advantage.

The Key to Productivity

Every organization wants to replicate the characteristics of their most impactful employees. In the world of unified communications, the forensic digital evidence to help identify the most impactful as well as most challenged employees, along with their communications characteristics, is now available by gathering the correct data and applying the appropriate analytics. Leaders at all levels of the organization need to leverage this information in a manner that will help their employees become more productive and in turn achieve ever-greater levels of success for their organization.

Another way that UCC technology can improve productivity is by connecting more users, more often. The recent Gartner report, "Predicts 2015: Employee Engagement Approach Drives Investment in UC Infrastructure and Services," predicts that by 2016, 40% of distributed workforces will use UCC in "always-on" mode to accelerate knowledge sharing, facilitate brainstorming, and motivate employees.

Robert Metcalfe, the inventor of Ethernet and 3Com, quantified this principle in the early 1980's, laying the analytical groundwork for a new generation of key performance indicators that help identify the value and to some extent measure the impact and productivity of a digital workforce.

Metcalfe's Law states:

> "The value of a telecommunications network is proportional to the square of the number of connected users of the system."

$$(n^2 - n) / 2$$

In the era that Metcalfe's Law was created, it was designed to illustrate that two connected devices can result in a value of 1. An example would be connecting two computers; adding five more would multiply the value of the network by a factor of 15.

This was the predicate of 3Com's successful strategy to sell economical six packs of the original Ethernet card, transforming the market standard from the faster, more mature and more expensive proprietary token-ring synchronous networks to broadcast Ethernet networks based on open standards. The success of this strategy demonstrated that it's not necessarily the speed that drives the value of a telecommunications network, but rather the degree to which the technology maximizes the cost-effective sharing of information. In the world of unified communications, each connected node has multiple means of communication.

Collecting UCC Data

Collecting usage data in the UCC world requires a much broader approach than previous voice-only Call Detail Record (CDR) collection methods. The following table illustrates the multiple dimensions of digital unified communications, which have become increasingly complex and diverse as the technology has evolved over the past decade.

Dimension	Elements of Unified Communication	Value Attainment
Emerging **2014+**	• Communication Enabled Business Processes (CEBP) • Social Media & Enterprise Social Groups • Video: Room / Personal / Telepresence & WebRTC • Mobility / SMS / Fixed Mobile Connectivity • Document-Based Collaboration	Combines all forms of digital collaboration
Standard **2007+**	• Audio / Web Conference • Chat / Instant Messenger • Email / Calendar / Unified Messaging • Voice Apps / Voicemail / Call Center	New methods of integrated communication & collaboration
Foundational **2005+**	• VoIP Telephony – Desktop & Soft Phones • Presence • Network IP Routing	Replaces traditional services with no significant new capabilities
Traditional **2000 & Prior**	• PBX (Privately Owned) & Centrex (Central Office Carrier Service) • Mobile • Internet	Disparate mediums of communication

Analyzing Versus Reporting

In the business world enabled by UCC, analytics and reporting will serve different target audiences, produce different deliverables, involve preparing data differently, and support different organizational goals. Analytics and reporting will be complementary, which means different levels of an organization will continue to need both and neither will replace the other.

Managers create traditional call accounting or call center reports mostly about entities and facts they already know well, represented by highly polished transactional call data records. Data elements take the form of carefully modeled and cleansed data with rich metadata describing the data sets. Traditional reporting in this environment is typically built on interpreting and storing pre-structured data obtained through APIs with the source data platforms.

Advanced Analytics of unified communications will enable the discovery of information the organization didn't know, based on the exploration and analysis of combining traditional, foundational, standard, and emerging usage data feeds in ways that have no precedence. Unlike the structured data that call accounting reports operate on, advanced communication analytics for UCC will be predicated on detailed source data in its original and sometimes unstructured form, using discovery-oriented technologies, such as mining, statistics, predictive algorithms, and natural language processing.

Reporting supports "high volume answers"; whereas, advanced analytics generate "high value insight." For example, it is common for the telephony manager to rely on a call accounting reporting system to quickly answer telephony usage questions using dozens or hundreds of established telephony transaction reports covering the common telephony usage and cost questions that can be answered using aggregated data and graphical representations of telephony algorithms defined from CDRs. While reporting still has intrinsic value and important need in the UCC world, the ability to discover transformative analytical insights is exponentially larger. In the UCC business world, a communication data expert will use advanced analytics to analyze the new unstructured, yet interrelated communications transaction feeds to help transform an organization in unprecedented ways via high-value insights, such as correlations between Net Promoter Score and responsiveness, quality, and costs.

Business leaders need to understand why, what, when, and how to measure data that will help them graphically analyze and statistically model their organization's communication patterns and to identify and develop best practice models for things such as:

- Correlations to communication trends and employee productivity
- Collaboration challenges by group and individual, with customers and suppliers
- Models for best practices, benchmarks and enablement KPIs

Metcalfe's Law provides an analogy to help model the value of employee interactions with each other, customers, and suppliers. The following table provides a summary of the various types of connectivity analytics that can be used to correlate the inputs and processes to the outputs.

Connectivity Analysis of Inputs & Processes	Correlations To Outputs
✓ By user ✓ By Type ✓ By Group ✓ By Customer ✓ Time Patterns ✓ Collaboration Vectors ✓ Response Times	✓ Employee Enablement ✓ Employee Performance ✓ Individual Productivity ✓ Group Productivity ✓ Compliance

The Changing Role of Leadership

The age of digital workforce-enabled unified communications is well under way and it offers organizations much more value than just replacing a traditional PBX. Always-on UCC application suites are changing the way employees engage at work, bringing together distributed team for more rapid results. This new communication paradigm of ubiquitous networks and services is being driven by adoption of unified communication technologies underpinned by impending FCC IP mandates to retire legacy TDM network services. The changes are ushering in a new era that is radically changing Information Communication Technology (ICT) operations from centrally controlled to technology brokers that enable self-service automated solutions.

The role of the ICT leader will expand beyond a traditional focus on reactively answering questions and focusing on ongoing operational tasks such as eliminating unused assets and circuits to providing critical information to proactively helping managers across the company identify and coach underutilized employees. Capital procurements of hardware and software will evolve into on-demand time based utilization. ICT leaders are on the verge of capitalizing on information to help enable and eventually optimize collaboration across work groups, customers and suppliers.

Summary

Effectiveness of business communications is fundamental to the success of a business. As methods of business communication continue to proliferate, they lead to new, exciting ways for employees, customers, and supplier to collaborate. This proliferation introduces the risk that key information could be inadvertently lost. Advanced UCC analytics offers a new profound opportunity to look at the interrelationships of transactions in combination with other data across the organization in unprecedented ways, leading to competitive optimization, productivity gains, automated compliance and new insights not yet known.

Future documents published by Calero Software, LLC will provide additional clarification to help organizations understand how they can apply the concepts presented in this document to help maximize workforce productivity.

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ABOUT CALERO

Calero Software is the new alternative to the status quo in communications management, with a commitment to innovation and customer service. Calero offers a suite of global solutions for fixed and mobile Enterprise Communications Management, including Expense Management, Mobility Management, Usage Management, and Telecommunications Management. Calero has thousands of customers in the United States and more than 40 countries worldwide, including Fortune 1000 corporations, universities and government agencies. For more information, visit us at www.calero.com or www.call-accounting-solutions.com, or call 585.381.6000.