



WHITE PAPER

The Challenge for Large Organisations Managing a Range of Complex Telecommunications Services

Sponsored by: Insight Asia Pacific

Lloyd Gilbert
August 2005

IDC OPINION

Telecommunications remains an integral part of an organisation's operational infrastructure. A lack of awareness of the services used and insufficient management controls can lead to cost overruns and, potentially, audit and governance issues. This can be a major challenge for Australian organisations.

IDC research indicates that these management challenges are more commonly experienced by large organisations due to the significant number of services used and the impact of a rapidly changing environment.

There is generally an expectation that suppliers, including telecommunications service providers, should provide sophisticated management tools to allow customers to manage their costs. In some cases this is a flawed assertion and, in reality, the customer might need to introduce effective independent cost controls, systems and procedures.

Giving a supplier responsibility for cost management systems for significant expense items can introduce risk and reduce control.

The respondents in this white paper appear to be confident with their telecommunications billing and reporting but these organisations are generally not validating these expenses against a verified inventory source.

It is clear that some organisations have recognised these issues and are taking steps to address them. Such organisations are developing customised systems and processes that are subject to independent audit and governance requirements. These processes appear to be yielding positive outcomes and a return on investment.

METHODOLOGY

IDC's analysis and user data utilised for this white paper were drawn from demand-side research. This was supplemented with industry experience from IDC analysts and a detailed case study involving a large Australian bank. In addition, IDC has sought comment from industry to augment the findings of the primary research.

The primary research involved a mixture of telephone interviews and in-depth discussions with 50 key decision-makers in organisations with an annual telecommunications expense of more than \$5 million and more than 100



employees/users. The study focused on the management of complex telecommunication services and usage. The decision-maker was profiled as follows:

- Has management (financial, operational) responsibility for all (or most) telecommunications in their organisation
- Responsible manager from an audit and governance perspective
- Has an indirect reporting line to the CFO

The following vertical industries comprise the primary focus of survey respondents:

- Government
- Finance, insurance and banking
- Manufacturing
- Distribution
- Transport
- Retail
- Health
- Other

The survey targeted vertical industries that are large users of telecommunication services, have complex reporting processes and experience challenges in part or most of their telecommunication management. The vertical industries listed above were some of the focal points of the survey respondents. As such the results and insight are particularly relevant to managers in these industries.

IN THIS WHITE PAPER

IDC examines the key findings and trends in telecommunications management performed by large Australian organisations. The primary research data, supplemented by IDC experience and industry comment, has indicated that although some areas of telecommunication management are meeting the needs of large organisations, there is concern over facets such as exception reporting and cost allocation. This White Paper examines the concerns and issues related to the effective and efficient management of a complex range of telecommunications services.

SITUATION OVERVIEW

Introduction

This survey focuses primarily on the senior managers of telecommunications in large organisations. Typically these executives need to manage large inventories of telecommunications services.

The survey was broken down into two sections. The first section was used to profile the respondent organisations based on:

- Industry
- State
- Number of sites nationally
- Number of users
- Telecommunications spending

The second section was used to profile the company's management practices, these included:

- A list of key management activities
- Centralised or decentralised management
- Systems used for cost control, service change tracking, exception reporting and cost allocation
- Supplier management
- Governance and audit requirements
- Overall satisfaction with telecommunications management practices

All of these organisations conduct a broad range of activities as part of their telecommunications practices.

Industry Comment

InsightAP is a telecommunications consulting firm that helped the major bank in our case study (see page 15) take better control of its telecommunications spending. Paul Steele, CEO Managed Business Outcomes and co-founder of InsightAP was an important contributor to the development of the management processes and solutions, which underpinned InsightAP's offering. According to Mr. Steele, large organisations are not aware of the issues associated with managing large telecommunications service inventories. InsightAP's extensive experience leads the firm to believe that ongoing quality expense control is best managed through independent processes and programs that show a clear picture of the telecommunications inventory and spend. It is important to note that this should be an ongoing (monthly) process to achieve a high degree of cost control and compliance.

Paul Morris, Managing Director of ConsulCom Pty Ltd, is a specialist in telecommunications with more than 25 years experience in the industry. He is active in the telecommunications industry being a Director of the Australian Telecommunications Users Group (ATUG) since 1989. From 1988 to March 2000 Mr. Morris was the State Secretary of the NSW Branch of ATUG. During that period he was also Chairman of the ATUG NSW ISDN Users' Forum, Internet Users' Forum, as well as the Chairman of the ATUG NSW Technical Issues Forum.

Mr. Morris was a foundation member of the Numbering Advisory Committee, which advises the ACA on issues relating to Australia's Telephone and Data numbering plans. In addition he represents ATUG on the ACA Emergency Services Advisory Committee, which advises the ACA on telecommunications issues relating to Australia's emergency services. Mr. Morris is also an expert advisor to the Telecommunications Industry Ombudsman on ISDN billing errors.

According to Mr. Morris, most organisations approve bills if there is no significant variation from the last bill. If the bill is incorrect, these errors will be perpetuated.

Generally problems occur as a result of the lack of understanding of what services are in place. Some of the most common errors are listed below:

- Companies forget to cancel services when they are no longer needed
- Companies closing offices often forget to cancel the burglar alarm line, modem lines and lines hidden in rotary groups
- Carriers sometimes don't remove charges from bills once services are cancelled
- ISDN data call charges can be incorrect by up to \$10,000 per month if Onramp Express plans are not configured properly
- Leased line charges, which are often entered manually, can be incorrect
- Errors at data entry time can mean services appear on the wrong account
- Charges may not be at contracted rates

- ☒ Accessories such as handsets may be charged for even if they were not installed
- ☒ PABX or Key System service assurance may be being charged on rented equipment

Although the management problems listed above are quite common, most of the organisations ConsulCom has worked with were not aware of them. Any company with more than four or five lines can experience these issues, but the likelihood of problems increases with the number of services used and the number of sites they are used at. It is not uncommon for a telecommunications bill to contain errors up to 10% of the total value.

Many organisations have a history of not being able to resolve disputes with service providers and of receiving complex bills that lacked sufficient detail.

Outsourcing is another factor. According to Mr. Morris, outsourcers tend to pass the telco bill through without much checking. Also as a result of outsourcing, organisations can lose their telecommunications expertise resulting in a reduced ability to effectively manage this expense.

A short-term solution to this problem is auditing the bill, but over the medium term, errors can creep in if audits are not conducted regularly. It is estimated that after a detailed telecommunications audit, within five years the bill will be as inaccurate as it was prior to the audit.

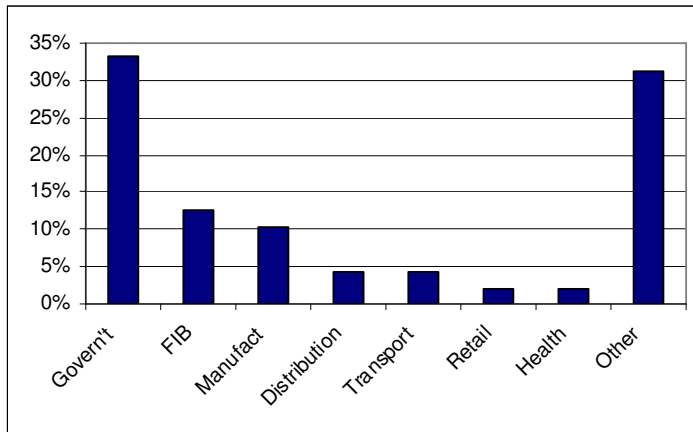
According to Mr. Morris, a more effective solution is a computer program that matches an organisation's telecommunications inventory to the bill on an ongoing basis. This software also compares contracted rates to the charges listed in the bill. Proven systems will always identify errors and prevent them from continuing. Independent systems such as the solution offered by InsightAP are a worthwhile investment depending on the cost of systems and the size of the organisation's telecommunications expense.

Demand-Side Study Results and Commentary

The following charts show profiles of the organisations that participated in the demand-side study.

FIGURE 1

Industry Profile of Respondents

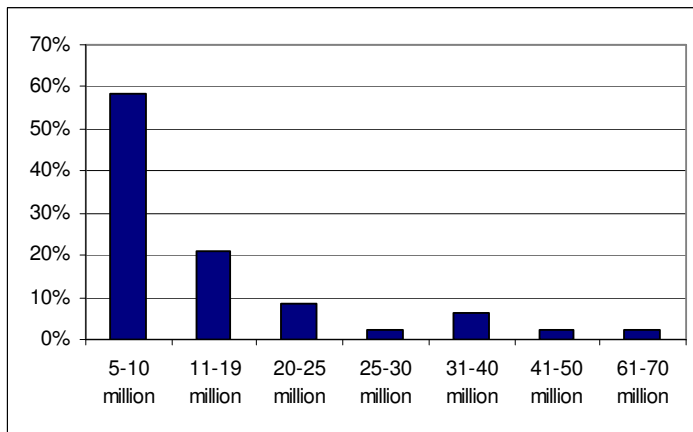


This chart profiles a selection of industries that are complex users of telecommunications.

Source: IDC Managed Billing, Q3 2005

FIGURE 2

Annual Telecommunications Spending of Respondents

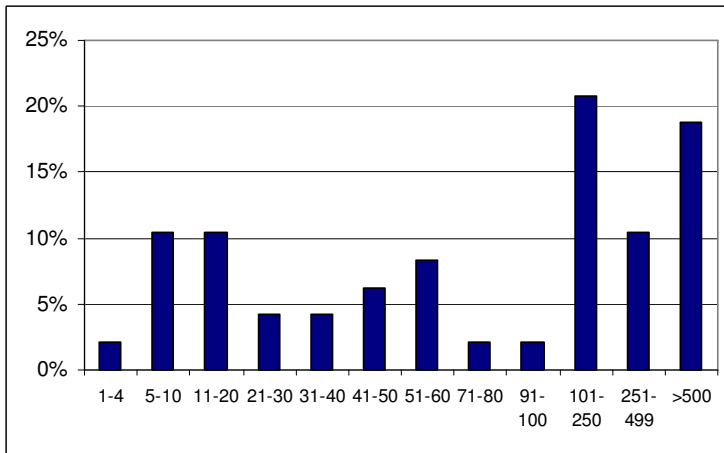


Source: IDC Managed Billing, Q3 2005

In this chart the sample has a skew towards the \$5-10 million band but the remaining 42% of respondents have a significant telecommunications expense of more than \$10 million. This expense includes voice, data, hardware/equipment and wireless communications.

FIGURE 3

Profile: Number of Sites Nationally

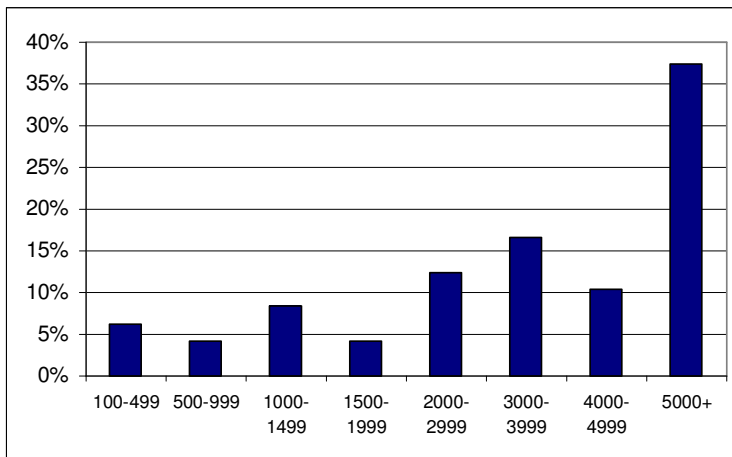


Source: IDC Managed Billing, Q3 2005

Approximately 70% of organisations surveyed have more than 40 sites nationally. Organisations with this level of national coverage and complexity typically are required to perform a range of management and governance activities to ensure effective cost control and compliance.

FIGURE 4

Profile: Number of Users Nationally

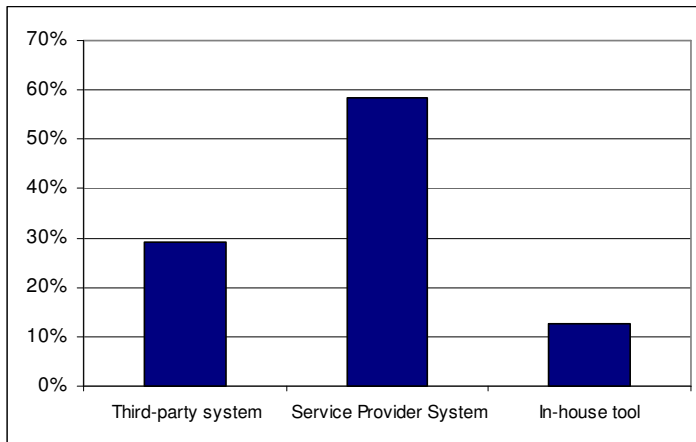


Source: IDC Managed Billing, Q3 2005

This chart shows that approximately 90% of organisations surveyed have more than 1000 telecommunications users. The number of users is a major contributor to the complexity of the management systems and processes.

FIGURE 5

Tool Used to Manage Telecommunications Expense



Source: IDC Managed Billing, Q3 2005

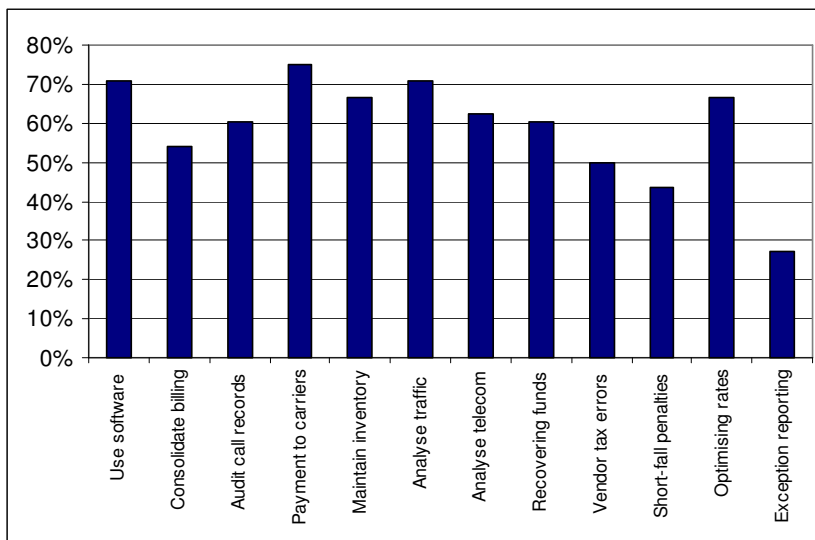
This chart shows the options that large organisation selected when asked: "What billing and reporting tools do you use?"

This chart identifies that although 67% of respondents said they maintained an inventory of telecom assets (see Figure 6), approximately 60% were using the service provider's data and tools to do this. This would suggest that 60% do not validate bills against an independent inventory.

This makes it difficult to maintain an independent service inventory. These organisations have no option but to rely on the accuracy of the service providers' billing systems. In some cases, their governance and audit processes may not require the telecommunications expense to be managed by independent systems and processes.

According to Mr. Morris, service provider billing systems are complex and often contain errors. To effectively manage a complicated expense item such as telecommunications, an independent management tool and process is useful and valuable.

It is interesting to note that more than 10% of respondents have invested time and money in developing a customised in-house system. Approximately 30% of organisations have invested in third-party solutions to manage their telecommunications.

FIGURE 6**Telecommunications Management Activities**

Source: IDC Managed Billing, Q3 2005

This chart shows the management activities performed by the respondent telecommunications managers. Managing telecommunications, particularly for large organisations, is clearly a complex exercise considering an organisation could be using in excess of 100,000 services. The importance of using an independent management system is more apparent when considering the complexity of this management accountability.

It is encouraging that 70% of respondents regularly use billing and reporting software but 30% are not actively managing this large expense. It is also important to note that approximately 60% are using their service providers' tools.

A relatively small number of respondents are consolidating their billing and presenting to department heads or finance department (52%). Part of the management process is to ensure that cost centre managers have visibility of their telco expense. Removing this component exposes the organisation to cost variances.

The auditing of call records is also quite low: approximately 40% of respondents are not auditing call records. This could lead to telecommunications abuse and fraud.

75% of respondents are using systems to make payments to service providers. Organisations are primarily relying on their service provider's billing and reporting systems and tools do this.

58% maintain an up to date inventory of their telecommunications but they are using systems and tools provided by the service provider to do this.

30% analyse network traffic; another low figure. The respondents are not enjoying potential savings through optimisation or consolidation of services to reduce under-utilisation, wastage or over-utilisation, which can lead to lower performance levels.

40% of respondents are not fully analysing telecom invoices to validate accuracy and contract compliance. This can create exposures.

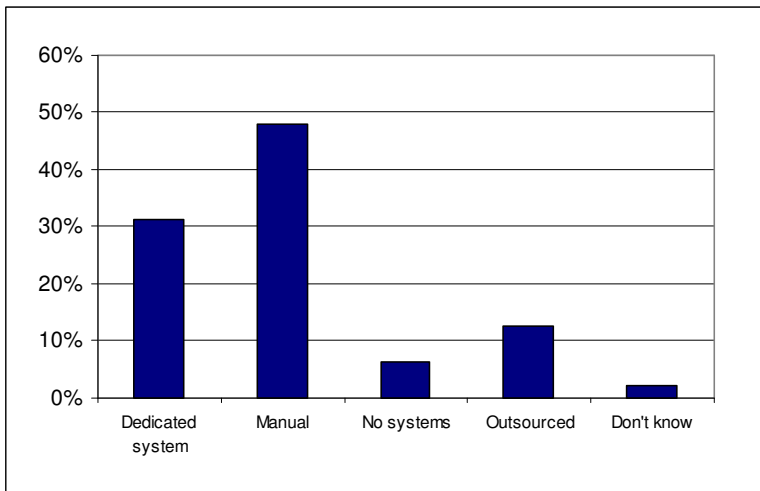
More than 60% of respondents say they are documenting and recovering the maximum funds from telecom vendor billing disputes. This figure is quite high but these respondents are mainly relying on information from their service providers.

More than 30% are not taking advantage of the competitive marketplace by optimising rates and terms for all telecommunications services.

Less than 30% of respondents conducted exception/alert reporting and follow-up of telecom activity outside of agreed parameters, such as security, productivity and misuse. This low figure should be of concern to these organisations. Exception reporting covers a range of items, such as identifying redundant and nonexistent services, and can make a significant contribution to lowering telecommunications expense.

FIGURE 7

Telco Services Change Tracking Systems and Processes



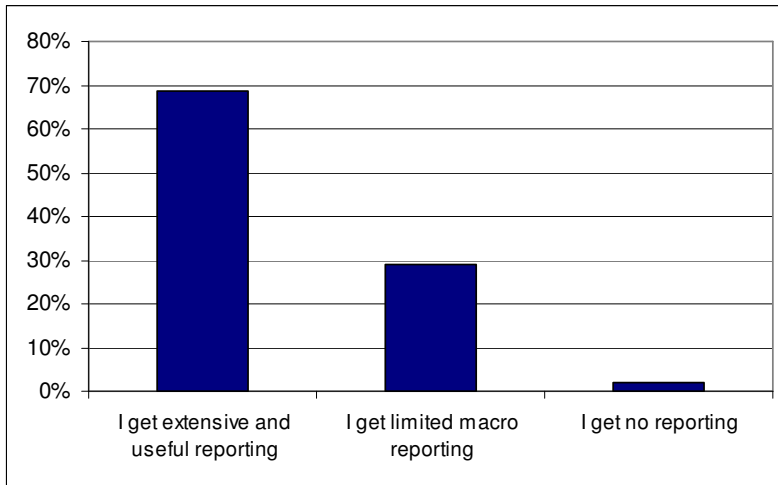
Source: IDC Managed Billing, Q3 2005

It is interesting to note that a significant number of respondents (56%) either have manual systems or have no capability to track service changes. Large organisations can have hundreds of service changes occurring simultaneously. Lack of automated monitoring can lead to billing anomalies and overcharging.

Organisations may find it challenging to validate the bill against a changing inventory. This might also limit the controls to ensure the services provider is meeting agreed service levels.

FIGURE 8

Telecommunications Expense Tracking

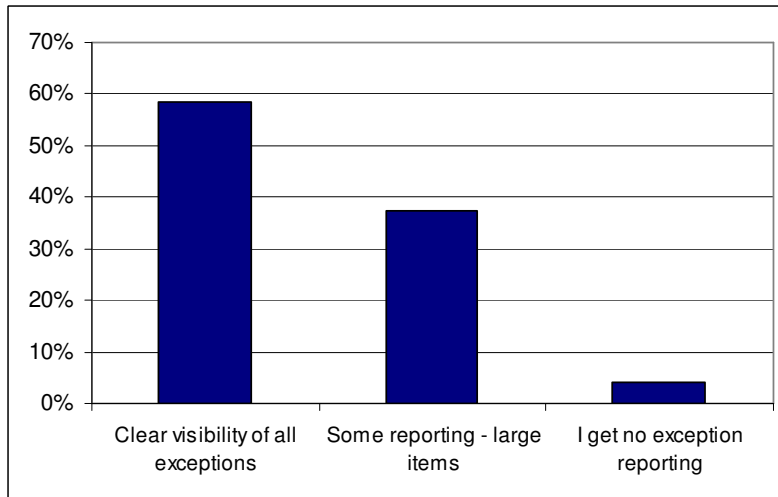


Source: IDC Managed Billing, Q3 2005

30% of respondents do not effectively track telecommunications expenses. This could lead to cost budget overruns and poor management at a cost centre level. This problem can be exacerbated when an organisation has multiple cost centres.

FIGURE 9

Telecommunications Exception Reporting

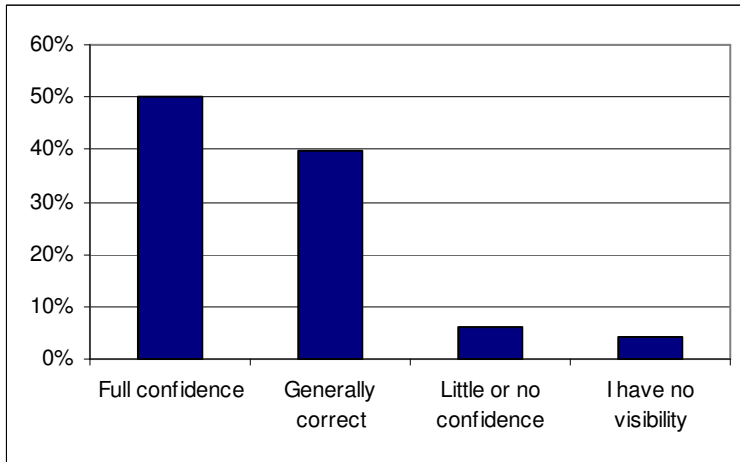


Source: IDC Managed Billing, Q3 2005

Identifying telecommunication service exceptions, such as redundant services and over-billing for cancelled and nonexistent services, can make a significant contribution to overall cost saving. This needs to be conducted at the individual service level to be effective.

FIGURE 10

Confidence in Telecommunications Billing Accuracy

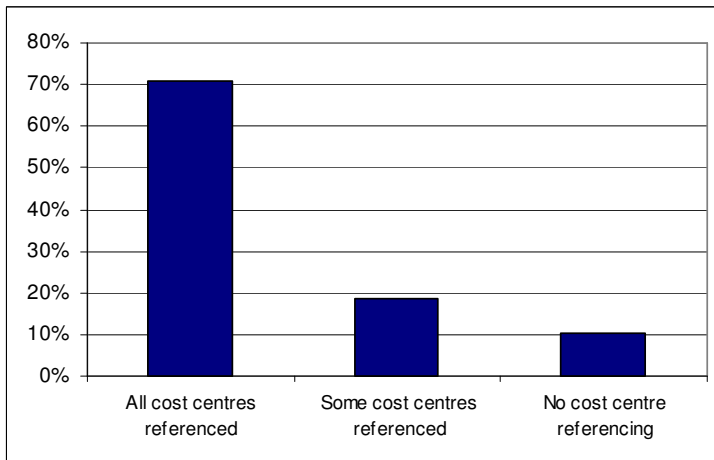


Source: IDC Managed Billing, Q3 2005

This chart shows that organisations primarily rely on billing and reporting from their service provider and do not perceive the need to manage telco expense with independent systems and processes. The respondent organisations may not have a true and accurate representation of their telecommunications expense due to a lack of effective and independent reporting capability.

FIGURE 11

Telecommunications Cost Centre Reporting

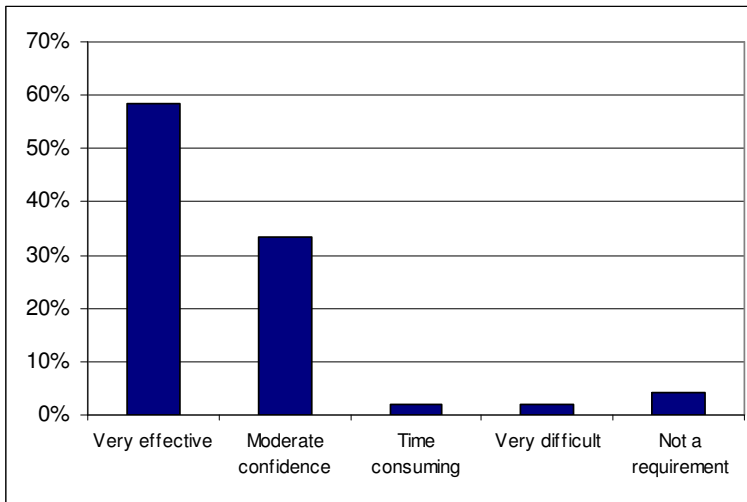


Source: IDC Managed Billing, Q3 2005

70% cost centre referencing appears to be a good result. However, since only 42% of respondents use independent systems to manage telecommunications expenses, their reporting may be of questionable value.

FIGURE 12

Telecommunications Governance and Audit Requirements

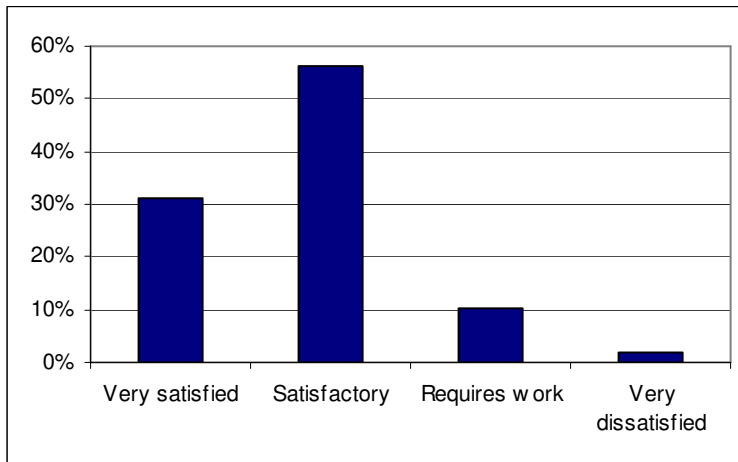


Source: IDC Managed Billing, Q3 2005

42% of respondents have moderate or low confidence that they can meet governance requirements.

FIGURE 13

Overall Satisfaction with Telecommunications Management



Source: IDC Managed Billing, Q3 2005

31% of respondents are very satisfied with telco management. This is worth noting, considering the size of the expense being managed. 56% say they are satisfied with the telco management but this must be assessed against the lack of independent systems used to effectively control telco expense.

Also this should be considered against the 42% of respondents that have moderate or low confidence that they can meet their governance requirements.

FUTURE OUTLOOK

The research clearly shows that organisations are starting to identify improved telecommunications management as a priority and to address the associated challenges.

It is interesting to note that 20% of respondents were actively seeking alternative management practices and solutions to the management of their telecommunications services.

It is anticipated that other major expense items will become a focus in the future for these management practices.

CHALLENGES/OPPORTUNITIES

A major challenge for InsightAP and its competitors is educating organisations that they have potential issues with the management and cost control of their telecommunications.

InsightAP is a relatively new company and needs to build brand and awareness to improve its chances of success.

Insight AP competes with a number of organisations that focus on audit, reporting and invoice viewing. Some of these are vendor-specific solutions. InsightAP differentiates itself by offering a total cost of ownership solution as shown in the attached case study.

According to industry comment, primary research and the attached case study, it is clear that there is an attractive market opportunity for InsightAP.

A CASE STUDY

Major Australian Banking Institution

Background

Faced with increasing complexity and an urgent need to manage costs, a major Australian bank decided to centralise the management of its telecommunications. This included purchasing, provisioning, bill reporting, analysis and cost allocation. A major driver of this move was the need to manage this significant expense to a level of detail which was previously unachievable.

The Bank's Telecommunications Profile

- Voice – 28%
- Data – 71%
- Wireless 1%
- Approximate telecommunications expense per annum:
\$86 million
- Number of sites: 950 sites
- Total number of cost centres: 800

The bank offers a full suite of banking products and services to consumers and businesses and operates more than 800 sites across Australia and overseas.

This IDC Case Study will look at the deployment InsightAP's methodologies and systems for the management and reporting of the bank's complex range of voice, data and wireless solutions and benefits gained from this deployment.

Project Background and Overview

Scope

As a result of a cost structure review at the bank, executives decided to centralise the management and purchasing of telecommunications.

Prior to this decision to centralise, telecommunications products and services were managed by a large number of cost centre managers. These managers generally had direct relationships and contracts with the service providers and applied a range of different management standards. The bank was working with up to 10 service providers, each with multiple billing systems. All bills were supplied on paper; some providers also supplied limited usage information in digital format.

There were major concerns about the accuracy of telecommunications billing and reporting. This was exacerbated by the decentralised management and purchasing model.

Business Services, the department responsible for managing the combined telecommunications spending, faced numerous challenges. Essentially it required a clear understanding of its telecommunications service inventory, i.e. a consolidated view of all telecommunications services and the associated usage. The bank needed to:

- Validate the accuracy of the bills
- Know what services it was using
- Know what services it was paying for
- Know what services were surplus to requirements
- Validate that the rates being charged were consistent with the rates negotiated with the service provider and contained within the contract

Another challenge was that the major telecommunications service provider did not yet have the systems to deliver the billing and reporting component of the contract. The telecommunications contract contained complicated formulas that were difficult to implement and even harder to validate.

In addition, the volume of change across the bank's telecommunications network was significant. It was not inconceivable that hundreds of changes required action and monitoring at any point in time. These changes were mainly project-driven and included relocations and opening or closing new branches.

The bank had limited ability to track and report on its telecommunications expenses.

With regard to governance and auditing requirements, the bank could only check at a macro level: total expense was basically in line with the budget. There was no fair method of recharging business units their share of consolidated services.

In the decentralised model, there were mixed standards of validation for telecommunications billing and there was no cost effective way to validate bills apart from comparing the current bill to the previous month.

The Bank's Requirements

Business Services had a goal of improving the management and accountability of the bank's \$86 million telecommunications expense. The key stakeholders through this change management process were Business Services and the individual business units.

To this end, Business Services' requirements included:

- Establishing a methodology to capture the total inventory and configurations of all the bank's telecommunication services

- ☒ Developing a methodology to identify anomalies within the inventory such as excess services
- ☒ Design and implement a process for effective change management
- ☒ Design and implement a system to reconcile billing and produce exception reporting
- ☒ Design and implement a system that would produce trending and usage pattern reporting down to individual services
- ☒ Design and implement a system that would seamlessly allocate telecommunications expense across the bank's nominated cost centres, retain historical information and cost centre hierarchies

In addition to the anticipated financial and operation benefits of the new systems, Business Services wanted to streamline the process for tendering and negotiating future contracts. This additional capability was enabled by holding the inventory and associated service configurations in a central repository. This would also assist in the goal of reducing the number of suppliers.

The Solution

The implementation was an evolving process. At the time, there were no off-the-shelf solutions that could effectively capture the bank's telecommunications inventory and associated configurations.

The total solution comprised three separate projects:

- ☒ A customised telecommunications inventory system (InsightAP Service Management Module)
- ☒ Upgrading the billing systems of the major telecommunications service provider
- ☒ A customised bill reporting and analysis system (InsightAP Bill Reporting Module)

The second and third projects were not part of the initial requirement, but became necessary when the Business Services realised it was unable to manage telecommunications to its required level. The problems were due to the way the major telecommunications provider presented the billing data and the limited functionality of the bank's existing bill reporting module.

The new telecommunications inventory solution followed a standard methodology, which included:

- ☒ Clear articulation and understanding of the problem
- ☒ Development of a joint specification
- ☒ An audit of the bank's telecommunications inventory

☒ Design, build and test of the telecommunications inventory platform

InsightAP needed to undertake a number of actions to ensure the project was a success.

The first was developing an expert understanding of the telecommunications contract. The contract was complex and contained bill reporting rules, product and services definitions, rates, service levels and a range of detailed requirements. As such, the contract was an important input into the specification and design processes.

The second was the development of protocols between the bank and the telecommunications services providers. Essentially this involved developing a common language to ensure that the technical and business requirements were understood between the bank's executives and service providers. The business units' issues were also incorporated into the process, such as visibility of reporting information and accounting standards.

InsightAP's specialists developed a detailed understanding of the issues and challenges associated with managing the complex relationship between the bank and the service providers.

Once the specification was developed, the bank undertook an audit of its telecommunications inventory. This took approximately six months and involved auditing the bills from the service providers followed by a quality control process, which involved physically auditing approximately 40% of the services.

Once the audit was completed, InsightAP implemented its Service Management System and populated it with the bank's telecommunications service inventory. The system included a sophisticated anomaly checking function, which analysed the inventory via a series of algorithms. This process identified a significant number anomalies including surplus services and charging errors. This detection process was conducted over a period of six months and is now conducted automatically each month by the Bill Reporting System to ensure accuracy.

Using the InsightAP Service Management System, the bank now has a 'single point of truth', i.e. the system contains an accurate representation of the bank's telecommunications inventory.

The bank's next requirement was to reconcile the telecommunications billing against the inventory on a monthly basis. Due to issues related to the billing data and limitations with the bank's existing billing reporting module, the bank found it could not execute this reconciliation. The bank engaged InsightAP to implement the InsightAP Service Reporting Module. InsightAP also worked closely with the major service provider to alter its billing systems to meet the bank's reporting requirements.

Outcome

The summary of outcomes is shown in the following table:

	Previous	Current
Number of services:	Unknown	30,000 (approx)
Telco expense per annum:	\$86 million	\$65 million
Number of sites:	950	800
Number of cost centres:	700-800	1930
Service providers:	5	5

The outcome for the bank has been positive. Essentially the bank has achieved its goal of improving the management and accountability of its \$86 million telecommunications expense.

The bank has been happy with the outcomes delivered and would recommend InsightAP to other Australian enterprises.

Identifying and Delivering Real results

The bank has enjoyed numerous benefits as a result of the engagement with InsightAP. Key benefits include:

- Overall telecommunications spending has reduced by 26% over two years.
- All services and their associated purpose and value to the bank have been identified
- The bank can reduce spending by identifying billing inaccuracies and surplus services
- InsightAP's solution can assist contract negotiation
- Simplification of the tendering process for new contracts and additional services
- Seamless allocation of costs to business units
- Improved visibility of telecommunications costs for business units
- Improved ability to conduct exception reporting and trending analysis
- Fewer disputes with service providers and overall improved relationship with vendors
- Improved service provisioning
- Significant reduction in administration overhead (equivalent to 0.5 of a person)
- All the above was achieved in an environment where data volumes had quadrupled, internet volumes had trebled and WAN usage had quadrupled.**

Due to InsightAP's processes and methodology, the bank has enjoyed an additional benefit associated with its governance and compliance requirements. The bank must comply with the US Government's Sarbanes Oxley (SOX) Act. To this end, all processes must:

- Demonstrate that management is responsible for an adequate control structure
- Be assessed by management to ensure the effectiveness of the controls
- Be evaluated by an external auditor to ensure the accuracy of the controls

According to the bank, the InsightAP's methodology has made a significant contribution to its ability to comply with SOX in its telecommunications control and expense management.

Looking ahead

Business Services intends to request additional functionality for the Service Management and Bill Reporting modules. This is likely to include:

- Rate validation
- SLA management
- Benchmarking capability

Business Services is also planning to add more services onto the Services Management inventory, including:

- Network hardware maintenance
- Network software maintenance
- Network equipment (routers etc.)

CONCLUSION

IDC sees a need for larger organisations to develop a more accurate understanding of their telecommunications infrastructure and services. It is clear that appropriate processes and systems can improve control and support compliance and governance requirements.

IDC's research included expert industry comment, 50 interviews with managers of organisations that spend more than \$5 million on telecommunications and a detailed case study. This research has found that service provider data and systems may not be sufficient to effectively manage a large number of telecommunications services.

Also a significant number of organisations are not performing important management functions such as exception reporting and auditing telecommunications usage.

It is clear that there is a market need that can be solved by solutions offered by organisation such as InsightAP and other providers.

IDC's research in this white paper indicates that independent systems such as the solution offered by InsightAP and other providers can be a worthwhile investment depending on the cost of systems and the size of the organisation's telecommunications expense.

Copyright Notice

External Publication of IDC Information and Data — Any IDC information that is to be used in advertising, press releases, or promotional materials requires prior written approval from the appropriate IDC Vice President or Country Manager. A draft of the proposed document should accompany any such request. IDC reserves the right to deny approval of external usage for any reason.

Copyright 2005 IDC. Reproduction without written permission is completely forbidden.