

# Curriculum Vitae

Peter Nolan

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## SUMMARY

Peter Nolan has over 20 years experience in the IT industry in the areas of applications development, IT marketing, project management, architecting large complex (OLTP, Batch and DSS) systems and consulting in all of these areas.

For the last eleven years, Peter has concentrated on the area of building data warehouses to support decision support systems. In this capacity Peter has implemented many data warehouses and performed consulting on projects that have developed from using the data warehouse. Peter is currently self-employed working in the area of implementing large data warehouses for large organizations in Europe and the US.

Peter has previously worked for:

- Australia/New Zealand Professional Services Manager for Informix Software (6 months).
- Ardent Software (now Ascential Software) where he was the Asia Pacific Professional Services Manager (1 year.)
- PricewaterhouseCoopers where he was a Principal Consultant in the Global Data Warehousing Practice (1 year).
- Hitachi Data Systems, where he led HDS into the data warehousing marketplace (2 years).
- His own consulting company (2 years) where he retained a number of top tier clients.
- IBM Australia (8 years) including 4 years in IBM Marketing.
- BHP IT (4 years) as an application developer.

## PERSONAL DETAILS

**Name :** Peter Nolan  
**Date of Birth :** 11/01/1964  
**Nationality :** Australian

## EDUCATION

**1982 – 1985**                      **University of Wollongong**  
*Bachelor of Mathematics*  
Joint Major in Computing Science and Philosophy.

## TECHNICAL SUMMARY

<b>Hardware Used :</b>	PC's	Mainframe	Sequent	Sun
<b>Operating Systems Used :</b>	MVS	OS/390	Dynix	Unix
	OS/2	Win 98	Win2000	
<b>Databases Used:</b>	DB2/MVS SQL Server	DB2/2 Sybase IQ	Oracle	IMS
<b>Languages, Tools And Applications :</b>	Informatica DataStage PL/I	Cobol Visual Basic	C/C++	Rexx
<b>End user Tools:</b>	Business Objects Essbase	Brio MicroStrategy	Seagate Holos	Seagate Info
<b>Methodologies</b>	Sybase DW Methodology	Informix Iterations PwC DW Methodology	HDS DW Methodology	SAS DW Methodology

## TRAINING COURSES ATTENDED

- Sybase IWS Implementers Class – March 2001
- Prism Iterations Data Warehousing Methodology - June 1999.
- PricewaterhouseCoopers Data Warehousing Methodology - February 1998.
- Ralph Kimball Real World Data Warehousing Seminar - July 1996.
- Bill Inmon Building the Data Warehouse Seminar - November 1995.
- Metaphor Computer Systems on Decision Support and Data Warehousing - 1993.
- Approximately 160 days of IBM Education during 8 years at IBM.

## EMPLOYMENT HISTORY

**2001 - Present**

**Self Employed Consultant**

In early 2001 Peter relocated from Sydney, Australia to Dublin Ireland.

One of the main reasons for this was an opportunity to work on implementations of the Sybase Industry Warehouse Studio (IWS), one of the leading edge packaged Data Warehouse Solutions.

During this period Peter has worked on a number of sales situations with Sybase IWS as well as a number of projects to implement Sybase IWS.

*North Jersey Media group – USA (2001-2002)*

Service: Consulting Services

North Jersey Media Group is one of the top 50 media organizations in the USA. North Jersey Media Group and Sybase had agreed to jointly develop a new industry vertical for Media. This vertical solution would then be sold to large media organizations around the world. This would be a new market for Sybase IWS.

Peter's role in the project was to be the Sybase project manager as well perform a broad range of consulting roles. Peter ran many workshops and interviews, developed the data models for the circulation portion of the project, designed and led the team for developing the ETL and designed and led the team in Business Objects report development.

This project is seen as so successful that the president of the company appeared on the cover of 'Editor and Publisher' (the leading trade magazine for the newspaper and magazine industry) and gave an extensive interview on the project. Coverage of the project ran to 6 pages of Editor and Publisher.

Lindorff – Norway (2001)

Service: Consulting Services

Lindorff is the largest debt collector in Norway, and is owned by one of the largest financial services conglomerates in Norway. The Sybase IWS was selected by Lindorff to augment the existing data warehouse. Lindorff had taken a decision to change the performance measurement processes of the company. Lindorff decided to change from measuring by 'number of cases closed' related measures to measuring profitability. It was determined that profit should be measured at case level on a monthly basis and that the measures should balance to the general ledger.

This was a major change for Lindorff as well as a major challenge to be able to accurately attribute all costs of the business across cases accurately and equitably.

Peter's role in this project was as the Sybase advisor to the project. Peter performed workshops, developed the requirements documents, customized the IWS data model and then advised and guided Lindorff staff through the process of construction of the data warehouse.

Peter also performed skills transfer to Lindorff staff to enable them to perform future projects without external consulting support.

The project was seen as very successful. Lindorff have become a strong IWS reference and have had a Sybase 'brochure' published about the project.

Various Sybase Customers – Europe (2001-2002)

Service: Consulting Services

Peter consulted with a number of Sybase customers in the early stages of their data warehouse project. Peter consulted in articulating the value of Sybase IWS and assisted customers to determine whether Sybase IWS was cost justified for their organization.

To this end Peter performed numerous sales presentations and 'Gap Analysis' consulting engagements across Europe.

**1999 - 2000**

**Professional Services Manager  
Ardent (Informix) Software**

Prior to the Informix acquisition of Ardent Software Peter's role was to lead Ardent's development and growth in Data Warehousing Consulting. This included working with senior business clients to develop sophisticated solutions to complex business problems delivering significant value to Ardent's major clients. Peter also managed and mentored all Ardent consultants.

Peter was responsible for all professional services delivered by Ardent Software across Asia Pacific and was a member of the Ardent Senior Management Team.

In this position Peter had 11 permanent staff reporting to him and ran a business that returned in excess of \$A4M in consulting fees in 1999.

After the Informix acquisition Peter managed the transition to a regional management structure for consulting staff and moved back into field consulting for major customers working on critical projects.

Major Publisher (2000)

Service: Consulting Services

Ardent was selected as the Data Warehousing Partner for a major Australian Publisher. The client cannot be named under the terms of the non-disclosure agreement.

Ardent was selected as the advisors to the publisher on how to approach all aspects of decision support, corporate reporting and data warehousing. Peter was integral to developing a trusting relationship with senior client management. As a result Ardent was awarded the purchase of software, methodology and services in a two year partnership plan to implement all data warehousing projects across the company.

The first phase of this project has been delivered successfully and the project team has been retained on an ongoing basis. Consulting services have now been delivered to this client for over two years.

Qantas (2000)

Service: Selling Software and Services in a Tender Environment

After many years of 'tyre kicking' for ETL software Qantas went to tender to select the most appropriate software for their ETL environment. Ardent Software was eventually awarded the business for enterprise ETL infrastructure.

Peter's involvement was to work closely with the account manager and, leveraging his long term knowledge of the account and his experience in large complex sales cycles, develop a sales strategy explaining to Qantas why the Ardent/Informix solution was superior to those of 3 major competitors.

As a further result of the work performed in explaining to Qantas how Ardent/Informix was best positioned to deliver the ETL infrastructure and related services to Qantas Ardent/Informix was awarded a project worth some \$A200K to design a prototype for a specific Data Warehouse for Qantas Cargo.

### Qantas Cargo (2000)

Service: Lead Architect in a complex Data Warehouse Environment

Following on from the DataStage software sale to Qantas, Qantas Cargo decided to build a sophisticated Performance Measurement system. This system was to be on the desktop of the 30 most senior managers of Qantas Cargo and the data was to be made available to many line managers. Because this project was seen as so important and was sponsored by the CEO of Qantas Cargo, Qantas decided to have Ardent/Informix Services implement the project.

In turn, the project was important enough for Ardent/Informix to assign Peter to the project. Peter's involvement was to be the lead architect for the project.

In this role Peter performed numerous business interviews with senior managers, developed the prototypes of the data warehouse, designed and oversaw the development of the front end prototypes and presented the prototype to management, including the CEO of Qantas Cargo for signoff.

Once the project was signed off Peter completed the design work and handed the project over to a successor for implementation. The implementation was very successful and the system is in ongoing use.

Today, this project is seen as the most successful development project undertaken at Qantas Cargo.

### Heinz (1999)

Service: Consulting Services

Ardent had been providing consulting services to Heinz on Peter's arrival at Ardent. During the absence of a consultant working for Heinz Peter stepped into the account to manage the development of the Finance and Sales and Marketing Data Warehouse Projects.

### Telstra (1999)

Service: Consulting Services - Finance

Peter had been a key player in the award of the Finance Data Warehouse Project to PwC. When an extension to this Data Warehouse was planned Peter, representing Ardent, was invited to put forward a proposal for strategic review in limited competition with PwC, IBM GSA and Anderson Consulting. Ardent was selected for the initial one month Strategic Review. Following on from this Strategic Review Ardent was awarded an analysis phase for the project, the output of which was to go to a relatively limited tender of 4-6 possible tenders.

Peter's role in this project was to market Ardent's ability to:

- Manage the delivery of very high quality deliverables for the complex data warehouse environment that existed.
- Provide leadership, advice and guidance to the consulting team.
- Ensure satisfaction with the project to develop the relationship between Ardent and Telstra.

Telstra (1999)

Service: Consulting Services - Sales and Marketing

Telstra had been performing a variety of data warehousing projects over a period of around 5 years. In early 1999 Telstra was performing a major Data Warehousing Project for Sales and Marketing. Telstra had some 140 people working on the project and Telstra was expending some \$250,000 per week on the project.

Peter was invited into the project by senior Telstra management in order to act as a 'sounding board' for the project as well as to review all deliverables from the Data Warehouse solutions Provider, IBM Global Services Australia. At the time this was the largest single Data Warehouse Project running in Australia.

Peter was brought into this role partly because of the recognition he achieved in the early implementation phases of the Telstra Finance Data Warehouse Project (see below).

1998 - 1999

**Principal Consultant  
Data Warehousing Practice  
PricewaterhouseCoopers**

In this position, Peter's role was to assist in the development of the PwC Data Warehousing Practice across Asia Pacific. Roles included the solving of complex business problems for major corporations through the detailed understanding of the client's business and business problems, the development of proposals to solve these complex business problems and then leading the implementation of the proposal developed. Whilst in this position, Peter has been engaged on the following projects:

Telstra (1999)

Service: Systems Integration Consulting Services

Telstra had been performing a variety of data warehousing projects over a period of around 5 years. In late November 1998 Telstra went to tender for an Implementation Partner for a major Data Warehousing Project to deliver corporate wide financial reporting for Telstra. The project would accept 40+ files from 4+ financial systems and be required to produce some 100 reporting templates which are customisable on-line for some 1,000 users. The solution was requested to be delivered in 120 days.

Peter led the development of the PwC solution and was the major contributing author of the PwC tender response. Seven other major corporations tendered for the business. These included such major organisations as IBM GSA and NCR.

**The PwC response written by Peter was rated the #1 response by all eight Tender Response evaluators to place PwC on the short list.**

Peter worked closely with Telstra during the tender evaluation to demonstrate depth of data warehousing knowledge and understanding the business to Telstra. Subsequently Telstra awarded the project to PwC referring to the work that Peter performed as a clear differentiator.

The initial business was worth in excess of \$A1M in consulting fees. Telstra spent in excess of \$A5M in hardware and software under Peter's guidance in the tender process for these components.

This project continues to be the largest data warehousing project that PwC has ongoing and has earned in excess of \$A12M in consulting fees to date.

What makes this sale so significant is that IBM GSA were the incumbent data warehouse consulting providers in the Sales and Marketing Data Warehouse Project. In initial internal meetings at PwC it was expected that PwC had very little chance of winning the Finance Data Warehouse business away from IBM GSA but had to bid for the business in order to present itself as credible for future bids.

Peter's role on the project which started in early 1999 was Data Warehouse Architect. Therefore Peter had complete responsibility for designing and architecting the solution in detail. Further, Peter led the evaluation process of all technologies included in the solution. Peter designed the Operational Data Store and Dimensional Data Stores as well as overseeing the initial development of Essbase cubes.

New Zealand Telecom (1998)

Service: Consulting Services

New Zealand Telecom had been performing numerous data warehousing projects over a period of around 6 years. Peter has been involved in many of the proposals developed for Telecom New Zealand over this period. The current situation was that significant investment had been made over these years and Telecom New Zealand asked the question whether greater return could be generated from this investment. PwC was invited to propose a project to deliver greater return on investment for the data warehouse. Peter worked with the local PwC consulting team to lead the development of the proposal. The project was awarded to PwC and Peter's role on this project was project manager and technical Data Warehouse Architect.

Unfortunately, this project was cancelled soon after it had started due to Telecom New Zealand internal issues.

Woodside Offshore Petroleum (1998)

Service: Consulting Services

Woodside Offshore Petroleum is one of Australia's largest energy companies. Woodside owns a major portion of the North West Shelf and produces Liquid Natural Gas for sale in Asia and Australia.

Woodside were investigating the use of data warehousing and the value it may be able to deliver to the Woodside Business as well as the replacement under the Y2K project of an old Executive Information System. Peter's role was to define criteria for the replacement of the EIS as well as to define criteria for the selection of projects to make use of data warehousing technologies. The finished product was a series of reports, questionnaires and spreadsheets such that senior business managers could be interviewed for the applicability of a business area or project to make use of data warehousing techniques.

PwC Internal - Development of Marketing Strategy (1998)

Service: Consulting Services

On arrival at PwC, Peter's initial role was to assist in the development of the marketing strategy for the development of the PwC Data Warehousing Practice. This included gathering materials from around the globe as well as contributing and inventing a significant amount of materials. The purpose of this was to be able to communicate effectively and efficiently to PwC's major clients, PwC's data warehousing capability in their industry segment. Peter developed materials for Banking, Insurance and Telecommunications companies. More than 20 presentations and documents were developed from this exercise. This material now forms the bulk of material used to communicate PricewaterhouseCoopers' position in the data warehousing marketplace by industry segment.

**1996 - 1997**

**Data Warehouse Practice Manager  
Asia Pacific  
HITACHI DATA SYSTEMS**

In this position, Peter's role was to develop the HDS Data Warehouse Practice from an initial investment of just 2 people in sales and marketing in April 1996 to be one of the major IT organisations able to deliver end-to-end data warehousing solutions as systems integrator. This practice development was proven with the HDS being awarded the Australian Customs Service Data Warehouse Project and the Philippine Telephone Company (largest mobile phone company in the Philippines) within 12 months of Peter starting work at HDS. These committed orders were in excess of A\$3M. Subsequently the Data Warehousing Practice developed in excess of A\$6M in revenues the second year under Peter's leadership.

Peter's non-project work included developing all marketing materials, training marketing representatives, developing the Global HDS Data Warehouse Methodology, developing code generators, data warehouse templates, developing a series of data warehousing newsletters, hiring and training staff to work within the Data Warehouse Practice.

Specific client projects that Peter developed during this period are as follows:

*AAMI (1997)*

Service: Consulting Services

AAMI had developed a series of four independent data marts and were considering the use of data warehousing to integrate the data feeds to the data marts as well as proactively support the marketing efforts of AAMI. Peter worked with AAMI over a period of 10 months to develop AAMI's understanding of data warehousing including the building of prototypes and the presentation of data warehousing concepts to business and IT alike. After that period HDS was awarded the project to perform the technical implementation of the AAMI Data Warehouse.

Australian Department of Defence (1997)

Service: Consulting

The Australian Department of Defence went to tender to the Defence Preferred Systems Integrator Panel to develop a Resource Information Management System (RIMS) to analyse and manage the A\$10B Defence budget in early 1997.

HDS was not on the list of Preferred Systems Integrators. However, CSC, which was on this list, requested that Peter assist CSC to win the proposal in direct competition with IBM and BHP IT. Peter's role on this project was to develop the systems solutions for the data warehousing project and to articulate to the client why the CSC/HDS combination was the most effective combination for the Department of Defence to select. The tender was awarded to CSC and Peter's role on the project was to facilitate the early requirements gathering and workshops and provide a senior advisory role on the project.

Manulife Hong Kong (1996-1997)

Service: Systems Integration

Manulife is the largest insurance company in Canada. Manulife has a significant presence in Hong Kong and is the third largest insurance company in Hong Kong. Peter's role was to work with the client over a 13 month period to develop the client's 'Customer Vision Projects'. This included numerous trips to Hong Kong to work with business managers and IT management in the development of the business case and technology architecture to deliver on the 'Customer Vision Projects'.

Peter led the development of the proposal, initial consulting, interviewing the senior management for requirements gathering, database design and implementation. This project included an Operational Data Store, Call Centre, Interactive Voice Response units, PABX installation and creation of a leading edge data warehouse. Peter was key in articulating to the customer the value of data warehousing and the alignment of data warehousing with Manulife's vision of becoming truly customer centric. Peter also acted as data warehouse Architect and Quality Assurance Manager during the project.

The client's satisfaction with the job done was such that the customer was prepared to have news articles developed and widely published regarding the data warehouse and reference Hitachi Data Systems as the Systems Integrator. This data warehouse has since tripled in capacity and was key to the development of the Manulife Hong Kong demutualisation process.

In the Hong Kong Marketplace Manulife is seen as a high profile company and Peter was a key driver in the development of their Data Warehousing Project.

*Philippines Telecom (Piltel) (1996-7)*

Service: Systems Integration

Piltel decided to develop a leading edge data warehouse to support their aggressive marketing campaigns in the Philippines. HDS was invited to bid through a local supplier. In conjunction with a local person in Singapore Peter developed prototypes and the overall data warehousing solution for Piltel. Peter worked on this sales process for some 12 months prior to HDS being awarded a large Systems Integration contract to deliver the data warehousing Project. The work commenced and Peter's role was to interview senior business manager to develop the requirements and to enhance the prototype development to include data for the live data warehouse. Unfortunately the projects funding was cancelled in an internal management re-organisation and the system developed was never implemented into production.

*Australian Customs Service (1996-1997)*

Service: Systems Integration

The Australian Customs Service (ACS) went to tender in late 1996 for a long term enterprise wide data warehouse systems integration supplier. Some fifty companies were invited to demonstrate their capabilities. This list was first narrowed to nine major vendors and then three finalists. During this process Peter architected an enterprise wide scalable data warehouse environment and was instrumental in explaining to ACS why the data warehouse environment designed would best serve the long term requirements of the ACS.

The project was finally awarded as a three year systems integration project. After the project was awarded ACS made the point that Peter had listened to their requirements and designed a solution that was clearly in line with their requirements and was able to articulate to ACS why the solution developed was the most appropriate for the ACS.

Implementation of the project clearly demonstrated that the data warehouse architecture designed has delivered against the customers requirements. Peter's involvement in the early stages of delivery was interviewing senior business managers and developing the requirements documentation against which the initial iteration of the project was delivered. Peter's role was then as a senior adviser to the project.

**1994 - 1996**

**Principal Consultant and Managing  
Director  
NOLAN CONSULTANTS**

In 1994 Peter resigned from IBM to pursue his passion of building large complex analytical data warehouses that provide significant business benefit to major corporations. Peter started his own consulting company and during this period was retained by clients such as MLC, Lend Lease, SAS Institute and the IBM Corporation US. Some of the projects undertaken include the following:

*IBM Corporation US (1995-6)*

Service: Consulting

IBM Corporation was in the process of developing a Retail Banking System to be marketed worldwide to mid level banks. (Approximately 5 million customers per bank). IBM decided to build a leading edge analytical data warehouse as an 'option' for the retail banking system. Peter was engaged by IBM Corporation in the role of data warehouse architect to build the data warehouse. The project implemented many 'world first' features for banking data warehouses and solved many problems of large scaled generic data warehousing projects. The project was brought in on time, on budget to the delight of the IBM Project Leader and IBM Management.

*SAS Institute Australia (1995)*

Service: Consulting

In 1995 the SAS Institute was beginning its initial promotion program for data warehousing. SAS felt confident that they had excellent tools and excellent people, however, there was no methodology for building a data warehouse available to SAS. Peter's role was to develop a data warehouse development methodology for SAS Australia. The methodology was developed to provide SAS staff with a proven method of developing a data warehouse using the SAS products. This methodology was very successful in SAS Australia and was exported to SAS Corporate. The methodology has since undergone further development and has become the worldwide SAS Rapid Data Warehousing Methodology.

*MLC Computer then ISSC (1994-1995)*

Service: Consulting

MLC had been a client of Peter's for many years and when he left IBM to pursue his goal of developing complex analytical databases, MLC engaged Peter to build a second generation star schema data warehouse to support the move to 'World's Best Practice' Direct Marketing in the Financial Services environment. Peter's role was data warehouse architect. This role also included consulting on how to use the data warehouse for Direct Marketing. Peter performed consulting and system architect roles for the development of systems to provide full life cycle support of marketing campaigns in MLC Direct.

This consulting engagement produced many excellent results in marketing campaigns for MLC Direct.

1990 - 1994

**Systems Representative Technical  
Pre-Sales Support  
IBM AUSTRALIA**

Metaphor Computer Systems (1993)

Service: Consulting and pre-sales support

Metaphor Computer Systems was a pioneer in data warehousing and decision support. The software product Data Interpretation System was installed at 200+ Fortune 500 companies. Peter received extensive training by Metaphor in large star schema data warehouse development and attended the International User's Conference. This included the opportunity to make contact with hundreds of people from such companies as Coca Cola, Proctor and Gamble, Standard and Chartered Bank, John Hancock Insurance, Kimberly Clarke, Colgate and many others. This training allowed Peter to improve his pre-sales support role of the DIS product and concepts of data warehousing.

St. George Bank (1993)

Service: Consulting and presales support

St. George Bank is a mid level bank in Australia with around 3 million customers. The bank invited IBM and another vendor to compete head to head for the data warehousing project at the bank. Peter was the lead IBM Systems Representative in building a data warehouse for St. George Bank. Each organisation built their version of the data warehouse and some 25 staff were trained on how to use each vendors data warehouse. Peter constructed a leading edge, highly flexible star schema data warehouse with 100 million rows in the detailed level fact table, and trained the 25 business users on how to use the data warehouse. At the time it was the largest DB2 table in Australia and one of the largest analytical databases built on DB2 in the world.

Standard and Chartered Bank Hong Kong (1993)

Service: Consulting

Standard and Chartered Bank had built a very large data warehouse based on DB2/MVS. It was found that run times of the application were longer than expected. Peter reduced run times of the application by 80% by providing sophisticated performance tuning and advice and guidance for the complex client server software, VTAM communications and DB2 database design. Peter also delivered extensive training on the Client Server Environment installed.

Various Large IBM Customers eg. NAB, Coles Myer, Westpac, AMP, American Express.. (1992-3)

Service: Speaking engagements and high level consulting.

As a result of original research work which reduced complex demographic analysis DB2 CPU requirements by up to 300% Peter was much in demand as a speaker and consultant to IBMs large customers. Peter held presentations for most large DB2 users in Sydney/Melbourne and also presented at Share Guide. The research work he produced was published worldwide inside IBM and has been used by a number of Australian Customers.

Johnson and Johnson (1992)

Service: Consulting

Johnson and Johnson had a problem. A product that was a major revenue producer was declining in market share. The Director of Marketing engaged Peter to develop a prototype system that would provide the ability to determine the cause of the decline and potentially assist in developing a strategy for reversing the decline. Peter built a prototype data warehouse which collected data from numerous different sources and overlaid the data such that the varying data sources could be collectively analysed. The competitive action driving down market share was identified. The result of the project was a board level presentation of the issue, the causes and possible actions for Johnson and Johnson to take. The project included integrating data from J&J's internal IT systems, warehouse movement data and Advertising Data from a third party.

Various IBM Customers (1992-1993)

Service: Consulting

Peter worked with many IBM Customers in 1992 marketing Decision Support Systems. Frequently Peter would build prototypes and demonstrate the value and benefits of a Decision Support System. This led to exposure to the business issues of a wide range of customers. These were the very early days of being an 'evangelist' for the use of information within large complex organisations for business benefit.

MLC Life (1991-1996)

Service: Consulting

Peter was responsible for implementing the Marketing Analysis System for MLC Life. This was an early attempt at a data warehouse in a large complex organisation. At the time MLC had in excess of 1 million customers and 1000 products. Peter's role was to implement the IBM Data Interpretation System and assist MLC in developing new and innovative marketing methods given the large number of customers and products, yet low cross-sell ratios.

The customer derived tremendous value from this data warehouse and continually hired Peter over a period of years to assist with extensions to this data warehouse and Marketing Programs. In 1994 (see above) Peter was retained as an independent consultant to develop the second generation data warehousing project. In late 1995, Peter also developed a proposal to implement enterprise wide data warehousing solutions for the Lend Lease Group (parent company of MLC) and this project was approved at a meeting of numerous General Managers to which Peter presented.

**1986 - 1990**

**Analyst Programmer for International  
Software Development  
IBM AUSTRALIA**

**1982 - 1985**

**Analyst Programmer for Software  
Development  
BHPIT**