



Overview Of Services and Products

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1 Summary

Imagine broadband (IB) is a global enterprise formed by Accenture and Telewest Broadband to provide services and products to the telecommunications, media and broadband markets. IB's services include tailored system integration for broadband, communications and broadcast systems. Our products include, operational support systems (OSS) such as service creation, service provisioning and service assurance and content delivery middleware.

We work with customers to design and deliver fully integrated solutions enabling them to:

- Deploy new broadband infrastructure and services faster and at lower risk;
- Become more efficient in deployment and operations of this infrastructure;
- Improve the quality of service being delivered to customers.

Imagine broadband key capabilities include:

- Extensive experience in design, implementation, rollout and operation of broadband & broadcast networks and services;
- Deep engineering skills in all types of access networking, internet data services and digital broadcast, voice over IP and IP VPN networks;
- Comprehensive risk assessment, project management, and project delivery experience;
- Specialised product suites for service creation, provisioning, service assurance and video content delivery.

Imagine broadband has been responsible for some of the key projects in the Broadband industry as an example, in the UK there are at least 1.8 million customers receiving digital interactive TV and broadband services (High speed data, e-mail, web-browsing etc) on platforms for which we have been the prime systems integrator.

We have been working closely with CISCO and partners to develop solutions to enable the design, implementation and operation of service-rich metro-ethernet networks with a minimum level of risk. This is because we bring our experience with large, complex, broadband networks to this exciting new area.

To summarise Imagine broadband has all of the skills, experience, resources, knowledge, and products needed to make a major contribution to your programme.

2 Who We Are

Imagine broadband was established as a result of the major successes of the founding team in deploying the world's first Interactive Digital TV and Broadband platforms for Telewest Broadband and ntl.

Our Mission is: to be the leading integrator of platforms for the global broadband market place, enabling our clients to deliver their business objectives successfully.

Our business is to design and deliver the most complex large-scale networks, platforms applications and services, reliably and cost effectively. In effect, we provide the expertise, and some of the key components, that help make the world's broadband DTV networks operate reliably and cost effectively. No company in the world has such deep IP, voice and video experience as Imagine Broadband.

We provide world leading systems integration (SI) services on an entirely risk managed basis, whereby we work to fixed costs and guaranteed timescales. We have never failed to deliver an agreed solution in accordance to deadlines no matter how aggressive. This is a considerable achievement given the leading-edge nature of the projects we typically undertake. This means that our customers can determine their total cost exposure and have absolute confidence that any capital investments will deliver value within agreed timelines.

Imagine broadband's clients include many of the world's major cable and telecommunications operators. We have some 200 full time Imagine broadband employees working in the UK, Europe, Australia, Asia and the US. We have also successfully recruited leading industry experts in many engineering fields who also sit on various Engineering committees such as CENELEC, DVB and BSG (Broadband Stakeholders Group).

Our client relationship approach is to partner with our clients and provide a primary point of contact that has the skills, experience and authority to ensure that we deliver to their requirements.

3 Our Capabilities

3.1 Our Team

We have a large number of highly skilled resources that have deep knowledge on broadband infrastructure and its environment. Our rigorous scheduling process where skill requirements are constantly analysed and a pool of experts is maintained to fill in any shortfalls and the constant review mechanism ensures that our forecasting of needs is met by early recruitment campaigns followed by additional training as required.

Currently, we have approximately 200 professionals and are supported by the Accenture organisation for any immediate shortfalls. We have created a Broadband Centre Of Excellence that can be used to assess any broadband infrastructure interoperability problems.

We are skilled in complex areas where end-to-end performance and a quality customer experience is critical to business success. We specialise in an environment where availability, and quality of service, are assumed as critical. We focus on technology working with the process. We recognise that few “green field sites” still exist and that our skills are best used where migration from existing architectures, with complex integration tasks, are the norm. We can deliver the entire technology life cycle from designing and integrating systems for performance and scalability, through to rigorous testing of complex implementations, deployment and operations.

Imagine broadband’s Centre of Excellence is in the following areas:

Overall Systems Delivery

- Broadband IP Based High-speed data & voice service platforms
- Digital Interactive TV and Enhanced TV
- System Integration and Independent testing of elements from a number of suppliers

Networks and IP

- Network engineering and design for WAN, LAN, FTTH, ETTx, Wireless, DSL, ADSL & Power Line (New).
- Digital network rollout at regional head end, hub site levels and exchanges
- IP networks
- SDH networks
- IP security
- IP address management and DHCP
- IP VPNs DOCSIS & Euro-DOCSIS v1.0, v1.0+, v1.1 & v2.0.

Operational Support Systems

- Network Operation Centres, including design and implementation
- Fault management investigations focusing on service to the customer and assisting call centres in analysing problem areas and trends
- System and network management tools including BMC Patrol, Netcool, Openview etc

- Provisioning systems including self provisioning and integration with other IT, BSS and CRM systems
- Set Top Box, cable modem and DSL modem management
- SLA management measuring service KPIs set on suppliers
- Inventory management to aid configuration management
- Performance management from a subscriber and platform view
- IP address management systems

Programme and Risk Management

- Programme office
- Planning and reporting
- Change management
- Vendor selection and technical relationship management

Video Engineering

- Central/Regional Digital Head End design and implementation to broadcast standards
- Conditional Access Systems, billing interfaces, STB integration, SI design
- Near Video on Demand design and implementation
- Video On Demand design and implementation
- Digital broadcast components such as encoders, multiplexers, re-multiplexers etc
- Scheduling databases including Lysis, BDSI, PILAT
- Set Top Box design and integration, memory management, support, multi-manufacturers (Pace, Philips, Sagem, Motorola, Scientific Atlanta, Araneo)
- Access systems of various types
- Test lab design and implementation

Set-top Box Middleware

- Liberate (server and client)
- Microsoft MSTV
- Open TV
- Alticast MHP
- Test lab design and implementation of interactive elements

Applications and Services

- Imagine Middleware (client) for advance applications and arcade games
- Web applications for broadband and TV such as TV mail, walled garden Internet, Open Internet Access, On-line customer service, personalisation
- Web design using JavaScript, HTML, C, C++ etc
- STB applications such as EPG, games, advanced email, self-care, nvod, vod, chat
- Enhanced TV for interactive advertising, games, broadcast, Pay per play etc.

Content and IT Delivery

- Web content provider management
- Portal design & implementation
- Broadcast content management
- Gateways including data interchanges (DI) and EPG

- Broadband interfacing to IT systems for billing and customer care such as ICMS, Vitria, ICL, Geneva, Vantive, Convergis, Keanan etc.

4 Planning and Implementing Metro-Ethernet Networks

The commercial and technical issues involved in cross-infrastructure delivery of broadband are so challenging that few companies have attempted it successfully. Further, the budget and timescales for these programmes allow for little or no contingency. It is essential that the entire programme delivery is right first time in all regards from design, interoperability, through access technology and project management.

We adopt a rigorous approach when delivering complex solutions. We also has the flexibility to mobilise a team very quickly to deliver a specific technical solution. A team to carry out a full system integration and deployment of a broadband infrastructure can be put together if required. We believe our approach is innovative and highly flexible and is based on the following principles:

Risk management - The risks to the programme are examined from multiple perspectives and mitigating actions for them are proposed early and managed carefully and pro-actively. Key risk areas are:

- End to end System Integration;
- Interoperability and standards;
- Content Management;
- Product Applications;
- Service Management;
- Project and Rollout Management;
- Change Management;
- Organisation and Resources.

Best resource and proven experience - Access to the best resources world-wide and access to best experience from similar projects across the industry. Our project structure comprises:

- A strong Delivery Management team;
- A rigorous reporting function to enable proper communication of status to all stakeholders;
- A Technical Delivery Team that is augmented by the best and most experienced experts for the job;
- IB global pool of leading experts that act in an advisory capacity to make sure all of the most complex issues are addressed correctly.

Service delivery approach based on the following principles:

- All activities are considered as projects;
- All projects have deliverables, success criteria and costs;
- For each deployment project, regions will have an overall project manager;
- The development activities will have at least three main elements:
 - Defining the agreed business outcomes, resulting statement of work and project definitions;
 - Delivering the projects
 - Ongoing monitoring of the relationship and KPI reviews.

Flexibility - No lock-in to a single supplier as open standards are encouraged and ramp up of skilled IB resources if needed.

Continuous monitoring of your satisfaction and our performance. A dedicated and experienced relationship manager is provided so that you are able to continuously monitor us and we are able to fine-tune the service we are providing.

4.1 Imagine broadband Products

Imagine broadband has developed a portfolio of products that cover a wide area of functionality and are arguably best in their class. We are extremely confident that this is true because our own people, who are broadband experts and have real life experience from broadband service deployment, have developed them.

Our products are grouped into two main areas:

Imagine OSS – enables creation, (customer) provisioning and assurance of data, video and voice services in metro-Ethernet, DSL and Cable networks

Imagine Middleware Platform and Content Delivery Platform – enables advance video and IP services to be implemented over metro-Ethernet and DSL networks.

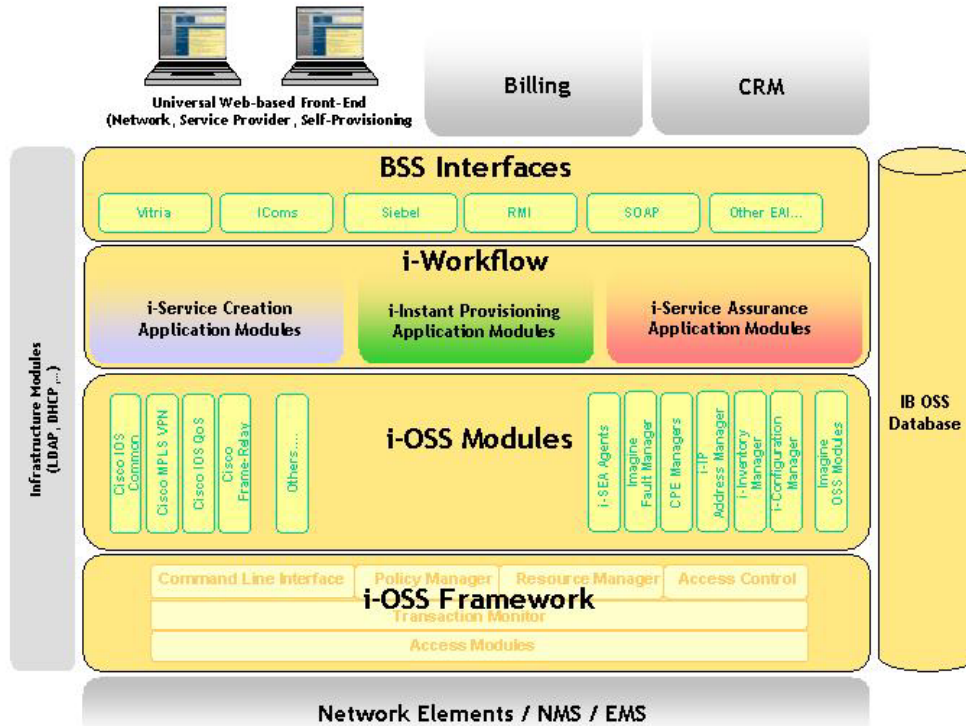
Our Metro-ethernet OSS suite, middleware and content delivery products are entirely complementary and are focussed on enabling the highest service quality at the lowest cost.

A limited selection of modules can be used to achieve a specific function in a cost effective way, but significant additional power can be realised when a number of modules are deployed together to support a specific function. Each product is so functionally rich they each extend across a number of areas where customers would historically be forced to buy products from several vendors and integrate these themselves. With ImagineOSS, modules are pre-integrated, so there is no need for expensive and complex integration activities.

4.1.1 ImagineOSS

ImagineOSS consists of three families of modules that all fit within a common application framework:

- Imagine Service Creation (ISC)
- Imagine Instant Provisioning (IIP)
- Imagine Service Assurance (ISA)



4.1.2 Imagine Service Creation (ISC) and Imagine Instant Provisioning (IIP)

This software revolutionises broadband marketing by creating the flexibility to quickly and cost effectively introduce new products, implement product enhancements and conduct selective product trials. As a result, you can now target your product range to give customers what they want, when they want it, rather than being restricted by technical constraints.

Ultimately, ImagineOSS offers you the potential to create true advantage in the marketplace and so maximise the return on your infrastructure investment.

Fundamentally changing marketing for large-scale network operators - Most provisioning software is extremely complex and requires significant modification to enable successful integration

of a new service. Marketing is therefore invariably tied to lengthy schedules and high implementation costs. Imagine Instant Provisioning overcomes this and reduces both the time and cost of deployment and operations management. Imagine Instant Provisioning has easy to customise web-based front-ends for customer service representatives, service management engineers and customers. It enables secure service activation and customer self-provisioning, and it has the inherent scalability to handle an ever-increasing customer base.

Speeds the introduction of new services - With its XML scripting tool, Imagine Instant Provisioning dramatically reduces the time to create and provision new or enhanced services. Even an entirely different service requiring new business logic and network elements can be rolled out in a short period of time.

Enables Cost Effective Trial Marketing - Imagine Instant Provisioning allows you to cost effectively trial a new service or package within selected geographic regions.

Supports Multiple Provisioning - Imagine Instant Provisioning supports provisioning of multi-tiered services, ISP services such as e-mail and chat, voice-over-IP, IP VPN and interactive TV including all industry middleware's. It also supports open access models including DSL, cable, ETTH, FTTH and wireless from the outset, and allows plug and play provisioning of multiple CPEs.

Drives Business Expansion - Business expansion, whether by organic growth, merger or acquisition, is simplified by Imagine Instant Provisioning vendor agnostic, robust and highly scalable architecture.

Cuts Costs Through Customer Self Provisioning - Imagine Instant Provisioning significantly reduces provisioning and operations costs through integration of a web based customer plug and play self provisioning system for all broadband and large scale network services including high speed data, TV mail, broadcast TV, video and voice. It allows both tiered and packaged services to be self-provisioned.

Eliminates Fraudulent Use - Advanced security features eliminate revenue loss through fraudulent use since customers are automatically directed to the self-provisioning system to change the service or to subscribe to new services.

4.1.3 Imagine Service Assurance (ISA)

Our ISA software empowers you to actively manage your large-scale network infrastructure in real-time from your own customer's perspective. In doing so it enables you to optimise the effectiveness of operations staff while ensuring consistent service delivery to customers.

Real Time Monitoring and Control - Large-scale network infrastructures are typically managed using a component-orientated view of the environment. Within this, if a component fault occurs, operations staff can trace the problem to that individual component and instigate a remedy. This gives no indication of the impact of the fault on the quality of customer service. Consequently, there is no way of telling, in real-time, how your business is performing. Imagine Service Assurance eliminates that weakness. Imagine Service Assurance software provides a complete view of the infrastructure and has all the tools necessary to actively manage components. In addition, it utilises

innovative Imagine Service Emulator Agent (I-SEA) technology to provide a customer view of how the system is actually performing. If a component develops a problem, you can immediately see the impact on service quality and therefore prioritise your operations team to address the faults that have the largest impact on your business.

Enhances Infrastructure Management - Imagine Service Assurance enables you to monitor in real-time infrastructure performance, security and service quality. By co-ordinating information from the Imagine Service Emulator Agents, component alarms and correlation rules, it identifies both the source and service impact of any problem. When integrated with Imagine Instant Provisioning, it also identifies individual customers affected and so helps set priorities when fixing the problem.

Streamlines Component Management - Imagine Service Assurance is modular and has all the tools necessary to manage and monitor each system component. It also allows other tools of choice that may already be in use to be integrated through open APIs or middleware products.

Simplifies Management and Monitoring - Infrastructure management is simplified by graphical user interfaces that are customisable, multi-language, and can be re-branded and widely advertised. The network operator's interface is Java based and there are web-based interfaces for customer service representatives, service managers and company executives with easily tailored information according to the audience and business processes.

Reduces Operating Costs - A context sensitive knowledge management system gives instant access to problem resolution procedures. This, along with the ability to prioritise activities according to customer importance, greatly simplifies fault remediation and speeds time to resolution.

Ensures Performance Quality - With its innovative Imagine Service Emulator Agents, ISA allows you to continually monitor and adjust components to maintain consistent delivery of your optimum service standards, for example changing bandwidth to optimise the use of the network.

Improves Customer Satisfaction Levels - Imagine Service Assurance integrates its web based CSR user interface with the I-SEA modules. For the first time this enables your call-centre to know why the customer is calling, which could lead to automated call handling as well as much higher customer satisfaction levels and reduced customer churn. Further customer problem resolution is enabled in the call-centres by use of remote CPE tools which have been proven to increase efficiency significantly.

Comprehensive Core Functionality - Imagine Service Assurance is a modular, "out of the box", client server application. The core product enables the modules to interact with each other and provides memory, transaction and database management.

4.1.4 Imagine Middleware (IMP) and Content Delivery (CDP) Platforms

IMP provides the following features:

Delivers the same look and feel across different Set-top-boxes (STB)- Over time STBs of different specifications from multiple vendors have been deployed, as well as other devices such as

wireless, PDAs and mobile phones. IMP will allow both low-end and high end STBs to offer exactly the same look & feel to all the customers.

Easily Changed look and feel - IMP enables the look and feel and functionality of electronic programme guides (EPG) and applications to be changed on the fly without STB reboot. This enables one-to-one marketing as well as other more advanced STB features to be delivered quickly.

Continuously monitor and capture usage information - Together with our STB Management software IMP will allow all information relating to STB, cable modem in the box, as well as the interactive services usage, to be continuously monitored and captured.

Significant cost savings - IMP enables significant cost savings to be achieved as operators can have short development and delivery time-scales, lower churn due to box stability, as well as having multiple specification STBs to suit different customer segments & maintain competition between suppliers.

Unified Software Platform - IMP enables a unified software platform for convergent content for other devices, such as PDAs, to be readily available allowing advanced broadband services to be delivered across multiple devices.

4.1.5 Imagine Content Delivery Platform (ICDP)

The Imagine Content Delivery Platform system represents a revolution in business opportunities for IP network operators. It does this by enabling the delivery of stable and highly scalable, content rich services over an existing IP infrastructure. As such, Imagine Content Delivery Platform helps maximise the return on your IP network investment by enabling you to offer customers a full portfolio of services including broadcast and interactive TV, video on demand and near video on demand, games, high speed data and voice over IP.

The revolution in data, video and voice delivery - The ability to deliver content rich services to the home, and the enterprise, was the preserve of cable and satellite organisations. Until now, existing IP infrastructures have been considered unsuitable for the task. As a result, the perceived inflexibility of IP network technology has limited revenue streams and restricted product development. Imagine Content Delivery Platform overcomes this by enabling you to deliver data, video and voice over your IP network. It is device (CPE) and access technology independent, scalable and provides stable high quality standards compliant with DVB. It is open standards compliant and fraud resistant in DSL, cable, ETTH, FTTH and wireless environments.

The Imagine Content Delivery Platform system is a complete solution comprising both infrastructure and application components. It's scalable architecture integrates easily with an existing IP network to significantly enhance its capabilities.

5 Engaging Imagine broadband

There are a many ways we can help you:

Turnkey delivery- We can deliver projects as turnkey contracts which would include detailed business analysis and capturing of business requirements, architecture, detailed design, end to end testing, roll-out including all facets of deployment, operational readiness activities, and full training of staff. The turnkey project allows you to deliver superior commercial services to your customers from the day that we hand over the end-to-end service.

On Demand Expertise - We can provide some of the most experienced experts, with the skills required below, for short or long term engagements.

Ad Hoc Technical Advice or training - We are happy to provide you with relevant expertise in any area of broadband, Digital TV and large scale networks, as and when you need it.

Technology Risk Management professionals - We can act as your technology risk manager and have a partnership that enables you to benefit from the best experience in the industry, on an ongoing basis with dedicated experts. This can be in the form of:

- Technology project audit and recommendations
- Technology roadmap structuring with realistic time scales and budgeting
- Vendor selection and relationship management
- Ongoing design collaboration and validation

Operations - We are also available to work with you, or become your operations team. We have many creative ways to structure our relationship to ensure efficient and cost effective operation of your network and complex infrastructure. Our unique experience enables us to effectively analyse, and advise on, the actions needed to increase and maintain the services delivered by your networks to the highest quality.

5.1 Services

We are a company with broad expertise offering consulting, engineering, Systems Integration and products, all focussed on broadband technology. The combinations with which these skills can be used are almost infinite. Our philosophy is to be driven by customer requirements. The most common are listed below, but this list should not be considered as exhaustive. We are able to offer the following services:

- **Technology Analysis -** The analysis of current and required infrastructure technology needs. This would include service assurance, technical provisioning and mapping service provider technology to meet service needs. The key deliverables would be a gap analysis and programme plan for the technical delivery of new functions, quick wins, risks and dependencies and a budgetary estimate for delivery.

- **Technology Blueprint** - The Technology Blueprint will present a high-level architecture indicating the systems and interfaces necessary to support the new service vision. Interfaces will frequently include operational customer data systems, such as CRM, billing and order processing systems. It will include a high-level implementation plan for the technical elements of a new service. Output from this assignment will typically be used in support of a business case to senior executives.
- **Requirements Capture** - Working with your business stakeholders to define business and functional requirements as a feasibility process, or at the early phase of a platform implementation project. This work can take a vision statement, provide a long term picture (two or three years) of how existing and new services should develop and deliver a detailed set of requirements. This can be used to drive a supplier selection and evaluation process, or can be used as a specification against which a systems integrator should deliver.
- **Platform Architecture and Design** - The definition of the end-to-end architecture and detailed design of each sub-system of the platform to support complex services e.g. high-speed data, DSL, Metro-ethernet or cable access networks. Where packaged solutions are available that could be implemented for specific solution elements, potential products and suppliers can be indicated. This work can also include vendor selection and can be extended to include the preparation of detailed functional specifications for use in procurement should they be required.
- **Deployment Planning & Programme/Project Management** - Our project managers use a proven methodology for delivery of complex systems and a thorough understanding of the underlying technology. In this way we have a practical framework for delivery and ability to participate fully in technical decision-making. This is especially relevant for platforms supporting the delivery of major services. The deliverables would include overall planning and dependencies, change control and risk management, dependency management, issue management and reporting. We will recommend an overall programme structure and organisation including sponsorship and stakeholder management. We would implement programme/ project management disciplines as appropriate and assess 3rd party contributions and deliverables. This work can also be extended to include a skills gap analysis, resource plan and communication programme.
- **Platform Implementation** - The physical design of the platforms and site layouts. This work can encompass the vast array of tasks necessary to implement a new application platform. It may include the definition of testing strategies, plans and implementation of tests to prove satisfactory platform operation through to back-up strategy and computer operations.
- **Operations Centre Design & Deployment** - The design and implementation of Network Operation Centres so that an operator may manage the quality of broadband services provided. We are able to design the physical layouts, provide the OSS systems infrastructure and manage the implementation according to requirements.
- **Application Development** - This can include email clients and back-end systems, interactive applications and the integration with middleware and real-time operating systems, both on CPE and the associated back-end platforms.

- **Type Approval And Testing** - The definition of test strategies and implementation of testing to prove satisfactory operation of new network infrastructure and elements within an existing platform infrastructure. This can include new types of CPE such as set-top boxes, modems (cable/DSL) or core network platform elements such as IP switching hardware.

5.2 Contact Details

Imagine broadband's head-office is in London, the contact details are given below:

Imagine broadband London Office	
Address:	Aldwych House, 81 Aldwych, London, WC2B 4HN
Telephone:	+44 20 7831 7890
Fax:	+44 20 742 6365

Specific individuals who are available for contact with any questions or issues are as follows:

Global Sales Director	Belinda Roelofs belinda.roelofs@imaginebroadband.com Tel: +44 207 676 2518
Global Alliance Director	Nick Coombes nick.coombes@imaginebroadband.com Tel: +44 207 676 2563

6 Other Information on this CD

Six brochures & datasheets have been included on this DVD/CD:

- ImagineOSS – Imagine Instant Provisioning (IIP) brochure– which describes the module of the ImagineOSS framework that enables the provision of customer service;
- ImagineOSS – Imagine Service Assurance (ISA) brochure– which describes the module of the ImagineOSS framework that enable the monitoring of service quality and the diagnosis of problems when service quality problems are identified;
- Imagine Broadband Services brochure– which describes the services and skills provided by Imagine broadband;
- Imagine Middleware Platform (IMP) brochure – which describes the IMP platform and gives examples of video services enabled by IMP;
- ImagineOSS Ethernet Edition Brochure - which describes in overview the specific ImagineOSS variant which is designed for use in Metro-Ethernet networks;
- ImagineOSS Ethernet Edition datasheet – which describes in detail the ImagineOSS ETTx specific edition.

Appendix – Example Customer Credentials

1. SingTel-Optus (formerly C&W Optus)

Following its successful launch of Digital TV interactive and broadband services in the UK, Cable & Wireless Communications employed Imagine broadband to lead a new DTV and broadband platform implementation for Optus, Australia. The requirements on Imagine broadband were to deliver a DVB and web-based, open-standards DTV platform delivering the following services at launch:

- 80+ Broadcast Channels, 50 Near-Video-on-Demand, 14 Digital Radio Services;
- Nagra Conditional Access System integrated with EMC NVOD System and Pilat Traffic & Scheduling System;
- World's first implementation of Interactive Platform deployed fully integrated with existing internet and cable modem platform;
- Integration with new and legacy BSS applications for provisioning, billing and customer care;
- Design & build of new National Digital Media Centre (NDMC), 1 Exchange/RHE, 2 Hubs;
- Interactive Application Services providing the following functionality:
 - Hybrid broadcast & web-based EPG providing full 7-day schedule and rich EPG functionality;
 - Web E-Mail integrated with existing ISP & HSD E-mail;
 - Web portal for walled garden internet sites supporting banking, shopping, entertainment and games;
 - Static Internet Advertising on all TV applications;
 - Channel & Event Schedule URL Links allowing dynamic linking from broadcast programmes to internet content;
 - Open Internet Access & PC Connectivity

2. United Pan-Europe Communications (UPC)

UPC and Imagine broadband have partnered for over three years in the development and deployment of a range of technical and operational solutions related to UPC's Digital TV and High Speed Internet services through their European affiliate organisations.

Imagine broadband provided key resources in all areas, including overall delivery management, broadcast platform, interactive platform, system management and deployment specialist.

Imagine broadband, as the prime system integrator, was responsible for all aspects of end-to-end delivery, including business requirements definition, functional and technical design, testing, implementation and integration into the UPC existing IT and network infrastructure.

Imagine broadband used their proven methodology and approach, using strict quality assurance and risk management principles, to ensure on-time delivery of the most complex projects. Imagine broadband delivered the following services:

- Digital TV and Broadband Deployment in UPC Netherlands, Norway, Sweden and Austria;
- Video on Demand Architecture Design and rollout;
- European Integration and Test Lab;
- Deployment of Imagine broadband's provisioning solution (IIP) for High Speed Internet access.

3. ntl UK (including Cable & Wireless Communications)

Cable & Wireless Communications employed the Imagine broadband team (at the time part of Accenture) to assist in the delivery of the world's first broadband interactive Digital TV platform. Since then and through the merger of C&WC and ntl, Imagine broadband has become the prime System Integrator for broadband service design and delivery.

Imagine broadband, as systems integrator, has been responsible for all aspects of Requirements, Specification, Architecture, Design, Implementation, Rollout and Commissioning of the services on behalf of ntl. Imagine broadband has deployed a multi-skilled team with subject matter experts in each of the required technical areas, working to a rigorous methodology with overall technical programme management to ensure delivery dates are met.

- Imagine broadband was engaged to be the systems integrator for the Broadband Internet Access (BIA) service which allows customers to access the internet via the cable modem embedded in the DTV set-top box. Imagine broadband managed the design and development of the IP platform, DOCSIS cable modem termination systems, STB, OSS and the rollout of the service in its launch region. This service is currently being sold throughout the UK; ntl was the first Cable Operator in the world with an integrated Digital TV and Broadband IP channel to the home offering quality Digital TV content and web content through TV screen.
- Imagine broadband managed critical aspects of the upgrade of the ntl DTV platform including addition of new broadcast channels on the platform, migration to a web-based electronic programme guides, enhanced TV applications (multi-component, interactive content channel linking etc);

ntl broadband internet access service is perceived as being "better than BT's ADSL service" and has nearly twice as many customers.

4. Telewest Broadband

Imagine broadband has worked with Telewest broadband for over four years assisting in the design and deployment of the Digital Interactive TV Platform, Interactive Applications and High-Speed Data Infrastructure and Services.

Imagine broadband was responsible for the design, integration and implementation of the infrastructure needed for Telewest's main DTV, nVoD and interactive services platform. This included responsibility for the end-to-end system integration and platform rollout. Services launched on this platform were:

- Broadcast content with embedded EPG;
- NVoD with IPPV;

- Walled Garden Internet, Email, Enhanced TV Applications;
- Broadband Internet Access via Cable Modems; and
- World's first True VoD integrated with the iDTV platform.

The Imagine broadband team of technology experts worked with the Telewest teams to deliver these services. The team's responsibilities covered design, implementation and test activities across functional areas including; head-end, interactive platforms, CAS, nVoD, STB, infrastructure and network access rollout, integration testing and system management.

An Imagine broadband team has remained at Telewest working on enhancements to the platform already deployed. The team has delivered the following services and systems:

- Enhanced web-based EPG;
- Technical release management for the platform;
- Development of broadband portal (Blueyonder) for broadband internet access service for consumer and corporate subscribers;
- Approval and development of new versions and types of STB;
- DTV platform optimisation and fault rate reduction;
- Integrated the newly acquired franchise into the DTV Platform;
- Full multi-service activation and provisioning platform using Imagine broadband's provisioning solution (IIP);
- Full service fault management platform with world first achievements in innovation using Imagine broadband's service assurance solution (ISA).

5. Comcast

Comcast needed to respond when its primary partner in delivering Internet services announced bankruptcy. Comcast, together with Imagine broadband, aggressively delivered their own in-house HSD network in record time to migrate a one million plus subscriber base for Internet and ISP services. From preliminary planning, through architecture design, deployment, and training, Comcast teamed with Imagine broadband to execute an aggressive programme to achieve their deadlines.