

MICROSOFT VISION FOR PARLIAMENTS

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Microsoft Vision for Parliaments

A White Paper

Purpose

With increasing public and media expectations being placed on Parliaments, ensuring the best use of Information Technology (IT) to help tackle such demands is more important than ever before. Properly managed and implemented, IT can assist not only with existing business processes but also help provide new ways for Parliaments to function and operate – better serving both internal and external audiences. Members, for example, can exploit new ways of keeping their constituents updated on key matters and for learning more quickly of issues and concerns within their constituency. This improved two-way communication, built on the enabling foundations of recent and emergent technologies, provides a potentially smarter and closer level of partnership between Members and those they represent.

This White Paper outlines a vision of how technology can be harnessed to address the diverse business requirements of Parliamentary Members and Officials and in particular Members' key function of overseeing and scrutinising government. This paper is primarily intended for Members and their staff involved or interested in the direction and oversight of their Parliament's IT and Information System (IS) strategies, together with those Officials and staff who have responsibility for delivering the Parliamentary IT and IS environment. It will also be of interest to Parliamentary interest groups involved with looking at IT and IS related issues. Where political parties are involved in the provision of equipment to their own Members, this paper will also have relevance in ensuring that the overall Parliamentary community have a shared vision and common direction to ensure the availability of the best tools and services to meet their collective needs. This vision, and the IT and IS Strategies foundation elements that underpin it, provide a framework for the development of what some have termed the nascent emergence of "e-Parliaments": that is, Parliaments positioned to make maximum and efficient use of technology to improve their operations and hence provide an updated democratic model for our modern times.

Introduction

Parliaments face an increasing range of demands from both internal and external sources. These expectations – from the media, public, businesses and Members and Officials alike – are creating pressures for change in existing working methods. Such changes range from ensuring the best means of providing high quality Members' services through to the effective management of routine Parliamentary business. They also encompass the implementation of improved internal operational and administrative systems – with corresponding transformations in the importance and timeliness of information and the adoption of new and improved ways of working. As governments themselves adopt new technologies, modify existing business processes and generally implement new and more efficient ways of operating and delivering public services, so too the Parliaments that oversee them need to ensure that they are adequately equipped to continue to fulfil their essential constitutional functions.

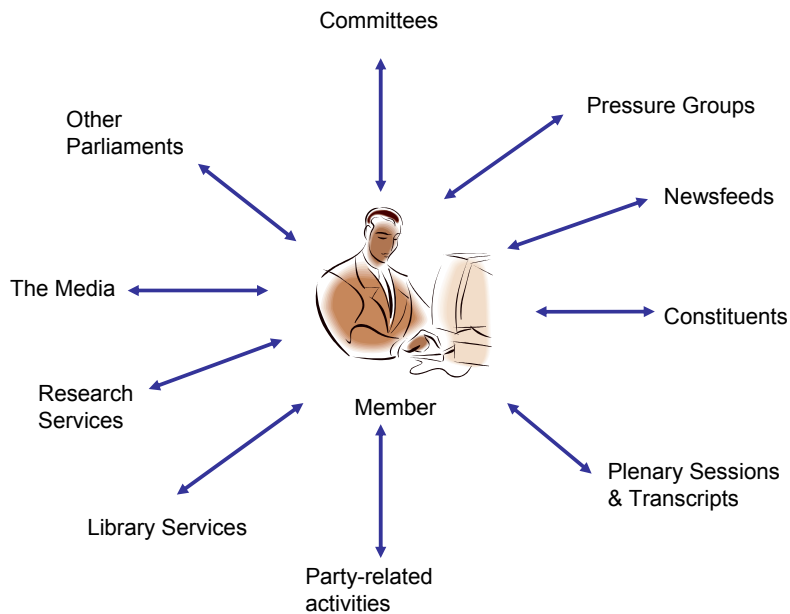


Figure 1: the wide range of competing demands being placed on Members

Alongside these demands, Parliaments also have the potential to realise a benefit from new technologies and ways of working. Changes in mobile communications, including cellular phone technology and wireless networking, are producing an environment in which the aspiration to have access to information, any time, any place, is now an increasing reality. Swift, dependable access to reliable and high quality information – appropriately secured – will undoubtedly provide a key advantage to Members and their staff.

Those responsible for Parliaments’ information and technology infrastructures find themselves required to be able to respond to these pressures and opportunities in an appropriate fashion, applying the best practice learnings of both public sector and private sector organisations. They also need to take advantage of new technologies that can help provide innovative leaps in capability and enable more effective and flexible ways of working that will benefit both Members and Officials alike. In addressing these demands, Parliaments must satisfy the needs of a wide range of both internal and external stakeholders. Such external stakeholders include Members’ constituents, who expect timely and high quality responses from Members to both constituency and individual issues. Internal stakeholders within the Parliamentary environment include the Members themselves as well as the various Officials who help run the facilities and infrastructure of the Parliaments and who need to ensure their security, reliability and availability.

To support Parliaments in meeting their increasing workloads and the expectations placed upon them, a well-defined information system and technology strategy plays a key role. A good IS Strategy will enable Parliaments to manage information more efficiently and ensure the right information flows to the right people at the right time. It will provide tools to analyse and understand the significance of information and provide Members and other users with the power to act rapidly on their conclusions. The machinery of modern Parliaments, the increasing expectations and demands of citizens, and the media-driven demand for fast action and reaction to domestic and world political events have all increased in complexity – requiring Parliaments to find more efficient and cost-effective ways of conducting their business and in providing responses to these external expectations.

This White Paper describes an IS/IT vision that seeks to provide principles and guidelines that can be used to provide an agile, secure and scalable environment for Parliaments. Underlying

that vision is the concept of a common architectural framework that provides both operational agility and the ability to deploy specific applications to address particular needs.

Vision

With the rise of factors such as the internet, rolling twenty-four hour television news, e-mail and improved telecommunications there are increasing expectations that access to relevant information should be both universal and near-instant. Such a thirst for information and real time communication is also influencing expectations about how Members and Parliaments need to behave. This in turn creates the need for a high degree of agility in the way Parliaments handle information. And timely, secure and appropriate access to reliable information will in turn enable more effective decision-making.

One good example of an evolving and changing business model – and the need of IT to support such changes – is evident in the modified balance between Parliamentary plenary and committee meetings. Whilst the plenary proceedings of the chambers of a Parliament remain a key focus for Members and their staff, there is an increasing tendency for much of the major scrutinising and oversight of government work to be carried out elsewhere – most typically in committees. As such Parliamentary committees have risen in importance – both through statutory and ad-hoc committees – Officials and staff have had to adapt support services in recognition of this changing business focus. This gradual change in workload from the main chamber to a variety of separate working areas further increases the need for excellent capture and dissemination of the deliberations and conclusions of such committees to ensure that the overall Parliamentary community – and particularly those with an interest in the outcome of such committee work – are automatically kept informed of developments. A good IS implementation will support the ability to adapt to such changes in working practices on the fly and enable the best use of modern technologies in ensuring that information is indeed efficiently captured and disseminated. A by-product of using technology appropriately in this fashion can also be to improve understanding and visibility of the key functions of such committees outside of Parliament – amongst the media and constituents for example, who may not appreciate where much of the significant work of a Parliament now takes place.

Improvements in communications technology – from mobile phone usage through to more recent developments such as broadband and wireless networking – are changing the way that society operates and have raised expectations about being able to access information, colleagues and constituents: at any time and in any place. The need to address these expectations and to manage the vast amount of information demands they generate is critical to all organisations, including Parliaments.

The result of many of these changes is that users gain an “always online” capability that allows them connection anywhere and enables new patterns of working, including working effectively when away from the office. A Member for example could be collaborating and accessing information whether on the train, at home or during constituency meetings, allowing them to deal with issues on the spot or access colleagues’ calendars to set up virtual meetings. New innovations, such as handwriting recognition software and Tablet PCs on whose screens a user can write and capture information as they would on a traditional piece of paper, are also providing more flexible ways of using technology that map more closely to the way users want to work.

There are a variety of construction blocks involved in developing a Parliamentary IS strategy that builds towards delivery of this vision, including:

- **publishing, sharing and searching** (enabling the capturing, sharing and rapid search and retrieval of proceedings in chambers and committees, for example);

- **collaboration** (enabling the flow of appropriate information between Parliamentary stakeholders such as those responsible for input to a Committee Report);
- **tracking and workflow** (enabling an understanding of the key issues and where to focus attention, such as the progress of draft legislation);
- **interaction with government** (ensuring the smooth two-way communication of appropriate information with the executive, including questions raised by the Parliament for answer by the executive);
- **interactions with other Parliaments** (ensuring that various tiers of national and supranational Parliaments – such as between national and regional levels, or between national and supra-national bodies such as the EU Parliament – have effective means of communication and interaction);
- **information analysis** (enabling the transformation of information into insight – including demographic patterns, health service efficiency, crime pattern analysis by both constituency and by other classifications);
- **multi-lingual support** (enabling Parliaments to communicate with each other effectively and within and across states where multi-lingual environments are required, including support for constituents with diverse language requirements);
- **accessibility** (ensuring that both legal and moral requirements are met in terms of equality of access and participation to those with disabilities);
- **mobility of access** (ensuring that the services and information are available whilst Members, their staff and Officials are on the move and that they do not physically need to be within the Parliamentary estate to make use of Parliamentary services);
- **security** (ensuring best practice security procedures and the deployment of systems built to recognised standards of international security accreditation);
- **adoption of open-interoperability standards** (to ensure interoperability between systems regardless of their platform, technology or vendor)

Reliable, secure, timely and flexible access to appropriate information by Members and Officials lies at the core of any effective Parliamentary information strategy. This White Paper sets out a vision of a model that will deliver high value to the wide range of stakeholders involved in the effective working of a modern Parliament.

Information Systems (IS) Key Issues

The key driver for a Parliamentary IS strategy is to address the business needs of the various stakeholders. This means that the strategy must deliver specific business benefit to each of these groups and their specific business needs. It is important that the needs of the stakeholders are used to determine the strategy – in order to ensure that it will fulfil their needs. An overall Parliamentary strategy is best developed within the context of what is often referred to as an ‘enterprise architecture’ or ‘EA’: that is a consistent set of standards and practices against which all IT developments need to conform. The EA is in effect a blueprint for how systems should expose consistent external interfaces and functionality to ensure they will work with each other, regardless of which vendor or supplier is responsible for their delivery and implementation.

Such a Parliamentary enterprise architecture needs to deliver an environment that guarantees:

- agility – to meet ever-changing business and policy needs;
- the reusability of components;

- interoperability and portability;
- a basis in commercially available software;
- a consistent component model;
- consistent interfaces (schema, methods, etc);
- consistent delivery standards (eg. web services)

In addition to the business-specific needs of the stakeholders, the strategy also needs to provide services that demonstrate a level of reliability, security, maturity, usefulness, success and interoperability:

- reliability, through proven products and associated management processes;
- security, through recognised accreditation and the effective application of best practice operational procedures;
- maturity, through tried and tested platforms and products;
- usefulness, in its appropriateness to the requirements;
- success, demonstrated by widespread use in many sectors both government and commercial;
- interoperability, ensuring best return on investment from integration with existing systems whilst being able to move forwards with the application of new solutions and technologies

The strategy must provide operational efficiency in terms of cost, time, support for efficient processes and use. Clearly the costs of implementing such a strategy can only be justified by delivering significant benefits to the Parliamentary community. The time to implement and deploy solutions should also be advantageous and the strategy should be agile enough to adapt to the evolving needs of the Parliament. The degree of support for efficient processes should be expressed in terms of the ease with which transformation from existing models to new models can be implemented.

Such a strategy is also likely to provide material for good public relations from the standpoint of the Parliament (by making more visible and accessible its proceedings and decisions), as well as a political return by encouraging and enabling increased participation and interaction with Parliamentary activities.

Cornerstones of the IS Strategy will be the establishment of a secure, reliable network infrastructure combined with common interoperability standards across Parliament (and ideally to dovetail those interoperability standards into those of the wider community outside, including those in use across government). For example, for consistent data interchange, a vendor-neutral format for data representation, such as XML (the eXtensible Markup Language¹) may well be adopted. To ensure that different application systems are also able to communicate with each other in a consistent manner, a common enterprise architecture set of standards for open interfaces on those systems (such as those made possible by web services²) may need to be established. The outcome of such an approach will be that Members and other users are able to access reliable, diverse information systems in a consistent and integrated fashion, pulling together a comprehensive view of proceedings in Parliament and beyond. Not only does this approach have immediate benefit, but it also provides a progressive step towards realisation of what has been termed the 'semantic web': the idea of having data

¹ See <http://www.w3.org/XML/>

² See <http://www.w3.org/2002/ws/>

on the web defined and linked in a way that it can be used by machines not just for display purposes, but for automation, integration and reuse of data across various applications³.

Alongside consistent data handling and exploitation of information, other common standards are also required. One particular approach is to ensure a common set of definitions – sometimes referred to as a ‘thesaurus’ of terms, or ‘data dictionary’. This facilitates effective searching across systems and information sources to return consistent results. There are a variety of metadata standards that may be suitable for adoption by a Parliament, including Dublin Core and the RDF⁴ work of the W3C (World Wide Web Consortium⁵, one of the key standards bodies for the Internet). The development of a Parliamentary data dictionary – ideally one that as its core shares consistent metadata definitions with other Parliaments – will provide a mechanism for much more efficient classification and retrieval of information.

Some of the underlying best practice principles for a Parliamentary information strategy therefore encompass:

- establishing framework standards for all Parliamentary systems, to ensure consistency of data interchange and interoperability between systems, combined with a consistent security framework;
- information segregation, to meet security requirements at the appropriate levels and to ensure protection and separation of restricted or confidential information and that which can be made public;
- adoption of a suitable metadata model to ensure consistency of meaning between information and data held in diverse systems (and also to ensure interoperability for example with wider environments, including the exchange of information between Parliaments and between a Parliament and government bodies);
- an appropriate balance between centralisation and delegation of the physical location and management of information, whilst providing a consistent level of availability, protection and resilience;
- maximising the ability of users to share all necessary information with other authorised users;
- exploiting existing information assets and systems, through the use of integration and interoperability components;
- the flexibility to cope with change quickly – and for scalability to extend the solution to multiple environments;
- an affordable total cost of ownership

A Parliament’s IT Strategy needs to not only recognise the changing business requirements that they need to respond to, but to provide an overall environment that will continue to be able to adapt and change flexibly to meet future demands. In general, there has recently been a shift in the way IT systems are developed and maintained in order to make them more applicable to organisations. The key elements in this shift are illustrated in the table below.

³ See <http://www.w3.org/2001/sw/>

⁴ See <http://www.w3.org/RDF/>

⁵ See <http://www.w3c.org>

Old Approach	New Approach
<i>Function oriented</i>	<i>Process oriented</i>
<i>Build to last</i>	<i>Build to change</i>
<i>Prolonged development cycles</i>	<i>Incrementally built and deployed</i>
<i>Application silos</i>	<i>Orchestrated solutions</i>
<i>Tightly coupled</i>	<i>Loosely coupled</i>
<i>Object oriented</i>	<i>Message oriented</i>
<i>Known implementation</i>	<i>Abstraction</i>

Table 1: new approaches to business-led IT

This transition – to what is often termed a ‘Service Oriented Architecture’, or SOA – provides a key means of not only fulfilling immediate business needs, but also of ensuring future agility in terms of meeting changing business requirements. An SOA orientates the technology infrastructure around the needs of the organisation rather than the organisation being designed around the limitations of technology. As the name suggests, a service oriented architecture is designed around a collection of services. Some means of connecting these services to each other is needed: later on, this paper sets out the idea of a “Parliamentary Message Bus” as the way of establishing a reliable means of communication between such services.

This SOA approach has other benefits too. As well as IT being more closely aligned with business needs, it also simplifies the integration of existing systems with new solutions. This clearly has both cost and information systems benefits since it enables the exploitation of existing information and IT assets rather than involving their immediate replacement.

This structured approach to the development of a Parliament-wide architecture relies on a framework that will include:

- interoperability enablers – so that information can flow freely and consistently between systems;
- a metadata framework – so that information has consistent meaning and context across systems;
- a security framework;
- a management and operations framework – to ensure reliability, security, availability and predictability

Interoperability Enablers

Several Internet-derived open standards initiatives are now generally accepted as the basis on which to build interoperable systems. These include:

- Internet (IETF, W3C, WS-I) interoperability standards (eg. XML);
- web services as a vendor-independent method of exposing functionality between diverse systems;
- a common metadata approach (eg. Dublin Core / Resource Description Framework)

These open interoperability enablers need to be underpinned by appropriate open standards such as:

- TCP/IP for ‘wire-level’ transport;
- HTTP and HTTPS 128 bit SSL vs 3 for the data communications transport;

- HTML for the presentation of web-page based information;
- XML for the structured and consistent exchange of information;
- x.509 certificates – where digital certificates and digital signing are required, for example;
- W3C digital signature standard as the open standards method for the use of digital certificate as used for digitally signing information;
- SOAP for accessing systems in a vendor-neutral way;
- SMTP for the exchange of email;
- Web Services as the primary vendor-neutral method of interacting with different services;
- WS-I (WS-Routing, WS-Secure, WS-Referral, etc) for providing consistency in the ways that systems are designed to interoperate with each other in a secure, reliable and predictable fashion

By applying this 'toolkit' of interoperability enablers, Parliaments will be able to ensure that their systems are capable of exchanging information in a consistent fashion. But in addition to these tools, a higher level guiding framework is required that sets out more specifically the set of standards that these tools should deliver against. As noted above, this is often defined through the use of an organisation-wide enterprise architecture. This will set out more specifically, even prescriptively, how the items in the toolkit should be combined and used together in a consistent and interoperable fashion.

Compatible, Cross-Parliament Enterprise Architectures

All systems and IS investments within Parliament should therefore take place within the context of a well-defined enterprise architecture that will progressively work towards delivery of the desired service-orientated environment.

This is best achieved through:

- consistent interfaces (schema, methods, etc);
- consistent delivery standards (eg. web services);
- individual departmental enterprise architectures developed within an overall cross-Parliamentary enterprise architecture framework designed to deliver an overall Parliamentary SOA

These open interoperability standards enable the delivery of information services that span multiple information sources. The result of a well-developed IS Strategy framework will be the implementation of a Parliamentary "Message Bus" that provides the backbone of the overall SOA for Parliament. Services plugged into this bus can be hosted on a wide range of different technology platforms, but because such services are obliged to comply with open interoperability standards, messages can still flow freely between them. This is because the Message Bus is in turn underpinned by the core enabling standards (such as data interoperability) that enable information to be exchanged reliably and consistently between systems.

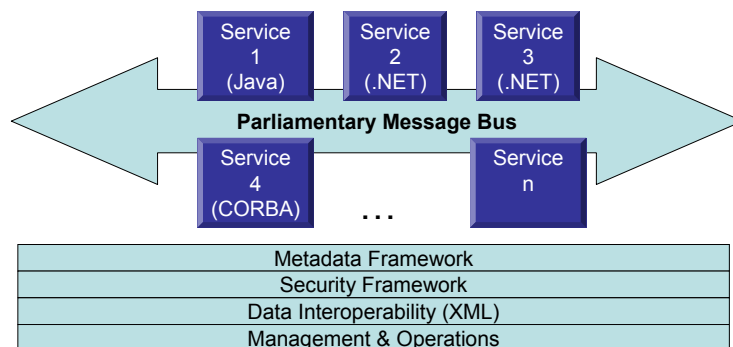


Figure 2: the use of interoperability standards in the delivery of integrated information systems

Inter-Parliamentary and other core external communications will also benefit from the adoption of this model. An increasing number of countries are adopting open interoperability standards such as XML and SOAP/web services to ensure interoperability within and between existing systems. Those same standards will also enable simplified exchange of information between Parliaments and other organisations. For example, within Europe the IDA (Interchange of Data between Administrations) will be greatly simplified if all countries adopt XML and some of the RDF type metadata standards: data will then be able to pass between different institutions and organisations immaterial of the particular systems, technologies or applications in use in those environments.

As will be clear from this proposed model, web services are playing a key role in the development of such business-focused SOAs since these enable organisations to create a loosely coupled IT infrastructure. Web service standards such as XML, UDDI and SOAP are important enablers as they allow communication on an as-needed basis over a network. By designing business processes around these business objects, which can then be exposed via web services, IT is better able to meet and continue to meet the changing business needs of an organisation.

Members of the Parliament and their Staff

Members are the principal stakeholders within a Parliament. Their primary challenge is to have reliable and timely access to appropriate information that enables them to fulfil their role effectively. This includes information relating to oversight of government, specialist information relating to specific issues in which they have an interest or may indeed be responsible (through, for example, membership of a Parliamentary committee), as well as handling the work associated with managing their constituency activities.

In their role of scrutiny of governments and legislation, a wide range of informational materials are now relevant: transcripts, text, audio and video records all need to be fully available. All of these also need to be managed simply, reliably and effectively if a Member is going to be able to use the information effectively.

Staff who work for Members are another group of important stakeholders, with similar challenges to the Members since much of the time they may well be acting as a proxy of the Member and undertaking the first level of information searching and retrieval. A large portion of the routine initial research work and handling of constituency and other administrative matters are often undertaken in the first place by the staff working for Members.

Areas of interest to Members and their staff will include:

- good research tools, enabling the rapid identification and retrieval of appropriate information in a timely fashion;

- instant access to high quality information and statistics, particularly that relating to the operations of the chambers and committees;
- details of planned Parliamentary business and events;
- handling of constituency correspondence and matters;
- diary and appointment scheduling;
- maintaining a personal profile via newsletters, websites, email, interest groups (including local and national media and constituency);
- access to news channels/feeds;
- good integrated desktop tools for preparation of reports, briefs etc.;
- committees with special interests;
- inter-Parliamentary communications and exchanges

The IS Strategy will empower Members and their staff to find and interact with information relevant to them in a simplified and powerful way, regardless of where the information may be drawn from in terms of the underlying systems.

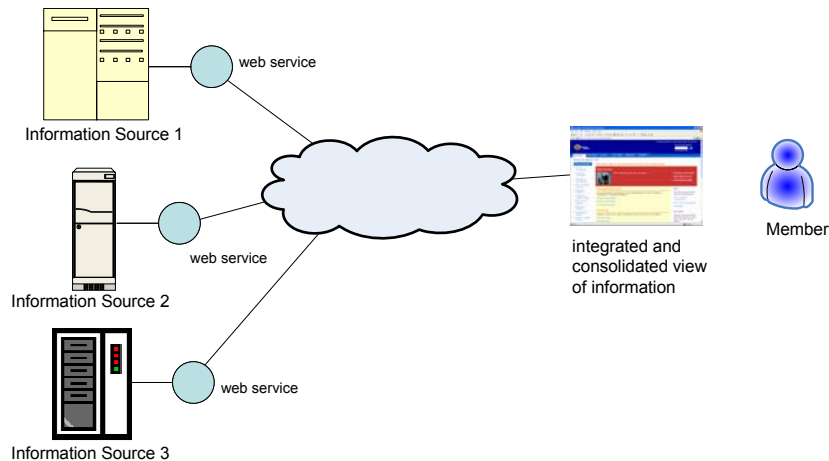


Figure 3: developing integrated views of diverse information sources through the application of web services

A single view into these disparate – and increasing – information resources is essential in terms of enabling a Member and their office to quickly identify the information relevant to them and which they need to act upon. Sorting out the small nuggets of relevant and timely information from the enormous quantities of information now in circulation and increasing daily is a key focus of efficient Parliamentary systems. Innovative ways of finding and re-finding information are a large focus of research at present, including innovative work being undertaken by organisations such as Microsoft Research. Such information may be drawn not just from a variety of systems (both within Parliament and from external sources, such as news feeds), but also in a variety of formats (such as email, documents, reports, press releases and so on).

Parliamentary Officials and Staff

The Officials and staff of a Parliament have information needs of their own, many associated with ensuring the smooth running of the many functions that Parliaments provide in order to serve their members. They also have the challenge of providing the infrastructure and content that services the needs of Members and their staff. Such responsibilities cover the security of

the Parliament, the provision of high quality information services ranging from traditional library functions through to the transcription of sessions in the chambers and committee rooms, through to the capture of text, audio and video as well as other functions such as accommodation and ceremonial duties.

A major component of the Officials' work relates to their role in reliably maintaining drafts of legislation combined with the effective running and administration of the chambers and Members committees. The transcriptions of proceedings, the drafting and re-drafting of legislation and committee reports together with items such as the handling of Parliamentary Questions are key to their activities. They need effective and productive tools that enable them to make best use of their time and to deliver the best possible quality of service to the Members.

Other Officials carry responsibility for the core infrastructure of the operations of the Parliament, spanning administrative systems such as finance, administration and accountancy office activities (payroll and expenses, pensions and general accounting and billing). Included here are activities associated with upkeep of the Parliamentary infrastructure, including wider topics such as catering and the security systems associated with building access.

There are also the essential enabling functions of those responsible for the IT infrastructure of the Parliament, including the provision of network infrastructure and core IT systems to the various audiences – both Members and their staff and Officials and their staff – of the Parliament.

Areas of interest for the administration of a Parliament are likely to include:

- fast reporting tools; innovative technologies to help with audio/video streaming and capture to text; automated publishing (to web and printers); smart search and retrieval tools;
- tools to assist with the management of the drafting and re-drafting of Bills and committee reports, the handling of Parliamentary Questions etc;
- interfaces with Members' and their staffs' research interests (best of breed information access and retrieval services) providing both traditional and innovative Library functions;
- administration systems related to upkeep of the Parliamentary estate; security systems and building access; network infrastructure and core IT systems; ceremonial logistics;
- Finance & Administration/Accountant's functions such as payroll and expenses, pensions (Members and staff pensions schemes), general accounting and billing;
- other aspects similar to a commercial environment such as the restaurant environment (stock mgt; catering staff mgt payroll etc)

External Stakeholders

It is important to recognise the external-facing nature of much of what a Parliament does. Whilst meeting the needs of the various internal stakeholders who work within the Parliament is clearly a key focus of any effective Information Systems strategy, a Parliament also needs to maintain a very public, accountable and visible presence to the wide range of external stakeholders whose interests it represents. These stakeholders range from the obvious – such as the electors whose representatives are now Members in the Parliament – through to the media, businesses, voluntary organisations and a wide range of other groups and interests who have a close interest in the activities of a Parliament. A well designed IS strategy will also ensure that these numerous stakeholders have timely access to appropriate information about the workings of the Parliament, and in particular the ability to easily track and monitor any

particular aspects of, for example, new legislation in which they may have an interest. This will enable a Parliament to have a clearly defined channel to those it serves and to ensure that the content of that channel provides high quality information services that are reliable, accurate and timely.

Areas of interest for external stakeholders are likely to include:

- timely access to reports and transcripts of the proceedings of the Parliament, both that of chambers and committees, including historic/archived access;
- details of proposed and passed legislation;
- details of Members activities;
- information on any consultation or other public access exercises planned or in the process of execution;
- the ability to communicate with a Member through their channel of choice (letter, email, etc)

Parliamentary Scenarios

The need to access, interpret and manage timely, relevant information lies at the heart of most of the challenges facing Parliaments today. The desire is to provide an IS Strategy that enables more timely, better informed and more effective decision-making based on the availability and assimilation of comprehensive and reliable information drawn from a diverse variety of sources.

This section takes an example set of challenges for stakeholders in Parliaments in order to explore how they could effectively be addressed through the application of an IS Strategy. These challenges are re-visited later in this White Paper to show how an effective IS Strategy implementation can help deliver solutions against these requirements.

Challenges for Members and their Staff

Challenge 1: *Members must have available all information relevant to them for effective participation in the proceedings of the plenary chambers and committee meetings*

In order to improve the oversight and decision-making processes of a Parliament, and ultimately help inform debate and improve the quality of legislation, there is a need for improved methods of accessing, managing and using information. Increasing volumes of information, and the drive toward the real time requirement, makes traditional approaches to information handling vulnerable. Access to information needs to be immediate, with tools to help distinguish and extract relevant information quickly and efficiently. There needs to be the ability to personalise the individual profile of a Member and how he/she interacts with the information available. Attention also has to be paid to the issues of information origin, trustworthiness and rights management.

Challenge 2: *Members must have available historic records (including text, audio, video) from proceedings in the plenary chambers and committee meetings*

Parliamentary information needs to extend beyond the boundaries of textual based information. As well as the elements of Challenge 1 above there are other forms of information to be used and managed, such as audio and video media. There remains within this realm too the need to personalise the individual profile of a Member and how he/she interacts with the information available, and attention has to continue to be paid the issues of information origin, trustworthiness and rights management.

Challenge 3: *Members must have access to all information relevant to them concerning all regional, national and supra-national bodies, including other tiers of government and administration*

A Parliament's information needs are wider than their immediate own environment: modern Parliaments are often part of a wider and more complex structure involved not only with their own immediate interests, but also those of other tiers of executive and legislative functions. Within the EU, for example, a Parliament is equally interested in developments at the European Parliament and the potential two-way interaction of such supra-national and national bodies. Members need facilities to personalise the individual profile of their interests and the type of content and developments on which they wish to remain aware.

Challenge 4: *Members must have access to all information relevant to serving the needs of their constituents and in handling interactions with their constituents*

Members need fast and efficient tools to enable them to administer, attend to and respond to those whom they represent. To meet this challenge, the Parliamentary information infrastructure must address issues related to case-management (to ensure the high quality of ongoing dealings with constituents' concerns), information capture, information storage, information dissemination (including potentially in "real-time"), information searching, information availability, information retrieval and information access. In the same way that a Member will want to establish a profile of their own interests, in order to pro-actively receive the most relevant and timely information, they may also wish to do likewise for their constituents so that routine information updates on matters known to be of interest to constituents and other relevant groups can flow automatically to them with a minimum overhead being placed on the Member's office itself.

Challenge 5: *Members of the Parliament must have the information they require available to them via a variety of channels*

In addition to extending the challenge beyond the boundaries of textual based information and other forms of information such as audio and video media, there is also the issue of the channels used in accessing and interacting with such information. Here too there needs to be the ability to personalise the individual profile of a Member and how he/she interacts with the information available, and, attention has to continue to be paid the issues of information origin, trustworthiness and rights management.

Challenge 6: *Members must have available an impartial, accurate and timely information service*

In assisting Members of Parliament in their work in committees, Parliamentary bodies and other Parliamentary activity which facilitates the functioning of the Parliament, and, support of the Parliament's legislative, oversight and representation functions, accessibility in a real time or near real time manner should be extended to access and use 'in committee'.

Challenge 7: *Parliamentary Members' staff and research assistants must have parallel access to all the solutions addressing challenges 1 – 6.*

In assisting Members of Parliament in all their work access to all information for the purposes of research and preparation must be available to member's staff and research assistants.

Challenges for Parliamentary Officials and Staff

Challenge 8: *Parliamentary Officials and Administration staff need to capture and manage all appropriate Parliamentary information (text, audio/video, etc) and provide automated publishing and smart search and retrieval tools.*

In order to facilitate Challenges 1 – 7, there must be infrastructure and process in place to operate the provision of such an information availability service. Parliamentary Officials and Administration staff will need to be integrally involved in all aspects of the provision of these services.

Challenge 9: *Parliamentary Administration staff must have the tools to enable them to ensure the effective running of the chambers and committees*

Parliamentary Officials and Administration staff will also need to have access themselves to information in an accurate and timely manner, as it is in part their function to ensure the smooth running of Parliamentary activities such as the running of 'committees', and, the provision of oversight and interrogation.

Challenge 10: *Parliamentary Officials and Administration staff must have facilities to support them in their work related to the legislative functioning of the Parliament, including the drafting and re-drafting of Bills and committee reports, and the handling of Parliamentary Questions.*

The drafting and re-drafting of Bills and committee reports, and the handling of Parliamentary Questions involves efficient document drafting, handling and storage facilities that are essential to this function.

Challenge 11: *Parliamentary staff must have facilities to support administrative activities (Payroll, Purchasing, Pensions, Finance Office functions etc)*

The day to day running of a Parliament requires underpinning with a series of core systems which can allow the Parliamentary Administration staff to provide such functionality as Finance, Administration, Accountancy Office activities such as payroll and expenses, pensions and general accounting and billing. As many of these should be self-service as possible – enabling, for example, online procurement and payments rather than long daisy chains of paper approvals.

Challenge 12: *Parliamentary Officials and Administration staff must have tools to manage the upkeep of the Parliamentary estate, the provision of accommodation, management of ceremonial functions and the security systems associated with building access.*

The smooth running of the Parliamentary estate is one of many fundamental functions that needs to be supported in order for Parliament to continue to run efficiently and effectively.

Challenge 13: *To provide a highly reliable, secure and resilient "always-on" IT environment*

In order to facilitate all the solutions associated with the stakeholders' challenges, the provision of an infrastructure to host the constituent part of the strategy will need to take into account current capacity, expected future capacity, security and trustworthiness.

Challenges for External Stakeholders

Challenge 14: *External Stakeholders must have all appropriate Parliamentary information available in an easily accessible fashion*

Certain information needs to be made available publicly (to citizens, businesses, the media and others) via such means as a public web site. There may also be a requirement to support other channels, such as for example providing a subscription service that can send interested parties real-time updates – for example, on the progress of legislation through the Parliament.

The Parliamentary Information Systems Portfolio

An Information Systems portfolio for a Parliament needs to be derived from a good understanding of the types of challenge outlined in the preceding section, set alongside the broader context of the key drivers and requirements that underpin the overall Parliamentary enterprise architecture. These critical business requirements provide a portfolio of information system application solutions which will form constituent parts of the strategy. Some of the constituent parts will address one or more of the challenges.

Within a Parliamentary strategy, constituent parts will typically include:

- **Desktop applications:** e-mail, calendar, task lists, document creation and management, web browsers, etc. It may also involve desktop constituency handling tools where Members are responsible themselves for provision rather than the Parliament;
- **Parliamentary Web Sites:** for both internal and external use, with appropriate levels of authentication and access dependent on the nature of the information;
- **Data/Information Repositories:** archives of Parliamentary and other related materials, be they documents, audio, video, etc that can be intelligently searched and used. This would include the likes of proceedings of the chambers, committees and so on;
- **Subscription News services:** Reuters, FT, PA etc to ensure the availability of a high quality of external information sources;
- **Document Management:** for use both within contexts such as the drafting and revision of key Parliamentary documents, as well as within the general operational functions of the Parliament. It will also embrace the likes of Library information management systems alongside appropriate search and reporting tools;
- **Core IT systems:** including Human Resources, Payroll, Expenses, Pensions, Security, Building Access, Estates Management;
- **Catering:** Stock Control, Point of Sales systems, Order Processing, HR, Staff Management, Payroll, Pensions

Also included are those areas where extra functionality can help enhance the application/solution portfolio. These include:

- **Mobility, WAN, LAN, WiFi:** providing access to information on the move, both around the Parliamentary estate and further afield – for example from a Member's constituency office or home or other roaming location;
- **Audio/Video Streaming:** in addition to traditional broadcast of the audio and video streams, the network can also carry both live and archive accessible video and audio sources and stream these in real time to a variety of devices (desktop PCs, PDAs, etc). For example, a two-way index between the transcription of Parliamentary proceedings and the full video and audio archive would enable a research assistant to move seamlessly between the written text of the transcript and the ability to view on demand the actual archived recordings of that particular debate in the chamber.

This portfolio is underpinned by a highly reliable, enterprise class network and systems operational infrastructure. Many of the above portfolio items are already available and in widespread use (such as smart desktop tools, including Microsoft Office 2003, that are able to interact directly with web services), whilst others are more emergent technologies. Some of the portfolio of applications can be started now and enhanced as new technological

functionality becomes available and some constituent parts will appear later on in the roadmap.

These are several types of solution that need to be identified when referring to the needs of the Parliamentary IS. These include:

- **Key Operational Solutions** – those which are essential to the day-to-day running of the core fabric of the Parliament. They are the solutions without which the Parliament would not be able to function. Within the Parliamentary portfolio these include:
 - core IT systems
 - some desktop applications
 - catering
 - security systems
- **Strategic solutions** – those which are critical to meeting the business requirements of the Parliament and also need to take account of the future strategy. These include:
 - document management applications
 - document/information repositories
 - Parliamentary web sites
- **High Potential solutions** – these may be important to achieving future success and require controlled investment and implementation. These include:
 - video streaming, including 'on-demand'
 - mobility and wireless connectivity
 - XML enabled information

An example of how the overall solution portfolio could be constructed to provide the required technical architectural environment to deliver appropriate Members' services is shown in outline below.

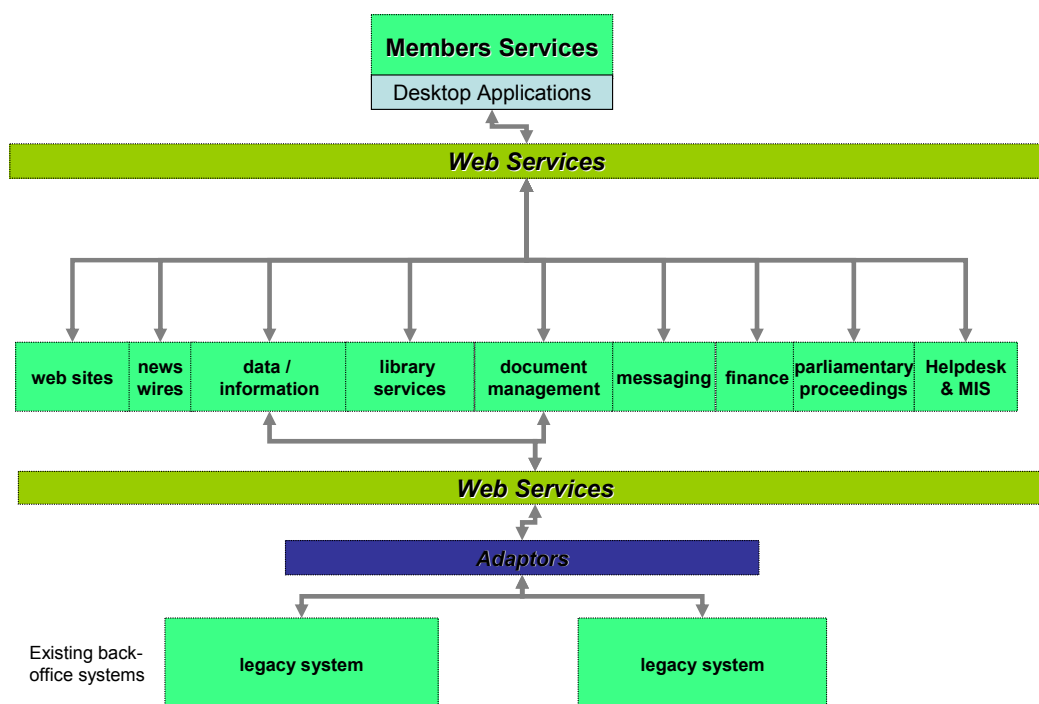


Figure 4: an illustration of the potential architectural model for Parliaments

This model provides the Members, for example, with an integrated desktop office environment capable of using all the standard office features, such as email, scheduling, calendar, etc alongside the use of web services delivering a range of integrated information services. The power of web services and an XML-enabled information environment creates future opportunities for innovation and change. For example consider scenarios that exploit:

- user-created documents that contain metadata added by the user, such as key pointers, key words etc, allowing a better organisation-wide searching capability, which in turn provides increasing opportunities and effective ways to categorise and re-use content. Through increasing collaboration and profiling, such an approach can ensure that other consumers of the information can access it in the format and define specific content they require. Each Member or Official could develop reports based on several authors' content, but always in a consistent format with no need for manual intervention, which will impact the day-to-day researching and reporting processes, their accuracy and the ability to do more with less;
- use of smart documents – a cell in a spreadsheet for instance can contain not only a web service link but also background management processes that ensure the data returned by the XML based web service (linked to internal or external data sources) has any calculations performed before being displayed, or formatted if text, and automatically inserted into a document if required. This can be real time e.g. information on speakers on the floor of the chamber for example or non real time such as a monthly reporting or meeting/debate minutes. Such processes can be managed by Officials and the documentation made available to Members via specific collaborative shares and or web services.

An illustration of how a solution portfolio can be matched to the earlier challenges and the benefits derived from the key drivers is set out in the table below.

The Challenge	The Strategy Solution Enabler	Potential Benefit
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The Challenge	The Strategy Solution Enabler	Potential Benefit
<p>Challenge 1: <i>Members must have available all information relevant to them for effective participation in the proceedings of the chambers and committee meetings</i></p>	Desktop applications Parliamentary Web Sites Data/Information Repository Subscription News services Document Management Mobility, WAN, LAN, WiFi Audio/Video Streaming	Ensures Members have timely, reliable access to the information they need in order to fulfil their role effectively.
<p>Challenge 2: <i>Members must have available historic records (text, audio, video) from proceedings in the chambers and committee meetings</i></p>	Desktop applications Parliamentary Web Sites Data/Information Repository Subscription News services Document Management Mobility, WAN, LAN, WiFi Audio/Video Streaming	Ensures Members have timely, reliable access to the information they need (regardless of format in which it is held) in order to fulfil their role effectively.
<p>Challenge 3: <i>Members must have access to all information relevant to them concerning all regional, national and supra-national bodies, including other tiers of government and administration</i></p>	Desktop applications Parliamentary Web Sites Data/Information Repository Subscription News services Document Management Mobility, WAN, LAN, WiFi Audio/Video Streaming	Enables Members to fulfil their role of scrutinising the work of other Parliaments in whom they have a direct constitutional interest
<p>Challenge 4: <i>Members must have access to all information relevant to serving the needs of their constituents and in handling interactions with their constituents</i></p>	Desktop applications Parliamentary Web Sites Data/Information Repository Document Management Mobility, WAN, LAN, WiFi	Enables Members to fulfil their role in terms of representing the interests of their constituency both whilst within the Parliamentary estate and whilst on the move
<p>Challenge 5: <i>Members of the Parliament must have information available via a variety of channels.</i></p>	Desktop applications Parliamentary Web Sites Data/Information Repository Subscription News services Document Management Mobility, WAN, LAN, WiFi Audio/Video Streaming	Delivering all forms of information through a wider variety of channels will provide the ability for Members to work anytime, anywhere and make best use of their time – by, for example, receiving updates on key motions and debates on their mobile phone
<p>Challenge 6: <i>Members must have available an impartial, accurate and timely information service</i></p>	Desktop applications Parliamentary Portal Data/Information Repository	Accessibility in a real time or near real time manner to appropriate information sources will assist Members of Parliament in their work.

The Challenge	The Strategy Solution Enabler	Potential Benefit
	Subscription News services Document Management Mobility, WAN, LAN, WiFi Audio/Video Streaming	In addition to ensuring they have the right information at the right time for committees, Parliamentary bodies and other Parliamentary activities, it will also help with dealing with enquiries from the media and Members of the public. In a fast-changing information world, Members need to ensure they are as up-to-speed as the next person they are about to talk to.
Challenge 7: <i>Parliamentary Members' staff and research assistants must have parallel access to all the solutions addressing challenges 1 – 6.</i>	<i>The above solutions in 1-4 apply</i>	Making the functionality available to member's staff and research assistants will enhance the ability of Members of Parliament in all their work research and preparation activities.
Challenge 8: <i>Parliamentary Officials and Administration staff need to capture and manage all appropriate Parliamentary information (text, audio/video, etc) and provide automated publishing and smart search and retrieval tools.</i>	Desktop applications Data/Information Repository Subscription News services Document Management Audio/Video Streaming	An efficient IT environment will enable staff to largely automate the processes in many areas, and hence focus on those items which require more specialist intervention, such as the transcription of proceedings in the chambers.
Challenge 9: <i>Parliamentary Administration staff must have the tools to enable them to ensure the effective running of the chambers and committees.</i>	Desktop applications Data/Information Repository Document Management	Access for Parliamentary Administration staff to smart and efficient tools will enhance their function to ensure the smooth running of Parliamentary activities.
Challenge 10: <i>Parliamentary Officials and Administration staff must have facilities to support them in their work related to the legislative functioning of the Parliament, including the drafting and re-drafting of Bills and committee reports, and the handling of Parliamentary Questions.</i>	Desktop applications Parliamentary Web Sites Data/Information Repository Document Management	This solution functionality supports work related to the drafting and re-drafting of Bills and committee reports, and the handling of Parliamentary Questions.
Challenge 11: <i>Parliamentary staff must have facilities to support administrative activities (Payroll, Pensions, Finance Office functions etc)</i>	Desktop applications Core IT systems	The provision of such Finance, Administration, and Accountancy Office activities (or the integration of existing systems) ensures the smooth operating and efficiency of

The Challenge	The Strategy Solution Enabler	Potential Benefit
		the Parliamentary infrastructure.
<p>Challenge 12: <i>Parliamentary Officials and Administration staff must have tools to manage the upkeep of the Parliamentary estate, the provision of accommodation, management of ceremonial functions and the security systems associated with building access.</i></p>	Desktop applications Core IT systems Catering	The provision of such systems (or the integration of existing systems) will help ensure the efficiency of the ancillary infrastructure.
<p>Challenge 13: <i>To provide a highly reliable and resilient "always-on" IT environment</i></p>	Desktop applications Parliamentary Web Sites Data/Information Repository Subscription News services Document Management Core IT systems Catering Mobility, WAN, LAN, WiFi Audio/Video Streaming +Network and Hardware infrastructure	In the provision of an infrastructure taking into account systems reliability, current capacity, expected future capacity, security, trustworthiness and rights management, IT provision will be underpinning the benefits to stakeholders and at the same time maintaining control on costs and the time to implement new requirements or upgrade existing solutions.
<p>Challenge 14: <i>External Stakeholders must have available all appropriate Parliamentary information available in an easily accessible fashion</i></p>	Parliamentary Web Sites Data/Information Repository Audio/Video Streaming	Certain information will be made available to the public to increase the profile, visibility, accountability and degree of awareness of Parliamentary proceedings

Summary

This paper has provided an initial overview for Parliamentary decision-makers and influencers of Microsoft's vision for developing an effective, business-led IS strategy for Parliaments. The development of effective Parliamentary IS strategies is already enabling Parliaments around the world to implement effective improvements in their own operations. It is no longer necessary to adopt the expense of a 'rip and replace' strategy proposed by many software and hardware vendors.

By adopting a core framework that encompasses:

- interoperability standards;
- metadata standards;
- security standards;
- management and operational standards

aligned with a service-oriented architecture developed within an overall enterprise architecture, Parliaments will be well placed to deliver an effective IS Strategy that meets the needs of its various stakeholders – both now and in the future. The result is an environment that places the needs of a stakeholder at the centre of the design: in the case of a Member and his/her

office, this provides them with an integrated environment that enables them to manage everything through a consistent approach and set of interfaces.

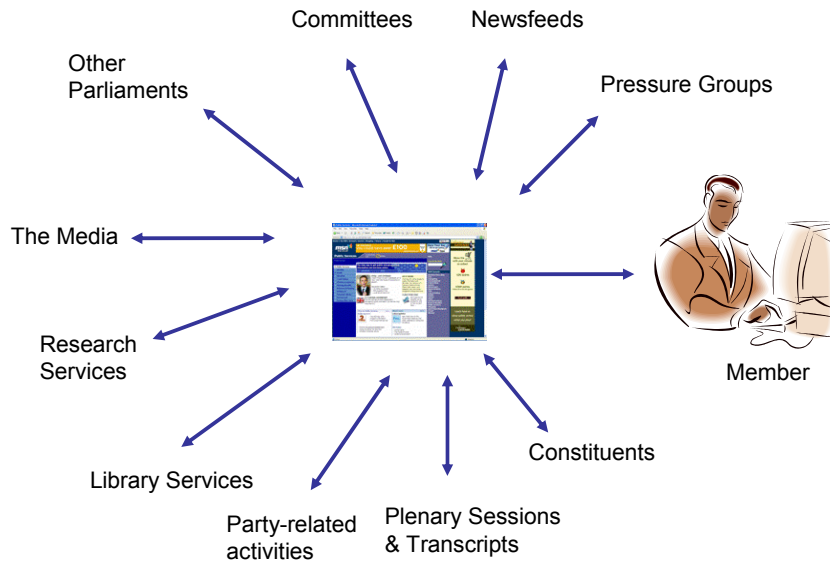


Figure 5: the integrated desktop - enabling the Member to take control of their agenda

Using Microsoft's vision for Parliamentary IS strategies will enable Parliaments to;

- realise stakeholder benefits through improvements in business and operational efficiencies;
- free resources from administration and bureaucracy into direct service provision;
- manage a portfolio of current and potential opportunities to define priorities for future investments and new ways of working;
- act, react and adapt faster and effectively to the increasing demands and expectations from both inside and outside

An integrated IS strategy in a Parliament is as much about cultural change as it is about the technologies and solutions that deliver on that vision. Microsoft's, and our partners', initiatives in this area bring the same value for money benefits that the package software approach has provided for traditional desktop systems. By deploying best of breed open standards solutions that exploit the same use of high benefit commercial software that has been applied elsewhere, Parliaments can take benefit of improved services and information systems that are able to better meet the needs of their various stakeholders – both now and in the future.

Microsoft

Microsoft is uniquely positioned to help Parliaments in addressing their specific business needs. We have a wealth of experience in working with Parliaments. We have a solution set that ranges from the basic operating system through to niche-specific applications developed by our partner community. We use world-class best operational practice (the Microsoft Operational Framework), based on the internationally-recognised UK IT Infrastructure Library (ITIL) and refined through the live experiences of many large enterprise-class customers. Our platform is the only general purpose operating system accredited to the demanding standards of EAL4 under the internationally recognised Common Criteria security benchmark.

Microsoft also has strong support for open interoperability standards built into its products. This enables close integration within and between Microsoft products as well as those of third party vendors who also comply with the open standards of bodies such as the W3C. Such support includes the likes of embedded support for XML and web services. New generation products (such as the Office 2003 and the recently released Windows Server 2003) demonstrate the commitment to include open interoperability standards throughout the Microsoft product family.

We have a unique way of working: in partnership. We and our partners will work with you to meet your specific needs. Microsoft solutions and services – aligned with the broad reach of our expert partner community – help to address the type of business requirements and innovative solution approaches that this White Paper has briefly touched upon. Additionally, Microsoft software solutions can help to provide both support and improvements in the ways that Parliaments work. Microsoft brings integrated innovation, stronger security and better value for money through integration across platforms.

Through the innovative and internationally recognised world-leading work of Microsoft Research, we are also investing heavily in the future and have unique insight into how the next generation of ideas and technologies will further improve on existing solutions. This insight can help inform your current business and technology vision – and ensure that investments made today continue to pay dividends into the future.

Through the unique model of our Consulting Services arm we aim to solve problems that create business value for customers. Consulting is provided to customers in support of specific development and implementation needs and focuses on skills transfer to customers – not to exploit long term service-based consulting roles. Microsoft Consulting Services also provides an ability to develop solutions and to develop rapid joint proofs of concept for both technology feasibility and business value qualification. It has a business model that actively trains and involves software application and integration partners.

Contact Microsoft or one of our accredited partners today to learn how we can work in partnership with you to help develop and implement innovative solutions that meet the needs of your particular Parliament.