

VICTORIA

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Auditor General  
Victoria

# **Report of the Auditor-General on Parliament's information technology upgrade**

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AUDITOR GENERAL  
VICTORIA

The Hon. Monica Gould MLC  
President  
Legislative Council  
Parliament House  
MELBOURNE

The Hon. Judy Maddigan MP  
Speaker  
Legislative Assembly  
Parliament House  
MELBOURNE

I am pleased to forward this report to you for presentation to each House of Parliament, pursuant to section 16AB of the *Audit Act* 1994.

This report sets out the results of my review of Parliament's information technology upgrade.

Yours faithfully

J.W. CAMERON  
*Auditor-General*

16 September 2003

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# Part 1

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## Executive summary

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## OVERVIEW

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**1.1** Following a request from the Speaker of the Legislative Assembly in March 2003, I have reviewed the recent parliamentary information technology (IT) upgrade managed by Parliament's Joint Services Department.

**1.2** In November 2002, the IT upgrade was rolled-out throughout the parliamentary precinct and 132 electorate offices across the State. The upgrade, referred to as the Parlynet 2002 Project, was large in scale and not a simple task. It introduced a significantly different IT environment from the one to which the system's users were accustomed.

**1.3** Immediately after the roll-out, users started to report problems with the performance of the Parlynet network and applications. Users who responded to a survey undertaken by us were clearly unhappy about the speed, reliability and functionality of the system. However, the responses also showed that some users lacked the skills necessary to use the system effectively.

**1.4** We observed performance problems with the system including long log on times, delays in accessing electronic files and the need to improve some aspects of the system's security. Parliament's IT Unit has struggled to resolve reported problems on a timely basis; the lack of diagnostic tools, the volume of calls and the inexperience of the IT Unit's staff in the changed operating environment, have affected the ability of the Unit to deal with the problems, and there is no clear plan in place to identify how to proceed with resolving the remaining problems.

**1.5** Many aspects of project governance and project management that can ensure the success of government IT projects were not addressed during the Parlynet 2002 Project and as a result, some key risks to Parliament and the success of the Project were not adequately managed. Management of the Project did not conform with best practice principles and there was insufficient attention given to testing the performance of the new system either before or after roll-out. Despite the reported performance problems, the contractor was released from the contract before the problems were resolved.

**1.6** We believe that the unsatisfactory outcomes of the Parlynet 2002 Project were not only a result of poor project management; they were also a product of wider issues related to the management of Parliament's administrative services. For example, the management arrangements and responsibilities for the upgrade were unclear, the Joint Services Department lacks strategies and policies to govern its IT and other functions, and IT staff need training to enable them to effectively and efficiently manage the new technologies introduced. There is also a need to give greater attention to risk management and the development of policies and procedures to enable effective asset and financial management.

## KEY FINDINGS

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### Outcomes from Parliament's IT upgrade

**1.7** Some performance problems reported after the IT upgrade have been resolved. Others, such as excessive user log on and log off times, delays in accessing electronic files, faulty printers, problems with standardisation of printer set-up and failures with the email application, continue to impact on the system's performance. (*para. 3.3*)

**1.8** Because of application conflicts identified during the IT upgrade, controls that were designed to restrict users from installing non-standard applications were removed and users are free to load (and they have loaded) non-standard applications onto the IT system. They may also load applications that enable non-standard devices such as handheld electronic diaries to be used. The ability to load non-standard items of equipment and software leads to problems with system security and the management of licences. (*paras 3.5 and 3.10*)

**1.9** A number of Parliament's key IT systems which were decentralised prior to the IT upgrade are operated by other business units. The management and location of these facilities are outside of the control of the IT Unit, resulting in a lack of consistency in the management of IT operations and potential control risks. (*para. 3.10*)

**1.10** Help Desk calls were not addressed in a controlled and systematic basis, due to inadequately configured Help Desk software, lack of problem prioritisation, insufficient resources, and no continued analysis and review of Help Desk clearances. (*para. 3.19*)

**1.11** At the time of preparing this report, the IT Unit had taken action to improve response times and to improve the ability of IT staff to resolve problems. Despite this action, there is no plan in place to prioritise and systematically address the performance problems. (*paras 3.23 and 3.24*)

**1.12** We estimate that the cost of the Parlynet 2002 Project exceeded available funds by \$1.664 million. The Treasurer subsequently approved the application of funds already held within parliamentary funds to address the estimated funding shortfall. (*paras 3.26 to 3.32*)

### Why did things go wrong?

**1.13** The Parlynet 2002 Project governance structure did not meet our expectations; the role of the Parlynet 2002 Project Steering Committee was not clearly defined, responsibility for decision-making was unclear, accountability and reporting arrangements between the Project Sponsor, Project Manager and the Steering Committee were not established, the scope of the Project was not clearly defined and the Steering Committee did not constrain the scope. (*paras 4.4 and 4.5*)

**1.14** Parlynet 2002 was undertaken without sufficient understanding of what was involved, planning or consideration of the resources required. There was no schedule or plan for the Project as a whole and the scope of the work could reasonably have been expected to be managed as 5 or 6 separate projects spread over 2 to 3 years. (*para. 4.8*)

**1.15** The Project Steering Committee did not identify or effectively manage risks to, or arising from, the Project including risks to the Project timelines, meeting user needs, performance of the system, transfer of performance risk to the contractor, constraining Project costs, harnessing stakeholder support and contractual risk. *(para 4.9)*

**1.16** The Project operated under a firm requirement that the system be upgraded by the start of November 2002. Scheduling the roll-out immediately prior to a potential election, and continuing the roll-out during the election period was imprudent, caused disruption to work in electorate offices and in the parliamentary departments, and delayed the roll-out. *(para. 4.9)*

**1.17** A decision was made to change from one brand of hardware to another, knowing that the IT Unit's staff had neither the skills nor experience to manage or support the new equipment. By introducing new technology and applications, management risked the IT system not being used to its full advantage, and disenfranchising users. *(para. 4.10)*

**1.18** Our assessment of the Project's management against best practice principles revealed that the principles were generally not followed and, as a result, project management was poor. *(paras 4.13 and 4.14)*

**1.19** The failure to comprehensively and adequately test the new system at the pre-roll-out and pilot stages seriously compromised the success of the IT upgrade and had a significant impact on the reliability, availability and security of Parliament's IT environment. *(paras 4.19 and 4.23 to 4.27)*

**1.20** Despite the fact that performance issues identified in the post-implementation testing had not been resolved, and despite the number of problems experienced by users immediately following roll-out, the Project was signed-off as completed on 30 January 2003, and the contractor released from its performance guarantee. *(para. 4.20)*

**1.21** The contractor was required to provide limited training to users. Given the extent of the changes implemented through the Parlynet 2002 Project, we believe that the scope of training to be delivered was not sufficient to enable all users to effectively use the new system. *(paras 4.29 and 4.30)*

**1.22** The Project's funds were not well managed. For example, purchase orders were approved and payments made without considering whether funds were available to meet the cost, approved expenditure delegations were exceeded and detailed periodic reports on the Project's financial status were not produced. *(para. 4.35)*

**1.23** IT equipment valued at \$452 000 was purchased in August 2002 without inviting public tenders. While there is no specific requirement for Parliament to tender for such amounts, this would have been a prudent means of testing the market price of the equipment purchased. We were unable to sight quotes from suppliers to support the purchase of this equipment and were, therefore, unable to determine whether the equipment was competitively priced. *(para. 4.35)*



**1.24** The IT Unit's staff did not have the skills and experience to effectively manage the new technologies and applications introduced through the Project. Despite this, only limited training was provided to IT Unit staff before the deployment of the IT upgrade and there was no training in relation to some key technology areas. (*para. 4.40*)

**1.25** Parliament's IT Manager left the organisation in June 2002 and the position was vacant until a new IT Manager arrived in August of that year. During that period, significant decisions about the system requirements and the Project were made, including selection of the contractor, the choice of the hardware to be used and finalisation of the detailed technical definition of the system. (*para. 4.42*)

### **Management of Parliament's administrative services**

**1.26** In accordance with their legislative responsibilities, both the House Committee of Parliament and its IT Sub-Committee had major roles in advising the Presiding Officers on key IT and Project-related matters. However, we found limited evidence of how those Committees fulfilled these roles. For example, the IT Sub-Committee did not meet between April 2001 and November 2002 - the entire period of the Project development and proposed roll-out. (*paras 5.5 to 5.9*)

**1.27** Because of the multitude of reporting relationships for the Project, the accountabilities and responsibility were diffused and, we believe, impacted on the Project outcomes. (*paras 5.17 to 5.22*)

**1.28** Attention needs to be given to improving IT governance. For example, there is only one endorsed IT policy in place to guide Parliament's IT activities and there are no business rules to limit the range of applications that may be loaded onto the system by users or to limit the number or types of add-on equipment (e.g. handheld electronic diaries) to be used. Consideration also needs to be given to whether the risks arising from the decentralisation of systems to areas outside the control of the IT Unit are in the best interests of the organisation. (*para. 5.23*)

**1.29** We are not aware of a co-ordinated risk management framework in place for the parliamentary departments, or that the Presiding Officers or the House Committee were fully appraised of the risks associated with the Parlynet 2002 Project. Parliament's audit committee met only once in each of the 2000-01, 2001-02 and 2002-03 years, and did not examine Parliament's risk exposures or their management. (*paras 5.26 to 5.30*)

**1.30** Apart from delegations for approving expenditure, there are no documented policies or procedures in place at Parliament to guide financial management within the parliamentary departments. The absence of specific financial management policies and procedures and clear lines of accountability and responsibility contributed to many of the poor financial management practices evident in the management of the Parlynet 2002 Project. (*paras 5.32 and 5.33*)

**1.31** The Joint Services Department is not effectively monitoring the IT assets under its control. During 2002-03, additional costs of \$406 700 were incurred to extend leases while missing items scheduled to be returned to the lessor were located (\$319 500), to meet the cost of damaged, or missing parts of, equipment returned to the lessor (\$42 200) and to meet the cost of items not returned (\$45 000). The Department was unable to explain to us how much of the latter amount related to items that could not be located. Subsequent to the IT upgrade, the asset register was not updated to reflect equipment swaps made as laptops were returned to the Joint Services Department for repair. (*paras 5.36, 5.37 and 5.40*)

**1.32** We were unable to substantiate the number of leased assets not returned at the time of closing-out the pre-Parlynet 2002 lease because the records of assets leased and assets returned were compiled on inconsistent bases and, therefore, could not be reliably matched. In addition, supporting documentation from the lessor could not be provided to enable us to conclusively determine the accuracy of the list of assets leased. (*para 5.37*)

**1.33** Documentation relating to Parliament's IT upgrade was deficient. In some cases documentation had to be secured from third parties; in others, documentation could not be provided to us. As a result, management was unable to adequately address a number of inquiries made by us either conclusively or, in a timely manner. (*paras 5.46 to 5.48*)

## RECOMMENDATIONS

<i>Paragraph number</i>	<i>Recommendation</i>
<b>Outcomes from Parliament's IT upgrade</b>	
3.40	<p>To assist resolution of the system's performance problems in a timely manner, we recommend that Parliament take immediate action to:</p> <ul style="list-style-type: none"> <li>• assign responsibility for ensuring adequate attention and resources are allocated to resolving the system's performance problems, and for providing necessary support to the IT Unit;</li> <li>• develop a communication plan to keep users informed about action being taken to resolve problems, action planned, timelines and progress made;</li> <li>• undertake an analysis of Parlynet, including the volume of network traffic and the standard operating environment to identify reasons for poor performance and improvements required;</li> <li>• review network security;</li> <li>• develop a plan that identifies IT resource requirements and establishes appropriate priorities and timelines for action to resolve problems;</li> <li>• improve the responsiveness of the Help Desk by engaging appropriately skilled and experienced personnel to set up software to enable analysis of problems for prioritisation purposes, effective workflow management, and for monitoring timeliness and appropriateness of response; and</li> <li>• develop a schedule to address urgent training needs, aimed at: <ul style="list-style-type: none"> <li>• improving general computer skills and system-specific skills of users; and</li> <li>• developing the skills of IT staff to better maintain Parlynet and to resolve performance issues.</li> </ul> </li> </ul>

## RECOMMENDATIONS – continued

Paragraph number	Recommendation
<b>Why did things go wrong?</b>	
4.53	We recommend that Parliament use best practice principles for large IT projects in future to ensure that appropriate project governance and project management arrangements are established and used.
<b>Management of Parliament's administrative services</b>	
5.62	We recommend that Parliament review existing arrangements to manage its administrative services to ensure that: <ul style="list-style-type: none"> <li>• roles and responsibilities of officers, and terms of reference for committees, are established with clear responsibility for decision-making and providing advice;</li> <li>• accountability is strengthened by rationalising the number of positions to whom officers report;</li> <li>• risks to the organisation are identified and effectively managed; and</li> <li>• minutes are kept, reasons for decisions documented and approvals noted.</li> </ul>
5.63	We recommend that Parliament's IT governance be improved by: <ul style="list-style-type: none"> <li>• reviewing the IT Strategy;</li> <li>• developing and endorsing policies and standards to guide the full range of Parliament's IT activities;</li> <li>• developing business rules to limit the range of applications and add-on equipment that will be supported in the standard operating environment;</li> <li>• considering risks to the environment arising from decentralised IT facilities; and</li> <li>• establishing forward plans for growth and future expansion.</li> </ul>
5.64	To improve its financial and asset management, we recommend that the Joint Services Department: <ul style="list-style-type: none"> <li>• explicitly adopt the provisions of the <i>Financial Management Act</i> 1994, the regulations under the Act, and the policies of the Victorian Government Purchasing Board;</li> <li>• establish and maintain registers of assets, including owned and leased IT assets, and software licences; and</li> <li>• establish appropriate procedures for financial and asset management, and internal controls to ensure compliance with established procedures.</li> </ul>
5.65	To improve the management of its IT operations, we recommend that the Joint Services Department: <ul style="list-style-type: none"> <li>• establish policies and obtain appropriate resources to improve its responsiveness to resolving IT problems;</li> <li>• develop short and long-term training strategies for staff within the IT Unit to ensure the currency of their skills to enable efficient and effective maintenance of the system; and</li> <li>• establish benchmarks and indicators for assessing the performance of IT operations, including: <ul style="list-style-type: none"> <li>• system and network performance and availability;</li> <li>• performance of the Help Desk in resolving reported problems; and</li> <li>• security-related issues or incidents.</li> </ul> </li> </ul>

**RESPONSE** provided by the Joint Secretaries of the Joint Services Department, Parliament of Victoria

*We welcome the report and would like to take this opportunity to thank you and your staff for the time and effort that you have taken to prepare it. Thanks should also go to the Members and other staff of the Parliament, in particular staff of the IT Unit, who assisted the audit team during the review.*

*The report provides good guidance in the way forward and provides excellent advice and assistance in how to avoid possible recurrences of the issues raised during the course of the Parlynet 2002 Project.*

*The Joint Services Department has begun to address some of the issues that your report raises and has already acted on some of the recommendations, including:*

- *seeking to identify causes of poor system performance and the means by which they can be improved;*
- *developing a comprehensive set of policies and standards for Parliament's IT activities;*
- *development of business rules as to introduction of new hardware and software;*
- *better documentation of minutes of meetings and decisions;*
- *addressing the deficiencies in the technical and other training needs of staff;*
- *recruiting staff with appropriate skill sets;*
- *assigning specific responsibility for IT asset management;*
- *providing training in finance management practices to key IT staff (and others);*
- *planning for a review of the existing strategic plan; and*
- *beginning to develop practices to ensure business needs drive the provision of IT services.*

*We do appreciate that these aspects are a small part in a major task and understand that there are a significant number of matters that will take some time and effort to address.*

## Part 2

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# Introduction



## **WHY DID WE DO THE AUDIT AND WHAT DID IT COVER?**

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**2.1** In March 2003, the Speaker of the Legislative Assembly requested my Office to audit the recent parliamentary information technology (IT) upgrade, following ongoing complaints about the system's performance from Members of Parliament, their electorate office staff and staff working in the parliamentary precinct.

**2.2** I subsequently accepted this request and established the following objectives and scope for the audit.

**2.3** The audit evaluated the management of the Parlynet 2002 Project with a focus on:

- the achievements of the Project against its deliverables, and the key factors affecting progress to date;
- the management of key risks associated with the Project; and
- action taken to address users' concerns, and the effective operation of the system in the future.

**2.4** We did not examine the tender process involved in selecting the contractor engaged for the Project, as the process is currently subject to legal dispute.

**2.5** The audit included examinations within Parliament's Joint Services Department and a survey of system users.

**2.6** A description of the audit's objectives, scope and methodology is provided in Appendix A of this report.

## **WHAT IS PARLYNET?**

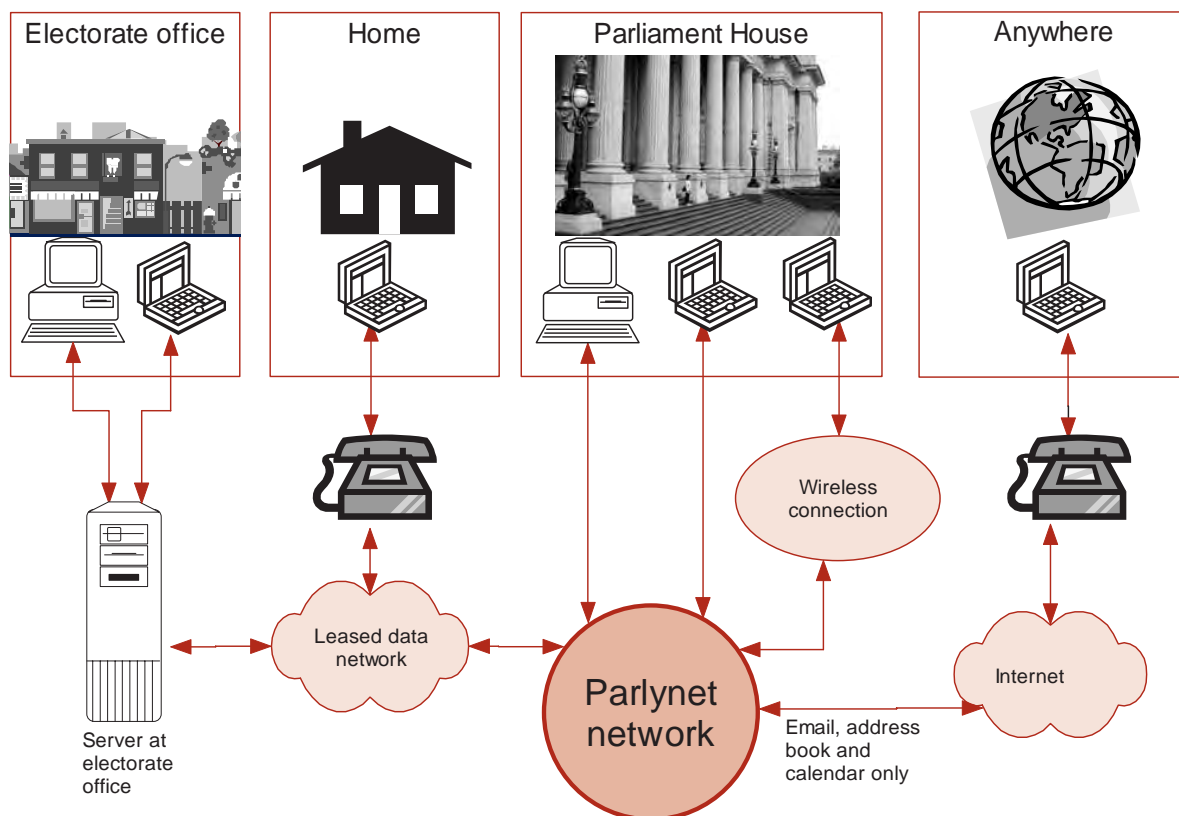
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**2.7** Parlynet is the Statewide communications network that links the major functional components of the Victorian Parliament, namely:

- the Legislative Assembly;
- the Legislative Council;
- Parliamentary Debates (including Hansard);
- the Parliamentary Library;
- the Joint Services Department, comprising Finance, Human Resources, Property, Information Technology, Catering, Maintenance and Gardens sections; and
- electorate offices.

**2.8** Chart 2A provides an overview of how these components are linked through Parlynet.

**CHART 2A  
HOW USERS CONNECT TO PARLYNET**



Source: Victorian Auditor-General's Office, based on information provided by Parliament of Victoria.

**2.9** At the time of preparing this report, there were more than 900 users of the system, comprising staff employed in the parliamentary precinct in Melbourne’s central business district, staff of electorate offices in metropolitan and regional locations, and Members of Parliament who may access the system from their electorate offices, from Parliament or from home.

**The Parlynet 2002 Project**

**2.10** In 2002-03, following development of a parliamentary IT strategy by consultants, Parliament obtained funding for a “catch-up initiative” designed to:

- ensure that the parliamentary IT system functioned at a level equal to those in other government departments;
- upgrade applications to versions that would be supported by software manufacturers for the following 3 years; and
- ensure the maintenance of appropriate system security.

**2.11** This initiative was referred to as the “Parlynet 2002 Project”. In the request for funding made to the Department of Treasury and Finance, the catch-up initiative did not set out to advance the technology or to introduce innovation to an IT environment that had been designed in 1997.

**2.12** After funding was secured, the Parlynet 2002 Project Steering Committee decided to adopt design and functionalities that were over and above those covered by the catch-up initiative. Despite being much larger and fundamentally different, the Project continued to be referred to as the Parlynet 2002 Project.

**2.13** The Project was managed by the Joint Services Department and several parties provided related services, as outlined below:

- In February 2002, quotations were sought from consultants to assist engagement of a contractor for the Project. The successful consultant helped the Joint Services Department to prepare Request for Tender documents and to draft a contract based on the Commonwealth Government's Information Technology and Communications standard contract;
- In May 2002, Parliament tendered for a contractor to design, build and implement the new desktop standard operating environment, and to replace desktop and laptop computers, servers, printers and scanning equipment in its metropolitan and country locations. The successful tenderer (the contractor) signed the contract in July 2002 and was required to deliver the specified services to electorate offices by 1 October 2002, and to offices within the parliamentary precinct by 1 November 2002. However, delays to the Project meant that roll-out, i.e. installation of the hardware and software to the parliamentary precinct and to electorate offices coincided with the November 2002 State election. The contract was signed-off by the Project Sponsor as completed in late January 2003; and
- During the Project, Joint Services Department engaged a number of other parties to undertake small specialist tasks, such as updating databases for a new software version, preparing software for distribution and writing policy documents.

**2.14** Servers and ancillary IT equipment for the parliamentary precinct and equipment for electorate offices was leased and some additional IT equipment was purchased from various suppliers.

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## Part 3

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# Outcomes from Parliament's IT upgrade

## PERFORMANCE OF THE SYSTEM

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**3.1** In November 2002, the IT upgrade was rolled-out throughout the parliamentary precinct and 132 electorate offices across the State. This involved replacing existing IT infrastructure such as servers, printers, desktop and laptop computers, and the upgrade of operating systems for servers, desktop machines and laptops, the upgrade of email and standard desktop applications, and the introduction of new system management tools and backup applications for the central servers and electorate office servers. The result was a significantly different IT environment from the one to which users were accustomed.

**3.2** The implementation of this technology on such a large scale was not a simple task. Changes were extensive; for example, all of the core applications within the organisation, including those critical to the administration of Parliament, were directly affected, and the changes added complexity to the environment and its operation.

**3.3** Immediately after roll-out, users started to report problems with the performance of the Parlynet network and applications. While some problems have since been resolved, others continue to impact on the system's performance. Many performance problems were viewed during the conduct of the audit. Some that remain unresolved include:

- excessive user log on and log off times;
- delays in accessing electronic files (i.e. documents);
- faulty printers and problems with standardisation of printer set-up, i.e. printer tray customisation and settings; and
- delays and failures with the email application.

**3.4** In some cases, applications did not work correctly, either because they were not configured properly for the new environment, or they were very old and could not run under the new operating system.

**3.5** Before the 2002 upgrade, there were few controls to stop users from loading software onto Parliament's system. The upgrade was intended to provide better control over the system, to improve the ease of management and to reduce the cost of administering the IT environment. However, because of application conflicts identified during the upgrade, controls that were designed to restrict users from installing non-standard applications were removed. As a result, users are still free to load (and they have loaded) non-standard applications onto the system. They may also load applications that enable non-standard devices such as handheld electronic diaries to be used.

**3.6** Users may purchase IT equipment specific to their particular needs from their individual office/departmental budgets, i.e. outside the Parlynet 2002 Project upgrade, and expect the IT Unit to install it.

**3.7** Users expect the IT Unit to support the non-standard items of software and equipment and to resolve problems with them. This increased demand on the already stretched IT support resources at a time when the system was experiencing many performance problems.

**3.8** We observed fluctuating system performance from time-to-time, e.g. inconsistent amounts of time taken to access the system. The IT Unit has also observed fluctuating performance in downloading data from the internet. The reasons are not easily identified, for example, they do not appear to relate to the volume of traffic using the system at any particular time, and the Unit does not have sufficient experience with the vastly changed system, or the necessary diagnostic tools, to identify the reasons for the performance problems.

**3.9** The contractor responsible for the upgrade believes that the system itself is sound but that the problems being experienced are due to:

- inadequate infrastructure across the network, including bandwidth, to support the functionality that Parliament identified in its Request for Tender document;
- inadequate standardisation of processes across the system;
- inappropriate processes, such as backing-up during working hours and not performing important processes in the right sequence; and
- incorrect configuration of some software, including anti-virus software, by the IT Unit.

**3.10** We also observed some weaknesses in the security practices and controls over Parliament's IT environment. For example, a number of Parliament's key IT systems which were decentralised prior to the IT upgrade are operated by other business units. The management and location of these facilities continue to be outside of the control of the IT Unit, resulting in a lack of consistency in the management of IT operations and potential control risks. The ability to load non-standard items of equipment and software also leads to problems with system security and the management of licences.

**3.11** The performance problems experienced, the use of non-standard applications and devices, the many ways through which users interact with the system (shown in Chart 2A), and the varied nature of the user group with its multiple demands means that the environment is complex and difficult to manage.

## HOW DO USERS PERCEIVE THE PARLYNET SYSTEM?

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**3.12** We conducted a survey of users of Parlynet, i.e. Members of Parliament, their electorate office staff and users located in the parliamentary precinct, to ask about their experiences using Parlynet<sup>1</sup>. We were aware from discussions with a number of Members of Parliament and staff that problems with the system had been experienced from the time of the roll-out of the IT upgrade in November 2002. We were also aware that some problems had been resolved prior to the start of our audit. We asked the respondents to tell us about the problems they were still experiencing in May 2003.

**3.13** Unfortunately, the survey response rate was low (37 per cent of users surveyed) and so the results may not be representative of the total population of users, but they provide a useful indication of user perceptions.

**3.14** Four major themes emerged from the responses received:

- Parliamentarians generally experienced different problems from staff located in the parliamentary precinct;
- Users were unhappy with the performance of Parlynet and thought it was too slow;
- Users felt that most of their requests for help to the IT Unit's support staff went unresolved; and
- Many users lack some basic skills to make efficient and effective use of the system. The survey responses and our discussions with users during the audit indicate problems with:
  - day-to-day maintenance and troubleshooting of problems with both desktop and laptop computers, but especially related to connecting to the network, accessing email and recovering after crashes;
  - understanding how the network operates, where data is stored on the network, and how that data is copied to desktops and laptops; and
  - use of the main applications that are part of Parlynet (e.g. Lotus Notes, Microsoft Word and Excel).

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<sup>1</sup> We describe the survey methodology in Appendix B of this report.

## What problems do users experience with Parlynet?

**3.15** Table 3A shows the major problems with Parlynet identified by survey respondents.

**TABLE 3A**  
**WHAT ARE THE MAJOR PROBLEMS THAT USERS EXPERIENCE WITH PARLYNET?(a)**  
(per cent)

<i>Problem</i>	<i>Members of Parliament (b)</i>	<i>Managers (c)</i>
"It takes a long time to log on to the system"	74	77
"Email is slow"	82	50
"The printer does not print envelopes"	58	0
"Colour toner cartridges are too expensive"	82	0
"I get disconnected from mapped drives" (such as S or G drives)	40	14

(a) Percentage of respondents reporting this problem as "medium" or "high".

(b) Responses provided by Members of Parliament, reporting for themselves and their electorate office staff.

(c) Responses provided by managers in parliamentary departments, reporting for themselves and their staff in the parliamentary precinct.

Source: Victorian Auditor-General's Office, based on a survey of users of Parlynet.

**3.16** Some users also noted problems with the system being unavailable, and not being given enough notice that it would be unavailable.

## SUPPORT FROM PARLIAMENT'S IT UNIT

**3.17** Following the roll-out of the IT upgrade, the number of calls to the IT Unit's Help Desk increased significantly. The calls included requests to support non-standard applications and devices that were not part of the standard operating environment.

**3.18** Our survey showed a high volume of demand for the Help Desk: 74 per cent of the Members of Parliament and 73 per cent of the managers who responded, had contacted IT support services (including the IT Help Desk) at least weekly.

**3.19** Help Desk calls were not addressed in a controlled and systematic basis, due to inadequately configured Help Desk software, lack of problem prioritisation, insufficient resources, and no continued analysis and review of Help Desk clearances (i.e. what problems are outstanding and what have been resolved). The volume of calls to the Help Desk resulted in delays in problem resolution, large delays in the creation of new user accounts and further reduced user satisfaction with the new IT system.

**3.20** We surveyed users about how well the IT Unit responds to their problems. The responses showed that users have much goodwill towards Help Desk staff, seeing them as both skilled and courteous. But the respondents were frustrated by the time it takes to resolve their problems, as shown in Table 3B.

**TABLE 3B**  
**WHAT DO USERS THINK OF THE SUPPORT PROVIDED BY THE IT UNIT?**  
 (per cent)

<i>Response</i>	<i>Members of Parliament (a)</i>	<i>Managers (b)</i>
"Problems are generally resolved within one week"	79	53
"The time taken by IT Support to resolve queries is reasonable"	56	24
"All my queries reach a satisfactory conclusion"	30	9
"The IT Support triage system works well" (c)	39	29

(a) Responses provided by Members of Parliament, reporting for themselves and their electorate office staff.

(b) Responses provided by managers in Parliamentary departments, reporting for themselves and their staff in the Parliamentary precinct.

(c) The IT Unit has created a 2-tier triage system for managing Help Desk queries. One person takes the user's phone call, and if the issue cannot be resolved immediately, that person passes the problem to a technical person for resolution.

Source: Victorian Auditor-General's Office, based on a survey of users of Parlynet.

**3.21** Many Members of Parliament and some staff working in the parliamentary precinct reported they need to contact the Help Desk outside normal office hours, including during all hours when Parliament is sitting. The Help Desk does not cater for this.

### **Action by the IT Unit to improve responsiveness**

**3.22** As indicated earlier, the upgraded Parlynet system was significantly different to the one in place before the November 2002 upgrade. The IT Unit's staff had no experience operating the system and, with the sheer volume of calls, the staff's lack of experience with the new IT environment affected its ability to respond quickly.

**3.23** At the time of preparing this report, the IT Unit had taken the following action to improve response times and to improve the ability of IT staff to resolve problems:

- Introduced a 2-tier triage system for managing Help Desk queries, consisting of:
  - a Call Centre for receiving user calls; and
  - a Help Desk for passing the problem to a technical person, if the issue cannot be resolved within 5 minutes.

When established shortly after the roll-out, the Call Centre was mainly resourced by temporary work experience staff from an IT training organisation. It was established because the IT Unit could not manage the volume of phone calls, and many calls went unanswered. During the period of the audit, the number of calls abated and work experience staff are no longer used.

The triage system was introduced to free-up skilled technical staff so that they could focus on resolving technical problems rather than spending time handling calls which could be easily dealt with by others. However, according to the majority of survey respondents, the 2-tier system does not work well.

There is no process for prioritising calls, and response times are not recorded. While a specialised software package is used to log and manage all Help Desk activity, it is not properly configured to the existing IT system. It collates data on problems reported, but this data has not been used to develop a profile of problems for analysis or prioritisation. In the absence of a better approach, priority is usually given to the queries of Members of Parliament over staff. The results of our survey support this;

- Engaged an external consultant to assess the system performance problems. However, the review was limited both in its scope and time, and only resolved some of the problems experienced;
- Conducted analysis of the skills of the Unit's staff and identified training needs. However, at the time of preparing this report, a formal training program had not been endorsed;
- Developed a new structure for the IT Unit to provide for multi-skilling and to improve communication within the IT Help Desk. At the time of preparing this report, implementation of the new structure had commenced with completion expected in September 2003; and
- Liaised with hardware vendors to resolve warranty problems, including noisy fans in computers and printers that could not successfully print envelopes.

**3.24** Despite this action, there is no plan in place to prioritise and systematically address the performance problems.

### ***What needs to be done?***

**3.25** We believe there is a need for the Joint Services Department to work with staff of the IT Unit to:

- expose the tensions and articulate the trade-offs to be made in fixing the Parlynet system (for example, users may need to accept a trade-off between security and ease of use; users and technical staff may need to accept a trade-off between responding to the business needs of electorate officers and limiting the standard equipment that may be used with Parlynet);
- communicate those trade-offs to technical staff and users to ensure that users know how technical staff will resolve conflicts between their duties to an individual user and their duties to the organisation as a whole;
- establish priorities for addressing the problems with the Parlynet system, and communicate those priorities to users;
- develop a plan to fix systemic technical problems with Parlynet, rather than attempting to fix each problem individually; and
- train users on the new system and its applications.

**PROJECT COST**

**3.26** Table 3C outlines the funds provided for the IT upgrade and our best estimate of Project costs incurred, based on the records provided by the Joint Services Department.

**TABLE 3C  
PARLIAMENTARY IT UPGRADE,  
AVAILABLE FUNDS AND ESTIMATED COSTS TO 30 JUNE 2003 (a)**  
(\$million)

Sources of funds -		
Funding for catch-up initiative (b)		2.760
Funds re-allocated from other approved capital projects (c)		0.700
<b>Total funds provided</b>		<b>3.460</b>
Costs -		
Contractor (d)	2.292	
Other contractors/consultants	0.860	
Computer equipment maintenance	0.027	
Wide-area network upgrade	0.003	
Software licences (e)	0.743	
Cost of closing-out the previous lease (f)	0.407	4.332
Capital -		
Purchases of IT equipment (g)		0.792
<b>Total cost</b>		<b>5.124</b>

(a) All figures exclude goods and services tax, internal staff costs, and ongoing costs of operating the IT Unit and Parliament's IT system.

(b) Allocated in the 2002-03 State Budget to fund a specific IT "catch-up initiative".

(c) Re-allocated from Parliament's 2002-03 capital budget to purchase IT equipment not included in the original catch-up initiative.

(d) This cost comprised the original contract cost of \$2.091 million, plus an additional \$200 500 to cover 9 variations to the contract.

(e) Comprises new software licences for operating systems, desktop applications and system management tools.

(f) Comprises additional costs incurred for extension of leases and leased items not returned (discussed in Part 5 of this report).

(g) Purchases include Project-related purchases of desktop computers, laptops, server racking equipment, and network switches made in 2001-02 and 2002-03.

Source: Parliament of Victoria.

**3.27** Based on the figures above, we estimate that the Project resulted in a funding shortfall of \$1.664 million.

**3.28** Consistent with the arrangements in place preceding the roll-out of Parlynet 2002, all servers in the parliamentary precinct and electorate offices, as well as most IT equipment in electorate offices, are leased. We have excluded recurrent costs from Table 3C because, in our opinion, the recurrent costs of maintaining the network are not Project-related costs.

**3.29** Table 3D shows the impact of the Project on Parliament's recurrent leasing costs for IT equipment, arising from changes in equipment and other factors affecting the leases.



**TABLE 3D**  
**LEASING EXPENSES FOR IT EQUIPMENT**  
(\\$million)

	2001-02	2002-03	2003-04 (estimated)
Equipment leased in 1998, replaced during the Parlynet Project and returned to the lessor	1.166	(a) 0.835	0
Equipment leased in 2000, retained for use and due for replacement in October 2003	0.166	0.165	(b) 0.165
Equipment leased in the Parlynet 2002 Project	0	1.013	(c) 1.209
<b>Total expense</b>	<b>1.332</b>	<b>(d) 2.013</b>	<b>1.374</b>

- (a) New equipment was leased as part of the Parlynet 2002 Project before old equipment was returned. This old equipment was returned to the lessor progressively during 2002-03, resulting in an extension of the lease in that year.
- (b) Estimated based on the lease current at the time of preparing this report. This lease is for communications equipment necessary for running Parlynet. The Joint Services Department intends to replace this equipment in October 2003. While costs for the new equipment are uncertain at the time of preparation of this report, it is considered unlikely that the expense will change significantly.
- (c) Estimated based on the lease entered into in 2002 as part of the Parlynet 2002 Project.
- (d) The leasing expense for 2002-03 was higher due to the overlap of the old and new leases (refer footnote (a) above).

Source: Victorian Auditor-General's Office, based on information supplied by Parliament of Victoria.

**3.30** The capacity of the network links between electorate offices and Parliament was increased during the upgrade increasing the annual cost from around \$1.05 million to around \$1.14 million.

### **Additional funding obtained**

**3.31** The overspending on the IT upgrade caused major budgetary problems for Parliament and so, in May 2003, the Speaker applied for a Treasurer's Advance of \$3.024 million to meet the shortfall. The amount sought was based on estimates by the Joint Services Department that the total Project cost (including recurrent leasing costs) was \$7.034 million compared with funding of \$4.01 million (comprising \$2.76 million catch-up funding plus recurrent funding of \$1.25 million for leasing of IT equipment).

**3.32** The Treasurer subsequently approved the application of funds already held within parliamentary funds as follows:

- \$2.524 million from the Consolidated Fund, made up of \$1.175 million in accumulated surpluses and \$1.349 million in depreciation equivalent funding, i.e. funds set aside within the Consolidated Fund, in previous periods, for funding asset replacement; and
- \$500 000 from the Commonwealth Parliament Association Grant account, i.e. an account established to assist the professional development of Members of Parliament. Because of the November 2002 State election and restrictions on travel by Parliamentarians, some of the funding provided for professional development in 2002-03 was unused.

**3.33** Comments about the financial management of the Project appear in Part 4 of this report.

## **SUMMARY AND RECOMMENDATION**

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**3.34** The IT environment at Parliament is a complex one, with a variety of users who place multiple demands on it, and interact with the system in a variety of ways. From November 2002, the IT system used in the parliamentary precinct and electorate offices across the State was significantly different from the one that operated before the Parlynet 2002 Project. It was significantly different for both the system's users and for the staff of IT Unit who are responsible for its maintenance.

**3.35** Since the upgrade, there have been many performance-related problems identified. We observed problems including long log on times and delays in accessing electronic files, and the need to improve some aspects of the system's security.

**3.36** Users who responded to our survey are clearly unhappy about the speed, reliability and functionality of the system. Our survey results show that some of their dissatisfaction is because of system performance problems. However, the responses also show that some users lack the skills necessary to use the system effectively.

**3.37** The IT Unit has been inundated with reports of problems since the upgrade and because of the volume of calls and the inexperience of its staff in the current operating environment, has struggled to resolve problems on a timely basis. The Unit's ability to resolve technical problems has also been affected by the lack of diagnostic tools to identify the reasons for the performance problems. While some action has been taken, there is a need for the Unit to quickly address the matters that continue to fuel user dissatisfaction. There is currently no clear plan in place to identify how to proceed.

**3.38** The cost of the Project exceeded available funds and placed Parliament's budget under significant pressure. The Treasurer recently approved the application of funds already held within Parliamentary funds to address the currently estimated funding shortfall.

**3.39** A systematic approach is required to resolve the remaining problems. For example, there are some actions that need to be taken immediately, including diagnosing the system's capacity and identifying the cause of the problems, prioritising action, effectively communicating to users about planned action and timelines, bolstering the IT Unit's resources with the necessary experience and skills for the system now operating, and with an appropriate senior officer to ensure that the necessary action has been taken and is communicated to, and supported at, the governance level.

### **Recommendation**

**3.40** To assist resolution of the system's performance problems in a timely manner, we recommend that Parliament take immediate action to:

- assign responsibility for ensuring adequate attention and resources are allocated to resolving the system's performance problems, and for providing necessary support to the IT Unit;
- develop a communication plan to keep users informed about action being taken to resolve problems, action planned, timelines and progress made;

- undertake an analysis of Parlynet, including the volume of network traffic and the standard operating environment to identify reasons for poor performance and improvements required;
- review network security;
- develop a plan that identifies IT resource requirements and establishes appropriate priorities and timelines for action to resolve problems;
- improve the responsiveness of the Help Desk by engaging appropriately skilled and experienced personnel to set up software to enable analysis of problems for prioritisation purposes, effective workflow management, and for monitoring timeliness and appropriateness of responses; and
- develop a schedule to address urgent training needs, aimed at:
  - improving general computer skills and system-specific skills of users; and
  - developing the skills of IT staff to better maintain Parlynet and to resolve performance issues.

## Part 4

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**Why did  
things go wrong?**

## INTRODUCTION

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**4.1** From the performance problems and user dissatisfaction identified, it was clear that the Parlynet 2002 Project had failed to deliver the results expected, and we sought to identify the causes. We looked at the 2 main aspects of successful project delivery, i.e.:

- project governance; and
- project management.

**4.2** We assessed these aspects with reference to themes identified by the Organisation for Economic Co-operation and Development (OECD) for ensuring successful government IT projects<sup>1</sup>, namely:

- establish appropriate governance structures;
- think small;
- identify and manage risks;
- use known technologies;
- hold business managers accountable;
- ensure compliance with best practice for project management;
- recruit and retain talent;
- establish an environment of trust with private vendors;
- prudently manage knowledge; and
- involve end users.

## PROJECT GOVERNANCE

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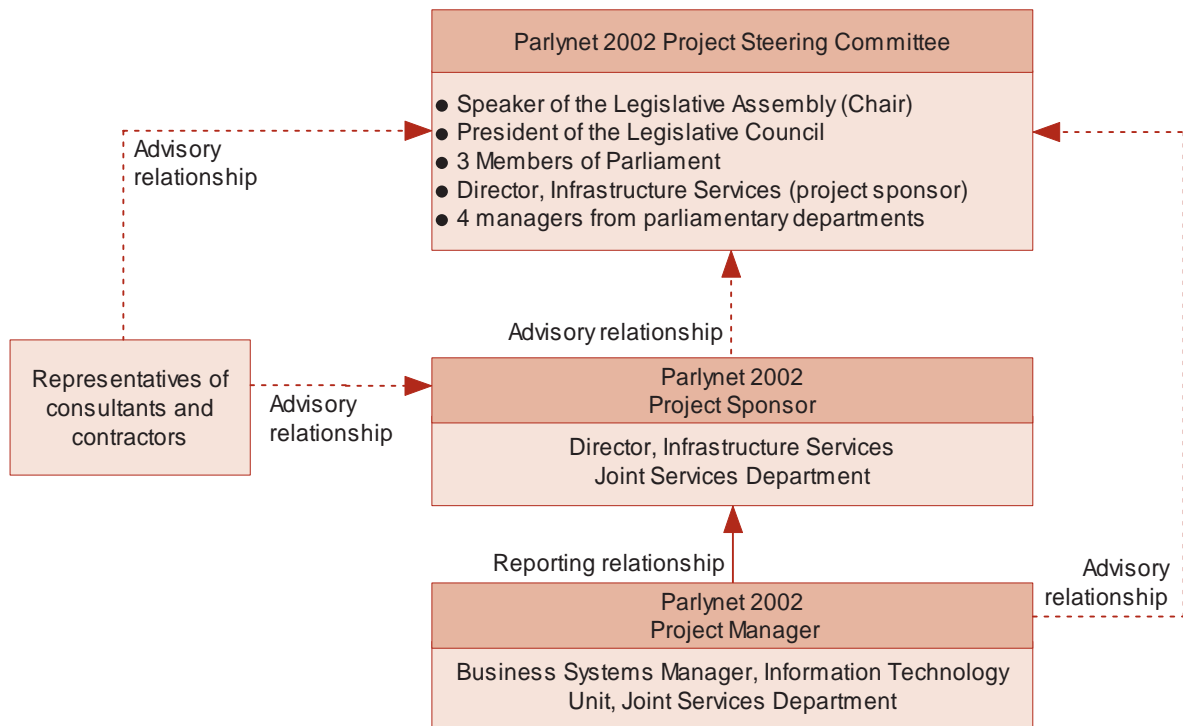
### Establish appropriate governance structures

**4.3** Chart 4A shows the governance structure for the Parlynet 2002 Project.

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<sup>1</sup> OECD, *The Hidden Threat to E-Government: Avoiding large government IT failures*, OECD Public Management Policy Brief No. 8, March 2001. The themes in the policy brief are based on the experiences from participants and country reports presented at a meeting on 26-27 October 2000. Representatives of 17 countries met at OECD headquarters in Paris to share experiences on managing large public IT projects. The meeting helped to define the problems and find possible solutions.

**CHART 4A  
GOVERNANCE STRUCTURE FOR THE PARLYNET 2002 PROJECT**



Source: Victorian Auditor-General's Office, based on information provided by the Joint Services Department.

**4.4** We expected to see a governance structure for the Parlynet 2002 Project that:

- identified clear roles and responsibilities;
- documented clear reporting relationships and accountabilities;
- set the scope of the Project;
- approved policies; and
- governed the technical, change and financial management of the Project.

**4.5** However, our expectations were not met as:

- The role of the Parlynet 2002 Project Steering Committee was not clearly defined. The Steering Committee met on 5 occasions leading up to the appointment of the successful tenderer in July 2002, but met only once during the remaining period of the Project;
- The role of the Project Sponsor was not documented or discussed by the Steering Committee;
- Even though the Project represented significant expenditure for Parliament, there was no member of the Finance Department on the Steering Committee;
- Responsibility for decision-making was unclear;

- Accountability and reporting arrangements between the Project Sponsor, Project Manager and the Steering Committee were not established. The Steering Committee did not request or receive budget or financial reports on the Project and we did not see any regular reporting on progress or financial management of the Project from the Project Sponsor to the Committee or to senior management. Decisions were made without considering the financial consequences and without ensuring that funds were available; and
- The scope of the Project was not clearly defined and the Steering Committee did not constrain the scope. The first meeting of the Steering Committee adopted a scope well beyond the funded catch-up initiative, adding the replacement of electorate office equipment and reducing the level of training to be provided. The actual scope of work delivered by the Project included:
  - the replacement of servers, laptop computers of Members of Parliament, and desktop and laptop computers within the parliamentary precinct;
  - the upgrade of operating systems for servers, desktop machines and laptops;
  - the upgrade of email and standard desktop applications; and
  - the introduction of new system management tools and backup applications for the central and electorate office servers.

**4.6** The failure to address the accountability, reporting and decision-making responsibilities had the following consequences in the Parlynet 2002 Project:

- No one person or group was responsible for the operational and financial outcome of the Project;
- No one person had either the responsibility or management authority to take significant action at a high level, when it became apparent that the Project was experiencing difficulties. After the roll-out of the upgrade, the IT Unit tried to resolve individual problems. While this action addressed immediate problems, someone at a higher level needed to develop a coherent plan to resolve systemic issues;
- Due to the absence of accountability and responsibility for the ongoing financial management of the project, expenditure continued unchecked throughout the period of implementation. By the end of October 2002, i.e. before the IT upgrade was rolled-out, the Joint Services Department was aware that there would be a funding shortfall of around \$2.4 million;
- Approval for major management decisions was given by various individuals and groups at different times, as shown in Table 4B. There was no obvious rationale for the approach taken. The effect was that none of those individuals or groups could have developed an overall understanding of the Project, or the context in which their decisions were made; and
- We are unable to identify who approved some major parts of the Project, as shown in Table 4B.

**TABLE 4B  
WHO APPROVED MAJOR DECISIONS IN THE PARLYNET 2002 PROJECT?**

<i>Decision</i>	<i>Who approved this decision?</i>
Change brand of servers, desktop and laptop computers	Unknown
Lease new servers	Unknown
Lease new desktop computers and other equipment for electorate offices	Parlynet 2002 Steering Committee
Lease new laptop computers for Members of Parliament	Unknown
Purchase desktop and laptop computers for the parliamentary precinct	The then Speaker
Upgrade the version of Microsoft Office	Unknown
Purchase network switches for electorate offices	Project Sponsor

Source: Victorian Auditor-General's Office.

### Think small

**4.7** A good guide for assisting successful completion of IT projects is that they should be planned in discrete phases that can be reasonably completed over 6 months, offer technical simplicity and have modest ambitions for business change.

**4.8** Parlynet 2002 was undertaken without sufficient understanding of what was involved, planning or consideration of the resources required. The Project was a significant undertaking for the organisation in terms of the level of expenditure, the speed in which it was to be implemented, the extent of the technical changes being introduced and the potential impact on every Member of Parliament, electorate officer and parliamentary precinct staff member. There was no schedule or plan for the Project as a whole. Instead, schedules submitted by consultants and the contractor for individual parts of the Project were relied upon. The scope of the work could reasonably have been expected to be managed as 5 or 6 separate projects spread over 2 to 3 years.

### Identify and manage risks

**4.9** The Project Steering Committee did not identify or effectively manage risks to, or arising from, the Project. Risky decisions were made without action to mitigate the risks. Risks not well managed included:

- *The risk that timelines for project delivery could not be met.* Two groups of consultants engaged for the Project advised that the Project timelines were ambitious. This advice was not heeded;
- *The risk of delays to the roll-out of hardware and software.* There was a risk that the Project roll-out would coincide with a State election period, causing delays. The Steering Committee would have been aware that an election could have been called at any time from November 2002 to December 2003. However, the Project operated under a firm requirement that the system be upgraded by the start of November 2002.



Scheduling the roll-out immediately prior to a potential election, and continuing the roll-out during the election period was imprudent, caused disruption to work in electorate offices and in the parliamentary departments, and delayed the roll-out.

When significant events threatened the timelines, for example when the parliamentary precinct computer room required previously unidentified changes, and when the November 2002 State election was called causing users to lose interest in the upgrade and to refocus on pre-election activities, the Steering Committee was unable to amend the timelines. The delay in the site readiness of the computer room facility and delays to the roll-out during the election campaign, were major factors that caused an increase of \$200 500 in contract costs;

- *The risk that user needs would not be met and that the system would not perform adequately.* There was inadequate communication with end-users about their business needs and about the common tasks that they perform, e.g.:
  - staff in electorate offices send out mass mailings to constituents;
  - Members of Parliament need to communicate with constituents in Greek, Arabic, Chinese and Hebrew fonts; and
  - staff in Committees and Hansard use large screen monitors.

These requirements were not specified in the tender documents. During our review, we observed 26 new computer monitors still in packaging, stored in the parliamentary precinct. These monitors, each valued at around \$350 to \$400, were purchased as part of an August 2002 bulk purchase of equipment, and are surplus to requirements because during roll-out of the upgrade it was found that some staff in the parliamentary precinct preferred to keep their existing large screen monitors. A decision has yet to be made about what to do with these surplus monitors.

The Request for Tender did not adequately specify the technical requirements of the Project, including performance standards for the system. This made it difficult to determine whether the system solutions proffered by the tenderers adequately met expected performance standards or user needs;

- *The risk that performance risks would not be adequately transferred to the contractor.* While the contractor was engaged to provide a whole network solution, some items of equipment, e.g. the printers, scanners and network switches for electorate offices were subsequently removed from the scope of work and sourced by the Joint Services Department instead. By taking on the sourcing of these items itself, the risks associated with these purchases, such as the risk of the equipment being incompatible or performing poorly, transferred from the contractor to Parliament;

- *The risk that the Project costs would blow out.* We were unable to see that the Steering Committee considered the financial implications of its decisions to expand the Project's scope. The Committee did not determine a budget for the Parlynet 2002 Project and, therefore, could not monitor the progress of the Project against a pre-determined budget. In July 2002, the Steering Committee identified that the expanded Project would require more funds than were allocated and there was a need to seek additional funds. However, the Committee took no effective action to address this identified financial risk until May 2003;
- *The risk that stakeholders would not support the Project.* The culture at Parliament is complex and there are many players with considerable power: the 132 Members of Parliament are effectively all of equal importance, and the heads of the 5 departments<sup>2</sup>, while theoretically responsible to the Presiding Officers, largely operate as heads of autonomous units. This makes for an environment in which change is difficult to manage. We did not see a change management plan for the Project. The contractor observed that there was little buy-in or ownership of the Project from the parliamentary departments or even from some staff within the IT Unit; and
- *The risk that Parliament's interests were not protected by the contract.* The contract between the Joint Services Department and the contractor did not protect Parliament's interests in several ways:
  - *The contract did not accurately reflect the agreement between the parties.* Five entities were involved in acquiring the hardware for the upgrade: the Joint Services Department, the contractor, its sub-contractor, the hardware vendor and the lessor. The contract stated that the contractor would supply hardware to Parliament, and that Parliament would lease the hardware. However, our discussions with the Joint Services Department and the contractor revealed that what was intended, and what actually happened, was that the sub-contractor purchased hardware from the vendor, sold it to the lessor and the lessor then leased the hardware to Parliament;
  - *The contract sought to bind third parties.* The contract asserted that several suppliers of computer hardware, software, IT services and financial services, who were not parties to the contract would undertake certain tasks; and
  - *There were some significant inconsistencies within the contract,* e.g. the Parliament's Representative, i.e. the person with whom the contractor is required to liaise and who has assigned responsibility for accepting the system from the contractor, varied within the contract document. Responsibility for bearing the risk of loss or damage to hardware also varied.

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<sup>2</sup> The 5 parliamentary departments are the departments of the Legislative Council, Legislative Assembly, Parliamentary Library, Parliamentary Debates (also known as Hansard) and Parliamentary Services. Although the legislation still refers to the Department of Parliamentary Services, it was re-named in 2001-02 as the Joint Services Department.

### **Use known technologies**

**4.10** The Project introduced applications, hardware and technologies widely used in government and commerce, but which were largely unknown to users and to the staff of the IT Unit. A decision was made to change from one brand of hardware to another, knowing that the IT Unit's staff had neither the skills nor experience to manage or support the new equipment. By introducing new technology and applications, management risked the system not being used to its full advantage, and disenfranchising users. Consultants advised the Steering Committee that the technical staff would need training in the new hardware, but the training was not organised.

**4.11** The Joint Services Department took some action to address the training needs of users, but the results of our survey of users suggest that this was insufficient. This is further discussed later in this Part of the report.

### **Hold business managers accountable**

**4.12** We expected to see governance processes that identified who would be accountable for delivery of the project according to an agreed project plan. The Steering Committee did not approve a project plan and we were unable to determine who was responsible for financial management of the Project.

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## **PROJECT MANAGEMENT**

### **Ensure compliance with best practice for project management**

**4.13** We expected Parliament to follow appropriate project management principles in the Parlynet 2002 Project. Table 4C shows our assessment of the Project's management against best practice project management principles.

**TABLE 4C  
ASSESSMENT OF PARLYNET 2002 PROJECT MANAGEMENT**

<i>Best practice principle</i>	<i>Was the principle met?</i>
<i>The Project Steering Committee should:</i>	
Clearly define the purpose, scope, time, cost and quality aspects of the project.	✘
Identify a Project Sponsor, i.e. the manager accountable for successful delivery of the project. Document the Project Sponsor's role.	⊖
Appoint a Project Manager who is suitably qualified by knowledge, skills and experience in IT project management, and who has the competencies and personal attributes necessary to effectively manage the project.	⊖
Give the Project Manager single point responsibility and accountability to complete the project as specified, in time and within budget.	✘
<i>Parliament's Representative (a) and Project Manager should:</i>	
Agree procedures for the project that clearly set out when approvals are required from the organisation's senior management and the extent to which the project can proceed without those approvals.	✘
Carry out a formal risk impact analysis.	✘
Agree a procurement strategy for the project that sets out the basis on which tenders are to be called and the procedures for the engagement of consultants.	✘
Agree appropriate levels of authority for issuing variations to the contract.	✘
Agree reporting principles for the project setting out when reports are required, the broad contents of each report, responsibility for the compilation of reports and establish circulation lists for all reports.	✘
<i>The Project Manager should:</i>	
Prepare a project plan which includes the project brief, a cost plan, a quality assurance plan, the Project organisation and responsibilities of the various participants, and a project program that reflects the scope of work, method of procurement and contingency allowances for perceived risks that could delay the project.	✘
Develop a human resources plan that identifies the extent, timing and cost of training required.	⊖
Develop a change management plan designed to raise user awareness of the need for change, to identify how the change will affect operations, to outline new structures, resources and skills to be put in place to support the change, and that identifies strategies to gain the commitment of those affected by the change.	✘
Develop a communications plan for reporting project progress to all stakeholders.	✘
Manage contract variations by ensuring that all proposed variations are examined in detail and benefits to the project identified before approval, and continually inform the organisation's senior management about the likely total cost of variations.	⊖
Monitor and report to the Project Steering Committee on progress against the project plan, risk management action taken, communications activity undertaken and on the financial performance of the project.	✘
Prepare a commissioning and handover plan clearly setting out the commissioning, testing and handover activities required for the project, assigning responsibilities for carrying out those activities, describing the process for handing over from the project to the ongoing maintenance role, including the process for identifying and handing over open issues and risks and a program for rectifying defects.	✘

Legend: ✓ = Principle was met.

✘ = No evidence that principle was met.

⊖ = Principle was partly met.

(a) For the purpose of this table, the person normally referred to in a contract as the "Principal's Representative" is referred to as "Parliament's Representative".

Source: Victorian Auditor-General's Office.

**4.14** As the table shows, best practice project management principles were generally not followed and, as a result, project management was poor. Some specific areas of concern were:

- preparation and planning;
- ensuring system performance;
- training; and
- managing project funds.

**4.15** These aspects are discussed below.

### ***Preparation and planning***

**4.16** There was inadequate preparation before the Project began. For example, there was no accurate inventory of the existing hardware, software and software licences held by Parliament and no records of fundamental service infrastructure such as powerpoints and network connection points in electorate offices or in the parliamentary precinct. The contractor undertook an exercise at an early stage to ascertain existing software and hardware but found it difficult to establish the precise details. The lack of accurate records led to delays, frustration and increased Project costs.

**4.17** In September 2001, new State electoral boundaries were drawn by the Electoral Boundaries Commission. As a result, 14 electorate offices were identified for re-location after the subsequent State election. In addition, prior to the election, 15 Members of Parliament indicated that they would not seek re-election. The Project roll-out schedule was established in July 2002. However, once the election was called, it would have been prudent for the Joint Services Department to revise the schedule to ensure that set up of new equipment in the electorate offices scheduled to move or belonging to retiring Members was delayed until after the election. We were advised that in some cases the roll-out to these offices proceeded and meant that the equipment had to be subsequently removed and re-installed in new offices.

### ***Ensuring system performance***

**4.18** Good project management requires that the contractor delivers goods and services to an appropriate standard. Testing is one of the key phases in the development and implementation of any IT project to ensure that what is delivered meets performance standards and provides the functionality specified under the contract. The testing approach should include:

- comprehensive pre-roll-out testing, including user acceptance testing, assessment of network capacity and links, evaluation of key hardware and testing of compatibility of applications;
- piloting the system within a limited number of sites before roll-out of applications and hardware to the wider population of users; and
- approval by management to roll-out the system after completion of testing processes.

**4.19** The contractor developed a testing approach for the Parlynet 2002 Project. However, actual testing took longer than planned but the testing period could not be expanded because of the pressure to roll-out the upgrade. The failure to comprehensively and adequately test the system seriously compromised the success of the IT upgrade and had a significant impact on the reliability, availability and security of Parliament's IT environment.

**4.20** Despite the fact that performance issues identified in the post-implementation testing had not been resolved, and despite the number of problems experienced by users immediately following roll-out, the Project was signed-off as completed on 30 January 2003, and the contractor released from its performance guarantee. This was a fundamental error of judgement.

**4.21** Effective project management would have ensured that adequate testing was undertaken and that formal acceptance of the system by Parliament from the contractor only occurred after completion of successful testing.

**4.22** Two warranty claims relating to specific components of the system made to the contractor to date, have been resolved. However, we note that a warranty claim has not been lodged with the contractor in respect of the general system performance issues.

#### *Pre-roll-out testing*

**4.23** The lack of pre-roll-out testing meant that compatibility problems between software applications were not resolved at an early stage, and software (such as the payroll system) was not installed properly. Other aspects not satisfactorily addressed because of the compressed testing phase included:

- *Network capacity and link testing.* The wide-area network linking electorate offices throughout the State with the computing facilities located in the parliamentary precinct was critical to users' "anywhere, anytime access" to Parlynet. Despite this, there was no testing to assess network load capacity or to stress test the network links;
- *User acceptance testing.* User acceptance testing was conducted for a few applications in a simulated environment. This testing addressed only a limited range of applications, did not stretch the application tolerances and did not involve testing by actual users of the applications; and
- *Testing of hardware installed at electorate offices.* Testing of the printers in a "pre-live" environment was not thoroughly performed. If this testing had been performed, the significant problems experienced since may have been identified earlier and the high levels of dissatisfaction experienced by electorate office staff, avoided.

**4.24** Because of the compressed testing time, the contractor was unable to investigate why some applications did not work under the security settings established for a "standard user". Instead a "quick fix" solution was made elevating "standard user" privileges to "power user" privileges. This gave standard users more control over previously restricted portions of the operating system and gave them the ability to install additional applications onto the system.

**4.25** The effect is that the standard operating environment is now constantly changing and increasing in complexity as users add more applications to their laptops and desktop computers. This can have a detrimental impact on Help Desk support and affect the performance of IT systems and the network.

#### *Pilot testing*

**4.26** Pilot testing took place over 2 days compared with the planned 4 weeks. This meant that the system was not properly piloted before full roll-out across the State. Because the Project included installing equipment at remote locations, which is inherently more risky than installing equipment close to the centre of a network, piloting the new system in one or 2 remote sites for several weeks before wider roll-out would have been prudent. However, as the Project was running late this did not occur.

**4.27** There was no break between the pilot and roll-out to the first electorate office. The results of the limited pilot testing conducted could not be evaluated and the applications and hardware fine-tuned before roll-out to other electorate offices.

#### *Pre-roll-out approval*

**4.28** A successful structured pre-roll-out testing process should have required completion of the pilot and testing phases and resolution of all key outstanding issues, before approval was given to roll-out. However, testing was not successfully completed before approval to roll-out was given.

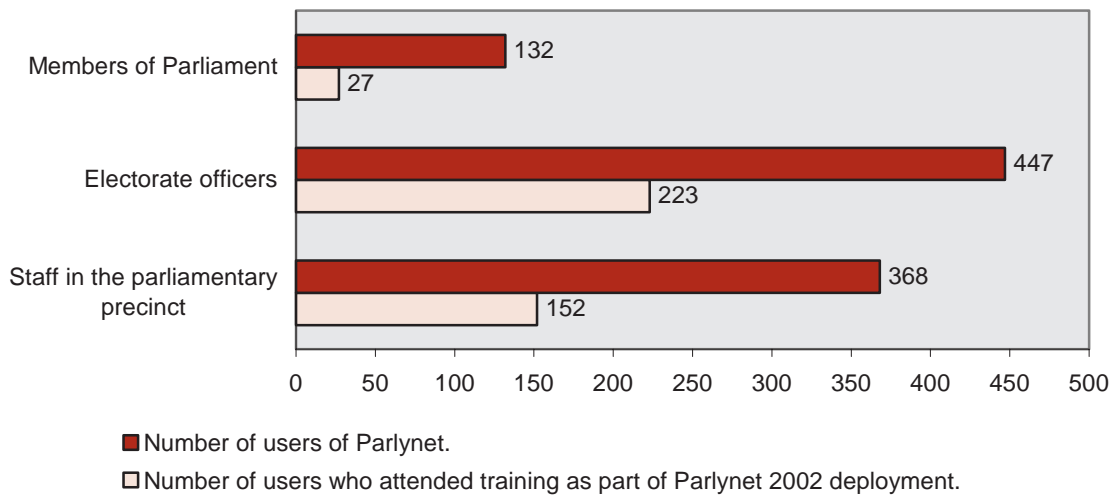
### **Training**

**4.29** An effective project plan will ensure that appropriate training in the new IT applications and equipment is provided for users. The contractor was required to provide basic training to users demonstrating changes to the operating system and the basics of sending an email and using the calendar. The contractor was also to show users how to load other applications, but not how to use them. The contractor was not required to show users how to use new hardware, such as the CD burners and printers installed during the Project.

**4.30** Seventy-seven per cent of managers in the parliamentary precinct who responded to our survey reported that training was adequate to enable their staff to make proficient use of Parlynet. However, only 28 per cent of Members of Parliament who responded thought that training was adequate. Given the extent of the changes implemented through the Parlynet 2002 Project, we believe that the scope of training was not sufficient to enable all users to effectively use the new system.

**4.31** It is also important that adequate opportunity is given to users to attend training. Chart 4D shows that about half of the 811 users at the time of the roll-out attended training sessions as part of the Project.

**CHART 4D  
USERS WHO ATTENDED PARLYNET 2002 TRAINING**



Source: Victorian Auditor-General's Office, based on data provided by Parliament of Victoria.

**4.32** Several respondents to our survey said that as installation coincided with the election period in late 2002, it was difficult to attend training sessions.

**4.33** Parliament introduced an on-line training facility to address the needs of users in regional and rural areas, on the assumption that on-line training would satisfy all users. However, only 4 per cent of our survey respondents said that they prefer training to be delivered on-line. There has been little use of the on-line training system. A budget of \$2 000 was allocated to each Member of Parliament for computer and other workplace-specific training for the Member and his or her electorate office staff. It was assumed that they would identify and organise any training needed by their staff. However, only around 30 per cent of this budget was used in 2002-03.

**4.34** Based on the survey results, and discussions during the audit, we believe that training provided to date has been insufficient.

### **Managing Project funds**

**4.35** The Project's funds were not well managed, for example:

- Purchase orders were approved and payments made without considering whether funds were available to meet the cost;
- Staff signed purchase orders for amounts over their approved delegation levels;
- Detailed periodic reports on the financial status of the Project were not produced; and
- In August 2002, Parliament purchased IT equipment valued at \$452 000 without inviting public tenders. While there is no specific requirement for Parliament to tender for such amounts, this would have been a prudent means of testing the market price of the equipment purchased. We were unable to sight quotes from suppliers to support the purchase of this equipment and were, therefore, unable to determine whether the equipment was competitively priced.



We were advised that Parliament seeks to follow the requirements of the *Financial Management Act* 1994. However, we were unable to sight a Certificate of Exemption from the Accountable Officer of Parliament (i.e. either of the then Presiding Officers) exempting the Joint Services Department from the requirement to undertake a public tender.

#### *Lease or buy decision*

**4.36** A decision was made to lease servers and desktop computers for electorate offices, laptop computers for Members of Parliament, and servers for the parliamentary precinct, with a total cost of around \$3.6 million over 3 years. Desktop computers for use by staff in the parliamentary precinct and some other computer equipment were also purchased for around \$792 000.

**4.37** We were unable to see any evidence of an economic analysis that led to these lease or buy decisions. We were advised that the 5 parliamentary departments made \$700 000 available to the Project from Parliament's capital budget and so equipment to that value was purchased.

#### *Investing and financing decisions*

**4.38** Having decided to lease the balance of the equipment, a failure to distinguish between the investing (what to buy) and financing (how to pay for it) decisions meant that the basis of decision-making was confused and the wrong parties were involved. For example:

- The criteria for choosing the equipment included considering the available finance options<sup>3</sup>. Better practice would have been to choose the equipment best suited to meet Parliament's technical needs, and the financing best suited to meet Parliament's financial needs; and
- Decisions about what computer equipment to buy should be made or informed by information technology specialists, while decisions about the best financial leasing services should be made/informed by finance specialists. However, Parliament did not involve its finance staff in choosing the financier for its computer equipment.

**4.39** Given the above, we consider it unlikely that the most appropriate decisions were made. The Joint Services Department was unable to demonstrate that it had obtained quotations for the computer equipment, and so we are unable to determine whether the arrangements provided value-for-money to the organisation.

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<sup>3</sup> Minutes of the Parlynet 2002 Project Design and Hardware Options Meeting of 24 July 2002.

## **Recruit and retain talent**

**4.40** Because the changes introduced through the Parlynet 2002 Project were so vast and new to Parliament, as previously mentioned, the IT Unit's staff did not have the skills and experience to effectively manage the new technologies and applications introduced. Despite this, only limited training was provided to IT Unit staff before the deployment of the IT upgrade and there was no training in relation to some key technology areas, e.g. management of the storage area network.

**4.41** The contractor reported its concern that training for the IT technical staff had been delayed and that there was little opportunity for skills transfer to improve the ability of existing IT Unit staff to manage the new environment<sup>4</sup>. We also observed that training opportunities included under the leased hardware arrangement have not been taken up.

**4.42** Parliament's IT Manager resigned in May 2002 and left the organisation in June. The position was vacant until a new IT Manager arrived in August 2002. During the intervening period, the Project Sponsor acted as the IT Manager, and significant decisions about the system requirements and the Project were made. For example, the contractor was selected, the hardware to be used was chosen and the detailed technical definition of the system was finalised. These key decisions should have been made in consultation with an appropriately qualified IT Manager.

**4.43** The reliance on the contractor to implement the system without Parliament paying sufficient attention to recruiting experienced staff or training its IT Unit staff to use the new system was short-sighted and further evidence of poor project management.

## **Change management**

**4.44** Change of the size and complexity of that delivered through the Parlynet 2002 Project needs to be carefully managed and to follow a process designed to ensure staff and user "buy-in". When those staff or users are central to the areas being changed, it is particularly essential that their buy-in is secured.

**4.45** The contractor advised that when it sought assistance during the upgrade, some IT Unit staff did not always co-operate and were resistant to some of the changes being made. Generally, however, because of the nature of the contractor's role, the IT Unit staff were largely not involved with the upgrade until the new system was handed over to Parliament. We did not see that the Parlynet 2002 Project Manager sought to manage the culture, practices and processes of the IT Unit to align them with the needs of managing the new system.

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<sup>4</sup> *Parlynet 2002: Project Shutdown Report*, v. 1.0, 29 January 2003, pp. 11 and 57.

### **Establish an environment of trust with private vendors**

**4.46** The contractor established a committee to discuss operational matters and variations to the contract with the Project Sponsor, the Project Manager and a consultant who was originally engaged to advise Parliament in preparing the tender documents. (The consultant was subsequently retained to provide advice about managing the contract.) The committee met regularly, maintained records of its decisions and appeared to have been an effective method of communicating with the contractor.

### **Prudently manage knowledge and involve end-users**

**4.47** When problems were experienced with the Project, there was insufficient attention given to ensuring that users were made aware of action planned to address them. Although there were some attempts to involve end-users in the Project, there were mixed results, for example:

- In 2001, users at Parliament were invited to provide input to development of Parliament's IT strategy by identifying their business needs. However, there was no subsequent feedback to users about whether the needs identified through that process would be met by the system to be delivered through the Parlynet 2002 Project; and
- The Project Steering Committee decided that a reference group of 2 or 3 electorate office staff should be created as part of the evaluation of potential contractors. We found no evidence that this reference group was created or that it was used in the evaluation process.

**4.48** We also found that a communications plan was not developed for the Project. It was left up to the contractor to manage communications with users and other stakeholders.

**4.49** We believe that this aspect of project management was not managed well.

## **CONCLUSION AND RECOMMENDATION**

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**4.50** Assessment of the Project against themes for ensuring successful government IT projects shows that many of the aspects, both in terms of project governance and project management, were not adequately addressed. It was clear that those responsible did not recognise the complexity of what the Project was to achieve and the importance of good project management to achieving a successful outcome. As a result, some key risks to Parliament and the success of the Project were not adequately managed.

**4.51** Key aspects of project governance were not established at an early stage, for example, there was no one person or group who was accountable for the Project outcomes. The Project's scope was not clearly articulated, and the scope and budget were not constrained. The Project grew to be too large to be effectively delivered within the available time frame. Requirements to report to the Project Steering Committee on the Project's progress and financial position were not established.

**4.52** Management of the Project did not conform with best practice project management principles. Typical management tools such as a project plan and reports of progress against the plan, and a project budget and reports against the budget were not used. There was insufficient attention given to testing the performance of the system delivered, either before roll-out to the parliamentary precinct and to electorate offices across the State, or after the roll-out, and funding decisions were not properly based. Despite system performance problems, the contractor was released from the contract before the problems were resolved.

### **Recommendation**

**4.53** We recommend that Parliament use best practice principles for large IT projects in future to ensure that appropriate project governance and project management arrangements are established and used.

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## Part 5

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# Management of Parliament's administrative services

## INTRODUCTION

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**5.1** The Speaker of the Legislative Assembly and the President of the Legislative Council (the Presiding Officers) are responsible for the administrative arrangements of Parliament. They are supported by:

- The House Committee;
- The Clerks of the Legislative Assembly and the Legislative Council. Each Clerk has responsibility for managing their respective Chamber of the House. A parliamentary department has also been established to support each House (the Department of the Legislative Assembly and the Department of the Legislative Council); and
- Three other parliamentary departments; the Department of the Parliamentary Library, the Department of Parliamentary Debates and the Joint Services Department.

**5.2** This Part of the report examines the impact these administrative arrangements had on the implementation of the Parlynet 2002 Project.

## RESPONSIBILITIES AND ACCOUNTABILITIES FOR INFORMATION TECHNOLOGY

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### The House Committee and IT Sub-Committee

**5.3** The House Committee, established under the *Parliamentary Committees Act* 1968, is required, among other things, to advise the Speaker and, where appropriate, the President, on the management of parliamentary services, including anything concerned with information technology. Membership of the House Committee comprises the President and the Speaker as *ex officio* members and 11 appointed members (5 members of, and appointed by, the Council and 6 members of, and appointed by, the Assembly).

**5.4** In February 2000, the House Committee established an IT Sub-Committee to be chaired by the President of the Legislative Council and comprising members of the House Committee and co-opted Members of Parliament knowledgeable in IT. There are currently 5 members of the IT Sub-Committee, all of whom are also members of the House Committee. The President is not a member of the IT Sub-Committee.

### Committee involvement in the IT upgrade

**5.5** The Parlynet 2002 Project was a significant undertaking for Parliament and, in accordance with their legislative responsibilities, both the House Committee and its IT Sub-Committee had major roles in advising the Presiding Officers on key IT and Project-related matters. However, we found limited evidence of how those Committees fulfilled these roles.

**5.6** During the year to November 2002<sup>1</sup> (including the period of the Parlynet 2002 Project), the House Committee met 6 times. Our review of the minutes of the House Committee meetings indicated that, during this period:

- The House Committee resolved “acceptance and support” of Parliament’s IT Strategy<sup>2</sup>. However, the minutes of the meeting did not indicate that the Committee considered how the Strategy would be implemented beyond the 2002 “catch-up initiative” already underway; and
- Although the Committee was advised of decisions and action taken outside the Committee, by the Speaker or senior management, we saw no evidence that the Committee actively participated in monitoring the Project or played an advisory role to the Presiding Officers on key Project-related matters. For example,:
  - The Committee was not given, and did not request, a project charter, a project plan, a budget or other planning documents relating to the Parlynet 2002 Project. Therefore, the Committee was not in a position to assess progress against plans or to advise the Speaker on the Project or on other Project-related IT matters; and
  - Over a 4 month period, the Committee was provided with 3 different expected completion dates for the Parlynet 2002 Project. The minutes provided no indication of whether reasons were sought, or obtained, as to why the completion dates had changed.

### **Role of the IT Sub-Committee**

**5.7** We expected to find that the role and responsibilities of the IT Sub-Committee would be clearly articulated and might, for example, include:

- advising the Speaker and, where appropriate, the President, on IT policies and standards;
- ensuring that IT strategies are aligned with the needs and strategies of Parliament;
- monitoring the management of IT-related risks;
- monitoring IT operations (from a user perspective); and
- ensuring that the IT function contributes to achieving the organisation’s goals and strategies.

**5.8** We unable to find documentation relating to the role of the IT Sub-Committee.

**5.9** We note that the IT Sub-Committee did not meet between April 2001 and November 2002: the entire period of the Project development and proposed roll-out.

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<sup>1</sup> Under the *Parliamentary Committees Act* 1968, the House Committee [and its sub-committee/s] ceases to exist once the Legislative Assembly’s term has expired or the Assembly is dissolved. The House Committee, therefore, ceased to exist once the State election was called in November 2002. Following commencement of a new Parliament, new committees are established as, and when, considered appropriate.

<sup>2</sup> *Parliament of Victoria: IT Strategy*, November 2001.

## **Parlynet 2002 Project Steering Committee**

**5.10** Part 4 of this report examined the role of the Parlynet 2002 Project Steering Committee. We found that:

- its role was not clearly defined;
- accountability and reporting arrangements between the various parties and the Steering Committee were not established; and
- the Steering Committee did not manage the scope and approved additions to the Project beyond the initial scope.

**5.11** In the absence of any definition of the role of the Steering Committee, it is difficult to establish whether its functions were intended to extend beyond an advisory role to that of primary decision-maker. However, it is clear that the Committee took important decisions to expand the scope of the Project. The Committee met only once during the critical implementation stage of the Project.

**5.12** Part 4 of this report concluded that it was clear that those responsible, including the Steering Committee, did not recognise the complexity of the Project and the importance of good project management to achieving a successful outcome. Key aspects of project governance were not established at an early stage and, as a consequence, the Project grew to be too large to be effectively delivered within the available time frame.

## **Joint Services Department**

**5.13** The final component of the management framework for the project is the role of the Joint Services Department.

**5.14** In November 2000, the then Presiding Officers delegated all responsibilities and powers of the Secretary of the House Committee, including managing the Joint Services Department to the Clerks of the 2 Houses. In 2001, the positions of Director, Infrastructure Services and Director, Corporate Services were established to manage the day-to-day operations of the Department on behalf of the Clerks, who retained the overarching responsibility for the Department's management.

**5.15** The Director, Infrastructure Services was the Project Sponsor. The Business Systems Manager, Information Technology Unit was the Project Manager.

**5.16** Part 4 of this report concluded that best practice project management principles were generally not followed and, as a result, project management was poor.



## IMPLICATIONS OF THE MANAGEMENT FRAMEWORK ON THE SUCCESS OF THE PROJECT

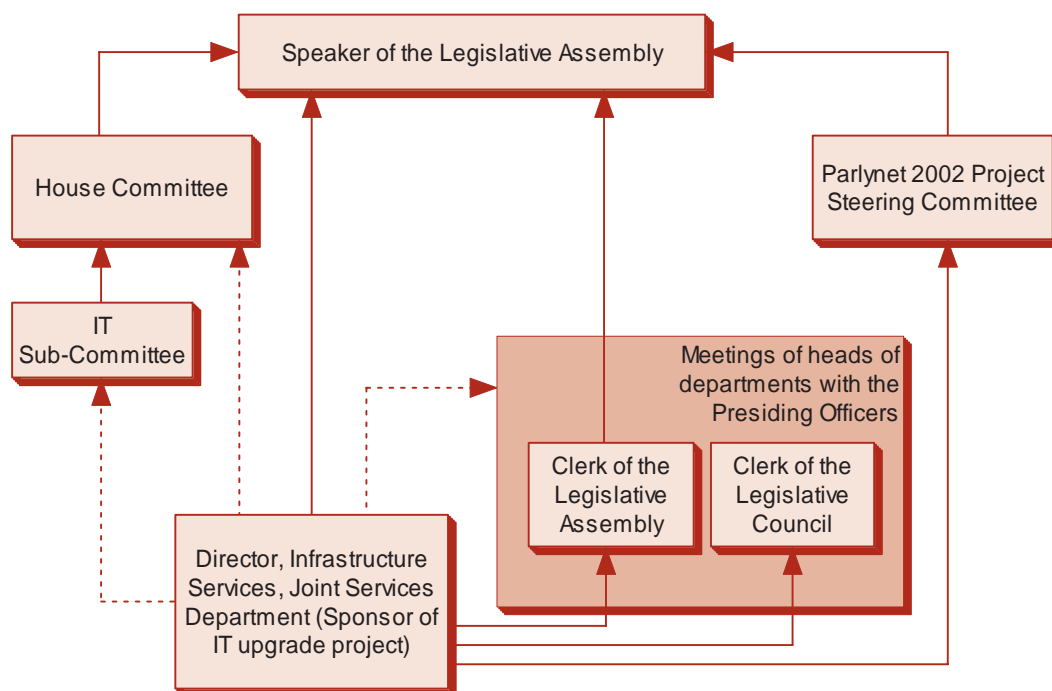
**5.17** During the implementation stage of the Project, the Project Sponsor was accountable to:

- the Speaker;
- the House Committee;
- the IT Sub-Committee of the House Committee;
- the Clerks of the Assembly and the Council; and
- the Parlynet 2002 Project Steering Committee.

**5.18** In addition, the Director, Infrastructure Services met with the heads of the parliamentary departments and the Presiding Officers as part of the normal day-to-day management of parliamentary services.

**5.19** Chart 5A outlines the responsibilities and accountabilities in place at Parliament during the Project and for the management of IT.

**CHART 5A  
RESPONSIBILITIES AND ACCOUNTABILITIES FOR MANAGING IT**



Source: Victorian Auditor-General's Office, based on information provided by the staff and Members of the Parliament of Victoria.

**5.20** Apart from the House Committee and its IT Sub-Committee, each of these persons or groups took on decision-making roles at various times during the Project.

**5.21** Accountability is most effective when delegation of authority is clear, and balanced with respect to responsibility and authority. For delegated authority to be clear and unambiguous, roles and responsibilities must be defined and understood by all decision-makers. It is important that assignment of responsibility to, and subsequent evaluation of, any person must occur through one role rather than multiple roles. The blurring of the responsibilities for decision-making and respective roles and responsibilities can mean that decision-making is confused and that accountability is diluted.

**5.22** Because of the multitude of reporting relationships for the Project, the accountabilities and responsibility were diffused and we believe impacted on the Project outcomes.

## **IT GOVERNANCE**

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**5.23** We reviewed aspects of IT governance at Parliament and identified the following areas for improvement:

- *Developing policies and standards.* There is only one endorsed IT policy in place to guide Parliament's IT activities. There is a need to develop further policies and standards to:
  - promote a positive control environment within the parliamentary departments;
  - set a framework for efficient, effective and consistent management of IT;
  - make users aware of their IT and system security responsibilities; and
  - guard against the loss of valuable knowledge when key IT personnel leave the organisation.

Policy development in areas such as information security, change management, and backup and disaster recovery planning is particularly important, as too is developing a process for compliance monitoring;

- *Developing business rules.* There are no business rules to limit the range of applications that may be loaded onto the system by users, or to limit the number or types of add-on equipment (e.g. handheld electronic diaries) to be used. To address this situation, business rules should be established which:
  - define the standard operating environment for the system and require that the environment be secured in order to protect the stability and security of the system;
  - establish desirable user behaviour standards;
  - set Help Desk performance standards; and
  - provide clear guidance for the management and maintenance of the network;

- *Considering risks from decentralised IT facilities.* The decentralisation of systems can affect the ability to establish a standard operating environment and to effectively administer the network and its physical and logical security. The location, control and administration of some key systems such as the webserver and Hansard database server are outside of the IT Unit's control. For example, IT Unit staff have no access to the separate computer room where they are located and physical backup tapes are not controlled by the IT Unit. Consideration needs to be given to whether the risks arising from the disparate responsibility for IT systems and the decentralisation of IT facilities are in the best interests of the organisation; and
- *Forward planning.* There has been a lack of planning for growth and future expansion and the likely impact on the performance capabilities of the wide-area network.

**5.24** As well as addressing the above matters, given the recent changes to the IT environment, we believe it is also timely to review Parliament's IT Strategy (developed in 2001), in order to provide a clear medium-term framework for governance and management of IT. It should include:

- an IT organisational strategy covering all key IT-related roles, responsibilities and accountabilities;
- a business processes and IT applications strategy covering the ways in which business improvements are to be supported by systems; and
- an IT infrastructure strategy covering the technology platform and systems architecture.

**5.25** The development of an IT Strategy comprising these features would facilitate:

- establishment of the likely resource requirements to achieve the objectives of the strategy;
- definition of the roles and responsibilities of the IT Unit and position descriptions for the Unit's staff;
- establishment of the training needs of IT staff to ensure that they have the necessary skills to support the current IT environment;
- identification of the training needs of users to ensure that they are adequately skilled to use the system's hardware and applications;
- identification of future capacity requirements for systems and the network, including bandwidth requirements for new projects; and
- establishment of service delivery standards and the requirements for periodic surveys of user satisfaction.

## RISK MANAGEMENT

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**5.26** An important element of the governance role is to ensure that an appropriate risk management strategy is in place for an organisation. It is common for risk management to be incorporated into strategic and business planning activities, and it is appropriate for it to be overseen by an organisation's audit and risk management committee.

**5.27** We are not aware of a co-ordinated risk management framework in place for the parliamentary departments, or that the Presiding Officers or the House Committee were fully appraised of the risks associated with the Parlynet 2002 Project, as its scope evolved and therefore could not take appropriate action.

**5.28** An effective risk management framework for the Project could have included:

- Audit and risk management committee monitoring (through internal audit) of the Project during the proposal stage, implementation and any post-implementation review;
- Development of a risk management plan for the Project as a whole. The contractor prepared a risk register for its work on the Project. However, a whole-of-project plan was not prepared, and as a result, early action on emerging problems was inadequate;
- Robust financial management controls, documenting those controls and establishing arrangements to monitor compliance. The lack of financial controls and monitoring contributed to the inability of the Joint Services Department to control, and reliably report on, the cost of the Project; and
- Independent quality assurance.

**5.29** The Joint Services Department's *Business Plan 2002-2003* indicated that a risk management audit of Parliament would be undertaken and a risk management strategy prepared, during the year. However, this was not achieved during 2002-03. We were advised that a risk management committee has recently been established and intends to undertake a risk assessment and develop the strategy, in the first 6 months of 2003-04.

**5.30** Our March 2003 report *Managing risk across the public sector* observed that the involvement of a audit and risk management committee is a critical factor in ensuring that an organisation has appropriate risk management strategies in place. During this audit, we noted that Parliament's audit committee met only once in each of the 2000-01, 2001-02 and 2002-03 years and did not examine Parliament's risk exposures or their management.

## FINANCIAL MANAGEMENT

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**5.31** Like public sector agencies in the General Government sector, the parliamentary departments are funded from annual appropriations. However, unlike the other agencies, the enabling legislation does not specify any applicable financial management requirements for the parliamentary departments. Management of the Joint Services Department advised that the 5 parliamentary departments follow the provisions of the *Financial Management Act 1994*, the regulations and the directions under the Act.

**5.32** However, apart from delegations for approving expenditure (authorised by the Speaker of the Legislative Assembly), there are no documented policies or procedures in place to guide financial management within the parliamentary departments. We were unable to locate policies and procedures for procurement, payments or budget management or that established financial management accountabilities and responsibilities.

**5.33** The absence of specific financial management policies and procedures and clear lines of accountability and responsibility contributed to many of the poor financial management practices evident in the management of the Parlynet 2002 Project.

**5.34** Appropriate policies and procedures for all aspects of Parliament's financial management and administration should be established and a comprehensive manual of accounting policies and procedures should be prepared and endorsed by the Presiding Officers, for the guidance of staff. Management should regularly monitor compliance with these policies and procedures.

### **Business planning**

**5.35** There was no requirement to develop a business plan for the Parlynet 2002 Project. The preparation of a business plan may have resulted in more realistic expectations about the size of the Project, appropriate time frames and likely costs.

## **ASSET MANAGEMENT**

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### **IT assets leased before the Parlynet 2002 Project**

**5.36** Under arrangements in place prior to the Parlynet 2002 Project, Parliament leased items of computer equipment under a lease negotiated by the Department of Treasury and Finance. In 2001-02, the cost of this lease was \$1.33 million. The Joint Services Department did not maintain detailed asset records for the leased items. Parliament returned many of these items to the lessor progressively, between September 2002 and June 2003. (New equipment introduced under the Project was either purchased or leased under new agreements, as discussed Part 3 of this report.) At the time that Parliament returned the equipment, it was difficult to locate some items and, as a result, additional costs were incurred.

**5.37** To 30 June 2003, additional costs of \$406 700 had been incurred in closing-out the lease for the following:

- *Extension of lease costs (additional cost of \$319 500).* To allow for the previously leased equipment to be brought together for return to the lessor, the pre-Parlynet 2002 lease was extended from October to December 2002 at a cost of around \$274 000. However, the Joint Services Department had difficulty locating and accounting for all of the items and the exercise took longer than anticipated, and the lease was further extended.

The upgrade involved commissioning new servers in the parliamentary precinct. It took considerable time to migrate existing data across to the new servers and to decommission the old ones. As a consequence, leasing costs for the old servers continued for longer than was planned.

Because of these matters, additional lease costs of \$319 500 were incurred between January 2003 and the end of 2002-03;

- *Costs to cover damaged, or missing parts of, equipment returned to the lessor (additional cost of \$42 200); and*
- *Leased items not returned (additional cost of \$45 000).* A total of 190 items of IT equipment were not returned to the lessor. This included some items of equipment that Parliament chose to retain, and other items that could not be located. The Joint Services Department reached an agreement with the lessor to purchase these items for a cost of around \$45 000 to finalise the lease. The Department was unable to explain to us how much of this amount related to the items that could not be located.

In November 2001, i.e. prior to the Parlynet 2002 Project, a consultant engaged to prepare Parliament's IT Strategy indicated that 40 laptop computers were unaccounted for. Joint Services Department advised us that at the time of closing out the pre-Parlynet 2002 lease, only 5 of the leased laptops were not returned to the lessor. We were unable to substantiate the number of leased assets not returned because the records of assets leased and assets returned were compiled on inconsistent bases, and therefore, could not be reliably matched. In addition, supporting documentation from the lessor could not be provided to enable us to conclusively determine the accuracy of the list of assets leased.

**5.38** A significant portion of the additional costs of closing-out the lease might have been avoided if comprehensive IT asset records were maintained.

### **Management of the IT upgrade assets**

**5.39** As previously mentioned, new equipment introduced under the Project was either purchased or leased under new agreements. During the Parlynet 2002 Project roll-out, an asset register comprising a list of the items issued and their locations was developed and updated by the contractor. We were advised that recent action by the IT Manager has revealed that the records prepared were inaccurate.

**5.40** Since roll-out, the performance of many laptop computers has been problematic and they have been returned to the IT Unit for repair. In these cases, replacement laptops have been provided to users. However, the asset register was not updated to reflect the equipment swaps. Consequently, the Joint Services Department is not effectively monitoring the IT assets under its control.

**5.41** Despite the lack of up-to-date records, management of the Joint Services Department estimates that around 160 laptop and 600 desktop computers have been rolled-out to Members, parliamentary staff and electorate office staff in the course of the Project.

**5.42** As a priority, the Joint Services Department needs to establish asset management policies and procedures, and develop comprehensive asset records to manage both, its owned and leased, IT assets, effectively. These records should include an asset register along the lines suggested in government guidelines applicable to public sector bodies and be subject to periodic asset verification/inspection procedures.

**5.43** In relation to leased assets, regular matching of lease invoices to the records should be undertaken, as well as periodic stocktakes, to ensure that problems in locating such assets do not recur and that payments made relate only to assets still held.

### **Recording software licences**

**5.44** The Project Manager assumed that users would be able to identify all software loaded on their computers and provide licence details. In practice, they were unable to do so. The existence and extent of non-standard applications found on computers during the Project contributed to delays in implementation because of the longer than anticipated time taken to migrate software and data to the new computers.

## **MANAGEMENT TRAIL**

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**5.45** It is essential to effective management that accurate and complete documentation about an organisation's activities are maintained. Such documentation can provide evidence that decisions made have been properly based and that action taken complies with established policies and procedures.

**5.46** We found that documentation relating to Parliament's IT upgrade was deficient. For example:

- Related documentation or quotes for hardware and leasing of the hardware had to be obtained from the contractor. We were unable to see original quotes from the hardware vendors themselves; and
- We were unable to determine whether the version of the Request for Tender document provided was in fact the final version.

**5.47** In addition, we were unable to find:

- Supporting documentation for leases of IT equipment entered into on behalf of Parliament before the Parlynet 2002 Project, but still current at the time of this review;
- Documentation of the arrangements for buying hardware, including whether the contractor or Joint Services Department was to buy it;
- Documentation of the decision to proceed with the roll-out of the upgrade. We were able to determine who communicated that decision but there was no audit trail relating to the important decision to proceed at the time of the November 2002 State election;
- The basis of the calculation of costs included in the May 2003 application for additional funding; and
- How the budget in the original funding submission to the Expenditure Review Committee was calculated.

**5.48** Because of the gaps in the documentation, and changes in personnel in the Joint Services Department over time, management was unable to adequately address a number of inquiries made by us either conclusively or, in a timely manner.

**5.49** There is a need to address the record keeping practices within the Joint Services Department.

## IT MANAGEMENT

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**5.50** A number of factors that affected the success of the IT upgrade and continue to affect the resolution of the system performance problems, can be addressed through improved IT management, as discussed below.

### Procedures

**5.51** We reviewed the approach to problem resolution within the IT Unit and found that:

- There are no formal requirements or guidelines for prioritising Help Desk calls. Without these, problems are unlikely to be consistently prioritised or dealt with on a timely basis;
- Specified service levels for resolution of user issues and problems have not been established for the Help Desk. The absence of established service levels is likely to impact on delivering services within acceptable user time frames; and
- There is no plan to fix systemic technical problems across the Parlynet system, and so resources have been applied to attempting to fix each reported problem individually.

**5.52** We also found that:

- A patch/upgrade management methodology does not currently exist. Upgrades to applications and the underlying operating system have occurred only on a limited basis since the Parlynet 2002 roll-out. Procedures should be developed to require that patches and upgrades are applied regularly to rectify system issues and problems as part of maintaining the integrity and performance of the standard user environment; and
- There are no standards or documented procedures for ongoing data maintenance, and so redundant and outdated data is stored, and duplicate contact management and asset databases exist. These databases hold conflicting data and, because of the duplication and quality problems mentioned, could be considered an inefficient use of resources.

**5.53** Policies need to be developed to address the above matters to improve the focus of problem resolution activities and resource management.



## Resource management

### Training

**5.54** Ongoing training of IT staff to ensure that they have the appropriate skills and experience to perform their duties is critical to operating and maintaining the system, timely resolution of system performance problems and the efficient use of resources. We looked at the skills base of the staff of the IT Unit and found that there is a need for training to:

- Enable effective use of specialised Help Desk software so that underused components (e.g. components to assist prioritisation, escalation and notification of problems) can be used to improve timely problem resolution;
- Enable effective use of monitoring tools to pro-actively support and troubleshoot the system; and
- Develop a multi-skilled work force. This will facilitate greater ownership of problems that previously crossed skill boundaries and reduce another factor that affected service delivery and problem resolution. It will also mean that key activities, including security management, can be dealt with by a greater number of the staff. This will have the added benefit of protecting the IT Unit against the effects of staff departures.

### Monitoring system performance

**5.55** Desired service levels for performance and availability of systems and the network have not been established for Parliament's IT system. This means that there are no targets against which to regularly assess its performance.

**5.56** We observed a number of inadequacies in monitoring of system performance by the IT Unit, relating to:

- Analysing current network traffic within the wide-area network;
- Testing and diagnosis of the operations of the standard operating environment;
- Analysing and reviewing Help Desk clearances (i.e. what problems are outstanding and what have been resolved). This means that Help Desk calls may go unnoticed and unresolved for an unacceptable period of time; and
- Ongoing monitoring of Help Desk activity and statistics. Monitoring and reporting of this information would assist in recognising and responding to broader issues and trends within the environment.

**5.57** In some cases, the practices identified above are currently not followed because of unmet training needs. However, in others the software tools necessary to conduct capacity planning and traffic analysis are not currently available. With the appropriate skills and tools the IT Unit could conduct analysis of data traffic patterns within the parliamentary precinct network and electorate office links, to determine traffic types, to identify unnecessary and inappropriate traffic travelling over these links, and take appropriate action to rectify any problems.

## **CONCLUSION AND RECOMMENDATIONS**

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**5.58** We believe that the unsatisfactory outcomes of the Parlynet 2002 Project were not only a result of poor project management but were also a product of wider issues related to the management of Parliament's administrative services.

**5.59** The management arrangements and responsibilities for the upgrade of Parliament's IT system were unclear. The senior officers of the Joint Services Department (including the Project Sponsor of the Parlynet 2002 Project) had up to 5 points of accountability, and their roles and responsibilities of the various players were not clearly defined. The potential for accountabilities and responsibility to become diffused was evident in the execution of the Project. This impacted on the effectiveness of the final outcome of the Project.

**5.60** Policy and strategy development needs greater attention to set the framework for day-to-day management. The Joint Services Department lacks strategies and policies to govern its IT and other functions. Its IT Unit staff require training to enable them to effectively and efficiently manage the new technologies introduced during the IT upgrade.

**5.61** Risk management has not been given appropriate attention and there are insufficient policies and procedures for effective asset and financial management, enabling poor practices to continue.

### **Recommendations**

**5.62** We recommend that Parliament review existing arrangements to manage its administrative services to ensure that:

- roles and responsibilities of officers, and terms of reference for committees, are established with clear responsibility for decision-making and providing advice;
- accountability is strengthened by rationalising the number of positions to whom officers report;
- risks to the organisation are identified and effectively managed; and
- minutes are kept, reasons for decisions documented and approvals noted.

**5.63** We recommend that Parliament's IT governance be improved by:

- reviewing the IT Strategy;
- developing and endorsing policies and standards to guide the full range of Parliament's IT activities;
- developing business rules to limit the range of applications and add-on equipment that will be supported in the standard operating environment;
- considering risks to the environment arising from decentralised IT facilities; and
- establishing forward plans for growth and future expansion.

**5.64** To improve its financial and asset management, we recommend that the Joint Services Department:

- explicitly adopt the provisions of the *Financial Management Act 1994*, the regulations under the Act, and the policies of the Victorian Government Purchasing Board;
- establish and maintain registers of assets, including owned and leased IT assets, and software licences; and
- establish appropriate procedures for financial and asset management, and internal controls to ensure compliance with established procedures.

**5.65** To improve the management of its IT operations, we recommend that the Joint Services Department:

- establish policies and obtain appropriate resources to improve its responsiveness to resolving IT problems;
  - develop short and long-term training strategies for staff within the IT Unit to ensure the currency of their skills to enable efficient and effective maintenance of the system; and
  - establish benchmarks and indicators for assessing the performance of IT operations, including:
    - system and network performance and availability;
    - performance of the Help Desk in resolving reported problems; and
    - security-related issues or incidents.
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# Appendix A

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## Conduct of the audit

## **AUDIT OBJECTIVE**

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The objective of the audit was to evaluate the management of the Parlynet 2002 Project and to assess whether key risks associated with the Project had been appropriately managed. In particular the audit:

- assessed the achievements of the Project against its deliverables, and the key factors affecting progress to date;
- assessed whether key risks associated with the Project had been appropriately managed; and
- determined whether action had been taken to address users' concerns, and the effective operation of the system in the future.

## **AUDIT SCOPE**

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The audit examined the progress of the Parlynet 2002 Project and the processes employed to manage the Project. This included:

- the extent to which sound IT project management principles were applied;
- the key issues affecting Project achievements; and
- the extent of problems experienced by users subsequent to the system roll-out.

The audit did not examine the tender process involved in selecting the contractor engaged for the Project, as the process is currently subject to legal dispute.

The audit quantified the costs associated with introducing Parlynet 2002 and assessed the extent of, and reasons for, the budget overrun.

Plans established for the ongoing management of the Parlynet system and to address problems identified to date were examined, and the audit aimed to provide management (but not technical) recommendations to overcome problems identified by the audit.

The audit included examinations within the Joint Services Department of Parliament and included:

- examinations of files and documentation and discussions with key personnel involved in the Parlynet 2002 Project; and
- discussions with systems users to discuss systems performance matters and a survey of users (refer to Appendix B of this report for details of the survey methodology).

## **PERIOD COVERED BY THE AUDIT**

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The audit covered the period from development of the Parlynet 2002 Project to date.

### **COMPLIANCE WITH AUDITING STANDARDS**

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The audit was performed in accordance with Australian Auditing Standards and, accordingly, included such tests and other procedures considered necessary in the circumstances.

### **ASSISTANCE TO THE AUDIT TEAM**

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Significant support and assistance was provided to my officers by staff of the Joint Services Department of Parliament. I wish to express my appreciation to these staff for this assistance.

I would also like to express appreciation to the Members of Parliament and their electorate office staff, and parliamentary officers and staff employed by the 5 parliamentary departments who provided valuable information relating to the Parlynet 2002 Project and the performance of the Parlynet network.

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# Appendix B

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## Survey methodology

## METHODOLOGY

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As a part of our examinations, we used a survey to gather the opinions of users of Parlynet about the system.

Staff from the Victorian Auditor-General's Office conducted the survey in May 2003. We administered the survey in electronic form for users to complete on their computers.

We sent the survey form to all 132 Members of Parliament and to 32 senior managers within the parliamentary departments. We asked Members of Parliament to respond on behalf of themselves and their staff in electorate offices. We asked managers within the parliamentary departments to respond on behalf of themselves and their staff.

A total of 60 people responded to the survey: 37 Members of Parliament and 23 managers. This represents an overall response rate of 28 per cent of parliamentarians and 72 per cent of managers.

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## Appendix C

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# Glossary of terms

## **GLOSSARY OF TERMS**

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### ***Application***

A program for end users, such as a word processing, spreadsheet or e-mail program. Applications depend on systems programs such as the operating system, and programs used to control the network, in order to function.

### ***Backup***

A copy of data or files, that can be used if the originals are destroyed or unavailable. Backup can also be the process of creating a copy of data or files.

### ***Backup application***

The software used to create a backup.

### ***Bandwidth***

The capacity of a cable, telecommunications link or wireless network. The bigger the bandwidth, the faster information is transferred. Bandwidth is often measured in bits per second, where a bit is the smallest possible piece of information.

### ***Capacity planning***

Using estimates of future business needs to determine the capacity of the network systems that will be required to support those needs.

### ***Hardware***

Physical components of computer systems, e.g. desktop and laptop computers, monitors, printers and servers.

### ***Log on***

Using an authentication method, such as a password, to gain access to a computer system.

### ***Network***

Several computers linked via cables, telephone lines, dedicated long-distance communication links or wireless systems, to share information.

### ***Non-standard applications***

Applications that are not tested and approved by the organisation, or are not part of the organisation's approved standard operating environment.

### **Operating system**

A master control program that runs the computer, and acts as its scheduler and traffic controller. It is the first program run when the computer is turned on, and it must reside in the computer's memory at all times. It controls basic tasks such as sending data to the display screen and organising files on disk.

### **Organisation for Economic Co-operation and Development (OECD)**

The OECD plays a prominent role in fostering good governance in the public service and in corporate activity. It helps governments to ensure the responsiveness of key economic areas with sectoral monitoring. The OECD consists of 30 member countries sharing a commitment to democratic government and market economy.

### **Parliamentary departments**

The parliamentary departments are the 5 departments that make up the administration of the Victorian Parliament, namely: the departments of the Legislative Assembly, the Legislative Council, the Parliamentary Library, and Parliamentary Debates (also referred to as Hansard) and the Joint Services Department.

### **Parliamentary precinct**

The parliamentary precinct comprises Parliament House and those buildings near Parliament House in Melbourne's central business district (e.g. 157 Spring Street and 35 Spring Street), which are occupied by parliamentary officers and staff.

### **Parlynet**

Parlynet is the Statewide communications network managed by the Victorian Parliament for use by staff of the 5 departments of Parliament, all Members of Parliament and staff in electorate offices.

### **Patch**

A patch is the immediate solution that is provided to users to repair problems in software. A patch is not necessarily the best solution for the problem. If the product developers find a better solution, they may include it when they release the next version of the software.

### **Patch management methodology**

Approved policies and procedures for planning, testing and implementing patches.

### **Power user**

A power user is a person whose job or position requires advanced or distinctive computer skills, or access to specialist applications that are over and above the standard applications used by the organisation's typical users.

### **Security**

Controls and procedures implemented to prevent unauthorised access to a system to protect the organisation's information.

### **Server**

Software that manages a network's resources. For example, a print server accepts requests for print jobs from individual computers on the network and sends them to a networked printer; a file server accepts requests for files from individual computers and serves the files to those computers.

Server also refers to the computer on which the server software resides.

### **Software**

Computer programs that control the operation of computer hardware. Programs include the operating system and applications including word processors and programs that control spreadsheets, graphics or emails.

### **Standard operating environment**

An agreed configuration of computer hardware and software established for an organisation. It typically includes a pre-configured operating system and all the standard business applications used within the organisation.

### **Standard user**

A standard user is person whose job or position requires computer skills typical of the organisation's users, and who needs access to the organisation's standard applications. In a secure networked environment, a standard user may have a higher security setting than a power user. For example, a power user may be granted rights to configure an application, or install new applications, whereas a standard user would be prevented from doing this.

### **Storage area network**

A storage area network is a high-speed special purpose network (or sub-network) that connects data storage devices with data servers on behalf of a large network of users.

### **Stress testing**

A method of testing in which a system or application is operated to its maximum design limits, for example by having many users operating the system simultaneously, or by attempting to overload the system with data. By stressing the application or system, defects and degradation of performance may be revealed, and testers can check for unacceptable loss of service or data.

**Traffic analysis**

A process that monitors traffic on a computer, tests the network for performance and faults, and provides data helpful for system configuration and management.

**User acceptance testing**

In developing and deploying a new system, user acceptance testing is a phase in which the intended users test the system to determine whether or not to accept it from its developers.

**Wide-area network**

A network that connects computers that are located over a wide geographical area. This contrasts with a local area network, which connects computers located in one building.

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