

Appendix D – Service Technical Details

3.0 MANAGED HOSTING

Benefits

- Redundant levels of protection against data loss which can be customized according to business needs
- Highly available environment through hardware configuration, system change management procedures and proactive monitoring for availability issues
- High performance environment through hardware configuration and proactive resource management
- Highly trained and experienced support staff who can address client requirements in a timely manner
- Significant cost savings through shared use of infrastructure and support structure
- Development/test environments which are as exact a duplicate of production environments as possible
- Service available on the private backbone and the Internet-accessible portion of the backbone
- Environment fully integrated with City-wide Active Directory security environment
- Application owners capable of performing common application security management tasks
- Environment regularly reviewed to ensure possible security exposures are addressed as soon as possible
- All hardware and software acquisition, support and renewal costs associated with the service are addressed within the service

Standard Services

Activities and Deliverables

- Work with clients to design an appropriate managed hosting solution based on their requirements
- Provide a clear, documented agreement
- Address all hardware and software acquisition, support and renewal costs and activities associated with providing the service
- Work with all involved support staff to resolve operational problems, as required
- Answer client queries about managed hosting environment
- Participate in testing application performance as an application or the managed hosting environment changes
- Coordinate and perform regular upgrades of managed hosting environment to improve functionality, availability, and performance
- Proactive monitoring of availability and performance of managed hosting environment
- Support research test environments as requested by clients or other computer support staff
- Resolve hosting environment problems reported by clients or other support staff
- Plan and implement backup and recovery processes for managed hosting environment
- Provide a robust standard environment for applications to use
- Review and implement enhancements to the security profile of the managed hosting environment
- Assist clients and application support groups in designing application security
- Provide multiple levels and kinds of back-ups that allow for:
 - No outage required to applications using managed hosting environment
 - Restoration of a portion of a managed hosting environment
 - Migration of data across managed hosting environment
 - Recovery to any point in time within the last week, up to the last hour of activity in the event of a complete server failure (for database hosting)
- Provide management of shared resources to minimize client impact on each other
- Integration of managed hosting security with City-wide Active Directory security environment

- High performance disk configuration on servers dedicated to certain elements of managed hosting service provision to ensure optimal application performance
- High-speed data transfer mechanisms between managed hosting platforms are available as part of this service.

Consulting Services

- *Technical*
Highly trained technical resources who are subject matter experts in the particular technical field that they support. They are available to performance any required technical support activities with the general activities defined as:
 - Installs, modifies, tests, and maintains systems software and hardware at local and remote sites, to provide an infrastructure for the City's information technology needs.
 - Analyzes and resolves system problems, ensuring established system availability and response time objectives are met.
 - Provides technical consultation on systems software and hardware.
 - Researches technical requirements and recommends solutions.
- *Management*
Senior technical/project management resources who have a combination of subject matter expertise and project management skills to assist with the design, implementation, integration and ongoing sustainment of highly complex technical environments.

Business Practices

Support Hours

- standard support hours are 08:00 - 17:00 Monday - Friday (excluding holidays)
- additional support hours can be arranged if required

Availability

- refer to detailed availability specifications (all calculated on an annual basis)
- availability calculations do not include any prescheduled maintenance activities which require outages

Performance

- provided system will meet predefined performance expectations
- refer to detailed service specifications (all calculated on an annual basis)
- performance calculations do not include any prescheduled periods where high resource consumption activities are taking place and which may impact application performance

Service Element Resource Levels

- CPU
 - current reference CPU (for 2006) is 3.0GHz Xeon Processor
 - actual CPU deployed may vary in some environments
 - CPU usage is measured by CPU used within 10 minute intervals
- Disk
 - RAID 1+0 for production Database
 - SCSI RAID 5 for all other environments (Web, Application Server, Server, File Share and development/test Database)
 - measured by total allocation to the application
 - does not include space required to support the application (such as exports, system logs, etc)
 - does not include 1GB of space required for dedicated database instance datafiles
- Memory
 - Refer to detailed service specifications
- Network Bandwidth
 - 4GB outbound/512MB inbound Internet connection transfer per month per isolated Web application

Backup/Recovery

- backup approach is designed to be able to recover to any daily backup point in the last week

- recovery to any point in time within the last week, up to the last hour of activity in the event of a complete server failure (for database hosting)
- additional charges may apply to excessive recovery requests or backup volumes which exceed environment norms

Infrastructure Upgrades

- upgrades to the hosting infrastructure occur approximately every 18 months
- all clients are required to participate in the upgrade process in a timely manner
- client initiated upgrades beyond this schedule may require additional charges

3.0 Managed Hosting

Service Element	Description	Large	Small	Virtual	
3.1 Server Platform	Memory (MB)	4GB	2GB	1GB	
	CPU (reference CPU)	200%	100%	50%	
	Disk	5GB	5GB	5GB	
	Availability Target (During Supported Hours)	99.0%	95.0%	90.0%	
	Availability Target (Outside Supported Hours)	80%	80%	60%	
	Performance Target	99.0%	95.0%	90.0%	
	Incident Rating Maximum	Urgent	High	Medium	
	Backup/Recovery Policy	****	***	**	
	Extended Support Available	7x24	7x16	N/A	
	Advanced Monitoring Available	Y	Y	N/A	
	Enhanced Availability Available	Y	Y	N/A	
	3.1.1.1 Server Environment	Price			
	3.1.1.2 Additional CPU (10%)	Price			
3.1.1.3 Additional Disk (1 GB)	Price				
3.1.1.4 Advanced Monitoring Available	Price				

Service Element	Description	Gold	Silver	Bronze	
3.2.1 Web Application	Memory (MB)	128	64	64	
	CPU	2%	1%	1%	
	Disk	1GB	500MB	256MB	
	Availability Target (During Supported Hours)	99.0%	95.0%	90.0%	
	Availability Target (Outside Supported Hours)	80%	80%	60%	
	Performance Target	99.0%	95.0%	90.0%	
	Incident Rating Maximum	Urgent	High	Medium	
	Backup/Recovery Policy	****	***	**	
	Extended Support Available	7x24	7x16	N/A	
	Advanced Monitoring Available	Y	Y	N/A	
	Enhanced Availability Available	Y	Y	N/A	
	3.2.1.1 Application Environment	Price			
	3.2.1.2 Additional CPU (10%)	Price			
3.2.1.3 Additional Disk (1 GB)	Price				
3.2.1.4 Advanced Monitoring Available	Price				

Service Element	Description	Gold	Silver	Bronze	
3.3.1 Database Hosting	Memory (MB)	256	128	128	
	CPU	2%	1%	1%	
	Disk	1GB	1GB	1GB	
	Availability Target (During Supported Hours)	99.0%	95.0%	90.0%	
	Availability Target (Outside Supported Hours)	80%	80%	60%	
	Performance Target	99.0%	95.0%	90.0%	
	Incident Rating Maximum	Urgent	High	Medium	
	Backup/Recovery Policy	****	***	**	
	Extended Support Available	7x24	7x16	N/A	
	Advanced Monitoring Available	Y	Y	N/A	
	Enhanced Availability Available	Y	Y	N/A	
	3.3.1.1 Application Environment	Price			
	3.3.1.2 Additional CPU (10%)	Price			
3.3.1.3 Additional Disk (1 GB)	Price				
3.3.1.4 Advanced Monitoring Available	Price				

Service Element	Description	Gold	Silver	Bronze
3.4.1 Application Server Hosting	Memory (MB)	512	256	128
	CPU	2%	1%	1%
	Disk	1GB	1GB	1GB
	Availability Target (During Supported Hours)	99.0%	95.0%	90.0%
	Availability Target (Outside Supported Hours)	80%	80%	60%
	Performance Target	99.0%	95.0%	90.0%
	Incident Rating Maximum	Urgent	High	Medium
	Backup/Recovery Policy	****	***	**
	Extended Support Available	7x24	7x16	N/A
	Advanced Monitoring Available	Y	Y	N/A
	Enhanced Availability Available	Y	Y	N/A
	3.4.1.1 Application Environment	Price		
	3.4.1.2 Additional CPU (10%)	Price		
3.4.1.3 Additional Disk (1 GB)	Price			
3.4.1.4 Advanced Monitoring Available	Price			

3.1.3 Data Centre Operations

Levels of service:

Bronze

Basic Co-location service.

Minimal Operational documentation

Basic Incident/Problem and Change Management processes

Device managed and supported by customer.

UPS power for Primary Power Supply

Non-UPS power for Secondary Power Supply (upgrade to UPS available)

Silver

Operational documentation created and maintained by Operations.

UPS power for Primary Power Supply

Non-UPS power for Secondary Power Supply (upgrade to UPS available)

Ad hoc recycles performed by Operations staff if required.

Full Incident/Problem and Change Management processes

UPS management software for emergency shutdowns.

Gold

Full Operational documentation created and maintained by Operations.

UPS power for Primary and Secondary Power Supplies.

Full Incident/Problem and Change Management processes

Regular and *ad hoc* recycles performed by Operations staff if required.

UPS management software for emergency shutdowns.