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Washtenaw County

Data Center Migration Services

August 1, 2008

Prepared for:

Washtenaw County
110 North Fourth Avenue
Ann Arbor, MI 48107-8645

Prepared by:

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EMC² SOW Number: WCDCMove072408

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Executive Summary

This Statement of Work ("SOW") No. WCDCMove072408 , with an effective date of July 24, 2008 (the "Effective Date"), is made between EMC ("Seller") and Washtenaw County, with offices at 110 North Fourth Avenue, Ann Arbor, MI ("Customer"). This SOW is issued pursuant to the terms of the Consulting and Training Services Agreement dated 12/20/06. This SOW sets forth the terms under which Washtenaw County has engaged EMC Corporation. This SOW shall define the scope of the Services and the Deliverables (as defined below) that EMC shall provide to Washtenaw County.

Washtenaw County is consolidating its current data center held IT infrastructure and applications from its Ann Arbor, MI data center to the City of Ann Arbor's data center. This proposal sets forth the terms under which Washtenaw County has engaged EMC Consulting to provide the consulting services described below. EMC utilizes an Application-centric methodology for migrating, consolidating, and divesting data centers focusing on moving application processing rather than just hardware. The results serve to minimize costs (i.e., balance costs vs. risks); allow for the cascading and repurposing of equipment; and also allow client to leverage refresh opportunities. The objectives of this project are:

- Validation of Washtenaw County Discovery and Analysis for 220 North Main St., Ann Arbor, MI Data Center

- Discovery and Analysis for 50 servers at 100 N. Fifth Avenue, Ann Arbor, MI Data Center

- Migration Planning for 220 North Main St., Ann Arbor, MI Data Center

- Migration Execution for 220 North Main St., Ann Arbor, MI Data Center

Included are the physical transportation costs for the actual migration events. Insurance costs for each transportation event is also included in the amount of five hundred thousand US dollars.

Project Approach & Timeline

For Washtenaw County, EMC will leverage the following delivery modules of the Data Center Migration framework to meet Washtenaw County's specific business and technical needs:

- Migration Discovery & Analysis Validation of the Washtenaw County data center environment, plus discovery and validation of the 50 servers located in the City of Ann Arbor data center environment

- Migration Planning

- Migration Implementation

Migration Discovery & Analysis Validation

Overview

EMC will perform a discovery and analysis validation of the environment and review the baseline understanding of Washtenaw County's current environment. Representatives from the server, network, and storage teams, as well as identified application or business owners, will be required to work with the EMC project team to validate the environment and provide detailed technical information about the environment's configuration. As part of this phase, it is EMC's understanding that a complete inventory of application and process interdependencies from the server, storage, and network teams, as well as information provided by the business functional area, is available from Washtenaw County. Please see Appendix A for a list of key identifiers Washtenaw County should include as part of their discovery.

Benefits

This step will provide EMC and Washtenaw County with an understanding of the business processes, functional purpose, supporting applications, and infrastructure within the scope of the datacenter move. This information will establish a baseline for Washtenaw County and EMC.

The discovery and analysis validation will serve the purpose of verifying that the application and process interdependencies are documented and well understood within the selected environment.

Tasks and Key Activities

EMC will perform the following Key Activities:

Phase	Key Activities	Expected Outcome/ Deliverables
PROJECT PLANNING	- Internal project review - Project planning - Work with key Washtenaw County Project Managers to plan out detailed project timeline, resources, communication plans and initial kickoff presentation. - Project kick off - Develop timeline for each required milestone understanding Washtenaw County's decision criteria	MS Project Plan including: - Tasks, dependencies and outputs - Resources - Timeframes - Milestones Project Governance Model Document - Project contact list & contact information - Communication documents timing and distribution list - Escalation procedures, contacts and timing, including notification of delays as a result of Washtenaw County or third parties not fulfilling their obligations. - Weekly Status Reporting Meeting with key project stakeholders - Bi-Weekly Status Reporting Meeting with Project Sponsor - Roles and Responsibility – Sponsor, Project Manager, and Individual contributors for both EMC and Washtenaw County Project deliverable and acceptance criteria matrix document Project Kick Off Presentation - Project scope & deliverables review - Project plan & customer resource review - Interview, workshop and data collection plan review - Distribute and review data collection worksheets and surveys - Project milestone & invoicing review

Phase	Key Activities	Expected Outcome/ Deliverables
DATA CORRELATION & VALIDATION	Conduct client workshop • Review migration data model, data elements needed and options to capture and validate with the client • Set up and conduct client workshop Validate following information as provided by Washtenaw County: • Business unit • Application information • Server information • Switch information • Storage information • Peripheral information • Network information • Facilities listing • Infrastructure/Environmentals • Primary application • Dependent applications listing detail • Dependent architecture listing detail • Escalation procedure (DBA, application support, network, etc.) Validate application and interdependency information: Collect risk data points from • Facilities risks • Scheduling risks • Resource risks • Vendor Participation Report Conduct data validation workshops and receive sign off on data from identified data owner	Architecture group reports outlining architecture that physically has to move together Vendor Participation Report • Outlining all vendors associated with equipment and software • Initial disposition of required participation with migration activities

Phase	Key Activities	Expected Outcome/ Deliverables

MIGRATION ANALYSIS	**Perform risk analysis**
	• Review data collected vs. risk points, perform risk analysis to determine potential risks or issues that could impact the migration
	• Review "forward schedule of changes" (FSC), and application change / freeze schedules and migration timelines to identify conflicts
	
	Prioritize risks
	• Review identified risks
	• Assign risk factor
	• Create prioritized risk report
	
	Develop risk mitigation plans
	• Develop risk mitigation plans for all identified risks
	• Review all risk mitigation plans with client and assign resources and timelines for resolution
	
	Develop Risk Report
	
	Develop Migration Bundle Report
	• Develop migration options and identify cost drivers
	• Develop migration options analysis for migration bundles
	
	Identify migration alternatives
	• Determine evaluation criteria
	• Weight evaluation criteria
	• Assess parallel data center considerations
	• Establish cost model
	
	Review migration options analysis with Washtenaw County
		Risk Report
		• Facilities risks
		• Scheduling risks
		• Resource risks
		• Risk analysis including:
		  – Network circuit dependencies
		  – Disaster recovery preparedness including current recovery methodology, hot site, cold site, data replication, tape recovery, etc.
		  – Facilities plan including readiness of target facility
		
		• Risk Mitigation Plan
		  – Matrix of identified risks, symptoms, and impacts associated with migration /consolidation efforts, prioritized based on the associated impact
		  – Scheduling analysis including conflicts at the application and application group level along with resolution options
		  – Risk mitigation options ranked by Risk Factor
		
		Migration Bundle Report outlining application groups that need to be migrated together based on hardware dependencies

Migration Planning

Overview

This phase is directed at developing alternative migration strategies that will enable Washtenaw County, to successfully migrate the target environment. A full spectrum of migration strategies will be evaluated to recommend a strategy that is consistent with the needs of the in-scope environment. Alternative strategies will be presented with corresponding pros and cons. Associated risks will be developed as well as a high-level implementation approach including estimated levels of effort.

Benefits

Washtenaw County will be able to leverage the identified migration alternatives to make sound decisions based on the appropriate level of information.

Tasks and Key Activities

EMC will perform the following Key Activities:

PHASE	KEY ACTIVITIES	DELIVERABLES

	• Work with server teams and backup team administrators to thoroughly understand their planned approach to create Recovery Images for in scope 220 North Main St.Data Center servers prior to move
	• Coordinate Washtenaw County technical and application subject matter experts (or vendors) to collect and validate required content (see Washtenaw County Activities and Deliverables section) to compile detailed run books for migration activities (specific server, application recovery, database shutdown/restart, networking, backup and SAN data and test plans to be provided by the Washtenaw County server, network, application, database, backup and SAN teams or their consultants) and will be compiled, tracked and verified for completeness by the project team defined in this Statement of Work
	  – Run books will be created in MS Excel
		• Compiled migration run books (MS Excel) with content provided by Washtenaw County subject matter experts for key migration activities including:
		  – Hardware shutdown procedures provided by the server teams
		  – Hardware disconnection and move readiness process provided by the server teams
		  – Hardware connection and certification process provided by the server teams
		  – IP addressing process defined by the networking, application and servers teams
		  – Server test procedures provided by the server teams
		  – Data migration procedures
		  – Final server Recovery Image creation process provided by the server and Backup teams

RUNBOOK DEVELOPMENT	– Run books will be shared with all stakeholders and migration resources and will document the integration points between the various layers of the technology stack as defined below on a server by server basis including:
	    o Server-by-server shut down, migration, and start up plans for hardware, software, and any related devices
		– Application and database shutdown procedures provided by the application and database teams
		  – Process to restart systems at target site provided by the server teams
		  – Process to re-initiate Open Systems connectivity to external vendors provided by application owners
		  – Infrastructure installation and testing procedures provided by the

PHASE	KEY ACTIVITIES	DELIVERABLES
	▪ Server hardware ▪ Databases (provided by Application Teams at a high level only, names of scripts etc, not actual command line) ▪ Applications (provided by Application Teams at a high level only, names of scripts etc, not actual command line) ▪ Network ▪ Storage ▪ Backup and Recovery Image creation	server teams

RUNBOOK DEVELOPMENT	o Required pre-migration activities
	o Change control procedures
	o Required equipment and migration tools
	o Washtenaw County expectations (customer business, technical and operational requirements)
	o Test plans
	o Verification procedures
	o Migration completion criteria
	o Post-implementation activities/responsibilities
	o Relevant contact information for all migration resources and escalation points (including cell phones and home phones).
	  ▪ Communication protocols
	  ▪ Documented escalation procedures
	o From origin data center (at 220 North Main St.Ann Arbor, MI) / To receiving data center (at 100 N. Fifth Avenue Ann Arbor, MI) include
	  ▪ Server from/to data
	  ▪ Storage from/to data
	  ▪ Network from/to data
	  ▪ Facility from/to data
	• Conduct up to 2 iterations of "table top" testing
	– EMC will conduct meetings and/or conference calls to review in detail the steps involved in the migration
	– Each server will have detailed plans and the walk through will ensure all parties agree and understand their roles, hand offs, escalation procedures, the communication plan, and roll back procedures.
	– EMC will revise run books based on
		– From origin data center (at 220 North Main St.Ann Arbor, MI) / To receiving data center (at 100 N. Fifth Avenue Ann Arbor, MI) list to include:
		  o Server from/to data
		  o Storage from/to data
		  o Network from/to data
		  o Facility from/to data
		– Quality Assurance procedures provided by Washtenaw County QA Team
		– Application test procedures provided by the application teams
		– Project contact list & contact information
		– Escalation procedures, contacts and timing
		– Required pre-migration activities
		  o Facilities
		  o Network (both WAN and LAN)
		  o Rack preparations
		  o Labeling
		• Updated Migration Run Books (MS Excel)
		– Updates resulting from table top reviews

PHASE	KEY ACTIVITIES	DELIVERABLES
	• findings during table top testing and distribute to all parties involved for review • Publish updated Run books	

INFRASTRUCTURE READINESS PLANNING	• Ensure timelines are understood by procurement and server/storage teams.
	• Coordinate Infrastructure Readiness activities across the Washtenaw County IT Organization to ensure that the infrastructure is ready in a timely manner to support the master migration schedule
	• Track Infrastructure Readiness planning and execution activities for the server group
	• Coordinate with Washtenaw County Data Center department to confirm receiving data center site readiness
		• Review Washtenaw County Data Center Report to verify completeness of receiving data center facility (100 N. Fifth Avenue Ann Arbor, MI) readiness and summarize (MS Word) for:
		  – Rack/Rail kits in place
		  – Power and cabling in place (to the rack level)
		  – Provide validation that all data center facility services are available, tested, and operational
		    o Power connections and circuits
		  – Building access (permissions, security, etc.)
		  – Physical access for equipment (roll-in paths, staging tools, etc.)
		  – Control Center ready
		  – Other requirements as identified by EMC and Washtenaw County
		• Updated project schedule, including key installation activities as identified by server, storage, and facilities teams (MS Project)

CONTINGENCY AND BACKOUT PLANNING	• Develop contingency plans - EMC will work with Washtenaw County support groups (server, application, network, DBA, storage, etc.) to create contingency plans to mitigate risks inherent in the migration process
	• Application and server teams own development of most contingency plans. This scope covers tracking of these plans, collating into one place and escalating if they are not being developed by Application team in a timely manner.
	• EMC will work with Washtenaw County to define back out plans specific to each server and application to be executed in the event of failure at the target site
	  – Risks and contingency plans
	  – Collect and review Disaster Recovery Site/Plan Readiness
	  – Review compliance issues produced by business owners
	  – Establish go/no go criteria
		– Updated Project Plan
		• Updated move event schedule to be published as required (MS Excel)
		• Contingency Plans (Excel)
		• Back Out Procedures and Requirements Report (MS Word/Excel Document)
		  – Defined process for rolling back migration of servers and/or storage, including communications plan, required resources, timing, etc.
		  – Washtenaw County and EMC approval and escalation requirements
		  – Effects of roll back to be identified for each migration event and cascading effect on overall schedule (contingency planning) and costs

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Migration Implementation

Overview

The objective of this phase is to achieve a target state that meets the strategy requirements while minimizing business impact.

Benefits

The benefits of these activities include helping Washtenaw County to:

- Successfully complete the consolidation / migration leveraging best practices and our extensive experience.
- Execute migration plans with minimized risk to continued business operations.

Tasks and Key Activities

EMC will perform the following Key Activities:

Migration Execution consists of three phases:

1. Pre-Migration
2. Migration
3. Post-Migration

Phase I – Pre-Migration

PHASE	KEY ACTIVITIES	DELIVERABLES
RUN BOOK COMPLETION	• EMC will provide a final table-top review of each migration run book. The final review will be targeted to occur no more than two weeks prior to each move event. The goal will be to ensure all changes have been captured and that all involved groups and individuals are in agreement with the migration steps. • EMC will publish final run books to application liaisons and supporting infrastructure teams resulting from the final table top reviews	• Final Table-top meetings and completed run books for each Move Group to include: – Agenda for final table-top reviews (MS PowerPoint) – Updated Final Migration Run books (MS Excel) – Updated Contingency Plans (MS Word or Excel) – Pre-migration activities (Excel) – Ticket information per Washtenaw County and appropriate vendors
PRE-MIGRATION PREPARATION	• Change Request Management – Verify Washtenaw County has logged all appropriate change requests – Verify EMC tickets are opened in advance of migration for Severity 1 escalation • EMC will conduct final move day coordination and communication – Confirmation of vendor assignments	• Confirmation and update of status for prerequisite tasks for each of the following groups: – Server – Storage – Database – Backups – Network – Vendors/Partners – Other groups as defined

PHASE	KEY ACTIVITIES	DELIVERABLES

	and availability
	– Communication with operational personnel
	– Validate project resources availability
	– Tools checklist
	– End user communications (i.e. Message to user community.)
	– Coordinate communication plan (i.e. Cell phone, pagers, text messaging, etc.)
	
	• EMC will track the progress of pre-migration activities
	– Ensure application functionality verification is performed by application owners
	– Ensure server/system functionality verification is performed by administrators
	– Ensure processes are occurring properly (i.e. change control, backup, etc.)
		• Pre-Migration Status Reporting
		– Track progress, issues, etc. (as per agreed-upon schedule in Communications Plan) (Email)
		  o Tasks completed
		  o Tasks in progress
		  o Tasks still planned
		  o Issues encountered and resolution
		– Update Migration Tracking dashboard included in the Migration Run Book (MS Excel)

Phase II – Migration

This Phase is directed at leveraging the data gathered during the Discovery and Analysis Validation Phase and the detailed migration run books developed during the Detailed Planning Phase. All of the planning and preparation will have laid the foundation for Washtenaw County to successfully migrate the data center within the project expected timelines.

Washtenaw County and EMC will confirm the target data center readiness, complete final preparation activities, and manage the execution of each migration move group according to the schedule.

EMC will perform the following activities:

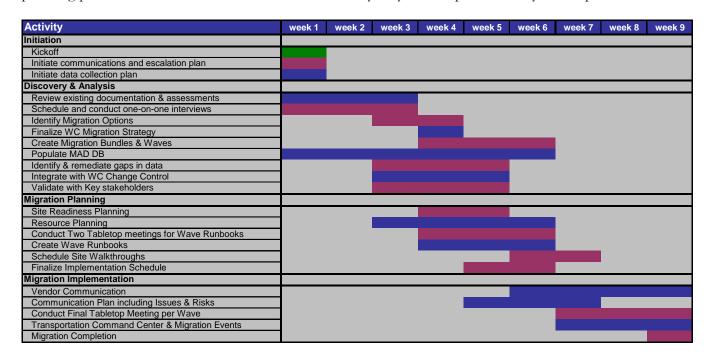| PHASE	KEY ACTIVITIES	DELIVERABLES
MIGRATION	- Verify and obtain sign-off for Go/No-Go Criteria - Manage application cutover and data migrations – EMC will staff and manage a migration command center - o Actively monitor bridge line - o Separate bridge lines will be opened for issue management and/or escalation - o Act as single point of contact for migration reporting for involved parties - o Act as a single point of contact for issue escalation and management – EMC will track, coordinate, and report on source data center activities - o Application shut down - o Database dumps - o Database shut downs - o Data backup - o Server shut down activities - o Storage replication (SAN) - o Equipment un-racking and packing - o Truck loading and send off – EMC will track, coordinate, and report on target data center activities - o Truck arrival and unloading - o Equipment unpacking racking, and cabling - o Server startup activities - o Storage checkout - o Database checkout - o Application startup and checkout – Transportation services, including Unrack/Rack, Pack/Unpack	- Complete migration activities per move group. For each move group, provide the following deliverables: – Go/No-Go Signoff Presentation (MS PowerPoint) – Migration Status Report - o Emails sent on move day tracking progress, issues, etc. (as per agreed-upon schedule in Communications Plan) (Email) ▪ Tasks completed ▪ Tasks in progress ▪ Tasks still planned ▪ Issues encountered and resolution - o Update Migration Tracking dashboard included in the Migration Run Book (MS Excel) - o Issues and resolution reporting for each move group in Migration Run Book (MS Excel)

Phase III – Post-Migration

PHASE	KEY ACTIVITIES	DELIVERABLES

POST-MIGRATION	• Create Lessons Learned report after each migration
	
	• Update Migration Dashboard with metrics from completed activities
	
	• Create and present Post-Migration Report
	  – Description of migration activities
	  – Description of issues encountered during the migration
	  – Steps taken to resolve and/or escalate issues
	  – Lessons learned to be applied to future migration events
		• Complete post-migration activities for each move group. For each move group, provide the following deliverables:
		  – Updated Migration Dashboard (MS Excel and/or MS PowerPoint) for each Wave
		  – Lessons Learned Report for each Wave
		  – Post-Migration Report (MS PowerPoint) for each Wave
		    o Issues encountered
		    o Resolution
		    o Lessons learned

Expected Timeline and Schedule

The Migration services in EMC's approach will be delivered across the timeline below in line with Washtenaw County's requirements. The Migration Execution timeline will be developed in collaboration with Washtenaw County's IT and application teams based upon the recommendations obtained during the planning phases. The actual number of move events may vary based upon the analysis completed.

Activity	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9
Initiation									
Kickoff									
Initiate communications and escalation plan									
Initiate data collection plan									
Discovery & Analysis									
Review existing documentation & assessments									
Schedule and conduct one-on-one interviews									
Identify Migration Options									
Finalize WC Migration Strategy									
Create Migration Bundles & Waves									
Populate MAD DB									
Identify & remediate gaps in data									
Integrate with WC Change Control									
Validate with Key stakeholders									
Migration Planning									
Site Readiness Planning									
Resource Planning									
Conduct Two Tabletop meetings for Wave Runbooks									
Create Wave Runbooks									
Schedule Site Walkthroughs									
Finalize Implementation Schedule									
Migration Implementation									
Vendor Communication									
Communication Plan including Issues & Risks									
Conduct Final Tabletop Meeting per Wave									
Transportation Command Center & Migration Events									
Migration Completion									

Project Scope

In Scope

The scope of this project includes:

- Discovery & Analysis of 50 City Servers

- Discovery Validation of 90 County Servers

- Migration Planning of 90 County Servers

- Migration Execution of 90 County Servers

Please see Appendix B for an inventory list of racks, storage, and servers that are considered in scope for this statement of work.

Assumptions

EMC has made the following assumptions:

- Washtenaw County has an accurate inventory for applications, servers, storage, and SME contact information. As part of the project, it is assumed that Washtenaw County will produce accurate system/storage inventories in an electronic form (Excel). EMC expects this information to be available prior to project kickoff for validation. Washtenaw County will be notified of any gaps which will need to be addressed before holding formal project kickoff.

- Washtenaw County will provide from_to information including, all server placement, network & storage provisioning information.

- Washtenaw County technical staff is available as determined by the Project Plan/Schedule.

- Washtenaw County will provide EMC with the necessary workspace, network connectivity, and access to a printer and phone.

- Washtenaw County will provide facility access to the EMC Team via normal security procedures. The EMC Project Manager will provide a schedule and list of Team Members to Washtenaw County in advance of being onsite to ensure efficient Security Checkpoint processing.

- EMC expects that Washtenaw County will provide requested data in a "softcopy" or electronic format via electronic mail. The parties will employ reasonable information security measures when electronically transferring any data or information between EMC and Washtenaw County.

- EMC will ensure that its employees and agents will, whenever on Washtenaw County 's premises, comply with Washtenaw County 's instructions, directions, standards and procedures.

- EMC will supplement the data collection process of the environment via standard tools. If the available toolset does not provide the data necessary EMC may request that Washtenaw County resources conduct necessary data collection via EMC provided scripts and/or tools.

- Washtenaw County will provide access to any infrastructure requirements to deploy environment discovery tools.

- All planning work will be performed from the 110 North Fourth Avenue, Ann Arbor, MI Data Center location for developing the deliverables. The target data center is located at 100 N. Fifth Avenue, Ann Arbor, MI 48107-8647.

- EMC will provide Washtenaw County current storage capacity utilization statistics for all SAN and non-SAN attached servers for verification the same capacity is needed in the target environment.

- Washtenaw County will identify a functional owner for each system within scope of the planning effort. This owner will make decisions regarding server downtime and migration schedule.

- Documents submitted to Washtenaw County for review (i.e. change control documentation or downtime waivers) will be accepted or rejected within three days. Along with a rejection an explanation will be included.

- EMC will not be required to support any applications or customizations to applications.

- Any software, equipment, or consulting tools, which may be furnished or utilized by EMC in the performance of these services, shall remain the property of EMC and shall be immediately returned to EMC upon its request or upon completion of the services, unless otherwise noted.

- EMC will not be responsible for any application, or host system access encompassing any coding, scripting, application analysis, troubleshooting, or application logins outside of the described response.

- Washtenaw County will provide all information requested of the business/application owners requested by EMC.

- Washtenaw County application, server, network, facilities, and database teams are ready and available to devote the time needed to support and perform the initial and detailed migration planning efforts.

- Washtenaw County application and database teams will provide detailed connectivity diagrams.

- Washtenaw County is responsible to make sure their resources are ready and available to participate in all meetings and complete all tasks asked of them in support of this engagement.

- EMC Project Managers will supply detailed project plans with associated critical milestones, dependencies, and task durations.

- If the scope of the environment as identified in the "In Scope" section changes (e.g. numbers of servers, numbers of applications, etc.) beyond the stated numbers included, the change order process will be initiated as identified in the "Change in Scope" section.

- EMC will manage up to 3 migration events. Each migration is not to exceed 48 contiguous hours.

- EMC will utilize the EMC Grab utility for discovery of the 50 City servers to collect detailed server information.

Scope Exclusions

EMC is responsible for performing only the Services described in this proposal. Services outside the scope include, but are not limited to:
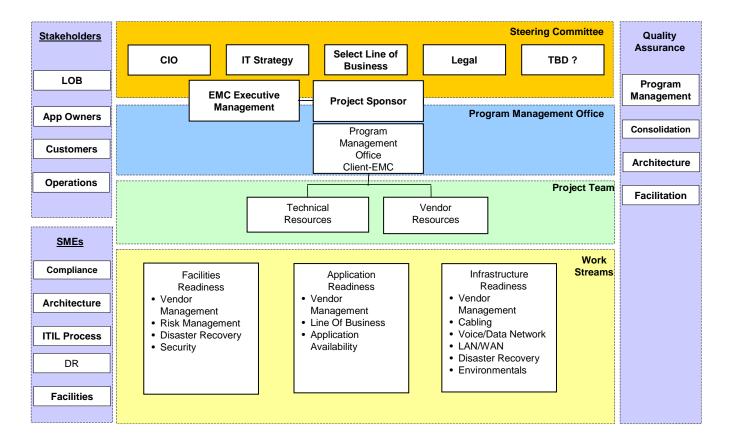
- Server performance tuning and monitoring.

- Network performance tuning and monitoring.

- Application customization.

- Application performance tuning and monitoring.

- DR/BC program management, testing scenarios and procedures related to Business Continuity.

- Any data centers outside those listed in Scope section of this SOW.

Project Organization

The project organization is comprised of resources from the following functional areas.

Stakeholders		Steering Committee	Quality Assurance
	CIO / IT Strategy / Select Line of Business / Legal / TBD ?		Program Management
LOB	EMC Executive Management / Project Sponsor		
App Owners		Program Management Office	Consolidation
Customers	Program Management Office Client-EMC		Architecture
Operations		Project Team	Facilitation

Project Team: Technical Resources / Vendor Resources

SMEs: Compliance, Architecture, ITIL Process, DR, Facilities

Work Streams:

Facilities Readiness
- Vendor Management
- Risk Management
- Disaster Recovery
- Security

Application Readiness
- Vendor Management
- Line Of Business
- Application Availability

Infrastructure Readiness
- Vendor Management
- Cabling
- Voice/Data Network
- LAN/WAN
- Disaster Recovery
- Environmentals

EMC Project Team

The EMC personnel assigned to this project will consist of the following roles. The general roles and responsibilities and number of consultants will vary depending on the current phase of the project.

EMC Personnel	Responsibilities
Project Manager	The EMC project manager will require access to senior leadership, has overall project budget responsibility, and has responsibility for the success of the project (client satisfaction, budget, schedule, etc.). The Project Manager will bring experience in the areas of data center consolidations and migrations. The EMC project manager will be an active participant in the project.
Technical Consultants	Responsible for the achievement of project deliverables and client satisfaction. Maintains the overall technical vision of the project and guides technical decision-making based on a client's technology strategy. Communicates and translates technical issues to client or project groups to secure buy-in. These persons will have advanced knowledge of heterogeneous products across several product groups and a wide and deep understanding of technology. Participates in data collection and analysis activities. Understands and drives business requirements definition to develop data center migration strategies, storage

	solution architecture strategies, design and implementation of storage solutions, and virtualization design and implementation services.
Program Manager / QA Lead (part-time)	Responsible for overall client satisfaction as well as quality assurance for the project.

EMC will staff the engagement team with highly qualified personnel. The team is specialized in Data Center Migrations and is familiar with all aspects of hardware, software and services associated with migrations. Washtenaw County will be given the opportunity to approve all proposed EMC resources. Upon request, resumes or bios will be distributed in advance of the start date. Additionally, interviews may be requested with any or all of the resources to be conducted by phone. Once the final team has been identified an organization chart will be made available at the project Kick-off meeting.

EMC will assign a Project Manager for this project to work side by side with Washtenaw County to ensure the highest quality project deliverables. Throughout the project, the EMC Project Manager will be the single point of contact for Washtenaw County.

Washtenaw County Resources

The EMC project team will need access to Washtenaw County business functions and IT departments and will need access to resources and supporting documentation as needed. EMC recognizes the resource and time constraints being experienced by Washtenaw County due to normal operations and will strive to keep Washtenaw County resource requirements (staff) to a minimum. EMC expects to have interactions with the following Washtenaw County resources:

Washtenaw County Personnel	Responsibilities
Executive Sponsor	Will be required to handle decision making and direction setting for the overall project. The executive sponsor should be available once a week to review the project status and make any requested changes.
Project Manager	Single point of contact.
Business Managers	The business managers will have subject matter expertise in their functional area. They will be able to provide processes, procedures, and information lifecycle details regarding the requirements to perform their work.
Application Owners and Developers	Application owners will have extensive knowledge about their business application, database, and/or scripts. Their role in communicating the platform and operating requirements will be critical to understanding the infrastructure dependencies.
Data Center Managers, Operators, System Administrators	Representatives from the server, storage, and network departments will be required. Additionally, specialists or knowledgeable technical resources may be required. These representatives will have intimate working knowledge of the environment, and will be able to provide EMC with the appropriate access to the facilities, systems, and networks in order to complete the project.

Project Guidelines

Washtenaw County's Responsibilities

Washtenaw County shall afford EMC access to Washtenaw County's staff at various times in the project but EMC is also aware that Washtenaw County's staff is dedicated to the daily operations of the facilities. EMC will make every reasonable effort to limit the demands on these people but Washtenaw County contacts may have critical knowledge of the operations and the business itself. This knowledge must be made available to EMC in a timely fashion, and is invaluable to the project's success. Prior to and/or during the engagement, Washtenaw County must:

- Ensure working conditions that are conducive for the successful completion of the project for the duration of this engagement, including:

  ♦ Suitable office space.

  ♦ Telephone access.

  ♦ Meeting facilities.

- Assign a Project Sponsor as the single point of contact for issue resolution, activity scheduling, interview scheduling, and information collection and dissemination. The Project Sponsor is responsible to ensure compliance with Washtenaw County 's obligations.

- Provide all pre-requisite information identified by EMC prior to start of engagement.

- Provide access to documents, staff and resources required to accurately perform the project.

- Ensure staff Subject Matter Experts (SME) assigned to the project are available at the scheduled times, and engaged for the project's duration as applicable.

- Complete questionnaires, surveys or worksheets in a timely manner.

- All required interviews are attended with an open mind and be able to discuss, openly and honestly, the active topics presented.

- Provide reasonable and timely access to and participation of key personnel, in accordance with the schedule mutually agreed upon during initial project planning.

- Provide access to the following information:

  ♦ Line of business and departmental organizational chart.

  ♦ Known legal & regulatory requirements that must be adhered to

  ♦ Any existing downtime information for processes or departments

  ♦ Existing application criticality, system priority, Recovery Time Objectives and Recovery Point Objectives

  ♦ Network and facilities diagrams

  ♦ Application listings

  ♦ Systems configurations

  ♦ Storage and infrastructure listings

- Timely review and approval of submitted deliverables

- Maintain the existing Program Governance and Steering committee model within two weeks of project initiation.

- Maintain the existing, or assign a new, single point of contact (Program Manager) for formal communications between EMC and Washtenaw County.

- Assign staff leads with specific project plan accountability for various PMO subtracts, such as testing, network, facilities, etc.

- Assign sufficient resources to work with EMC PMO resources on: Issues, Change Control, Risk Mitigation, Documentation, Service Level Management and Program Administration.

- Provide adequate work space for the EMC team for up to 5 persons with appropriate access for project duration: telephone, high speed internet access, network access to printers and copy machines.

- Provide facilities badge access to all Washtenaw County buildings and data centers as needed during the course of this project.

- Staff will attend the weekly status meeting/s prepared to discuss agenda items specified by EMC.

- Provide access to the Executive Sponsor on a weekly basis or within 48 hours in cases of emergency issue identification.

- Schedule resources requested by EMC within one week of request.

- Coordinate collection of data requested by EMC in a timely manner.

- Provide access to conference rooms with white boards as requested.

- Provide organizational charts for the application owners/managers and any direct lines of business.

- Provide any period processing and critical period calendars by application.

- Provide details about any projects in Washtenaw County that affect the data center or supported applications, planned or in process, specifically those that are equal to or higher in priority to the data center move.

- Provide access to Washtenaw County systems to perform technical discovery of all devices to be moved.

- Validate the data collected by EMC and attest to the accuracy of the Systems and Applications Mapping Database contents.

- Participate in workshops and planning sessions.

- Provide a project management resource and SME input to validate migration plans.

- Aid in the socialization of the Master Migration Plan within Washtenaw County business units.

- Review and approve EMC deliverable drafts and final Master Migration Plan within 3 business days of receiving them.

- Provide all available documentation related to the interfaces and flows of each application included in this engagement.

Mutual Responsibilities

In support of this effort, both EMC and Washtenaw County shall:

- Conduct project review meetings at a mutually agreed upon time and location to discuss the project status, issues, new requirements and overall project satisfaction.

- Support and provide representation at these meetings, which will cover performance status update, schedule update, pending changes, open issues and action items.

- Support Project Issue and Tracking Resolution, by using the EMC Project Issue Report to track and review issues.

- Coordinate any change to this SOW (whether cost impacting or not) with Washtenaw County 's Project Sponsor, and process them using the EMC Project Change Request Form supplied in a separate document.

- Collaborate with EMC to adjust project schedules and re-deploy resources in an expeditious manner in the event of schedule delays that are beyond the control of either party.

- Meet at the conclusion of this project to bring to closure the project and capture, discuss and resolve any project issues that may have arisen.

Change in Scope

Process

Any deviation or change in the scope of this service must be approved by Washtenaw County or an authorized designee thereof.

The EMC Project Manager has overall responsibility for the change process. When a change is desired, the requestor (EMC or Washtenaw County) notifies the EMC Project Manager who will:

- Prepare a preliminary Project Change Request Form to identify the nature of the requested change

- Acknowledge receipt of the Change Request

- Conduct an initial Impact Assessment to determine the effects, if any, on the service's schedule as well as any costs associated with utilizing resources to perform a full Change Request analysis. If the Impact Assessment indicates using resources to analyze the Change Request affects the services schedule or costs, EMC shall obtain Washtenaw County 's approval before performing the Change Request analysis

- Report the Change Request status in the Progress Reports

Review and Approval

If Washtenaw County approves a full Change Request analysis, EMC shall prepare a Project Change Request Form detailing the change and its justification for the change, directing the analysis effort to the appropriate resources. This analysis shall result in a final Project Change Request Form containing estimated cost, schedule and resource requirements, technical feasibility, and recommended disposition such as:

- Continue without adjusting current cost or delivery schedule

- Continue with impact to Washtenaw County 's cost of delivery schedule

- Recommendation as a follow-on project

If EMC finds the project not technically or economically feasible, an explanation will be provided detailing the reason.

EMC reviews the Project Change Request Form with Washtenaw County and it is marked as "accepted" or "withdrawn," and signed by both parties. If "accepted", consulting and implementation services are revised to include the agreed change(s) and the invoicing process is appropriately modified.

Progress Reports and Time Records

Unless otherwise agreed, EMC will send Washtenaw County a weekly report summarizing the work completed during such period, and the status of the work then in process, the status of any known problems or outstanding issues, and the status of open change requests, if any.

Non-Solicitation of Employees

During the term of this SOW and continuing through the first anniversary of the termination of this SOW, neither party shall actively solicit any employee of the other party who has performed any material work under this Agreement, and with whom the hiring party has had direct contact under this SOW, without the other party's written consent. Notwithstanding the foregoing, neither party shall be precluded from (i) hiring an employee of the other party who independently approaches the party, or (ii) conducting general recruiting activities, such as participation in job fairs or publishing advertisements in publications or on Web sites for general circulation.

Completion Criteria

The services to be performed during each Phase and the deliverable, if any, associated with the Phase are described above. Unless specifically stated otherwise, the acceptance criteria for each Phase will be successful completion of the applicable portion of the services and presentation of a conforming deliverable.

If at that time EMC, in its reasonable opinion, has fulfilled the acceptance for each Phase, EMC shall send Washtenaw County a written notification indicating Phase completion and requesting Washtenaw County's signature. If Washtenaw County is satisfied with the performance for that phase, its signature will indicate acceptance. If Washtenaw County indicates that EMC has not satisfactorily completed the phase, the parties will meet and use good faith to resolve difficulties. If Washtenaw County does not respond within seven (7) business days, the consulting services for the applicable Phase will be considered accepted.

Project Fees and Payment

Notices

With the exception of Purchase Orders, acknowledgements, invoices, payments and other usual and routine communications, all other notices or writings required or permitted under this SOW, including but not limited to notices of default or breach, shall be signed by an authorized representative of the sender, sent to the respective individuals identified below (which may be changed by written notice to the other), and shall be deemed to have been received (i) when hand delivered to such individuals by a representative of the sender, or (ii) three (3) days after having been sent postage prepaid, by registered or certified first class mail, return receipt requested, or (iii) when sent by electronic transmission, with written confirmation by the method of transmission, or (iv) one (1) day after deposit with an overnight carrier, with written verification of delivery.

Table 1.   Responsible Parties

For EMC	For Washtenaw County
EMC Corporation	Washtenaw County
176 South Street	110 North Fourth Avenue
Hopkinton, MA 01748	Ann Arbor, MI
Attn: Office of the General Counsel	Attn: Office of the General Counsel

Fees and Invoicing

The total value for the Services identified in this Statement of Work is USD $325,000 (inclusive of travel and related expenses).

Travel and related expenses incurred by EMC in its performance of the services hereunder are included in the stated fees.

The following fixed-fee USD pricing shall apply provided Washtenaw County agrees to be a reference for EMC as a result of this project. Until receipt thereof, neither party shall have any obligation to the other.

EMC shall invoice Washtenaw County, in accordance with the information provided in the following Schedule. The order of the milestones may vary from that in the schedule, but invoicing is triggered by Washtenaw County milestone acceptance.

Table 2.   Milestone / Event Schedule

Milestone / Event	Amount Due (USD)
Signature of this Statement of Work	$ 32,500
Payment due at end of Migration Discovery & Analysis Validation	$ 97,500
Payment due at start of Migration Planning	$ 97,500
Payment due at end of Migration Implementation & Project Completion	$ 97,500
Total	USD $325,000

EMC uses a standard Milestone Completion Form (MCF) as the basis for all services invoicing. If Washtenaw County signs the Milestone Completion Form, or does not file a written notice outlining any issues with work performed within seven (7) business days after receipt of the MCF, the Services shall be deemed to be delivered. EMC is authorized to issue the applicable invoice upon delivery of a signed MCF. Payment is due within thirty (30) days after the date of the invoice.

The results, accuracy, and contents of EMC's deliverables are dependent upon the content and accuracy of information provided by Washtenaw County. Once a schedule has been mutually agreed upon, EMC shall make reasonable efforts to accommodate changes requested by Washtenaw County.

Washtenaw County shall send the EMC Project Manager notice of postponements or delays at least ten business days in advance of the scheduled event. If EMC is not reasonably able to "work-around" the postponement or delay, especially in instances where the services require participation by Washtenaw County personnel that become unavailable, EMC is authorized to charge Washtenaw County , for time lost and additional expenses incurred due to such delays or postponements at EMC's then standard hourly rates (currently $250/hr plus expenses).

Authorization

This Statement of Work # WCDCMove072408 and the Consulting and Training Services Agreement between Washtenaw County and EMC Corporation ("EMC") executed on or about 12/20/06 ("Agreement") constitute the complete and exclusive agreement between EMC and Washtenaw County with regard to its subject matter, and supersede all prior oral or written proposals, agreements, representations and other communications between the parties with respect to the consulting and implementation services and shall prevail notwithstanding any different, conflicting or additional terms and conditions which may appear on any order or other document submitted by Washtenaw County .

All parties hereby acknowledge that they have read and do understand this SOW and all attachments hereto, and agree to all terms and conditions stated herein.

IN WITNESS WHEREOF, the parties have caused the Statement of Work to be signed on the respective dates indicated below.

For EMC	For Washtenaw County
Signature	Signature
Printed Name	Printed Name
Title	Title
Date	Date
	Purchase Order Number

Appendix A – Discovery Phase Key Identifiers

- Application Owner
    - Application Description / function
    - Time of day when application is accessed
    - User locations
    - Normal business cycle, peak time, freeze windows,
    - Major planned changes or upgrades
    - Interfaces to other applications or external providers
    - Dependencies to other applications
    - Validate key it support staff
    - Provide any existing documentation
- Contract Administrator
    - Evaluate licensing requirements (temporary and/or permanent)
    - Procure necessary licenses
- Server Administrator
    - Application to server mapping
    - Environment (Production, dev, test, QA, staging, sandbox…)
    - Version and vendor of application
    - Reoccurring outage windows
    - Storage capacity and utilization (SAN, DAS, NAS…)
    - Application reporting / monitoring tools in place
- Storage Administrator
    - Storage configuration
    - Storage capacity and utilization (SAN, DAS, NAS…)
- Disaster Recovery coordinator
    - RTO,RPO Requirements
    - Last DR test results
- Backup Administrator
    - Time and frequency of backups (full vs. incremental)
    - Backup environment (products, configuration)
- Database Administrator
    - Name, type, size and server hosting for each instance
- Network Administrators
    - LAN/WAN configuration
    - Application specific circuits (third party connections)

Appendix B – Washtenaw County Inventory

Rack		1-U	2_U	4U	6-U	10-U	12-U	40-U	PCs
1	WEBLINxxx	0	16	0	0	0	0	0	0
2	SAN - East	1	8	3	0	0	0	0	0
3	Security	10	4	0	0	0	0	0	0
4	Passport 1	0	0	3	0	0	1	0	0
5	Passport 2	0	0	0	0	0	1	0	0
6	Exchange	1	9	1	1	0	0	0	0
7	SAN - West	0	13	1	0	0	0	0	0
8	Term Serv	1	15	1	0	0	0	0	0
9	NC Routers	5	0	0	0	0	0	0	1
10	NC PCs	0	0	1	0	0	0	0	3
11	Stage down	0	1	3	0	0	0	0	0
12	HP	0	3	1	1	0	0	0	0
13	ATL-P1000	0	0	0	0	1	0	0	0
14	Celerra	0	0	0	0	0	0	1	0
15	EDL4100	0	0	0	0	0	0	1	0
16	Clariion	0	0	0	0	0	0	1	0
Work Station		0	0	0	0	0	0	0	9

Summary of inscope infrastructure to be moved:

- 90 Servers - with 13 Server racks
- 1-rack with a CX3-40 and a NS40G.
- 1-rack with a 4-node Centerra
- 1-rack with a DL4100