

# Davenport Group | ESRI System Architecture Assessment

## Are You Ready for Enterprise GIS?

The purpose of this assessment is to gather information about your organization's current IT environment, evaluate your goals and objectives, and identify any potential performance or implementation issues associated with deploying enterprise GIS. There may be questions in this assessment that are outside your domain. Please answer each question to the best of your ability; we will fill in gaps, if needed, at a later date.

Thank you for your interest in ESRI and Davenport Group. We look forward to assisting you with your GIS needs.

Please begin the assessment on the following page.



©Davenport Group 2008. All rights reserved.

## I. Your Organization

Help us understand your organization and your role:

- 1. Your industry:
  - Business
     Conservation
     Defense, Intelligence
     Education
     Architecture, Engineering, Construction
     Government (Federal)
     Government (State or Local)
     Healthcare
     Natural Resources
     Public Safety
     Transportation
     Utilities, Communications
     Other:
- 2. Organization Size:
  - Less than 25 employees
     25 49 employees
     50 99 employees
     100 199 employees
     200 499 employees
     500 999 employees
     1000 2499 employees
     2500 4999 employees
     5000 + employees
- 3. Size of jurisdiction population (government respondents only):
  - Less than 25,000
     25,000 49,999
     50,000 99,000
     100,000 249,999
     250,000 499,999
     500,000 999,999
     1,000,000 2,999,999
     3,000,000 4,999,999
     5,000,000+
- 4. Your Department:
- 5. Your Position or Title:

## I. Your Applications

Help us understand how your organization uses IT and GIS today. The more detail you provide, the better we will understand your current environment.

VYesNoYesNoAccounting/Financial Systems </th <th>What software applications are in use throughout your organization? (Check all that apply)</th> <th>How many users</th> <th>y applic</th> <th>ation</th> <th>If yes, how many of the users edit GIS?</th> <th>to G</th> <th>plans iIS- le in</th>	What software applications are in use throughout your organization? (Check all that apply)	How many users	y applic	ation	If yes, how many of the users edit GIS?	to G	plans iIS- le in
Accounting/Financial Systems		1/	Vas	No			
Agenda Preparation	A approximating /Financial Systems						
Agricultural Management							
Apprecial/CAMA							
Asset Management							
Budget       Image: Sinter Sinte			<u>H</u>				
Business Intelligence	5						
Business Licensing							
Candidate Filing			<u> </u>				
Campaign Finance/Reporting			<u> </u>				
Code Enforcement							
Computer Aided Dispatch       Image and the second se							
Court Systems							
Customer Relations Management							
Defense/Military							
Document Management							
e-Commerce			<u> </u>				
e-Government			<u> </u>				
Engineering/CAD							
ERP/SAP							
Executive Dashboard							
Facility Management	•						
Field/Incident Reporting							
Fire/Emergency Management			<u>H</u>				
Fleet Management			<u> </u>				
HR/Personnel Management							
Inventory Control			<u> </u>				
Jail Management							
Jury Management							
Land Records Management   Land Surveying   Mapping   Motor Vehicle Tax   Property Tax   Property Tax   Public Safety/RMS   Purchasing   SCADA   Tax Billing IVR   Time & Attendance   Transportation   Utility Billing   Voter Registration   Work Orders							
Land Surveying   Mapping   Motor Vehicle Tax   Property Tax   Public Safety/RMS   Purchasing   SCADA   Tax Billing IVR   Time & Attendance   Transportation   Utility Billing   Voter Registration   Work Orders			<u>H</u>				
Mapping       Image: Constraint of the second							
Motor Vehicle Tax       Image: Collections       Image: Collections         Puse Attendance       Image: Collections       Image: Collections         Tax Billing IVR       Image: Collections       Image: Collections         Time & Attendance       Image: Collections       Image: Collections         Vitility Billing       Image: Collections       Image: Collections         Tax Billing IVR       Image: Collections       Image: Collections         Time & Attendance       Image: Collections       Image: Collections         Vitility Billing       Image: Collections       Image: Collections         Voter Registration       Image: Collections       Image: Collections         Image: Collections       Image: Collections       Image: Collections         Image: Collections       Image: Collections       Image: Collections         Image: Collections       Image: Collections       Image: Collections			<u> </u>				
Property Tax   Public Safety/RMS   Purchasing   Purchasing   SCADA   SCADA   Tax Billing & Collections   Tax Billing IVR   Image: State and ance   Transportation   Utility Billing   Voter Registration   Work Orders			<u> </u>				
Public Safety/RMS							
Purchasing							
SCADA							
Tax Billing & Collections							
Tax Billing IVR     Image: Constraint of the second s			<u> </u>				
Time & Attendance     Image: Constraint of the second	-						
Transportation     Image: Constraint of the system       Utility Billing     Image: Constraint of the system       Voter Registration     Image: Constraint of the system       Work Orders     Image: Constraint of the system							
Utility Billing     Image: Constraint of the second s							
Voter Registration    Work Orders			<u> </u>				
Work Orders			<u> </u>				
			<u> </u>				
	Other (specify)		<u> </u>	<u> </u>			<u> </u>

Davenport Group | ESRI System Architecture Assessment

What software applications are in use throughout your organization? (Check all that apply)		How many users?	ls t applic GIS ena	ation	If yes, how many of the users edit GIS?	lf no there to C enab the fu	BIS- le in
	$\checkmark$		Yes	Νο		Yes	No
Other (specify)							
Other (specify)							
Other (specify)							
Other (specify)							
Other (specify)							

6. What GIS applications are used? (Check all that apply and indicate license type.)

GIS Applications		Number	of Licenses
	$\checkmark$		
Desktop GIS		Single	Floating / Concurrent
ArcInfo		N/A	
ArcEditor		N/A	
ArcView			
ArcReader			N/A
ArcExplorer			N/A
ArcGIS Engine Runtime			N/A
ArcView GIS (3.x)			
MapObjects		N/A	
Other (specify)			
Server GIS			
ArcGIS Server Advanced			
ArcGIS Server Standard			
ArcGIS Server Basic			
ArcSDE			
ArcIMS			
ArcGIS Image Server			
Other (specify)			
Mobile GIS			
ArcGIS Mobile (SmartClient)			
ArcPad			
StreetMap Mobile Software (SDK)			
ArcInfo			
ArcEditor			
ArcView			
ArcReader			
ArcExplorer			
ArcGIS Engine Runtime			
ArcView GIS (3.x)			
MapObjects			

GIS Applications		Number of Licenses
	$\checkmark$	
Other (specify)		
Online GIS		
ArcGIS Online		
ArcWeb Services		
Other (specify)		
3 <sup>rd</sup> Party Access		
AutoCad		
Microstation		
OGC clients (specify)		
Other (specify)		

#### 7. What is your IT organizational model?

- Centralized (single IT manager/authority)
- Cooperative (any multi-jurisdictional authority, e.g. a steering committee)
- Distributed (department-level authority)
- Disjointed (multiple authorities without coordination)

#### 8. What is your GIS organizational model?

- Centralized (single GIS manager/authority)
- Cooperative (any multi-jurisdictional authority, e.g. a steering committee)
- Distributed (department-level authority)
- Disjointed (multiple authorities without)
- 9. Is GIS part of the IT department?

🗌 Yes
-------

🗌 No

□ Not sure

#### 10. If no, in what department is GIS located?

## II. - Your Environment

Tell us all you can about your IT environment. We understand you may not be an IT person but do the best you can. If you do not know the answer, check "not sure" and move on to the next question. The more detail you provide the better we will understand your organization's IT environment.

11. How many servers do you have in your primary data center? Select one.

Less than	5
5-25	
25-50	
50-100	
100+	
Not sure	

12. How many servers support GIS? Select one.

	<ul> <li>None</li> <li>2-5</li> <li>5-9</li> <li>10-14</li> <li>15-24</li> </ul>		□ 25-29 □ 50-99 □ 100+ □ Not sure	
13.	Do you have more than one data cer	nter?		
	Yes	🗌 No		□ Not sure
14.	If yes, how many additional sites do	you have?		
	□ 1 □ 2 □ 3		☐ 4 ☐ 5+ ☐ Not sure	
15.	Do you use DAS (Direct Attached St	orage)?		
	Yes	🗌 No		□ Not sure
16.	If yes, please list brand, model, and c	apacity.		
17.	Do you use NAS (Network Attached	Storage)?		



Davenport Group   ESRI System Architecture	Assessment	
18. If yes, please list brand, model, and	capacity.	
19. Do you use a SAN (Storage Area Ne	twork)?	
Yes	🗌 No	□ Not sure
20. If yes, please list brand, model, and c	capacity.	
21. How much storage do you currently	have? Select one.	
<ul> <li>Less than 500GB</li> <li>500-750GB</li> <li>750GB-1TB</li> <li>1-2TB</li> <li>2-4TB</li> <li>4-6TB</li> <li>6-10TB</li> </ul>	<ul> <li>☐ 10-15TB</li> <li>☐ 15-25TB</li> <li>☐ 25-50TB</li> <li>☐ 50-100TB</li> <li>☐ 100TB+</li> <li>☐ Not sure</li> </ul>	
22. How much storage do you anticipate	e adding in the next 12 months?	Select one.
<ul> <li>Less than 500GB</li> <li>500-750GB</li> <li>750GB-1TB</li> <li>1-2TB</li> <li>2-4TB</li> <li>4-6TB</li> <li>6-10TB</li> </ul>	<ul> <li>10-15TB</li> <li>15-25TB</li> <li>25-50TB</li> <li>50-100TB</li> <li>100TB+</li> <li>Not sure</li> </ul>	
23. Approximately how much of your to	tal storage is currently in use?	
<ul> <li>Less than 25%</li> <li>25-49%</li> <li>50-74%</li> </ul>	☐ 75-89% ☐ 90-100% ☐ Not sure	
24. Which of the following Operating Sy	stems (OS) do you use? (Checl	all that apply.)
<ul> <li>Windows</li> <li>Novell</li> <li>Linux</li> <li>Sun</li> </ul>	<ul> <li>UNIX</li> <li>Other</li> <li>Not sure</li> </ul>	
25. Describe your network environment,	both LAN and WAN.	

26. Does your organization support VPN access over WAN environments, dial-up access to central computer facilities, or any other access to their internal LAN/WAN environment?

	Yes	🗌 No		□ Not sure
27. lf	yes, please describe.			
28. Is	your data stored on database or fil	e servers?		
	<ul> <li>File Servers (Shape Files/Cov</li> <li>DBMS (SDE/Geodatabases)</li> <li>Not sure</li> </ul>	erages)		
29. Do	o you use any of the following DBM	IS database appl	ications? (checl	( all that apply)
	<ul> <li>Oracle</li> <li>Microsoft SQL</li> <li>My SQL</li> <li>Oracle Spatial</li> </ul>		<ul><li>Other</li><li>Not sure</li></ul>	
30. Do	o you use server virtualization?			
	Yes	🗌 No		□ Not sure
31. If	yes, which virtualization technolog	y do you use?		
32. Ho	<ul> <li>VMWare</li> <li>Microsoft Virtual Server</li> <li>Virtual Iron</li> <li>Vou manage backup?</li> </ul>		<ul><li>Other</li><li>Not sure</li></ul>	
	<ul> <li>Tape</li> <li>Back-up Appliance</li> <li>Web/Service Provider</li> <li>Replication</li> </ul>		<ul><li>Other</li><li>Not sure</li></ul>	
33. W	hat backup software do you use?	(Select one)		
	<ul> <li>None</li> <li>Veritas Net Backup</li> <li>Veritas Backup Exec</li> <li>Legato</li> </ul>		☐ CA ☐ Other ☐ Not sure	
34. E	Do you keep a copy of your backup	offsite?		
	Yes	🗌 No		□ Not sure
35. If	yes, how current is the copy?			

36. Do you test your backup ar	nd recovery?	
Yes	🗌 No	☐ Not sure
37. If yes, how do you test it?		
38. Do you have a disaster reco	overy plan?	
Yes	🗌 No	☐ Not sure
39. If yes, how often do you tes	st it?	

### III. -Challenges, Opportunities, Constraints

Tell us all you can about the challenges you face and your projects and plans for the future.

40. Which areas of IT and/or GIS present the biggest challenges? (Check all that apply.)

Data growth	Limited staffing
Storage capacity	🗌 Other
Backup and recovery	🗌 Not sure
Network performance	
Aging infrastructure	

41. Specifically, what are your organization's biggest pain points?

42. What types of IT projects do you plan to implement in the next 24 months? (Check all that apply.)



Network infrastructure ] Backup Disaster recovery

Virtualization
Other
Not sure

43. What types of GIS projects are you planning to implement in the next 24 months? (Check all that apply.)

Migration to ArcGIS Server	Computer Aided Dispatch Integration
Ortho-imagery	CAMA Integration
	Elections/Voting System Integration
Pictometry	Public Health Integration
Executive Dashboard	Environmental Health Permit Integration
SCADA Integration	Real Estate/Property Management I
Work Order Integration	Land Development Integration
Asset Management Integration	ERP/SAP Integration
Business Intelligence Integration	Transportation Systems Integration
Public Safety Integration	Not sure
Web project (Describe)	🗌 Other
Mapping project (Describe)	Mobile project (Describe)

44. Does your organization have a standard O/S platform for desktops?

	Yes	🗌 No	□ Not sure
45. lf	yes, indicate the platform:		
	<ul> <li>Windows</li> <li>Unix</li> <li>Other</li> </ul>	Linux SUN	
46. D	ooes your organization have a standa	ard O/S platform for servers?	
	☐ Yes ☐ No ☐ Not sure		
47. If	yes, indicate the platform:		
	<ul> <li>Windows</li> <li>Unix</li> <li>Other</li> </ul>	☐ Linux ☐ SUN	
48. D	oes your organization have a standa	ard database management sys	stem (DBMS)?
	Yes	🗌 No	□ Not sure
49.	If yes, indicate the DBMS:		
	<ul> <li>☐ Microsoft SQL</li> <li>☐ Oracle</li> <li>☐ MySQL</li> </ul>	🗌 Other	

#### Tell us about your data and system availability requirements:

50. How important is it that data and systems be available during "normal" business hours (i.e. Monday - Friday, 8:30 AM to 5 PM) (Check one.)



☐ Very important Somewhat important Not important

51. How important is it that data and systems be available 24 hours a day, 7 days a week? (Check one.)



Very important Somewhat important Not important

52. What type of web access security does your organization use?

Reverse proxy
Authentications
Firewalls
Not sure

#### Tell us about your connectivity:

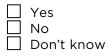
53. What type of connectivity do you have between departments/facilities? (Check all that apply.)

54. What type of connectivity do you have to the Internet? (Check all that apply):

DSL T1 (1.544Mbps)	Cable
T3 (45Mbps)	🔲 Dial-up
Fractional T1 (256+) Metro-Ethernet (10Gbps+)	☐ None ☐ Don't know

55. Does your organization have adequate bandwidth to support current web services?

Internally (for departmental/Intranet users)



Externally (for public/Internet users)

Yes	
No	
Don't	know

56. Based on existing projects and plans, will your organization have adequate bandwidth to support web services one year from now?

Internally (for departmental/Intranet users)

Yes
No
Don't know

Externally (for public/Internet users)

Yes
No
Don't know

57. Do you run batch processes during the day?

Yes	
No	
Don't	know

58. If yes, how does this impact system performance for other users?

59. Do you run backups during the day?

know

Yes
No
Don't

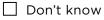
60. If yes, how does this impact system performance for other users?

61. Do you support a printed map facility?

Yes	
No	
Don't	know

62. Do you support an interactive map production service?





- 63. If yes, how does this impact system performance for other users?
- 64. How many concurrent users access dynamic GIS mapping services? (e.g. users of ArcIMS Server)



15-19
20+
None

65. How many concurrent users access cached services? (Only available in ArcGIS Server.)

1-10	31-49
11-20	50+
21-30	🗌 None

66. How many concurrent users access mash-ups/fused services?

1-4	🗌 15-19
5-9	20-30
10-14	31+

67. How many concurrent editors?

1-4	15-19
5-9	20-30
10-14	31+

68. How would you characterize the majority of your edits? (Mostly short transactions, e.g. quick attribute changes; or long transactions, e.g. COGO subdivision entries?)

69. How current must your maps be?

70. Is the database exclusive for GIS or shared with other applications?

GIS exclusive
Shared
Not sure

71. Is there perceived value in moving from printed maps to interactive maps?

Yes
No

Already doing this
 Not sure

72. Would staff be likely to use SmartPhones, PDAs or other handheld devices to access maps in the field?

Yes
No

Already doing this Not sure

- 73. Would field crews be accepting of field data entry through mobile devices if their edits were directly approved and accessible?
  - ] Yes ] No

Already doing this
Not sure

## V. Support and Staffing

74. How does your organization currently support hardware and software? (Select all that apply.)



Maintenance Agreements
 Not sure
 Other

75. How does your organization support networks or maintain user accounts across the enterprise? (Select all that apply.)

☐ Self-support ☐ Contractors	☐ Not sure ☐ Other
IT staff	
Maintenance Agreements	

76. Identify any standards or strategic initiatives related to support that could impact GIS.

77. What specific positions provide IT or GIS support (check all that apply):

IT Help DeskDBAsPC TechniciansOther IT staffNetwork Admin/TechsGIS TechniciansStorage Admin/TechsGIS CoordinatorsProgrammersGIS AnalystsSystem AdministratorsMapping TechniciansSystem AnalystsOther GIS staff

78. What specific training investments have been made to support IT/GIS personnel?

Self-study
 Virtual campus courses
 Instructor-led courses (onsite)
 Instructor-led courses (offsite)
 Training by consultants
 Online seminars/webinars
 Conferences/workshops
 Other

79. What, if any, additional training is needed?

### **VI. Financial Considerations**

- 80. What if any purchasing constraints impact hardware or software procurement in your organization (e.g. budget process, formal/informal bid requirements, etc.)
- 81. What if any policies or strategies are in place for deploying new technology or upgrading the infrastructure (e.g. an asset management/replacement policy, strategic IT plan, etc.)
- 82. Describe how budgets are established in your organization.
- 83. Is there support for seeking additional funding through mechanisms such as grants?

🗌 Yes	🗌 No	🗌 Not sure
-------	------	------------

#### **VI. Other**

84. Please describe any other pertinent information about your organization's current system architecture that could aid in the system architecture design effort.

#### **VII. Your Contact Information**

Name: Title:

Organization:

Email:

Phone:

Address:

Best time/way to reach you:

## **Congratulations!**

You have taken your first step toward enterprise GIS. Thank you for taking the time to complete our System Architecture Assessment questionnaire.

Our GIS infrastructure evaluation team will review your information and then contact you for further discussion before making our recommendations.

We appreciate this opportunity to assist you.