

carahsoft

CARASOFT'S RESPONSE TO THE  
**City and County of San Francisco**



**REQUEST FOR QUALIFICATIONS**

**Custom Drupal Solutions**

**RFQ#DT2016-01**

Wednesday  
May 25, 2016

**SOLUTION PROVIDED BY**

**Acquia®**

**CARASOFT TECHNOLOGY CORP.**  
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RESTON, VA 20191

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May 25, 2016

Dept. of Technology  
City and County of San Francisco  
1 South Van Ness, 2nd Floor  
San Francisco, CA 94103

*Re: Carahsoft's Response to the City and County of San Francisco's Request for Qualifications for Custom Drupal Solutions, RFQ#DT2016-01*

Dear Ms. Fan-Wa Wong,

Carahsoft Technology Corp. appreciates the opportunity to respond to the City and County of San Francisco's (the City) Request for Qualifications for Custom Drupal Solutions. Carahsoft is proposing Acquia which fully meets the City's requirements for an. Our team has fully considered the City's requirements outlined in the Request for Qualifications, and has carefully put together a solution that will best meet your needs.

Carahsoft is submitting as the IT Schedule 70 GSA Contract holder (GS-35F-0119Y) and reseller for Acquia. As a top ranked GSA Schedule holder, Carahsoft has delivered best value solutions to our government clients for over 12 years

Please feel free to contact me directly at 703.230.7588/[Stephanie.Dorough@carahsoft.com](mailto:Stephanie.Dorough@carahsoft.com) or Rich Savage at 703.871.8629/[Rich.Savage@carahsoft.com](mailto:Rich.Savage@carahsoft.com) with any questions or communications that will assist the City in the evaluation of our response. This proposal is valid for 90 days from the date of submission. Carahsoft will continue good faith negotiations of a work contract pending award.

Thank you for your time and consideration.

Sincerely,



Stephanie Dorough  
Account Manager

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# SECTION 1 – FIRM QUALIFICATIONS

## 1.A - COMPANY PROFILE SUMMARY

**INSTRUCTIONS:** Provide a quick company overview by filling out the required information on the Response column (B) in the table included below.

A. REQUIRED INFO	B. RESPONSE
1. Year Company was founded	Founding Year: 2007
2. Top 3 Areas of Expertise	Expertise: Drupal Platform as a Services, Drupal Support, Drupal professional
3. Number of Years delivering Drupal solutions	Years (#): 9
4. Number of Employees	Employees (#): > 700
5. Number of Active Projects	Projects (#): >4,000 active clients
6. Company Structure – Public or Private	Structure: Private
7. Revenues generated last fiscal year	Revenues (\$): Disclosed with NDA
8. Profitable last fiscal year ( yes / no)	Profitable (yes/no): Disclosed with NDA
9. Active Relevant Company Certifications	<p>Certifications: To help ensure that Acquia's security controls are designed and operating effectively, Acquia undergoes several annual third-party attestations performed by an independent certified public accounting firm and qualified security assessor (QSA) including:</p> <ul style="list-style-type: none"> <li>• SOC 1 / ISAE 3402 Type 2</li> <li>• SOC 2 Type 2</li> <li>• PCI-DSS</li> <li>• HIPAA AT101</li> </ul>

**1.B - COMPANY CORE EXPERTISE**

**INSTRUCTIONS:** *Provide below a brief overview of your company and areas of expertise that best demonstrates your ability to support the needs of the Service Area(s) to which you are responding.*

We fulfill the Web CMS Hosting deliverable through a combination of products and services from the Acquia Platform, including:

- Acquia Cloud Enterprise for ongoing, highly scalable, highly reliable hosting
- Elite Global Support for 24 hour customer service support of the Drupal application and the infrastructure
- Remote Administration for regular, non-disruptive upgrades to ensure that your system is always up-to-date
- A Technical Account Manager, your dedicated Drupal advisor (optional, additional fee)
- An array of Acquia Learning Services options for initial and ongoing training

**1.C - COMPANY DELIVERY METHODOLOGIES**

**INSTRUCTIONS:** *Explain below the processes, practices and methodologies that your firm plans to leverage to deliver services to each individual City department that elects to engage with your services.*

Acquia helps governments and businesses transform to meet the ever-changing needs of the digital world. Acquia's digital innovation platform empowers market-leading enterprise organizations like State of New York, State of Georgia, and the City of Boaton to create integrated digital experiences for their constituents. The Acquia Platform provides open cloud hosting, powerful developer tools, contextualized content delivery, and services and support for Drupal—the open source content management system that unifies content, community, and commerce. Over 4,000 organizations rely on Acquia to better serve customers, lower costs, and engage audiences more deeply.

**1.D - KEY DELIVERY PERSONNEL**

**INSTRUCTIONS:** *Provide below a brief paragraph describing the key experience of the top 3 key Service delivery (non-executive) personnel that is responsible for delivering services to customers.*

Acquia employs the largest collection of Drupal talent in the world - actively employing many of the leading voices in the Drupal community, including Drupal's founder (and Acquia CTO), Dries Buytaert. We have harnessed this talent into the "Acquia Experience" - the intersection of the Acquia Platform and our commitment to customer success. Our customers experience lower costs, decreased time-to-market, and increase business agility as a result of the Acquia platform.

**1.E - KEY PROJECT REFERENCES**

**INSTRUCTIONS:** Provide 3 key references and related points of contact from recently completed engagements where your company delivered Drupal solutions – fill out 3 tables below.

REFERENCE # 1	REQUIRED RESPONSE
<i>Customer Company Name</i>	City and County of San Francisco
<i>Drupal solution delivered</i>	Acquia Cloud, Platform and support
<i>Completed on</i>	On- going subscription
<i>Project Duration</i>	Annual Subscription
<i>Key Benefit Delivered</i>	Secure, robust, highly scalable Drupal optimized environment
<i>Customer Contact Name</i>	Marco Bruno
<i>Customer's Contact phone</i>	415-581-3972
<i>Customer's Contact email</i>	<a href="mailto:marco.bruno@sfgov.org">marco.bruno@sfgov.org</a>
<i>Customer Company Location</i>	San Francisco CA

REFERENCE # 2	REQUIRED RESPONSE
<i>Customer Company Name</i>	Bay Area Rapid Transit
<i>Drupal solution delivered</i>	Acquia Cloud, Platform and support
<i>Completed on</i>	On-going Subscription
<i>Project Duration</i>	Annual Subscription
<i>Key Benefit Delivered</i>	Secure, robust, highly scalable Drupal optimized environment
<i>Customer Contact Name</i>	Tim Moore
<i>Customer's Contact phone</i>	510-464-7128
<i>Customer's Contact email</i>	<a href="mailto:tmoore@bart.gov">tmoore@bart.gov</a>
<i>Customer Company Location</i>	Oakland CA

REFERENCE # 3	REQUIRED RESPONSE
<i>Customer Company Name</i>	Visit California
<i>Drupal solution delivered</i>	Acquia Cloud, Platform and support, CDN
<i>Completed on</i>	On-Going Subscription
<i>Project Duration</i>	Annual Subscription
<i>Key Benefit Delivered</i>	Secure, robust, highly scalable Drupal optimized environment
<i>Customer Contact Name</i>	Tia Hoang
<i>Customer's Contact phone</i>	916-444-4429
<i>Customer's Contact email</i>	<a href="mailto:thoang@visitcalifornia.com">thoang@visitcalifornia.com</a>
<i>Customer Company Location</i>	Sacramento CA

## SECTION 2 – MINIMUM QUALIFICATIONS

### 2.A - MINIMUM QUALIFICATIONS FOR ALL SERVICE AREAS

**INSTRUCTIONS:** Fill out table below by inserting a “Yes” or “No” in every cell adjacent to each Minimum Requirement. In order to be considered for inclusion in the list of qualified firms, a Respondent must respond with a “Yes” to all of the Minimum Requirements.

#### MINIMUM QUALIFICATIONS FOR ALL SERVICE AREAS WORKSHEET

No	Requirement	Yes / No
1	Respondent has minimum of 3 years of experience providing Drupal related services.	Yes
2	Respondent agrees that the City’s Department of Technology in its position to safeguard the City’s shared Drupal web content management environment will have to review and approve any agreement between a pre-qualified contractor and a City agency prior to execution.	Yes
3	Respondent will leverage the City’s standard electronic payment services as selected by the City’s Treasurer and Tax Collector Office rather than promote or offer alternatives for the purpose of building any online payment functionality.	Yes
4	Respondent agrees to comply with the City’s security guidelines and agrees solutions will not be deemed acceptable until an audit is completed and any related critical security recommendations are fixed prior to final delivery.	Yes
5	Respondent agrees disclose and include in any agreement entered with a City agency the ongoing support efforts, costs and requirements to properly maintain any custom solutions.	Yes
6	Respondent will execute a best practices service level agreement for highly customized solutions developed to meet the unique needs of specific City agencies.	Yes
7	Respondent will deliver all related user and technical documentation to City agency staff.	Yes
8	Respondent will ensure any solution will comply with the City’s accessibility standards (as outlined by Federal Section 508) whenever applicable.	Yes
9	Respondent will test all solutions jointly with the City department staff before they are made available to the public.	Yes

**STOP:** If you answered “YES” to all of the Minimum Requirements above, please proceed to the next sections and provide responses to the below questions relevant to your proposal in order to complete your submission. If you answered “NO” to any of the Minimum Requirements, please stop; your firm will not be considered for qualification in any of the Service Areas.

**2.B - DECLARE INTENT TO BE QUALIFIED FOR ANY SERVICE AREAS**

**INSTRUCTIONS:** For the Service Area or Areas for which your firm is submitting a proposal, each Respondent should indicate in the table below its intent to be a qualified vendor by placing a "Yes" in the "Qualified" column below associated with the related Service Area.

**IMPORTANT:** Please note that in addition to satisfying the minimum qualifications common to all service areas (see previous section 2.A); Respondents must demonstrate expertise in at least one of the following Service Areas.

Number	Service Area	Qualified (Yes/No)	If Qualified Fill out Section
1	Drupal theme design services		2.C
2	Drupal custom development services		2.D
3	Drupal custom hosting and support services (for highly customized solutions)	Yes	2.E

Respondents seeking to become a qualified vendor in a specific Service Area must also fill out and meet all the minimum qualifications in the following specific section(s) related to the service areas for which they indicated, in the above table, to be a "Qualified" vendor.



**2.C - MINIMUM QUALIFICATIONS FOR SERVICE AREA 1**

**INSTRUCTIONS:** Insert a "Yes" or "No" in every cell adjacent to each Minimum Requirement. In order to be considered for inclusion in the list of qualified firms for this Service Area, a Respondent must respond with a "Yes" to all of the Minimum Requirements.

**IMPORTANT:** Only respondents seeking to become a qualified vendor in **Service Area 1 (Drupal Theme Design services)** must fill and meet all the following minimum qualifications.

No	Requirement	Yes/No
1	Respondent has minimum of 3 years of experience creating design proposals meant to be specifically deployed on Drupal based solutions.	
2	Respondent has minimum of 3 years of experience delivering theme-based design services and building related theme for Drupal solutions.	
3	Respondent will adhere to the City's design standards and will use the City's style guide and patterns library to ensure all City websites use common design elements while leaving City agencies room to promote their unique brands.	
4	Respondent agrees to build themes in compliance with the City's security guidelines and agrees solutions will not be deemed acceptable until any security recommendations are fixed prior to final delivery.	
5	Respondent has minimum of 3 years of experience creating Drupal theme design solutions leveraging usability best practices.	
6	Respondent has minimum of 3 years of experience creating Drupal theme that comply with the Federal accessibility standards (Section 508).	
7	Respondent has minimum of 3 years of experience creating Drupal theme that are fully responsive to mobile and tablet devices.	

**2.D - MINIMUM QUALIFICATIONS FOR SERVICE AREA 2**

**INSTRUCTIONS:** Insert a "Yes" or "No" in every cell adjacent to each Minimum Requirement. In order to be considered for inclusion in the list of qualified firms for this Service Area, a Respondent must respond with a "Yes" to all of the Minimum Requirements.

**IMPORTANT:** Only respondents seeking to become a qualified vendor in **Service Area 2 (Drupal Custom Development services)** must fill and meet all the following minimum qualifications.

No.	Requirement	Yes / No
1	Respondent has minimum of 3 years of experience delivering custom development services for Drupal based solutions based on clearly documented software development and testing methodologies.	
2	Respondent has minimum of 3 years of experience configuring Drupal software in-built functionality to deliver customized Drupal solutions.	
3	Respondent agrees to use the City's standard Drupal profile when enhancing City departments' websites leveraging the City's standard environment and understands that the City's Dept. of Technology, to safeguard the City platform, has to review and approve any new solution prior to implementation.	
4	Respondent agrees to build custom code in compliance with the City's security guidelines and agrees solutions will not be deemed acceptable until any security recommendations are fixed prior to final delivery.	
5	Respondent has minimum of 3 years of experience developing custom Drupal solutions leveraging security and engineering best practices.	
6	Respondent has minimum of 3 years of experience developing any custom Drupal component in compliance with the Federal accessibility standards (Section 508).	
7	Respondent has minimum of 3 years of experience creating Drupal solutions and functionality that is fully responsive to mobile and tablet devices.	
8	Respondent agrees include in any agreement entered with a City department the ongoing support efforts, costs and requirements to properly maintain any custom developed Drupal solutions.	
9	Respondent will deliver all related user and technical documentation to ensure City agency staff can fully use and enhance Drupal custom solution.	

**2.E - MINIMUM QUALIFICATIONS FOR SERVICE AREA 3**

**INSTRUCTIONS:** Insert a "Yes" or "No" in every cell adjacent to each Minimum Requirement. In order to be considered for inclusion in the list of qualified firms for this Service Area, a Respondent must respond with a "Yes" to all of the Minimum Requirements.

**IMPORTANT:** Only respondents seeking to become a qualified vendor in **Service Area 3 (Drupal Custom Hosting and Support services)** must fill and meet all the following minimum qualifications.

No	Requirement	Yes / No
1	Respondent has minimum of 3 years of experience delivering custom hosting and support services for highly customized Drupal based solutions on a flexible cloud platform able to satisfy the unique requirements of key City agencies.	Yes
2	Respondent has minimum of 3 years of experience delivering custom hosting and support services for Drupal based solutions in a high availability and fully redundant cloud environment.	Yes
3	Respondent has the ability and experience to deliver and support highly scalable solutions that can accommodate the growing needs of highly customized Drupal solutions for key City agencies.	Yes
4	Respondent agrees to provide support services in compliance with the City's security guidelines and in accordance with industry security best practices.	Yes
5	Respondent has minimum of 3 years of experience providing support on a 24x7x365 basis for custom Drupal cloud solutions according to a pre-defined service level agreement designed to meet specific requirements of a City agency.	Yes
6	Respondent agrees to include in any agreement entered with a City department the ongoing support efforts, costs and requirements to properly support any custom cloud hosted Drupal solutions to meet specific performance and uptime metrics.	Yes
7	Respondent will be able to deliver custom disaster recovery, business continuity, and security (including response to denial of service attacks) services designed to meet a variety of operational and regulatory requirements specific to key City agencies.	Yes

## SECTION 3 – SERVICE AREA CAPABILITIES

<b>3.A - DESCRIBE CAPABILITIES FOR SERVICE AREA 1</b>
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<i><b>INSTRUCTIONS:</b> Provide below answers to the following questions describing your firm's technical expertise and capabilities relevant to this Service Area.</i>
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**IMPORTANT:** Only respondents seeking to become a qualified vendor in **Service Area 1 (Drupal Theme Design services)** must complete the following questions describing their relevant core capabilities.

**QUESTION 1** - Briefly describe 1 project showing how your firm consistently leverages best UI/UX practices to deliver high quality Drupal themes and design solutions.

[Insert your response here]

**QUESTION 2** - Briefly describe your process and deliverables involved in building themes for Drupal solutions. Focus on how your firm would reconcile the specific design needs of a City agency with a broader set of City enterprise requirements.

[Insert your response here]

**QUESTION 3** - Briefly describe your process for designing and building Drupal themes that are responsive, mobile friendly and still able to satisfy web accessibility requirements (Federal section 508).

[Insert your response here]

**3.B - DESCRIBE CAPABILITIES FOR SERVICE AREA 2**

**INSTRUCTIONS:** Provide below answers to the following questions regarding your firm's technical expertise and capabilities relevant to this Service Area.

**IMPORTANT:** Only respondents seeking to become a qualified vendor in **Service Area 2 (Drupal Custom Development services)** must fill and meet all the following minimum qualifications.

**QUESTION 1** - Briefly describe 1 project showing how your firm consistently leverages software development and testing methodologies and best practices to deliver high quality custom Drupal solutions.

[Insert your response here]

**QUESTION 2** - Briefly describe your process and deliverables involved in building custom Drupal solutions. Focus on how your firm would develop a custom solution that would be reconcile the specific needs of a City agency with a broader set of City enterprise requirements.

[Insert your response here]

**QUESTION 3** - Briefly describe your process for developing custom Drupal solutions that are responsive, mobile friendly and able to leverage security best practices.

[Insert your response here]

**3.C - DESCRIBE CAPABILITIES FOR SERVICE AREA 3**

**INSTRUCTIONS:** Provide below answers to the following question firm's technical expertise and capabilities relevant to this Service Area.

**IMPORTANT:** Only respondents seeking to become a qualified vendor in **Service Area 3 (Drupal Custom Hosting and Support services)** must fill and meet all the following minimum qualifications.

**QUESTION 1** - Briefly describe 1 project showing how your firm consistently delivers custom Drupal hosting solutions leveraging best practices in a high availability and fully redundant cloud environment.

### City of Los Angeles Chooses Acquia to Power Digital Transformation:

#### The Challenge

By 2014, the City of Los Angeles had long been feeling the strain of its outdated web content management system (CMS). Providing limited functionality and requiring antiquated web browsers for its content managers, the old CMS was definitely holding them back. The city's Information Technology Agency (ITA) gathered representatives from several user departments and evaluated the CMS options. The focus was on an enterprise platform that was user friendly, robust, cost effective, reliable, and adaptable to the ever changing web landscape.

In addition, this project provided a prime opportunity to re-evaluate the digital strategy and infrastructure. As described by Ted Ross, Assistant General Manager of the city's ITA, "The web, and the digital engagement of our constituents, is constantly changing. We needed a platform that could handle our workload but also be highly usable, agile, and continue to innovate. This was an excellent opportunity to implement an innovative open source solution, like Drupal."

Ross is responsible for 182 IT specialists, a \$32 million annual budget, and oversees the city's government's enterprise IT applications, web services, and 24x7 data center. "Web services is a prime candidate for cloud hosting," he said. "We are seeing better uptime during spikes in demand, have reallocated data center staff to other critical on-premise applications, and have greatly improved our disaster recovery. During a natural disaster, such as an earthquake, the city website becomes an important two-way communication channel for the local community and their relatives across the country. As emphasized by our Mayor Eric Garcetti and City Council, resilience to disasters is a top priority."

#### The Solution

With its sights set on innovation, cloud hosting, and open source, the city chose the Drupal CMS and the Acquia Platform. "The concept of moving to an open source, cloud-based web CMS solution was compelling for our organization," said Ted Ross.

With the decision to move forward with Acquia in place, the team focused on what a new LA digital experience would look like. As a large government, it needed a cost-effective solution that was also adaptable to the changing requirements of its growing customers. "Remember, LA is vast: almost 4 million residents across 469 square miles. The concept of actual, physical town halls disappeared a long time ago. An effective digital presence is essential for the delivery of services to our citizens, businesses, and visitors," said Ross.

The must-have attributes for LA were the delivery of web experiences that are mobile responsive, driven by smart data, and capable of delivering highly personalized experiences driven by that data. Yet the reality was that the ITA department staffing had seen its headcount fall 40 percent over the last six years, while proprietary software license costs continued to increase. Total cost of ownership was an omnipresent concern.

The potential to improve the efficiency of the city's workforce was also appealing. Hundreds of field workers in LA operate without a cubicle. So do elected officials, their aides, and their staff. Even the city's IT employees are decentralized, deploying 1,200 people in more than 40 IT departments.

To address this situation, LA tapped a key component of the Acquia Platform: Acquia Cloud Site Factory, a product that allows sharing of standard templates from a central back end. Features developed for the "core" could quickly be leveraged by all departments.

"We need to templatize the offering so a small group of people could power and support a large number of websites from the back end, while affording complete freedom and agility for practitioners on the front end," Ross said. In addition to the recently launched LACity.org, over a hundred other city sites, currently hosted on a variety of platforms, will be able to take advantage of Acquia Cloud Site Factory's ability to spin off and control websites, saving the city money, improving efficiency, while maintaining flexibility across city departments.

### **The Results**

In August, 2014, LA committed to Drupal and the Acquia Platform. Immediately after, the city set out to consolidate approximately a dozen sites—including the main site, LACity.org—with 40 sites targeted in the near future, and 120 sites under consideration.

As the team gets underway with their massive project, they're encouraged by the mission of making these sites gateways to public services, highly available, and resilient, providing a dynamic, compelling user experience. "Citizens' expectations of government are only increasing," said Ross. "They expect mobile access with a user experience that is best in class, and reflective of good government."

**QUESTION 2** - Describe your processes and ability to deliver support on a 24x7x365 basis for custom Drupal cloud solutions according to a pre-defined service level agreement designed to meet specific requirements of selected highly visible City agencies.

### **Acquia Cloud Enterprise Subscription**

Acquia Cloud Enterprise is a fully managed, "white glove" multi-server offering ideal for mission-critical websites that require the highest levels of resiliency. The following is included with your Acquia Cloud Enterprise Subscription:

### **Acquia Ready Concierge**

Acquia cares about your success on Acquia Cloud—so much so that we have created a team of individuals chartered specifically with making you successful on our platform. The Acquia Ready team is a "welcome committee" including a Customer Success Manager and Customer Success Engineer aligned to you to ensure a smooth site launch. Acquia Ready Concierge begins with introducing you to our systems and tools and educating you on how to engage with us for support. We seek to understand your development lifecycle stage, timeline requirements, and testing and validation plans. We perform a complete end-to-end

risk assessment of your environment, ensuring that your hardware is sized correctly and that your environment is load tested. We review the pre-launch checklist with you, proactively identifying areas you need to focus on and sharing best practices. We don't just tell you what's wrong; we tell you how to fix it. During the Acquia Ready pre-launch period, you also get priority ticketing, which means your platform and infrastructure support requests go to the top of the queue. There is no limit to the time we spend with you or the number of individuals we work with in your organization. We do what is necessary to ensure that you are ready and confident to launch. All of this mitigates your risk and guarantees your success on Acquia Cloud.

### **Uptime SLA**

Acquia commits to 99.95 percent platform and infrastructure uptime. To ensure this, we operate monitoring services 24x7. Acquia uses the Nagios monitoring platform to provide instant access to over 40 vital real-time and historical metrics. We also maintain robust home-grown monitoring tools to ensure performance. Our team of Cloud Operations professionals is always standing by—proactively monitoring your environment and responding to critical issue alerts. With coverage in all time zones and fluency in five languages, the team is available 24x7 for critical, site-impacting issue response.

### **Global Support**

Acquia Global Support features access to a large, professional, global network of Drupal experts—the industry's highest level of Drupal expertise. Acquia's world-class support organization includes over 50 professionals with over 250 years of combined experience. And our overall level of in-house Drupal expertise is unparalleled with over 150 Drupalists, including core owners, security team members, and module contributors. With Acquia, you get holistic end-to-end support for your entire environment, including the infrastructure and application. We assess, diagnose, and resolve issues regardless of origin. When an infrastructure issue has been detected, we fix it. We have the ability to tune nearly 50 infrastructure parameters, such as cache size, upload size, and memory limit. We can identify specific performance characteristics and proactively tune them for optimal speed and stability. And when a site issue has been detected, we fix it when possible or give you guidance on how to do so. You no longer have to take primary responsibility for your system and site health. Our global team works 24x7 so you don't have to. With our enterprise, always-on, "follow-the-sun" approach, we simply won't let you fail.

Your Acquia Cloud Subscription comes with unlimited Acquia product support and an allotted number of Support tickets covering Drupal core, contributed and custom modules, and third-party integration modules. Your subscription provides full online access to the Acquia Help Center, which features thousands of Drupal knowledge resources, including tips and tricks, how-tos, and best practices in the form of articles, videos, podcasts, webinars, and forums. Your subscription also comes with an allotted number of Advisory Hours—one-on-one best practice consultations with our Support personnel on any topic of your choice.

### **Remote Site Administration**

Achieve your business goals faster by decreasing your maintenance time and costs. Remote Site Administration is a service in which Acquia carries out routine administration tasks on your behalf to keep your site updated. It simplifies Drupal updates and maintenance efforts to free your staff from time-consuming tasks—saving you time and money.

Multiple options are available based on your needs.



**QUESTION 3** - Briefly describe your capabilities to deliver custom disaster recovery, business continuity, and security (including response to denial of service attacks) services designed to meet a variety of operational and regulatory requirements specific to key City agencies.

### Acquia Cloud

Acquia Cloud is a continuous delivery cloud platform optimized to run Drupal websites. Architected for resiliency and designed to accelerate deployment, Acquia Cloud is an end-to-end platform-as-a-service offering that provides everything you need to create, maintain, and enhance high-quality Drupal websites. It combines:

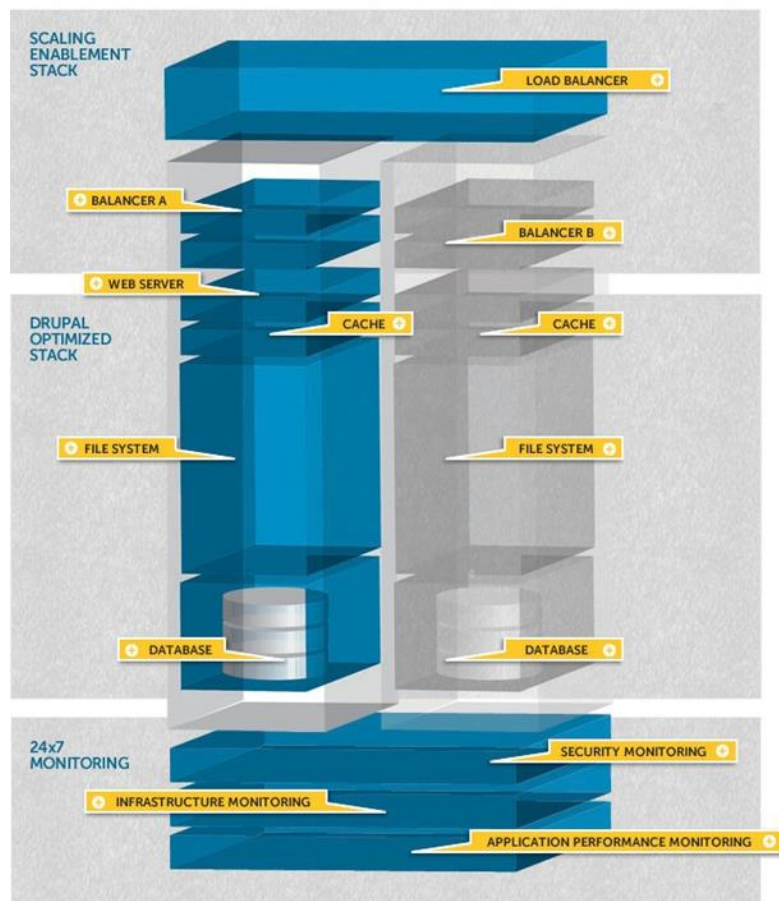
- A fully managed, high-performance Drupal-tuned platform stack
- An automated development workflow with site health and monitoring tools
- A highly available, scalable, and secure infrastructure
- 24x7 monitoring backed by the most experienced and knowledgeable Drupal Support team in the world

All of this allows you to reduce costs, simplify site management efforts, and eliminate operations headaches so that your team can focus on what really matters—innovation. With confidence that your site is backed by a holistic approach to application quality, your team can build amazing websites while we do the rest.

### Drupal-Tuned Platform

The Acquia Cloud platform is tuned specifically for Drupal performance, resulting in faster rendering of dynamic content and improved site reliability. In creating the platform, Acquia's performance experts analyzed performance characteristics and identified the configurations at each layer of the stack that make Drupal websites blazing fast. The core of the Acquia Cloud platform is an open source LAMP server stack, combining the Linux (Ubuntu) operating system and PHP programming language with Drupal. The platform is preconfigured with the following:

- Web server: Apache optimally serving media and Drupal pageviews
- File system: A highly performant POSIX file system for file uploads
- Database: Percona's optimized MySQL server with Drupal-optimized MySQL configurations
- Caching: Varnish and Memcache in front of all traffic to speed up sites



- Balancer: Nginx to optimize resource utilization

### Site Monitoring & Troubleshooting Tools

Acquia's monitoring tools analyze and measure the quality of your site based on security and performance parameters. Dozens of tests ensure your site's conformance with best practices for security, performance, and general Drupal and web application development. Monitoring over 50 settings, these tools provide real-time analysis and proactive alerts for issues with your Drupal code and configuration. You will receive a report, quality scores, clear and actionable recommendations for fixing issues, and explanations to expand your Drupal knowledge. Developers, administrators, and site owners can quickly identify problems, eliminate costly mistakes, simplify processes, and improve overall site performance.

Acquia provides several additional tools that help you quickly troubleshoot problems with your application. These include an uptime monitoring service which can poll your site to see if it is online and actively serving pages, a log streaming service that shows you granularly filterable logs from all your servers in real time, and other views into your sites' health.

### Resilient Infrastructure

#### High Availability:

Acquia Cloud is built on Amazon Web Services (AWS) infrastructure, with support for major regions and availability zones.

You choose the geographic region for your site's location:

- North America: Virginia, US; Oregon, US
- Europe: Dublin, Ireland; Frankfurt, Germany
- Asia-Pacific: Tokyo, Japan; Singapore; Sydney, Australia



Enterprise customers achieve high availability by using multiple availability zones in one region with redundant servers serving each layer of the technology stack: extra web servers operating round-robin, including reserve capacity in the second availability zone; a fully redundant file system in the second availability zone that is constantly syncing; master-master replication for database pairs; multiple dedicated Memcache servers; and a secondary load balancer in a redundant environment. Acquia Cloud also offers automatic nightly and on-demand backups and restores.

### Scalability

Our Operations team will scale your resources up to meet predictable and unpredictable traffic spikes for any period of time, and then return resources back to normal levels when traffic subsides. Furthermore, when resource usage rises, our experts investigate why instead of immediately throwing more hardware at the problem. As a result, we often prevent customers from having to upsize. This allows you to pay only for the resources you need.

## Security

Security is at the forefront of the Acquia Cloud, embedded into every layer of the architecture. The perimeter network is protected by firewall systems and IP-based restrictions that prevent unauthorized access to customer systems. To monitor for unusual activity, Acquia employs security monitoring applications that continuously monitor for possible or actual security breaches and are configured to alert Security, Operations and Engineering personnel.

Acquia takes pride to ensure that the infrastructure supporting our platform is free of security vulnerabilities that could be exploited. As such, Acquia performs vulnerability scans of production systems on a monthly basis and penetration testing on a yearly basis. Identified vulnerabilities are reviewed and patches are applied according to documented timelines depending on the severity of the vulnerability. Acquia strongly encourages our customers to perform vulnerability scanning and penetration testing of their Drupal-based web applications.

Acquia Cloud also offers two-factor authentication and granular permission settings to prevent unauthorized users from accessing your environment.

To help ensure that Acquia's security controls are designed and operating effectively, Acquia undergoes several annual third-party attestations performed by an independent certified public accounting firm and qualified security assessor (QSA) including:

- SOC 1 / ISAE 3402 Type 2
- SOC 2 Type 2
- PCI-DSS
- HIPAA AT101

Acquia also has recently received our ATO for the FEDRAMP certification.

For those customers who want maximum privacy and isolation, Acquia Cloud Shield provides a dedicated, logically isolated section of Acquia Cloud with a customizable network configuration for intranets, internal applications, VPN connections, government IPsec- and HIPAA-compliant environments, and other sensitive data and security scenarios.

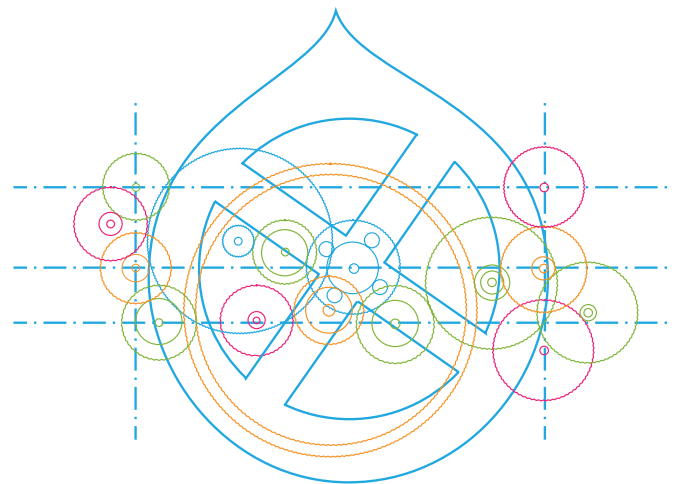
### **Acquia Cloud Edge to protect against DDOS Attacks**

Acquia Cloud Edge Protect's advanced DDoS protection, provisioned as a service at the network edge, matches the sophistication and scale of such threats and can be used to mitigate DDoS attacks of all forms and sizes, including those that target the UDP and ICMP protocols, as well as SYN/ACK, DNS amplification, and Layer 7 attacks. We have attached a brief that explains the anatomy of each attack method and how the Acquia Cloud Edge Protect network is designed to protect your web presence from such threats.

Beginning on the following pages is an overview of Cloud Edge Protect mentioned above.

# Acquia Cloud Edge Protect

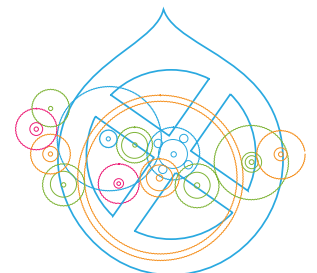
Denial-of-service (DoS) Attacks Are on the Rise and Have Evolved into Complex and Overwhelming Security Challenges



TECHNICAL GUIDE

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Let's talk

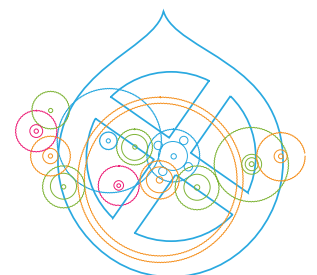


# Introduction

Although DoS attacks are not a recent phenomenon, the methods and resources available to conduct and mask such attacks have dramatically evolved to include distributed (DDoS) and, more recently, distributed reflector (DRDoS) attacks—attacks that simply cannot be addressed by traditional on-premise solutions.

Acquia Cloud Edge Protect's advanced DDoS protection, provisioned as a service at the network edge, matches the sophistication and scale of such threats and can be used to mitigate DDoS attacks of all forms and sizes, including those that target the UDP and ICMP protocols, as well as SYN/ACK, DNS amplification, and Layer 7 attacks. This document explains the anatomy of each attack method and how the Acquia Cloud Edge Protect network powered by CloudFlare is designed to protect your web presence from such threats. The following sections provide information on these attacks and how the Acquia Cloud Edge Protect network protects against them.

- Layer 3/4 attacks
- DNS amplification attacks
- SMURF attacks
- ACK attacks
- Layer 7 attacks
- Making DoS a thing of the past



# Layer 3/4 Attacks

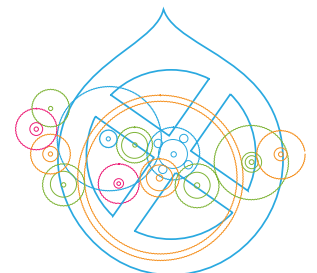
Most DDoS attacks target the transport and network layers of a communications system. These layers are represented as layers 3 and 4 of the OSI model. The so called “transport” layer of the network stack specifies the protocol (for example, TCP or UDP) by which two hosts on a network communicate with one another. Attacks directed at layers 3 and 4 are designed to flood a network interface with attack traffic to overwhelm its resources and deny it the ability to respond to legitimate traffic. More specifically, attacks of this nature aim to saturate the capacity of a network switch, or overwhelm a server’s network card or its CPU’s ability to handle attack traffic.

Layer 3 and 4 attacks are difficult—if not impossible—to mitigate with an on-premise solution. If an attacker can send more traffic than a network link can handle, no amount of additional hardware resources will help to mitigate such an attack. For example, if you have a router with a 10Gbps port and an attacker sends you 11Gbps of attack traffic, no amount of intelligent software or hardware will allow you to stop the attack if the network link is completely saturated.

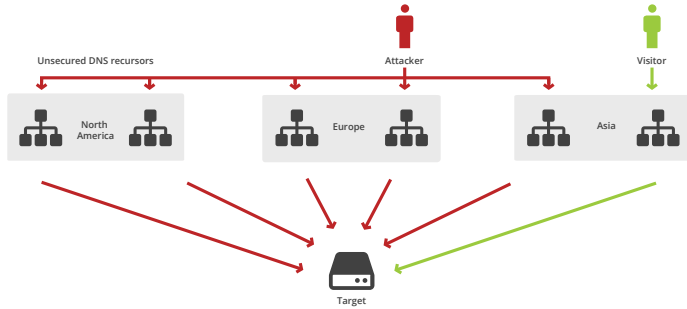
Very large Layer 3/4 attacks nearly always originate from a number of sources. These many sources each send attack traffic to a single Internet location, creating a tidal wave that overwhelms a target’s resources. In this sense, the attack is distributed. The sources of attack traffic can be a group of individuals working together, a botnet of compromised PCs, a botnet of compromised servers, misconfigured DNS resolvers, or even home Internet routers with weak passwords.

Because an attacker launching a Layer 3/4 attack doesn’t care about receiving a response to the requests they send, the packets that make up the attack do not have to be accurate or correctly formatted. Attackers regularly spoof all information in the attack packets, including the source IP, making it look as if the attack is coming from a virtually infinite number of sources. Because packet data can be fully randomized, techniques like upstream IP filtering become virtually useless.

With Acquia Cloud Edge Protect, all attack traffic that would otherwise directly hit your server is automatically routed to Acquia Cloud Edge Protect’s global Anycast network of data centers. Once attack traffic is shifted, we are able to leverage the global capacity of our network, as well as racks-upon-racks of server infrastructure, to absorb the floods of attack traffic at our network edge. This means that Acquia Cloud Edge Protect is able to prevent even a single packet of attack traffic from ever reaching a site protected by Acquia Cloud Edge Protect.

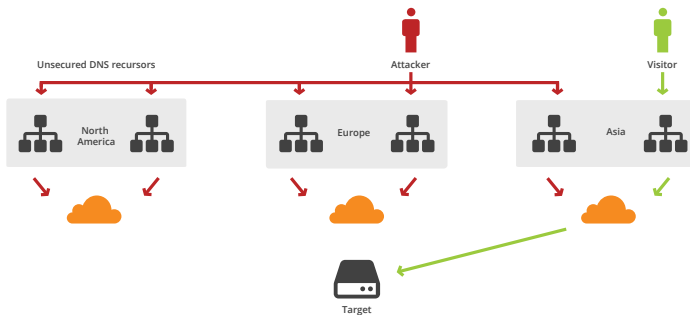


## Reflection Attack Before Using Acquia Cloud Edge Protect

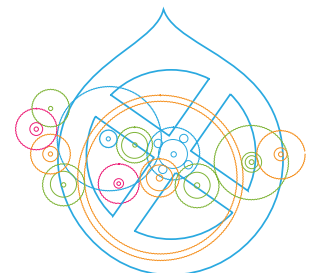


An attacker gathers resources, such as botnets or unsecured DNS recursors, and imitates the target's IP address. The resources then send a flood of replies to the target, knocking it offline.

## Reflection Attack After Using Acquia Cloud Edge Protect



An attacker gathers resources, such as botnets or unsecured DNS recursors, and imitates the target's IP address. The resources then send a flood of replies to the target, but they are blocked by Acquia Cloud Edge Protect's data centers. Legitimate traffic can still access the web property.





# DNS Amplification Attacks

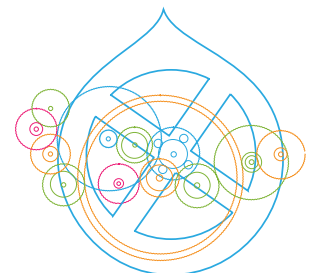
DNS amplification attacks, one form of DDoS, are on the rise and have become the largest source of Layer 3/4 DDoS attacks. Acquia Cloud Edge Protect routinely mitigates attacks that exceed 100Gpbs and recently protected a customer from an attack that exceeded 300Gbps—an attack *The New York Times* deemed the “largest publicly announced DDoS attack in the history of the Internet.”

The resolvers then respond to the request, sending the large DNS zone answer to the IP address of the intended victim. The attackers’ requests themselves are only a fraction of the size of the responses, allowing the attackers to amplify their attacks to many times the size of the bandwidth resources they themselves control.

An amplification attack has two criterion. First, a query can be sent with a spoofed source address (for example, via a protocol like ICMP or UDP that does not require a handshake). Secondly, the response to the query is significantly larger than the query itself. DNS is a core, ubiquitous Internet platform that meets these criteria, and therefore has become the largest source of amplification attacks.

DNS queries are typically transmitted over UDP, meaning that, like ICMP queries used in a SMURF attack (described below), they are fire-and-forget. As a result, the source attribute of a DNS query can be spoofed and the receiver has no way of determining its veracity before responding. DNS is also capable of generating a much larger response than query. For example, you can send the following (tiny) query (where x.x.x.x is the IP of an open DNS resolver) `dig ANY isc.org @x.x.x.x +edns=0` and get back a gigantic response. This is a 64 byte query that results in a 3,223 byte response. In other words, an attacker is able to achieve a 50x amplification over whatever traffic they can initiate to an open DNS resolver.

Acquia Cloud Edge Protect’s Anycast network was specifically designed to stop massive Layer 3/4 attacks. By using Anycast, we are able to announce the same IP addresses from each of our several worldwide data centers. The network itself load balances requests to the nearest facility. Under normal circumstances this helps us ensure that your site’s visitors are automatically routed to the nearest data center on our network to ensure the best performance.

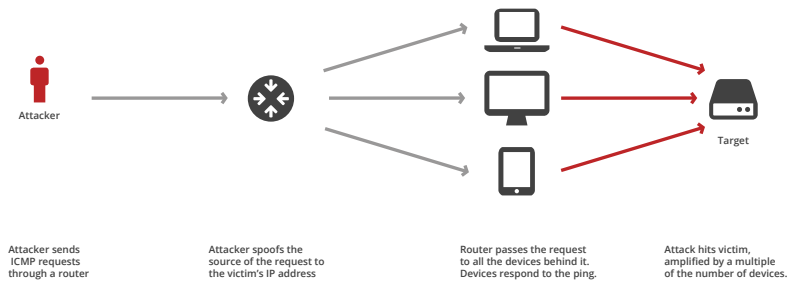


# SMURF Attacks

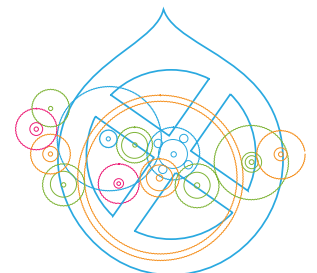
One of the first amplification attacks was known as a SMURF attack. In a SMURF attack, an attacker sends ICMP requests (for example, ping requests) to a network's broadcast address (that is, X.X.X.255) announced from a router configured to relay ICMP to all devices behind the router. The attacker then spoofs the source of the ICMP request to be the IP address of the intended victim. Because ICMP does not include a handshake, the destination has no means of verifying if the source IP is legitimate. The router receives the request and passes it on to all the devices that sit behind it.

Each of these devices then respond back to the ping. The attacker is able to amplify the attack by a multiple equal to the number of devices behind the router. For example, if you have 5 devices behind the router, then the attacker is able to amplify the attack 5x.

## Smurf Attack



SMURF attacks are largely a thing of the past. For the most part, network operators have configured their routers to disable the relay of ICMP requests sent to a network's broadcast address.

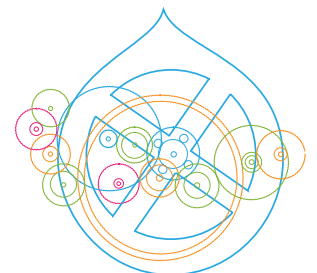


# ACK Attacks

To understand an ACK attack, you must delve into the world of TCP. When a TCP connection is established, there is a handshake. The server initiating the TCP session sends a SYN (for synchronize) request to the receiving server. The receiving server responds with an ACK (for acknowledge). After that handshake, data can be exchanged.

In an ACK reflection attack, the attacker sends lots of SYN packets to servers with a spoofed source IP address pointing to the intended victim. The servers then respond to the victim's IP with an ACK creating the attack.

Like DNS reflection attacks, ACK attacks disguise the source of the attack, making it appear to come from legitimate servers. However, unlike a DNS reflection attack, there is no amplification factor, the bandwidth from the ACKs is symmetrical to the bandwidth the attacker has to generate the SYNs. The Acquia Cloud Edge Protect network is configured to drop unmatched ACKs, which mitigates these types of attacks.



Let's talk



# Layer 7 Attacks

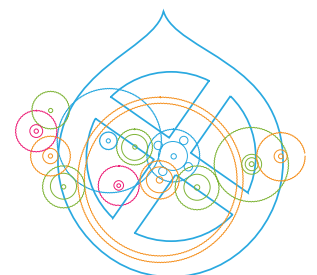
A new breed of attacks target Layer 7 of the OSI model, the “application” layer. These attacks focus on specific characteristics of web applications that create bottlenecks. For example, the so-called Slow Read attack sends packets slowly across multiple connections. Because Apache opens a new thread for each connection, and since connections are maintained as long as there is traffic being sent, an attacker can overwhelm a web server by exhausting its thread pool relatively quickly.

Acquia Cloud Edge Protect has protections in place against many of these attacks, and in real-world experiences, we generally reduce HTTP attack traffic by 90 percent. For most attacks, and for most of our customers, this is enough to keep them online. However, the 10 percent of traffic that does get through traditional protections can still be overwhelming to customers with limited resources or in the face of very large attacks. In this case, Acquia Cloud Edge Protect offers a security setting known as “I’m Under Attack” mode (IUAM).

IUAM is a security level you can set for your site when you’re under attack. When IUAM is turned on, Acquia Cloud Edge Protect adds an additional layer of protections to stop malicious HTTP traffic from being passed to your server.



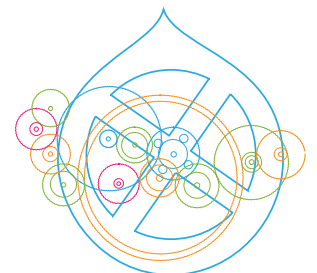
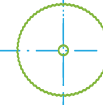
After verified as legitimate by the automated tests, visitors are able to browse your site unencumbered. JavaScript and cookies are required for the tests and to record that the tests were correctly passed. The page, which your visitors see when in IUAM, can be fully customized to reflect your branding. I’m Under Attack mode does not block search engine crawlers or your existing Acquia Cloud Edge Protect whitelist.



# Making DoS a Thing of the Past

As technology advances, DoS attacks will only increase in complexity and magnitude. Traditional on-premise DoS solutions simply can't adapt to the wide range of new attack vectors and are rendered completely ineffective for attacks that exceed an organization's network capacity.

The Acquia Cloud Edge Protect network is designed to mitigate and keep pace with the changing threat landscape. Acquia Cloud Edge Protect, as an operator of one of the largest global networks on the Internet, is able to leverage its aggregate network capacity across 30 points of presence and is able to learn from attacks against any individual customer to protect all customers on our network.



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Let's talk



**LEGAL NOTICE**

**Business Model and Services:** Acquia is a private U.S. company that empowers enterprises with the open-source social publishing system Drupal with its products, cloud infrastructure and support offerings (“Services”). Acquia’s Services are governed by its standard business models which have been designed to serve the needs of its private and public sector clients, provide competitive value for money and to establish a common set of standards acceptable to all of Acquia’s global clients. Acquia’s business models have also been constructed to ensure Acquia’s compliance with numerous, mandatory U.S. government-imposed accounting laws, data protection and privacy laws, including the EU Safe Harbor Framework as outlined by the U.S. Department of Commerce and the European Union.

**Contract Award:** After a thorough review of your RFP we have concluded that it does not contain terms that have been specifically designed for the type of PaaS and other Services provided by Acquia. We have found that through commercial discussions with our clients they come to understand our commercially pragmatic service models and are happy to use a contract with terms that reflect the many advantages that these models provide to all of our clients. As a result, Acquia has created the Subscription and Services Agreement and Products and Services Guide, which can be found at: [https://www.acquia.com/sites/default/files/attachments/acquia\\_master\\_services\\_agreement.pdf](https://www.acquia.com/sites/default/files/attachments/acquia_master_services_agreement.pdf) and [https://www.acquia.com/sites/default/files/attachments/acquia\\_support\\_hosting\\_guide.pdf](https://www.acquia.com/sites/default/files/attachments/acquia_support_hosting_guide.pdf).

This response is submitted on the condition that it may only be used by you for evaluation of the project for which this RFP is issued. The pricing and terms included in Acquia’s response are valid until NOT APPLICABLE TO CCSF. Acquia’s RFP response shall not be deemed in any way to establish a contractual relationship between or otherwise be binding on the parties and Acquia makes no representations or warranties with respect to such RFP response. The content of Acquia’s response contain the clearest statement about the conditions under which Acquia is responding to your RFP and would accept a contract for the project. To the extent there is a conflict between the terms of the RFP, Acquia’s RFP response and this notice, the terms of this notice shall control. The information in this RFP response is Acquia confidential information and is submitted for your use in the evaluation of the project.

## IN SUMMARY

Carahsoft Technology Corporation and Acquia appreciate the opportunity to offer this solution for the City's initiative.

The Carahsoft Team has proposed a superior and cost-effective solution that fully complies with the City's requirements set forth in RFQ#DT2016-01. We understand the importance of your project goals, and we are confident you will benefit from this solution and our expertise.

Carahsoft looks forward to the opportunity to speak with you regarding the details of this proposal, as well as the opportunity to work with the City and County of San Francisco on this project.