



WESTPRIME – Industry Day

Office of the Chief Information Officer

NASA IT Vision: *The NASA IT Organization is the **very best** in government*

- In the event of any inconsistency between data provided in these charts and the RFQ, the language in the RFQ, including any amendments, will govern.



Agenda

- Welcome
- Procurement Overview
- Technical Overview
- Question & Answer Session
- Closing Remarks
- Adjourn



Web Enterprise Service Technologies (WEST) PRIME

Procurement Overview



PROCUREMENT OVERVIEW

Activities To Date

- WESTPRIME Request for Information (RFI) synopsis posted on February 6, 2012, which included:
 - » Draft Statement of Work (SOW) soliciting comments on WESTPRIME requirements
 - » Nineteen (19) questions intended to solicit information on how Industry would meet the requirements
- Acquisition Strategy and Industry Day Pre-Registration notice posted on June 4, 2012
- Solicitation released on July 20, 2012
- Amendment 000001 issued on July 23, 2012



PROCUREMENT OVERVIEW

Web Sites

- The WESTPRIME Document Library is located at the following website:

http://i3p.nasa.gov/document_file_home.cfm

- » Contains WESTPRIME RFQ documentation, including Amendment 000001



PROCUREMENT OVERVIEW

Anticipated Schedule

Activity	Anticipated Schedule Completion Date
Questions or Comments Due	August 9, 2012
Proposals Due	August 20, 2012
Selection and Award	Early 2013 Timeframe



PROCUREMENT OVERVIEW

RFQ Information

The following applies:

- GSA Unrestricted, Federal Supply Schedule 70
 - » NAICS Code: 541519 (other computer related services), Size Standard \$25.5M
- Period of Performance
 - » The BPA will be awarded for a one-year base period with four (4) one-year option periods
- Purchasing Value:
 - » The Government estimates, but does not guarantee, that the volume of purchases through this BPA(s) will be \$40 million.
- Task Ordering Procedures
 - » Refer to Items 18 and 19 of the BPA
 - » Orders will be issued on a Firm Fixed Price Basis



PROCUREMENT OVERVIEW

RFQ Information

- Data Rights
 - » The Government intends to retain all data rights with the exception of commercially available software
 - » The following clauses apply:
 - 52.227-14 RIGHTS IN DATA-GENERAL (52.227-14)(DEC 2007) as modified by NASA FAR Supplement 1852.227-14—ALTERNATE II (DEC 2007) AND ALTERNATE III (DEC 2007)
 - 52.227-17 RIGHTS IN DATA – SPECIAL WORKS (Dec 2007)



PROCUREMENT OVERVIEW

Overall Evaluation

- Conducted in accordance with FAR 8, Required Sources of Supplies & Services
- The Government will award one BPA resulting from this request to the responsible Offeror whose quotation conforming to this request will be most advantageous to the Government. The following factors and subfactors will be used in evaluating offers:
 - » TECHNICAL FACTOR
 - Subfactor 1: Technical Approach
 - Subfactor 2: Management Plan
 - Subfactor 3: Representative Task Orders (RTOs)
 - Subfactor 4: Personnel Skill/Experience
 - » PAST PERFORMANCE FACTOR
 - » PRICE FACTOR
- Award on initial offers is anticipated



NASA's Web Services Program

Technical Overview



Current State – General Statistics

- Previous Requirement Covers:
 - » 140 unique domains (of approx. 4119)
 - » 1.7 million static pages
 - » 4.5 million web assets
 - » 0.9 million dynamic pages
 - » Search crawls 15 million URLs
 - » Intranet is primarily dynamic
 - » 600K unique visitors by day
 - » 30 custom applications for different customers
- Websites at NASA

Center	# Public Websites	Center	# Public Websites
Agency	31	JSC	325
Portal	141	KSC	295
ARC	350	LaRC	558
DFRC	8	MSFC	390
GRC	256	NSSC	44
GSFC	1007	SSC	33
HQ	393	Unknown	66
JPL	325	Total	4119

- Top 5 sites – by visitors

Website	%
www.nasa.gov	30.58%
apod.nasa.gov	27.54%
jpl.nasa.gov	12.50%
gsfc.nasa.gov	11.27%
nascom.nasa.gov	4.65%



June 2012 Portal Metrics

Site Name	Visitors (Sessions)	Pages Viewed	Hits (number of items requested)	Amount of Information Sent to the Public (megabytes)
Total NASA Portal	38,996,287	258,942,699	1,955,854,215	824,166,920
www.nasa.gov	18,822,991	188,570,842	1,311,273,131	35,305,554
Subsites				
Saturn.jpl.nasa.gov	-	-	-	-
Cornell	-	-	-	-
Spaceflight	2,192,727	40,962,746	87,190,459	1,226,834
Mars Rovers				
marsrovers.jpl.nasa.gov	-	-	-	-
mars.jpl.nasa.gov (until 9/04)	-	-	-	-
Science.nasa.gov	1,650,319	6,181,430	35,852,990	535,372
All Other Sites	1,940,108	16,749,053	483,681,208	1,006,035
Total CDN Delivery	26,448,451	258,942,699	1,917,997,788	38,073,795
NASA TV on the Web	12,547,836	-	26,859,070	746,085,281
On-Demand Streaming	-	-	11,562	172,495
Download Delivery	-	-	10,985,795	39,835,349
Per session	9:17:00	9.79	55.85	1.44
Per Day	881,615	8,631,423	49,240,855	1,210,000
Akamai CDN	-	-	-	-
Akamai	6,722,055	-	14,388,788	399,688,544
Yahoo	5,825,781	-	12,470,283	346,396,738
Month				
Month	Est. Visitor Sessions	Est. Pages Viewed	Hits (number of items requested)	Information Sent to Public (megabytes)
NASA Portal	38,996,287	258,942,699	1,955,854,215	824,166,920
NASA Content Delivery (Edge)	26,448,451	258,942,699	1,955,854,215	78,081,638
Akamai NASATV	6,722,055	N/A	N/A	399,688,544
Others NASA TV	5,825,781	N/A	N/A	346,396,738
Total NASA TV	12,547,836	N/A	N/A	746,085,281



Events Statistics

- From Appendix D

Event Description			Live Streaming Delivery						Grand Totals	
Event	Date	Duration	Peak Web Bandwidth, mbps	Total Streams Viewed	Peak Streaming Connections, 5 minute concurrent	Streaming Information Sent to Public, megabytes	Average time watched, minutes	Peak Streaming Bandwidth, mbps	Total Peak Bandwidth, mbps	Total Portal Information delivered, megabytes
STS-133 Launch	2/24-25/11	48 hours	3,638	919,770	284,822	60,761,916	17.6	53,451	57,088	78,042,342
STS-133 Landing	3/8-9/11	48 hours	1,742	493,674	147,764	31,522,929	22.3	66,531	68,273	39,798,531
STS-134 Launch	5/16-17/11	48 hours	5,427	789,505	360,172	270,464,819	20.1	212,252	217,679	296,246,501
STS-134 Landing	5/31-6/1/11	48 hours	2,971	334,339	48,992	41,806,431	21.1	27,278	30,249	55,920,560
STS-135 Launch	7/8-9/11	48 hours	12,554	1,428,588	562,818	480,270,486	17.3	440,175	452,729	539,909,926
STS-135 Landing	7/20-21/11	48 hours	4,229	592,753	177,420	151,398,124	19.2	163,446	167,675	171,488,549
JUNO Launch	8/5-6/11	48 hours	1,466	167,272	50,067	42,723,762	16.8	38,476	39,942	49,688,091
MSL Launch	11/25-26/11	48 hours	2,704	251,289	75,215	64,183,000	28.2	70,960	73,664	77,027,000
Venus Transit	6/5-6/12	48 hours	7,205	7,741,158	576,743	617,172,631	44.0	444,901	452,107	652,080,959

IT and Web Strategic Plan Alignment

NASA IT Mission

To increase the productivity of scientists, engineers, and mission support personnel by responsively and efficiently delivering reliable, innovative and secure IT services.

NASA IT Vision

The NASA IT organization is the very best in government

NASA Guiding Principles for IT

Mission-Enabling, Innovative, Teamwork, Secure, Affordable, Integrated, Effective, Efficient

IT Strategic Goal 1

Transform NASA's IT infrastructure and application services to better meet evolving stakeholder needs and support mission success.

IT Strategic Goal 2

Enhance and strengthen IT Security and Cyber security to ensure the integrity, availability, and confidentiality of NASA's critical data and IT assets.

IT Strategic Goal 3

Identify, test, and adopt new information technology that will make NASA's missions more capable and affordable.

IT Strategic Goal 4

Provide enterprise resources and processes that foster mission success and allow NASA to attract and retain a highly performing IT workforce.

Web Goals and Objectives

- Work with missions in understanding their web needs
- Adopt services in close cooperation with customer base
- Deploy solutions that are standards based and interoperable
- Quickly adopt industry proven technologies and practices

Web Goals and Objectives

- Provide a secure, shared web infrastructure and environment
- Provide guidance in coding standards and libraries that minimize security risks
- Perform periodic scans of web assets assess vulnerabilities
- Collaborate with SOC to improve security of core web platform

Web Goals and Objectives

- Increase cost efficiencies by using shared services
- Prototype innovative technologies
- Leverage open source to drive down cost of software
- Migrate services to cloud
- Partner with private industry to provide services that are innovative and secure

Web Goals and Objectives

- User friendly and self serviced
- Employ the latest technologies that missions
- Balance autonomy and governance
- Create agile contractual vehicles

Vision Statements for Web

Modernize the web experience for the knowledge enterprise

Leave a smaller I.T. footprint while increasing security, agility, and flexibility

Use the web to **enable/enrich a culture of knowledge creation, sharing, and remixing**

Balance autonomy and control within the enterprise

Expand the definition of web to incorporate mobile and social media



Expected Results for NASA Web Program

- Enhance business and technical agility
- Eliminate vendor specific dependencies
- Drive down operational overhead for web presence
- Consolidate NASA's web infrastructure
- Drive down the cost of custom web/on-demand services for missions, programs, and projects
- Increase NASA IT Security
- Explore collaborative services across NASA centers
- Improve online customer service delivery through innovative technology



Enterprise Web Services

Current Customer Base – Content and Application Development

NASA Portal
Existing Task Orders

Emerging Customer Opportunities – Content and Application Development

NASA Centers
Mission
1500+ public websites
2000+ Intranets, Extranets and applications

NASA Web Services Office

Policy, Standards, Guidance, and Procedures
Vendor Oversight
Technical approach
Requirements management
Consolidation of web environment
Application and information architecture - EA

Execution of web improvement plan
Execution of web governance
I3P integration
NASA community Outreach
Service Delivery
Metrics
Development Roadmap
Etc.

BROKER ROLE

* From Appendix C

WESTPRIME

Infrastructure as a Service

Storage
Backup and Recovery
Content Delivery
Platform Hosting
Services Management
Compute

Platform as a Service

Web Application Deployment
Integration
Sandbox
Database
Development and Test

Software as a Service

Content Management
Collaboration and Social
Web Analytics
Search

Notional Technology Stacks

SOFTWARE SERVICES

CMS

Collaboration
Tools

Portal Services

CDN

Search

Analytics

Streaming
Media

From Appendix C

Apache 2.x
PHP 5.2.5
Perl
MySQL 5

Tomcat
Application
Server
MySQL 5

Python 2.5
MySQL 5

Ruby 1.9.3
MySQL 5

IIS
Oracle

IIS
MS SQL
Server

LINUX OS

WINDOWS OS



NASA Diverse Web Community

- NASA's has a diverse web community with a variety of needs
 - » Internal and External audiences
 - » OMB and other federal governing bodies
 - » NASA Management
 - » OCIO
 - » NASA Missions, Programs, and Projects
 - » Content publishers, outreach, and education
 - » Software developers, designers, and web application builders



Web Services Program characteristics

- Availability - the assurance that a service/resource is always accessible
- Scalability - the ability to support the required quality of service as the load increases
- Reliability - the assurance of the integrity and consistency of the application and all of its transactions. The ability to provide a required reliability service level depends on the close coordination of the hardware, networking, operating system, storage subsystem, application framework, and application software.
- Security - the ability to allow access to application functions and data to some users and deny them to others
- Interoperability - the ability of the system to share data with external systems and interface to external systems.
- Leveragability - the ability that stored data, programmed logic, and other system resources available anywhere in the enterprise should be accessible from everywhere in the enterprise
- Maintainability - the ability to correct flaws in the existing functionality without impacting other components/systems
- Extensibility - the ability to add/modify functionality without impacting existing functionality
- Manageability - the ability to manage the system in order to ensure the continued health of a system with respect to scalability, reliability, availability, performance, and security.
- Portability - the ability of the software to run on a variety of hardware and operating system configurations
- Accessibility - the ability to access system functions through different user agents and in different human languages

www.NASA.gov

NASA's home page integrates multiple applications to present content in one layer, including:

- a content-management system
- blogging tool
- a search services integrated with a crowd-sourcing tool
- third-party APIs including:
 - Twitter
 - GovDelivery
 - VMIX
- calendaring software

This level of integration is the core of NASA.gov and will only increase in complexity in the years to come.

The screenshot shows the NASA.gov homepage with a navigation bar at the top containing links for HOME, NEWS, MISSIONS, MULTIMEDIA, CONNECT, and ABOUT NASA. A search bar is located on the right. Below the navigation bar, there are links for 'For Public', 'For Educators', 'For Students', and 'For Media', along with 'Send' and 'Share' options. The main content area features a large video player titled 'Orion Unveiled' showing the Orion capsule. To the right of the video are several article teasers: 'Soyuz Crew Lands', 'Why Did Clocks Add an Extra Second?', 'Saturn Moon's Ocean', 'Changes in Exoplanet Atmosphere', and 'NASA Observes Fires'. A 'MORE STORIES' button is at the bottom right of this section. On the far right, there is a grid of icons for various NASA topics: STATION & SHUTTLE, SOLAR SYSTEM, BEYOND EARTH, COMMERCIAL SPACE, UNIVERSE, EARTH, AERONAUTICS, TECHNOLOGY, NASA IN YOUR LIFE, and HISTORY AND PEOPLE. Below the main content area, there are several sections: 'NASA Images' with an 'Image of the Day' (nasaimages.org) showing a star field; 'NASA Multimedia' with sections for Videos (Station Crew Lands in Kazakhstan), NASA Television (Watch Live Now), Interactive Features (Commercializing Space), and Podcasts & Vodcasts (Kennedy Space Center 50th Anniversary Video); 'Latest NASA Blog Updates' with links to 'NASA Deputy Administrator's Blog', 'Orion Arrives at Kennedy Space Center', 'Letters to Earth: Astronaut Don Pettit', and 'NASA Education Express'; and 'NASA Calendar' for July 2012. On the right side, there is a 'Twitter' section with a 'Follow @NASA' button and a feed of tweets, and a 'Get NASA Updates By Email' section with an 'Enter E-mail Address' field and a 'Subscribe' button. At the bottom right, there is a 'What are people interested in?' section with tabs for 'Most Viewed', 'Top Rated', and 'Quick Links', and a list of stories including 'Hubble, Swift Detect First-Ever Changes in an Exoplanet Atmosphere' and 'Cassini Finds Likely Subsurface Ocean on...'. A 'View All NASA Blogs' button is at the bottom left, and a 'View Full NASA Calendar' button is at the bottom right.

www.NASA.gov

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- calendaring software

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The screenshot shows the NASA.gov homepage with several content blocks and their underlying technologies:

- Top Navigation:** HOME, NEWS, MISSIONS, MULTIMEDIA, CONNECT, ABOUT NASA
- Search:** Google Search
- Events:** REGISTER NOW: FIRST EVER MULTI-CENTER SOCIAL MEDIA EVENT FOR MARS LANDING
- Main Content:** Orion Unveiled (CMS), Soyuz Crew Lands, Why Did Clocks Add an Extra Second?, Saturn Moon's Ocean, Changes in Exoplanet Atmosphere, NASA Observes Fires
- Right Sidebar:** Metadata (Station & Shuttle, Solar System, Beyond Earth, Commercial Space, Universe, Earth, Aeronautics, Technology, NASA in Your Life, History and People)
- Bottom Row:**
 - NASA Images:** Image of the Day, nasaimages.org (CMS)
 - NASA Multimedia:** Videos (VMIX), NASA Television, Interactive Features (CMS), Podcasts & Vodcasts
 - Twitter:** Follow @NASA, Twitter API
 - Get NASA Updates By Email:** Enter E-mail Address, Subscribe (Gov-Delivery)
 - Latest NASA Blog Updates:** NASA Deputy Administrator's Blog, Orion Arrives at Kennedy Space Center, Letters to the Administrator, NASA Education Express (Blogging Tool)
 - NASA Calendar:** July 2012 (Calendaring)
 - What are people interested in?:** Most Viewed, Top Rated, Quick Links, Stories, Baynote/Google



Platform as a Service (PaaS) What does it mean?

- Identify and provision secure, open source development and production platform services to be used by NASA's Web Software Application Development Community.
 - » Leverage a source-control based workflow for deploying user applications atop managed execution environments.
 - » Developers choose from select supported languages
 - » Support granular resource (bandwidth, storage, and processing) monitoring, control, and cost recovery
 - » Provide for elasticity in resource consumption and load management
 - » Integrate with and provide essential supporting services such as multi-factor authentication, directory access, domain name resources, SSL, backup, enterprise monitoring and compliance, and related infrastructure components
- Make use of best practices in the administration of the platform service, including the use of managed public-key cryptography to launch and access platform resources
- Provide documentation and supporting resources to facilitate development for the platform service
- Integrate security, compliance, business process, and related reviews into the deployment workflow by means of automated assessment and reporting tools. Such systems serve to ensure broad compliance with NASA requirements in addition to providing developers with meaningful feedback and guidance in case of common procedural or technical errors.
- Provide insular, workflow-driven development, staging and quality assurance, and production environments.

*From RTO 1



Web Enterprise Service Technologies (WEST) PRIME

Question & Answer Session



Web Enterprise Service Technologies (WEST) PRIME

Closing Remarks



Web Enterprise Service Technologies (WEST) PRIME

Adjourn