GRANICUS

Manitowoc, WI | Digital Encoder Upgrade

PRESENTED BY: Ryan McClain, Granicus

PRESENTED TO: Manitowoc

DELIVERED ON: May 04, 2017

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Cover Letter

Dear Steve,

Thank you for being a valued Granicus customer. We appreciate the opportunity to support your project. I'm sending over a proposal for an upgraded digital encoder.

For over 15 years, Granicus has worked with local, state, and federal government agencies, helping them build trust with their constituents, reduce staff time spent on processing meetings and agendas, and engage citizens in new ways.

In this proposal, you will find that with our experience and wide range of product and industry knowledge, we can meet all your needs. We hope that Manitowoc and Granicus will continue to strengthen our partnership for years to come.

Should you have any questions, please feel free to reach out to us.

Most Sincerely,

Ryan McClain
Jr. Client Executive
Ryan.McClain
202-407-7514

Why Choose Granicus?

Granicus Cloud

- Over 1,300 clients in all 50 states, at every level of government
- 30+ years of government-focused experience
- More than 1.9 million government records and media files managed
- Public information is accessible on traditional desktop and modern mobile devices
- More than 265,350 government meetings online
- More than 109 million webcasts viewed
- Indefinite retention schedules for all archived meeting and non-meeting content
- Truly unlimited storage and distribution for all meeting bodies and non-meeting content
- Open API architecture and SDK allow for seamless integrations with systems already in place
- Named a critical partner to online success by Center for Digital Government's 2015 Best of the Web winners
- Named to the 2015 GovTech100 by Government Technology and e.Republic Labs
- No. 16 on Emerging Local Government Leaders' Top 50 Local Government Companies in 2016

Product Portfolio

- Provide a complete, end-to-end legislative management solution
- World's most experienced provider of government content management, transparency, and workflow automation
- The pioneer of a fully integrated legislative workflow management system for government
- First to market with an app specializing in electronic packets for elected officials and staff
- Government-specific website content management system as part of our product portfolio
- Offer a civic engagement solution to successfully enable two-way communication

Our Support

- 98% customer satisfaction rating, 99% client retention rating
- Client success stories are available here: https://granicus.com/success-stories/

Granicus Encoding Appliance

The Granicus Encoding Appliance is designed and built for our platform and streaming protocols to provide government organizations with superior live and on-demand webcasting performance. The hardware is pre-configured and delivered ready to stream. Simply connect power, network and an analog or Digital (SDI audio/video). Full appliance control is available through a web browser or locally installed client application.

Granicus' hosted infrastructure supports the encoding appliance and offers unlimited bandwidth, storage and the highest security standards through a cloud-based platform. The Granicus team works around-the-clock to ensure your applications are protected and operating smoothly. This ensures long-lasting success with our technologies while maximizing your solution's performance.

Physical Specifications

The Granicus Encoding Appliance will mount in virtually all 2- or 4-post racks. The Appliance front mounts much like a switch or router. It requires 2U (3.5") of rack space, is 17.7" deep, and weighs 35 lbs. Rail kit is standard. Tower kit is not currently available. Sound output is less than 65 db.

Ideally installation will be in a secure, climate-controlled environment.

Rear View (Analog):

Rear View (Digital):

Dimensions: 17.7"D x 17.2"W x 3.5"H; 2U High
Mounting: Front Mount; Rail Kit (standard)
Weight: 35 lbs
Sound Output: Less than 65 db

Power Requirements

Power requires a single 120volt or 240volt NEMA 5-15 plug. The power under load is 120 Watts and 0.965 Amps.

- 120 volt NEMA 5-15 plug
- Power under load is 120 Watts and 0.965 Amps

	Idle	Load	Startup
Watts	40	120	96
Amps	0.266	0.965	0.755
kVA	0.04	0.120	0.096
BTU/hr	136	408	326

Ideally, installation will be to an uninterruptable power supply (UPS) supplied by you. A UPS such as the APC Smart-UPS SC 450VA will provide approximately 40 minutes of run time. Appliance functionality requires the device be powered on at all times.

Storage

The Granicus Encoding Appliance can be configured to store up to 1 TB of your most recent archived content. Standard encoding bitrates use approximately 1 GB of disk space for every 2 hours of content. Granicus Cloud Storage is unlimited.

- 2 TB
- Approximately 4000 hours at standard bitrates

Network Bandwidth and Intelligent Routing

With the Granicus H.264 solution we use push streaming. Streaming at standard bitrates requires 650 Kbps upstream.

In addition to a single stream to Granicus for unlimited public viewing, the Appliance is capable of providing local live and on-demand Unicast streaming for up to 50 internal viewers. All initial viewing requests are made on a Granicus-hosted webpage, which examines the public IP address of the request. Viewers who are determined to be public, or outside the local network, are served the stream directly by Granicus, and internal viewers are transparently redirected to the Appliance on the local network.

Granicus is also able to provide 24/7 streaming if local bandwidth requirements are met and QOS settings are in place. Talk to your Sales Engineer for more details.

For organizations that use Granicus VoteCast or need to support more than 50 concurrent streams, Granicus offers the <u>Performance Accelerator, which moves the local distribution components onto a dedicated internal streaming device.</u>

Intelligent Routing

- Granicus uses client public-facing IP addresses to determine if viewer is public or internal
  Internal viewers are redirected to the Granicus Encoding Appliance for live and on-demand streaming
- Only available on the Encoding Appliance when not using VoteCast to capture real-time voting data.
- Limited to 50 concurrent live and on-demand streams

Internal Viewership

Internal viewers will view streams from either the Granicus Encoding Appliance, the Performance Accelerator, or directly from the Granicus DataCenter.

Voting System

The Granicus Encoding Appliance can be used for real-time voting capture when combined with a purchase of VoteCast.

Standard Resolution and Bitrates

Resolution	Bitrate
Low 320x240	350kBps
Low Widescreen 480x288	420kBps
Medium 480x360	600kBps
Medium Widescreen 640x360	720kBps
High 640x480	1000kBps
480p 720x480	1000kBps
720p 1280x720*	1500kBps

*HD upgrade required for this resolution

Operating System Requirements

The Granicus Encoding Appliance runs Microsoft Windows 7 operating system. It is designed to run as a stand-alone machine, not joined to your domain. We have found that joining the Encoder to a domain can produce unintended results (Group Policy restrictions, security restrictions, Windows Firewall blocking traffic, restricted logon hours, etc.).

Network Location, Firewall, and Security

The Granicus Video Player and other parts of the solution require the viewer or user to connect to other domains and URLs. These connections are required for the service to operate as expected. Client computers will require unrestricted outbound access. If outbound connections over 80 and 443 are restricted, you will be responsible for making exceptions. These domains and URLs are subject to change at any time, including during planned upgrades, and if access is restricted and Granicus makes a change, your service could be affected.

The Appliance is generally installed on an internal network. If that will not work, it can also be installed on a DMZ, separate network, or VLAN. To support local distribution, internal viewers need to have access to the Appliance. If placing on a separate network, access can be restricted so that internal viewers have one way access to the Appliance.

The Granicus Encoding Appliance needs to be allowed to bypass all content filtering and proxy servers. The firewall needs to allow unrestricted outbound TCP connections from the Granicus Encoding Appliance to any destination ports within the Granicus IP ranges (207.7.154.0/24 & 209.237.241.0/24). If the network includes an authenticating proxy server, the Appliance must be allowed to bypass authentication.

Streaming Formats

Live streaming is in H.264 format using Flash® and HTML5. Platforms supported include PC, Mac, iOS (iPhone, iPad), and Android devices with the Adobe® Flash plugin. On-demand streaming is supported for most Android devices regardless of whether the Flash plugin is installed.

Encoding Formats

- H.264 Adobe® Flash®
- H.264 HTML5

Bandwidth

- 650 Kbps Live and On-Demand Streams

Audio/Video Source Requirements

Granicus recommends that there be at least one method of redundancy in your AV setup. We have seen best practices of a third party DVR in the instance that there is ever an issue with the encoder.

The Granicus Encoding Appliance must be installed in a location that allows for connection to an analog or digital audio/video source, depending on encoder. A list of supported connections are available upon request.

Digital Encoder A/V Notes

- If your video setup does not generate an embedded audio source, converters are available to combine the audio into a single embedded source
- The device accepts SD-SDI or HD-SDI with resolutions up to 1080p
- Currently Granicus supports the recording and streaming of video up to 720p. We will take the SD or HD content you provide and stream it at the highest quality settings up to 720p
- When Granicus supports recording and streaming up to 1080p your Granicus SDI Encoding Appliance will be compatible with these streaming settings
- The maximum recommended distance to run video cabling is 250 feet
- If you need to run video cables beyond 250 feet, an HD-SDI digital amplifier is recommended

Baluns

The ability to run A/V cabling over long distances depends on the quality of the cable, length, connections and other electrical noise that might possibly interfere with the signal. For distances over 50 feet, Granicus recommends using a product such as a balun which will transmit the signal over standard unshielded twisted pair cabling (Cat 5, 6 or 7) with a rated distance of up to 2200 feet. This is a point-to-point solution and not IP based. It requires a standard RJ-45 at each end of the cable. If desired, Granicus can provide standard baluns as part of the solution. Other options for extending A/V are to use fiber and a media converter or a distribution amplifier. When other methods are used besides standard baluns, Granicus recommends consulting with a reliable A/V vendor for appropriate recommendations.

Closed Captioning Support

The Granicus Encoding Appliance supports video with closed captions. Captions are extracted by Granicus and displayed below the video. Post-event, captions are uploaded and become fully searchable.

	Analog	Digital
Closed Captioning	Separate customer-supplied closed captioning encoder required Video must have captions embedded on line 21 Granicus Encoding Appliance extracts captions that are embedded Video player displays captions below video	Separate customer-supplied closed captioning encoder required Works with VANC stored captions as part of the HD-SDI stream or with captions embedded on line 21 for SD-SDI Granicus SDI Encoding Appliance extracts captions that are embedded Video player displays captions below video

Remote Management

Granicus will monitor, support, and maintain our software on your Encoding Appliance. Granicus will provide updates to our software components when maintenance releases become necessary. Other server maintenance, such as performing Windows updates and maintenance of software that is not provided by Granicus will remain your responsibility. Installation of third-party software that is not specifically approved by Granicus may detrimentally impact the server's performance. In extreme cases, the server may need to be reimaged to restore normal operations; in this case, a reimaging fee may be charged.

Hardware/Software Maintenance

When you purchase the Granicus Encoding Appliance, Granicus includes a three-year maintenance plan that covers hardware failures. If a hardware defect is encountered, Granicus will replace the server at no cost to you. The replacement will arrive within 3 days of the return materials authorization by Granicus.

Customer Care Resources

Customer satisfaction is the backbone of our company and client success. Granicus goes above and beyond traditional support models by leveraging systems management technology to constantly monitor every component of your solution.

Granicus Customer Care

Customer Care Team Headquarters:

707 17th Street, Suite 4000
Denver, CO 80202

Our Customer Care Team anchored in our primary Denver location provides care across all time zones and cities.

Reach a Customer Care Engineer
Phone: (877)-889-5495, then press, "1."
Email: customercare@granicus.com
Web: http://www.granicus.com/createacase/
(For urgent matters, please call our customer care team to speak directly with a customer care engineer.)

Customer Care Hours

Business hours are Monday through Friday from 5 a.m. until 5 p.m. Pacific US time. After-hours support is available for urgent issues Monday through Friday from 5 p.m. until 10 p.m. Pacific US time and on weekends and holidays.

Granicus' goal is to answer all calls directly but at a minimum to respond to voicemails within a time frame of 30 minutes after receiving them during business hours.

Customer Care Resources

The Granicus Help Center provides online access to our Knowledge Base with index search capabilities and includes video tutorials, how-to and best practice guides, frequently asked questions, and detailed product guides. The Help Center is located at https://help.granicus.com and will be made available to staff and end-users.

The Help Center includes the following features:

- **Knowledge Base**: Search articles about Granicus products and services. Direct link: http://help.granicus.com.

- **Online Training:** Regular live and on-demand resources to learn more about your Granicus solutions. Direct Link:

    - https://help.granicus.com/GranicusUniversity

- **Customer Care Resource Center**: Find product-specific downloads, manuals, reference guides, and release notes to make your work easier. Direct link:

  - https://help.granicus.com/Support

- **Granicus Blog:** Provides a community for our clients to share ideas and get the latest tools, tips, and strategies to achieve success with Granicus. Direct link: http://blog.granicus.com.

On-going Training

Granicus provides on-going Customer Care as we build a lasting relationship with your team. Through our Customer Service Portal, we provide many resources designed to help you become an expert Granicus user.

Product Upgrades

As a true hosted service, all updates are done automatically with no local intervention or software needed. As a result, all users will always experience the most current version of the system without dependency on updates or manual effort. This eliminates any possibility of "out-of-date" software typically associated with local application installation.

Finally our 98.5% client retention rating attest to the strength of Granicus' reliability and customer care service.

What is included in the annual maintenance contract?

The following services are included in the annual maintenance contract (monthly managed service fees):

- Unlimited free software upgrades
- Enterprise-wide licensing
- Dedicated account management team

Maintenance and Upgrades

Annual maintenance and upgrades are included in your monthly managed service fees (see Pricing page). Below is an overview of software updates and patches:

Client on-premise software

All server maintenance such as OS patching is managed by the client at their discretion. However, if during a troubleshooting session Customer Care discovers x-num of critical updates available, it is Granicus' practice to apply them as part of the troubleshooting task. Granicus will maintain, support and update all Granicus-software installed on the server(s) in question.

Hosting Infrastructure

Hosted infrastructure maintenance is done on the first Friday of every month starting at 9 PM PT (infrastructure maintenance includes security and other system patches as well as any hardware updates or migrations that require downtime)

Hosted software maintenance is typically done on the 3rd Friday of the month (this can change) starting at 9 PM PT and notification will be sent to customers 72 hours in advance to those that have subscribed to Granicus notifications.

Note: Emergency maintenance due to security vulnerability or critical software bug can be done outside of the normal schedule.

Clients are informed via email for all system upgrades and patches. Standard maintenance occurs on the 3rd Friday of every month.

SECURITY OVERVIEW

Data Center Security

Having a robust and secure data center implementation is a necessity, not an option. Granicus Data Centers are designed for reliability and redundancy. Our data centers are guided by a "defense-in-depth" security strategy to ensure reliable access of government data. With a 99.9% uptime, we are confident that customer data are always available.

Data Center Requirements:

- Secure - SSAE-16 Accreditation
- Reliable Network
- Data Availability: 99.9% Uptime
- Redundant Backups

Granicus Server Locations

United States

- Primary Data Center in Ashburn, VA
- Backup Data Center in San Francisco, CA

Robust Security Layers

Granicus implements a series of protective layers so that no single solution is relied upon to provide security, including:

- Hosting facilities that meet or exceed Tier III standards that are engineered to ensure application and data availability and security

- Edge-to-edge security, visibility, and carrier-class threat management and remediation. We utilize industry-leading tools to compare real-time network traffic and flag any anomalies such as: Denial of Service (DoS) and Distributed Denial of Service (DDoS) attacks, worms or botnets.
- Network issues: traffic and routing instability, equipment failures, or misconfigurations
- Hardened, stateful inspection firewall technology
- An Intrusion Detection System (IDS) utilizing signature-, protocol-, and anomaly-based inspection methods
- 24x7x365 firewall, VPN, and IDS support and maintenance
- Security policies and procedures that are constantly maintained, tested, and updated

A Security Incident Response team/SSAE-16 accreditation ensures all customer data is secure from any tampering.

Pricing Table

SOFTWARE-AS-A-SERVICE			
Name	**Qty.**	**Unit (Monthly)**	**Total (Monthly)**
Granicus Encoding Appliance Software - (GT)	1 Package	$100.00	$100.00
		Total Software Monthly Cost:	**$100.00**

Name	**Qty.**	**Unit (Upfront)**	**Total (Upfront)**
HARDWARE UPFRONT			
Granicus SDI Encoding Appliance Hardware	1 Unit(s)	$3,500.00	$3,500.00
Shipping - Large Item	1	$125.00	$125.00
PROFESSIONAL SERVICES UPFRONT			
Encoding Appliance Hardware Configuration - (GT)	1 Service(s)	$875.00	$875.00
		Total Upfront Cost:	**$4,500.00**

PROPOSAL TOTAL COSTS	
Total Upfront Cost:	**$4,500.00**
Total Monthly Cost:	**$100.00**

All currency is in US dollars