

Jive Interactive Intranet

9.x Administrator Guide

System Requirements

Notices

For details, see the following topics:

- [Notices](#)
- [Third-party acknowledgments](#)

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If you still cannot find a solution, open a ticket on [Aurea Support Central](#). Information about the support organization is available on [Support Portal](#) as well.

You can also find the setup files on [Support Portal](#).

For information about purchasing an upgrade or professional services, contact your account executive. If you do not know who your account executive is, or for other queries, contact us through our [website](#).

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System requirements

Here you can find the required and supported system elements for the application.

Remember: You should have a plan to back up your installation. For more information, see [Backup and storage considerations](#).

Jive includes most of what you need to get the application running and configured for a simple evaluation or development installation, but running it in production requires you to set up a database and configure a distributed environment with multiple server nodes. Each production instance includes external components you need to provide. You should read the requirements, described in [Required external components](#) on page 12, carefully before you begin your installation.

Note: Previous versions included a Postgres database as part of the installation package: this component is no longer included. For instructions on how to set up your database if you want to create a single-computer installation for non-production use, see [Quick database setup for evaluations](#).

Learn about the required and supported system elements for the application. The system requirements listed here should be met before using the application.

For details, see the following topics:

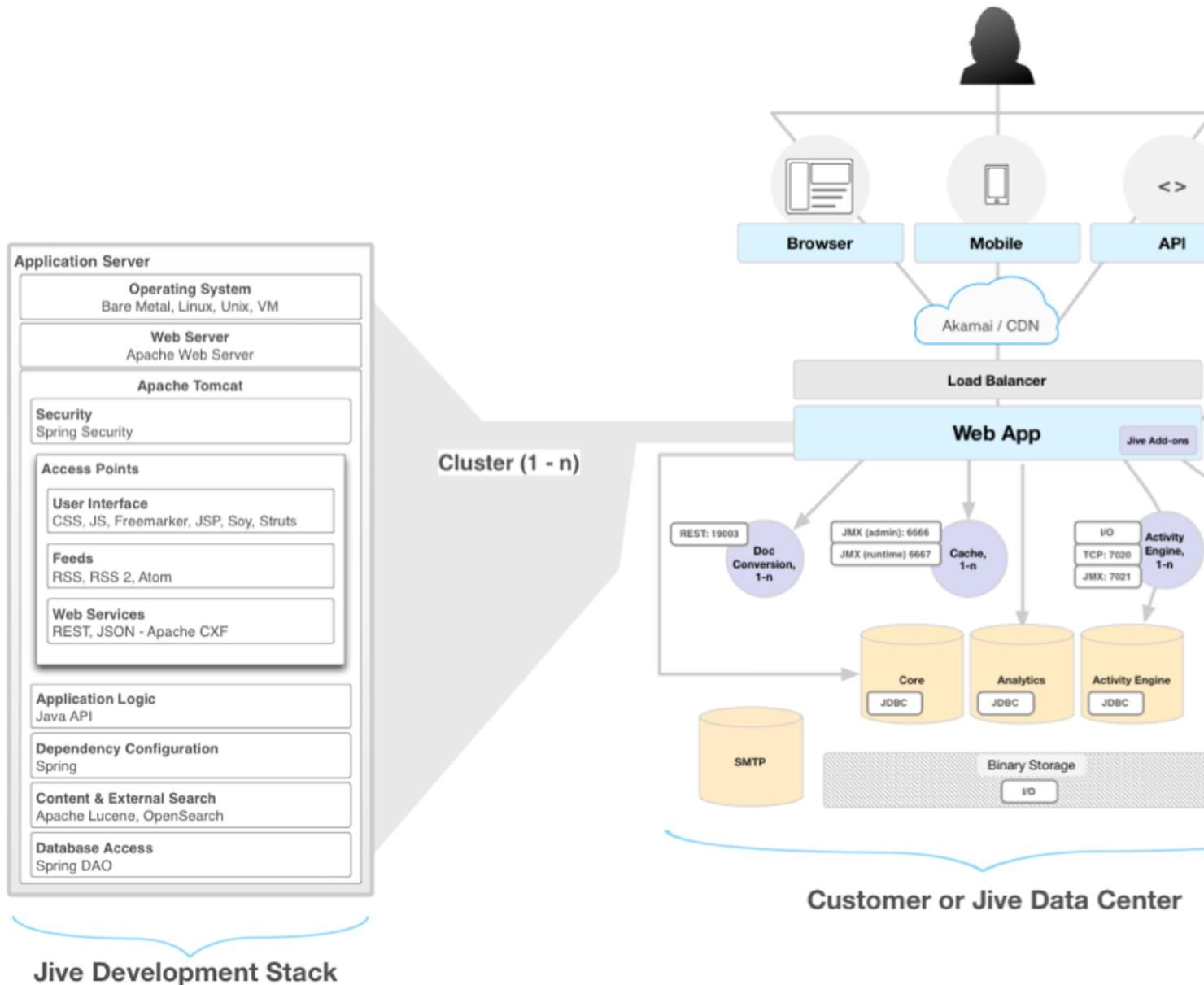
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Jive Enterprise architecture

Jive is compatible with a number of hardware configurations as well as network topologies.

The following illustrates the recommended deployment configuration for an on-premise installation. Your configuration may be different.

Note that except for an evaluation or development environment, you cannot deploy Jive and all of its services from one server. Your web app nodes, Activity Engine, cache server, search (if you don't use Cloud search), and document conversion services must all be stored on separate servers. You can store the Analytics database and core application database on one server, but you must ensure isolation.



Expertise required to administer Jive

Here you can find typical roles and their professional expertise required to manage the Jive application.

Community Administrator

Makes decisions for the community and set it up by using the user interface. Community Administrator manages the community and sets up permissions for places. For more information, see [Administering the Community](#).

Database Administrator	Responsible for the administration of the database back-end to the Jive platform. DBA configures, implements, provisions and monitors databases supporting the Jive environment. DBA is responsible for database sizing, resource allocation, backups, high-availability, and security of the database engines. For more information on supported databases, see Supported database engines .
Directory Server Administrator	If you plan to provision Jive users from a directory server, such as LDAP or Active Directory, you need in-house or consulting expertise in operating and maintaining enterprise-level directories.
Linux System Administrator	The Linux System Administrator set up and maintain Jive in a Linux environment. Linux System Administrator performs upgrades, provisions, installs, configures, operates, and maintains the Jive system hardware, software, and related infrastructure. For more information, see Administering Jive platform .
Storage Administrator	Storage Administrator provisions shared NAS/SAN storage for your Jive installation. For more information, see Shared storage on page 13.

Hardware requirements

Your application, cache, Activity Engine, document conversion, and search servers have different suggested hardware specifications.

Jive is compatible with a number of hardware configurations, as well as network topologies. The following tables provide required minimum hardware specifications. Note that depending on your site's traffic patterns and sizing, you may require considerably more resources and a customized approach.

This topic covers the hardware on which you install Jive components. However, to run Jive you also need to provide the additional resources (such as databases and a load balancer), described in [Required external components](#) on page 12. You also need to provide the network resources and configuration, described in [Network requirements](#) on page 14.

Topology

- Separate virtual machines (VM) or physical machines for each application node, Activity Engine, document conversion server, cache server, and search server.
- Three freestanding databases. For more information about requirements and setup, see [Database configuration and best practices](#).
- At least two web application nodes. Running multiple application nodes allows for high-availability failover between the nodes, and allows you to scale the number of requests your site can handle more easily. Note that to run multiple web application nodes, you need to run a separate cache server, and you need to provision a load balancer.

Running in a virtual environment

If you install in a virtual environment, note the following best practices:

- You should install SLES or RHEL as a guest operating system in a VMware environment per VMware instructions.
- Jive requires memory reservation to be dedicated for each node in the installation, including the cache server and the Activity Engine server.
- The VMware Best Practices Guide at <https://kb.vmware.com/s/article/1008480> has some valuable suggestions.

Application machine

Component	Required minimum
CPU	<ul style="list-style-type: none"> • Multicore: 2 chips with multicore optimal • 2 GHz minimum • x86-64 architecture
Memory	<ul style="list-style-type: none"> • 6 GB physical RAM • 2 GB memory heap (configured by default)
Storage	<ul style="list-style-type: none"> • Use a RAID configuration for best performance and reliability. • Unless you have a very small installation, you should provide external binary storage for your uploaded documents and images, as described in Required external components on page 12.

Activity Engine machine

Component	Recommended minimum
CPUs	<ul style="list-style-type: none"> • Multicore: 2 chips with multicore optimal • 2 GHz Minimum • x86-64 architecture
Memory	<ul style="list-style-type: none"> • 6 GB physical RAM; 4 recommended • 2 GB memory heap (configured by default)
Topology	<ul style="list-style-type: none"> • Activity Engine on a single machine that is separate from clustered application servers

Document Conversion machine

Component	Recommended minimum
CPUs	<ul style="list-style-type: none"> • Multicore: 2 chips with multicore optimal • 2 GHz Minimum • x86-64 architecture
Memory	<ul style="list-style-type: none"> • 6 GB physical RAM • 256 MB memory heap
Topology	

Component	Recommended minimum
	<ul style="list-style-type: none"> Document conversion server on a single machine that is separate from clustered application servers

Cache Server machine

Component	Recommended minimum
CPUs	<ul style="list-style-type: none"> Multicore: 2 chips with multicore optimal 2 GHz Minimum x86-64 architecture
Memory	<ul style="list-style-type: none"> 6 GB physical RAM 1 GB memory heap (configured by default). 2+ GB recommended for sites with large amounts of content
Topology	<ul style="list-style-type: none"> Cache server on a single machine that is separate from clustered application servers <hr/> <p>Note: Jive supports either a single cache server or 3 (or more) cache servers. Using two cache servers is not supported.</p> <hr/>

Search Node machine

Component	Recommended minimum
CPUs	<ul style="list-style-type: none"> Multicore: 2 chips with multicore optimal 2 GHz Minimum x86-64 architecture
Memory	<ul style="list-style-type: none"> 6 GB physical RAM 1 GB memory heap (configured by default). 2+ GB recommended for sites with large amounts of content
Topology	<ul style="list-style-type: none"> Search node on a single machine that is separate from clustered application servers

Required external components

The external components that are required in a production installation of Jive are

listed here.

Databases At a minimum, you need to set up a database server for the core web application, Activity Engine, and Analytics. For detailed information about requirements and setup, see [Database configuration and best practices](#).

Load balancer Because you need multiple application nodes to run Jive in production, you need to set up a load balancer to manage incoming traffic. Note that SSL termination at the load balancer is required; for details, see [Configuring SSL on load balancer](#). SSL encryption between the load balancer and each web node is optional; for more information, see [Configuring SSL between load balancer and web app nodes](#). You should also enable session affinity on the load balancer, as described in [Configuring session affinity on load balancer](#).

Shared storage For non-trivial deployments, we recommend that you provision a unit of shared storage on a SAN/NAS to store binary content. This single unit of storage must be mountable on all the web application nodes in your installation and should be easy to expand because the amount of content in Jive grows over time. This shared storage is used both for storing binary content, such as uploaded documents, and for storing the output after the Search server has indexed the text content. For more information on binary storage, see [Configuring binary storage provider](#). To estimate the amount of disk space you need for this component, see [Sizing binary storage](#) on page 14.

Optional content delivery network (CDN)

If you are deploying a large, globally-dispersed community, you may want to use a third-party content delivery network (CDN) tool.

A CDN service can help your Jive pages load faster for remote community users in a large, globally-dispersed community. For an external community (typically one used for customers, vendors, and employees), we strongly recommend that you use a CDN tool.

For assistance with deploying a CDN and selecting an appropriate vendor, contact [Support](#).

Sizing binary storage

To estimate your binary storage requirements, consider your likely number of users and the kinds of materials they may upload.

When estimating the size of your shared storage, the stored footprint for each version of each converted document is about 130 percent of the size of the uploaded document. So, for example, a 5 MB document uploaded by the user means about 6.5 MB of storage needed for each version of the document in your binary storage provider. That's because for each document for which the application generates a preview — for each *version* of that document — the application generates a preview, thumbnail images, and PDFs.

Note: You only see the increased stored footprint for certain uploaded document types, such as Word, PowerPoint, Excel, and PDF, and it does not occur for all documents. For example, you won't need increased storage for ZIP files or text files. Attachments, images, and any plugins that store binary content also use an increased stored footprint.

Customer size	# of users	Initial size	Extra storage per month
Small (internal)	100 to 500	25 GB	1 GB
Medium (internal)	500 to 5,000	100 GB	5 GB
Large (internal)	50,000+	500 GB	20 GB
Public*	n/a	100 GB	1 GB

* External sites commonly do not allow attachments or binary documents, so they typically don't use a lot of binary storage.

Network requirements

You should set up and optimize your network for Jive.

- When you set up Jive, make sure your network has Gigabit Ethernet and the capacity to handle your community's traffic.
- Make sure your application nodes are inside the same network. You can't distribute them across a WAN.
- Enable traffic between different components, as described in [List of required ports and domains](#) on page 19.
- Make sure that the PUT and DELETE methods are enabled on your router or proxy server. These methods are handled securely by the Jive web application and are required to run the application. For a thorough explanation of why these methods are secure and how they relate to the product web services architecture, see [Jive Web Services Architecture](#) on Worx.

- Running Jive in SSL mode is required for production deployment. For more information, see [Configuring SSL on load balancer](#).
- Several Jive services have additional connectivity requirements. For more information, see [Connecting to Jive-Hosted Services](#).

Supported operating systems

Installing and running Jive requires a Linux server operating system.

The following operating systems are supported. You need the latest three service packs and a bash shell.

- RedHat Enterprise Linux (RHEL) version 6, 7, and 8 for x86-64
- CentOS version 6 and 7 for x86-64
- SUSE Enterprise Linux Server (SLES) 12 SP1 for x86-64

Supported browsers

Jive works with most current web browsers. Note that if you need to use Content Editor features, such as cut and paste, script access to the clipboard must be enabled.

- Microsoft Edge* (Chromium-based).
- Apple Safari 8 and 9 (on Macs only).
- Mobile Safari on iPhone and iPad for iOS 8 and 9 and later. (For a browser-independent native iOS phone app, be sure to look for the Jive Daily Hosted app, if your community uses it, in the App Store.)
- Mobile Chrome on Android devices for Android 4.4 and later. (For a browser-independent native Android phone app, be sure to look for the Jive Daily Hosted app, if your community uses it, in Google Play.)
- Mozilla Firefox*.
- Google Chrome*.

* Google Chrome, Mozilla Firefox, and Microsoft Edge browsers are released frequently. Jive Software makes every effort to test and support the latest version.

Note: The recommended minimum screen resolution for desktop devices is 1024 x 768. Results may vary if you use zoom to adjust your view to levels other than 100%.

Important notes and restrictions

- Beta versions of web browsers are not supported, but they are quickly added to the supported list after they're formally released.
- Apps are not supported on mobile devices. These features may not work correctly on mobile devices.

Deployment sizing and capacity planning

The hardware capacity you need to plan for depends on your community's page view load.

Note: This topic only covers the main hardware where you install the application itself. You also need to consider sizing for the required external components included in your installation. For more information, see [Required external components](#) on page 12.

Estimating deployment size

The usual calculation for estimating page views in preparation for a site deployment is to use the known page views per day and add 20% to the total as a buffer. (If you want to read more about the math behind this calculation, you can request the *Jive 5 Performance Whitepaper* from Support: it explains in detail how Jive is load-tested.) If you're replacing an existing site (such as a customer forum or intranet), you can use the page views from that site plus 20% to estimate the required resources. If your site is new, you can use page views from a comparable site. A page view is defined as a full page download: smaller interactions, such as AJAX actions, are non-significant for this calculation.

Note that the page view counts shown in the table below are based on averaging page views over a day. However, many sites have dramatic differences between peak usage and off-hour usage that are not adequately reflected in the daily average. If this is the case with your site, you should size for page views based on peak hours to avoid performance problems during high-traffic periods.

Required capacity

Deployment size	Required servers	CPUs per web application node	Memory per web application node
Small Fewer than 100,000 page views per day	<ul style="list-style-type: none"> • 2 Web application • 1 Activity Engine • 1 Document Conversion • 1 Cache • 1 Search 	6	4GB heap, 10GB total
Medium 100,000 to 500,000 page views per day	<ul style="list-style-type: none"> • 4 Web application • 1 Activity Engine • 1 Document Conversion • 1 Cache • 1 Search 	6 or more	6GB heap, 12GB total
Large More than 500,000 page views per day*	<ul style="list-style-type: none"> • 8 or more Web application • 1 Activity Engine • 1 Document Conversion • 1 Cache • 1 Search 	6 or more	8GB heap, 16GB total

* We typically use the following calculations to determine peak page views per second: $500,000 / 8 \text{ hours (for example, business hours)} / 60 \text{ minutes (per hour)} / 60 \text{ seconds (per minute)} = \text{approximately an average of 17 page views per second during business hours, assuming an even distribution of load across those 8 hours. Using this model, we expect to see spikes of up to 25-30 page views per second at peak.}$

Pre-installation requirements as root on CLI

You need to complete some pre-installation tasks before installing the Jive package. These tasks need to be completed by a root user.

The pre-installation tasks outlined in the following steps apply to all supported operating systems.

Note: Clock synchronization using NTP is required. If you are using VMware, see Timekeeping best practices for Linux guests at the VMWare Knowledge Base at <http://kb.vmware.com/kb/1006427>.

1. Obtain the Jive RPM and copy it to each server and application node in your Jive network.

Here's an example using the Linux `scp` command to copy the package from a computer named `joesbox` to a target system at `targetsystem`:

```
scp -v joe@joesbox:/Users/joe/jive.rpm root@targetsystem:/root
```

For more information, see [Hardware requirements](#) on page 9 and [Preparing to connect to Jive Hosted services](#).

2. Obtain the `pdfswf` RPM on the PDF2SWF 0.9.1 for Jive Document Converter page at <https://static.jiveon.com/docconverter>.
3. As root, modify `/etc/security/limits.conf` and add the following values.

```
jive    soft    nofile  100000
jive    hard    nofile  200000
```

Note: If you are using a non-root user to install Jive, then replace "jive" with that username. For more information, see [Installing Jive without root access](#).

4. Once you've made the change, log out and back in again as the jive user.
5. If required, as root, modify `/etc/sysctl.conf` and add the following values.

```
net.core.rmem_max = 16777216
net.core.wmem_max = 16777216
net.ipv4.tcp_wmem = 4096 65536 16777216
net.ipv4.tcp_rmem = 4096 87380 16777216
kernel.shmmax = 2147483648
```

Note: You only need to modify these values if your existing configuration does not meet or exceed them.

6. In `/etc/sysctl.conf`, increase the `vm.max_map_count` to fit your implementation. The Jive Setup wizard calculates a minimum required value based on how much memory is available. You may need to use a higher value than recommended depending on usage patterns or overall usage. The line in `sysctl.conf` should look like this:

```
vm.max_map_count = 500000
```

7. Run `sysctl -p`.

RPM dependencies by operating system

Jive has a few operating system dependencies that you can preinstall.

RHEL 6 and RHEL 6-based operating system dependencies Use yum update/install to install:

```
bash cairo cups-libs expat fontconfig keyutils-libs
krb5-libs libpng libSM libX11 libXau libXdmcp libXext
libXinerama libXrender mesa-libGL ntp openssl pam
sysstat dejavu-sans-fonts dejavu-serif-fonts
```

RHEL 7 and RHEL 7-based operating system dependencies Use yum update/install to install:

```
bash cairo cups-libs expat fontconfig keyutils-libs
krb5-libs libpng libSM libX11 libXau libXdmcp libXext
libXinerama libXrender mesa-libGL ntp openssl pam
sysstat dejavu-sans-fonts dejavu-serif-fonts
```

SLES 11 dependencies Use zypper update/install to install:

```
bash cairo cups-libs expat fontconfig krb5 libpng12-0
Mesa openssl pam sysstat termcap xntp xorg-x11-libs
xorg-x11-libXrender dejavu-fonts
```

SLES 12 dependencies Use zypper update/install to install:

```
bash cups-libs expat fontconfig krb5 libcairo2
libpng12-0 Mesa openssl pam sysstat termcap xntp
xorg-x11-libs xorg-x11-libXrender dejavu-fonts
```

List of required ports and domains

Here you can find the ports you need to open in order to enable key Jive components. For services that are hosted by Jive, you also need to ensure access to certain domains or IP addresses. These addresses are shown where required. For Jive core services, we've provided the name used in the Jive command-line interface for reference.

Jive Core components

Component	Jive CLI Name	Ports	Direction	Domains or IPs
Jive Core (Hosted only) when connecting to custom services behind a firewall ¹				<p>AWS US-East-1 Region: 34.192.45.122, 34.198.91.162, 34.231.78.214, 34.225.172.123, 34.193.143.104, 52.55.123.87, 52.20.222.9, 34.230.231.2, 34.197.60.63, 52.207.30.159, 3.213.1.211</p> <p>AWS EU-West Region: 54.154.171.198, 108.129.50.14, 52.31.199.172, 34.247.7.187, 34.252.244.183, 52.211.222.108, 63.33.30.202</p>
Jive web application (Tomcat)	webapp	<p>HTTP monitor port: 9000 (does not need to be opened outside)</p> <p>Server port: 9001 (does not need to be opened outside)</p> <p>HTTP port: 9002 (does not need to be opened outside)</p>	Open	
Jive - Apache	httpd	HTTP port: 8080	Open and public-facing	

¹ This applies to Hosted communities only. If your organization utilizes whitelisting to connect your Jive instance to your organization's services behind a firewall, you need to whitelist the IPs as specified. This may be required, for example, if your Jive community is configured for LDAP directory syncing, and you utilize a whitelist on your firewall to allow your Jive community to connect to it.

Component	Jive CLI Name	Ports	Direction	Domains or IPs
Activity Engine	eae	TCP port: 7020 JMX port: 7021, 8026 RMI ports: 33030, 56844	Open	
Cloud Search service		443	Outbound	US customers only: search-ingress-adapter.aws-us-east-1-prod.svc.jivehosted.com search-query.aws-us-east-1-prod.svc.jivehosted.com EU customers only: search-ingress-adapter.aws-eu-west-1-prod.svc.jivehosted.com search-query.aws-eu-west-1-prod.svc.jivehosted.com
On-Premise Search service	search-service	Service port: 30000 Debug port: 27001 JMX port: 27002	Open	localhost
IngressReplicator service	ingress-replicator-service	Service port: 29000 Debug port: 29001 JMX port: 29002	Open	localhost
DocumentConversion	docconverter	19003	Open	
Analytics		none	Inbound	

Component	Jive CLI Name	Ports	Direction	Domains or IPs
Clouddalitics		443	Outbound	<p>US customers only:</p> <pre>ca-ingress.aws-us-east-1-prod.svc.jivehosted.com ca-cmr.aws-us-east-1-prod.svc.jivehosted.com ca-query.aws-us-east-1-prod.svc.jivehosted.com</pre> <p>EU customers only:</p> <pre>ca-ingress.aws-eu-west-1-prod.svc.jivehosted.com ca-cmr.aws-eu-west-1-prod.svc.jivehosted.com ca-query.aws-eu-west-1-prod.svc.jivehosted.com</pre>
Cache service	cache	1024 - 65535	n/a	

Databases server default ports

Component	Ports	Direction
Database - PostgreSQL	5432	Open/bidirectional
Database server - SQL	1433	Open/bidirectional
Database server - MySQL	3306	Open/bidirectional
Database server - Oracle	1521	Open/bidirectional

Jive optional components

Component	Ports	Direction	Domains or IPs
Jive Connects for Office	80 or 443 (we recommend using 443 to transmit content)	Open	
Mobile (all locations, including EMEA) when you are sending push notifications to the publicly available apps	443	Outbound from Jive instance	mobile-push.prod.jiveon.com (204.93.64.255 and 204.93.64.252)
Mobile (all locations, including EMEA) when you are using your custom branded iOS app with your own push notification certificate	TCP port 5223 (used by devices to communicate to the APNs servers) TCP port 2195 (used to send notifications to the APNs) TCP port 2196 (used by the APNs feedback service) TCP Port 443 (used as a fallback on Wi-Fi only, when devices are unable to communicate to APNs on port 5223)	Outbound from Jive instance	
Mobile (all locations, including EMEA) when you are using your custom branded Android app with your own Google Cloud Messaging key	443	Outbound from Jive instance	https://android.googleapis.com/gcm/s
Jive for SharePoint	443 or 80	Inbound to public SSL-enabled VIP for Jive instance	

Component	Ports	Direction	Domains or IPs
Jive StreamOnce	443	<ul style="list-style-type: none"> Inbound to Jive instance Outbound from Jive instance 	209.93.64.0/19 192.250.208.0/20
Video	80, 443, and 1935	Open/outbound	For region-specific CDN information, see the Video Module FAQ on Worx.
Video (cont.)	80 and 443 to a specific IP range (for example, 208.122.31.1 - 208.122.31.250)	Open/inbound	208.122.47.224/27 74.63.51.48/28 72.251.201.144/28 107.6.89.96/28 54.241.10.197/28
Video – webcam	80 and 443 to a specific IP range (for example, 208.122.31.1 - 208.122.31.250)	Open/inbound	184.73.23.83
Jive for Office and Jive for Outlook	80		files.jivesoftware.com (for auto-updates only)