SECURITY OVERVIEW

datasheet version 3.0

Vanilla

VANILLA FORUMS INC

Document Change History

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Updated to reflect new DDoS and Trust policies.

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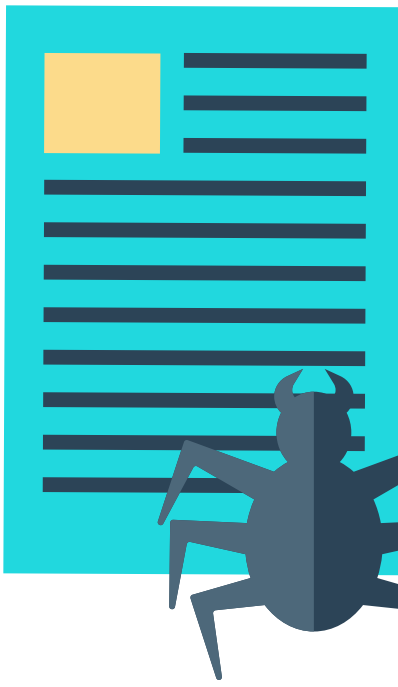

Security is a top concern for companies selecting 3rd party externally hosted software platforms that will contain customer information. Vanilla takes security very seriously and has adopted industry best practices to ensure that our customer's data stays safe.

Vanilla is committed to the security of our products from the ground up. Security is crucial to our process from product development to deployment, and all our products and services are tested rigorously before hitting production. In order to ensure compliance with our strict security standards, we conduct regular security audits and vulnerability testing on our products and our hosting environments

The following is a brief overview of security and compliance policies in place at Vanilla Forums.

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Application Security

Security is a major consideration when designing and building our application. From password encryption to the rendering of uploaded images, significant effort is put into outthinking malicious exploits.

Application security includes:

- Granular permissions, using Role Based Access Control (RBAC), to ensure that access to functionality is restricted and controlled. Our permission system aims to be extremely straightforward and easy to understand which has been shown to reduce the frequency of accidental misconfiguration.
- Robust validation of user created content to prevent the insertion of malicious code. All input to the application is sanitized and validated prior to being considered actionable. All user interaction with the application is considered hostile until proven otherwise, on a request-by-request basis in order to prevent Access Control Failures (ACF).
- Passwords are secured using industry standard multi-pass hashing with blowfish for the block level cipher.
- Form submissions are authenticated using Transient Key Cryptography, which is used to generate single use numbers (or “nonce”) that must match up in order for the request to be valid.
- Vanilla Forums has undergone numerous penetration tests by leading security firms and responds to new vulnerabilities in real time.
- In the unlikely event of a breach, logging and backups allow us to investigate and restore data that may have been damaged.

Questions and Answers

	Application Stack
Development	PHP
Database Technology	Percona MySQL
Session Management	UserID in HMAC-signed cookie

	IO Validation
How does Vanilla receive input?	Input is provided by the end user through their web browser. Vanilla also supports an API that can accept calls from automated agents. Users are able to upload files if the File Upload feature is enabled.
What kinds of files can users upload?	This is configurable, and we sanitize image uploads to eliminate malicious gif/jpg/png exploits. Other file types are uploaded and stored as-is. Files are not stored on application servers and cannot infect our network.
How does Vanilla determine the file type?	By file extension and mimetype inspection.
Can users generate arbitrary HTML?	Vanilla supports several markup formats, including BBCode, Markdown and WYSIWYG. There is no need to allow arbitrary HTML.
How does Vanilla mitigate XSS?	User input is aggressively sanitized by an intelligent mixed type input parser which removes active elements including scripts.
How does Vanilla mitigate XSRF?	Most URLs that have consequences are shielded by POSTs, and those that are not are protected by a dynamic transient key.
How is SQLi addressed?	Queries are generated by chained method calls against our data access layer abstraction. This layer aggressively sanitizes input and prevents premature query termination and tampering.

Data Handling / Security

During the course of normal operations, some Vanilla Forums staff will have cause to interact with customer data from time to time.

- This data will be accessed only for the purposes of fulfilling Vanilla Forums' responsibilities as a hosting provider for the customer.
- When stored on our servers, customer data is protected by firewalls and access is limited to users with explicit authority to log in to those servers. These users are constrained to Operations staff only.
- Servers containing customer data are patched and updated regularly.
- When stored on employee computers, customer data resides on whole-disk encrypted drives to protect the data against unauthorized access in the event of loss or theft of those devices.
- Access to customer data will not be granted to third parties without the explicit consent of the customer, or at their specific direction.

Staff Security Policy

Vanilla's operations team and staff undergo security training and must abide by our security policies which are designed to ensure the protection of customer information. Our security policy covers:

- Password management & system access
- Building access
- Data management
- Security incident management
- Disaster recovery procedures

Questions and Answers

	Data at Rest
What kind of data does Vanilla store?	Vanilla is a forum, so we store user records and user generated content. Some of it is access-restricted based on application RBAC ACLs. PII can be shielded from accidental access.
Can this data be encrypted at rest?	Yes. Vanilla can use Full Disk Encryption (FDE) on its database servers at higher plan levels.
How is FDE achieved?	Vanilla uses dm-crypt with Linux Unified Key Store to create an encrypted volume that contains the stored data.
How are passwords stored?	We hash all passwords using salted CRYPT_BLOWFISH before they are saved to the database.
Are any fields encrypted?	No. Our data needs to be searchable. When higher data security is required, we rely on Full Disk Encryption.
How is data and media decommissioned?	Virtual instances that house the data are destroyed.
Where is Vanilla's data stored?	Vanilla's cloud is managed by Rackspace Hosting in the United States, with Points of Presence in Chicago and Texas.
Who has access to our data?	Vanilla Operations team members have access to database servers for maintenance and repair purposes. Access is carefully monitored and logged.

	Data in Transit
What kind of transit security does Vanilla use?	Forums on our network can be made available over HTTPS using TLS 1.0, 1.1 and 1.2, and a secure cipher.

Host Security

Vanilla is hosted on an Openstack-controlled Private Cloud, using virtual machines to power logical web clusters. This allows us to allocate resources as and when they are needed, ensuring high availability and consistently high performance.

Questions and Answers

	Instance Configuration
What operating systems does Vanilla use?	Vanilla is hosted on Ubuntu at the Virtual Machine level.
Are VMs individually firewalled?	Yes. Each VM has a stateful firewall installed which is customized to its workload.
Are unnecessary services and ports disabled?	Yes. Each VM has a specific workload according to its class, and all other ports and processes are locked down.
Are any services allowed to use default credentials?	No. All services on the Vanilla network have been customized and access credentials have been changed.
How is patching handled?	Proprietary automation software ensures that security patches are applied automatically on a daily basis

	Access Control
How are VMs managed?	We use public/private key based SSH access only, plaintext access is disabled. Our servers use non-standard SSH ports.
What kind of authentication is used?	We use local OS accounts that are managed through an active centralized configuration management system that uses Role Based Access Control rules to grant access.
How is access restricted?	Our environment is protected by a perimeter VPN and our internal servers are granted private, non internet routable IPs.

Network Security

Our hosting environment's network is designed from the top down to be secure:

- Protected by redundant Cisco Systems ASA "Next Generation" firewalls
- Managed by redundant F5 Networks "BIG-IP" traffic managers
- No direct access to workload servers from the internet
- Server to server API communications are secured using SSL
- Daily vulnerability scanning by a 3rd party service

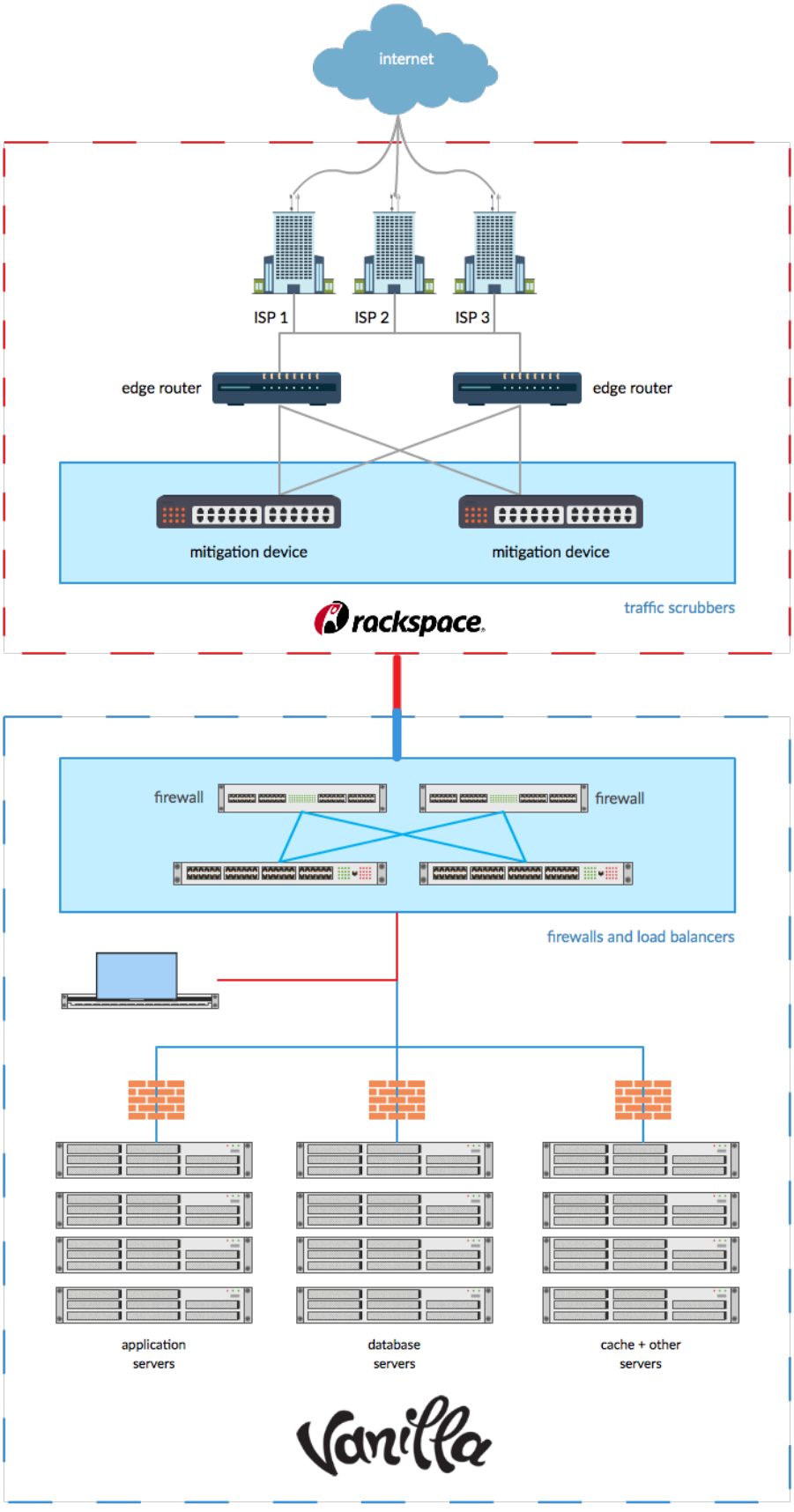
DDoS Mitigation

Vanilla is protected by automated traffic scrubbing tools that monitor incoming traffic and filters out malicious volumetric attacks. This system allows us to withstand moderately large attacks while continuing to service legitimate requests without interruption.

Questions and Answers

	Cloud Instances
What kind of cloud does Vanilla use?	Vanilla uses a Private Cloud running on Openstack in a datacenter in Chicago. Some tertiary systems run on a public cloud in Dallas/Fort-Worth.
How are instances networked?	We use a flat network layout with firewalling and specific ACLs to segregate traffic and access.
Does Vanilla have monitoring, alerting, and auditing?	Yes. We have active monitoring systems connected to distributed alerting tools and all our logs are aggregated and searchable.
Are VMs individually firewalled?	Yes. Each VM has a stateful software firewall installed which is customized to its workload. Repeated failed SSH access results in throttling.
Does Vanilla use IDS (Intrusion Detection)?	Our hosting partner, Rackspace, monitors our network and devices for intrusion.
What happens if an intrusion is detected?	Customers are notified within 24 hours of Vanilla's detection of a network intrusion. Upon detection, Vanilla will work with its upstream hosting provider to assess the extent of the intrusion and determine the scope of data theft, if any.

Network Diagram



Physical Security

Vanilla's application is hosted in an SSAE 16/ISAE 3204 Type II SOC 1 and ISO 27001 certified facility that offers world class network, physical and environmental security:

- 24/7 security personnel and biometric security to access physical servers
- Access limited to only authorized personnel and on a needs basis
- Personnel are security certified and background checked
- Redundant bandwidth providers, UPS, HVAC, etc.
- Redundant network providers

Questions and Answers

	Physical Access
Who has access to physical hosts?	Only our hosting partner's technical and operations staff have physical host access.

Redundancy and Backups

Redundancy

The hosting infrastructure at Vanilla's hosting providers are designed with multiple redundancies for maximum uptime.

- Vanilla data centers have an N+1 redundant UPS power subsystem with instantaneous failover, and routinely tested diesel backup generators for ironclad power delivery.
- At the network edge, Rackspace has deployed 9 high-speed Internet Service Providers for fast, reliable, redundant Internet connectivity using the BGP protocol for automatic failover.
- Beyond the network edge, each critical system in the Vanilla architecture is set up in a redundant manner to eliminate single points of failure. This includes redundant load balancers, firewalls, switches, and routers.
- At the system layer, servers are deployed with redundant power supplies, redundant network cards, and redundant self repairing disk storage.
- At the database layer, regular backups are made and stored offsite in a 3 separate secure locations for safety, on a daily basis.

Backups

Vanilla's backup system uses binary replication to copy database data on a daily basis. This method is fast, non-intrusive, and does not cause a performance penalty to the live site. The restoration process, however, is longer than traditional SQL backups, and is a manual process for an operator.

	Backups
Is data backed up regularly?	Yes. Incremental backups are run daily. Full backups are run each week as a basis for incremental backups. Backups are cycled on a 2 week basis.
Where is backup data stored?	We store compressed and encrypted backups in our hosting provider's cloud based redundant file storage service.
How can data be restored?	In the case of data loss due to hardware malfunctions or failures (not user error), the restoration SLA is 24 hours and there is no cost. In the case of user error (accidental deletion of data by users, moderators or admins), there is no SLA and restoration hours are billable.

Compliance

- Vanilla data centers are SSAE16 certified, ISO 27001 certified.
- Vanilla is U.S.-E.U. Safe Harbour self certified.
- Vanilla has been awarded the Qualys SECURE Seal which signifies that our websites and account management tools are protected by a rigorous and proactive security program.
- Vanilla conducts annual security vulnerability and penetration testing using independent third party auditors.

Safe Harbour

Vanilla is a Canadian company. We are bound by the Canadian privacy and information law known as PIPEDA (Personal Information Protection and Electronic Documents Act).

PIPEDA is recognized by the EU as being compatible with EU laws, and therefore he transfer of data from an EU to a Canadian company is legal in Europe. Read more here.

Audit Trails

Vanilla software contains comprehensive auditing features that allow site administrators to monitor administrative actions taken by staff. In the event of a security breach, this can be used to troubleshoot and identify the source of the breach. Administrative auditing also simplifies the resolution of moderator disputes, allowing administrators to review moderator behaviour and develop better workflow and practises.