



ICT Service Architecture



Australia's Leading Corporate Operational Platform

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1. Kaizen Synergy – Introduction and ASIO T4 Security

Kaizen Synergy is an incorporated Legal Practice with Headquarters in Melbourne and satellite offices in Brisbane and Sydney. Kaizen Synergy owns and operates the Gemba360 service – Gemba360.

Security

Kaizen Synergy manages its own Datacentre Network. The Data Centres have an Australian Security Intelligence Organisation Tier 4 (ASIO T4) Rating. This is the highest level of security accreditation available in Australia. In order to achieve this rating, both the data centre and Network configurations need to meet the highest level protocols covering system access, backup and redundant servers to ensure continuity of services. This is the same protocols utilised by Commonwealth Agencies including ASIO and Australian Regulated Financial Institutions.

Background

Global Switch Centre and NextDC Port Melbourne are leased premises and are the two largest and ASIO Accredited data centres in the Southern Hemisphere with over 34 MW of onsite power generation capacity. Operated to an enhanced Tier III Operational Standard the data centre has diverse 33kV feed feeding a backup power system consisting of 22 diesel rotary UPS systems. Final distribution to our customer suites is in a 2(N+1) configuration. The N+1 telecommunication rooms located at each end of the data centre are populated by most of the major domestic and international carriers providing customers with unrivalled access to connectivity. Dedicated servers are fully managed application server and managed hosting offerings powered by Kaizen Synergy's Tier 1 infrastructure and support.

Some of the Australian Government Agencies using the Datacentre include:

- Australia Post
- Australian Bureau of Statistics
- Australian Government Information Management Office (AGIMO), Govt 2.0
- Department of Education and Early Childhood Development
- Department of Education and Training
- Department of Families, Housing, Community Services and Indigenous Affairs
- Department of Finance and Deregulation
- Department of Industry and Investment
- Department of Planning and Community Development
- Department of Sustainability and Environment
- Fair Work Ombudsman
- Transport Accident Commission (TAC)
- The Australian Museum
- The Australian Greens
- The Department of the Treasury
- Work Cover

If you require further and better particulars
please contact us directly on 1300 360 360.

Authorised by:

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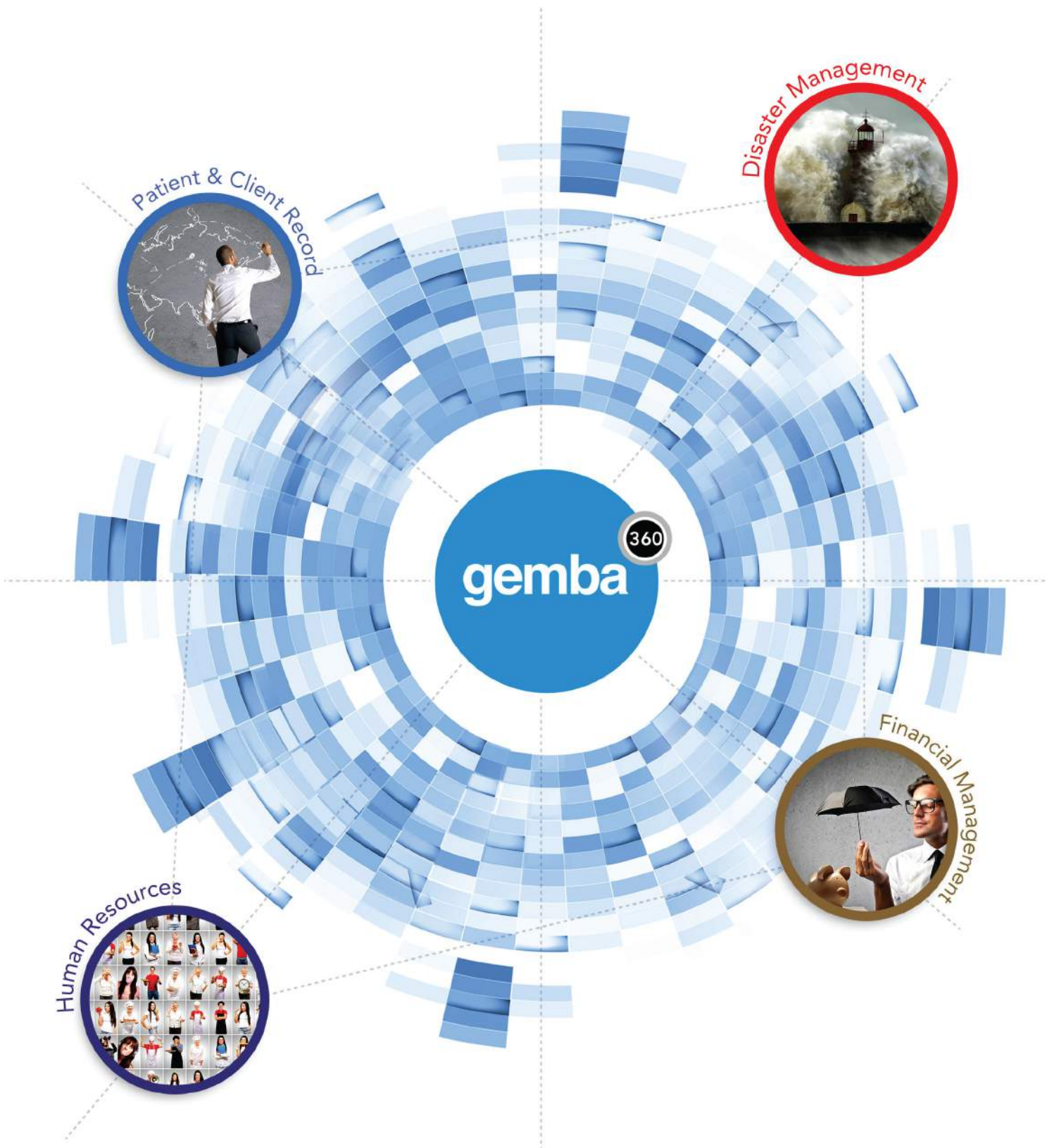
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2. Gemba Compliance™ Network Overview

Kaizen Synergy employs ITIL principles in the development and maintenance of its Standard Operational Procedures (SOPs), making sure any issues that may arise are dealt with proactively, quickly and efficiently. These core capabilities combine to ensure that Kaizen Synergy encapsulates industry best-practice in the hosted infrastructure management and monitoring sectors.

3. Kaizen Synergy, Gemba Compliance™ – Enterprise Hosting Product Features

Redundancy

Multiple redundant network links, routers, switches, firewalls and server hardware enable Kaizen Synergy to provide a 99.995% availability SLA. Enterprise-grade infrastructure significantly reduces the risk posed by single points of failure while shielding Gemba Compliance™ Agencies from the complexity and costs involved in building your own highly redundant compliance systems.

Scalability

Kaizen Synergy infrastructure can be smoothly scaled up meaning Gemba Compliance™ Agencies additional storage can be added on the fly, with no interruption to service. Kaizen Synergy utilise advanced monitoring and reporting to ensure capacity planning is coordinated internally.

Performance

High capacity enterprise servers back by Tier 1 Fibre Channel SANs deliver performance that is 3 to 4 times faster than direct attached SATA array and 2 to 3 times as fast as direct attached SCSI array.

In addition, we do not limit our multiple 100Mbit links so our Gemba Compliance™ Agencies will benefit from fast network response times and superb latency expectations.

Enterprise management and support

Kaizen Synergy highly skilled engineers monitor Gemba Compliance™ 24x7x365 for any critical alerts relating to function or capacity and will proactively troubleshoot to prevent potential issues.

Kaizen Synergy engineers and architects are experienced in designing solutions for high-profile mission-critical companies including but not limited to:

- Telstra;
- Alcatel Lucent; and
- The Commonwealth Governments recent NBN Program.

Data Recovery

Gemba Compliance™ Agency data is safe within Kaizen Synergy's enterprise Managed Backup. Kaizen Synergy can guarantee the recovery of off-site tapes within 3 hours, backed up by our Managed Backup SLA.

Application Management

Kaizen Synergy's Application Management combines Application Monitoring, Proactive Troubleshooting & Escalation on a 24x7-basis for all Managed Enterprise Server environments.

Kaizen Synergy's advanced application monitoring is capable of interpreting Regex-based application responses, and on receiving a critical alert then Kaizen Synergy's Engineers will troubleshoot the status of any application and respond accordingly, escalating if required through to the Kaizen Synergy Application Owner.

Database Management

Kaizen Synergy's Database Management combines Database Monitoring, Proactive Troubleshooting & Escalation on a 24x7 basis for all Managed Enterprise Server environments, assisting with maximising the stability of Gemba Compliance™ database environment.

Kaizen Synergy's advanced Database monitoring of SQL, MySQL & MMM allows engineers to respond to critical alerts, troubleshooting the status of Gemba Compliance database and responding accordingly, escalating if required through to the Kaizen Synergy database owner or Kaizen Synergy System Administrator.

Gemba Compliance™ Dedicated VM Hosting Inclusions

Managed Services:

- 99.995% claimable uptime SLA
- Fast deployment
- Claimable deployment SLA
- Deployment from hardened server templates
- Enterprise-grade infrastructure with no single point failure
- Managed redundant firewalling and load balancing
- Anti-virus on Windows VMs
- Anti-Virus within coding within Gemba Compliance™ Portals
- Automated patch management
- Fast, seamless upgrades between transitions of Gemba Compliance™ Agency requirements
- Comprehensive Monitoring, Alerting, Reporting
- 24/7 Proactive Response to "Host Down" Alerts



Managed Enterprise Services

- 99.9995% Claimable uptime SLA
- Fast Deployment
- Claimable Deployment SLA
- Deployment from hardened server templates
- Enterprise Grade infrastructure with no single point of failure
- Managed redundant firewalling and load balancing
- Anti-Virus on Windows VMs
- Custom Patch Management
- Fast, Seamless upgrades between plans
- Enterprise Managed Backup
- Comprehensive Monitoring, Alerting, Reporting
- Application Management
- Database management
- 24/7 Proactive Response to "HOST DOWN" Alerts
- 24/7 Proactive Response to all "CRITICAL" Alerts
- Increased Resource Allocations (CPU, RAM)
- Optional Multi-CPU Upgrade (Quad-CPU)

Kaizen Synergy's Enterprise Management Backup service includes:

- Initial 20 minute frequency, daily and then weekly full backup of data
- Nightly incremental backups stored on nearline disk & mirrored to offsite tape
- Up to 30 year's monthly backups stored on offsite tapes
- Managed Backup SLA

4. Kaizen Synergy Distribution Network

Kaizen Synergy Network has been designed to eliminate single points of failure from the start. The following explains the features which combine to deliver enterprise grade reliability and performance to all our Gemba Compliance™ Clients.

Diverse Internet Connections

By sourcing our upstream data from diverse providers, Kaizen Synergy single provide network outages. Kaizen Synergy works only with APNIC members, manages its own IP space and ASN and participates in Border gateway Protocol (BGP) routing sessions with all its upstream and peering providers. As a result, Kaizen Synergy's Gemba Compliance™ Agencies enjoy fully automated redundancy at the routing level. Kaizen Synergy has full control over its route advertisement paths and can engineer inbound paths taken for dedicated Gemba Compliance™ Agencies if required.

To view Kaizen Synergy Upstream connectivity of our primary upstream providers at this date see:

1. Verizon: <http://www.verizon.com.au>
2. Pacnet: <http://www.pacific.net.au/about/network>
3. PIPE Networks: <http://www.pipenetworks.com.au/aboutus.php>
4. Vocus: <http://www.vocus.com.au/network.php>



Diverse Physical Locations

Kaizen Synergy's physical Server locations are Global Switch Ultimo. Within that IDC, Kaizen Synergy is operated out of the Pacnet and PIPE networks suites. Internet connectivity is delivered from different providers to each of the different facilities via redundant paths. The core network infrastructure is hosted in locations within Global Switch that are on different floors to prevent localised power issues causing a total outage. Upstream connectivity to the Internet under normal circumstances traverses the Gigabit inter-IDC connects sourced from PIPE Networks.

Redundant, Enterprise-grade Routers

Kaizen Synergy utilises Cisco routers configured in an HSRP pair at the primary location. Each of these routers maintains BGP sessions to each of the upstream and peering partners that can provide transit for Kaizen Synergy.

Redundant Gigabit Switching

Kaizen Synergy utilises Cisco Catalyst Catalyst Gigabit-capable switches for all for all core and Gemba Compliance™ Agency connections. All switches are in pairs and server connections are bonded across pairs to prevent a switch failure that could potentially cause an outage.



Switch features are used to facilitate a logical connection at all layers between the primary and secondary facilities, allowing client systems to communicate with one another on the same VLAN across the inter-IDC connectivity.

Redundant, HA Firewall / Load Balancers

Kaizen Synergy utilises the Linux-based LVS (<http://www.linuxvirtualserver.org>) software to provide stateful inspection of firewalls, VPN termination and automated Layer 4 load balancing at no additional cost to Gemba Compliance™ Agencies.

Security

Kaizen Synergy's methodology for securing core and Gemba Compliance™ Agency networks within the hosting facility follows the principle of 'Defence in Depth'. Put simply, we avoid depending on a single technology or service to provide all the security required.

The levels of security include:

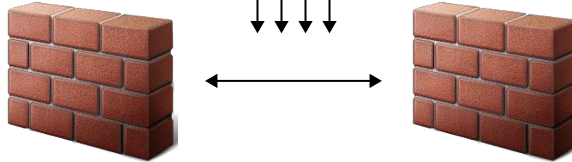
- Best practice patching, anti-virus and exposure prevention of all infrastructure per Vendor advisories (for example, firewalling or disabling unwanted services from the Internet)
- Firewalling at multiple levels where possible (at Routers and Local-balancer/Firewalls & dedicated firewalls)
- Segregated networks, wherein each Gemba Compliance™ Agency is in their own VLAN and hence not visible to other clients
- Social Engineering prevention, by only dealing with authenticated, authorised contacts for security changes and information dissemination.

Network Configuration

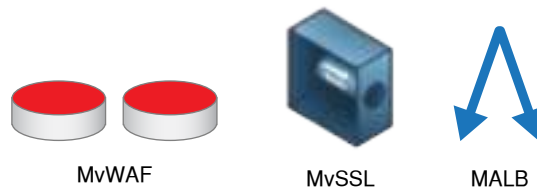
Multiple Diverse Gigabit Internet Connections



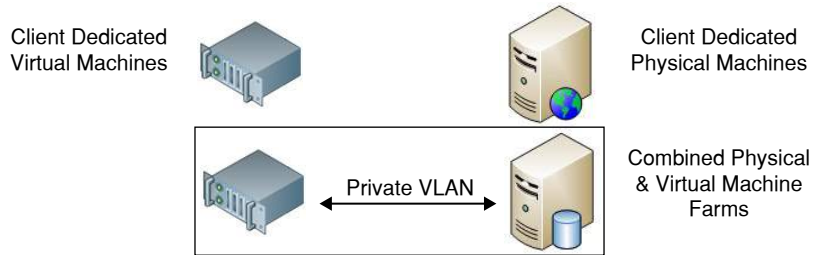
Redundant Firewalls & Load Balancers



Optional Managed Advanced Products



Client Dedicated Virtual Machines & Physical Servers

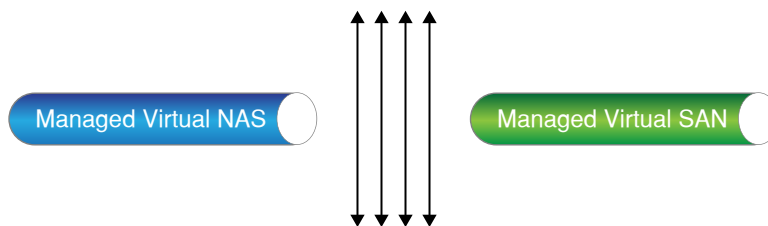


Enterprise IBM VMWare ESX Server Farms

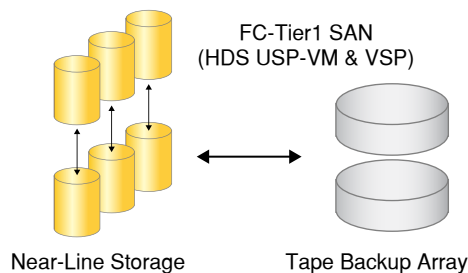


24x7 Monitored & Managed
100% Cisco, Gigabit Switched Network

Optional Managed Virtual Storage Products



Enterprise HDS Storage & Commvault Backup



Monitoring & Administration Servers

24/7 Monitored & Managed, 100% Cisco, Gigabit Switched Network

5. Policy, Procedures and Processes

Monitoring, Alerting, support and Escalation Roster

Kaizen Synergy's proactive monitoring platform across all infrastructure and managed client infrastructure provides the ability to be alerted of pending issues and take action accordingly. The system also detects faults within the monitoring system so that even its failure does not go unnoticed.

Primary Monitoring Station

Using Netsaint/Nagios, this automated monitoring station is located inside Kaizen Synergy's Network and monitors the UP/DOWN state of all hosts using PING, and monitors a number of system metrics using SNMP, such as Disk, RAM, CPU utilisation and Process Fingerprint, a feature which detects if processes that should be running have stopped or processes that should not be running have started.

Secondary Monitoring Station

Using Website Pulse (a 3rd party monitoring provider), high profile Enterprise client web sites are monitored remotely from 10 sites around the world. This can assist in detecting localized issue reporting on web site response times.

The overall hosted infrastructure platform includes the following:

1. Managed redundant shared firewalls;
2. Managed redundant web application firewall;
3. Managed dedicated VM hosting, Production;
4. Managed Enterprise Backups (nightly incremental and daily offsite to tape) and 20 minute interval throughout the days using R1 Soft.

Production Environment

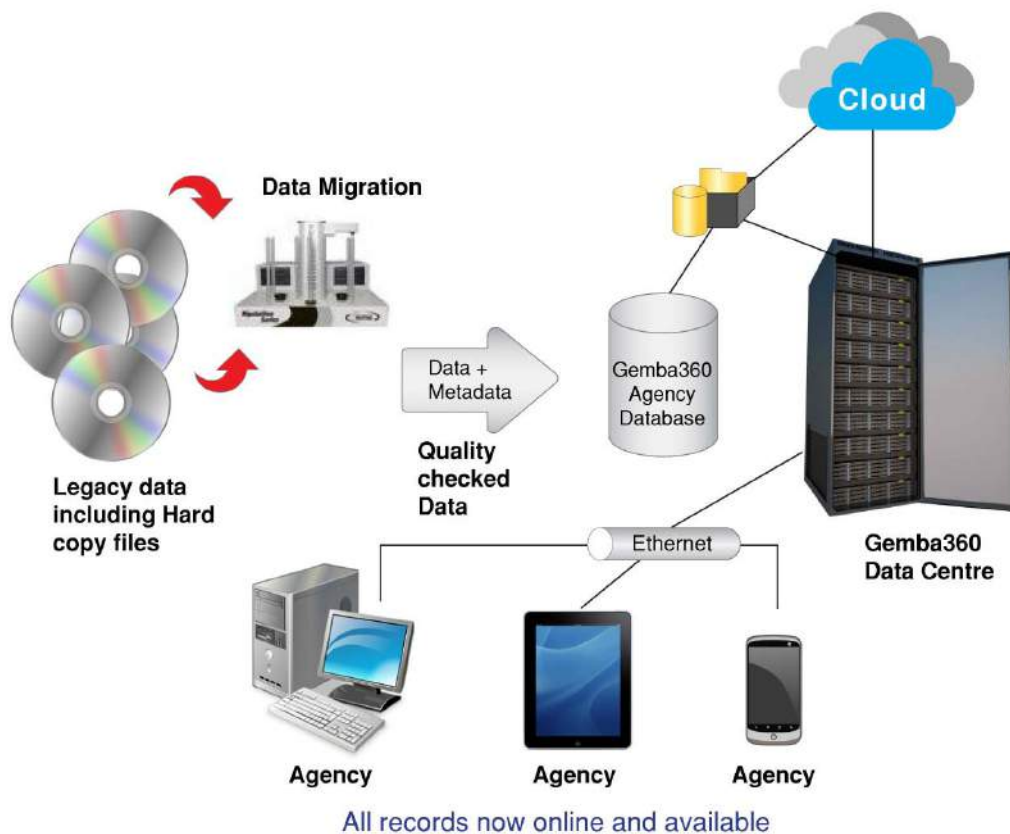
Redundant, managed firewalls separate our public-facing and private networks, providing layered security into our infrastructure. All public addresses are terminating on our firewalls and translated (NAT) into our private network, ensuring that only defined services are exposed to the internet.

Managed Web Application Firewall

The Kaizen Synergy Web Application Firewall (MvWAF) service is a hardware-accelerated Layer 7 firewall, using technology from F5 that protects your web application from security exploits. The MVWAF device maintains a large database of signatures that model common web application attacks, including SQL Injection, Cross-Site Scripting (XSS) and HTTP Header injection. MVWAF Signatures are compared against requests made to your application in real-time, and illegitimate requests are rejected, protecting your application from corruption and compromise.

Advanced protection is available through MVWAF profiles. The MVWAF PCI Compliance profile is included ensuring basic compliance with the PCI DSS Certification by filtering responses leaving the server, checking that no private information (such as passwords) is leaked.

Custom MVWAF profiles are produced by modelling normal application behaviour and match the URL schemes from content and HTTP methods specific to Gemba Compliance™ providing maximum security.



Custom MVWAF profiles specific to agencies are now generated on a case by case basis depending on the antivirus software that may be used by specific agencies or exposure to specific issues raised by agencies.

Gemba Compliance™ Operates on Dedicated VM Server Products

Gemba Compliance™ dedicated VM Servers are provided from public managed cloud infrastructure which maintains to single point of failure.

Flexible infrastructure: Kaizen Synergy VM Servers can be easily scaled to meet your needs in the future. For example; make changes to performance, (CPU), Storage (HDD) and Memory (RAM) without ordering or installing new hardware.

Enterprise Storage: All dedicated VM Server storage is provided via on demand, high performance, Tier 1, Enterprise Storage Area Networks and can also be dynamically increased as need in 10GB chunks.

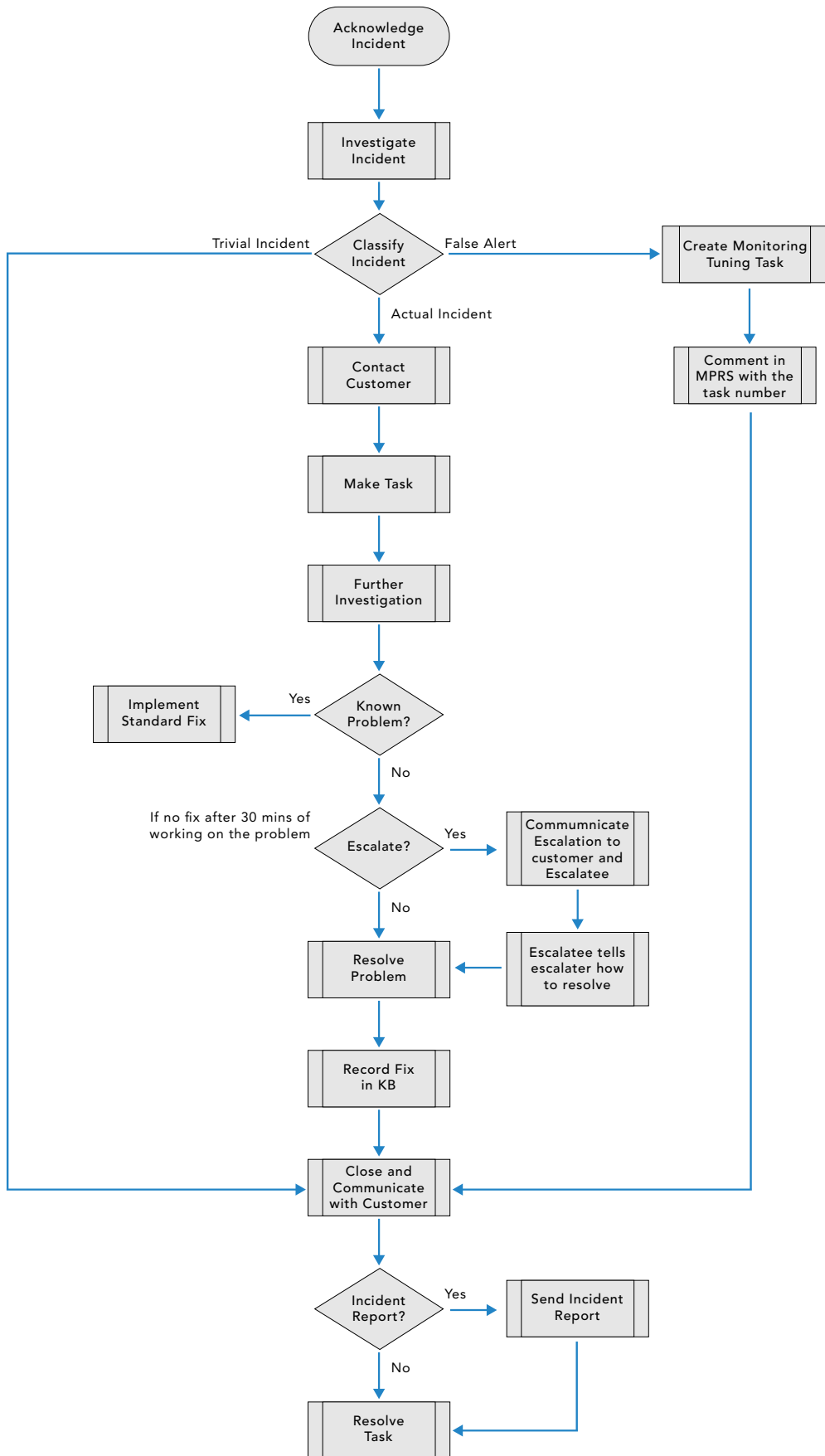
Additional High Availability through virtualisation: In the event of an ESX Server (VMware host server) failure our dedicated VM Servers are seamlessly migrated within our infrastructure to further ensure availability and uptime of Gemba Compliance™ to your agency.

Server Networking & VLANs: Kaizen Synergy VM Servers are given an External IP and an internal IP using Network Address Translation (NAT), each dedicated VM Server in Gemba Compliance™ can be logically separated from additional Gemba servers into unique VLANs to improve security.

6. Kaizen Synergy and Gemba Compliance™ Risk Management Processes

Strength	Detail	Benefit
Mission Critical Hosting	Data Centre accesses specializes in delivering Mission Critical Hosting to some of Australia's largest enterprises and online campaigns. Total transactional revenues exceed 1.5 billion p.a.	Mission critical performance with minimal business risk.
Fully Managed Infrastructure Level 2/3 Engineers	All Gemba Compliance™ Agencies are managed. Kaizen Synergy provides end-to end, managed monitored and supported infrastructure.	This eliminates the risks associated with mixing managed and unmanaged Gemba Compliance™ Agencies on the same Network.
Quality Testimonials & Referees	Gemba Compliance™ has a large number of brand name testimonials & referees.	Proven performance and customer satisfaction. Due diligence can be quickly and comprehensively completed.
Award Winning Infrastructure	Data Centre won the ZC Net Emerging Innovation Award.	Work with an industry leader acknowledged by peers for best of-breed infrastructure.
Extensive Campaign & High Throughput Hosting Experience	Datacentre utilised by top level financial institutions with AAA ratings include: <ul style="list-style-type: none"> ✓ ANZ ✓ Apple ✓ Macquarie 	Proactive and timely scaling of infrastructure is available in minutes to meet rapid increases in website demand.
Speed of complex environment deployment	Kaizen Synergy can deliver complex, tiered, fully redundant application and database farms in 1-2 weeks.	Beat project deadlines and budgets.
Experience and Stable	Kaizen Synergy utilises Tier 1 provision in Australia.	Partner with a proven, financially stable provider.
Best of Breed Processes	Kaizen Synergy constantly refines and documents all aspects of complex operational processes.	Superior technical change and account management reduces risk and maximises stability. Custom process can be developed and documented in required.

Incident Response & Problem Analysis



Patching Policy

Kaizen Synergy Network includes Enterprise grade Patch Management software in its hosting offerings. The software deployed to keep a server's patch level up to date is IBM Tivoli Endpoint Manager.

Tivoli Endpoint manager enables Kaizen Synergy to centrally manage the patching process to enable automation, scheduling and provide a high scalability and redundancy.

This is achieved by:

- Kaizen Synergy is subscribed via its Agents to a number of operating system vendor security lists.
- Kaizen Synergy Networks uses a vulnerability matrix to determine if a patch should be applied either immediately, in the next kaizen Synergy Network Weekly Maintenance Window or left until a batch update is next run.
- Patches that are deemed relevant to Gemba Compliance™ Agencies are first tested on Kaizen Synergy's internal servers and a number of internal testing Virtual Machines. The server is left to run for at least 24 hours before submitting to the Kaizen Synergy Network Support Team for implementation.
- Patches are scheduled for application during the Kaizen Synergy Networks Weekly Maintenance Window with Tivoli for all relevant servers.
- On a monthly basis patches which did not meet the weekly patching criteria are applied during the Kaizen Synergy Networks Weekly Maintenance Window.
- Custom patching schedules are monitored including rolling upgrades if there is dev / staging / production / redundant pairing of servers.
- A list of ignored patches is globally configured as hidden in Tivoli due to non-relevance as deemed by the Kaizen Synergy Network Team.

Anti-Virus Policy

- Kaizen Synergy Networks includes Enterprise grade Anti Virus (Viruses, Worms, Trojans and Malware) software on its hosting offerings (on Windows VMS only). The software deployed is Trend Micro's Enterprise software suite.

- The Management interface is centralised to enable high scalability.

- Trend Micro is configured to update automatically as definitions are released.



Backup & Recovery Outline

- 20 minute backups are completed
- Backups are maintained for a period of 30 years
- Issues with backups are notified to the Kaizen Synergy Engineering Team via a Ticketing System (generally by email, as provided for within the chosen backup feature set).
- Recovery data is monitored and performed by Kaizen Synergy.
- Kaizen Synergy can guarantee recovery of off-site tapes within 3 hours, backed by our Managed Backup SLA. Data recover times may vary depending on reinstatement and file when deleted by a Gemba Compliance™ Agency.
- Kaizen Synergy utilises an Enterprise-grade centralised Managed Backup service. This is based on the CommVault software, near line backups to disk. These are mirrored to tape, and then the tapes rotated offsite (i.e. D-D-T-O).



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