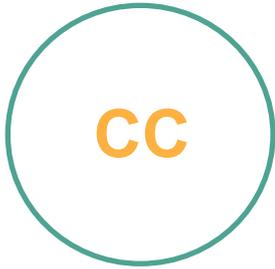


Cloud Services

A circular icon with a green border containing the letters "CC" in orange.

CC

Cloud computing delivers highly agile, next generation services that are always available by any user from any device and location at any time. The services include management, monitoring and security for its public and private cloud customers.

A circular icon with a green border containing the letters "IAAS" in orange.

IAAS

Infrastructure as a Service provides on-demand computing infrastructure (server and storage) all the way to the level of operating system. Flexible options provide best-fit solutions for customers from server on demand, storage on demand, virtualisation, back-up services, to optional off-site storage.

A circular icon with a green border containing the letters "PAAS" in orange.

PAAS

Platform as a Service offers database or business applications substructures on demand.

A circular icon with a green border containing the letters "SAAS" in orange.

SAAS

Software as a Service provides software on demand, delivered over the Internet and are based on a per user cost basis.





Overview

Datacentrix appreciates cloud computing as the platform to deliver highly agile, next generation services to its customers. The company's established cloud strategy supports true public and private cloud services with management, monitoring, security, and always on availability.

Cloud computing ushers in a new paradigm in computing, and is very different to hosting or traditional outsourcing.

Some of the main differences are described below:

| Traditional Hosting/Outsource | Cloud Computing |
|--|---|
| One-to-one service | One-to-many services |
| Long-term contracts | Short-term contracts |
| Monthly predetermined billing | Pay for use |
| Stringent SLAs and penalties | Focuses on availability, performance and capacity |
| Finite infrastructure resources | Elastic infrastructure |
| Limited device access to trusted users in specific locations | Any user, any device, from anywhere, anytime (high focus on mobility) |
| Services are requested or amended by calling a service desk and logging a call | Self-service (service catalogue and portal) |
| Manual provisioning, taking days, weeks or even months | Automated provisioning and de-provisioning in real time |

Datacentrix provides cloud-based services that build on the strength and maturity of the company's outsource and hosting offerings that have evolved over the past decade. The cloud services leverage the company's investment and expertise in data centres, connectivity, security and operations management. These services are available to our existing enterprise customers and to prospective customers, no matter how large or small the organisation.

Services are delivered from in-house, secure, highly available Gauteng-based data centres, and are supported by Datacentrix' Service Desk. A self-service policy aids the management of service requests with automated provisioning in minutes. Traditional support services using service desk agents and technicians are also available.

Services and options can be selected by customers from the Cloud Services Catalogue. Services requested can be authorised via workflows, or if the user has sufficient privileges, provisioned automatically. Services provisioned automatically are typically available for use within minutes.

Services are automatically de-provisioned on the date the user selected during the service request process. Services are post-billed monthly on a pay-per-use basis.

Core services

Datacentrix' Public Cloud Services platform is built on the latest generation software from Microsoft, Citrix and Fortinet; is underpinned by state-of-the-art HP blade-frame hardware and Cisco network infrastructure, and attached to HP and IBM storage.

Its deployed over two dark-fibre connected Datacentrix Tier 3+ data centres, and monitored for security, availability, performance and capacity by Datacentrix' Security Operations Centre (SOC) and Data Centre and Network Operations Centre (DOC).

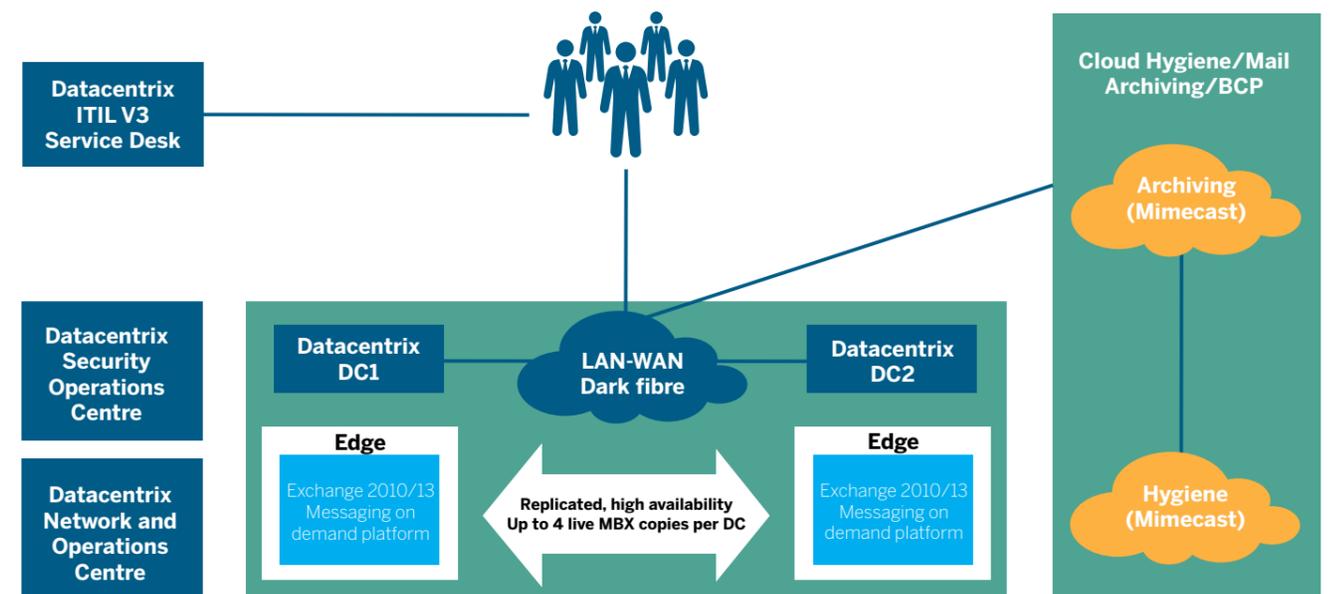
Resilience in connectivity is provided by a combination of redundant ISP breakouts and an external internet address provider to ensure 24x7 operations at a 99.9% SLA.

Further support (incident and problem management) is provided by Datacentrix' ITIL-based Service Desk.

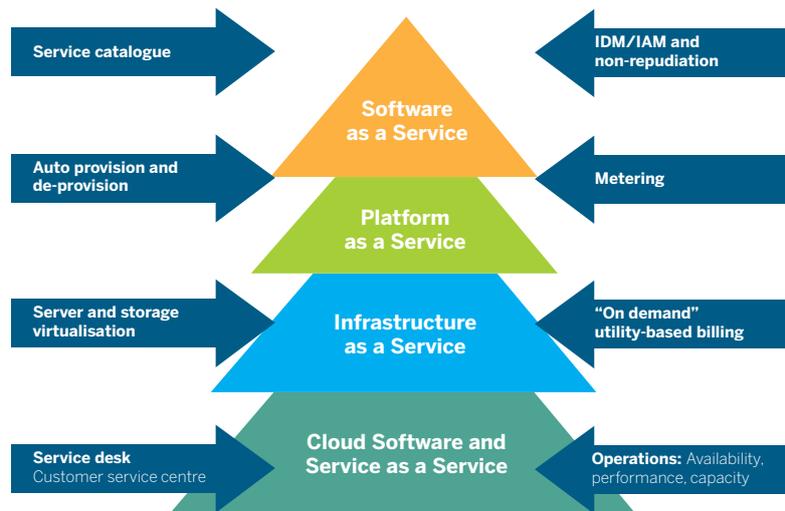
Finally, Mimecast provides the Datacentrix mail hygiene and cloud archiving service components, and also provides a Business Continuity Portal for Datacentrix Cloud users to ensure 100% up-time to customers.

The cloud solution components include:

- Multi-tenanted Microsoft Exchange 2013, Lync 2013 (Skype for Business) and SharePoint 2013, with up to six live mailbox copies stored across two data centres to ensure high availability
- High-performance systems deployed on Microsoft Windows Server 2012, with VMware and Hyper-V as the core hypervisors for virtualisation
- Fortigate is the primary firewall technology, managed by Datacentrix' SOC
- Microsoft Active Directory (AD) provides authentication services, and is supplemented by Microsoft Federated Identity Management (FIM) to support hybrid cloud environments
- Microsoft System Centre 2012 (VMM, CM, OM and DPM) is used for configuration and operations management. Data Protection Manager (DPM) performs back-ups of mission critical environments, fully managed by the Datacentrix DOC
- The Citrix Cloud Control Portal (CCP) provides user service, a portal for self-service provisioning and a rich set consumption reports
- The Citrix NetScaler suite is deployed to provide load balancing and fail-over
- For single sign-on the Citrix ADsync tool is used to ensure that user identity (including password change and lock-out) is synchronised between on premise and cloud provider authentication services
- Mimecast provides primary anti-spam filtering and intrusion detection and prevention, while Fortinet and Microsoft Forefront for Exchange provides the server-side anti-virus
- Mimecast also provides value-added email branding and unlimited cloud-based mail archiving services. The Mimecast service also provides business continuity portal functionality that ensures a 100% available environment. Federated identity services enable single sign-on for enterprises that have deployed Microsoft's AD services for user authentication



The diagram above depicts Datacentrix' key cloud services and supporting constructs.



| Infrastructure as a Service (IaaS) | Platform as a Service (PaaS) | Software as a Service (SaaS) |
|---|---|--|
| <p>IaaS provides on-demand computing infrastructure (server and storage) up to the level of the operating system. The initial offering covers physical or virtual servers on Intel technologies. The options are as follows:</p> <ul style="list-style-type: none"> ➤ Server on-demand – Linux or Microsoft operating systems ➤ Storage on-demand – selectable in gigabyte blocks ➤ Virtualisation – VMware ➤ Optional snapshot or backup services ➤ Optional off-site storage | <p>PaaS provides a database or other business application substructures (eg. Microsoft SQL Server or MySQL) as an on-demand service. It utilises the core constructs of IaaS to render the service. The initial offerings are as follows:</p> <ul style="list-style-type: none"> ➤ Microsoft SQL Server on demand (2008 Standard or Enterprise Edition) ➤ MySQL ➤ Microsoft SharePoint 2013 ➤ Storage on demand – selectable in gigabyte blocks ➤ Virtualisation – Microsoft Hyper-V ➤ Optional backup services | <p>SaaS provides business application software on demand, delivered over the Internet, based on a per user cost basis. It utilises the core constructs of IaaS and PaaS to render the service. The initial offering includes:</p> <ul style="list-style-type: none"> ➤ Microsoft Exchange mail and calendar collaboration services ➤ Microsoft Lync (Skype for Business) unified communication services ➤ Mimecast cloud-based, unlimited mail archiving ➤ Enterprise Active Directory (AD) synchronisation for single sign-on |

About Datacentrix

Datacentrix is a complete ICT systems integrator, providing solutions and services across the full information value chain to its customers. The company uses leading technologies to drive customer business strategies, unlocking efficiencies and empowering meaningful business insight.

Our most valuable assets are captured in the minds and spirit of our people. Every person at Datacentrix is a critical part of our service delivery model and our strategy for generating sustainable value for our customers and stakeholders.

We value partnerships and go the distance to establish trusting, lasting customer and stakeholder relations. Our longstanding affiliations and accreditations with our technology partners enable direct access to technology using the shortest channels.

It's our passion for excellence that drives our innovative and flexible solution design. Datacentrix' value-driven strategy and proven execution capability reinforce its position as one of the top ICT players in the local market.

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