

## HOW WILL THE CLOUD TRANSFORM YOUR ORGANIZATION? SEE WHAT IS POSSIBLE WITH FCX

FCX offers a rich portfolio of cloud infrastructure solutions, allowing organizations over a broad range of industries to migrate partially or fully to the cloud or enhance and fine tune their cloud services assets. Cloud fosters growth due to its levels of flexibility and can support innovation while allowing organizations to become more sustainable. And the latter can have serious impact: studies are showing that migrating to the cloud reduces carbon emissions related to server usage of companies by at least 60%, all the way up to 93%.

### FCX SERVICES THROUGH PARTNER CARRIERS:

- ▶ Storage Solutions
- ▶ Public, Private, Hybrid and Multi-Site Cloud available
  - ✔ Infrastructure as a Service (IaaS)
  - ✔ Platform as a Service (PaaS)

While public cloud in general terms comprises of Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS), the details around FCX' SaaS offering can be found on product brief

- ▶ Database Management
- ▶ Patch Management
- ▶ Colocation
  
- ▶ Back up as a Service (BaaS)
- ▶ Disaster Recovery as a Service (DRaaS)
- ▶ Data security
- ▶ Data center remote hands
- ▶ Microsoft Office 365© backup

## TECHNOLOGY DESCRIPTION

## KEY FEATURE DESCRIPTION

## SPECIFICATION

### STORAGE SOLUTIONS

Centralized repository services for information, comprising of data management, protection and sharing functions.

#### Solutions available:

- Storage Area Networks (SANs)
- Network-Attached Storage (NAS)
- Direct-Attached Storage (DAS)
- Cloud storage
- Non-Volatile Memory Express (NVMe)

#### Providers in portfolio:

- Amazon Web Services (AWS)
- Dropbox Business
- Google Drive Enterprise
- Microsoft 365 OneDrive

### PUBLIC CLOUD

Public cloud is a type of computing within which providers make resources available to organizations via the internet. Resources vary by provider but may include storage capabilities, applications, or virtual machines. Public cloud allows for scalability and resource sharing beyond what would be possible for a single organization to achieve.

Organizations with large amounts of data need to develop a cloud migration strategy before choosing a cloud vendor.

#### Providers in portfolio:

- Alibaba Cloud
- Amazon Web Services (AWS)
- Evolve IP
- Flexential
- Google Cloud
- IBM Cloud
- Matrix
- Microsoft Azure
- Oracle Cloud
- Rackspace
- Tierpoint

#### Features:

- Multi-tenant: share resources while data remains isolated from other organizations
- Virtual Machines (VMs) operating software, storage, networking and firewalls
- Graphic User Interface (GUI) where development teams can perform all tasks during the application lifecycle

# FIRSTLIGHT CLOUD XCHANGE

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### PUBLIC CLOUD ( CONT.)

Coax available from premier carriers such as Spectrum, RCN and Altice on a direct basis, or part of an aggregated package offered by an aggregator offering one bill for various services.

#### Services available:

- Cloud Discovery and Architecture Services
- Thorough, well-designed reviews
- Custom Application Runbooks
- Database Public Cloud Readiness Assessment
- Migration Services
- Data Modernization & Visualization
- IT infrastructure hosted by cloud provider: Compute, storage and networking resources on demand with the flexibility of scaling

### PRIVATE CLOUD

Cloud computing environment dedicated to a single organization. Offers the same access control, security and resource customization as on-premise infrastructure with the benefits of cloud computing. This means elasticity, scalability and ease of service delivery area all included. In addition, private cloud can offer the regulatory compliance public cloud cannot.

#### Providers in portfolio:

- Amazon Web Services
- Cisco
- Dell Technologies
- Hewlett Packard Enterprise (HPE) IBM / Red Hat
- Microsoft – Hyper V Oracle VMware

#### Features available, depending upon provider:

- Amazon Web Services
- Cisco
- Dell Technologies
- Hewlett Packard Enterprise (HPE) IBM / Red Hat
- Microsoft – Hyper V Oracle VMware
- Virtualized IT infrastructure elements – virtual machines (VMs) providing computing, storage, memory and networking capacity

TECHNOLOGY DESCRIPTION	KEY FEATURE DESCRIPTION	SPECIFICATION
<p>PRIVATE CLOUD (CONT.)</p>		<ul style="list-style-type: none"> <li>• Management software for administrators – optimize security and resource utilization</li> <li>• Automation of server provisioning and integrations</li> <li>• Dedicated Hosting</li> <li>• Multi-Tier Storage</li> </ul> <p><b>Subscription options:</b></p> <p>Free tier, Pay-as -you-go and Product level pricing available.</p>
<p>HYBRID CLOUDS</p>	<p>A cloud computing environment that uses a mix of on-premises, private cloud and third-party public cloud services with orchestration between these platforms. This typically involves a connection from an on-premises data center to a public cloud.</p> <p>Hybrid cloud offers the best of both worlds. It allows organizations to deploy significant workload in an on-premises cloud and host less critical or important data within the public cloud for example, increasing elasticity.</p>	<p><b>Amazon AWS:</b></p> <ul style="list-style-type: none"> <li>• 99.9% uptime SLA assured</li> <li>• Automated capacity scaling</li> <li>• Worldwide infrastructure</li> <li>• Data backup and extensive long-term storage</li> </ul> <p><b>Microsoft Azure / Azure Express Route:</b></p> <ul style="list-style-type: none"> <li>• Serverless computing</li> <li>• DDoS safety</li> <li>• Multi-factor authentication (MFA) and single sign-on (SSO)</li> <li>• Business continuity and analytics</li> <li>• Disaster recovery solutions</li> </ul> <p><b>Google Cloud:</b></p> <ul style="list-style-type: none"> <li>• Monitoring and management</li> <li>• Virtual private clouds</li> <li>• API management</li> <li>• Migration Tools</li> </ul>

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### DATABASE MANAGEMENT

A database management system (or DBMS) provides a computerized data-keeping system and software that controls the organization, storage, retrieval, security and integrity of data in a database. It accepts requests from the application and instructs the operating system to transfer the appropriate data.

#### Features:

- Interactive data entry and updating
- Data normalization. Mitigates the risk of data duplication, redundancy and repetition because it allows users to define validation and integrity rules. These conditions help to ensure data satisfies the semantics.
- Security protocols: Security controls protecting the integrity of a database and the data and records residing in it. Some essential DBMS security controls include data encryption, user authentication, and user authorization.
- Logical and physical data backup.
- Data structuring.

Information is organized in a database in a clear hierarchical structure. Objects, records, and tables are arranged systematically with the purpose of accessing and retrieving the records easily.

#### Providers in portfolio:

- IBM
- Microsoft
- Oracle

#### Features available:

- Database customization options,
- Multi-user access,
- Metadata library.

### PATCH MANAGEMENT

Patch management is the process of applying vendor issued firmware and software updates to improve functionality, close security vulnerabilities, and optimize performance of IT devices.

#### Features:

- Assistance with design and set up of patch management policies (asset management, patch monitoring, patch prioritization, patch testing, patch deployment, patch documentation)

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<p>PATCH MANAGEMENT (CONT.)</p>	<p>Patches are released at regular intervals to fix vulnerabilities and can be pushed out automatically. However, in certain cases, the patching process can interrupt workflows and create downtime for the business if the process requires more than 5 minutes per device. Patch management aims to minimize that downtime by streamlining patch deployment.</p>	<ul style="list-style-type: none"> <li>• Security updates</li> <li>• Feature updates</li> <li>• Bug fixes</li> <li>• Minimizing downtime</li> <li>• Keeping critical systems compliant with regulations</li> </ul> <p><b>Providers in portfolio:</b></p> <ul style="list-style-type: none"> <li>• Evolve IP</li> <li>• TPX</li> <li>• Comcast Business Masergy</li> </ul>
<p>COLOCATION</p>	<p>Data center facility in which a business can rent space for servers and other computing hardware.</p> <p>This means that carrier interconnection is available, disaster recovery and business continuity are easily set-up and off-site business applications can be effectively and safely managed.</p> <p>The colocation host provides the building, cooling, power, bandwidth, and physical security while the customer provides servers and storage. Customers retain control over the design and usage of their equipment, but daily management of the data center and facility is overseen by the multi-tenant colocation provider.</p>	<p><b>Features:</b></p> <ul style="list-style-type: none"> <li>• Local space in the tri-state area available.</li> <li>• Environmentally controlled infrastructure. Sites which have deemed the safest from a disaster recovery perspective available, geo diversity and redundancy available.</li> <li>• Through portfolio access to 500+ data centers, across all strategic North American markets. 40+ prime colocation and interconnection hubs, 50+ hyperscale capacity facilities.</li> <li>• Flexible space, power and connectivity options.</li> <li>• Cabinets, Cages, suites available.</li> <li>• SSAE, PCI, HIPAA Compliance, ISO 27001.</li> <li>• Support excess of 60kW/rack.</li> <li>• On-site security guards, 24x7x365 surveillance and biometric authorization.</li> <li>• Back-up power. Facilities have own power resources and can operate independently in case of a power outage in the area.</li> </ul>

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<p>COLOCATION (CONT.)</p>		<p><b>Providers in portfolio:</b></p> <ul style="list-style-type: none"> <li>• Coresite</li> <li>• Cyxtera</li> <li>• Digital Realty</li> <li>• Equinix</li> <li>• Flexential</li> </ul>
<p>BACKUP AS A SERVICE (BAAS)</p>	<p>Data backup refers to data copying from a primary location to a secondary one to protect it from malicious actions, accidents, and disasters resulting in data loss. Backup as a service (BaaS) does this through the process of purchasing backup and recovery services from an online data backup provider.</p>	<p><b>Providers in Portfolio:</b></p> <ul style="list-style-type: none"> <li>• Acronis</li> <li>• Magna5</li> </ul>
<p>DISASTER RECOVERY AS A SERVICE (DRAAS)</p>	<p>Disaster Recovery is the restoration of systems to a given point in time when the systems were functioning within an acceptable loss of data or functionality. Company policies dictate the specific aspects of the recovery process such as system priorities, maximum thresholds of loss, and maximum time to operational readiness.</p> <p>Disaster Recovery includes both business processes and technology.</p>	<p>Technology recovery is available at following levels: applications, systems, and data.</p> <p>Applications restoration available individually or as part of a whole system restoration.</p> <p>System restoration of various server types through use of backups taken prior to the outage.</p> <p>Data restoration from backup at a point in time before the outage.</p> <p><b>Providers in portfolio:</b></p> <ul style="list-style-type: none"> <li>• Assured</li> <li>• Evolve IP</li> <li>• Flexential</li> <li>• Rapidscale</li> <li>• Tierpoint</li> </ul>

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### DATA CENTER REMOTE HANDS

Service whereby a service provider interacts with the customer's IT equipment within a data center environment from a remote location.

#### Services available:

- Tasks that don't require the physical presence of a technician.
- Tasks that do not require direct contact with equipment
- Routine service and simple troubleshooting
- Simple tasks such as:
  - ✓ Monitoring and checking port numbers
  - ✓ Rebooting servers
  - ✓ Reporting indicators in the system

### MICROSOFT OFFICE 365<sup>®</sup> BACKUP

Service whereby recovery of OneDrive, SharePoint, and Exchange data can be achieved, while keeping it within the Microsoft 365 trust boundary.

#### Features:

- Very affordable solution
- Increases security

#### Providers in portfolio:

- Thrive
- UBISore
- Sky Data Vault
- Rackspace

## FIRSTLIGHT CLOUD XCHANGE

Today's cloud struggles most organizations face stem from a lack of on-premise resources and complex needs due to an increased amount of end points and dispersed workforce. Managing cloud space, governance, security and compliance are other challenges as well. In addition, there is a real possibility that due to time constraints the in-house IT team does not have the opportunity to review all cloud storage bills regularly in conjunction with finance department, which might cause public cloud invoices to be higher than necessary.

## INFRASTRUCTURE AS A SERVICE (IAAS)

Foundational infrastructure such as physical servers, virtual machines, firewalls, storage, networking hosted by a provider can help eliminate cost of on-premise maintenance, labor and cost of ownership of this infrastructure.

## PLATFORM AS A SERVICE (PAAS)

This cloud computing service combines IaaS with the software organizations need to deploy applications. The purpose is for development teams to build, test, deploy and scale applications faster and more effectively. The advantages of this is decreased overhead, faster coding capability, more features, pay as needed. Despite this, prudent management of PaaS is required because vendor dependency and compatibility issues may arise. As such, thorough fact finding, project service discussion with your cloud consultant can prevent and reduce potential lock-in.

## PROJECT MANAGEMENT

In order to ensure the most flexible and compatible IT technology can be implemented, your FCX consultant will engage a distributor sales engineer to analyze where all applications reside and decide whether they should be private or public. Specifications around computing power, memory and storage as well as application needs are discussed and ensure the most suitable cloud providers are engaged for the project at hand.

## BENEFITS OF WORKING WITH FCX :

- ▶ Discuss your project or challenge with certified cloud engineers and receive a price estimate with exact time frame to completion and road map with steps,
- ▶ Migrate as much or as little as your team deems fit,
- ▶ Work with providers who are vigilant around cyber security and implement the most advanced solutions,
- ▶ Cloud engineers with expertise and certification in AWS, Azure, Google Cloud, VM Ware,
- ▶ Data modernization service available on project basis - 90-day contracts available,
- ▶ No need to hire additional staff to complete complex projects – keep your core team and leverage subject matter experts to get the job done quickly and accurately within an agreed upon timeframe.

**ADVANCE YOUR CLOUD JOURNEY TODAY  
CONTACT OUR TEAM OF CONSULTANTS.**

CALL US: (888) 329 - 6920

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