StudioCloud Overview – Digital Entertainment Group

From Render Origin Story to Reserved Capacity and Powering Remote Artists

Kris Kostiuk, Global Director Business Development – Media & Entertainment
April 30th, 2020
CDW by the Numbers

191
Rank in 2019 Fortune 500

2
Fortune 500 rank in IT services industry

$18B
Net sales in 2019

250K
Customers Internationally

9700+
Enthusiastic employees
CDW Global Reach & Experience

- International Logistics team with over 150 years experience
- Ship to 160+ Countries
- Operational Team build Customized Delivery Matrix
- Fully managed DDP delivery services (IOR Service)
- In-Country Managed Partnerships (China, India, Brazil*)
Global M&E Market Leadership

- Over 150 years of M&E industry experience
- Dedicated M&E Solutions like StudioCloud
- CDW Global logistics
- Translation of CAPEX to OPEX
- Key industry partnerships and buying power
- Flexibility to strategically bundle solutions
- Integration in the global M&E community
- Trust, breadth, and brand recognition
Phase #1: StudioCloud – Origin Story

Beginning as a community-based render exchange, sharing 1,000 nodes across a handful of studios in Vancouver, StudioCloud has grown to over 100,000 cores and 7 data centres across North America.

With StudioCloud powered by Intel you just select the number of nodes and term you need and we have you covered. Best of all, we offer an MPAA/TPN-audited, Disney/Marvel accredited environment for studios of any size.

With the StudioCloud Exchange Portal you can sell what you don’t use, and convert your IT investment into a profit center. Being part of StudioCloud means you can sell or sub-lease idle servers. Recoup your costs and mitigate risk.
THE SOLUTION

StudioCloud Powered by Intel is a private cloud-based server farm built on industry-leading, high-performance technology, purpose-built for animation and visual effects.
StudioCloud powered by Intel – Key Features

Select a Location – Data centres in Vancouver, Toronto, Montreal and LA

Flexibility – on price and terms, including 1, 3, 6, 12, 24, 36, 48 and 60 month options

Scale up with a moments notice – leverage Intel high core count and frequency render nodes optimized with Intel Optane DC Persistent Memory for large Animation/VFX RAM jobs

Dark Fibre connectivity – Connect to us over an ultra-high-speed network and experience high-performance, low-latency data transfer, resulting in faster job cycles

Security – Fully air-gapped network with MPAA/TPN, Disney/Marvel accreditation, data centre redundancy with access control and security cameras
StudioCloud powered by Intel - Clients

ANIMAL LOGIC

deluxe

METHOD STUDIOS

technicolor

dhx

JAM FILLED ENTERTAINMENT

Atomic Cartoons

Barclay ENTERTAINMENT INC

CINESITE

DIGITAL DOMAIN MEDIA GROUP

PIXOMONDO

image engine

Rainmaker

ZOIC
Play Animal Logic Video
0:07 to 1:40 seconds

FINAL LIGHTING
StudioCloud Powered By Intel – Partnership

• CDW StudioCloud Powered by Intel, an exciting new partnership in support of the media and entertainment vertical

• This partnership is a bilateral agreement where Intel provides best of breed compute technology to CDW StudioCloud in an effort to build next-generation content rendering infrastructure for Animation & VFX studios

• Represents significant two-sided investment in people, systems and funding.
Why CDW StudioCloud powered by Intel?

StudioCloud goes up the stack working directly with Intel, the original manufacturer while partnering with the extensive experience CDW has designing and supporting M&E deployments

StudioCloud clients gain early access to Intel Technology & Supply ahead of market

StudioCloud gains direct access to Intel Engineering for custom software libraries, Bios & Render Optimization

CDW deploys and manages Intel compute in StudioCloud delivering a fully managed service

StudioCloud rental clients benefit from OPEX Accounting treatment without leasing or banking covenants

StudioCloud reserved capacity & rent-to-own clients can capitalize their investment while receiving full managed service
Phase #2: StudioCloud hosts the entire studio

StudioCloud Expands from render only to hosting entire studio infrastructure

- Animal Logic, Cinesite, Deluxe Method Studios, Image Engine

CDW Investment & Intel partnership leads to expanded services

- StudioCloud powered by Intel Short term Rentals
- StudioCloud powered by Intel 3YR Rent-to-own program that leverages CDW cost of capital

Reserved Capacity & Flexible Consumption Programs

- Dell/EMC Isilon Flex on Demand
- Wasabi Reserved Capacity
StudioCloud delivers the “On-premises” Cloud

StudioCloud offers the flexibility of utilizing your existing pipeline while leveraging a hybrid of owned CAPEX infrastructure along side StudioCloud OPEX rentals & reserved capacity services

• Studios like Animal Logic, Cinesite, Deluxe, Image Engine and Technicolor can have their entire local operations running within the same StudioCloud data center with co-lo racks of owned equipment alongside their StudioCloud rental services

• Deploying infrastructure in co-location racks in the same data center and next to StudioCloud services delivers optimal performance

StudioCloud delivers all the benefits of Cloud like economics with monthly billing and access to burstable resources but without the premium price inherent with hyper scale cloud

• StudioCloud is specifically designed for clients’ base-line and project specific render requirements - why pay a premium for agility?

• CDW StudioCloud pricing aligns with ownership on a 3 year time horizon
StudioCloud Reserved Capacity Storage Benefits

Locate production storage next to render for lower latency, higher performance & lower costs

• Remove network bottlenecks and latency with direct connect and dark fiber delivering higher performance
• High performance storage and render delivers more iterations and generates more completed & exceptional shots

Value-Add, Flexibility & Benefits via StudioCloud powered by Intel Partnership

• StudioCloud will finance for 3YR rent-to-own term invoiced monthly to optimize cash flow plus payment terms
• StudioCloud will include installation, testing, commissioning and hand off of render as part of the managed service
• StudioCloud M&E Technical Account Managers (US$150K/year value) assigned for technical support & escalation
• StudioCloud Managed Services – PM, Operations & Remote Hands (US$300K/year value) assigned for render node operations & exchange
• Remote 24x7 monitoring & management from Scalar Network & Security Operation Center (US$100K/year value)
Canada has the lowest power rates in North America for co-location

- StudioCloud sources at wholesale high voltage rates with on-premises DC sub stations in Vancouver, Toronto, Montreal & even in LA
- Optimum Data Center Power Usage Effectiveness (1.25 – 1.31) & Green Footprint leveraging free and evaporative cooling techniques

Quebec Tax Credits for Animation & VFX with no minimum spend and no cap limit

- 20% Cash Back on all expenditures, with no prescribed limit
- 16% Labor-based computer-aided special effects and animation & Shooting of scenes in front of a chroma-key screen activities
- 16% Additional Federal Labor Tax Credit
- http://www.qftc.ca/tax-incentives/information/
StudioCloud Reserved Capacity Storage Solutions

Dedicated 1:1 Performance Render Storage **Isilon H500 & H5600** US$15.36/TiB/month
- StudioCloud Flexible Reserved Capacity 70% Base = 30% performance boost with overprovisioned Isilon nodes & burst headroom
- At the end of the term option to buy out, renegotiate and extend or exchange for new hardware, includes StudioCloud Co-lo

Dedicated 1:1 Nearline, Replication Target & Archive with **Isilon A2000** US$5.99/TiB/month
- StudioCloud Flexible Reserved Capacity 80% Base = 20% performance boost with overprovisioned Isilon nodes & burst headroom
- At the end of the term option to buy out, renegotiate and extend or exchange for new hardware, includes StudioCloud Co-lo

Multi-tenant Near-line & Archive Object Storage with **Wasabi Hot Cloud Storage** US$5.99/TiB/month
- Cut cloud storage costs by 80% - 6x Faster and 1/5th price of AWS with 11x9s of data durability and no egress charges
- Low rate & 90-day minimum term commitment perfect for back-up, near-line or multi-geo collaboration
- Pair with Cohesity, Commvault, Quantum, Rubrik, or Veeam for integrated cloud back-up workflows
Phase 3: StudioCloud Pivots during COVID-19

STUDIOCLOUD
Powered by Intel
CDW StudioCloud immediately shifted focus to the studios, helping them pivot to work from home

1st Wave - Connecting artists to remote workstations and get artists working from home safely. This has kept animation and VFX studios running but also presented network security and bandwidth challenges.

- Teradici PCoIP Cloud access plus software, fast tracked testing & special 3-month COVID-19 subscription
- Intel NUC 10 Performance Mini PC with Intel® Optane™ Memory – thin clients for remote artists
- StudioCloud 10G internet service
- Expanded Arista, Cisco, and Extreme Networks core network
- VPN and network security, Palo Alto firewall and penetration testing
1st Wave: StudioCloud Remote Artists – COVID-19

Teradici launches 3-month subscription so studios & remote artists can work from home

Create and consume your way

Intel® NUC 10 Performance Mini PC

Intel Commits $50 Million with Pandemic Response Technology Initiative to Combat Coronavirus

© 2017 Scalar Decisions Inc. Not for distribution outside of intended audience.
Icon Creative Studios:
• 400 creative artists working from home with Teradici Cloud Access Software and delivering titles like Elena of Avalor for Disney+
2nd Wave: Shift Work, Projects Push, Got Storage?

2nd Wave: Shifting work, some projects push, other projects accelerate – all require more storage

- Shifting work across global pipelines to North American locations less impacted by COVID-19
- VFX Studios shift render jobs from China, India, UK and USA to Vancouver, Toronto & Montreal
- VFX Studios completing shots from overseas require volume of StudioCloud short-term rentals
- Animation Studios expediting delivery of content to streaming services secure long-term rentals

- Project delivery dates are pushed out but holding on to projects that were expected to deliver fill up VFX production storage and places pressure to expand, nearline or archive
  - Requests for short-term Isilon storage rentals – H500 & A2000
  - Clients with Isilon Flex on Demand contracts grow their footprint at the push of a button
  - Studios connect with MegaPort 10G direct connects to Wasabi Hot Cloud Near-line storage
3rd Wave: Cash Crunch while Preparing for Boom

3rd Wave – Current cash crunch while preparing for expected Boom and bounce back in production

- Managing cash flow, flexible payment terms and making every investment dollar count
- Short-term rentals and cross renting idle supply to studios that require short-term render capacity
- CDW Hold & Buy vs. Buy & Hold programs

All the while preparing for anticipated boom in production and workflows that burst

- Maintaining Autodesk Software subscriptions, leveraging subscription grace periods and joint Autodesk./CDW payment terms while earning StudioCloud render credits

Intel render study & Optane DC Persistent Memory – Rent-to-own to replace inefficient render

- Increase cores and memory to stack jobs and increase number of frames and shots rendered
- Decrease render cost – reduced render server, render software licensing and co-lo price
Final Thoughts & Considerations

Together with Intel, StudioCloud will be examining the COVID-19 impact on Animation & VFX

- The StudioCloud powered by Intel Advisory Council made up of our client studios will examine, analyze and work together to help guide each other through this changing landscape.

What will Animation & VFX Studio Production look like in the wake of COVID-19?

- How will studios prepare for hybrid operations with remote and in studio artists?
- How will studios manage productivity, collaborate and keep remote artists engaged?
- How will studios further leverage contract professionals for Remote Artists & Technical Teams?
  - We anticipate artists will assemble as contractors – CDW establishing a StudioCrew Task Force
  - Will COVID-19 accelerate the conversion from CAPEX to OPEX?
  - We anticipate a renewed focus on Cash Flow and further drive to embrace Cloud like Economics