



**FileCatalyst**<sup>®</sup>  
reinventing file transfer

# Media & Broadcast Solutions

Media &  
Broadcast  
Solutions



# FileCatalyst®

reinventing file transfer

Secure Accelerated File Movement over  
Including the Internet

## THEN THERE WERE TWO

### TECHNOLOGY AND ENGINEERING EMMY® AWARD

Presented to Unlimi-Tech Software  
Secure Accelerated File Movement over IP  
Including the Internet

### 2014 SPORTS EMMY® AWARD

The George Wensel Technical Achievement Award  
The XXII Olympic Winter Games  
"Maximum Access" - NBC  
Christopher Bailey, Innovator  
Elton Carneiro, Innovator



- Send files at speeds of up to 10Gbps
- Reliable delivery with checkpoint restart and integrity check
  - Industry standard 256-bit AES encryption
- Watch folders / automation and web browser integration
- Integrated with leading broadcast workflow and MAM solutions
  - Tightly integrated with leading cloud storage providers

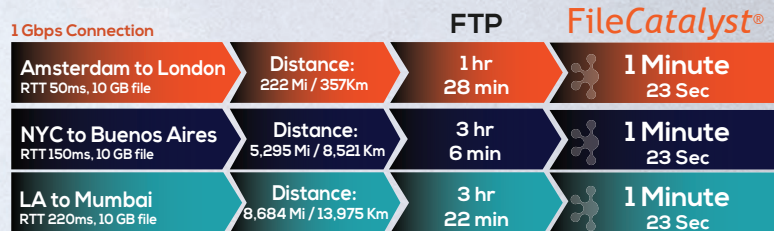
## THE FILECATALYST PLATFORM

Moving files is a critical process for your organization. FTP can be slow and unreliable, a combination that causes lost productivity and frustration. International file transfers are especially problematic, frequently disconnecting and almost never reaching full line speed. Predictability and “guaranteed file delivery” are virtually impossible with FTP.

Eliminate slow file transfers and send big data fast with the FileCatalyst accelerated and managed file transfer platform. FileCatalyst provides FTP alternatives that enable you to send files of any size or format at full line speed, that are hundreds of times faster than FTP, while ensuring the secure and reliable delivery of files with sizes into the terabytes. All products in the FileCatalyst suite also integrate seamlessly with each other for perfect interoperability.

Each FileCatalyst product serves a unique set of organizational file transfer needs and works across a variety of industries. On its own, FileCatalyst Direct uses the FileCatalyst Server and the full suite of client options for point-to-point transfers. Combining FileCatalyst Direct with FileCatalyst Workflow provides a complete accelerated web-based solution. Finally, using FileCatalyst Central will allow you to monitor your organization's entire FileCatalyst deployment by offering a consolidated web based view of file transfers on your network.

## FILECATALYST WORLD SPEED CHART



“Our file transfers are now much faster and more secure than with our previous server. We also needed a new, simpler approach to file transfer that users of any level could understand and FileCatalyst was able to deliver that.”

- Bell Media -

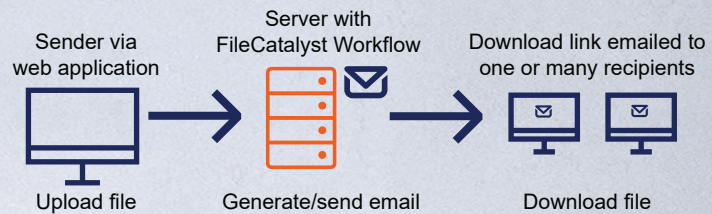


- Web portal for sharing, submission & distribution
  - Online file sharing and collaboration
- Flexible authentication: LDAP/AD, SSO, Multi-Factor, or built-in
  - Automated archiving and file deletion
  - Customizable metadata fields
- Automated job submission via FileCatalyst HotFolder

## FILE EXCHANGE SIMPLIFIED

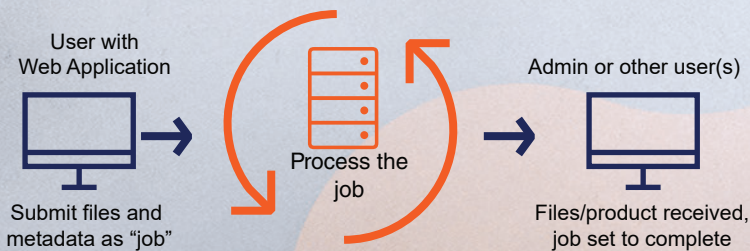
FileCatalyst Workflow is a web portal for all of your file transfer needs. It simplifies file exchange and boosts productivity by streamlining submission, distribution, and file sharing workflows on the web. Users may submit files to your organization for processing, with full tracking at every stage; or they may securely distribute files to anyone with an email address. Additionally, one or more file areas allow users to store files in your organization's private cloud for collaboration as well as online access from anywhere in the world.

## EMAIL DISTRIBUTION



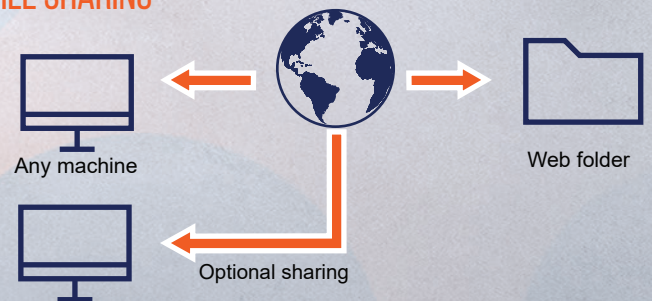
Used for distribution, FileCatalyst Workflow solves the problems of file transfer size and speed by acting as a middleman for the file transfer process. Files are sent to the FileCatalyst Server using acceleration technology. Recipients then receive an email for downloading the files. All phases of the file transfer are tracked and managed.

## FILE SUBMISSION



Used for submission, FileCatalyst Workflow creates a web portal for uploading files and also collects any information (metadata) needed to process those files (for example, processing instructions or quantity of goods ordered). Files and metadata combined are called a "job". Jobs may go through any number of phases while being tracked through the system until finally reaching the completed state.

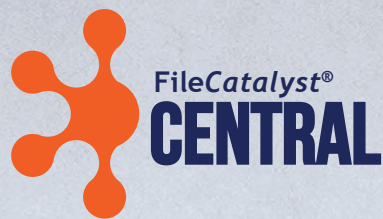
## FILE SHARING



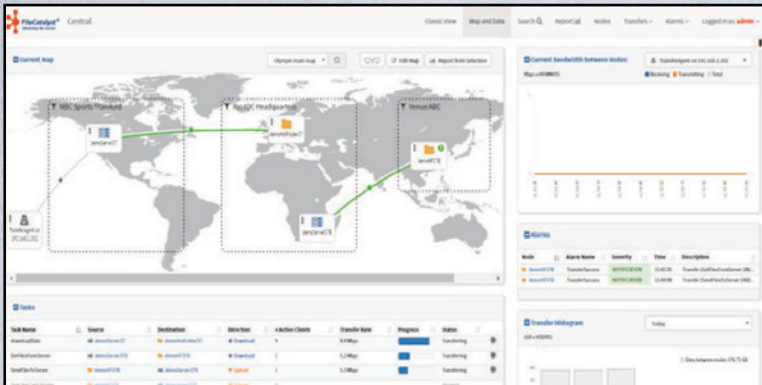
With FileCatalyst Workflow as the central storage location for one or more web folders, users have remote access to shared or personal files from anywhere in the world. Both upload and download are supported, and sharing can be at individual account or group levels. Group folders with individual read/write permissions can be assigned to any number of users.

"FileCatalyst has been a great resource for us. Heading into World Cup, the world's most watched sporting event, it made sense to rely on software with a proven track record in sports production workflows."

- TV 2 Norway -



- View and prioritize ongoing transfers in real time
  - Create custom file transfer reports
- Monitor the health of your deployment with alarms
  - Remotely configure individual nodes
  - Remotely initiate node to node transfers
  - Create SNMP traps or email alarms



## CENTRAL MANAGEMENT

FileCatalyst Central is a web-based monitoring tool that acts as a united gateway to your entire FileCatalyst deployment. Central allows you to view ongoing transfers in real-time, drill into transaction histories and reports, view alarms, remotely configure nodes and initiate file transfers. From a single map view, you can inspect connected nodes and remotely control them. FileCatalyst Central provides visibility to all FileCatalyst client applications and server nodes in a single centralized location. Adding additional nodes is easy; no additional network configuration is required for new nodes.

## REAL-TIME MONITORING

File transfers are monitored in real-time via the map or the overview page. The map view can be customized by configuring a custom map canvas and by grouping components of the FileCatalyst deployment into more complex objects. For example, an object called "Headquarters" might include a FileCatalyst Server, several HotFolders, and a few TransferAgents, while another object called "Regional Office" might only include one or two HotFolders. Several maps can be created and viewed simultaneously within a single browser. Maps can also be undocked and moved to separate screens to help create more flexible and customized views.

## STAY NOTIFIED WITH ALARMS

Set a wide variety of alarms for file transfer events including successful, failed or canceled transfers. Alarms can be configured as SNMP traps, email notifications or be viewed from the Central web console.

## NODE ADMINISTRATION

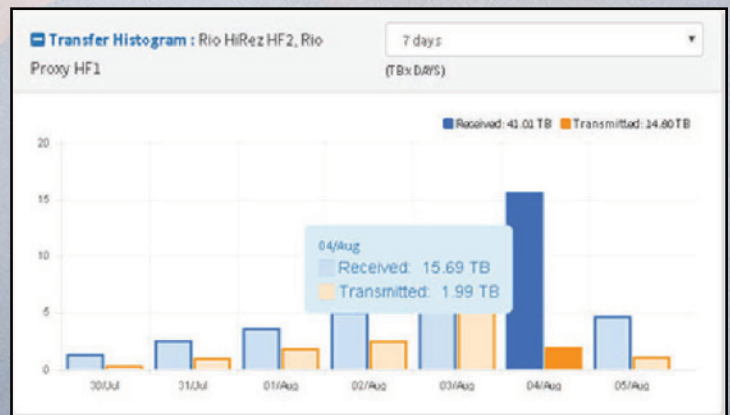
A node in Central could be FileCatalyst Server, TransferAgent or HotFolder. From the node page, you can view all current and past file transfers, initiate ad hoc file transfers, and remotely configure the selected node.

## REST API AND SCRIPTING

Central provides a full REST API which developers can use to further expand the existing functionality. Node-to-node file transfer orchestration is available through command-line scripting, offering additional control over file transfers within your organization.

## REPORTING

Reports are shown in near real-time. The reporting engine handles current and archived transfers with the same speed and performance. Reports are compiled based on individual nodes, groups of nodes or sessions. This gives administrators instant insight into critical file transfers and to quickly measure traffic and identify usage patterns.



“Aside from the speed gains, we found FileCatalyst to be a much more reliable and resilient method of file delivery over a FTP application. The improved file transfer has enabled us to cover more up-to-date situational reports on the field because the turnaround time in bringing in these reports and materials was drastically reduced.”

- United Nations, UNIFEED -



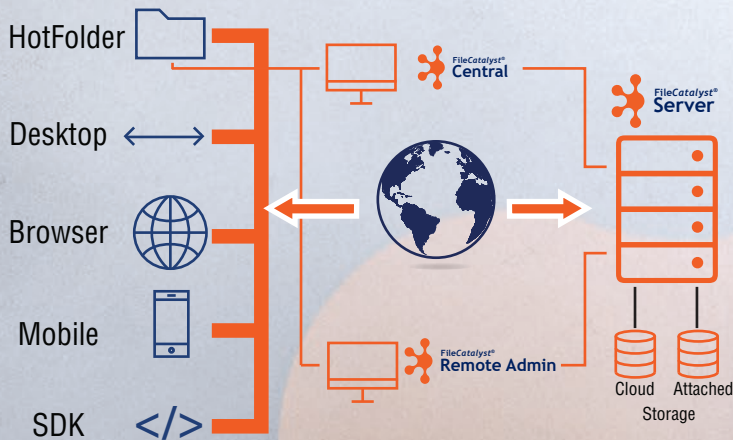
- View and prioritize ongoing transfers in real time
  - Create custom file transfer reports
- Monitor the health of your deployment with alarms

### POINT-TO-POINT TRANSFERS

FileCatalyst Direct is a suite of server and client applications that enable point-to-point accelerated file transfers at speeds of up to 10Gbps. Utilizing a patented UDP-based file transfer technology, FileCatalyst overcomes the issue of slow file transfer caused by network impairments such as latency and packet loss.

### FLEXIBLE DEPLOYMENT OPTIONS

The FileCatalyst suite of applications has a wide array of options for deployment. Pick and choose the options that fit your file transfer needs.



### SECURE AND RELIABLE

FileCatalyst employs military grade encryption, and advanced reliability features like automatic retry, checkpoint restart, and file integrity checks. With perfect rate control and advanced congestion control capabilities, FileCatalyst will not interfere with your other crucial business applications.

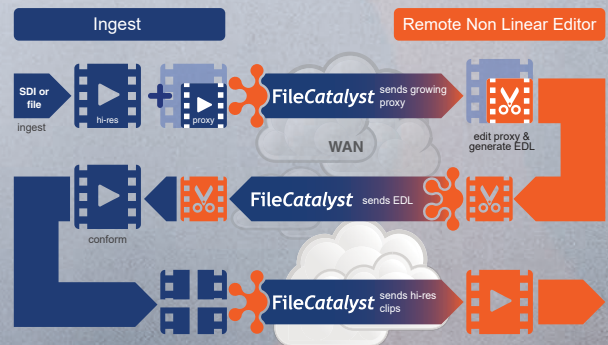
### ONE-TO-MANY DISTRIBUTION

Deploy FileCatalyst Direct to distribute content from a central site to locations around the globe.



### LIVE EVENT PRODUCTION WORKFLOW

FileCatalyst Direct has been used to enable remote editing for some of the world's largest sporting events. Its unique ability to transfer files that are growing, combined with the ability to transfer hundreds of concurrent files, makes it the ideal choice for live event production.



“The issues we were experiencing using FTP to transfer our files including lengthy and incomplete transfers and poor asset management were immediately solved with FileCatalyst. FileCatalyst sinks its teeth into the line to ensure the file gets to where it needs to go on time.”

- Matthew Westrup, Travel Channel -



- Remotely configure individual nodes
- Remotely initiate node to node transfers
- Create SNMP traps or email alarms



### FILECATALYST LINK

FileCatalyst Link is an easy to use feature that allows users to send files of any size to any email address, using only a web browser, at the maximum possible speed. The recipient simply clicks the link and downloads the files.



### SIMPLE USER INTERFACE

For scenarios requiring nothing but simple file transfer, the FileCatalyst suite includes a no-frills 2-panel application. As a standalone application, we call the product FileCatalyst Express. The same functionality is available from within the FileCatalyst HotFolder automation tool as an on-demand “connect” function.



### HOTFOLDER / AUTOMATION

By far, our most commonly used tool for scheduling and automation is FileCatalyst HotFolder. HotFolder is a desktop application that is installed on the end user’s machine and allows you to schedule automated tasks.



### IN-BROWSER FILE TRANSFER

FileCatalyst TransferAgent enables any web application to add accelerated file transfer capabilities without the use of plugins. It provides a pure HTML5 web interface for both uploads and downloads, and has a feature rich REST API that can be leveraged by 3rd party developers.



### MOBILE

FileCatalyst Upload, our mobile client, is a streamlined upload application developed for iOS and Android devices. Now any user “in the field” can easily send media files to FileCatalyst servers. iOS and Android APIs are also available for 3rd party integration.



### COMMAND LINE INTERFACE

The CLI client exposes all of the functionality of the FileCatalyst Client API via a command prompt. This opens up some impressive and important functionality such as command line ad hoc transfers, initiate transfers from a script and initiate transfers from an application.



### FILECATALYST SDK

FileCatalyst provides many options for integration into third party applications and workflows. Our SDK boasts a full range of components for a variety of development languages and environments, including Java, C++, .NET, and a full compliment of REST APIs.

“The biggest benefit of FileCatalyst has been the ability to send large file sizes quickly and allowing outside parties to send files to us, without the hassle of being limited to file size. The BFI is now able to transfer files securely, without risking compromised or leaked files during transit and it’s easy to add and manage multiple users.”

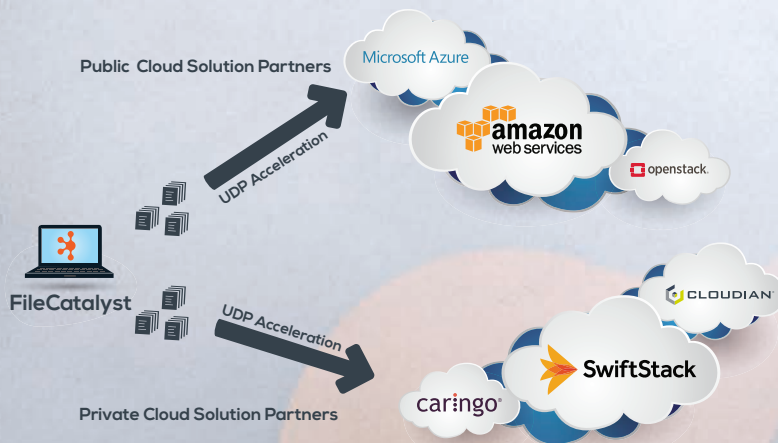
- British Film Institute -

# CLOUD INTEGRATION

- Support for public and private object storage
- Combined view of cloud based storage with local storage
- Resume interrupted transfers with integrity verification
- Move content to the cloud at maximum speeds
  - Supports on-the-fly compression
- Support for multiple buckets/containers

## PUBLIC & PRIVATE CLOUD PROVIDER INTEGRATION

The FileCatalyst cloud storage integrations for both public and private cloud storage directly leverages native APIs that provide seamless integrations. Unlike competing solutions, FileCatalyst does not use third party tools or drivers to access the object storage. Because of this tight integration, almost every function of FileCatalyst that can be performed on a physical storage medium can be performed on your cloud storage with unparalleled performance. Content is accessed through the entire FileCatalyst client suite; no special tools or scripts are required.

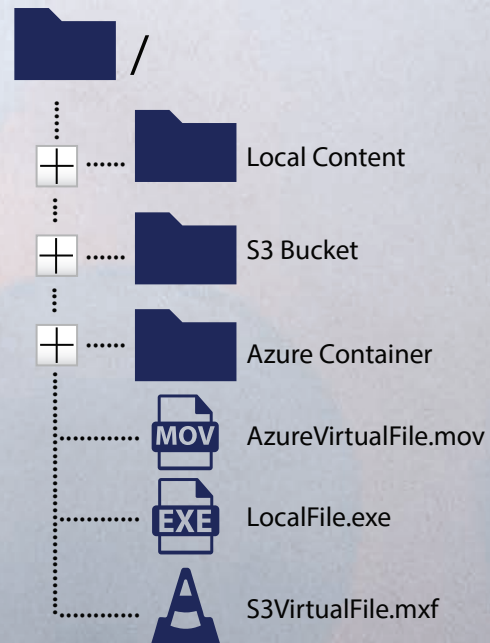


Once FileCatalyst is deployed to your cloud VM and connected to your storage, use any of the available client options to facilitate movement of data. Automate the transfer with FileCatalyst HotFolder, provide email distribution with FileCatalyst Workflow, or even build a custom solution with the FileCatalyst SDK.

## UNIFIED VIEW OF ALL STORAGE

The FileCatalyst Server has the ability to define virtual files and virtual folders that point directly at cloud based content. For example, a file or folder hosted on a public cloud service could be made available to a particular user by creating a virtual file or folder and assigning it to that user.

The user will see all locally stored files and folders as well as those sitting on their cloud storage, any of which can now be downloaded. Files and folders from both realms may be assigned to a group for access or sharing between multiple users.



*View of a combined file system with both local and cloud based content*

FileCatalyst provided exactly the products and tools we needed to build Aberfast, our digital video file delivery service. Their support and responsiveness is absolutely the best.

- Aberdeen Broadcast Services -



# CASE STUDY: AFRAME

## INDUSTRY

- Media & Broadcast

## PRODUCTS

- FileCatalyst Direct
- FileCatalyst API

## CHALLENGES

- Slow Transfers using FTP

## RESULTS

- Faster file transfers noticed immediately
  - Preserved data structures
  - Increased transfer security
- 

## PROFILE

Aframe is a powerful video collaboration platform in which team members can manage and store their high-resolution, multi-format professional video and broadcast masters. Aframe's cloud infrastructure allows globally dispersed teams to collaborate cross platform to leverage their video content and maximize its value and potential reach. By creating a central point in the workflow, Aframe streamlines acquisition, media asset management, content creation, and delivery into one phase. Aframe provides a real-time central hub into which video can be tagged, shared, reviewed, and approved, which allows global teams to focus on the highest quality content, and complete productions in record time.

## CHALLENGES

Whether for television, film, news, sports, commercials, or corporate, global collaborators have, in the past, shared their production video files one by one over HTTP, or sent files through FTP using a third party client (Cyberduck, Filezilla, etc.). Transferring large video files (80GB+ single files) over these outdated methods caused latency and bloated transfer times, as well as lengthy dropouts in the client connection, which triggers a premature ingest of assets. Aframe's users also wanted increased transfer security using AES or a similar standard.

## SOLUTIONS

The FileCatalyst API was embedded into the Aframe desktop app, which talks to the FileCatalyst server instances housed in Aframe's private data centres. Users can set up watch folder workflows to both upload and download to and from their Aframe projects, using accelerated UDP file transfer technology. All data structures are now preserved, and data is encrypted in transit using the AES 128-bit standard, and this transfer is completed in excellent time.

## RESULTS

FileCatalyst removes many of the challenges Aframe's clients experienced, which are inherent in creating modern video content. By providing instant online access to footage at every stage in video content creation Aframe's clients can remove the traditional silos, complexity, and cost of managing high-resolution video, thus enabling faster and more fluid collaboration. Depending on network conditions (firewalls, ISP network shaping, etc.), Aframe's clients have seen increased speed in transfer, due to the integration of FileCatalyst. The controlled connection FileCatalyst provides also allows Aframe's servers to be certain of when to trigger the ingest process, ensuring total data integrity from the source, all the way to completion. Users of Aframe are conscious that it is a professional tool for secure rapid global transfer of large video files.

It was quite a simple decision in the end. Out of all the providers we approached, FileCatalyst were very responsive from the first point of contact, and got what we were trying to achieve  
- David Peto, CEO Aframe -

# CASE STUDY: NBC OLYMPICS

## INDUSTRY

- Media & Broadcast

## PRODUCTS

- FileCatalyst Direct
- FileCatalyst Central

## CHALLENGES

- Optimize global 5Gbps link
- Handle very high concurrency
- Handle dynamic MXF files
- Monitor global deployment

## RESULTS

- Full line speed transfers
  - Scaled to 200 concurrent transfers
  - Seamlessly handled dynamic MXF files
  - Integrated with Avid and EVS
- 

## PROFILE

NBC has owned the American rights to broadcast the Olympics since 2002, delivering coverage of sporting events and medal ceremonies across the United States via cable television and online. From August 5 - 21, 2016, NBC Olympic Group, renowned for its unsurpassed award winning Olympic production, presented the 2016 Olympic summer from Rio de Janeiro, Brazil.

## CHALLENGES

The Summer Olympics featured live coverage of 306 events in 28 Olympic sports. While covering events in multiple venues, NBC Olympic Group needed to deliver video files digitally over a global 5Gbps link to its headquarters in Stamford, Connecticut to facilitate remote editing. In addition, archived footage had to be moved from Stamford back to Rio de Janeiro as required for editorial purposes. Timely delivery of this content was critical to the production workflow. Aside from the high speed transfer of digital content, NBC Olympic Group also required a solution that ensured the Reliability and security of all file transfers. Effectively sharing files during the games was imperative, as NBC Olympic Group required a solution that could execute concurrent transfers of large, dynamic file sets, sending up to 200 videos at once. Finally, the ability to deal with files as they are being encoded or dynamically changing, particularly MXF files, was critical.

## SOLUTIONS

To accelerate global and regional content delivery and meet the other specified objectives, NBC Olympic Group selected the FileCatalyst accelerated and managed file transfer solutions. From the opening to closing ceremonies, FileCatalyst technology ensured reliable and secure transfers of all event coverage. In particular, the platform's ability to deal with extreme concurrency and seamlessly handle the challenges of transferring dynamic video files was leveraged. Throughout the first half of 2016 and leading up to the games in Rio de Janeiro, FileCatalyst worked hand in hand with NBC Olympic Group to ensure the software was up to the task. Features were developed to handle the unique challenges, such as handling MXF files that were growing and changing while being encoded. In addition, the newly updated FileCatalyst Central allowed broadcasters to monitor transfers in real time and track their entire FileCatalyst deployment. FileCatalyst Central offered the ability to oversee thousands of file transfers in real-time from Rio to the broadcaster's headquarters in Stamford, Connecticut.

## RESULTS

NBC Sports Group chose FileCatalyst to accelerate the transfer of digital content for the 2016 Summer Olympics and over the course of the games, over 75,000 files totaling over 250TB of data was transferred. FileCatalyst enabled NBC Olympic Group to break new ground in live sports production by enabling real time transfer of event footage, handling very high concurrency, and overcoming the problem of transferring dynamically changing MXF files.

“FileCatalyst did a great job in Sochi and we knew they would be up for the even greater challenge of the Rio summer games. They proved this in how well the system handled the load and provided even better monitoring tools to help manage the traffic.”

- Jim Miles, NBC Sports Group -

# CORPORATE OVERVIEW

## ABOUT UNLIMI-TECH SOFTWARE INC.

FileCatalyst technology is developed by Emmy® Award winning Unlimi-Tech Software Inc., a world leader in file transfer acceleration technology. Founded in 2000, the company has over one thousand clients in media & entertainment, energy & mining, gaming, and printing as well as many Fortune 500 companies and Government/Military organizations. In addition, FileCatalyst has over one million users of its software-based file transfer solutions which are designed to accelerate and optimize file transfers across global networks. Being immune to packet loss and latency, FileCatalyst can send files hundreds of times faster than traditional methods such as FTP, HTTP or CIFS, while adding security and reliability.

Our core values outline our most important goals and provide guidance for daily activities and corporate initiatives.

## CONTINUAL, FOCUSED INNOVATION

We commit ourselves to evolving our core transport technology to continuously enhance how we serve our customers. By incorporating customer feature requests into our product roadmaps and conducting thorough market research, we constantly improve the results achieved with the FileCatalyst platform.

## CUSTOMER SUCCESS

We are dedicated to ensuring customers exceed goals related to moving their data efficiently and securely. We pride ourselves on delivering responsive and thorough customer support from initial evaluation through to production deployment by providing clients with full access to developers and high-level support engineers.

## STRATEGIC PARTNERSHIPS

We form strategic partnerships to extend the reach of FileCatalyst. By partnering with worldwide resellers and software vendors, our goal is to make accelerated file transfer omnipresent and simple.

## GLOBAL RESPONSIVENESS

We operate on a global scale and have transferred files of all types and sizes across every continent. We are agile and able to respond quickly to customer demands and adapt to new circumstances.

Unlimi-Tech Software Inc. is a privately owned company located in Ottawa, Canada.

To learn more please visit [www.filecatalyst.com](http://www.filecatalyst.com).

## SOME OF OUR CUSTOMERS

Aberdeen Broadcast Services  
Aljazeera  
ATP  
Beln Sports  
Bell Media  
British Film Institute  
CBS Newspath  
Czech Television  
Danish Broadcasting  
Dimension Films  
Dorna  
Express Media Group  
Filmtech Sweden  
Globo TV International  
Grey Juice Labs  
ioGates  
Leading the Way  
NBC Sports  
Nintendo  
PGS  
PPL  
Pronology  
Quicklink  
Royal Media  
SHAPESHIFTER  
Sky Sports  
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Tata Communications  
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+1.613.667.2439