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V21.1 - Releases

- Minor / Major release every 7 months
- v21 October 2022
- v21.1 May 2023→ On-Prem and SaaS same day.
- v21.2 December 2023

V21.1 - End Of Support

Version	Release date	End of full support	End of extended support
AFT 8.2	01 / 2017	08 / 2020	12 / 2023
9.0.19	03 / 2019	12 / 2022	03 / 2024
9.0.20	07 / 2020	04 / 2024	07 / 2025
v21	09 / 2022	09 / 2025	09 / 2027

V21.1 – Key features

Control-M 21 – Key features

Core

- Folder Reference
- Adjust events "Bridge"
- Post processing (on do) based on variables
- "Order as independent flow" added to the On Do "Order Job"
- SLA alerting mechanism for cyclic Folders or Jobs executions
- New microservices
- Site standards policies

Integrations

- Control-M for Airflow
- · Application Integrator
 - New Al Design
 - Support JSON objects in REST calls
 - · Support input file in job definition
 - Support GCP identity token
- Deployment
 - Plugins deploy via web
 - · Direct Agent deployment via CCM
- AWS plugin enhancements
- SAP plugin enhancements
- Plugins based on Application Integrator
 - Azure Databricks
 - Azure Data Factory
 - Azure Functions
 - AWS Glue
 - GCP DataFlow
 - Informatica Cloud (IICS)
 - UIPath
- New Centralized CP (MFT/AP/AI/SAP)
- Local CP -> CCP conversion utility

Web UI

- JSON import/export to/from Web UI
- User and roles management
- Run as management
- Host group management
- Agent maintenance
- Agent managementFolder management
- iSeries (AS400) management
- Improved user experience

MFT

- Cloud integrations
 - Azure Blob storage
 - Azure Data Lake storage
 - · Google Cloud Storage
 - · AWS PrivateLink for Amazon S3
- Security
 - TLS 1.3
 - New ciphers, key exchange, MACs
 - · Unique default encryption key for CM
- File Transfer server enhancements
 - Support for "Password and Key" authentication
 - Allowed/Blocked Users list
 - Disable server, access Log
 - Web Interface for File Transfer Server (https://<fts host>:7443)
- · Additional MFT job improvements
 - Create a copy of existing file
 - Post actions: change Permissions, Run command, Add empty file
 - · PGP choose PGP operation

MFT Enterprise (MFT/e)

- Multi-site support on a single EM server
- Web interface file exchange enhancements
 - New UI
 - Tree View
 - Support for sub-directories
 - Upload multiple files /directory
 - White labeling
- Security
 - Role-based Administration for different MFT/e Sites
 - User locking and password for BP
 - TLS 1.3
 - Disable simultaneous HTTPS logins
 - Hub support for ECDSA, ED25519 and ED448 key types
 - Hub support for "Password and Key"
 - SSL authentication using certificates

Automation API & Workbench

- Python client
- SLA and Calendars import/export/update
- Site Standards import/export
- Add/remove parm in deploy descriptor
- Alert management
- Peoplesoft job type
- z/OS job type
- Performance improvements
- Token based authentication
- Authorization for secrets
- Usage measurement for active jobs
- Site standards policies, and 'simulation'
- Workbench enhancements

Security

- IdP support using SAML 2.0
- RBA support for host-groups
- TLS 1.2 support for Oracle DB
- AWS Linux Postgres DB secure communication and DB encryption
- Support for DBO password via Kerberos
- Remove old encryptions and ciphers
- Allow AAPI users to use their own tokens
- Authorization for secrets and reports
- Enhanced AI authentication to Azure

Reports

- Add new reports to retrieve Folders & Jobs
- If-Actions post processing definitions

Agent

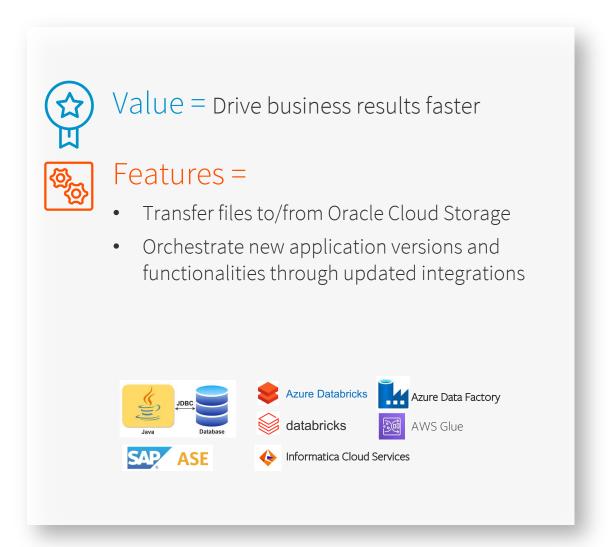
- New Agent include AI and AAPI CLI
- Supports VB\PS\Perl\Python emb scripts
- New communication process
- Support multiple IP addresses per hostname

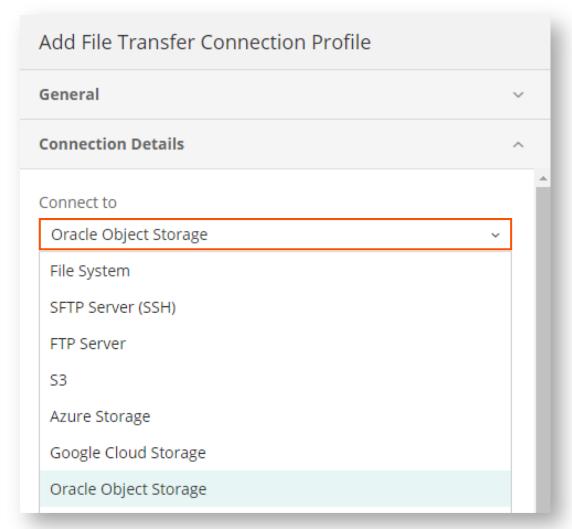
Mainframe

- Separate workload executions
- Delay before submission setting in Web
- In-place upgrade enhancements
- Workload Optimization: Load Indexes association with MainView alarms



V21.1 – Native Integrations





V21.1 – Enhanced Application Integrator

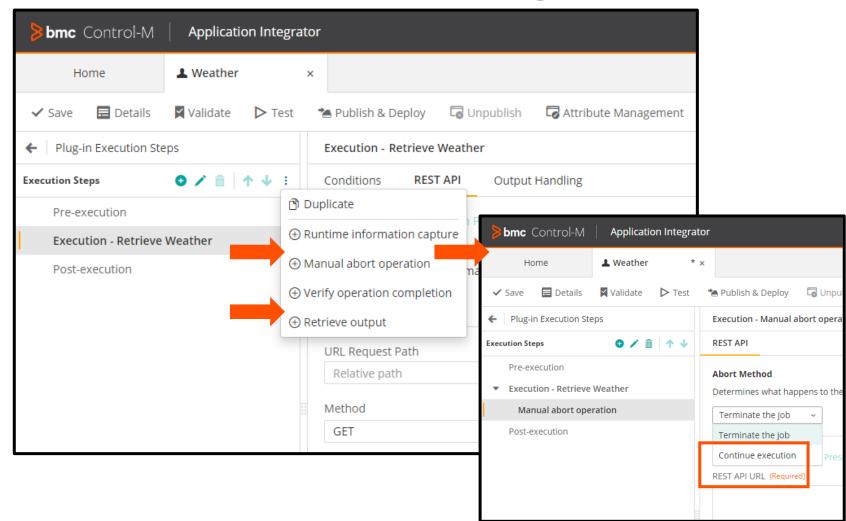


Value = Deeper tracking of custom integrations



Key Features =

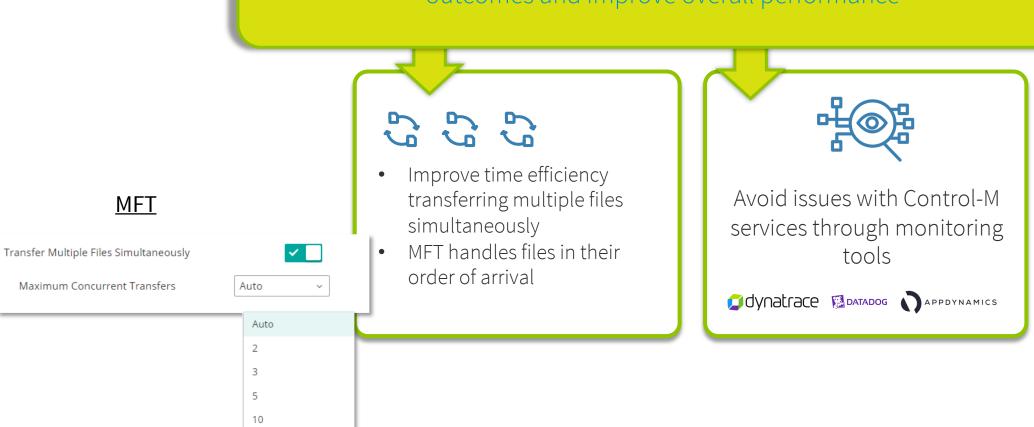
- Track job status after a manual abort
- Retrieve output for still-executing steps
- Support zip file returned by a REST response





V21.1 – Efficiency

IT Operations, data teams, and cloud engineers can accelerate business outcomes and improve overall performance



V21.1 – Business Enablement

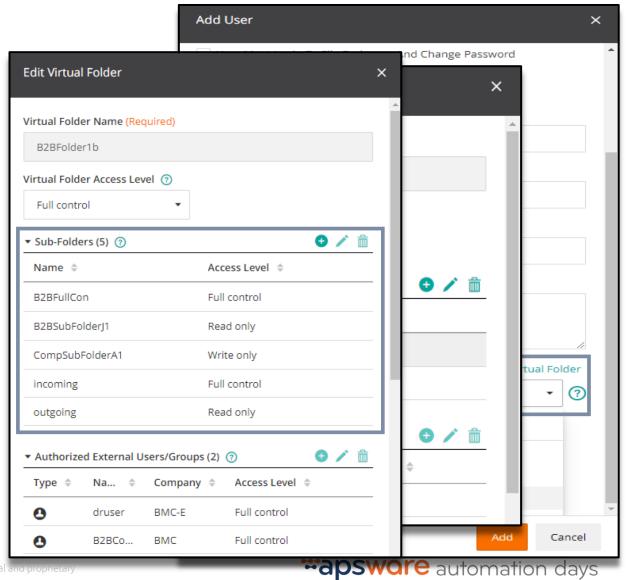




Key Features =

New authorization capabilities for MFT/E administrators:

- Default home folder for external users
- Different user access levels for different folders and subfolders (including delegation)



V21.1 – Business Enablement

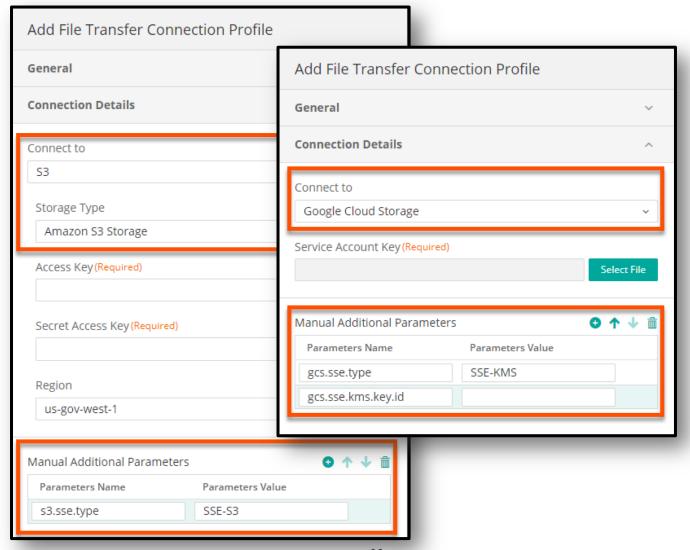




Key Features =

New security capabilities for MFT:

 Enable encryption at rest to ensure secure file transfers to/from AWS S3 and Google Cloud Storage





V21.1 – Business Enablement

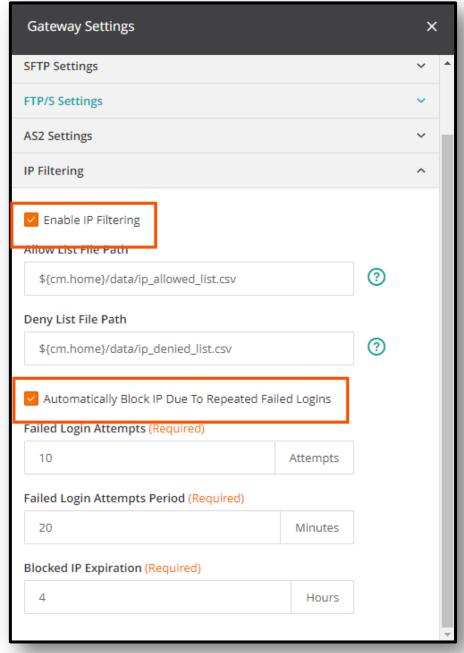




Key Features =

New Gateway settings in MFT/E:

- Enable IP filtering, allow and block specific IPs
- Enable auto-block IP, based on failed logins, with expiration time

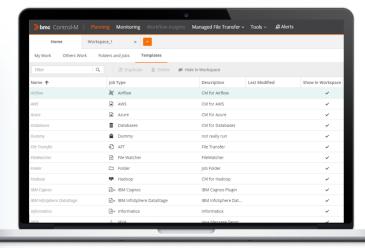




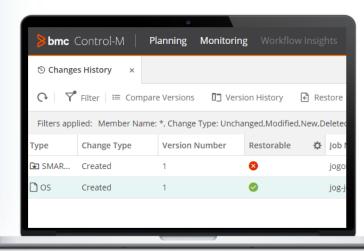
V21.1 – Web UI

More features available through the web interface

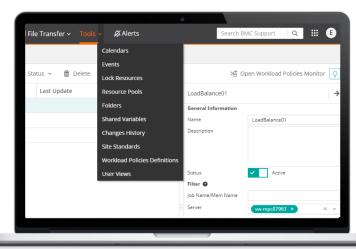
- Job Template
- Workload Policy
- Changes History
- Timeline View
- Variable Simulation
- ..



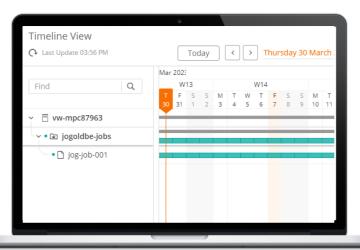
Job Templates



Change History



Workload Policy



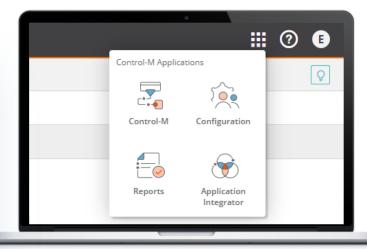
Folder Timeline View



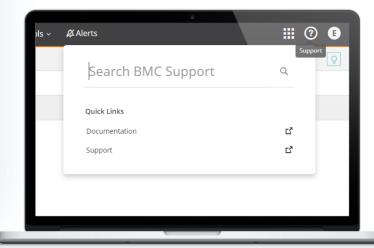
V21.1 – Web UI

Easy and quick access to relevant functions

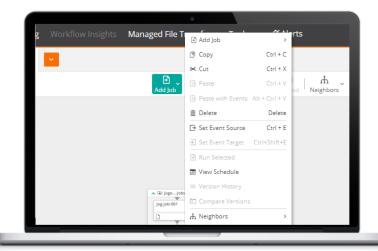
- New application menu
- Right-click context menus
- Search options
- Fast paths



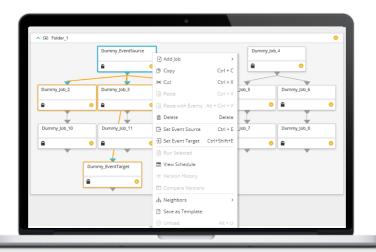
Application Menu



Search in Support Center



In-context menus



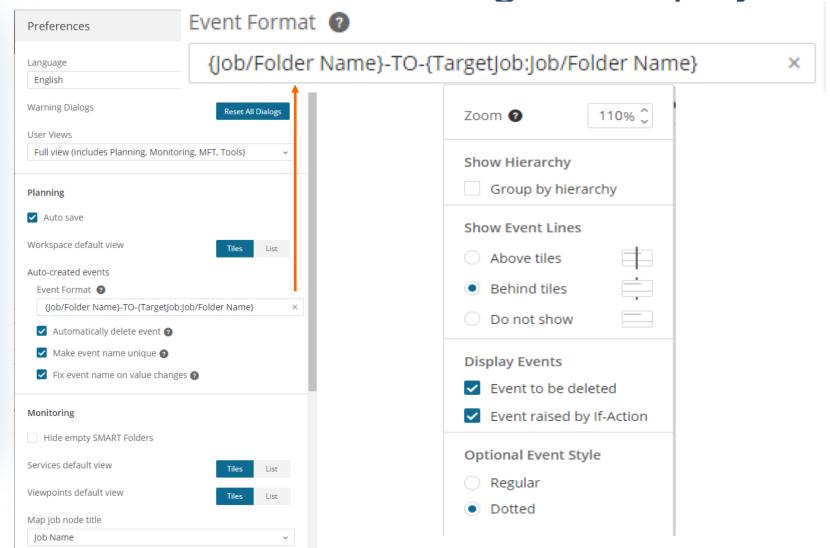
Define links setting source/target



V21.1 – Better control over event naming and display

Event name and display:

- Option to control how automatic events are created
- Graphical details for layout
- Optional events display

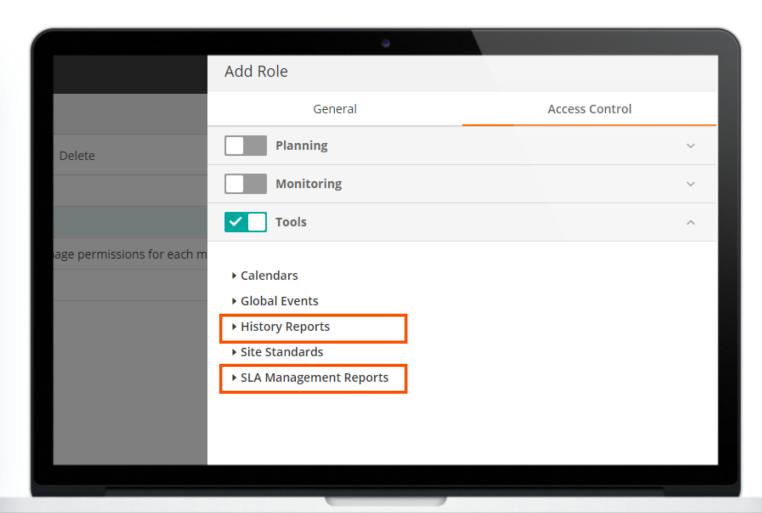


Papswore automation days

V21.1 – Framework for non-IT Users

New access control options available when defining user roles:

- History Reports
- SLA Management Reports





V21.1 – Airflow Integration



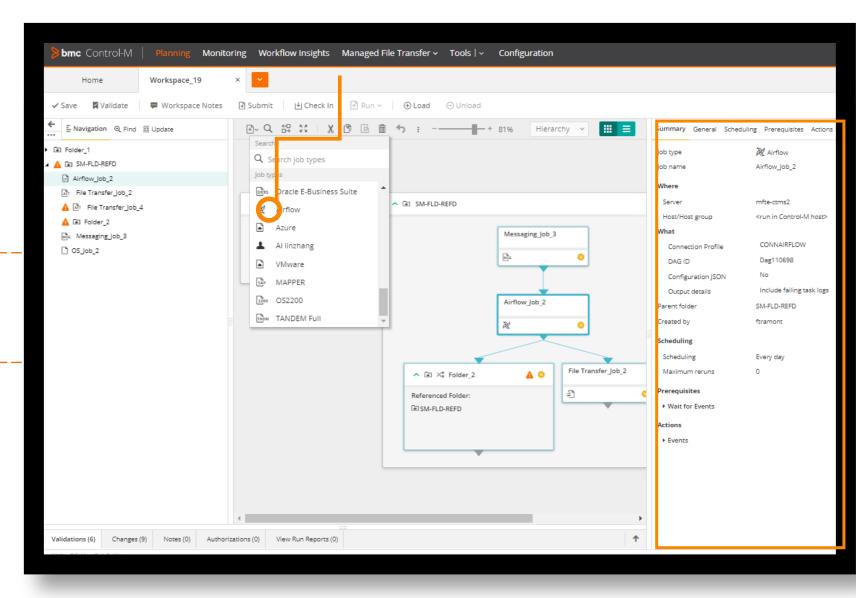
Single orchestration framework including Airflow DAG runs



All Control-M orchestration capabilities available while integrating with Airflow



Developers, IT Operations, and business users can access Airflow data workflows



V21.1 – Cloud Storage Integrations



Further simplification of data orchestration in multi-clouds

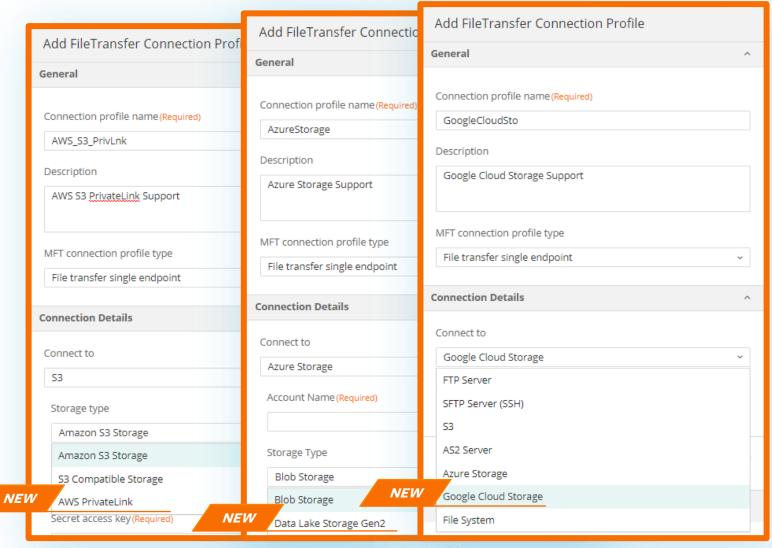


You can transfer files to/from - and watch for files on - new cloud repositories



Cloud storage native integrations:

- AWS S3 PrivateLink
- Azure Data Lake Storage
- Google Cloud Storage



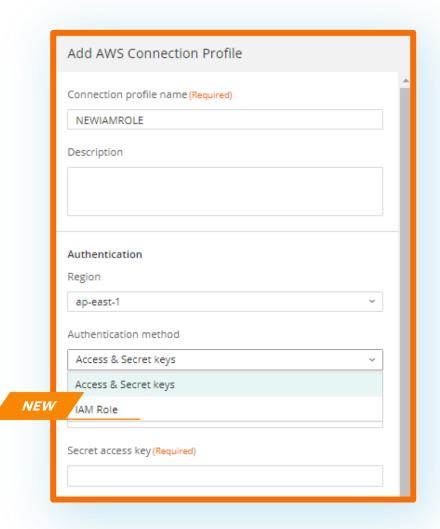
V21.1 – Support for Cloud Authentication



New authentication method is supported to fulfill customer security policies and requirements:



- Configured through Centralized Connection Profile
- Used by AWS Lambda, Step Function, Batch, Glue





V21.1 – Continuous Monthly Releases

- Orchestration platform is extended with new integrations across cloud, data, PaaS and more
- Integrations requests are prioritized based on customer input
- Constant evolution, strong cadence, many more updates and announcements in the future!

January 2022	February 2022	March 2022	April 2022	May 2022	
Azure Databricks UI Path Informatica Cloud	Azure Functions GCP Dataflow	Boomi AWS and GCP Databricks	Microsoft Power BI GCP Dataproc	Azure Batch Talend	•••

https://docs.bmc.com/docs/helix_ctm_integrations/helix-control-m-integrations-home-1166432768.html https://www.bmc.com/it-solutions/control-m-integrations.html#&product_interest=163366495&sortCriteria=recommended&category=mp

V21.1 – ...and many more News

Enhance security with Identity Provider (IdP) SAML 2.0 support

Folder/job reference

Post actions based on variable

Adjust events "Bridge'

New File Transfer Capabilities

Control-M Agent News

Administration Facilities

- Enhanced security, single sign-on and multifactor authentication
- Eliminate redundant copies of folders/jobs through reuse, when managing the same business logic across multiple workflows
- Enhance automation with dynamic post processing actions based on runtime conditions
- If a job in a workflow does not run every day and a subsequent job should run every day, this can be visualized better with the new Bridge function
- Further native cloud storage integrations; Strengthen security and increase efficiency; Speed up self-service file transfers; Automate external partners onboarding; Enhance external users' web experience and MFT/E multi-site support
- New Agent includes AI and AAPI CLI
- Supports VB\PS\Perl\Python embedded scripts #!C:\WINDOWS\system32\WindowsPowerShell\v1.0\powershell.exe
- Support multiple IP addresses for a hostname
- Eliminate the need for multiple MFT/E installations with multi-site support; Eliminate redundant actions with Centralized Connection Profile for SAP and Reduce conversion risks with when moving from Local to Centralized Connection Profiles



V21.x – External Java

- Control-M/Agent installation no longer bring and install JRE
- Customers must provide path to local/network path with JRE (For windows: only local drive is supported)
- Path must contain the "release" file
- ✓ Java version must be 11.0.12 or 11 higher + Java 17 in 21.1
- For automated install, user must:

set BMC_INST_JAVA_HOME=<path to JRE HOME DIR>

21.1: New Supported external Java vendors

- Red Hat on Windows
- Microsoft on Linux
- AWS Corretto Service on Windows and Linux
- SuSE
- Debian
- Ubuntu



V21.1 – Platforms and Databases

New OS Platforms

- ✓ Windows 2022
- ✓ Windows 11
- ✓ AWS Linux 2022
- ✓ Aix 7.3
- ✓ Ubuntu 22.04
- ✓ RedHat 9 (Agent only)

Databases

- ✓ Oracle 19c
- ✓ Oracle AWS RDS
- ✓ External PostreSQL 11/12/13/14
- ✓ PostgreSQL AWS RDS
- ✓ GCP PostreSQL 12 service

- ✓ Azure Postgres DB service
- ✓ Internal PostreSQL 11
- ✓ Amazon Aurora 12/13/14
- ✓ MSSQL 2019/2017/2016
- ✓ MSSQL AWS RDS
- ✓ Google Cloud SQL for PostgreSQL

Containers

- ✓ New images for K8S and OpenShift
- ✓ Helm Charts



Increase Operational Efficiencies

Operations can achieve faster time-to-value with increased operational efficiencies



Operational Enhancements

- Enhance security with Identity Provider (IdP) SAML 2.0 support
- Create workflows faster with folder/job reference and postprocessing based on variables



New file transfer capabilities

- Streamline FT with cloud storage integrations and post actions
- New level of security control with allowed/blocked user lists
- Enhanced MFT/Enterprise and new MFT web user experience



Administration facilities

- Reduce installation efforts with MFT/Enterprise multi-site support
- Eliminate redundant tasks with new CCP for SAP
- Mitigate risks with automatic conversion from local to CCP

Operational Enhancements









IdP SAML 2.0 support

Enhanced security, single sign-on and multifactor authentication



Folder/job reference

Eliminate redundant copies of folders/jobs through reuse, when managing the same business logic across multiple workflows



Post actions based on variable

Enhance automation with dynamic post processing actions based on runtime conditions



Adjust events "Bridge"

If a job in a workflow does not run every day and a subsequent job should run every day, this can be visualized better with the new Bridge function

Identity Provider (IdP) SAML 2.0 support









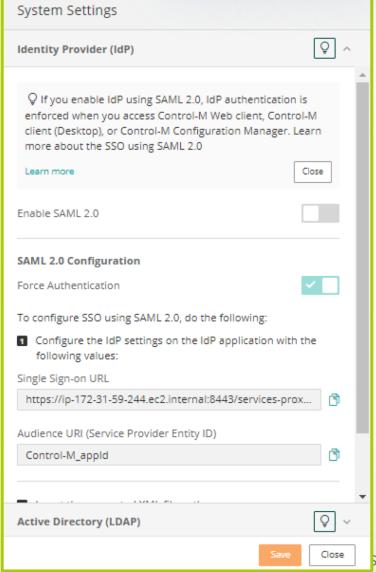
Widely adopted industry standard for identity authentication



Single sign-on (SSO) and Multi Factor Authentication (MFA)



IdP security groups can be associated to Control-M roles

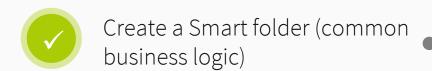


Folder/Job Reference



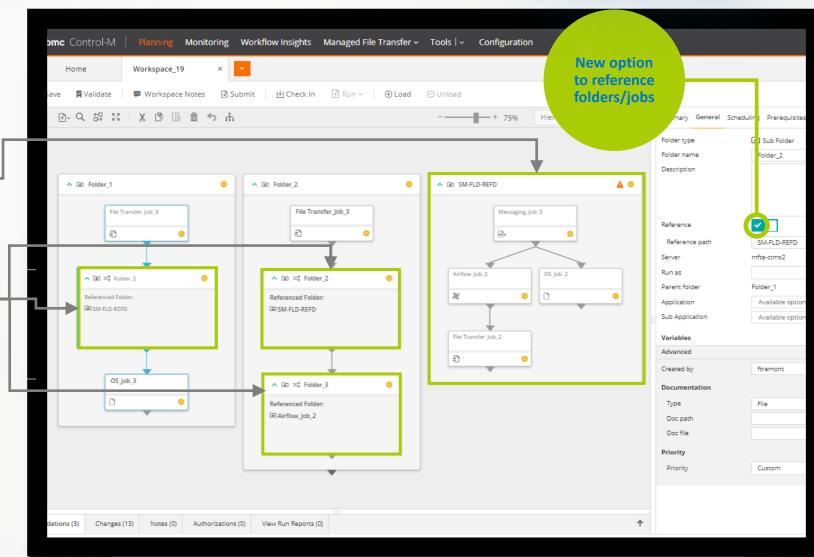






Reuse the Smart folder/job when creating subfolders – new • "Reference" option

Reduce change effort and errors across the environment



Post-processing with Variables









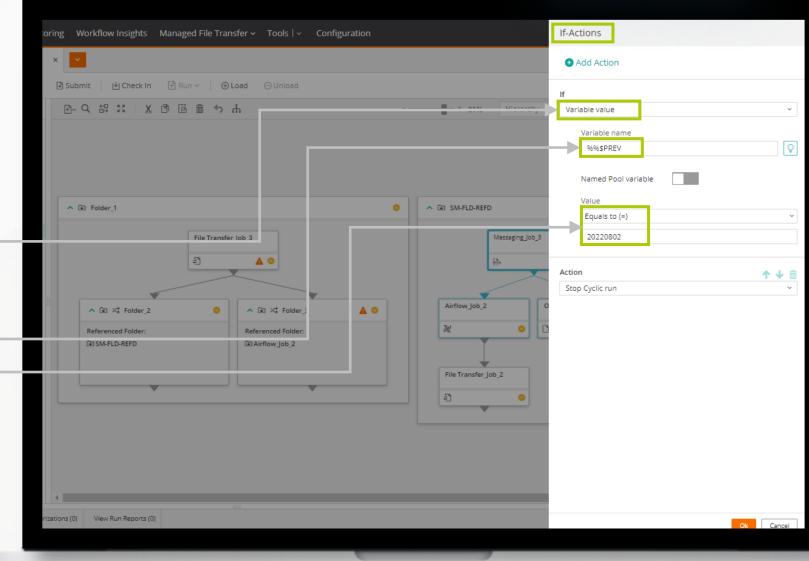
Simple way to define and run workflows with processes based on variable value



Set the variable value and specify which action to take for condition met



Paired with "Capture from output" allows conditional scheduling

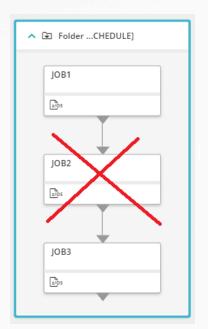


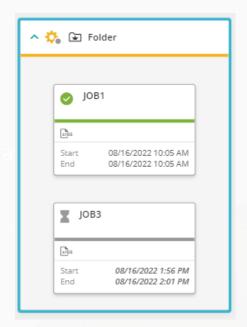
Adjust Events Using Bridges



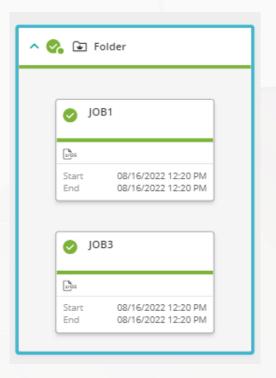




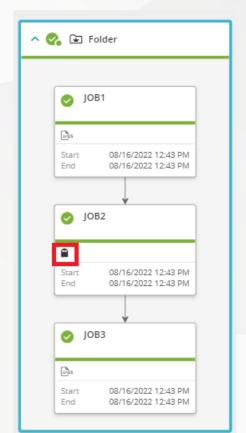


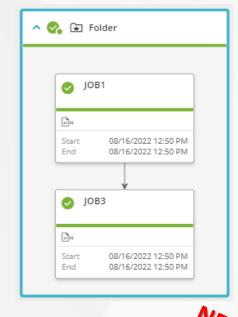


ADJUST=



ADJUST=YES







ADJUST=DUMMY

New File Transfer Capabilities







Further native cloud storage integrations



Automate external partners onboarding



Strengthen security and increase efficiency



Enhance external users' web experience



Speed up selfservice file transfers



MFT/E multi-site support



New File Transfer Capabilities







Further native cloud storage integrations



- AWS S3 PrivateLink
- Azure Data Lake Storage
- Google Cloud Storage

Strengthen security and increase efficiency



- Enhanced / upgraded security algorithms
- All and all /lab along land
- Allowed/blocked user lists
- New options if destination file exists
 Ability to enforce more PGP operations

Speed up selfservice file transfers



- New web interface for internal business users to perform interactive self-service transfers
- Actions include upload/download multiple files, view B2B folders



New File Transfer Capabilities







- Automatic generation of welcome emails with temporary credentials
- Passwords automatically generated complying to policies
- Passwords must be changed at the first login



Automate external partners onboarding



- Enhanced file exchange web interface experience
- Easier navigation, tree view, uploading/downloading multiple files
- Partners can apply their branding



Enhance external users' web experience



- Multiple MFT/E sites for a single platform
- One site per Control-M server (location, business unit, department)
- Site-specific branding, users/groups, folders, rules, settings



MFT/E multi-sites support



Administration Facilities







Eliminate the need for multiple MFT/E installations with multi-site support

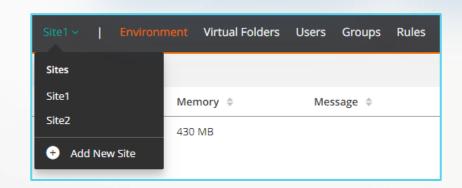


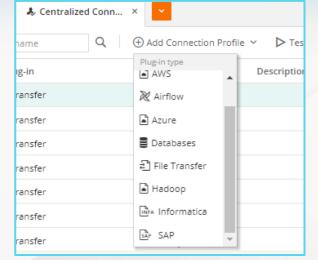
Eliminate redundant actions with Centralized Connection Profile for SAP



Reduce conversion risks with when moving from Local to Centralized Connection Profiles

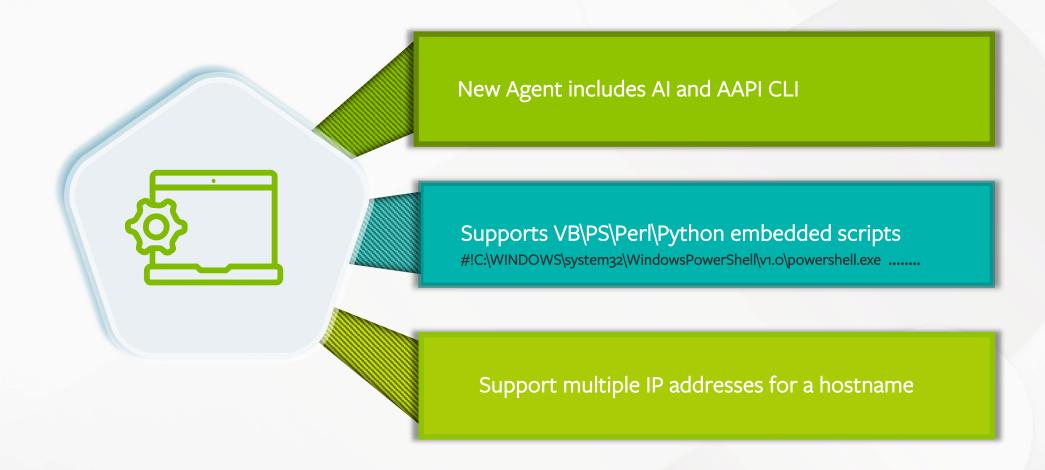








Control-M Agent



External Java





- The path must be specified also during the Automatic Deployment of agents and components from CCM
- Path must contain the "release" file
- Java version must be 11.0.12 through 11.0.99 Java 11 is only JRE supported
- For automated install, user must:

set BMC_INST_JAVA_HOME=<path to JRE HOME DIR>

Supported external Java vendors

Windows x86 64	<u>Linux x86 64</u>	<u>Solaris</u>	<u>Linux ppc64le</u>
- Azul Systems	- Azul Systems	- Bellsoft	- Eclipse Foundation
- Eclipse Foundation	- Eclipse Foundation	- Oracle Corporation	
- Oracle Corporation	- Oracle		
- Microsoft	- Red Hat	AIX	Linux s390x
	- Ubuntu	- IBM	- Eclipse Foundation

32 Integration Factory Plug-Ins so far



AWS Batch



AWS Step Functions



AWS Glue



AWS Glue DataBrew



AWS EMR



AWS Data Pipeline



AWS QuickSight



AWS EC2



AWS Sagemaker



Azure Data Factory



Azure Batch



Azure LogicApps



Azure **HDInsight**



Azure Synapse



Azure **Databricks**



Azure **Functions**



Azure Virtual Machine



Azure Machine Learning



Google Dataflow



Google Dataproc



Google **BigQuery**



Google Virtual Machine



Informatica **Cloud Services**



Databricks



Microsoft Power BI



Snowflake



Talend Data Management



Boomi **Atomsphere**



Automation Anywhere



UiPath



Qlik Cloud



Alteryx Trifacta



Communication Suite



New in March!!



GCP Batch Micro Focus



More coming soon!

Communication Suite Integration

Key Characteristics



Main Capabilities

- Send message to WhatsApp number
- Send message to Telegram bot
- Send message to Teams channel
- Send message to Slack Channel



Depending on service



Deployment

Control-M:

- EM 20.200
- Agent 20.200
- AI 20.200
- AAPI 20.115

Platform

- Linux
- Windows

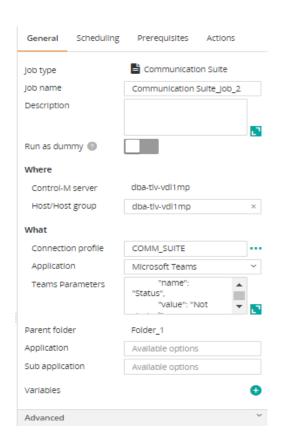
Delivery

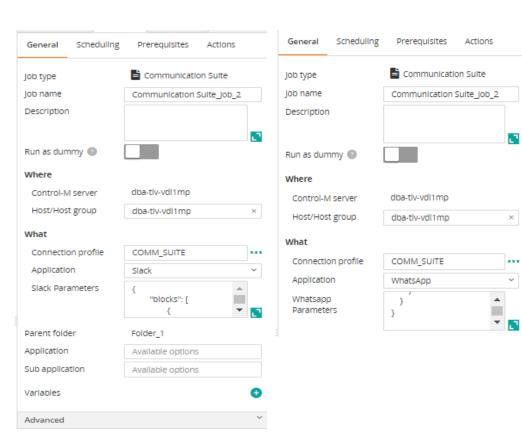
AAPI

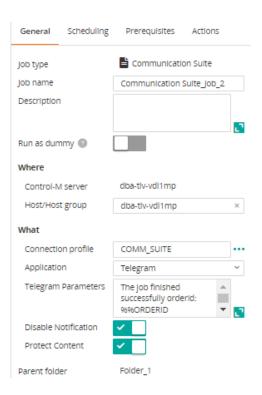
Limitation per Agent

1 MB sysout

Communication Suite Parameters







GCP Batch

Key Characteristics



Main Capabilities

- Run a Script job type
- Run a container job type
- Configure which resources should run the job.



- Service Account
- IAM



Deployment

Control-M:

- EM 20.200
- Agent 20.200
- AI 20.200
- **AAPI 20.115**

Platform

- Linux
- Windows

Delivery

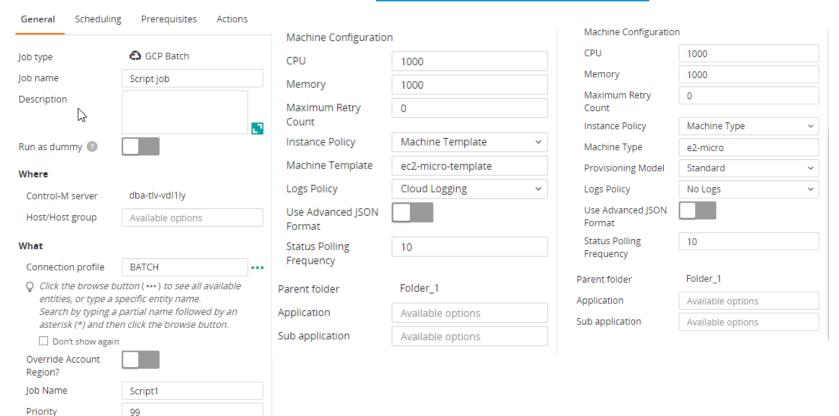
AAPI

Limitation per Agent

1 MB sysout

Batch Job Definition Parameters

Script Job Type



Script

echo guy

Runnable Type

Task Script Text

Batch Job Definition Parameters

Container Job Type

General Scheduling	g Prerequisites Action	S					
			Runnable Type	Container	~		
Job type	GCP Batch		Container Image	alpine:latest			
Job name	Container job		URL				
Description			Entry Point				
			Override Commands	Yes	~		
Run as dummy 🕜			Commands	"echo","hello world"			
Where			Container Volumes				
Control-M server dba-tlv-vdl1ly			Machine Configuration				
Host/Host group Available options			CPU	1000			
What			Memory	1000			
Connection profile	BATCH	•••	Maximum Retry	0			
Q Click the browse bu	utton (•••) to see all available		Count				
entities, or type a specific entity name.			Instance Policy	Machine Type	~		
Search by typing a partial name followed by an asterisk (*) and then click the browse button.			Machine Type	e2-micro			
☐ Don't show again			Provisioning Model	Standard	~		
Override Account Region?			Logs Policy	Cloud Logging	~		
Job Name	Container1		Use Advanced JSON				
Priority	99		Format				
Runnable Type	Container	~	Status Polling Frequency	10			
Container Image	alpine:latest						

Micro Focus

Key Characteristics



Main Capabilities

Trigger a JCL in Micro Focus JES via the MFBSIJCL utility

Monitor the JOB that was triggered Returning the SYSOUT to the output window

Restarting Jobs based on their JOBID Restarting jobs at specific steps Restarting the jobs based on a modified temporary JCL



OS User Based



Deployment

Control-M:

- EM 20.200
- Agent 20.200
- AI 20.200
- AAPI 20.115

Platform

- Linux
- Windows

Delivery

AAPI

Limitation per Agent

• 3 MB sysout

Micro Focus Job Definitions

Windows Linux **≡** Summary Edit Notes **⋮** Summary / Edit Notes \rightarrow General Scheduling Prerequisites Actions Scheduling Prerequisites Actions General Job type Micro Focus Windows Micro Focus Linux Job type Job name Windows IEFBR14 IEFBR14 Job name Description Description Run as dummy ② Run as dummy ? Where Where Control-M server dba-tlv-via8yk Control-M server dba-tlv-via8yk Host/Host group vw-isr-dbabl019 clm-tlv-vvd8ro Host/Host group What What Connection profile **NCUMFW** NCF Connection profile JCL File Name iefbr14 **JCL File Name** iefbr14 MYNEWLIBRARY PDS **JCL** Variables Enable ICL Variables Enable ICL Variables **Additional Variables Additional Variables** Items Items IOJDD=1383UG DEF=GHI OOPD=193UN GHI=JKL

s Rerun

 \rightarrow

Summary	Job Settings	Log	Output	Micro Focus Linux	<	>	~
General Scheduling Prerequisites Actions							
אוכט שוון							
ABC=DEF							
Restart on	Rerun	~					
From Step/	Proc						
To Step/Proc							
Restart Opt	tions						
Recapture Abend Codes		lgı	nore			,	~
Recapture Condition Codes		lgı	Ignore ~				
Auto Adjust Restart		lgı	Ignore ×				
Step-specific Condition Codes		5					
Set MF_UCC11		lgı	nore			,	~
Advanced Restart Parameters		5					
Rerun Job ID							
Modified JC	L Restart						
Restart With Modified JCL		No)				~
		No)				
Parent folder	•	Ye	!S				
Application		no	u			3	×
Sub application			icrofocus			2	×
Variables				♠ ♠			

ABC=DEF



apsware automation days

Sie haben Fragen oder Wünsche?

Melden Sie sich gerne bei Ihrem Accountmanager oder unter events@apsware.com