

# Frequently Asked Questions for Rocket® MultiValue Integration Server (MVIS): Partner Edition

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## Product Requirements

### 1. What versions of the Rocket MultiValue Application Servers are required for MVIS 1.3.0?

Rocket UniData® 8.2.1 and 8.2.2 as well as Rocket® UniVerse 11.3.1, 11.3.2 and 12.1.1 have been certified to run MVIS on a local or remote machine.

### 2. When will MVIS support Rocket D3® Customers?

MVIS will support D3 customers by the end of 2021.

### 3. What platforms does MVIS run on?

- Windows Sever 2012, 2016
- AIX 7.1, 7.2
- Linux RHEL7, RHEL8

### 4. What version of MV Tools are supported by MVIS?

Rocket U2 Web Development Environment (Web DE) 5.3, Rocket SystemBuilder Extensible Architecture (SB/XA), SystemBuilder Plus (SB+), SystemBuilder Client (SB Client) 6.5.4.

### 5. What are the minimum hardware requirements for MVIS?

2 vCPUs (cores), 4GB RAM and 2GB disk

## Order Processing & Pricing

### 1. Is there a cost to MVIS?

For the launch of MVIS 1.3 the server licensing costs are eliminated for MV customers and partners on maintenance. While the product is now free of charge customers still need to request the product via Rocket Business Connect (RBC).

The use of connection pools is required with MVIS as it was in v1.2.1 and prior. There aren't any changes from previous releases with respect to the use and licensing of connection pools.

### 2. I have a customer that recently bought MVIS, how do I manage that?

While we haven't identified many customers in this situation we want to make a good faith effort to help anyone impacted. Please reach out to your Partner Manager to discuss an approach for your customer.

### 3. How do I order the upgrade from Web DE to MVIS?

There is no upgrade pricing available. You need to order an MVIS license through Rocket Business Connect (RBC).

### 4. How do I convert my U2 Web DE or RedBack Webshares to Connection Pools?

Customers/partners will have to engage their sales team member to do so.

The migration process (Web DE → MVIS) is an engagement best undertaken by the Customer Support Engineering (CSE) organization as it entails far more than just a license swap. Some customers may need to right-size their license counts to ensure throughput is maintained. The CSE engagement will uncover the details needed to understand the number of connection pools required to meet the customers current needs and expectations.

See question 4 in the *Getting Started with MVIS* section for details on available professional services options.

#### 5. Is discount pricing available for Webshare customers?

We have developed an option within RBC to allow customers to convert their Web DE Webshares to connection pools at no charge. With this option, it's a one-to-one Webshare to connection pool transfer; however, it's important to understand that some customers may need to right-size their license counts to ensure throughput is maintained.

The best practice to determine the right configuration is for customers/partners to discuss their needs with their sales team and CSE organization.

Maintenance renewal dates are copied from the Webshares to the connection pools.

#### 6. How does a customer convert Webshares to Connection Pools in RBC?

Once logged in to RBC, there is a new menu option under the "Manage License" tab called "Webshare to Connection Pool transfer." When selected, the page prompts for the serial number that contains the Webshares and the serial number that requires the connection pools (which may be the same serial number). The user simply needs to enter the quantity of Webshares to convert. The user can convert some or all Webshares.

The maintenance renewal details will be moved from the Webshares to the connection pools. Maintenance renewal dates **do not get reset**, as this is simply a user-transfer.

#### 7. As a partner, what do I need to do to be able to sell MVIS?

Partners should work with their Rocket Partner Managers to augment their existing contracts with the MVIS addendum.

#### 8. Does MVIS support multiple application servers?

MVIS can support and communicate across multiple servers. In RBC, an MVIS license will be tied to the UniVerse/UniData license. The MVIS must be associated to the same partner/end-user as the database.

#### 9. It appears that you can install the same instance of MVIS multiple times. How is this going to be monitored?

There is no way to monitor/track whether the same instance of MVIS is installed multiple times. Partners and sales teams need to be very aware that this may happen. Customers should request and download the MVIS installer from RBC.

**10. How many MVIS instances do I need to support an HA/DR environment that includes one publisher and one subscriber?**

While a single MVIS instance can communicate with more than one server we recommend one instance per publisher or subscriber in an HA/DR configuration.

**11. How does a customer get a Gold Master copy or an evaluation (eval) license of MVIS through RBC?**

We do not offer Gold Master copies of MVIS. It is a free product for customers with a current UniVerse or UniData maintenance agreement. Customers can order and download the product through RBC.

Customers can also request an evaluation license of Connection Pools if they want to try MVIS or run a POC without using paid Connection Pools.

**12. What is the user count of an MVIS license?**

MVIS supports an unlimited number of users, so the user count would always be a quantity of 1 in RBC.

**13. What are the MVIS part (item) numbers?**

DLIMVIS                      MultiValue Integration Server Lic + Maint  
RU2-MVIS-PD-850      MVIS JumpStart (CSE package)

**14. Are there any partner offerings for OEM licenses of MVIS?**

OEM licenses for connection pools can be purchased at the normal 90% discount.

(OEM licenses are licenses used by partners for developing, testing, supporting, etc. OEM licenses cannot be used in a production environment.)

**15. What are the connectivity requirements for MVIS?**

MVIS uses connection pools to connect and communicate with the MVAS (UV and UDT). To process requests for applications calling MVIS RESTful end points customers need to buy connection pool licenses. Customers can configure the minimum and maximum number of connection pools used by each MVAS account using the MVIS administration console.

In MVIS 1.3 we are running a connection pool promotion through December 31<sup>st</sup>, 2021. See question 16 for details.

**16. Are there any promotional discounts available for early adopters?**

Yes. Through December 31<sup>st</sup>, 2021, customers can buy 1 connection pool at the same price as a DB connection (user license) for every 4 connection pools purchased at list price. Use special bid 1360 for this promotion.

This promotion is available only to MVIS customers.

# Technical Details

## General

1. Does a customer have to order a new version of Connection Pools or does MVIS work with any version of Connection Pools?

Connection Pools are add-on features of UniVerse and UniData. They are authorized as part of the UV and UDT products, so if you need to update your version of UniVerse or UniData, Connection Pools will be updated at the same time.

2. Some customers have customer Connection Pools—how will MVIS monitor the consumption of Connection Pool licenses?

MVIS can monitor connections, but not the active consumption of Connection Pool licenses. MVIS understands what those connections (using connection pools) are doing, how long the connection is being used, and which client requested a connection. However, MVIS cannot tell you, for example, that 4 out of 10 connection pool licenses are being consumed. Real-time license consumption is available by executing the following commands on the server.

```
UniVerse Server: uvlictool
```

```
UniData Server: listuser
```

3. Do MVIS and the MVAS (UV/UDT) need to co-exist on the same environment?

No. MVIS can be installed on any server that has network access to the MVAS. That can be:

- The same physical machine where the UV/UDT is installed
- An on-premise machine or VM running any supported OS
- A Docker container on-premises or on the cloud
- A VM on the cloud

4. Can MVIS be used for telnet communication?

No, MVIS is not a server or router for telnet communications. It is strictly for using Remote Procedure Call (RPC) style APIs for web environments, from mobile, IOT, web or any other RESTful applications.

## Web DE

5. How does a Web DE customer that is on version 5.1 and higher upgrade to MVIS? (Customers who are below version 5.1 should consult the Rocket SE team)

MVIS provides a Web DE converter tool that will convert the Web DE JavaScheduler.ini file to the CM.ini file. It will update encryption, server path, and account settings. The SchedulerPort in rgw5.ini must be manually updated to point to the MVIS host port (by default 7871). RedBack Objects (RBOs) do not need to be updated to be used in MVIS.

The configuration of the rgw5.ini file will allow the requests to be routed through MVIS. RBOs can still be added, edited, and managed via the U2 Web Designer interface.

## 6. What version of Web DE does a customer have to be using to use MVIS?

If a customer wants to run their RBOs through MVIS then they must upgrade to version 5.3.

If a customer wants to run on older versions of Web DE, they need to continue using Web DE as the runtime environment for their RBOs.

As a side note, Web DE and MVIS can coexist on the same environment and customers can start using MVIS to create and expose RESTful services to be consumed by new applications and interfaces while maintaining their existing Web DE applications unmodified without disruption.

## 7. What version of Web DE does the MVIS converter tool work with?

Customers must be on Web DE 5.3 to use the converter tool and MVIS.

For customers planning to migrate from earlier versions of Web DE to MVIS. It is important to note that the architecture of Web DE version 5 has changed (as compared to version 4) and thus may require some changes to the client application.

If using VBScript, a customer may need to make changes to the syntax since variables need to be changed for string comparison, setting of values into objects, extractions, etc.

For example:

Old code:

```
if PrimaryOrder.SubValue(I,1) = BaseProdObj.Value(loopcount2)
then
```

New Code:

```
if PrimaryOrder.SubValue(I,1).StringValue =
BaseProdObj.Value(loopcount2).StringValue then
```

For Active Server Pages (ASP) applications, Web DE 5.3 will continue to support them via the Component Object Model (COM) Wrapper. Any Web DE application that uses ASP will continue to use RBOs.

MVIS supports Web DE 5.x .NET applications. If you have a Web DE 4.x .NET application, some application rewrite will be required for MVIS support. Please consult your local CSE team for guidance.

## 8. Can I make changes to RBOs once deployed in MVIS?

To maintain existing RBOs, customers will need to continue using Web DE's U2 Web Designer Interface. Testing and deployment in this scenario use the MVIS runtime.

The Web DE designer requires one Database Connection for access to UniVerse or UniData.

9. **Do I continue to pay maintenance for Web DE after upgrading to MVIS?**  
MVIS is free but a connection pool maintenance contract is needed to stay current on maintenance and have access to product upgrades.

## U2 REST

10. **How do I migrate my existing U2 REST service endpoints to MVIS?**  
Moving from U2 REST to MVIS is as simple as exporting your service endpoint definitions in U2 REST and importing them in MVIS. In MVIS endpoint deployment is automatic without any downtime.
11. **Do I need Connection Pools for my REST service endpoints once migrated to MVIS?**  
Yes. Consistent with licensing policies for web style application workloads, connection pools are designed to handle requests from multiple clients. As new requests arrive, MVIS dispatches requests to available connections, sends the results back to the client once complete and releases the connection to serve requests from other clients.
12. **What are the advantages of MVIS over U2 REST?**  
While both U2 REST and MVIS support exposing MultiValue data and logic as RESTful API endpoints. MVIS offers significantly more functionality for customers looking to integrate MV into the API economy.

Furthermore, MVIS will continue to evolve to support new capabilities. Below are some key highlights:

MVIS Highlights
Fully automated API endpoint deployment. User can easily define, test and deploy endpoints through the MVIS console or admin API with zero downtime.
Automatically generated Swagger (Open API 2.0) endpoint documentation. 3 <sup>rd</sup> parties can discover, understand and use your MV APIs without previous knowledge of MultiValue
Integration with Fluentd for a unified enterprise logging and monitoring experience.
Web console for API development and administration with all the benefits of a zero-install client
Integration with oAuth 2.0 for enterprise security configurations via third party authentication providers and token-based authorization.
Fully customizable endpoint URLs give users full control over URL and more granular access controls for their endpoint.

## SB/XA

### 13. How are SystemBuilder/SB+ customers supported in MVIS? How are SB processes revealed in MVIS?

SB subroutines will be exposed as a service in MVIS. You must be using SB version 6.5.0 or higher.

You must edit the MVIS cm.ini file for the SB account to be recognized. The following steps are required: (An enhancement request has been created to add the SB parameters fields to the Admin UI)

1. Create an account in the MVIS Admin Console under MVIS configuration (for example, RBC-Test) and set the 'Protocol' property value to 'UNIOBJECTS'.
2. Go to the MVIS installation directory (on Windows the default path is c:\u2\CM) and open cm.ini for editing.
3. Under the account you just created, there are 3 SB related parameters: **sbUserId**, **sbPassword**, and **sbSysId**. These should be blank if they were not previously configured for SB. Assign the proper values to them.
4. Go back to the MVIS Admin Console to edit the SB account and change the 'Protocol' property value to 'REST'. This step allows MVIS to encrypt the sbPassword you just entered. This forces a change in the account configuration to trigger the encryption action by MVIS.

## UniObjects

### 14. If a customer is using UniObjects and only calling subroutines, what would be the value of using MVIS?

The customers would get all the added value of MVIS for their existing application, such as, improved monitoring, logging, cloud features, deployment flexibility, better pooling, and connection resiliency.

### 15. Do customers using UniObjects (UO) need RESTful services to call their subroutines and have to make changes to their existing applications to use MVIS?

No. They don't have to create new RESTful services. They can continue using their UO code and invoke their subroutines as they did before, via UO's UniSubroutine class.

They can create new RESTful Services to support new requirements.

### 16. Does MVIS support the full UO protocol?

MVIS 1.3 supports UniSubroutine only.

## Cloud and devOps

### 17. How do orchestration technologies, such as Kubernetes, integrate with MVIS? Is there a direct dependency?

Orchestration technologies specialize in automating application deployment, scaling, and management. Companies that are ready to embrace orchestration will find that

features such as high availability/disaster recovery (HA/DR) and horizontal scaling are complementary with MVIS.

### 18. What cloud providers does MVIS support?

MVIS is certified with AWS and Azure.

Installation on other clouds is possible in a VM or in a Docker container. The latter has Redis as a requirement for storage and message communications.

### 19. Can MVIS run in a container?

Yes. The MVIS installation media includes two container images with the product components ready to be installed in Docker. Details are available in the “*Installing MVIS as a Docker Container Image*” instructions in the documentation.

## Getting Started with MVIS (Supporting tools and services)

### 1. How do customers get an eval of MVIS?

MVIS is a free product for customers with a current UniVerse or UniData maintenance agreement. Customers can order and download the product through RBC.

Customers can also request an evaluation license of Connection Pools if they want to try MVIS or run a POC without using paid Connection Pools.

### 2. Are samples and examples available? What can I expect to learn from the examples?

MVIS samples and examples are available on Git Hub

Examples summary:

The samples and examples provide an initial framework for using the MVIS. Developers may understand the concept behind MVIS, but real-world examples that integrate modern web technologies such as React, Node.js, Express.js provide useful references for and add credibility to MVIS. They will help developers ease their way into developing with MVIS and feel confident with the process.

#### **Example #1:** Web application

<https://github.com/RocketSoftware/mvis-web-demo>

The MVIS example of a web application is a mock streaming service. One can search movies, filter the results, see specific movie information, and save movies to a favorites list. The app is built with Bootstrap, Node.js, Express.js, and MVIS. This app provides an example of how to create a simple and clean front end that connects with MVIS and renders data from an MV database.

#### **Example #2:** Mobile Application

<https://github.com/RocketSoftware/mvis-xdemo-flutter>

This example expands the mock streaming service into the mobile realm. It demonstrates that MVIS is platform agnostic and highly capable across platforms

and operating systems. This app was built in a mobile technology known as Flutter. Flutter allows developers to maintain one code base and deploy native packages to Android and iOS. It is an incredibly powerful technology taking the mobile world by storm. The technology is very young and in the MVIS example application, developers can see with MVIS's modern RESTful architecture, legacy MV databases can still be core providers of data for applications running the latest and greatest technologies.

### 3. What training is available for MVIS?

Multiple recorded sessions for MVIS are available as part of the MultiValue University program hosted in the Rocket Software website

Go to [Resources](#) → Resource Type: [MultiValue University](#) → Product: [Rocket MultiValue Integration Server](#) or follow [this link](#)

### 4. Are there any professional service offerings available for MVIS?

The CSE team has developed an MVIS JumpStart package to help customers get started and on their way to success with the product. The package includes the following:

- Installation of MVIS on Customer server
- Configuration of MVIS on Customer server
- Import existing U2 RESTful definitions (if appropriate)
- MVIS training for customer staff.
- Implement up to 5 RESTful Web Services within MVIS, working alongside Customer staff to enable self-sufficiency.
- Up to 16 additional hours for follow-up mentoring, which may be used as needed for follow-up questions, additional training, assistance implementing additional RESTful Web Services or similar topics related to this project. Use of mentoring hours will be scheduled through the Rocket Project Manager.

To order the JumpStart package use P/N [RU2-MVIS-PD-850](#)

## Positioning

### 1. What is new in MVIS 1.3

v1.3 has some new exciting features focused on added flexibility and enterprise integration

Feature	Description
oAuth 2.0 Support	Integration with oAuth 2.0 for enterprise security configurations via third party authentication providers and token-based authorization.
Vanity URLs	Fully customizable endpoint URLs give users full control over URL and more granular access controls for their endpoint.

Added HTTP verbs	Added support for DELETE, PATCH verbs in addition to GET and PUT already available in v1.2.1
UniVerse 12.1	v1.3 is certified with UV 12.1 in addition to UDT 8.2.1 or later and UV 11.3.1 and 11.3.2

2. What are the advantages of MVIS RESTful Services over U2 RESTful available as part of U2 DBTools?

<i>U2 REST and MVIS Comparison</i>	
<b>U2 REST</b>	<b>MVIS</b>
Separate product distributed with the DB Tools component that you must install and configure.	
Deployment of RESTful services is manual and requires restarting the Jetty web server	Includes UI (or API) driven RESTful service definition as well as fully automated end point deployment with zero down time.
NO Swagger support, NO continuous integration/continuous development (CI/CD) tooling, NOT cloud ready.	Expands technology reach and now supports connectivity through Swagger, increasing business opportunities with partners and 3 <sup>rd</sup> party services.
NO ability to report on, track, analyze API stats, performance.	Provides standalone logging as well as an integration with Fluentd for a unified enterprise logging and monitoring experience using tools of choice. For example, Splunk or Datadog.  Performance stats include per API request and aggregates for full analysis of your application's behavior.
No administration UI, Eclipse is just a desktop IDE that needs to be installed on all developers' desktops.	Contains a web-based development and admin console that provides a more robust and modern user experience as well as a zero-install client ready to be used from any web browser.
Free tool with a restricted roadmap.	RESTful is now part of MVIS and will evolve to fit new software paradigms.
Limited security models are supported (SSL and HTTP-based user authentication)	Supports OAuth 2.0 for integration with 3 <sup>rd</sup> party authentication providers and token-based authorization limiting

	exposure to data breaches, compliance violations and overall better enterprise security
Not able to define and control the API standards.	Cleaner Uniform Resource Identifier (URI) and ability to create your own JSON payloads means API development is easier and faster

### 3. Will Rocket continue selling Web DE?

We will continue to support all Web DE customers, but will no longer actively market Web DE. MVIS is the natural evolution of Web DE. Therefore, MVIS will be the integration solution we market moving forward.

### 4. What is the future of the U2 RESTful tool given MVIS provides a RESTful gateway for services and the MVIS roadmap includes ongoing enhancements to the RESTful framework?

Moving forward, MVIS will be our go-to-market solution for creating and deploying RESTful services.

### 5. How are MVIS and Rocket API / Legasuite Web related and how should customers use them?

<i>Business Challenge</i>	<i>Rocket Solution</i>
<b>Exposing MV data and logic as web services</b>	
<p>Customers have years of their business logic buried in their applications.</p> <p>They want to be able to convert their logic into RESTful services which can be leveraged in their newer feature-rich applications.</p> <p>They also need to provide access to their partner community or need their applications to integrate MV data and logic with third APIs.</p>	<p><b>MVIS:</b> The answer is simple regardless of other customer requirements the path to RESTful services for MV data is MVIS.</p> <p>MVIS to expose MV data can be used alone without the need for other components such as Rocket API and Legasuite Web.</p>
<b>Transforming green screen applications into HTML apps</b>	
Customers have invested years of effort and money	<b>Legasuite Web:</b> The product allows customers to retain their investment and keep their green screen

<p>into green screen applications.</p> <p>Often re-writing these applications is cost prohibitive and making modifications to the business logic is risky.</p>	<p>applications unmodified while providing an HTML presentation layer.</p> <p>HTML screens are generated using Legasuite Web and can be edited and customized independently from the green screen logic keeping the presentation layer separate from the underlying application.</p>
<p><b>Optimizing green screen applications on the web</b></p>	
<p>Often replacing the presentation layer to move to the web is the first step in the customer's green screen modernization journey followed with optimizing workflows by combining and redesigning screens</p>	<p><b><u>Legasuite Web / Rocket API / MVIS</u></b>: Legasuite is the first step in the process. Redesigning screens can be just about presenting the screen's information in a better layout but often requires access to additional data and business logic.</p> <p>Rocket API makes it possible to turn green screens into RESTful APIs that can be called from new HTML screens.</p> <p>MVIS offers direct access to MV data and business logic as RESTful APIs without the need for a green screen as the source.</p>
<p><b>Combining data, logic and APIs</b></p>	
<p>Customers often have many disparate sources such as MV, system Z, system I, relational databases, Java applications and need to create workflows that interact with multiple systems.</p>	<p><b><u>Rocket API / MVIS</u></b>: With Rocket API it is possible to create new APIs that combine APIs and data together in service composition patterns and workflows.</p> <p>This solution is ideal for customers building applications that combine system Z, System I and MV sources.</p> <p>MVIS plays the role of a data source for MV RESTful APIs that can be combined with other sources.</p>

6. What are some use cases/business challenges addressed by MVIS, and what specific MVIS features solve those challenges?

<i>Business Challenge</i>	<i>MVIS Features</i>
<b>Monitoring and logging insight:</b>	
<p>End users can't access your application. Third-party customers can't access your MV data and logic via your APIs.</p> <p>Need better insight into potential issues with license or API availability.</p>	<p>Logs can include API and end-user application license activity that can be viewed via the admin console, admin APIs, or through our integration with Fluentd. Fluentd allows customers to use their favorite monitoring tools like Splunk or DataDog.</p>
<b>Exposing existing MV logic:</b>	
<p>Customers have years of their business logic buried in their applications.</p> <p>They want to be able to convert their logic into RESTful services which can be leveraged in their newer feature-rich applications.</p> <p>They also need to provide access to their partner community or need their applications to integrate MV data and logic with third APIs.</p>	<p>Low-code/no-code approach using Swagger, which is a tool/specification that makes API creation, usage, and understanding easy. Can be developed by a non-MV developer.</p> <p>New graphical web-based UI that is intuitive, easy to use and readily accessible through a browser. You can also use the Admin API to create RESTful services.</p> <p>MVIS is the path forward for existing U2 RESTful tooling customers. It provides additional benefits such as:</p> <ul style="list-style-type: none"> <li>• Per and aggregate API requests and performance stats, which are logged and available for analysis</li> <li>• Eliminates the need for Eclipse by providing a web-based UI Admin Console</li> <li>• Supports clustering for failover, scalability, and resiliency</li> <li>• Includes native cloud integration so you can take advantage of cloud services</li> <li>• REST-based admin interface that can be called from any tool via an API</li> </ul>
<b>Moving to the cloud:</b>	
<p>Many MV customers are still on-premises which requires an ongoing commitment to their servers. Server upkeep</p>	<ul style="list-style-type: none"> <li>• MVIS allows MV customers to benefit from the cloud by supporting shared configuration files where all MVIS instances share the same configuration files for easy cloud deployment.</li> </ul>

<p>is very costly, from ongoing upgrades to daily maintenance.</p> <p>As organizations begin to understand the value and cost benefits of moving to the cloud, it's important that we provide a clear and easy path for getting there.</p>	<ul style="list-style-type: none"> <li>Increases application value by leveraging a library of services offered by cloud providers, such as Amazon's Cloud Watch, which gives you visibility into your cloud resources and application.</li> <li>MVIS is containerized which makes cloud deployment easier.</li> <li>Allows for connectivity across servers in the cloud, or across a hybrid architecture. There are multiple settings that ensure connectivity is maintained.</li> <li>Horizontal scaling as detailed below.</li> </ul>
<p><b>Address the MV developer resource gap:</b></p>	
<p>MV developers are very difficult to recruit, are a scarce resource, or are expensive.</p> <p>Recruiting new, less expensive talent (college graduates) is critical.</p>	<p>Swagger integration is brand new with MVIS. Swagger is an easy-to-understand specification for documenting and designing REST APIs -which means a developer doesn't need to know the underlying MV architecture to use MVIS to create RESTful services.</p> <p>Troubleshooting API issues is much easier now that http status codes communicate exactly what and where the problem lies, eliminating the need to know the intricacies of MV or the need to wait on support for a resolution.</p>
<p><b>24x7x365 Connectivity, availability, uptime:</b></p>	
<p>Gone are the days of being able to take down your application for maintenance activities or upgrades.</p> <p>This now must happen in real time.</p> <p>In addition, CI/CD is now more of a competitive differentiator than ever before. Customers expect you to listen to their feedback and upgrade your applications accordingly.</p> <p>Black Friday/traffic spike events cannot take down a site; the traffic must be serviced (e.g. Tailored Brands, Prom, Storis or</p>	<p><b><u>Support for Blue-Green deployments</u></b> reduces downtime by running two identical production environments called Blue and Green. Only one environment is live at any time, with the live environment servicing all production traffic. As a new version of software is deployed to one of the servers (Green), MVIS can route new traffic to the new server, and let existing traffic be serviced by the original server (Blue).</p> <p><b><u>CI/CD API hooks:</u></b> Continuous Integration/Continuous Development, a methodology used by many development teams is supported. Integration points include the API development process and staging.</p> <p><b><u>Horizontal scaling of MVIS:</u></b> When a workload increases and a single instance of MVIS hits a maximum load, a new instance can be spun up and the work balanced between all instances.</p>

<p>Ellucian college start of semester).</p>	<p><b><u>Keepalive and self-healing:</u></b> MVIS can ping the data server to ensure there is connectivity. If a connection is down, MVIS will heal the connection and ensure it is maintained. (Prior issue with customers).</p> <p><b><u>API health check and self-healing:</u></b> The orchestrator can continuously ping the MVIS endpoint to ensure it is running and servicing traffic. If a positive response is not received, the orchestrator immediately replaces it to ensure continuous flow of traffic.</p> <p><b><u>Flexible and fast Connection Pool startup:</u></b> MVIS lets you restart and reconfigure individual pools on the fly via web UI or MVIS admin REST API without restarting the entire MV Integration Server.</p> <p><b><u>CQRS:</u></b> MVIS can participate in Command and Query Responsibility Segregation architectural pattern. MVIS can send queries to one or more replicated read-only data servers and send updates to the writeable data server. This is beneficial for scalability and performance at the data server tier. Note this is not automatic, as the user will need to write their applications to have read endpoints and write endpoints, each going to different accounts (read accounts and write accounts).</p>
<p><b>Deployment flexibility:</b></p>	
<p>Customers have varied architectures; some are solely on-premises, some are hesitant to move to the cloud, while others have completely adopted it.</p> <p>They also try to evolve their architecture with every new CTO that comes in, which means they need the flexibility to change things.</p>	<p><b><u>MVIS can be deployed:</u></b></p> <ul style="list-style-type: none"> <li>• In the cloud</li> <li>• On-premises</li> <li>• In a container (both cloud and on-premises)</li> <li>• On a separate server from where your MV application and database resides</li> </ul>
<p><b>Security:</b></p>	
<p>Customers increasingly rely on SSO and enterprise level solutions to authenticate and control access to applications.</p>	<p>MVIS supports oAuth 2.0 for integration with 3<sup>rd</sup> party authentication providers such as Okta and Auth0 and token-based authorization limiting exposure to data breaches, compliance violations and overall a better enterprise security</p>