



# Welcome to Decision Support

Version 21.2 [Oct 2021]



**System 1**  
Decision Support



 **Bentley Nevada**  
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## Welcome

Bentley Nevada is pleased to present System 1 Decision Support v21.2. This release delivers new features and functions designed to advance the Rule Deployment experience for applying and managing analytic solutions. In addition, several customer-requested usability and productivity enhancements have been added to improve the product experience. For an overview of the System 1 Analytic solutions platform, please visit the [System 1 Website](#).

Thank you,

Your System 1 Decision Support Leadership and Development Teams

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# 1. DECISION SUPPORT V21.2 FEATURE OVERVIEW

In addition to bug fixes and performance optimizations, the following new capabilities are featured in Decision Support v21.2

## *Decision Support v21.2 – New Features*

Decision Support v21.2		
Features		
Decision Support on the Rx	In addition to Tx servers, Decision Support now enables deployments on Rx servers as well as connecting to multiple online databases from the same source SI server.	4.1
Encrypted Rules	Users can now paste encrypted versions of rules into different libraries.	4.2
Data Pre-Load	Valid data is now stored prior to a service reboot that would previously cause invalid data to interrupt rule processing.	4.3
Invalid Rule Feedback and Step Finder	Users are now given feedback in the Build workspace regarding the validity of rules and provided with a mechanism to quickly find the affected invalid steps.	4.4
Usability Enhancements	In response to user feedback, a number of new user interactions have been introduced to improve the user experience and make workflows more efficient.	4.5

## 1.1 InsightPak Support

Existing installations of InsightPaks are supported with Decision Support v21.2. However, if installing InsightPaks for the first time after installing Decision Support v21.2, the latest version of InsightPaks is required.

## 2. VERSION SUPPORT & OPERATING SYSTEM COMPATIBILITY

System 1 Decision Support follows a semi-annual release cadence. Versions are fully supported for a minimum of two years from the published date of availability (see below).

### System 1 Compatibility

- Decision Support is designed to work with System 1 version 20.1 and newer, utilizing PostgreSQL for Historical Database (Proficy not supported)

### New Versions of System 1 Decision Support Benefit from:

- Compatibility with the latest Microsoft Client & Server Operating Systems
- Client backwards compatibility to previous versions under support (21.2 Client to 20.1 Server DB)
- Database upgrade from previous versions released within last 2 years (20.1→21.2)
- Security patch & update testing for the latest available version
- Bug fixes included in the latest available version
- Standard technical support with escalation to engineering as required

### Versions no longer supported:

- Standard support is provided for common FAQ type questions, but users are encouraged to update software to latest version to benefit from new features, OS compatibility, and bug fixes.

*Version Support & OS Compatibility Matrix*

Decision Support Versions & Support			Windows Server OS				Windows Client OS (64bit)	
Version	Available	End of Support	2019	2016	2012 R2	2012	10**	8.1 UI
21.2	Sep 2021	Sep 2023	✓	✓	✓	✓	✓	✓
21.1	Feb 2021	Feb 2023	✓	✓	✓	✓	✓	✓
20.1	Aug 2020	Aug 2022	✓	✓	✓	✓	✓	✓

\*\*Windows 10 version compatibility will track Microsoft’s published release and support model. The latest version of Decision Support will be tested and supported on all versions of Windows 10 under support as published on their website based on the Decision Support version’s published date of availability.

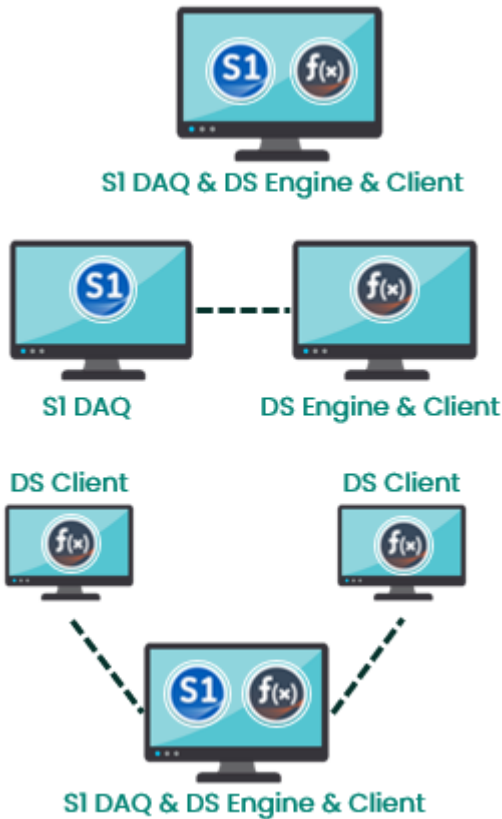
Decision Support v21.2 (Windows 10 v1903, 1809, 1803)

Decision Support v21.1 (Windows 10 v1903, 1809, 1803)

Decision Support v20.1 (Windows 10 v1903, 1809, 1803)

### 3. SUPPORTED ARCHITECTURES

System 1 Decision Support can be deployed as part of your condition monitoring solution in multiple arrangements to support IT infrastructure design, accessibility, and loading distribution.



Single Computer Setup (most common) – Decision Support is installed and utilized on the same server as System 1.

Dedicated DS Server – If the System 1 server is already planned to be loaded in excess of 70% it is highly recommended to specify a separate server for Decision Support.

Client Installs – Decision Support can be installed on workstation(s) as client-only and connect to the Decision Support Server database/engine for Rule building and Deployment management.

For more information or to inquire about proposed architectures, please contact your Bently Nevada Sales Representative.

## 4.DECISION SUPPORT V21.2 FEATURES

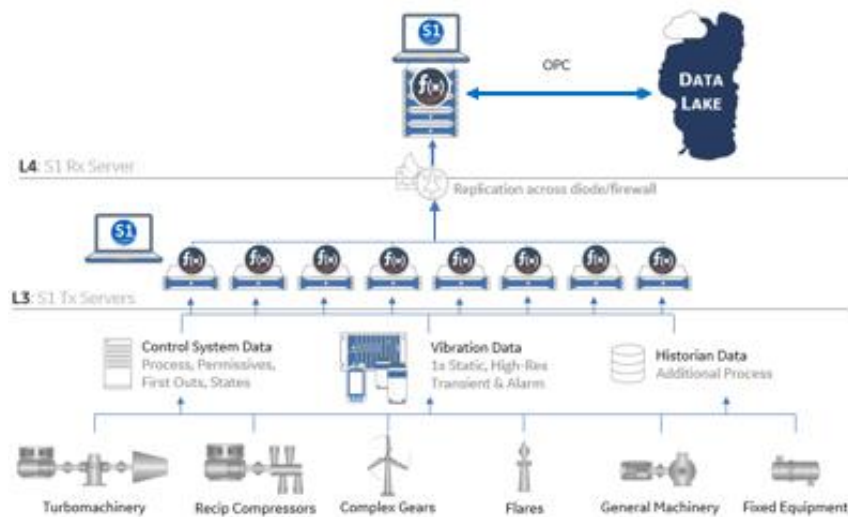
### 4.1 Support for Decision Support on the Rx

*Note: Decision Support on Rx requires System 1 v21.1 SPI at a minimum.*

Decision Support v21.2 introduces new support for building and deploying rules on a System 1 Rx Server. Where previous versions of Decision Support required access to data on Tx systems or simple online databases, customers can now connect and deploy rules to Rx versions of databases.

Additionally, Decision Support v21.2 has been updated to support connecting to multiple online databases on the same System 1 Server, aligning Decision Support with System 1’s multiple online database capability.

Connecting to an Rx database is the same as connecting to any other System 1 database. The only restriction is that each Decision Support Server (DSS) can only connect to databases of the same type (Rx, Tx, or Online). Mixing of database types for the same DSS is not supported.



*Above is a simplified example of a Decision Support deployment where DS is installed on both the Tx systems as well as the Rx server, where all Tx databases are aggregated across a firewall and/or data diode on the L4 network. Replication enables easier access to System 1 data without losing the security of the L1/2/3 networks.*

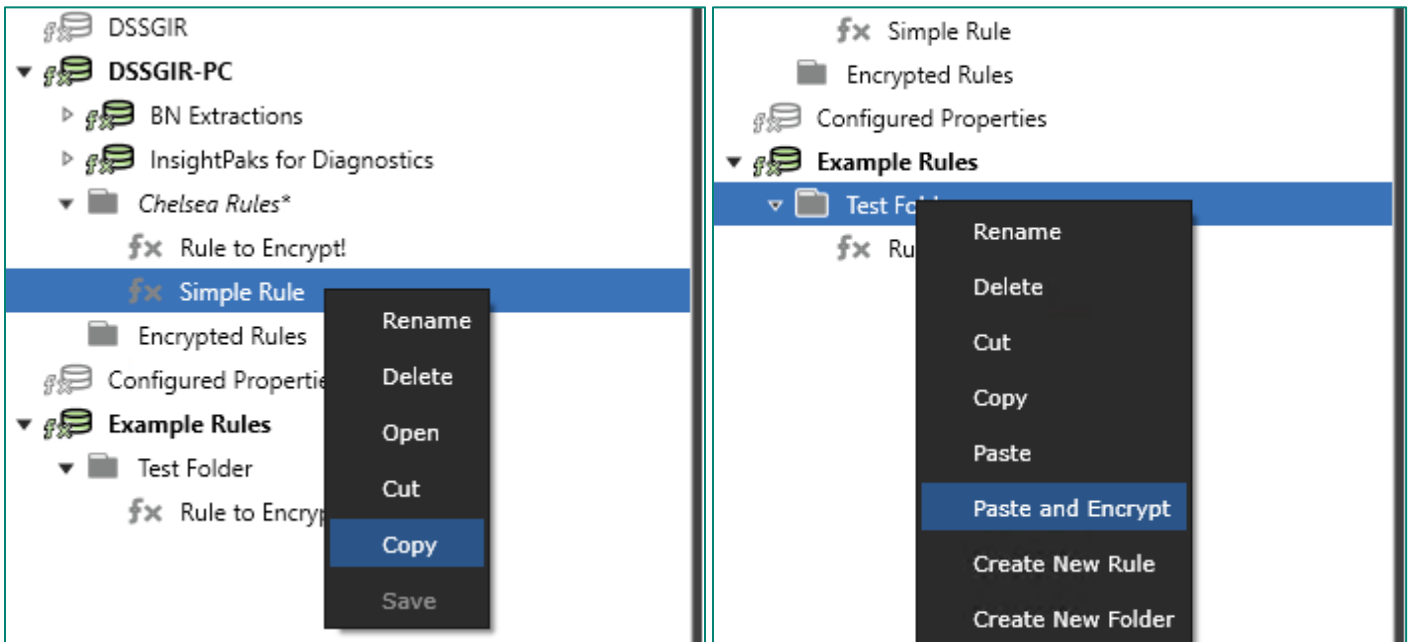
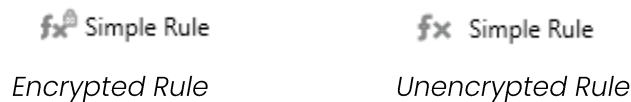
## 4.2 Encrypted Rules

Decision Support v21.2 introduces the ability to encrypt rules, enabling users to protect their intellectual property.

Rule encryption is handled via copying an unencrypted rule and utilizing the new “Paste and Encrypt” right-click option. The following restrictions are employed while managing encrypted rules:

- An unencrypted and encrypted version of the same rule cannot exist in the same library.
- Pasting an unencrypted version onto an encrypted version will update the logic of the encrypted version and retain the encryption status.
- Pasting an encrypted version onto an unencrypted version is not supported.

Encrypted rules are indicated in the rule library with an updated icon containing a lock. Below is an example of how a rule named “Simple Rule” would be displayed in both encrypted and unencrypted states:



To encrypted a rule, first copy the unencrypted version and then select *Paste and Encrypt* when pasting the rule.



## 4.3 Data Pre-Load

Decision Support v21.2 now utilizes a mechanism called Data Pre-Load to ensure that all rules run with the latest available data on startup.

Data Pre-Load works by ensuring the most recent data sample for rule deployment measurement inputs is loaded when any of the following events occur:

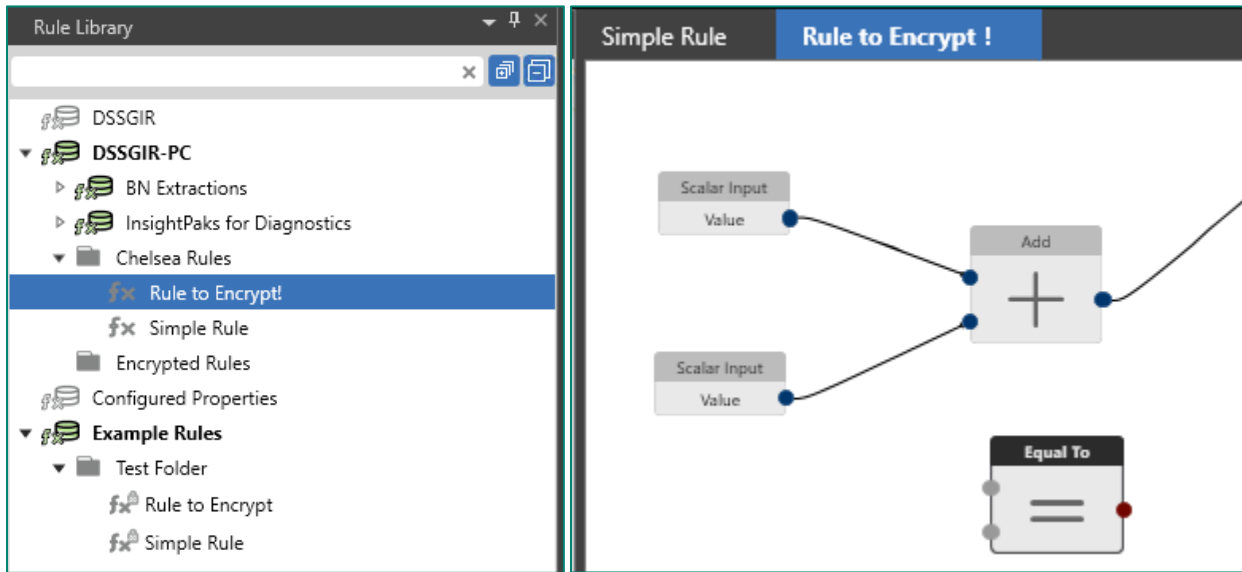
- The Decision Support Server (DSS) service is initialized or restarted.
- A new rule is deployed.
- A deployed rule is upgrade.

Additionally, in the case of new rules running for the first time, rule processing is delayed until the latest data for the relevant measurements is retrieved. This avoids the scenario where rule cycles run with missing data when data is available.

## 4.4 Invalid Rule Feedback and Step Finder

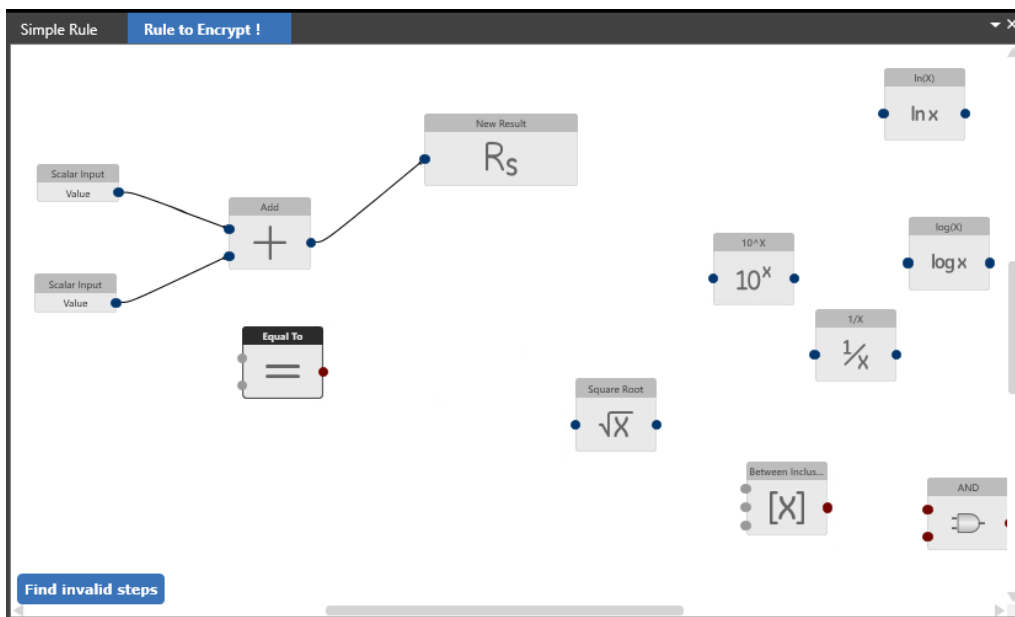
Decision Support v21.2 now includes improved invalid rule user feedback. Any rule that contains one or more steps that are in an incomplete or invalid state will indicate this to the user in two ways:

- The name of the rule will be appended with an exclamation point (!) in both the Rule Library as well as the tab if the rule is open in the Build workspace
- The new “Find invalid steps” button in the Build workspace will become activated (blue in color).



*Invalid rule names are appended with an exclamation point (!)*

To aid in quickly addressing any of these invalid steps, the “Find invalid steps” button has been newly added to the Build workspace. Clicking this button the first time will highlight the first invalid step in left to right order within the rule. Additional clicks will highlight the next invalid step and so forth.



*In the example above, the “Equal To” step has been highlighted by clicking the “Find invalid steps” button.*

## 4.5 Usability Enhancements

In response to feedback from internal and external users, we have taken the opportunity to enhance certain workflows with new capabilities, particularly to expedite the Rule Deployment experience.

### 4.5.1 Build Workspace Panning

Decision Support v21.2 adds panning controls to the Build Workspace, making the process of building rules even easier. In addition, padding has been introduced to all sides of the rule workspace, providing more immediate room to place steps while building rules.

To use the panning controls, two options are available:

- Ctrl + Left Mouse click and drag
- Middle Mouse Button click and drag

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