Ovation™ Plant Prognostics Plugin Advanced Application

Features

- Works with the Ovation™ Intelligence Framework Expert System to provide automated response and mitigation of deteriorating conditions
- Uses expert system-based predictive analytics at the local plant level to enable immediate resolution of impending process or equipment anomalies to avoid downtime and actively manage operational risks
- Provides native access to high-speed, high-resolution real-time data captured at I/O resolution from Controllers or networks
- Facilitates tight integration with the Ovation or third-party Distributed Control System (DSC)
- Enhances operator situational awareness by providing decision-making support through real-time alerts and guidance for abnormal processes or equipment behaviors
- Allows Advanced Pattern Recognition (APR) models and machine learning capabilities to constantly monitor plant processes and equipment health
- Augments Monitoring and Diagnostic (M&D) center capabilities by focusing on the remediation of short-term, plant-specific events

Operations and Maintenance Challenges

Moving on from a reactive operations and maintenance approach to a predictive, diagnostic, and prognostic strategy helps extend equipment life and reduce overall costs resulting in increased plant safety, reliability, and availability. While centralized, remote M&D centers are an important part of this transition, their focus must be on analyzing plant sites using time-lagged data for long-term events and patterns rather than short-term events that require immediate response.

Power plant operators and owners need a solution that enhances situational awareness and enables informed decision making to maintain equipment health and reduce process failures in a cost-effective manner.

Ovation Plant Prognostics Plugin Solution

The Ovation Intelligence Framework and Ovation Prognostics Plugin work together to offer a solution that goes beyond simple diagnostics. These applications identify impending process deviations or equipment anomalies and trigger mitigating action to avoid downtime or catastrophic damage.

The Intelligence Framework is a high-level, expert system software environment for developing and maintaining advanced applications. Several Ovation application-specific plugins, such as the Prognostics Plugin and Pump Performance Monitor Plugin extend the base framework to enable high-level analysis and interpretation of plant conditions.

The framework tightly integrates real-time, high-resolution Ovation data with plugin applications and unit-specific expert rules. Interfacing simultaneously with numerous data sources such as the Ovation Analytics Studio, Ovation Process Historian (OPH), Ovation Enterprise Data Solutions, and non-Ovation equipment through standard communication protocols, the framework makes a wide range of real-time and historical plant data available to support higher-level applications.

The Prognostics Plugin makes Advanced Pattern Recognition (APR) and other machine learning capabilities approachable to plant-level personnel to support higher-level automation capabilities. Deployed through the Ovation Intelligence framework, these models combined with expert rules and strategies alert and guide operators or the control system to take immediate action and avoid future equipment or process failures. Additionally, the plugin utilizes native Ovation range-checking and data-quality functions so there is no need to manually remove invalid data samples before a data set is used by the plugin's prognostic models and functions.

Users may use the following tools to create machine learning/APR models:

- Ovation Analytics Studio
- MATLAB
- Python

Software Subscription Options

The Ovation Prognostics plugin is a term-licensed offering that requires licenses for the base Intelligence Framework application, model count, and point count for running a model.

The point count license includes the total number of verified points. The network license specifies the number of networks the base Intelligence Framework application is permitted to connect with. If the user wants to connect with more than existing networks, they can obtain additional Network licenses as required.

The Model count license is based on the number of models that can be executed simultaneously. Users can continue to add or overwrite multiple models until they reach the license limit. The following software subscription options are offered to the customer.

Software Licenses	Subscription Term Options
Startup Analytics Package Includes a point count license for 5,000 points, a model license for 10 models, and a network license for one network.	1-year, non-cancelable

Software Licenses	Subscription Term Options
Base Analytics Package 1 Includes a point count license for 5,000 points, a model license for 50 models, and a network license for one network.	1-year, non-cancelable 3-years, non-cancelable 5-years, non-cancelable
Base Analytics Package 2 Includes a point count license for 10,000 points, a model license for 100 models, and a network license for two networks.	
Base Analytics Package 3 Includes a point count license for 20,000 points, a model license for 200 models, and a network license for four networks.	
Base Analytics Package 4 Includes a point count license for 30,000 points, a model license for 300 models, and a network license for six networks.	
Base Analytics Package 5 Includes a point count license for 40,000 points, a model license for 400 models, and a network license for eight networks.	
Base Analytics Package 6 Includes a point count license for 50,000 points, a model license for 500 models, and a network license for 10 networks.	

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Subscription-based software support includes access to basic telephone support where engineers and experts provide telephone support as needed in case of any problems related to software use or functionality. With an active subscription, other forms of software support are available through the Guardian™ portal, including unique support elements for each software product. Licensed software is subject to a software license agreement and corresponding product-specific terms & conditions. Subscription software provides certain software entitlements over the subscription term along with access to support resources. Support for Subscription Software (emerson.com)