Success strategies for implementing a modern OMS

Take a close look at strategies for implementing a modern OMS and why they can increase the likelihood of a successful implementation to maximize OMS investment.

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An outage management system (OMS) is a central solution for any utility. It helps you identify where outages occur, when and where to dispatch repair crews, and provides key data for keeping customers and regulatory bodies informed about the reliability of their power. In fact, a recent study by the Bridge Group found that utilities that have the best outage response rates also have the highest customer satisfaction rates.

While most utilities have an OMS, it may be obsolete or not able to take advantage of the latest technology advancements. If, like many other utilities, you are considering implementing a new OMS, there are several specific factors to consider for a successful project:

1. Leverage GIS to reduce OMS deployment times and on-going data maintenance.
2. Utilize flexible deployment architectures that use in-house technology while adapting to complex organizational relationships.
3. Support the operations workflow with service-oriented, standards-based integrations.
4. Implement an inclusive outage communication strategy.
5. Employ weather information to improve outage response.

In this white paper, we'll take a close look at each of these strategies for implementing a modern OMS and why they can increase the likelihood of a successful implementation that maximizes your OMS investment.

Leverage GIS to cut deployment times and maintenance

To operate efficiently, an outage management system requires accurate topologic data from the substation breaker to the transformer and ideally down to the service point meter. By knowing your assets, the OMS can accurately give users a clear picture of what's happening in the field. Furthermore, inaccurate information can lead to inaccurate outage device predictions and misdirected crews.

In other words, without accurate data, the value of your OMS is limited. You need to put good data in to get good data out.

Getting the data
Prior to an OMS implementation, establish objective measures of your data quality and plan for any data correction. GIS-sourced data is invaluable at this point because it ensures that your OMS is operating off of the most accurate, up-to-date information. Use tools such as a data validator that presents the state of your data in an easy-to-read report with notes when tests are passed and explanations when features fail. Sourcing data from GIS can facilitate and ease this process.

Maintaining the data
Now that you have good data from an accurate, real-time source, the second challenge becomes maintaining that data once it's in the OMS. Your OMS will need to know when new assets are constructed or systems are upgraded because as the data gets stale, the OMS' value drops.

Once again, your GIS can help. It can facilitate the maintenance of quality data with editing tools that help maintain connectivity, track functionality, and preserve the integrity of the network. There are two approaches to achieving this:

- **Extracting data**: Data from the GIS database is transformed into a format that can be consumed by the OMS, validating that consumed data, and then validating it into the OMS. In this case, the data has to be clear and ready to go.
- **Direct-read**: The OMS reads your GIS data directly to give you one view of the truth. The data used by the mappers is the same data used by the dispatchers.

Leveraging your GIS is an efficient way to keep the OMS model up-to-date with changes in your distribution system.

A modern OMS implementation is a complex endeavor that requires a huge amount of collaboration and communication across your organization.

Utilize flexible deployment architecture

You have relationships with many organizations, like other utilities, public safety agencies and regulatory bodies. In addition, you have hardware standards, system standards and IT policies, along with your teams' existing expertise in all of these areas.

A modern OMS with a flexible deployment architecture can work within your existing relationships and technologies to enable a smoother implementation. For instance:

- Leverage your existing infrastructure and expertise.
- Support your IT policies.
- Integrate with your existing enterprise systems without too much headache.

In other words, it should fit into how you do business, not the other way around.

Along these same lines, your OMS must be adaptable to change, such as scaling with your system growth, adapting to new internal IT requirements or moving from physical servers to virtualized ones. Your requirements and infrastructure won't be stagnant, so your OMS has to be able to keep up.

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Support operations workflow with integrations

An OMS with a service-oriented architecture can support smoother integrations with other enterprise systems, like SCADA or AMI. For example, this type of architecture also gives you more flexibility, as services can be moved from one machine to another or from site to site.

By leveraging standard protocols for integration, you reduce implementation time and maintenance costs because the interface point is already set for you in the contract defined by that standard. This way, you're not spending time talking with a third-party vendor about what data you're going to send back and forth and how it's going to be formatted — instead, little or no development has to occur. This also significantly reduces your implementation schedule and lessens your project risk because you are using standards that have already been validated for you.

These benefits can be magnified by using productized integration points. In these cases, you use a canned integration that's already provided by a vendor. You simply need to configure and implement the canned integrations provided by the vendors.

There are two commonly used standards for OMS integration: MultiSpeak and CIM. MultiSpeak is typical among North American small and mid-sized utilities, while CIM is more common in larger utilities and utilities outside of North America. For this discussion, we'll focus on MultiSpeak.

MultiSpeak defines a number of different web services for different aspects of utility business processes. When implementing an OMS, we zero in on the processes around outage detection, call handling, outage analysis and SCADA.

Some of the conventional OMS integration requirements for these standards include:

SCADA

- Set device actual status based on the statuses sent from SCADA.
- Create confirmed incidents in your OMS based on the events from SCADA.
- Synchronize all device statuses in the OMS with those statuses as represented in SCADA. This synchronization comes into play when you're initializing the system or at any time the systems go out of sync, such as when the OMS is down for maintenance. When it comes back up, you should be able to synchronize the device statuses.

AMI

- Submit outage notifications.
- Set restoration times when meters come back online.
- Ping the live status of those meters from OMS.

IVR

- Confirm that customers who call are valid customers in your system.
- Submit outage calls from those customers and track them via OMS.
- Send callbacks to IVR so customers who request it can be informed when their power is restored.

CIS

- Update customer information when meters are swapped out.
- Update a connection status, so that if a customer is disconnected for nonpayment, for example, the dispatcher has that knowledge if the customer calls to report an outage.

Of course, there's more than one way to implement a standard, but not all systems support all methods defined in a standard. And even among systems using the same standard and message structure, interfaces can fail. Be sure to read the fine print and if you don't have the in-house expertise to move forward confidently, seek out a vendor early in the process to help you define the details.

50%

Recent data indicates that more than 50 percent of all outages are weather related.

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Implement an inclusive communication strategy

At the start of an implementation, define a clear and inclusive outage communication strategy so you know what each stakeholder needs during an outage. Begin with defining who the operations group needs to communicate with, both internally and externally. For example:

- Crews
- Internal management
- Regulatory bodies
- Public safety
- Customers

Next, think about what type of information they need and how they will want to access it: Radio, web, phone or a mobile device? Push notifications for internal management — especially when critical events occur, like an outage affecting a hospital — help those teams properly manage the outage.

It's important to have a good strategy with all of your stakeholders, but customers need particular attention. When it comes to outages, the priority should be presenting meaningful information to customers in an accessible manner. This could be through exceptionally helpful call center associates, an easy-to-access web portal in which users can see outage updates, or a fast and easy way to report an outage. Setting this strategy ahead of time helps ensure that your OMS implementation will support these efforts and maximize your investment and expectations.

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Employ weather information

The increasing volatility of weather events is having a big impact on utility operations: the most recent data indicates that more than 50 percent of all outages are weather related. Incorporating weather data into your OMS is imperative.

There are typically three ways that utilities leverage weather information to improve outage response.

Stand-alone weather information
In this scenario, you get your weather information from a stand-alone weather service, such as the TV news or Schneider Electric's WeatherSentry™ solution. You receive current radar, real-time lightning data, forecasts, alerts and other services. These are helpful, but you are looking at your weather forecast and at your OMS as two separate systems.

Integrate-able weather information
Utilities that go a step beyond stand-alone weather information are able to integrate weather data with their OMS for better workflows, as well as faster responses and restorations. You can see how weather is flowing across your service territory and how crews are being affected by oncoming weather.

Integration weather information solutions

Future forecasting and predictive weather analytics tools integrate weather information with your asset information. The system looks ahead several days and provides you with the predicted result of the weather on your transformers and poles, as well as the number of customers and critical facilities likely to be impacted. This can be particularly helpful for queueing up the right crews to be ready after a storm or for requesting mutual aid assistance.

Conclusion

A modern OMS implementation cannot be overestimated; it's a complex endeavor that requires a huge amount of collaboration and communication across your organization. The ability to leverage the strategies discussed here will provide critical support when implementing, operating and maintaining your OMS, and helps take your entire operations to the next level of efficiency and service.

A modern OMS with a flexible deployment architecture can work within your existing relationships and technologies to enable a smoother implementation.

Life Is On Schneider Electric

Schneider Electric

4701 Royal Vista Circle
Fort Collins, CO 80528
Tel: 1-866-537-1091
+ (34) 9-17-14-70-02
Fax: 1-970-223-5577

www.schneider-electric.com

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