Premium Services Offering

GE Digital offers a comprehensive portfolio of Premium Maintenance and Support (M&S) Services to further complement our Maintenance and Support programs. Premium M&S Services are part of the GE Digital Maintenance and Support portfolio, backed by GE Digital’s experience and deep domain expertise. With a dedicated partnership through GE’s Premium M&S Services, your enterprise can clearly focus and drive your critical business objectives.
Protect your data investment by shifting from reactive problem solving to proactive system management and optimization

Services Offering

Consulting Services for GE Transmission and Distribution product lines
Work with GE’s technical staff to ensure you obtain the maximum benefit from GE Transmission and Distribution software products

Consulting Services for GE GIS product line
Achieve maximum value from your GE GIS software products by working with GE’s technical experts

Educational Services for GE Digital product lines
A full range of technical training for customers of our GE Digital products

Managed Services solution for GE Transmission, Distribution and GIS product lines
A wide range of technical IT services for customers and potential customers of our GE Digital products
Consulting Services for GE Transmission and Distribution product lines
System Administration Consulting Offerings

Systems Administration

This service applies to all Transmission and Distribution products (eterra, PO Reliance and PO Advantage*)
Duration: 5-10 days
Location: On-Site and Off-Site

Key Customer Benefits:
• Improved system performance
• Improved customer staff knowledge in configuring, maintaining, and troubleshooting

Description:
The consultancy services address all aspects of system administration and management relating to Digital Energy products. Beyond the structured Technical Training courses, our SMEs provide customers with expert advice relating to:

• System health checks
• System configuration
• System maintenance
• Customer-led updates
• Troubleshooting
• Tuning
• Analysis and troubleshooting to identify performance issues
• Customer staff mentorship in maintaining Digital Energy products

User Account Propagation Implementation

This service applies to eterra Transmission and Distribution products
Duration: 15 days
Location: Off-Site

Key Customer Benefits:
• Benefit from synchronized AD and PERMIT functionality

Description:
The UAP implementation service addresses the synchronization of Microsoft’s Active Directory (AD) with Habitat PERMIT. Our SMEs provide customers with expert advice relating to:

• Review Customer System to determine custom requirements
• Define any custom requirements (scope of customs) in the production system
• Provide specifications to create Active Directory User Groups relative to PERMIT User Database
• Provide User Account Propagation scripts with guidance on best practices
• Support customer in the implementation and testing of scripts
• Tune active directory configuration and user groupings
• Tune, configure, and UAP implementation
• Review final PERMIT database and revise process as needed
• Develop and implement any custom requirements identified above

*eterra & PowerOn branding have been discontinued by GE. Products are still available under new, updated names. Please contact your sales representative if further clarification is needed.
Systems Health checks

This service applies to all Transmission and Distribution products (eterra, PO Reliance and PO Advantage)
Duration: 5-10 days
Location: On-Site and Off-Site

Key Customer Benefits:
• Benefit from expert analysis of system health
• Receive knowledge transfer so that health checks may be performed by customer staff (internally)

Description:
The System Health Check service provides the customer with an expert analysis of their system performance and provides solutions to improving that performance. The SME will prepare for the health check remotely by providing scripts to the customer:
• Prepare and supply health check scripts
• Review and analyze results from scripts
• Provide summary report of findings on health of the current system

The SME will visit the customer site to provide:
• Workshop:
  • Review summary report of system health check with customer
  • Prioritize issues that have been identified
  • Provide approaches/solutions/best practices to address any health check concerns that have been identified
  • Support to implement a selection of solutions for the high priority issues in remaining time

Customer-based Updates and Upgrades

This service applies to all Transmission and Distribution products (eterra, PO Reliance and PO Advantage)
Duration: 10-15 days
Location: On-Site and Off-Site

Key Customer Benefits:
• GE SME available to provide expert advice on upgrade/update process
• Additional short-term expert resources to complete the process in a timely manner

Description:
The Customer-based Update and Upgrade service provides the customer with technical assistance in upgrading their system but is not intended to replace a full-service upgrade.
• The SME will prepare the customer for the update and upgrade remotely by:
  • Reviewing the existing system
  • Identifying minimum software revisions required for this system
  • Determining the most appropriate upgrade path
  • Providing a summary report on the most appropriate software requirements and upgrade to be implemented
  • Advising customer on downloading the required software

The SME will visit the customer site to:
• Assist customer personnel in updating software version to the most appropriate version
• Assist customer personnel in testing system operation and refining as necessary
• Assist customer personnel in testing and verifying fail-over to the backup system
• Advise customer on creating any scripts or other tools necessary to automate this process
Modeling Consulting

Source Consulting

This service applies to all eterra products
Duration: 5-10 days
Location: On-site and Off-site

Key Customer Benefits:
• Use best practices in customer modeling processes
• Provide techniques for more efficient modeling

Description:
Improved customer staff knowledge in Source. The consultancy services address all aspects of database modeling using Source and related SWS products. Beyond the structured Technical Training courses, our SMEs provide customers with expert advice relating to customer-specific modeling processes and database deployment. Some of the activities that our SMEs can assist with are:
• Evaluate existing modeling process flow, enhancing with best practices and plan improvements
• Set up model workspace for optimum resource usage and optimum modeling
• Provide best practices in modeling SCADA and Network systems concurrently including:
  • Make the best use of SCADA and Network containers
  • Review Table usage with respect to concurrent modeling
  • Apply federation of modeling details through SCADA and Network hierarchy

• Understanding federation of the Generator through Network and SCADA
• (Optional) Modeling PV and Wind
• (Optional) Templates for modeling PV and Wind
• Ensure customer staff are skilled in Generation Telemetry Templates (mapping measurements from SCADA to Gen)

• Developing Templates to improve efficient modeling. This includes:
  • Using Templates for efficient modeling
  • Ensure customer staff are well-versed in the process of creating a Template
  • Review creating a Template for an ALineSegment
  • Understand creating a SCADA-only Template

• Model merges
• Metamodeling to improve efficiency in UI Interface
• Observe current processes and advise on more efficient approaches
• Preferred methods of data export
• Ensuring best validation processes
• Implementing best practices
• Use of modeling tools
• Managing project lifecycles
• Customer staff mentorship in maintaining SWS products
• Review modeling processes setup and implementation, including the unique needs of the customer system and environment. Included in this are:
  • Project naming conventions
Modeling Consulting

Display Building

This service applies to all Transmission and Distribution products (eterra, PO Reliance and PO Advantage).

Duration: 3-6 months
Location: On-site and Off-site

Key Customer Benefits:
• Use best practices in customer display building processes
• Provide techniques for more efficient display building

Description:
Improved customer staff knowledge in FG Builder, Substation Editor, and Reliance Display Editor. The display building service addresses all aspects of developing displays for GE’s products. Beyond the structured Technical Training courses, our SMEs provide customers with expert advice relating to:
• Displaying project planning and design
  • Reviewing existing legacy displays and advise on updates using best practices
  • Providing planning of display standards
• Developing display elements and prototypes to provide optimum results
• Building and linking displays to databases
• Providing business processes for maintenance, update, and support of displays:
  • Revision control best practices
  • Define maintenance/configuration control/update process
  • Mentoring customer staff in the use of display building tools

Refine Network Modeling to include
• Optimize Sequencing of Network Modeling
• Develop separation of modeling functions into different Projects
• Review Templates for LINES and ACLineSegments for correct use
• Review of Various methods to create a new Substation
• Assist customer staff in the creation of a Substation using Deep Clone
• Assist customer staff in creating a Substation using Graphic Modeler
• Modeling CTGS in ETS

Review Generation Modeling to include
• Assist customer staff in creating a new Generator using Deep Copy or Deep Clone

• Project lifecycle
• Mapping from Habitat database to source
• Review database deployment detailed processes. This includes:
  • Project organization
  • Project dependencies
• Ensure SCADA modeling is efficient and well implemented. This includes review and improvement of:
  • Measurements and mapping
  • RTU and Front End Modeling
  • Use of Excel and Templates for RTU Modeling
  • SCADA as a client of Alarm
  • Block Load shed, and Rotating Load shed modeling
  • SCADA best practices and things to avoid

Refine Network Modeling to include
• Optimize Sequencing of Network Modeling
• Develop separation of modeling functions into different Projects
• Review Templates for LINES and ACLineSegments for correct use
• Review of Various methods to create a new Substation
• Assist customer staff in the creation of a Substation using Deep Clone
• Assist customer staff in creating a Substation using Graphic Modeler
• Modeling CTGS in ETS

Review Generation Modeling to include
• Assist customer staff in creating a new Generator using Deep Copy or Deep Clone
Advanced Applications Consulting

Power/Network Applications

This service applies to all Transmission and Distribution products (eterra, PO Reliance and PO Advantage)
Duration: 3-5 days
Location: On-site

Key Customer Benefits:
• Enhance skill sets of customer Network Applications staff by collaborative development of the use of power system analysis
• To have access to additional short-term resources to meet immediate needs in power system applications

Description:
Power or Network Applications consulting areas include 1-on-1 mentorship with customers to demonstrate and coach the use of best practices and understand the resulting information from studies (beyond formal technical training).

More advanced opportunities include optimization of the system, use of state estimating, best practices using Power Factor Analysis, advanced Contingency Analysis, and Voltage Transient stabilization. In addition, options include assisting customers with (external) model replacement or improvement, and observability analysis (advice on placement of measurement points).

This can also be linked with the use of the DTS to obtain meaningful results from Power System Studies.

Simulator Applications (DTS/DOTS)

This service applies to all Transmission and eterra Distribution products
Duration: Driven by customer requirements
Location: Remote

Key Customer Benefits:
• Improve operations and leverage available functionality of the software simulator
• Improve simulation experience for end users and provide a more realistic training environment

For DTS:
• Provide knowledge transfer to customer instructional staff to train and prepare the operators for reliable operation and control of the grid (NERC-PER-005 or international equivalent certification) and Outage response/Restoration drills (NERC-EOP-005 or international equivalent) certifications

For DOTS:
• Provide knowledge transfer to customer’s instructional staff to train and prepare the operators for internal certification programs
• Provide storm response training at corporate level

Description:
Consulting on advanced uses of the DTS and DOTS applications to enhance the skills and confidence of end-user trainers in customer’s organization. GE SMEs will provide mentorship and advanced knowledge transfer to customer trainers so that Operators and Dispatchers carry out their roles efficiently and successfully.
Phase I activities include:
• Initial customer meeting, understanding specific use case scenarios
• Clone the DTS/DOTS environment on the GE customer support system to provide a credible test platform for any software fixes that may be necessary
• Test DTS/DOTS to ensure it is working properly (ensure DTS/DOTS starts up, cycles and simulation time is advancing)
• Perform an initial Health Check of DTS/ DOTS System

  • Work with Customer staff to correct any issues discovered
  • Ensure that the DTS/DOTS is a satisfactory representation of the production environment
  • DTS specific: Data Model Tuning. Tune data per customer’s requirements
• Document issues uncovered and suggest corrective actions. Work with customer staff to address any issues discovered
• The GE SME will provide recommendations on best practices with regards to keeping the simulator in sync with production, initializing from snapshots of state estimator and/or power flow save cases, and modeling scenarios for realistic training setup. Customer will implement GE recommendations on their own or include requirements in Phase II for GE SME to implement.

  • Training courses for DTS/DOTS Instructor and Support Staff (up to 25 training credits included)
  • For DOTS Storm readiness training: Identify scenario types (for example storm preparation training based on archived data information or hypothetical statistical damage data)

Phase II activities include
(but are not necessarily limited to):

**DTS specific:**
• The GE SME will assist in designing Black-start scenarios and restoration procedures to create the most realistic situations for customer’s trainees. Tuning scenarios and cases for best training performance. This tuning includes the modeling and review of Black-start units to properly handle aspects of grid synchronization
• The GE SME will provide modeling consultancy to help simulate the customer’s network analysis applications (state estimation, real-time contingency analysis, power flow studies, automatic generation and control), load shedding procedures and/or other critical operational procedures on the DTS.

**DOTS specific:**
• The GE SME will assist the customer in designing test scenarios and restoration procedures to create the most realistic situations for customer’s trainees. This tuning includes the modeling and review of any existing scenarios to ensure they are operating properly
• The GE SME will provide modeling consultancy to help simulate network analysis applications, load shedding procedures and/or other critical operational procedures on the DOTS.

Depending on the nature of devices involved and level of realism expected, such simulation may require consideration of software enhancements. Tuning power system model to represent utilities equipment
• Where applicable, the GE SME will discuss the scope and requirements for coordinated simulation scenarios such as with the Transmission simulator for training on major power system event restoration training. Depending on the nature of the requirements, software enhancements may need to be discussed, and implemented at customer’s discretion
• For Storm readiness training: Creation of test case scenarios based on archived data information or hypothetical statistical damage data

For DTS and DOTS:
• Set up the training scenarios using customer models
• Testing of scenarios
• Investigate and triage software and model issues found during this service
• Develop training procedures and manuals for customer-specific cases. Create customer-specific processes for maintaining up-to-date training schedules
• Develop and tune fault line scenarios
Consulting Services for GE GIS product line
Diagnostics\(^1\) for Smallworld*  
Performance and Monitoring Solution  

Monitoring Solutions in general are designed to ensure greater reliability and utilization, improved operations, enhanced security and reduced costs without impacting the performance of the system. This constant overview presents real-time status and inconsistencies in a dashboard that managers can quickly review as to how the system is used and it facilitates improved engagement between administrators and users.  

Diagnostics is a vertically-based monitoring tool - not to be confused with monitoring tools that look at systems horizontally. Horizontally-based monitoring tools can tell you that there is a problem with any IT system, but they cannot tell you what the exact problem is in that specific system. Diagnostics on the other hand can intrinsically tell the customer exactly what the problem is inside Smallworld* - relevant to any customer desiring to monitor their GE Smallworld* GIS. For example, when uptime of the server/service becomes an issue, both the vertical and the horizontal solutions can identify the problem – but to get to the root of the issue one needs to dig vertically into the specific system and sometimes pretty deep. The picture below illustrates how only a purpose-built vertical monitoring solution is able to provide actionable insights into a single domain, coexisting with a horizontal monitoring solution that provides basic insights across all systems.  

Diagnostics out-of-the-box can facilitate a proactive approach to monitoring. Diagnostics acquires granular information about the performance and use of GE Smallworld* and presents that information in easy to understand dashboards and charts to assist customers by informing and alerting them to compromising activities. Diagnostics provides a real-time constant overview of GE Smallworld* usage and can prevent severe implications if it breaks down, is improperly used or does not perform to expectations.  

### System monitoring tools

<table>
<thead>
<tr>
<th>System monitoring tools</th>
<th>(AppDynamic, SignalFX, Elastic Search, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERP</td>
<td>CRM</td>
</tr>
<tr>
<td>EHR</td>
<td>EAM</td>
</tr>
<tr>
<td>Smallworld</td>
<td>Microsoft</td>
</tr>
<tr>
<td>SCADA</td>
<td>DMS</td>
</tr>
<tr>
<td>QHSE</td>
<td></td>
</tr>
</tbody>
</table>

---

**Innovative and Flexible operator environment**

Move beyond just guessing how your production environment is performing and know precisely what is happening. Detailed information on performance, networks, downtime, quality, business processes and more – visualized and made easy for you to understand. Getting a holistic, comprehensive view of how your GE Smallworld* environment is performing at any given time is essential in keeping focus on the most critical tasks and not wasting time.  

**Keep track of what’s most important**

What are the used or unused features? Are features being used properly as per training? Managers want to understand whether the investment made was worth it. One of the most important features in Diagnostics is the ability to log the whole range of activity within the GE Smallworld* environment. No need to run complicated queries or wait for other people to run reports for you. Your dashboard is always up to date with real-time data, configure KPI’s and insights to match the needs of every user in your company. It is a hyper-flexible environment designed to meet your needs in monitoring.  

“Save time by speeding up your Smallworld* environment”
Prevent Data Corruption

Often not following proper business processes can cause data corruption. Real-time data monitoring (RTDM) is a process through which an administrator can review, evaluate, and modify the addition, deletion, modification and use of data on software, a database, or a system. It enables data administrators to review the overall business processes and functions performed on the data in real-time, through graphical charts and bars on a central interface/dashboard.

Alarm Management for faster resolution

Imagine reaching system limits that cause usage disruption and potential system downtime. Diagnostics is the most advanced alarm system in the GE Smallworld* environment where alerts about users, networks, file sizes, super files, checkpoints, versions and latency can preempt problems before they happen. When not following defined business processes, generate an immediate alert, and then investigate the generated alert so that it can be resolved.

“Increase user satisfaction through increased performance and less downtime”
**Improved User Engagement**

When assessing various alerts or improper software use, advance notice of potentially compromising situations is appreciated by users. Preventing user from making mistakes and completing tasks on time is the key to successful software usage. Bad user behavior or potential lost work is pre-empted resulting in a positive impact on both productivity and user satisfaction due to this interaction.

**Data logging to keep the history**

Keeping historical data allows the customer to investigate past activities. Data is stored in a “Big Data” database where it is easy to create dashboards to visualize trends based on raw data. Use initial data to determine the baseline for databases, application usage, performance and software configuration. Compare this baseline and subsequent baselines to visualize the improvements and changes made to every released GE Smallworld* environment; Gradually make incremental improvements. Make migrations easier and reduce expensive customizations by excluding non-used functions in the upgrade process.

**Intuitive Reporting**

Managers always wish to see an overview of the system whether it be dashboards or reporting, which is why these are critical functions in Diagnostics. Easily keep track of all your production data and discover opportunities for improvements with daily, weekly or monthly reports on time usage, downtime, quantities and cycle times. Diagnostics keeps track of all errors, including errors not seen by the user.

---

**Use case: tracebacks**

Can be used to help troubleshoot issues during upgrades and in day-to-day operations. Can provide logs and assist GE Support with resolving the issue up to 50% faster.

**Use case: conflict investigation**

Use case: conflict investigation

**“Save money by becoming more efficient”**
Performance is one of the key factors to determine the success of a system implementation

- Do you ever think your system is just too slow?
- Are you concerned that your hardware is approaching its limits?
- Are you planning a customization or bulk data load and want to measure its effect on performance?
- Do you want to keep an eye on performance with regular health-checks and monitoring tools?

GE Digital has a service solution to meet your needs...

**System Performance Optimization Service**

With the System Performance Optimization Service solution, our customer service team applies its technology knowledge and experience to analyze the Smallworld* database component performance—and all the elements around it that can affect the final application performance. With this analysis, we can determine the optimum parameters and architecture for your system.

After a Smallworld* database is populated and used by a customer in a production environment, the default database parameters are often no longer appropriate for the current size or the current object set. In this situation, reviewing the database parameters can allow us to improve your database performance.
Phase I
Define a set of procedures to be executed in order to analyze your Smallworld* system performance and to determine whether or not the configuration is appropriate.

Phase II
Analyze the results and identify opportunities for improvement.

Phase III
Propose recommendations for actions to be performed on the system and present reports to you including the following:

• Establish a benchmark for your system and compare it to current performance levels
• Analysis of read/write speeds to your database
• A breakdown of hardware capacity and how close you are to system limits
• Checks on drainage of Unique Values from the database
• Analysis of wasted space within the database and recommendations on how to maintain a healthy database
• Set a baseline for your system performance from which to measure future improvement or degradation
• Recommendations for architecture enhancements and potential improvements from upgrading
• System monitoring tools to keep tabs on the health of your system

Phase IV
Monitor the system with automated monitoring scripts and regular health-checks.

With all this information, you can weigh the pros and cons, costs, and a projected milestone plan which you can then present to your management level for final decision and approval to move ahead with the recommended improvements.
This comprehensive analysis is done as part of the System Performance and Optimization service. A complete Health Check Assessment report, including performance assessment and recommendation, will be provided at the end of the analysis. The report will include the following:

- Establish a benchmark for your system and compare it to current performance levels
- Analysis of read/write speeds to your database
- A breakdown of hardware capacity and how close you are to system limits
- Checks on drainage of Unique Values from the database
- Analysis of wasted space within the database and recommendations on how to maintain a healthy database
- Database size, locks and integrity
- Memory parameters
- Alternative and checkpoint review
- Performance analysis of internet-deployed solutions
- Set a baseline for your system performance from which to measure future improvement or degradation
- Recommendations for architecture enhancements and potential improvements from upgrading
- System monitoring tools to keep tabs on the health of your system

In addition to the Health Check, this package also includes an additional 200hrs of support per year*

* The 200 additional support hours must be used within the year and cannot be transferred to the next year.
Educational Services for GE Digital product lines
Open Registration Training

The GE Technical Training Institute (GE-TI) offers scheduled training courses throughout the year at various GE-TI locations and Centers of Excellence. The courses are open to supported customers to meet the needs of those wishing to update their skills in specific aspects of the Digital Energy software products.

The courses range from introductory courses to more advanced topics. Small class sizes and state of the art facilities provide an excellent environment to achieve learning objectives. Courses include lectures, and substantial experiential learning through hands-on lab. Some locations offer remote attendance options. In addition, we offer selected courses through eLearning delivery. This allows users to participate in training on their schedule.

Customer Site Training

The GE-TI offers delivery of training courses at customer sites. Scheduling is arranged to meet the customer needs and the courses may be customized to address specific topics of interest. Optional training environments are available including dual screen, fully loaded laptop workstations and a cloud lab environment.
Advanced workshops are also available where customers may specify the topics of interest and SMEs provide a flexible less structured knowledge transfer opportunity.

Project Training
The GE-TI provides training throughout the delivery of larger projects. This includes training for new customer staff to provide the skills and knowledge to operate a new Digital Energy solution. A formal training plan is designed to ensure all the needs of a new customer are met and that the recommended courses are delivered to align with the project timelines and milestones.

In the case of upgrade projects, training courses are provided that highlight the new features and improvements to the software so that customers may quickly make use of these features and operate the updated system efficiently.

The GE-TI Training Team
The GE training team is comprised of experienced subject matter experts and GE engineers. They are well practiced in delivering the courses, take an empathetic approach to instructing others and have an excellent understanding of the needs of the Customer.

Locations
GE Digital delivers Global Education Services to customers at GE-TI locations below as well as on-site. The GE-TI/Centers of Excellence below represent GE’s offices for Digital Energy Technical Training activities:

- Bucharest, Romania
- Dubai, UAE
- Livingston, UK
- Massy, France
- Melbourne, Australia
- Melbourne, Florida, USA
- Redmond, Washington, USA
Training package for Transmission and Distribution product lines

Location: Off-site

Key Customer Benefits:
- Pay once for your team’s training needs and avoid procurement and approval processes for one-off training purchases
- Pre-purchase with confidence even if you have not planned your training strategy
- Leverage your "use or lose" budget to ensure your team gets the training they require
- Earn discounts

Description:
We work with you to bridge the gap between the theory and real-world knowledge in the comfort and the convenience of your own home office. Our Educational Service Package is a price-reduced bundle available exclusively to all our Transmission and Distribution customers with a current maintenance subscription. It includes 15 eLearning enrollment and 4 Webinar sessions.
Training Credits for Transmission, Distribution and GE GIS product lines

Location: On-site and Off-site

Key Customer Benefits:
• Pay once for your team’s training needs and avoid procurement and approval processes for one-off training purchases
• Pre-purchase with confidence even if you have not planned your training strategy
• Leverage your "use or lose" budget to ensure your team gets the training they require
• Earn up to a 20% bulk discount

Description:
Training Credits* are the most convenient way to purchase training from GE Digital and can be used for eLearning, Webinars or Classroom training (at one of the GE training facilities). You have the choice of selecting between 25, 50 or 100 training credits.

* Training Credits can be purchased via credit card and must be redeemed and consumed within 12 months from purchase date
* Unused credits cannot be used the subsequent year and no credit or refund can be provided after 12 months
Managed Services solution for GE Transmission, Distribution and GIS product lines
GE Digital Managed Services provides a wide range of technical IT services for customers and potential customers of our Digital Energy products.

**Market Challenges**
- IT environments are becoming more complex
- Security incidents can lead to high revenue losses and possible penalties. Cyber Security resource availability is scarce
- Customers cannot benefit from the new product releases at a proper pace
- IT infrastructure is moving at an accelerated rate

**Benefits of Managed Services**
- Cost reduction
- Lower capital expenditure
- Superior expertise and better service
- Expertise on tap
- Increased efficiency
- Reduced risk

**Operating Cost Reductions**
- Through Managed Services, we reduce customer’s systems ownership costs, providing higher value from investment at lower predictable cost

**Technical Expertise**
- GE has the technical and domain expertise to offer the highest level of support for GE software solutions
- Through Managed Services, we resolve issues proactively versus waiting for a support call

**Improved Performance**
- We eliminate surprises and maximize the reliability and availability of the customer’s system
- By optimizing system configuration and performance from the outset, we control variables that drive successful system operation and customer satisfaction

Due to systems complexity and the unique skill sets required, GE can provide the services to manage your digital energy Transmission, Distribution, and solutions. Trust GE to be there for you, helping you maximize the benefit of our digital energy products. Managed Services is a natural extension of Maintenance and Support, providing a safer and more cost-effective IT operation in the control room.
Many transmission and distribution utilities are considering adopting Managed Services, and some have already moved to that model.

GE’s strategy is to focus on the management of our software solutions and applications, where we can bring the most added value to customers and leverage our expertise for their benefit.

GE Managed Services covers full solution management: day-to-day running, maintenance, and support of the IT systems in scope.

- Complete and streamlined solution for application operation, system and database, and infrastructure management
- Improved operational activities
- IT staff augmentation without the risks and costs of additional headcount
- Removal of performance barriers that prevent you from committing to service-level agreements with your end users

GE Managed Services focuses on preventive actions and early detection in order to limit the number of service-affecting incidents and issues. This is achieved by automatic monitoring tools that reduce, to a minimum, the number of these negative issues.

GE has the technical staff to perform day-to-day operations, with the technical skills to cover all the technology-related parts of the solution (OMS, DMS, GIS, Operating Systems, DBs, VMware, Citrix, SQL, etc.).

GE has the product-specific technical and domain expertise to offer the highest level of support for GE software solutions.

Through Managed Services, we resolve issues proactively based on the implemented monitoring solution that covers all the components of our solution in scope.

We eliminate surprises and maximize the reliability and availability of the customer’s system.
Benefits of Managed Services

**Automated monitoring for each customer’s solution platform:**
- Solution monitoring
- Infrastructure monitoring
- Performance monitoring
- Predictive analytics for measuring system performance and supplying preventative measures to customer ICT and BAU application Tier 2 and 3 support teams
- Improved system performance
- Increased platform and solution uptime
- Improved hardware performance
- Improved solution performance
- Proactive vs. reactive maintenance
- Offers 24x7 and 8x5 SLA solution and environment support (including third-party operational software support, i.e., OS, DB, etc.)

**30% increase in Mean Time Between Failures (MTBF)**
By real-time proactive monitoring, we estimate the reduction in the number of service-affecting incidents at up to 30% which will result in an increase of the MTBF.

**30% decrease in Mean Time To Restore (MTTR)**
Due to specific tools and processes, the MTTR will decrease significantly, and this, in turn, leads to a lower risk related to productivity, reliability, and penalties avoidance.

**Regulatory Benefits:**
- Assist customer IT teams with easy access to system performance and event reports for production and Disaster Recovery (DR) environments
- Expedient diagnostic assistance with Root Cause Analysis (RCA) for customer IT teams
- Expedient diagnostic assistance with RCA for customer Information and Communication Technology (ICT) and Business as Usual (BAU) application Tier 2 and 3 support teams
- Historical auditing of system and environmental outages
- Project Cycle Testing and Scalability support
- Support for deployment and scalability testing
- Support for infrastructure capacity management in preparation for future growth

**Services Management**
- Capacity Management
- Availability Management
- Disaster Recovery and Business Continuity Support
- Configuration and Asset Management
- Incident Management
- Problem Management
- Change Management
- Release Management
- Security
- Reporting
Benefits of Managed Services

GE offers tailored Managed Services models to suit the Customer’s demands and expectations. These models are applicable to all the solutions in our portfolio (Transmission, Distribution and GE GIS solution).

- **Applications Managed Services**
  - GE Solutions & Applications
  - Operating Systems
  - Databases
  - Servers, Virtualization & Backup
  - Storage
  - IT Network

- **Applications + OS Managed Services**
  - GE Solutions & Applications
  - Operating Systems
  - Databases
  - Servers, Virtualization & Backup
  - Storage
  - IT Network

- **Complete Solution Managed Services**
  - GE Solutions & Applications
  - Operating Systems
  - Databases
  - Servers, Virtualization & Backup
  - Storage
  - IT Network

Options:
- On Premise GE Solutions
- Hosted GE Solutions
- Cloud Based GE Solutions
The Managed Services team has extensive experience in performing the related activities with a full complement of skill sets in different GE Solutions, IT technologies, products, and processes.

The Managed Services team has a very strong focus on automation for IT activities and monitoring. This is required to ensure proactive and real-time 24/7 control for the managed solutions.
Managed Services Monitoring and Maintenance

Proactive

Predictive

Reactive

24/7 AUTOMATION

Mean Time Between Failures (MTBF) Increase

- Thanks to expert skills and proactive monitoring and maintenance, we are able to drastically reduce the occurrence of issues impacting system operation. An MTBF increase up to 30% can typically be achieved.

Mean Time To Restore (MTTR) Decrease

- Through extensive automation, average troubleshooting duration is significantly decreased and service restoration time is improved, reducing the overall impact on operations. A typical MTTR improvement of up to 30% is expected.
Monitoring and Maintenance dashboard

Through Managed Services, we resolve issues proactively based on the implemented monitoring solution that covers all the components of our solution in scope.
Monitoring and Maintenance dashboard