



# **IPS-SYSTEMS™ Licensing Information**

**Version: 2.1**

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### 1. Installation Business Models

#### 1.1. On Premises

This is the “Traditional” basic business model for the installation of IPS-SYSTEMS™ software. All Hardware and Software is installed on-site at the customer location. The customer is responsible for providing all infrastructure and support for the setup of the database and the installation of the delivered (basic configuration included) software. Quoted price calculations are based on Total Server Licenses + Number of Client Licenses + 1<sup>st</sup>-year Maintenance and Support + Start-Up costs. No Additional Charge for Non-Production environments.

#### 1.2. CLOUD

This is the “Software as a Service” business model for the installation of IPS-SYSTEMS™ software. All Software is installed in the Cloud and accessed through MS Remote Desktop. The infrastructure is provided by *iland Secure Cloud<sup>SM</sup> Hosting*. IPS is responsible for the setup of the database and the installation and basic configuration of the software. Cloud systems are configured for use of all available module groups but limited to 5 concurrent users, max of 10,000 assets and 10 GB DB size. Quoted price calculations are based on Subscription + Start-Up costs. There is an additional charge for each Non-Production environment. Subscriptions are paid yearly, or for a graduated fee, quarterly or even monthly.

#### 1.3. Hybrid

As the name suggests, this is a combination of the previous business models. It allows the flexibility of the On Premises licensing while eliminating the need for customer provided infrastructure support. All Software is installed in the Cloud and accessed through MS Remote Desktop. The infrastructure is provided by *iland Secure Cloud<sup>SM</sup> Hosting*. IPS is responsible for the setup of the database and the installation and basic configuration of the software. Quoted price calculations are based on Total Server Licenses + Number of Client Licenses + 1<sup>st</sup>-year Maintenance and Support + Start-Up costs. There is an additional charge for each Non-Production environment.

#### 1.4. Rental

Basically, the reverse of the Hybrid Model. It allows payment based on Subscription (lower upfront cost) but all software is at customer site. All Hardware and Software is installed on site at the customer location. System Virtualization such as Citrix or Horizon required. The customer is responsible for providing all infrastructure and support for the setup of the database and virtualization server, as well as the installation of the delivered (basic configuration included) software. Rental systems are configured for use of all available module groups but limited to 5 concurrent users, max of 10,000 assets and 10 GB DB size. Quoted price calculations are based on Subscription + Start-Up costs. Subscriptions can be for 1,3, or 5 years and are paid yearly, or for a graduated fee, quarterly or even monthly. No Additional Charge for Non-Production environments.

## 2. IPS-SYSTEMS™ License Model

### 2.1. Server vs. Client License

Server Licensing in IPS controls what functionality is available in the IPS system and in general (there are a few exceptions), one server license for a module group allows any number of corresponding client licenses to utilize the functionality in that module group. A client license is required for an individual user to access the system.

### 2.2. Licensing Technology

The following describes the technologies used by the Application License Types.

#### 2.2.1. Concurrent (Virtual User) Licensing

The concurrent license defines a number of concurrent (parallel), online (only) connections from the client application to the database. For example, if 5 concurrent licenses are purchased this would allow 5 clients to work parallel on the system at the same time independent of the machine or username. Requires some type of virtualization technology to implement; Citrix, Horizon, MS Remote Desktop, etc. (not provided for onsite implementations, included in Cloud or Hybrid implementations). High individual client license cost but allows for increased flexibility in environments where many users need access but not at the same time. Can be applied to the IPS-EPIS™ or IPS-WebSuite™ applications. If applied to the IPS-ENERGY™ application, it becomes instead a Universal Concurrent Client License.

#### 2.2.2. Machine (Node) Licensing

The machine license is applied per system the client is installed on. Any user with direct (not remote) access to the machine can utilize the software. Mid-Level individual client license cost but allows some flexibility for users to share a common system. Used for IPS-ENERGY™ and IPS-SmartGridDI™ applications and is required for replicated clients.

#### 2.2.3. Web (Named User) Licensing

The named license is assigned to an individual user and allows the user accesses the system remotely through any web browser or mobile application. Lowest individual client license cost but requires a license for every user with access. Used for IPS-WebSuite™ or IPS-MobApp™.

### 2.3. Application (Client) License Types

#### 2.3.1. Windows

Machine Licensed client that allows access to the IPS-ENERGY™ or IPS-EPIS™ “thick” client as well as access to the IPS-WebSuite™ client but only from computer on which IPS-ENERGY™ is activated. This type of client is required for access on a replicated machine (local DB).

#### 2.3.2. Field Client

Machine licensed client similar to the Windows client but lower priced. This client only has access to the following module groups (assuming the corresponding server license is also present), given as an example:

## 2IPS-SYSTEMS™ License Model

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- Work Execution
  - Asset View
- Work Ordering
  - Work Order View
- IPS-RELEX™
  - Protection Explorer
  - RSR for site implementation
  - Test Template Management

### 2.3.3. Web

Named user client with access to the IPS-WebSuite™.

#### 2.3.3.1. Primary – Edit rights in IPS-WebSuite™ products

#### 2.3.3.2. Viewer – View only rights in IPS-WebSuite™ products

### 2.3.4. IPS-SmartGridDI™ Studio

Machine licensed client with access to the IPS-SmartGridDI™ application and database server.

### 2.3.5. IPS-MobApp™ L

Named user client with access to the IPS-MobApp™ L application for iPad (IOS), Android or Windows tablet.

### 2.3.6. IPS-MobApp™ S

Named user client with access to the IPS-MobApp™ S application for iPhone (IOS) or Android phone.

### 2.3.7. Universal Concurrent

Concurrent license client which includes use of the following client applications with appropriate Server License. Only available on On-Premises and Hybrid Models.

- IPS-ENERGY™ CORE Concurrent License
- IPS-WebSuite™ Concurrent License
- IPS-MobApp™ L Concurrent Client License
- IPS-MobApp™ S Concurrent Client License
- IPS-SmartGridDI™ DI-PUBLISHER™ Concurrent Client License
- IPS-ENERGY™ Field Concurrent License

Requires some type of virtualization technology to implement; Citrix, Horizon, MS Remote Desktop, etc. (not provided for onsite implementations, included in Hybrid implementations). Highest individual client license cost but allows for the greatest flexibility in environments where many users need access but not at the same time and removes the need for tracking of separate license types.

### 2.4. IPS-SYSTEMS™ (Server) License Types

#### 2.4.1. IPS-SYSTEMS™ (General IPS-Products) - “Enterprise Asset Management for Electrical Power Systems”

##### 2.4.1.1. Web Services

**Web Services** – In order to allow other applications to import data into IPS, or to browse and retrieve data from IPS, the following Licenses are required.

Integration Package License comprising of:

- IPS-WEB Service Server License – Core Data Exchange framework.
- IPS-WEB Service Client License – For each connected application (Interfacing Request Independent)

Optional/Additional:

- IPS-UIS (Unidirectional Interface Service) License for Unidirectional Inbound or Outbound IPS Interface Service is Interfacing License for each IR (Interface Request) meaning unidirectional data exchange for one data object from one system to another. Interface is calculated per developed service request for one entity (Asset, Location, Work Order, Notification, etc.). Inbound or Outbound means Importing or Exporting data to/from IPS-SYSTEMS™

**NOTE:** Precondition for the usage of IPS-UIS license is the existence of IPS-WEB Service Server License. The client is required to approve the final list of interfaces before implementation. Interfacing licenses are not including configuration services of the interfaces.

##### 2.4.1.2. Editions

NERC and IED editions have the same functionality as a core.

- Limited to the appropriate asset groups
- Yearly Maintenance Calculated at 20% of Total License Costs (before discount)

#### 2.4.2. IPS-ENERGY™ - “Technical asset and maintenance data management”

- All asset groups allowed
- Yearly Maintenance Calculated at 15% of Total License Costs (before discount)
- Module Groups/Modules listed included in the software package, other Module Groups sold separately

##### 2.4.2.1. IPS-ENERGY™ Core - “Technical asset register database”

- Asset Management
  - Asset Explorer
  - Asset Type Library
  - Location Management
  - Malfunction Management
  - Repair Management
  - Location Change Management
  - Discard Management
- Administration
  - User Management

- Report Management
- Audit Trail
- Quality Assurance
- FAQ Tutorial
- QA Actions Overview
- FAQ Tutorial Actions Overview

### **2.4.2.2. IPS-ENERGY™ Executive - “Asset maintenance concept, execution, mobile data collection and documentation”**

- IPS-ENERGY™ Core Functionality
- Maintenance Concept
  - Maintenance Concept Definition
  - Commissioning Concept Definition
  - Quality Assurance
  - FAQ Tutorial
  - Action Template Workflow Definition
- Work Execution
  - Asset View
  - Location View
  - Action Group View
  - Actions Overview
  - Notifications Overview
  - Station Inspection

### **2.4.2.3. IPS-ENERGY™ Enterprise - “Advanced time-, condition- or logic-based maintenance planning and work ordering”**

- IPS-ENERGY™ Executive Functionality
- Planning
  - Planning
- Work Ordering
  - Scheduling
  - Work Order View
- Maintenance Analysis
  - Maintenance Evaluation
  - Maintenance Improvements

### **2.4.2.4. IPS-ENERGY™**

- Business Process Management & IPS-SWM™
  - Purchasing both Business Process Management and IPS-SWM™ Module Groups together entails a 40% discount to what each would cost separately.

### **2.4.3. IPS-EPIS™ - “Enterprise Protection Information System”**

- Only Protection and Instrument Transformer Groups allowed
- Yearly Maintenance Calculated at 20% of Total License Costs (before discount)
- Module Groups/Modules listed included in the software package, other Module Groups sold separately



### 2.4.3.1. IPS-EPIS™ Basic - “Protective relay data, testing and setting management”

- IPS-RELEX™
  - Protection Explorer
  - Protection Type Library
  - Location Management
  - RSR for Site Implementation
  - Protection testing
  - Test template management
  - Protection Modeling
- IPS-PSM™
  - Relay Browser
  - Base Settings Management
  - Protection Functions Management
  - Grading Diagram (Z/t) Management
  - Device Configuration
  - Inter-Relay Parameter Viewer
  - Data Viewer
- Administration
  - User Management
  - Report Management

### 2.4.3.2. IPS-EPIS™ Core - “Relay and instrument transformer malfunction, repair, location change and discard management”

- IPS-EPIS™ Basic Functionality
- Asset Management
  - Asset Explorer
  - Asset Type Library
  - Location Management
  - Malfunction Management
  - Repair Management
  - Location Change Management
  - Discard Management

### 2.4.3.3. IPS-EPIS™ Executive - “Relay and instrument transformer maintenance management”

- IPS-EPIS™ Core Functionality
- Maintenance Concept
  - Maintenance Concept Definition
  - Commissioning Concept Definition
  - Quality Assurance
  - FAQ Tutorial
  - Action Template Workflow Definition
- Work Execution
  - Asset View
  - Location View
  - Action Group View
  - Actions Overview
  - Notifications Overview
  - Station Inspection

### 2.4.3.4. IPS-EPIS™ Enterprise - “Relay and instrument transformer planning and scheduling”

- IPS-EPIS™ Executive Functionality
- Planning
  - Planning
- Work Ordering
  - Scheduling
  - Work Order View
- Maintenance Analysis
  - Maintenance Evaluation
  - Maintenance Improvements

### 2.4.4. IPS-WebSuite™ - “IPS-SYSTEMS™ Web Front-end

**NOTE:** Server license for IPS-WebSuite™ is purchased in addition to IPS-SYSTEMS™ and must correspond to the main system license. Content of the IPS-WebSuite™ is defined by main system licenses and is limited on IPS-WebSuite™ functionality. Only module groups licensed for the main system can be used within IPS-WebSuite™. With Server purchase, only additional clients beyond the number of standard Windows clients need additional licensing.

#### 2.4.4.1. IPS- ENERGY™ WebSuite - “IPS-ENERGY™ Web Front-end”

- Asset Management
  - Asset Explorer
  - Asset Type Library
  - Location Management
  - Malfunction Management
  - Repair Management
  - Location Change Management
  - Discard Management
- Planning
  - Planning (Read Only)
- Work Ordering
  - Work Order View
    - There is a special view "Work order and action selector" page developed for WEB application which replaces Work Order, Asset and Action overview in Windows application. This function is developed primarily for field people and the execution of the maintenance tasks.
- Work Execution
  - Asset View
    - The same functionality is possible in action WEB selector page by filtering asset in the action list.
  - Location View
  - Actions Overview
  - Notifications Overview
- IPS-RELEX™
  - Protection Explorer
    - Only adding test record with the import of test document is possible. No testing automation with Omicron possible
  - Protection Type Library
  - Location Management
  - RSR for Site Implementation

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- IPS-PSM™
  - Inter-Relay Parameter Viewer
- IPS-SWM™
  - System Change Notifications
- IPS-PSFM™
  - Fault View
- Administration
  - User Management

### 2.4.4.2. IPS- EPIS™ WebSuite - “IPS-EPIS™ Web Front-end”

- IPS-RELEX™
  - Protection Explorer
    - Only adding test record with the import of test document is possible. No testing automation with Omicron possible
  - Protection Type Library
  - Location Management
  - RSR for Site Implementation
- IPS-PSM™
  - Inter-Relay Parameter Viewer
  - Data Viewer
- IPS-SWM™
  - System Change Notifications
    - Only adding/editing of SCN is possible. GSR and RSR are not possible in WEB.
  - RSR Overview
    - Only adding test record with import of test document is possible. No testing automation with Omicron possible.
- IPS-PSFM™
  - Fault View (Read Only)
  - Protection View (Read Only)
  - Event and Transient Management (Read Only)
- IPS-CELC™ (Read Only)

### 2.4.5. IPS-MobApp™ L

- Server License for IPS-MobApp™ L required for running IPS-MobApp™ L
- Native Application for iPad, Android or Windows Tablets Client:
  - Work Order and Action Execution
  - Included following task types for mobile execution:
    - Check task type
    - Enter Value Task type
    - Enter Value against Nominal
    - Enter comment
    - Select Value Task type
    - Enter Table Value Task type
    - Ref Table Value Task Type
    - Validation Task Type
    - Import picture task type
    - Show Picture Task Type
    - Malfunction Task Type
    - File shortcut Task Type
    - Primary Test Task Type
    - Import Task Type
    - Signature Task
    - Tag task

### 2.4.6. IPS-MobApp™ S

- Server License for IPS-MobApp™ S required for running IPS-MobApp™ S
- Native Application for iPhone or Android Phone Client:
  - Work Order and Action Execution
  - Included following task types for mobile execution:
    - Check task type
    - Enter Value Task type
    - Enter comment Task type
    - Select Value Task type
    - Validation Type task
    - Import picture task type
    - Signature Type task
    - Tag Type task
    - File shortcut Task Type
    - Show picture Type task
    - Enter Value against Nominal
    - Malfunction Task Type

### 2.4.7. IPS-SmartGridDI™ - “Technical data analysis and asset diagnostics”

Additional charge for each of the following

- IPS-SmartGridDI™ DI-PUBLISHER™ Client Access License 5 Pack – Concurrent licenses for client access to DI-PUBLISHER™
- IPS-SmartGridDI™ DI-SERVICE™ 50 Pack – License for definition of services. (Import, Export, Analysis, Email, etc.)
- IPS-SmartGridDI™ DI-SPY™ Interface 5 Pack - License for definition of External Data Source Connections excluding IPS-ENERGY™

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- IPS-SmartGridDI™ DI-SPY™ Datadrive Server License - Includes configuration, development and adoption of Datadrive for the external data sources. (DI-SPY™ Includes Standard Data Drivers for MS SQL Server, xls, csv, and xml)
- Individual analytics options are available (ask for a quote) for additional charge if the entire DI-ANALYSIS™ module group is not needed.

### 2.4.7.1. IPS-SmartGridDI™ Core - “Universal interfacing and data intelligence”

- DI-SPY™
  - DI INTERFACE
    - EXPORT
    - IMPORT
  - DI MONITORING
    - INTERNAL
    - EXTERNAL
- DI-ACTIONS™
  - TRIGGER Definition
  - ACTION DEFINITION
- DI-Administration™

### 2.4.7.2. IPS-SmartGridDI™ Executive - “Data analytics and asset health diagnostic”

- IPS-SmartGridDI™ Core functionality
- DI-ANALYSIS™
  - IPS-MDI Maintenance Decision Analyses (Condition - Importance Analyses)
  - Duval's Triangle
  - IEEE-C57-104 Dörmenburg Method
  - IEC60599 Excessive Oxygen Consumption
  - IEEE-C57-104 Rogers Ratio Method
  - IEC60599 Basic Gas Ratios
  - IEC60599 Excessive Paper Degradation
  - Gas Evolution and Generation Rates
  - Gas Ratio Methods

### 2.4.7.3. IPS-SmartGridDI™ Enterprise - “Information intelligence publishing and presentation”

- IPS-SmartGridDI™ Executive functionality
- DI-PUBLISHER™
  - Graphs
  - Charts
  - Tables

### 2.4.8. IPS-CLOUD™ - “Advanced IPS-SYSTEMS™ software as a service”

<p><b>NOTE:</b> With the following exceptions, the IPS-CLOUD™ service has the same restrictions as the On-Premises versions of the software.</p>
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- The monthly subscription charge is for a minimum of 12 months, in advance. At the end of each 12-month interval, the subscription can be renewed for another 12 months. Also available in 3-year and 5-year subscriptions.
- Monthly fee graduation within different payment terms:
  - Payment of 12 months in advance: Standard Monthly Fee

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- Payment of 6 months in advance: Standard Monthly Fee + 5%
- Monthly payment: Standard Monthly Fee + 10%

### 2.4.8.1. IPS-CLOUD™ ENERGY - “Asset management as a service”

- **Standard Monthly Fee Includes:**
  - 5 Concurrent Client Licenses for IPS-ENERGY™ or IPS-WebSuite™
  - Up to 10,000 Assets (All Asset Groups)
  - Up to 10 GB Database size
  - Up to 5 Concurrent Client Licenses for IPS-SmartGridDI™ DI-PUBLISHER™
  - Up to 50 Services for IPS-SmartGridDI™
  - Up to 5 Data Source Connections
  - All IPS-SYSTEMS™ Server Licenses with all module groups included
    - IPS-ENERGY™ Enterprise (complete package with all options)
    - IPS-WebSuite™ (complete package with all options)
    - IPS-SmartGridDI™ (complete package with all options)
  - Additional charges for the following:
    - Each additional client
    - Additional 10,000 assets
    - Additional 10 GB database size
    - Additional interface connection to the external data source
    - Each Named User for Native Mobile Application
    - Each Named User for Native Phone Application
    - Each Field User Client License
    - Each Non-Production environment. (Test, Train, etc)

### 2.4.8.2. IPS-CLOUD™ EPIS - “Protective relay management as a service”

- Identical to IPS-CLOUD™ ENERGY but limited to Protection and Instrument Transformer asset groups.

### 2.4.8.3. IPS-CLOUD™ RELEX - “Protective relay management as a service”

- **Standard Monthly Fee Includes:**
  - 3 concurrent User Licenses IPS-CLOUD™ RELEX
  - Up to 10 GB Database size
  - Additional Personal Virtual Machine with IPS-RELEX™ Configuration Software
  - Relay Costs: Base costs for 100, 300, or 500 relays. (Calculation day for relay number is 25th of each month. The client will get a notification for changed quantity)
  - Additional charges for the following:
    - Per 2 additional client licenses
    - Each Relay above 500

### 2.4.8.4. IPS-CLOUD™ FDC (Field Data Collector)

- **Standard Monthly Fee Includes:**
  - 3 concurrent User Licenses for IPS-CLOUD™ FDC
  - Storage up to max. 30 GB of the server data
  - Weekly backup for data development and verification
  - E-Mail support via support [ipsCloud@ips-energy.com](mailto:ipsCloud@ips-energy.com)

## 3 Volume Discount Pricing (Client Licenses)

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### 3. Volume Discount Pricing (Client Licenses)

<b>Important Note:</b>	Volume Discount Pricing is calculated off the Highest Value License first and recalculated when additional licenses are purchase.
<b>Example:</b>	If the original purchase was for 20 Machine Licenses (higher price) and 30 Web Licenses (lower price) and then later 10 more Machine Licenses are purchased the cost would be calculated at full price for the machine licenses minus the discount for 10 Web licenses.

Machine or WEB Users	Concurrent Users	Discount
1-50	1-16	0%
51-100	17-33	20%
101-200	34-66	30%
201-300	67-100	40%
301-500	101-166	50%
501-1000	167-333	70%
1001-1500	334-500	80%
1501+	501+	85%

Table 1: Volume Discount Pricing

## 4 User Profile Required for Client Licenses

### 4. User Profile Required for Client Licenses

In the table below is given definition and description for user profiles required for client licenses:

User Profile	Definition
HIGH LEVEL USER	Top Level Management
ASSET MANAGER 1	Application Engineers - Higher Management (Sector chiefs)
ASSET MANAGER 2	Application Engineers - Executive Team, Power user (Engineers)
ICT MANAGER	Admins, Super users, IT, Analytics Experts
MOBILE (FIELD) USER	Field users (domain engineers and electrician staff)
User Profile	Description
HIGH LEVEL USER (CEO and management board)	View the IPS-WebSuite™ dashboard in general in order to have high level overview: 1) View Geo location map, 2) View System health monitor, 3) View MDI charts. 4) Other similar charts for their interests.
ASSET MANAGER 1 (Power user)	1) View the IPS-WebSuite™ dashboard in details of data performance & maintenance analysis (general and object/asset specific dashboards) 2) Receive notifications on problems or negative trends 3) Request & execute work order for immediate action & decision making
ASSET MANAGER 2 (Executive team)	1) System configuration (Asset groups, Asset types, Location types, Custom properties...), 2) Creation of locations/assets, 3) Creation of maintenance concept, 4) Creation of plans, work orders, 5) Analytic configuration, 6) Dashboard configuration.
ICT MANAGER (Super user)	1) FULL-USER RIGHTS (Creation of user groups, users and assigning user function to user groups) 2) System set-up 3) Can edit & manage IPS soft coded configuration 4) Data source creation 5) Portlet configuration
MOBILE (FIELD) USER	1) Execute work order, actions and tasks on field, 2) Create ad-hock actions and tasks, if necessary, 3) Collect various information from the field, 4) Data validation.

Table 2: User Profiles Required for Client Licenses



## 4 User Profile Required for Client Licenses

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### 4.1. IPS-Super User License

**IPS-Super User License** – intended for Super user (user profile with full-user rights), contains all Client License Types from IPS-SYSTEMS™.

## 5. IPS-Module Groups Summary Overview

### 5.1. Asset Management

**Description:** This module group allows you to manage and customize all your asset data, including asset type library, locations, and track various kinds of events such as location changes, malfunction records, repair records and discard process.

**Major benefits:** of Asset Management are that the asset types delivered by IPS, are modeled in an intelligent way so you can easily return to all asset properties and characteristics that you need. This is the necessary preliminary step for an efficient asset maintenance management (based on these properties and characteristics).

**Prerequisite:** None

### 5.2. Maintenance Concept

**Description:** This module group allows you to define any action templates related to maintenance and/or commissioning activities. Optionally you are allowed to define nominal resource usage. Optionally you are also able to define QA Action templates if you decided to organize your own QA related to IPS-ENERGY™ system within the system itself.

**Major benefits:** Major benefits of using templates are that you only define once, centrally, all your actions & tasks so that they are ready for multiple-reuse.

**Prerequisite:** IPS-ENERGY™ Executive or IPS-EPIS™ Executive.

### 5.3. Reliability Centered Maintenance (RCM)

**Description:** RCM is a method to optimize the maintenance plan for technical equipment. The overall aim is to reduce the failure rate and preserve the system functions by achieving a balance between event-orientated and preventive maintenance.

**Major benefits:** Ensure cost-effective and reliable operations of your technical assets by applying a maintenance strategy which focuses on the most important functions of the equipment, and its position in the grid.

**Prerequisite:** Work Execution and IPS-Calculation Studio™

### 5.4. Planning

**Description:** This module group allows you to create easily operative plans, assign actions to plans, and also get reports about planning activities.

**Major benefits:** Major benefits are cost saving by simple and accurate planning of maintenance/commissioning actions, by the simple use of the planning wizard, by effective management of respond actions, and effectiveness by simple plan optimization and changing.

**Prerequisite:** IPS-ENERGY™ Enterprise or IPS-EPIS™ Enterprise.

### 5.5. Work Ordering

**Description:** This module group allows you to create work packages by assigning to internal or external work orders, to manage respond actions, and get reports about work ordering.

**Major benefits:** Major benefits are cost saving by effective work scheduling and control (optional comparison between nominal & actual use of resources).

**Prerequisite:** IPS-ENERGY™ Enterprise or IPS-EPIS™ Enterprise.

### 5.6. Work Execution

**Description:** This module group allows you to manage all execution tasks related to maintenance and/or commissioning. Different views allow you to best administrate your data.

**Major benefits:** Effective work execution and tracking what needs to be done, at-a-glance.

**Prerequisite:** IPS-ENERGY™ Executive or IPS-EPIS™ Executive.

### 5.7. Maintenance Analysis

**Description:** This module group allows you to evaluate your maintenance by sorting actions through "Planned-Not Executed", "Planned-Executed", and "Not Planned-Executed" criteria. It allows as well recording any maintenance concept improvements proposal.

**Major benefits:** Major benefits are quick overview about all maintenance activities, planned and unplanned.

**Prerequisite:** IPS-ENERGY™ Enterprise or IPS-EPIS™ Enterprise.

### 5.8. IPS-RELEX™ (RElay EXpert)

**Description:** This module group is specialized for protection relays. It allows you to manage all relevant power system data, relay locations, technical documentation, relay settings and test activities.

**Major benefits:** Major benefits are an increase of productivity by optimization of the information flow, having everywhere the right information and allowing automatic synchronization between notebooks and server. It increases your efficiency through automatic data import, test templates and reports. It increases the power system reliability through correct protection setting management and control. It allows you taking advantage of existing protection data models (high similarity degree with relay manufacturer models) and test templates. It allows you low implementation costs through fast implementation and experience within power system protection (Standard implementation is 3 – 6 months and for complex projects up to 1 Year).

**Prerequisite:** None

### 5.9. IPS-PSM™ (Professional Setting Management)

**Description:** This module group allows you to manage your relay settings in a very professional way, making a distinction between variable (or sheet) parameters (i.e. parameters that are dependent on relay physical location) and base parameters (i.e. relay parameters that are independent of relay physical location). It includes also fast search algorithms allowing you to monitor/supervise some specific relay parameter values through the whole IPS-ENERGY™ database.

**Major benefits:** Major benefits are better control of all the relay setting values (making 100% sure that what must remain constant or unchanged remains constant).

**Prerequisite:** IPS PSM™ comes only with IPS-RELEX™

#### 5.10. IPS-SWM™ (Setting Workflow Management)

**Description:** This module group, SWM stands for Setting Workflow Management, allows you to administrate all activities related to relay settings. This is structured in three levels, System Change Notification (SCN) (i.e. description of any event in your event that may lead to modify one or more relay settings), Global Setting Requests (GSR) (affecting several physical relays), and Relay Setting Requests (RSR) (affecting one single physical relay). All three levels (SCN+GSR+RSR) are fully customizable.

**Major benefits:** Major benefits are an all-rounded solution for treating relay settings through properly controlled workflows.

**Prerequisite:** IPS-RELEX™ and IPS-PSM™

#### 5.11. IPS-MRI™ (Maintenance Resource Intelligence)

**Description:** This module group allows you to administrate all resource types (material and personal) and all charges that may be attached to maintenance activities. This is defining a pool of resource types that will be later mapped to maintenance actions.

**Major benefits:** Major benefit is a clear and complete definition of nominal resource usage (that can be later compared with actual usage).

**Prerequisite:** IPS-ENERGY™ Executive or IPS-EPIS™ Executive.

#### 5.12. IPS-PSFM™ (Power System Fault Management)

**Description:** This module group allows you to administrate fault records and events related (or not) to protection relays.

**Major benefits:** Major benefit is that you can attach fault records, events, COMTRADE files and so on to relay assets that are managed in IPS-ENERGY™ database.

**Prerequisite:** Dependency with IPS-RELEX™.

#### 5.13. IPS-NMM™ (Network Model Manager)

**Description:** CIM based Data Repository, Version Control System, and advanced operations in power systems domain based on CGMES and CIM best practices.

**Major benefits:** Designed to fulfill all use cases and requirements specified by EPRI Technical Report: Network Model Manager Technical Market Requirements – The Transmission Perspective.

**Prerequisite:** None

#### 5.14. IPS-Topology Manager™

**Description:** Management of the network topology within IPS-SYSTEMS™ Import / Export topology in CIM XML format. Mapping network topology with network Hierarchy. Topology history and Graphical network representation.

**Major benefits:** This module group allows using topological information for various functionality: Protection setting plausibility control, Export to CAPE, Maintenance and shut down optimization, etc.

**Prerequisite:** None

### 5.15. IPS-CAPE Bridge™

**Description:** This module group allows you to manage the data transfer between IPS-ENERGY™ and CAPE. CAPE allows power setting calculation, IPS allows proper storage and management of relay settings.

**Major benefits:** Only a combination of both is assuring a complete solution for relay setting management including calculation.

**Prerequisite:** IPS-Topology Manager™ (This license only includes the IPS part of the bridge. For purchase of additional licenses from CAPE please contact Electrocon).

### 5.16. Business Process Management (BPM)

**Description:** Business Process Management module group provides business process functionality. You create work process templates that standardize and automate workflows throughout your organization. Business processes seamlessly integrate workflows across IPS-ENERGY™ module groups.

**Major benefits:** Business processes create a detailed record of actions and events that can be used to create informative, insightful reports that allow you to analyze workflows, identify current infrastructure status (such as business process states), and identify opportunities for service and process improvement.

**Prerequisite:** None

### 5.17. Outage Management

**Description:** Providing full support of entire Power System Outage Management Process, including Planned (Scheduled), Maintenance (Unscheduled) and Unplanned (Forced) Outage Management.

Allows for the generation of an Outage Plan out of a Maintenance Plan, the ability to list all outages with status, and Ad-hoc Generation of individual Outage Requests.

**Major benefits:** The ability to take advantage of needed outages to coordinate other work that may need to be done in the same equipment zone. Optimizing maintenance by grouping all connected network assets to be maintained by one outage. Providing outage management central repository, interfacing with any system relevant to outage management, such as SCADA, GIS, or PSSE.

**Prerequisite:** IPS-ENERGY™ Planning and IPS-Topology Manager™.

#### 5.18. IPS-Calculation Studio™

**Description:** This module group allows you to define & use your own formulas, including referencing to any IPS-ENERGY™ database field.

**Major benefits:** Major benefits are a built-in structure to store & archive asset related data and evaluate formulas eventually based on IPS-ENERGY™ database fields.

**Prerequisite:** None

#### 5.19. IPS-CELC™ (Circuit Element Limit Calculation)

**Description:** Allows the tracking of the Circuit Element Limit Calculation by recording the normal and emergency ratings along with limitations imposed by Protection Schemes.

**Major benefits:** Allows the automatic calculation of the Most Limiting Series Element (MLSE).

**Prerequisite:** IPS-ENERGY™ CORE Edition or better, IPS-Calculation Studio™, IPS-Safe Load Calculation™, and IPS-SmartGridDI™ CORE Edition or better.

#### 5.20. IPS-Safe Load Calculation™

**Description:** This module group allows you to define your own safe load criteria and evaluate them whenever you want/need.

**Major benefits:** Major benefits are that you can track asset data and relay settings that may interfere/get in conflict with your safe load criteria (i.e. plausibility check).

**Prerequisite:** IPS-Calculation Studio™

#### 5.21. IPS-Load Shedding Manager™

**Description:** This module group allows you to have your entire load shedding data at a glance.

**Major benefits:** Major benefits are that you can manage your load shedding strategy, information and historical data.

**Prerequisite:** None

#### 5.22. IPS-Report Studio™

**Description:** This module group allows you to design your own reports including page layouts and contents (i.e. references to IPS-ENERGY™ database fields).

**Major benefits:** Major benefits are that you do not need IPS to design your own reports.

**Prerequisite:** None

#### 5.23. Administration

**Description:** This module group allows you to manage user and user group accounts, including rights and accessibility and administrate report templates.

**Major benefits:** Major benefits are lower running costs through increased security and data consistency through supervision and control of rights, lower education costs through an adaptable user interface.

**Prerequisite:** None

#### 5.24. DI-SPY™

**Description:** This module group allows you to organize your data intelligence, by centralizing your data through import from and/or export to almost any data source or destination. The defined interface is working as background service and imports defined data sets every time data is updated or added.

**Major benefits:** Major benefit of DI-SPY™ is an optimization of your processes through the collection of information and data monitoring across the entire enterprise.

**Prerequisite:** None

#### 5.25. DI-ACTIONS™

**Description:** This module group allows you to configure Windows-like services for various actions on data conditions (triggers). These triggers may launch various types of follow-up actions such as E-mail notifications, web alerts or generation of a work order action.

**Major benefits:** Major benefit of DI-ACTIONS™ is the automated process of getting follow-up actions such as E-mail notifications, web alerts or generation of a work order action controlled by configurable triggers.

**Prerequisite:** None

#### 5.26. DI-ANALYSIS™

**Description:** This module group allows you to define or use IPS-created asset analysis in order to prioritize your assets and get status information about them.

**Major benefits:** Major benefit of DI-ANALYSIS™ is to get various asset statuses such as for instance asset condition analysis, Maintenance Decision Intelligence or Condition/Importance analysis, transformer diagnostics and customer specific data analysis.

**Prerequisite:** IPS-SmartGridDI™ Executive Edition.

#### 5.27. DI-PUBLISHER™

**Description:** This module group allows you to design and configure your dashboard in order to get an overview of your critical data.

**Major benefits:** Major benefit of DI-PUBLISHER™ is to get a concentrated and configurable form from an overview of your critical data.

**Prerequisite:** IPS-SmartGridDI™ Enterprise Edition.

#### 5.28. DI-Administration

**Description:** This module group allows you to test, change, delete or add various data source connections. Additionally, it allows you to configure your E-mail server & addresses and also define your E-mail templates.

**Major benefits:** Major benefit of DI-Administration is to configure and adapt your system easily.

**Prerequisite:** None

## 6 IPS-Systems Editions and Available IPS-Module Groups

### 6. IPS-Systems Editions and Available IPS-Module Groups

**NOTE:** IPS symbol indicates the module group is included; o indicates it can be purchased for that edition.

IPS-SYSTEMS™ edition*	All Asset Groups			Only Protection Assets				Web solution IPS-WebSuite™	Technical Data Analyses and Asset Diagnostics IPS-SmartGridDI™		
	IPS-ENERGY™			IPS-EPIS™					IPS-SmartGridDI™		
	Core	Executive	Enterprise	Basic	Core	Executive	Enterprise	Core	Executive	Enterprise	
Asset Management	IPS	IPS	IPS		IPS	IPS	IPS	IPS			
Maintenance Concept		IPS	IPS			IPS	IPS				
Reliability Centered Maintenance		o	o			o	o				
Planning			IPS				IPS	IPS			
Work Ordering			IPS				IPS	IPS			
Work Execution		IPS	IPS			IPS	IPS	IPS			
Maintenance Analysis			IPS				IPS				
IPS-RELEX™	o	o	o	IPS	IPS	IPS	IPS	IPS			
IPS-PSM™	o	o	o	IPS	IPS	IPS	IPS	IPS			
IPS-SWM™	o	o	o	o	o	o	o	IPS			
IPS-MRI™			o				o				
IPS-PSFM™	o	o	o	o	o	o	o	IPS			
IPS-NMM™	o	o	o								
IPS-Topology Manager™	o	o	o								
IPS-CAPE Bridge™	o	o	o	o	o	o	o				
Outage Management	o	o	o								
Business Process Management	o	o	o	o	o	o	o				
IPS-Calculation Studio™	o	o	o	o	o	o	o				
IPS-CELC™	o	o	o					IPS			
IPS-Safe Load Calculation™	o	o	o	o	o	o	o	IPS			
IPS-Load Shedding Manager™	o	o	o	o	o	o	o	IPS			
IPS-Report Studio™	o	o	o	o	o	o	o				
Administration	IPS	IPS	IPS	IPS	IPS	IPS	IPS	IPS			
DI-SPY™									IPS	IPS	IPS
DI-ACTIONS™									IPS	IPS	IPS
DI-PUBLISHER™											IPS
DI-ANALYSIS™										IPS	IPS
DI-Administration									IPS	IPS	IPS

\* All IPS-SYSTEMS™ editions are also available as IPS-CLOUD™ version

\* IPS-WebSuite™: IPS-SYSTEMS™ Web Front end

o - available as optional /additional module group

Figure 1: IPS-Editions Overview