

# INFOR

## CloudSuite Industrial

MANUFACTURING SOFTWARE REVIEW BY SHELDON NEEDLE



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## Executive Summary

Infor is one of the largest global providers of enterprise software focused on solving the essential challenges of the manufacturing and distribution industries. They have over 21,700 customers worldwide but most are long time users on maintenance. They offer the financial strength and stability users are seeking in an enterprise software provider today. They have global distribution capability, with implementations and support in over 100 countries.

In some respects CloudSuite approaches the capabilities of Tier one solutions.

### Key Infor Statistics

- 3,100+ employees
- Direct offices in 50+ countries
- 21,700 customers worldwide
- Implementation and support capabilities in 100+ countries Global coverage: Americas, EMEA, Asia

### Markets Served

- Discrete Manufacturing
- Automotive Suppliers Electronics/High-Tech Industrial Equipment Metal Fabrication
- Process Manufacturing
- Food & Beverage Specialty Chemical Consumer Packaged Goods Life Sciences
- Distribution
- Building Materials Electrical PHAC/HVAC Industrial Paper

## Technical Foundation

With their new multitenant cloud deployment option CloudSuite's ION technology supports all

of the following applications in one seamless system: manufacturing, PLM, PCM (product contract management), and CRM. The cloud version runs on Amazon servers but can also be deployed on premise with web browser access anytime.

With multitenant all users run the same software but with their own personalized capabilities. These custom enhancements are maintained in a protected layer even as new versions come out *Advanced Technology*. CloudSuite brings state-of-the-art, client/server technology to the manufacturing environment. Overall, the system is far easier to deploy since issues of hardware servers and other special equipment are not needed for cloud.

*Automation.* All the facilities of CloudSuite are also capable of being exercised on an automated basis through Workflow, or via COM or .NET interfaces from CloudSuite or from other applications.

*Robust Functionality.* CloudSuite software offers powerful functionality in all areas of manufacturing – from bill of materials and shop floor control to inventory management, engineering and order processing – accommodating a full range of engineer-to-order, make-to-order and make-to-stock manufacturing scenarios. Flexible pricing options and “what if” product configuration easily accommodates on-the-fly modifications. CloudSuite features robust and integrated costing, customer order management and management reporting capabilities, providing immediate visibility into key areas of the business and streamlining the decision-making process. The product's support for multinational currencies, tax requirements and languages satisfies customers with global needs. CloudSuite provides comprehensive, multi-level security, in addition to full crash recovery and fault management.

*Complete Configuration.* CloudSuite treats product configuration as infrastructure not as an afterthought. Manufacturers who deal with the complexities of delivering customer-specific



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products know that the demands for configuration go far beyond the initial collection of a customer's requirements. CloudSuite's complete product configuration system tightly links order requirements with the rest of the manufacturing and delivery processes, minimizing confusion when changes inevitably occur.

All native CloudSuite reports can be viewed on screen through a browser front-end, or can be formatted as Crystal Reports files, as PDF-files, as Excel files, or in numerous other formats. Further, each report can have its format customized through the Crystal Reports tool. All reports and forms within the system can be accessed through an Explorer-style tree-structured menu that can be personalized for each user. Also, all forms within CloudSuite can be accessed via an Internet Explorer-based Browser front-end. The system has bar code and data collection modules for shop floor reporting, time and attendance and inventory control.

Recent advances include the ability to provide user screens and reports in foreign languages. Translations are currently available in several core languages:

## Implementation and Support

Infor offers a strong implementation and training program for all of its users. Proposals provide a budget for education and implementation. Services include implementation teams that visit the site before installation to learn the company procedures, review the applications and develop an implementation plan. These implementation specialists are assigned to the client throughout the entire conversion and implementation process of the system.

Notwithstanding, all the corporate support from Infor, installations can still fail as a result of either

reseller incompetence or the lack of resources applied by the buyer.

Classroom training is offered on a per-person charge per day and customized on-site training is also available for an extra fee. Many of the Infor Affiliates provide classroom training or on-site training. Training classes combine lectures, visual aids and "Hands On" workshops to provide a thorough understanding of the material that is covered.

The support program provides unlimited priority telephone support, which includes direct modem service. The combined cost of Infor CloudSuite support and software maintenance is 18% of the current software price on an annual basis. Web based support is also provided and enables the user to enter and review issues and access the Knowledge Base. User log-ins and passwords are issued to registered CloudSuite users for access to the technical support areas of the home page.

International support which consists of internationalization, translation and localization is provided for a set of core countries which include Global English, China, France, Germany Japan, Mexico, Spain and Thailand. Secondary markets and additional support will be provided based on market size and development.

Local, national and international independent users groups exist and Infor hosts an annual user conference.

## Multisite Capabilities

CloudSuite offers a full array of multisite capabilities which include a single database to house all location data,

Infor, announced Infor CloudSuite 9.3, a major release of the enterprise resource planning (ERP). Infor CloudSuite incorporates the latest Infor

technology innovations of the Infor 10x platform and broad support for Infor Ming.le™, Infor ION and Infor Business Intelligence (BI). With version 9.3, Infor CloudSuite features industry-leading financials; highly flexible options for multi-site operations, deployment flexibility from on-premise, cloud or hybrid, and a superior advanced planning system (APS).

Infor CloudSuite version 9.3 has been specifically enhanced to help manufacturers increase productivity, track regulatory compliance and provide executive-level reporting. The application allows for automotive, equipment, high tech, and industrial/discrete manufacturing customers to monitor demand, schedule deliveries and track resources throughout the supply chain. Infor CloudSuite continues to deliver broad manufacturing and distribution functionality as well as micro-vertical specific capabilities.

#### **Major new features in CloudSuite 9.00 include:**

- **Single Instance or Multi-Site Database Functionality** - Infor CloudSuite 9.00 offers implementation options on how and where a company's data will be located and stored. CloudSuite allows for data to be stored in a single database, or it can divide the data into different databases as needed to fit any complex environment or IT requirement.
- **Cloud Deployment** - Infor CloudSuite includes enhanced support for cloud deployment and development. New features such as a Data Maintenance Wizard allow users to rapidly develop new data structures and application forms. Infor CloudSuite offers advanced flexibility for deployments, and creates ease of use for application extensions.
- **Improved Compliance Measures** - Infor CloudSuite offers user defined compliance programs, permitting users to track and

report company compliance for RoHS and REACH. This enhanced compliance helps users manage and secure various government regulatory measures with greater ease.

- **Enhanced Financials** - The solution allows for multiple financial sets of books, as well as the ability to have a separate year-end adjustment period and financial calendars with different year-end dates.
- **Promotional Pricing and Rebates** - This version of Infor CloudSuite permits users to define promotional pricing and rebates. This enables organizations to pass along incentives to their customer base to help differentiate themselves from their competitors.
- **Surcharges** - Infor CloudSuite now allows users to account for the fluctuation of commodity prices and surcharges, across any number of exchange services for customer and vendor orders. Comparing the actual and base pricing during the purchase or sale of affected items helps users measure these surcharges and determine the appropriate actions.

## **Human Engineering**

CloudSuite is a real-time, on-line system that immediately reflects changes to master files, Bills of Materials, schedules, etc. Transactions, especially in the financial modules, that typically require editing prior to release, require a posting process. CloudSuite also includes user-defined fields to be associated with various master files. The system administrator or users who are given authorization can define the label and position on the screen for the user-defined field. Reporting can be modified to include data contained in those fields.

The system makes extensive use of the copy feature. You can copy existing jobs, quotes, customer or purchase orders, or Routing/BOM, which eliminates re-keying. While the copy is a straightforward concept, you must have a thorough understanding of the system in order to utilize this capability.

CloudSuite provides extremely flexible database searches. You can search on any field of a record utilizing standard CloudSuite search and filter capabilities. On alternate alphabetic keys, for example in a customer or vendor master, you can also cursor to the alphabetic field and begin typing the name.

A powerful feature of CloudSuite is the Query Form feature, which allows searches on ALL fields on each Form. Queries are included with the base product and can be customized and saved. This search can be performed on a direct match or by the utilization of Boolean logic to find the record or records desired, and its results can be views record-at-a-time on the form view, or viewed as a set for records in the grid-view; from with it is easy to export records automatically to Excel or other Windows applications.

CloudSuite allows adding master records “on the fly.” For example, if an order is taken and the customer record does not exist in the system, you can add the customer from the order entry screen without backing out to the customer master maintenance screen. This “backwriting” capability and flexibility is found throughout the system and is a boon to user productivity.

Standard reports are very flexible. All reports provide many sort and selection options in order to display the data required. Reporting by exception is a key feature for management and CloudSuite offers the ultimate in this respect. In addition, you can easily design your own custom reports with the reporting capabilities provided. All CloudSuite

reports are written in Crystal Reports, and can be customized by users.

Security is a strong feature in the system. Basic security defaults are set based upon group default settings that a user inherits based upon the groups to which that user is assigned. Further, each user has a security screen for each Form, which defines for that Form which function and/or data elements that he or she is allowed to perform. In addition to function access, this security system also defines which cost and/or price fields are to be displayed on specific user’s screen. On top of this, each CloudSuite Form can have field-by-field access tailed on a user-by user (or group-by-group) basis. Security is further complemented by the access rights and restrictions provided by the WinStudio toolset.

## Product Modules

CloudSuite is an integrated solution, and distinctions between modules are minimal. CloudSuite is available priced on a named user basis or a concurrent user basis and all standard modules are included in the base system.

### **Some of the standard modules included in the base seat price are:**

- Administration Module (System Manager)
- Advanced Planning and Scheduling with Finite Material Planning at Order Entry and Finite Capacity Scheduling
- Customer Management and Order Processing, including Order Entry, Estimating, Customer Service and RMA.
- Materials Management, including Inventory Control, Engineering Change Notice (ECN), and MRP
- Supplier Management and Purchasing
- Shop Floor Control/Capacity Management including Manufacturing, with support for Co- and Byproducts

- Financials including Accounts Receivable, Accounts Payable, General Ledger, and Fixed Assets
- Employee Relations including Payroll and Human Resources and Payroll interface for common external payroll systems including ADP.
- Project Management
- Multi-site/Multi-company, via CloudSuite replication engine
- Workflow Automation – A tool for designing and managing operational business workflows & using these to automate ERP processes

#### **Modules and extensions available at an additional cost are:**

- Data Collection including advanced Time & Attendance
- CloudSuite EDI
- CloudSuite Business Intelligence based on the Cognos Enterprise Business Intelligence engine.
- CloudSuite Configurator – Sales Configuration
- CloudSuite APS with Finite Capacity Planning
- Infor CRM
- Supply Chain Sourcing Suite
- Supply Chain Promising Suite
- Quality Management available as a services integration
- Warehouse Management available as a services integration
- FRx Financial Report Writer

Additional supported and integrated third-party products are available throughout the Solutions Partner and Certified Partner programs.

## **System Standard Modules**

### **System Administration**

The Administration Module is really transparent to the user. This connects the entire system and resides on top of CloudSuite. This module is where all the codes and parameters are stored as well as defining which modules are installed and their level of integration. There are well over 100 codes and parameters that are defined. Some examples are: choosing standard cost or actual cost, credit checking after line item, commission payment based on paid invoice, LIFO vs. FIFO or average costing, automatic net change regeneration, or

automatic cost rollup when items change in the BOM.

This module also houses all the user IDs and security authorizations, user customized program versions and menus, and report printing codes. Queue definitions, terminal definitions, and shelling to the operating system round out the base module. In addition, the external system administration menu provides for monitoring usage of the names user tokens.

The system supports unlimited user defined fields in all parts of the system. These fields are called UET (User Extendable Table) fields by CloudSuite, and users can add as many fields of any type (including character, numeric, logical, date) to each table in CloudSuite and they can be entered or displayed in a variety of formats. They can be added to any CloudSuite GUI screen, and can be used with any of the CloudSuite report writing tools. This feature can be very useful for companies that require extra data fields to track special customer or vendor activity. Similarly, users can define “User Defined Types,” which allow users to create their own validated lists of values that can be used on Infor CloudSuite screens.

## **Customer Management & Order Processing**

Order Processing in the CloudSuite product is part of the Customer Service module. The Customer Service module is event-driven and takes full advantage of the standard Microsoft Windows user interface conventions. Multiple windows can be opened simultaneously, allowing the user to quickly access data during customer interactions. The windows available in this module include: Customer Inquiry, Order Maintenance, Customer Maintenance, A/R Posted Transactions, Credit, Communication Log, Customer/Item Cross-reference, Item Pricing and Availability.

There are two types of orders - regular and blanket. Multiple release dates on blanket orders may be maintained for each line item. An order can be entered as a copy of an existing quote or as a new order. The order entry process is very user friendly. With the ease of lookups, master file printouts or card files are no longer required on the user's desk. You have the ability to lookup all the key fields in the system using the filter capability of the user interface.

Any user having order entry shipping permissions has the option to ship individual line items, batch ship within an order, or process multiple orders automatically. Individual line items may be drop shipped to any customer Ship-to address.

The customer/item cross reference is particularly strong, prompting the user to create a cross reference, multiple price breaks per item, price expiration, lead time, and capability to enter and search by the customer's item number.

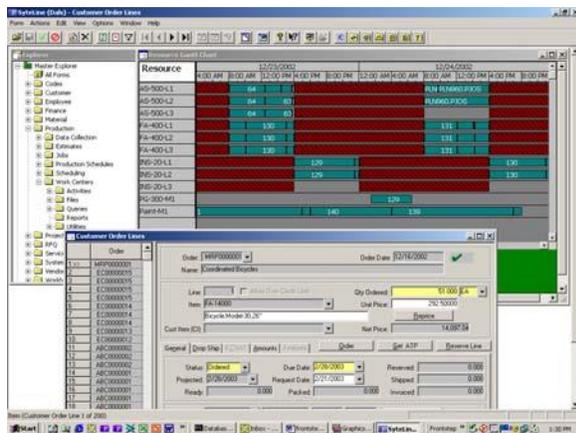
CloudSuite has incorporated Advanced Planning and Scheduling (APS) logic into the base offering. During order entry, standard functionality allows the user to perform a real-time finite material and infinite capacity analysis on the order line item (ATP). The CloudSuite planning function will review all orders, current production and material requirements, forecasts, and other allocations to determine if the requested due date can be met. APS takes advantage of the full in-memory APS database to perform the equivalent of a complete multi-level MRP run as each order line item is entered and saved in the system. CloudSuite will immediately notify the user, allowing them to make an instant, and reliable, promise to a customer.

If the due date cannot be met, CloudSuite will immediately return the message and provide the user the ability to view the entire BOM and routing for constraints and also perform a quantity breakdown that will show how many pieces of the order line can be filled by the requested date.

When the optional full APS system is purchased, CTP (Capable to Promise) capability is provided. This real-time availability check is expanded and fully plans capacity resources, as well as material resources. This ensures a true ability to plan the enterprise's full material and capacity resources on a real-time basis as new promises are being made.

One of the best capabilities of the system is the ability for a job or purchase order to be created directly from the customer order entry screen using the (X)ref function. The system "knows" all the key information when the creation of the work order or purchase order is generated from this screen.

As with all the files in the system, there are extensive notes allowed for both miscellaneous customer information as well as line item information. Another feature that is extremely helpful is the Communication Log. This feature allows for attaching notes to the customer master file and also allows for follow-up dates to be used for reporting purposes. This feature could certainly help improve customer service.



Serial number tracking allows the user to select Lot and/or Serial tracking at the item level. All activities that are performed against a Lot/Serial number item are tracked and various reports are provided. This gives the user full genealogy for the items that are designated as lot and serial tracked.

Another feature allows for hard allocation/reservation of specific material for a specified order. Inventory, which is reserved, cannot be reserved for another customer order. All quantities on a customer order x-referenced jobs and purchase orders will be reserved upon receipt into inventory. Permissions are available to control reserving and "unreserving" of inventory. Reservations are visible from both the Order Entry and Inventory Control functions. Items are marked as reservable.

The pricing and discounting functions provide flexibility to assign prices/discounts: by customer, by product, by customer class, by product class, by customer class by product class, by customer by product class, or by customer item by product, etc. Prices can be set using a user-input formula. The Sales Analysis reports that are provided within the system are somewhat basic, especially when comparing previous year's sales. However, with the report writer and detailed historical data, you can create any reports that are desired. In addition, CloudSuite Business Intelligence provides complete analysis capabilities using the Cognos BI engine.

The estimating function is quite extensive, providing for both order estimates as well as job estimates. The "copy" function is useful to copy existing or historical jobs into the estimate. An important aid in the estimating process is the spreadsheet approach. The spreadsheet isolates the various costs of the job such as setup, run, or outside processing and then provides the capability to estimate up to five different quantity breaks for the job. This is a very useful and rather unique feature. In addition there are standard reports allowing the user to track estimate dollars and potential sales. There is also a customer response form, which can be used to provide a quote back to the customer.

The Custom Product Configurator (features/options) feature is integrated with order

entry allowing the operator to create the custom part, job and BOM all during the order entry process.

The Product Configurator is a feature used by companies whose standard products are available with a choice of features, options, and accessories. The Product Configurator is accessed through the order entry module to create the end item based on the desired features and options of the customer. The operator is literally stepped through the various options allowed for the product. The configuration is displayed on the screen as it is being built.

Once the product is configured, Infor CloudSuite will price the item and, if desired, create a production order with a unique bill of material based on the product specifications. Incremental price increases can be set up by item to add or subtract from a base price for each option selected. This is an extremely powerful and well-designed application. One note of caution is in order. While the product configuration is flexible, it requires very careful planning and product definition for the feature to function properly.

The RMA module allows users to track and control the authorization, return, replacement and credit processing for materials returned at the customer's request. RMA is tightly integrated with the customer service, order entry, inventory control, and various user-defined status and tracking codes are available.

## Materials Management

The Material Management module is a vital and strong element in the CloudSuite system. Items are based on four types of inventory, Materials, Fixtures, Tools and Other. This provides for tracking of all types of items within the company. The item master maintenance record can be updated in a number of ways, depending on user choice of viewing screen. The most frequently used is the general information screen, which includes fields

such as description, product code, quantities and YTD amounts. The "MRP" screen defines min and max quantities, safety stock, buyer and planner codes, backflush flags etc. used in the MRP/MPS module. The "Cost" screen displays the various cost breakdowns of the item calculated in the BOM cost roll up function.

Each item in the item master can be defined with a cost type and cost method field. This will allow costs to be posted to the ledger at standard but allow you to track costs on an actual basis for management reports. Another screen contains the user-defined fields. The Item master file allows for eight fields that can be accessed by the various report writer options. Inventory allows for true multi-warehouse capabilities as well as location within warehouse.

Unit of measures conversions, whether for purchasing, job material issues, or order entry, are handled effortlessly through the unit of measure conversion file. Conversions can also be handled on the fly.

The product code identifier is used extensively in inventory management. The product code ties the items to various general ledger accounts as well as MRP tolerance factors. Several reporting options are also based on the product code.

An additional analysis tool was added called a "Family Code." The Family Code will enable users to further establish characteristics of an item or group of items based on this field.

A powerful feature of CloudSuite is the utilization of the stocked or non-stocked and make-or-buy codes. These codes are used during order entry to guide the user in satisfying the demand for this product. That is to say, during the order entry process when you enter an item and use the X-ref function, the system automatically references either the purchase order or job order based on the make-or-buy code stored in the inventory file. The item

code is 30 characters, alphanumeric. The 30character format supports the ANSI ASC X12 EDI standard. Text can be added by item providing extensive documentation capability.

CloudSuite is very strong in dealing with physical inventory counts. Since it is recognized that accurate inventory is the key to a successful manufacturing implementation, CloudSuite supports extensive cycle counting and variance reporting procedures to assure valid inventory counts.

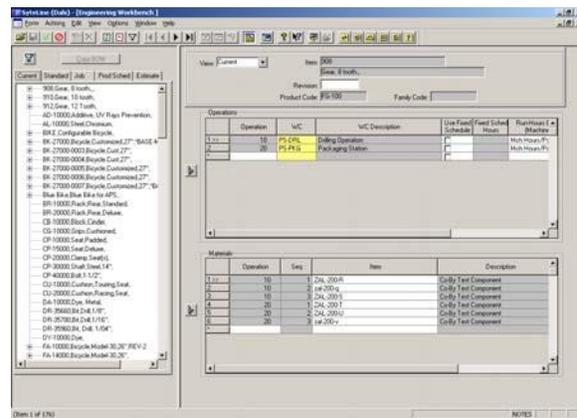
A Bill of Manufacturing that incorporates the Routing and Bill of Material can be created for any item. Operation steps are numbered and material is attached to create the routing. At each operation step, users can define setup and run times for crews and/or machines, and set rates based on crews and/or machines. Extensive user defined text provides good capability for users to define manufacturing process plans on-line. A lead time offset at each operation is a strong scheduling feature. Outside processing is controlled as a routing or operation step. This provides the capability to easily initiate outside vendor paperwork and x-ref the purchase order throughout the job process.

Unlimited numbers of items can be attached to an operation, and extensive user-defined text can be attached to each item in the Bill. The system supports yield factors by item on the bill as well as per lot/per each quantities. Since the system also supports “tools” as a material type, the Bill of Manufacturing can also be used to develop a “Tooling” bill.

Standard cost is stored in detail in a frozen routing. This routing is only viewed from the routing/BOM screens in the item master. The user has the ability to compare the current routing to the stored frozen routing. All variance costing is done with the frozen routing. The use of a frozen routing helps the user more accurately evaluate the costing of a

manufactured part. While the standard remains frozen, the user will still be able to update the current routing.

MRP performs job scheduling, calculation of the material requirements, and capacity planning. CloudSuite plans material requirements using current inventory levels, open order information, lead times and bills of material. MRP calculations can be made in a net change or regenerative mode. The system also allows for material shrinkage and scrap factors. The MRP module has the option to explode Planning Bills to facilitate master planning.



Individual items can be master planned, based on the planning flag set in the item master. Forecasts for these items generate demand, which is, in turn, consumed by customer orders; the balance of the demand is used to generate requirements in the MRP. Outstanding requirements, integrated from other modules, are divided into Forecasts, Customer Orders, and Dependent Demand. It should be again noted that all forecasting is done without the aid of CloudSuite and must be manually maintained in the system. The MRP design uses a bucketless planning horizon to provide ultimate flexibility.

Various reports show outstanding requirements, scheduled receipts, projected balance on hand and available to promise. An Order Action report shows exactly what orders should be released. The MRP

detail display, with its capability to cross reference directly to work orders, purchase orders, customer orders, or inventory control, provides the planner with extensive capability to review the manufacturing plan and react on-line to the demands in the system.

The Bill of Resources also allows for system planning of other kinds of resources, such as a CAD or Purchasing department. The system allows a Bill of Resources with quantities to be added separately, with capacities set for the resources. This will assist in setting demand for resources and scheduling non-traditional areas.

Engineering Change Notices (ECN) include reason code lookups, status, and date fields. Special routing and sign-off capabilities are now included. ECN tightly integrates with inventory control and other modules including order entry and shop floor for maintaining a proper audit trail. ECN files include the originator, priority and reason for change to insure proper tracking of all changes. Reports are also generated based on a distribution list and priority code within the system.

## **Supplier Management & Purchasing**

Purchasing is a strong module. The purchasing system provides for both regular purchase orders and blanket release orders. The system allows drop shipments of line items on regular purchase orders and line item releases on blanket purchase orders. Each line item on a purchase order can be referenced to either a job or a customer order if needed. This referencing allows for direct issue of received items to a job, which generates an automatic inventory transaction. Any user having purchase order receiving permissions has the option to receive individual line items or batches receive line items.

CloudSuite Purchasing supports multiple vendors for every item and allows drop shipments to multiple warehouses. This vendor-item relationship is established to identify the item's cost, lead time, vendor activity, vendor part number, and unit of measure. The system provides many reports to aid in purchasing, including a "Recent Purchases" report and a "Vendor Performance" report. The Order Action report provides planners with recommendations for purchases. While this report is very flexible with the sort and selection options, it lacks the ability to sort material requirements by vendor. The Purchase Requirement Report with Time Phase Detail, also known as a "Poor Man's MRP," provides time-phased purchase requirements based on reorder points.

The user has the ability to track landed costs for materials and to use several different methods for allocating these costs. When incurred, the landed costs can be processed through multiple vendors for duty, freight and brokerage charges. Another feature that is extremely helpful is the Communications Log. This feature allows for attaching notes to the vendor master file and also allows for follow-up dates to be used for reporting purposes. This feature could certainly help improve vendor relations.

CloudSuite does not provide for any formula calculation for trend analysis or forecasting. While forecasting is a field that is utilized in the purchasing and MRP modules, it is a manually maintained user-entry function. That is, forecasts have to be calculated outside the system and keyed into the appropriate system files for the reports to function or tied directly to a third-party forecasting package.

## Shop Floor Control

Shop Floor Control (SFC) is a comprehensive module that incorporates the key manufacturing functions: estimate and job definitions, labor and material transactions reporting, backflushing, and work center dispatching. Data entry for SFC is very straightforward and efficient. There are no more keystrokes than are absolutely required to report both labor and material transactions. This module is designed to function in a work order driven environment but will also support a repetitive environment and supports backflush and Kanban capabilities.

The copy feature is used extensively in SFC Module. When a job is created in SFC the standard BOM and routings can be copied from the standards, previous jobs or the estimate, thereby, reducing repetitive data entry. The SFC module maintains the details of a job including job status and order and customer references.

Jobs may be referenced directly to a customer order. Job activities give the flexibility to split jobs or tie several jobs to a single master job for easy consolidation of costs. CloudSuite has the capability to schedule jobs with various status codes from estimate to planned to firm to released. This provides the user a great amount of visibility and “what if” capability during the scheduling process.

Job reports are very comprehensive providing the specific job cost variances (by summary or detail) so that adjustments to estimating or job definitions can be maintained. Different versions of a master routing can be maintained in CloudSuite as various revisions of the current bill-of-materials for that product, and any of these revisions can be copied to a new routing.

An important capability of CloudSuite’s Shop Floor Control module is the support for multiple styles of production within a single enterprise. Of

course CloudSuite supports jobs (also referred to as work-orders), which have been discussed in details above; but CloudSuite also can support other styles of manufacturing operations – both repetitive and project based (project-style production will be discussed later, in its own section).

CloudSuite supports two styles of repetitive production. Production schedules are based upon a detailed production routing, and support scheduling of planned completions of items on a daily basis. Also supported by CloudSuite is JIT production, which is the mode requiring the very minimum in shop floor reporting and transaction processing and setup. This Lean manufacturing-inspired technique allows completions of finished products to be reported without any further setup required.

Production schedules are available to accommodate this work order-less system, including item, quantity, due date, and planned production quantities. The system easily handles the creation and maintenance of these production schedules. In both production-schedule and JIT production modes, any shop floor reporting desired is reported to the work center, rather than to the specific production order.

In support of the work order-less environment, CloudSuite addresses the costing issue with Period Based Costing. Because labor and material are captured at the work center level as opposed to an item level, variances will be calculated for a selected period at the proper work center level. As production is recorded, a work center will receive credit for earned hours and material costs based on standard rates. The work center will also receive credit for earned labor dollars based on the earned hours times the standard labor rate for the operation. During production an employee will record labor hours spent in a given work center and this will determine the actual labor hours and dollars.

The system also supports Bills of Material, which yield more than one end product. This support for coproducts and by-products is seen both in standard inventory setup of and within the Shop Floor Control Module. Co-products are groups of products built under a single manufacturing work order, while By-products are secondary items produced as a result of the manufacturing process. CloudSuite supports the planning for, manufacturing of, and accounting for both these specialized features.

## Capacity Management

Capacity Management is an important module which includes many flexible options such as the ability to define production/assembly lines or cells, establish flow rates for a particular cell and for a combination of items/cells, perform assembly line/cell capacity planning, and perform detailed Capacity Requirements Planning by cell. An important aspect of defining a cell is the ability to determine or flag a bottleneck work center for that cell.

Resource management provides the capability of assigning resources to multiple Departments or Cells and then plan job deliveries on the availability of all resources necessary to complete the job.

CloudSuite allows for multiple production resources (such as machines, crew, and tooling) to be simultaneously managed and scheduled for each production step (work center operation). At the user's choosing each resource can be scheduled on a finite or an infinite basis, and the flow of orders through the resources can be viewed in a Gantt-chart style view. Similarly, the load of demand against each resource over periods in time can be viewed in traditional CRP-style views.

Further, the scheduling software that underlies these capacity management capabilities supports very sophisticated shop sequencing capabilities. Users can set the system up to minimize common set-ups or to accommodate almost any user-

specified sequencing rules, and CloudSuite will schedule the shop accordingly.

## Financials

In CloudSuite, the General Ledger has been redesigned to significantly enhance reporting by allowing up to six fields for account definition and unlimited, flexible business unit definition. The newly added consolidation accounts (with currency consolidation) provide hierarchical, financial entity definitions, which allows for flexible reporting. CloudSuite also provides significant global capabilities including: currency gain/loss calculations, fixed-rate agreements, letters of credit and landed costs support.

A particularly strong feature within Accounts Receivable is a shortened procedure for generating invoices or credit memos due to price, freight, or discount corrections discovered after billing. A progressive billing feature allows incremental invoicing before shipment. The Accounts Receivable system is adequate to control and analyze customer accounts and calculate a cash balance position.

The Accounts Payable module provides all the standard functions with more than adequate flexibility to monitor the cash flow of a company, and is integrated with the Purchasing module.

Tracking of Un-vouchered Payables is very strong. Released receipts are posted to vouchers payable; upon PO matching, the payables account is maintained and variances booked. A Vouchers Payable report expedites month-end closing. Accounts Payable allows for many user-defined parameters such as aging periods and aging philosophy based on either due date or invoice date.

The "Cash Impact Report" combines Payable and Receivable data to project sources and uses of cash. The report also has options to include open

purchase and customer orders, PO requisitions, progressive billings, discounts, and payments histories.

An active/inactive sort option is available in the posted accounts payable and accounts receivable files. This flag can be turned “off/on” to allow the user to isolate those transactions that are not to be displayed in the current file. This speeds processing and eases the review of the transaction file. All inactive transactions are still accessible for historical purposes.

Within both A/R and A/P, locks were eliminated that prevented concurrent processing. This will allow users to print invoices in Order Entry and post to A/R concurrently. Likewise, in Purchasing, one user will be able to generate the voucher while another is posting to A/P.

The Bank Reconciliation function ties together checks produced in either Payables or Payroll with deposits from the Receivable module, maintaining a running G/L balance for the cash accounts as posted through the subsidiary modules.

The General Ledger module receives entries from all integrated modules either in detail or summary format depending on the parameters set up for the system. Each module generates its own journal(s) and transaction types, with descriptions that provide detailed audit trails. Posting is done by journal by user selected date range. A particularly strong feature is the “drill-down” capability to the underlying detail from A/P postings (check to voucher to PO line), A/R postings (receipts to invoice to order line), and Job and Inventory postings.

The G/L allows for true multi-company financial statements. The account number supports 20 user-defined characters, structured in up to five segments. The system also provides for multi-year budget information. The financial report format structure is not dependent on the account number so

the user has a lot of flexibility in the standard report definitions.

Statistical accounts are also available, allowing the user to maintain non-financial data but still have it appear in the financial statements. An example of a statistical account would be the number of employees, units shipped, units manufactured, etc. These values would then be defined on the financial report.

The system provides for multi-currency. You can establish a base currency, and then key in the current rates from a currency table. CloudSuite will automatically convert the currency as the transactions are being handled. The system stores a complete history of these transactions and allows for reports in the base currency or translated amounts. There is also a utility to print a gain/loss report with specified currency codes.

## **Employee Relations**

The Payroll module maintains the details of employees, hours worked, tax codes and deductions as well as printing payroll checks and W-2's. The module is designed to include the summarized labor transactions from the SFC module. The system is table driven by tax codes and deductions, which are user maintained.

The Payroll module may be used to calculate payroll and manage employee payroll or can be used to export payroll data to several common payroll providers such as ADP.

The Human Resources module allows extensive tracking of applicants, recruiting costs, interview notes, and position history. It can track employee performance reviews, test performance, educational background, work experience, licenses, awards, and citations. The system provides management support for EEOC, COBRA, Worker's Compensation, and 401(K). By employee, HR

tracks vacation time, sick leave, and insurance information.

## Project Management

The Project module provides all the necessary functionality needed to support an Engineer To Order manufacturing environment. The module allows you to forecast, budget and track project activities. Projects can be linked to customer orders and X-Ref's can be made to jobs and purchase orders. Project costs can be tracked by activity types (i.e. engineering, production, etc.) and by cost types (i.e. materials, labor, etc.). These costs can be tracked and reported across and between projects through Work Breakdown Structures.

Project schedules can be exported to and imported from the Microsoft Project software application.

CloudSuite's Project capabilities accommodate both customers who use these capabilities to track the costs of internal projects, as well as customers who utilize projects for tracking production for customers. Projects are interfaced with the built-in inventory and APS capabilities of CloudSuite, and they support advanced Projects capabilities in areas such as progress billings and revenue recognition.

## Multi-site

CloudSuite supports both centralized and decentralized order entry structures with item sourcing specified at the line item level. CloudSuite provides full visibility to inventories in all sites across divisions and makes it easy to move materials between plants with full visibility and financial accountability. CloudSuite also provides multi-site MRP with the requirements from one site being passed as demands on the other site. CloudSuite has added support for more flexible and configurable styles of replicating data across sites in a multi-site configuration. Users can control at

which sites data is entered, and to which sites that data is replicated.

## Workflow Automation

CloudSuite includes a workflow engine and provides the ability to automatically launch a Workflow any time a record is added, changed, or deleted on any of the Forms in the system. This Workflow is a Microsoft Exchange-based message (technically a Collaborative Business Object) that can be visible to all users on the system, and can be made visible to external entities and trading partners. The workflow can carry attachments and other data from CloudSuite (such as the information entered into the CloudSuite screen from which it was launched). This workflow itself contains a Business Process diagram, listing all the steps that need to be accomplished for the Workflow to succeed. These steps may require a user to respond to an email message, requesting a response from a user or company trading partner – or can even deliver a GUI screen to an email correspondent who must fill in additional data that will be used later in the flow.

This provides users a tremendously powerful capability to customize the behavior of the system to their enterprise's work processes, without need of changing CloudSuite's source code and provides a tool for automating the execution of functions so that they can be performed without user interaction.

## System Extension Features

### CloudSuite EDI

CloudSuite EDI is the midsize manufacturer's electronic commerce solution facilitating the exchange of vital business information using standardized electronic formats and existing networks across the value chain-from suppliers, to

the enterprise, distributors and consumers. **EDI streamlines electronic transactions within planning, purchasing, logistics and payment cycles-flowing timely information and materials efficiently to and from disparate locations so you:**

- improve customer responsiveness and satisfaction
- extend employee productivity
- streamline scheduling and materials flow
- improve vendor relations • optimize production time
- ensure on-time delivery
- speed cash flow and improve financial accuracy • open new markets and facilitate global trade
- build greater profitability

Midsize manufacturers can rely on CloudSuite EDI software to simplify electronic commerce with quick and economical implementation. The product's open interface connects CloudSuite, with most commercially available EDI translator software products.

CloudSuite EDI processes inbound and outbound EDI business documents automatically for faster, more accurate business transactions. CloudSuite EDI's supply-side EDI allows data interchange with vendors, while demand-side EDI permits information flow with customers. CloudSuite EDI provides a standardized flat file interface, significantly reducing the information technology costs associated with building EC capability from scratch.

Using your Web browser, CloudSuite EDI interacts with EDI translator and Web interface software such as Sterling Commerce's GENTRAN® Web Suite to enable vendor and customer transactions across the Internet for a minimal investment. For example, CloudSuite EDI can use automated Web forms to accept orders and send out acknowledgments across the Internet, to automate

the transactions you exchange with suppliers--with complete security.

CloudSuite EDI and your EDI translator software together provide comprehensive capabilities for efficiently exchanging business information. CloudSuite EDI's generic transaction "maps" interface with CloudSuite, formatting EDI data into flat files ready for electronic import and export.

### **CloudSuite EDI provides 6 Inbound and 6 Outbound transaction sets and maps to get you started:**

- Inbound/Outbound Advance Ship Notice (856)
- Inbound/Outbound P.O. Acknowledgment (855)
- Inbound/Outbound Purchase Order (850)
- Inbound/Outbound Planning Order (830)
- Inbound/Outbound invoice (810)
- Inbound/Outbound shipping order (862)

### **CloudSuite Business Intelligence**

CloudSuite Business Intelligence is a full-featured business intelligence tool, based on the Cognos BI engine that provides online analytical processing and interactive reporting. Business Intelligence turns system data about your company, suppliers, carriers, and customers into meaningful, easy-to-grasp information.

CloudSuite Business Intelligence allows users throughout your corporation to obtain common data access with flexible viewing to look at the big picture, note exceptions, and drill down to those details. Overall it serves as a tool for the automated, paperless dissemination of information.

Infor CloudSuite Business Intelligence's intuitive interface, coupled with drill-down multidimensional analysis by way of graphs, charts, and reports, lets you analyze manufacturing trends,

understand the forces driving your business and make timely, informed decisions.

## CloudSuite Configuration

The CloudSuite Configurator is a powerful configuration tool that moves critical product information from the home office out to your sales force, helping to assure that orders are taken correctly the first time. The Configurator allows your sales force to configure, price, and order complex products with confidence, knowing that the options selected are compatible and that the order is buildable and deliverable by manufacturing.

**Developed in conjunction with the Trilogy Corporation, the CloudSuite Configurator will:**

- Reduce order cycle times
- Drive new sales
- Cut order, manufacturing, and service costs caused by incorrect orders
- Increase customer satisfaction

The configuration models and rules are developed with a graphical, drag-and-drop user interface that requires no programming knowledge. Rules can be written at product group levels and inherited to lower-level groups and products, greatly reducing the initial implementation time and reducing ongoing maintenance.

As the first standard integration of a leading configuration product with a powerful ERP backend, CloudSuite Configurator sets the new standard in the ERP marketplace.

## Infor CRM

CloudSuite integrates naturally on an off-the shelf basis with Infor CRM. Order and customers entered

into one system flow automatically to the other system.

Infor CRM is a complete set of tools for managing an automating an enterprise's customer-facing activities. Infor CRM includes sales opportunity management, marketing management, sales order entry and review, sales force activity management, customer center support call management, customer project management, along with integrated reporting and OLAP data analysis tools. CRM Order Entry includes an optional Configurator capability that shares the same data models entered in the CloudSuite Configurator

## Quality Management

Infor Quality offers a unique model for integrating quality systems to achieve superior enterprise-wide performance and empowers manufacturers to become more competitive and profitable by achieving ISO/QS 9000 certification at a faster rate and lower cost than any other system.

The tools within Infor Quality help companies manage their engineering product lifecycle and leverage their supply chain to attain excellence in quality throughout operations and the supplier community.

Infor Quality allows employees to eliminate redundant data entry and view the real-time, accurate engineering and product data they need to make cost-effective decisions. Access to real-time data helps companies manage feedback and communications with customers and suppliers and improve supply chain relations.

With Infor Quality, users can ensure that they obtain the highest quality materials, components, and services from suppliers by monitoring their performance against competitors and industry benchmarks. Companies can improve response time and maintain high levels of customer

satisfaction with detailed, easy-to-access customer history information.

Infor Quality provides tools to help companies automate associated design, pre-production, production, and post-production activities and collect, control, and analyze.

Integration of Infor Quality with CloudSuite will require some services.

## Warehouse Management

Infor DCMS Radio Frequency-Based is a complete, execution-based “4 Walls” Warehouse Management System (WMS) that uses real-time data collection to help companies manage inventory flows, labor, and resources. It provides enhanced warehousing functions such as:

- Extensive RF barcode scanning capabilities that allow users to accurately track parts and inventory
- Wave management
- Lot, serial number, and expiration date control
- multi-owner inventory management and third party billing
- Productivity measurement and costing tools
- Quick Response, Work in Progress, Value Added Services, Customer Compliance Labeling, and Advance Shipping Notice/Electronic Data Exchange (ASN/EDI) capabilities

Infor DCMS fully supports the 3PL industry by offering functionality to manage inventory from the point-of-receipt through storage and shipping. The system also provides a Rate Maintenance module, which automates customer billing. By defining rules-based formulas, users can establish any possible rate structure based on a mix of activity and storage in the Distribution Center.

Infor DCMS accommodates single or multiple Distribution Centers. It offers companies best-in-class fulfillment so they can optimize their warehouse operations and manage inventory throughout the entire distribution cycle.

Infor DCMS Paper-Based allows companies to avoid the higher-priced implementations of RF-based solutions while gaining the tools to plan, direct, and record all point-of-work transactions from a single, powerful system. Infor DCMS Paper-Based offers a comprehensive DC Task Manager Window that enables companies to effectively control and monitor their entire warehouse staff and efficiently maintain location-level inventory accuracy without the use of RF terminal equipment. Integration of Infor Warehouse Management with CloudSuite will require some services.

## Summary

CloudSuite is positioned as a mid-market solution for businesses that need a robust multi-site, international multi-currency solution. CloudSuite is a flexible ERP package that is suitable for ETO, MTO, MTS and Mixed Mode and Repetitive Manufacturing models.

CloudSuite is written using tools that permit users to personalize the capabilities of the system without requiring source code changes. These tools leverage the power of Microsoft’s .NET platform to deliver unparalleled capabilities to each user. This adds significant value, which includes superior performance, the ability to perform sophisticated queries, generate custom reports easily and utilize the automatic crash recover utility. The user screen customization and grid-view capabilities are strong features across the system. The support for the .NET platform insures that the investment in software, data, and training is not lost to a future upgrade in the hardware or operating environment.

The tight integration or relationships of records that is established within the system is one of the strongest features of the system. The pop-up lookup windows and the ability to add master records “on the fly” make data entry very efficient.

CloudSuite is a very flexible manufacturing package that has matured rapidly with Infor’s investment. While its roots were in the job shop environment, it does provide a very good solution to manufacturers requiring the functions of MRP/MPS and repetitive manufacturers.

## Pros and Cons

### Pros

- Support for combinations of make-to-order, make-to-stock, configure-to-order, and project-based models within a single enterprise
- Easy to use technology, leveraging the Microsoft .NET platform.
- Very flexible. Easy to customize screens and behavior without losing the ability to apply updates.
- Support mixed-mode (job-based and repetitive) manufacturing and continuous manufacturing with by-products and co-products
- Integrated workflow
- Multiplant and multinational capabilities

### Cons

- If on premise system, requires adequate hardware and up-to-date Microsoft operating system environment (may have to upgrade)
- Not suitable for companies under \$80M
- Due to higher cost, Infor resellers often push CloudSuite over Infor Visual when Infor Visual could be just as good a solution
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- Not suitable for companies looking to automate their businesses one functional area at a time.
- Weak fixed asset application
- Some users find reports complex, hard to understand and require customization with Crystal which can be difficult to accomplish
- Resellers vary in competence and reliability
- Users have complained about the product being an amalgam of several third party products (e.g. for labor collection, service management and CRM). This can lead to setup/configuration challenges. The reports produced are considered hard to understand by many and the financial applications are not as capable as the manufacturing applications.
- Expect to spend a minimum of \$250k+ to deploy this system and to have substantial internal resources for successful implementation and effective utilization.

## About Sheldon Needle



A former CFO, consultant and software designer, Sheldon Needle has authored or co-authored more than 20 books on software selection and has contributed articles to major publications, including the Journal of Accountancy and Nation’s Business. CTSGuides.com has the distinction of being the very first company to do hands-on, independent evaluations of software for the middle market.

Sheldon speaks with business owners and managers every day about software selection and makes personalized recommendations based on their needs and budget. He is widely known and

respected throughout the business software community for his independence, integrity and expertise.

As part of registering for our free software selection kit, you receive a 15-minute consult with Sheldon. Sheldon understands financial and business issues and speaks your language.

He knows the leading software companies—how they compare, their strengths and weaknesses, where they fit into the market and which ones would be suitable for your business.