



Version Definition

Infor LN 10.4

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Infor Product Configuration Management

The current integration between Infor LN and PCM provides customers with the functionality to create quotations and orders using the PCM Sales Portal. The integration also provides product configuration capabilities using the PCM Configurator. Confirmed quotes (containing configured products) are imported as sales orders in Infor LN. Infor LN users can initiate the PCM configurator from sales (order, quotes), and Enterprise Projects (estimate and budgets) to perform configure products. The PCM sales portal is not required.

Infor LN and PCM (Configurator) only allows for product configuration with the PCM Configurator. Post the configuration process, the generation of a customized BOM and Routing based on product configuration functionality is not supported. Currently, a customized BOM and Routing, based on product configuration is executed in Infor LN using Product Configurator (PCF). This implies that the users require updates to the PCF and the PCM configurator, the configuration rules, and constraints, without which a central repository for configuration management cannot be created. However, the use of the PCF (functionality) is not recommended. In this situation, users must be allowed to utilize the PCM for item configuration and the generation of the custom BOM and Routing.

Developments in Infor LN 10.4:

- The PCM integration release is used to identify and remove PCF function dependencies for customers who prefer to use PCM for configuration. In addition to the removal of PCF dependencies, the integration between Infor LN 10.4 and PCM offers equivalent capabilities or functionality which is available when:
 - Using PCM with other ERP systems
 - Using the Infor LN Product Configurator (PCF)

The integration between Infor LN and PCM (Sales Portal, Configurator), is extended with the additional functionality and optimization, and the enhancement of the current integration functionality with the Infor LN 10.4 release.

- In Infor PCM, the migration aspects for Infor LN PCF customers and the current Infor LN users of Infor LN-PCM Configurator integration are considered. Currently within in Infor LN, the PCF is compatible with the PCM configurator (for example, you can run PCF for product line A and PCM for new product line B). This functionality remains unchanged. In addition, the users can execute the transition process, for the configurable items from the PCF to the PCM. Existing users of the current Infor LN – PCM integration can continue to use the integration as-is, or transition to a configuration model only using the PCM Configurator.

Customer Item Code in Sales Orders and Quotes

The item can now be specified on a Sales Order or Sales Quote by customer item ID. This functionality is already available for Sales Contracts and Schedules and is now extended to these business processes. This helps streamlining the order entry process, when customers are not familiar with the internal item coding system.

Delivery Point information on Sales Quotes

The functionality of delivery points is used to specify an alternate location to deliver the goods. For example, delivery points such as Backdoor, Front Desk, or the 3rd floor Facilities department. For more information on delivery points, refer to the Procurement documents such as Schedules and Sales Order. Delivery point data cannot be captured as this is not a dedicated field on the sales quote. However, in Infor LN 10.4 Delivery Points data can be captured on the Sales Quotes. LN defaults the data, when a Sales Order is generated from a Sales Quote.

Improved Shipping Schedule views

The shipping schedule for customer (Sold-To Business Partner) and Vehicle data display options are enhanced. These options improve the response to inquiries, on the shipping schedules.

Purchase Schedule Improvements

This section provides details of enhancements to the purchase schedule, with regards to, Infor LN 10.4.

Delete Purchase Schedule Lines in the Past

In general, Enterprise Planning is used to create, modify, and delete purchase push schedule lines. If demand is lowered and the to be received schedule lines (with dates in the past) *and* the partially received schedule lines (in the past) are not required, Infor LN does not delete such schedule lines, but generates planning signals, which prompt the planner to delete/cancel the lines, manually. However, because purchase schedules are used in a mass data business, it is time-consuming for the planner to cancel the redundant purchase schedule lines.

A new option that allows the user to choose between the manual deletion (current behavior) and automatic deletion is added.

Notification if the Contract Quantity is exceeded

You can specify a maximum quantity for a purchase contract line. When the maximum quantity is exceeded, the user is prompted to execute the appropriate actions (such as prompt the user to adopt or skip the contract). However, in the purchase schedule process, this action is not performed.

The schedule process can now be blocked, if the Action on Exceeding Maximum Quantity parameter value is set to Skip Contract or Interactive. Also, this solution allows the user to choose a different action at the Purchase Contract line level.

Consumptions for Referenced Schedules

In a scenario, where suppliers do not ship the goods directly to the customer, but to the Consignment Warehouse, the customer informs the supplier with Consumption Messages about the withdrawals from the Consignment Warehouse.

In case of Referenced Schedules, the consumption messages can refer to schedule requirement references such as RAN, Kanban, or Pickup Sheet numbers.

On the Consumption line, two new reference fields are added to allow the user to match and invoice the scheduled Inventory Consumption lines, with the consumed quantity against a schedule requirement with a specific reference.

Credit and Rebill

Prior to Infor LN 10.4, the process to credit and rebill (in case of errors or concessions) an invoice to customers was printed and processed but cumbersome. Artificial RMA's, credit memos and AR settlement transactions were required to complete the process.

In Infor 10.4, an option (button) is included that allows the user to easily credit and rebill a complete invoice, or an invoice line. Click the option to rebill the invoice lines, or modify the amount and VAT code. The original invoice is cancelled. However, for auditing reasons, the invoice is not deleted. Also, the open item in receivables is cancelled.

VAT Only Invoices

Goods can be sent to business partners against No Charge for sampling and promotion reasons. However, you may be required to declare the Goods and the VAT amount in customs. This must be supported with a VAT only, customs invoice wherein the VAT amount is based on the regular retail value. This process is now fully supported in Infor LN 10.4.

Pre-defined invoice format reports

Prior to Infor LN 10.4 different templates for the invoicing of the sale of physical items and cost-based project invoices was not available. Therefore, the cost-based invoices display was cumbersome. With Infor LN 10.4, a refined layout, specifically for cost plus and time and material invoices leveraging Infor Operational Reporting is available. A pre-formatted SF1034 Public Voucher for Purchases and Services Other Than Personal for US Government Contractors form is included.

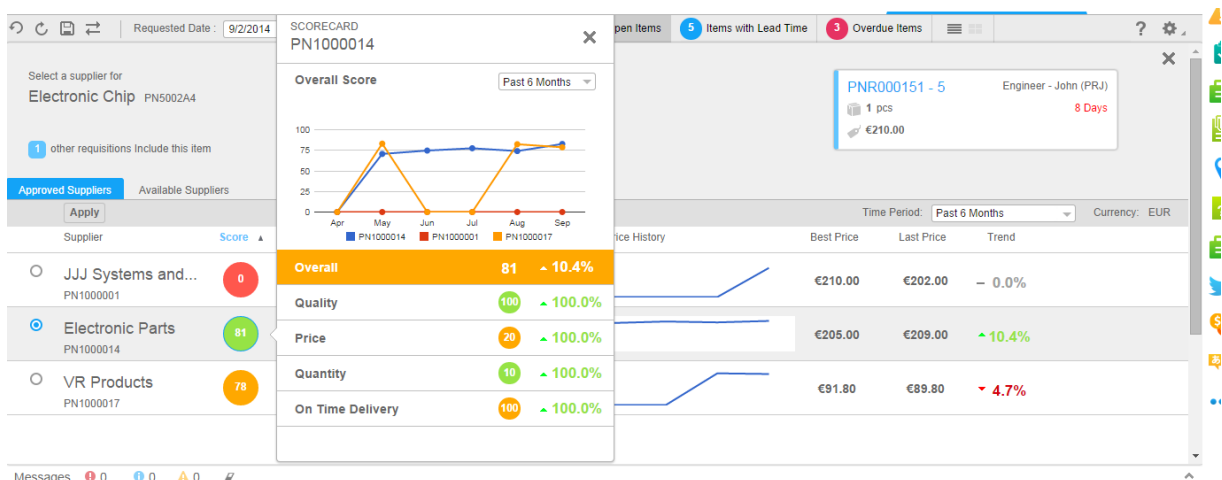
Finally, a simplified invoice layout for Sales Order deliveries is provided.

Purchase Requisition Workbench

A requisition workbench has been developed in collaboration with Infor's in-house user-experience team, Hook and Loop. An effort was made to understand a buyer's requirements by processing the purchase requisitions. The purpose of the purchase requisition workbench is to enable the buyer to make a purchase with minimal clicks and with access to the required information for processing these requisitions. The new purchase requisition work bench enables buyers to process requisitions faster, and save money based on informed sourcing decisions. The workbench can be viewed in a traditional grid view and a tile (card) view. When you select the suppliers option, vendor rating, supply time information, price history, and price breaks, if any, based on the Pricing data is displayed.

Improved comparison of RFQ responses

When an RFQ (request for quotation) is sent to multiple vendors, buyers require the functionality to easily compare the responses before deciding on who the quotation must be awarded. As of Infor LN 10.4, the comparison on cost is enhanced by factoring in miscellaneous charges including the purchase price for the landed cost calculations. For example, in a company located in the US, the purchase price of a part may be cheaper when compared to a vendor from China as compared to a local vendor, but due to additional charges like freight, duties, and insurance the 'landed cost' may



be higher. Finally, if the price differences are minimal, other factors such as payment terms (for cash flow reasons) and vendor rating may be important.

Tactical Sourcing for Subcontracting from Service

The functionality of tactical sourcing for subcontracting work, for manufacturing operations was introduced in Infor LN 10.3. This functionality is now extended to also support tactical sourcing for subcontracting from Service Management. This enables the buyers to introduce more governance around sourcing subcontract services from Service Management, such as field service and depot repair by enforcing a purchase requisition process. The purchase requisition must first be approved by leveraging the ION workflow, before a purchase order can be placed. Also, an RFQ can be issued to select a vendor based on the select criteria before creating a purchase order.

Handling Units

Several improvements are implemented to improve the inbound-, storage, and outbound processes involving handling units and packaging structures. These improvements enable more flexibility, usability, and additional capabilities with regards to the handling units. More details on the improvements are described in the following sections.

Receipt and transfer of Mixed Handling Units

When mixed (multi-item) handling unit (HU) structures are created during goods receipt or in inventory, it is possible to move these (complete) structures between warehouses using the Warehouse Transfer Orders. This also implies that it is possible to select a specific HU ID to be transferred between warehouses. Furthermore, this move does not have any impact whatsoever on the related contents and packaging structures. This ensures that the system process correctly reflects the logistic reality. The appropriate handling and tracing of unique (high level) mixed item structures is now supported, throughout the process of inventory handling and movement.

Handling Unit Cycle Counting process

A HU with status Closed can be reopened using the initial ID. This resolves the situation of generating a new HU during the inventory (cycle) counting process, when the initial HU is not in the right location, owing to its Closed status. Generation of a new ID and also re-labeling is not required.

Multiple Lots/Serials when shipping a Handling Unit

A 'low level' HU that is shipped to a destination may contain multiple lots; serial numbers and/or inventory dates of an item. Previously, the lowest HU level (containing the actual items) could have a single lot code; serial number and/or inventory date. This option can be used by selecting the corresponding flag on the HU Template node. This applies to both 'lot/serial in inventory' and 'lot/serial not in inventory' scenarios. The setting is only valid when the HUs are shipped and not

when the same are in the inventory or during receipt. If a label is printed for a 'multi-stock point' HU, the same is not displayed in the detailed lot/serial/inventory date information.

Improved Lot/Serial registration process for Handling Units

The (optional) registration of lots and serial information on HUs is now more intuitive to the user's requirements to improve usability and to better execute the valid process. To avoid illogical and erroneous packaging structures, only the lowest level of a handling unit may contain detailed lot/serial data. Also, you can no longer partially register lots and serials for the item quantity contained by a HU. After, the lot/serial registration process is initiated; the complete item quantity must be processed.

Link Mixed Handling Units with Serials during Outbound

The business scenario wherein large numbers of different serialized (spare) parts must be shipped together in a single HU structure, is now more flexible and user friendly. This concerns high volume scenarios where the serial numbers are not registered and traced in inventory, but either linked during the outbound/shipment or recorded when the parts are received. When composing mixed packages/pallets of such items for shipping purposes, it is important to correctly establish a link between the item/serial number and the packaging item/HU ID on which the parts are placed. This process is normally supported by bar-codes.

Handling Units 'In Inventory' with Serials/Lots 'Not in Inventory'

LN now supports scenarios for item returns, wherein a (manufactured or purchased/) item is originally received in the warehouse which triggers the generation of a HU and the entry of a serial number. Based on the system setup the HU(s) are recorded in inventory. However, the serial number is only required at receipt but is not registered/traced in the inventory. If such an item is returned which mentions the specific serial number (stored on the outbound order line), the system considers this number during the issue and does not pick a different serial/lot number, even though no lot/serial information is recorded and traced in inventory. In case, the required lot/serial item is packed in a specific HU (packaging) structure, the 'generate outbound advice' logic selects the correct HU and includes the same on the resulting outbound advice.

Location Capacity and Handling Unit Dimensions

Based on the setup, the location capacity functionality present in Infor LN considers the weight, floor space, volume or number of units (for example, pallets) involved. When items are stored or in case inventory quantities are adjusted, these values are compared to the total (remaining) capacity of the bulk or pick location. Moreover, the capacity available/remaining in a location is calculated and updated based on these values. With regards to a 'Handling Units in Inventory' scenario, the (remaining) location capacity is now (re)calculated based on the dimensions of HUs involving handling units, with packaging items attached. The system considers the size of the units when checking/comparing and recalculating the available location capacity. Also, the auxiliary packaging items used in a handling unit are included in the calculation.

'Not Shipped' Handling Units

With regard to shipments containing HUs, the 'not ship' goods option on a staging location awaiting shipment is enhanced. When processing shipments using the Graphical Browser Framework (GBF); the user can decide if a HU must remain on the staging location. Avoiding a shipment to the destination when not required. You can use the new *Set Not Shipped* option to indicate that an entire HU from the HU tree (GBF) must not be shipped. In addition, the reverse option to undo the *Set Not Shipped* action is also added.

Inventory views by Warehouse and HU

Enhanced inventory views regarding handling units are provided from the existing standard inventory reporting sessions for 'Item Inventory', Warehouse – Item Inventory' and 'Stock Point Inventory'. This is achieved using the new Handling Unit Inventory option. Select this option to initiate the HU session. If a specific item/warehouse-item record is previously marked, use this option to display the related HUs only. Relating specific stock points to handling units is also possible; marking a specific stock point record followed by a zoom to the handling unit table to produce the HU's related to the stock point.

Kanban management and loop calculation

The calculation of the average daily usage of parts by warehouse and the calculation of the number of required bins is now automated.

Kanban Sizing is a mandatory step to achieve an effective Kanban process. The accurate Kanban Loop Sizes must be calculated. Kanban items require a maximum demand data for sizing calculations. This data must be determined before completing the Kanban setup.

This setup can be a cumbersome task, if data such as daily average demand per item and loop size per item must be manually calculated, as there can be thousands of Kanban items.

An advanced ERP system must help the user to calculate data such as Average Daily Demand and Kanban Loop Size. Also, the ERP system must be able to adapt to modified demand and the resize of Loop Sizes.

Two parameters are added to the Warehouse-Item entity, which can be used to for the automatic calculation of Average Daily Demand and Kanban Loop Sizes Also, a batch session is added which allows you to recalculate the Average Daily Demand and Kanban Loop Sizes, for a wide range of items.

The dynamic recalculation of Average Daily Demand and Kanban Loop Size offers the user the flexibility required to achieve an effective and powerful Kanban process. LN 10.4 offers the possibility to calculate the Average demand based on the forecast: on the historic data, or both.

Inspection, Quarantine, and Disposition

Inspection

Based on the setting of the new Rejects Handling parameter, on the item level (in the Items – Warehousing session), the user can now decide to scrap or quarantine an item that is rejected during inspection. The parameter values are:

- Quarantine: All rejected items become quarantine inventory
- Scrap: All rejected items are removed from inventory
- Scrap or Quarantine: The user decides on the quantities scrapped or moved to quarantine

Based on value of the item level in the Item-Production session, the user can determine if an item requires inspection, either when issued as material for production or received as end item.

Quarantine

The Quarantine (formerly called 'Reject') functionality is now triggered from most logistic procedures, for which warehouse inspection is possible:

- Warehouse receipts for purchase orders and – schedules (existing)
- Warehouse issues for sales orders and – schedules

- Warehouse receipts for sales order returns
- Warehouse receipts and issues for EP distribution orders
- Warehouse receipts and issues for warehouse transfer orders
- Warehouse issues of components for production
- Warehouse receipts of end products or components returned from production

Items can also be moved to quarantine from a production line or during the release of materials for production, without a warehouse inspection process (for more details, see “Manufacturing”).

Disposition

Quarantine inventory must be routed a disposition process. For example, a material review board examines the rejected items and decides on the required follow-up activities. Following dispositions are possible:

No fault found: This items should not have been sent to quarantine

Use as is: This item is ‘accepted’ but probably a waiver is in order

Scrap: This item is removed from inventory

Return to vendor: The item is returned to the supplier

Reclassify: The item is placed in inventory with a different item code

Rework to existing specification: See “Manufacturing” on page 29.

Rework to new specification: See on “Manufacturing” on page 29.

If the status of the dispositions is set to ‘no fault found’ and ‘use as is’, the item is stored in the inventory.

Other dispositions result in Disposition Orders:

Disposition	Resulting Disposition Order
Return to Vendor	Purchase Return Order
Reclassify	Warehouse ‘Item’ Transfer Order
Rework to Existing Specification	Production (Rework) Order
Rework to New Specification	Production (Rework) Order (new item)

Non-Conformance Reporting

In case the non-conformance reporting functionality is activated (in the Quality Management module) and an NCR is created (such as a warehouse inspection, quarantine inventory, or a manufacturing operation), the disposition process mentioned is controlled by the NCR process. This triggers the required warehouse operations and disposition orders (See "Quality Management" on page 33.).

Background

In the last few years, there has been a dramatic price increase in the worldwide metal market. Due to which the prices of the raw material continue to be volatile and unpredictable. Fuel costs have also increased the cost of production and the transport of raw materials. The exceptional rise in the prices of steel, nickel, and so on has invariably affected manufacturers. Consequently, the manufactures must pass on part of the costs and add a temporary charge to the raw material price to increase surcharge. Instead of adjusting the existing pricing or contractual agreements, these costs are passed on as surcharges.

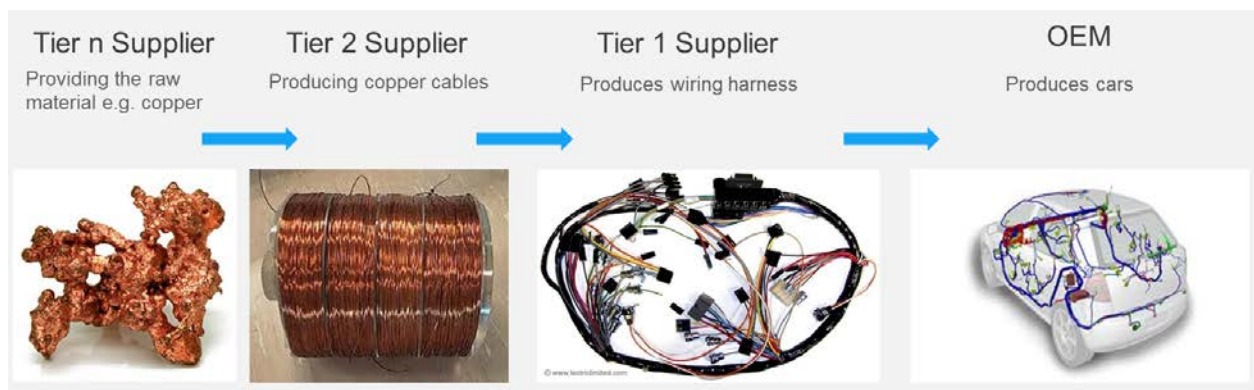
The (increasing) dynamics and fluctuation of the raw material costs requires a more efficient dynamic price management system. The user must be able to maintain the Material Price Surcharges and also calculate these surcharges without including the product price.

A new Material Pricing module is introduced in Infor LN 10.4. This solution can be used in the Sales Quote-to-Cash process and in the Purchase RFQ-to-Pay process. The solution offers different methods to calculate the Material Price Surcharges. Often these methods vary by Business Partner. The methods used can also be agreed upon, at a local/national level.

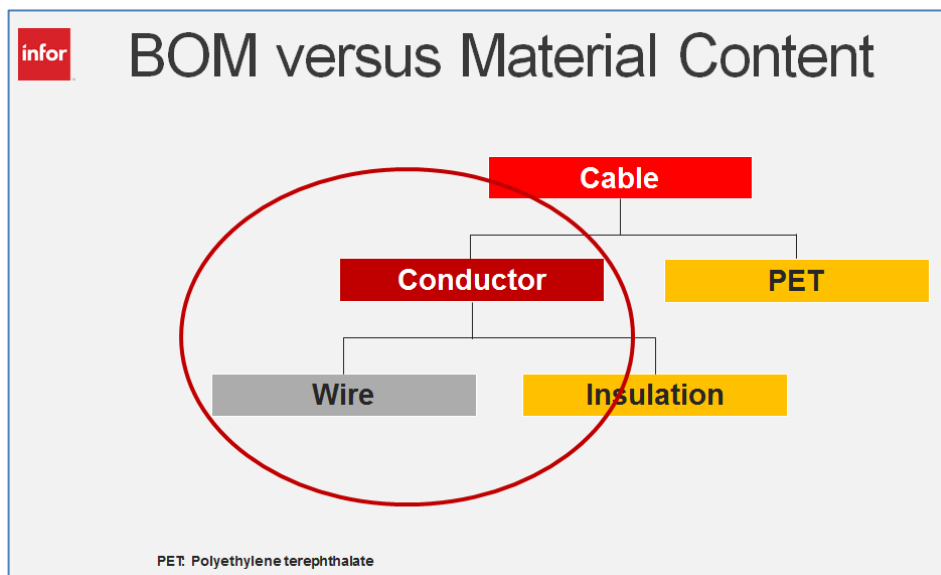
Material content

To calculate the material prices accurately, the material content must be setup for the items where the material price surcharges apply. The material content is used to express the specific quantity of a material used in an Item. This is expressed as 'quantity per inventory unit' for the item. This quantity can be expressed in different units of measure. For purchased items, the material content must be defined manually. For manufactured items, the material content can either be calculated based on the Bill of Material or can be maintained manually.

As shown in the image, the material content varies based on the supply chain stage. In most cases, the buyer does not actually procure the raw material (for example, copper), but purchases the parts, which contains a certain quantity of the raw material).



In this example, the BOM of the cable consists of four parts. Two of the four parts contain copper. The material content for the wire must be registered. This allows the user to calculate the material content for the Conductor and the Cable.



Material Prices

Prices for material can vary daily. Therefore, a new functionality is provided to record the prices of material every day.

Based on the agreement with business partner, the prices can be retrieved. The relevant items are:

- Based on Material Exchange the prices are finalized (for example, the London or the Singapore Metal Exchange)
- Material Price Surcharge Factor (for example, includes the administrative costs)
- The Price Rule, can be:
 - Fixed Price (Price = Price Excluding Material Price Surcharges)
 - Price on Date (for example, Order; Shipping, or Invoice Date)
 - Average Price by Period: 3 months prior to shipment.
 - Average Price by Date Range

On business documents, such as the sales order (as shown), the material prices are displayed using a customized form. The applicable material pricing rules and the breakdown of the price is displayed.

Material Price Information

Sales Order Line: ETS000003 1/0

Document Prices

<p>Document</p> <p>Item: CABLE 405 A5</p> <p>Effectivity Unit: 0</p> <p>Price Agreement:</p>	<p>General</p> <p>Material Exchange: LME London Metal Exchange</p> <p>Material Price Surcharge Factor: 0.00</p> <p><input type="checkbox"/> Include Surcharges before Apply Discounts</p> <p><input checked="" type="checkbox"/> Manual</p> <p><input type="checkbox"/> Text</p>
<p>Actual Price Search Date</p> <p>Price Rule: Price on Date</p> <p>Price on Date: Document Date</p> <p>Price on Related Date: 0.00 Not Applicable Prior To Not Applicable</p> <p>Average Price by Period: 0.00 Not Applicable Prior To Not Applicable</p> <p>Average Price by Date Range: -</p>	<p>Price</p> <p>Price excluding Material Surcharges: 14.9450</p> <p>Material Surcharges: 0.0550</p> <p>Material Surcharge Costs: 0.0000</p> <p style="text-align: right;">+ _____</p> <p>Price: 15.0000 EUR / pcs</p>

Material Lines Message Log

Line	Material	Content	Quantity	Unit	Factor	Billable Quantity
1	COPPER	Copper	1.0000	kg	/	1.0000 pcs

Mixed mode subcontracting concepts for a manufactured item

The user can now indicate which subcontracting method is applicable for an item manufactured using a shop floor order, instead of 'by manufactured item'. This facilitates the transition from subcontracting 'as a service' to the new advanced subcontracting (with support for the material flow). This functionality ensures that the user can move an item to advanced Subcontracting method with Material Flow support, without closing all existing (in process) subcontracting orders for a manufactured item. Also, both subcontracting orders without material flow and subcontracting orders with material flow can be handled for the same end item at the same time.

Enhanced handling serialized items in production orders

For serialized items, the progress reporting on the operation is streamlined and enhanced. If applicable, multiple serial numbers can be selected for:

- QM inspection orders
- Rejecting
- Reporting complete to the warehouse

You can also specify the quantity first and later select the applicable serials.

Enhanced handling rejected end-items in production orders

The handling of a defective end-item detected during production is enhanced. In the previous versions of LN, the only option had been to scrap the item. The user can now transfer the item from the production order to a quarantine location in a designated warehouse.

The process for handling the defective item consists of two steps. When reporting on the operation, the applicable quantity is rejected, first. Subsequently, the rejected quantity can be sent to the quarantine inventory or scrapped, as a separate process.

When the defective item is moved to quarantine, the (actual) costs are also moved from work-in-process to the inventory.

Enhanced handling rejected materials in production orders

The user can now reject a material on the shop floor, if the quantity of an issued material is identified as defective, during production. When a material is rejected, a new material issue for the applicable production order is initiated and any a “planned scrap” defined for the material is also considered. After rejecting the material, the material can either be scrapped or sent to the quarantine inventory.

New production rework orders

To support the handling of quarantine inventory, two new rework order types are introduced:

- Rework (to existing specification)
- Rework (to new specification)

When a disposition of the type “rework to existing specification” is assigned to the quarantine inventory, LN creates a rework order of the type “from quarantine to existing specification” for the applicable item and quantity. The end-item and the item specified on the material line are the same.

When the disposition of the type “rework to new specification” is assigned to the quarantine inventory, LN creates a rework order of the type “from quarantine to new specification” for the applicable item and quantity. The new end-item is defined in the disposition. The item specified on the material line is the original quarantined item.

Actual costing on the production order costing

The functionality of processing the production order costing is extended. You can now report the production order costs based on the actual values.

Miscellaneous small enhancements within Planning

- The First Group, Previous Group, Next Group, and Last Group toolbar icons, in the Item Order Plan session, are enabled.
- The range for product line, product class, and selection code is added to the Confirm Order Planning (cprrp1200m000) session.
- The selection ranges for Required Date and Reschedule Date are added to the Print Exception Message by Planner and Item (cprao1425m000) session.
- The Analyze Item Master Plan (cprmp2405m000) session is introduced. Use this session to print a report, with the changes in the Inventory Plan and the Projected Inventory.
- The Plan Item selection is added to the Repair Planned Orders (cprrp3200m000) session. Use this option to repair a specific plan item or a range of plan items.

- For planned orders that are entered manually, the Planned Finish Date is calculated based on the Requirement Date and the offset from the EP offset (Outbound Lead Time, Inbound Lead Time, Extra Lead Time, and Safety Time).

Improved Auditing on Project Pegs

In Infor LN 10.2, the functionality of project pegging was introduced, where multiple project demands could be commingled into one supply order (such as a purchase order, purchase schedule, or production order). This results in a Project Peg Distribution that displays the projects, elements, and activities for the order. In case of partial or over receipts, there are automatic algorithms based on the required date and ratio to allocate the required quantity to the appropriate peg. For government contracts, the algorithms are automated to implement 'fair, unbiased, and equitable' statutory requirements.

The new functionality introduced in Infor LN 10.4 enables the user to understand the reason costs are charged to specific projects and contracts. This reduces the time to validate transactions in the system, both to internal and external auditors.

Using this functionality you can view details:

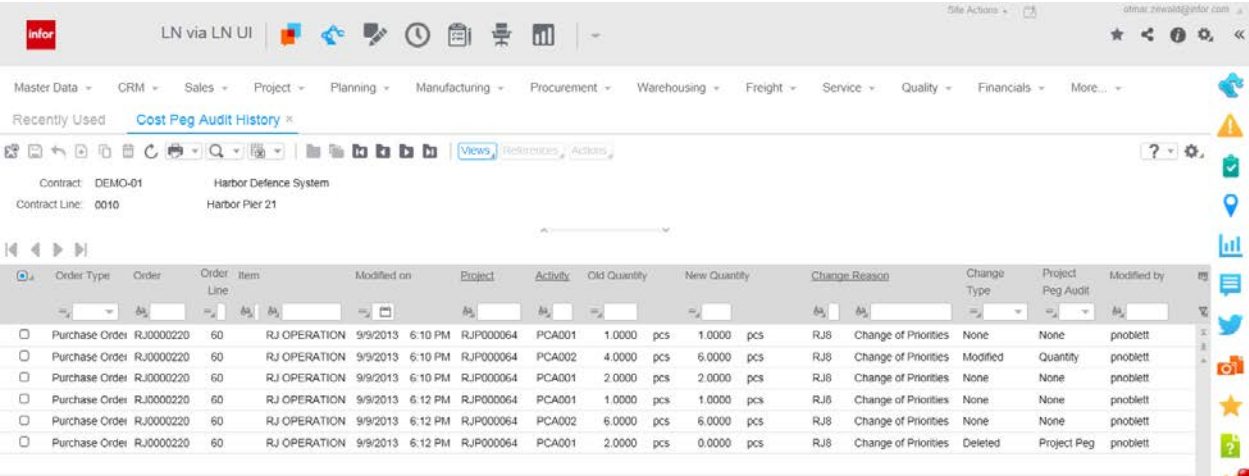
- 1 Why, by whom, and when manual changes are made to the system generated project peg distributions, or why new manual supply orders are created on project pegs
- 2 The allocation of partial receipts to specific project pegs based on the required date of the project pegs at the time of warehouse receipts.
- 3 The justification for assigning gains and losses to a project peg, in case of cycle counts and inventory adjustments.

You can also enable this functionality using the Project Pegging Parameters. Additional details are described in the following sections.

Manual Overrides

There may be valid business reasons to manually override the project peg distribution generated by the system. Business reasons could be; errors in the costing break setup or allocation to future demand that is not yet entered in the system.

When a change is submitted in the peg distribution either by adding, deleting, or changing one or multiple pegs on the distribution, the system displays a message that prompts the user to justify the reason code for the change. When, the reason code is selected, the system saves the reason and the details such when the changes are made and by whom. Overviews and reports, by project and contract, can be used to view the amendments.



The screenshot shows the Infor LN Cost Peg Audit History report. The report is titled "Cost Peg Audit History" and is filtered by Contract DEMO-01 and Harbor Defence System. The table below displays the audit history for five purchase orders.

Order Type	Order Line	Item	Modified on	Project	Activity	Old Quantity	New Quantity	Change Reason	Change Type	Project Peg Audit	Modified by
Purchase Order	RJ0000220 60	RJ OPERATION	9/9/2013 6:10 PM	RJP000064	PCA001	1.0000 pcs	1.0000 pcs	RJ8 Change of Priorities	None	None	pnoblett
Purchase Order	RJ0000220 60	RJ OPERATION	9/9/2013 6:10 PM	RJP000064	PCA002	4.0000 pcs	6.0000 pcs	RJ8 Change of Priorities	Modified	Quantity	pnoblett
Purchase Order	RJ0000220 60	RJ OPERATION	9/9/2013 6:10 PM	RJP000064	PCA001	2.0000 pcs	2.0000 pcs	RJ8 Change of Priorities	None	None	pnoblett
Purchase Order	RJ0000220 60	RJ OPERATION	9/9/2013 6:12 PM	RJP000064	PCA001	1.0000 pcs	1.0000 pcs	RJ8 Change of Priorities	None	None	pnoblett
Purchase Order	RJ0000220 60	RJ OPERATION	9/9/2013 6:12 PM	RJP000064	PCA002	6.0000 pcs	6.0000 pcs	RJ8 Change of Priorities	None	None	pnoblett
Purchase Order	RJ0000220 60	RJ OPERATION	9/9/2013 6:12 PM	RJP000064	PCA001	2.0000 pcs	0.0000 pcs	RJ8 Change of Priorities	Deleted	Project Peg	pnoblett

Warehouse Receipts

Partial receipts in warehousing are allocated project pegs with the earliest required date. However, required dates may change due to changed customer priorities, hence a snapshot of the required dates, at the point of receipt for auditing reasons, is necessary. This will provide the user the ability to understand the reason for the inventory allocation to certain project pegs at the time of receipt, even if the required dates are modified after the receipt.

Inventory Gains and Losses

The 'fair, equitable and unbiased' algorithm to assign the appropriate project peg for inventory gains and losses, as a result of cycle counts or inventory adjustments is complex. This makes auditing and understanding the reason a project peg is assigned cumbersome.

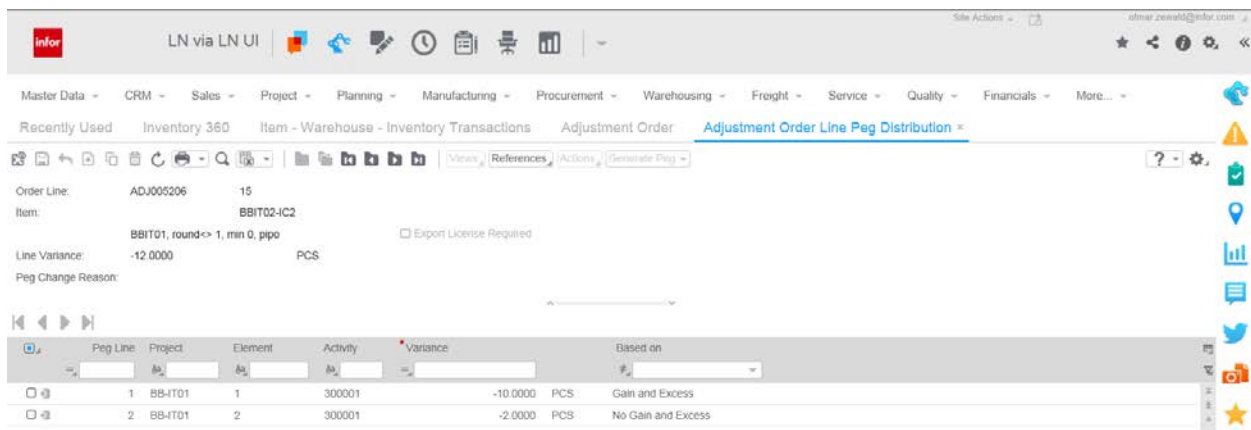
Therefore, in Infor LN 10.4, functionality is added to document the reasons a project peg is assigned. For example, project pegs previously subject to loss, earliest required date, least excess, or manual appointment as reasons for gains.

Order	Order Line	Receipt Line	Transaction Date	Peg Line	Project	Activity	Required Date	Required Quantity	Received Quantity
Purchase	PVD000027	2 1 RC0013831	10/8/2013 1:25 PM	1 1	PVD000035	101	10/2/2013	10.0000	10.0000
Purchase	PVD000027	2 1 RC0013831	10/8/2013 1:25 PM	1 2	PVD000035	101	10/2/2013	30.0000	0.0000
Purchase	PVD000027	2 1 RC0013831	10/8/2013 1:25 PM	2 1	PVD000035	101	10/2/2013	20.0000	0.0000
Purchase	PVD000027	2 1 RC0013831	10/8/2013 1:32 PM	1 1	PVD000035	101	10/2/2013	10.0000	10.0000
Purchase	PVD000027	2 1 RC0013831	10/8/2013 1:32 PM	1 2	PVD000035	101	10/2/2013	30.0000	0.0000
Purchase	PVD000027	2 1 RC0013831	10/8/2013 1:32 PM	2 1	PVD000035	101	10/2/2013	20.0000	0.0000
Purchase	PVD000027	2 1 RC0013832	10/2/2013 12:37 PT	1 1	PVD000035	101	10/2/2013	10.0000	0.0000
Purchase	PVD000027	2 1 RC0013832	10/2/2013 12:37 PT	1 2	PVD000035	101	10/2/2013	30.0000	5.0000
Purchase	PVD000027	2 1 RC0013832	10/2/2013 12:37 PT	2 1	PVD000035	101	10/2/2013	20.0000	0.0000
Purchase	PVD000027	2 1 RC0013832	10/2/2013 1:31 PM	1 1	PVD000035	101	10/2/2013	10.0000	0.0000

Borrow, Loan, and Payback refinements

The functionality of Borrow, Loan, and Paybacks was introduced in Infor 10.3. Using these options, projects with shortage can borrow a part from a supplying project that does not currently require the part. This borrow/loan occurs based on the condition that there is no financial risk, that is, the part must be paid back to the supplying project at a higher cost.

The use case that borrowed/loaned project pegs can in turn be borrowed or loaned was not supported in Infor 10.3. In Infor 10.4, a check is implemented that when a payback occurs, the receiving project checks if the part must be paid back to another project. This chain of transactions continues until all supplying projects receive all the parts that must be paid back.



Order Line: ADJ005206 -15
 Item: BBIT02-IC2
 BBIT01, round<> 1, min 0, pipo Export License Required
 Line Variance: -12.0000 PCS
 Peg Change Reason:

Peg Line	Project	Element	Activity	Variance	Based on
1	BB-IT01	1	300001	-10.0000	PCS Gain and Excess
2	BB-IT01	2	300001	-2.0000	PCS No Gain and Excess

Advanced Subcontracting

In Infor LN FP5, advanced subcontracting functionality was introduced and is still used by customers. This functionality allows the tracking of subcontracted subassemblies at the subcontractor's premises, including the parts to be used; even if the parts are supplied by the company or by the subcontractor.

In Infor LN 10.4, this advanced functionality is available with Project Pegging. Also, the transfer of the parts and subcontracting of subassemblies is performed at a standard cost, regardless of the inventory valuation method. This functionality is enhanced, whereby the transfers are valued at actual cost based on the inventory valuation method.

Improved handling of Customer Furnished Material

The functionality to manage Customer Owned Materials is optimized, and the solution footprint (the amount of space utilized) is extended. Customer furnished materials for standard manufacturing, (based on sales order demand) project manufacturing environments. Service organizations executing the Repair, Maintenance, and Overhaul (RMO) activities on customer owned equipment are supported. In addition, the user is not required to enable the Demand pegging concept to utilize the Customer Furnished Material functionality.

Multiple Effective Units on a Project Pegged Shop Floor Order

In Infor LN 10.4, project manufacturing can be used to define multiple effectivity units on (project pegged) SFC production orders. During the execution of a shop floor order, the system ensures that effectivity units are used for completion reporting, and the appropriate project pegs are selected based on a fair and unbiased selection (as per the logic implemented in Infor LN).

Non-Conformance enhancements

New Non-Conformance Report

In previous versions of Infor LN, the user could only create a non-conformance report for the physical material. This restricted the functionality of the non-conformance reporting to the customer base. In Infor LN 10.4, the user can create a non-conformance report for a material and/or a non-material component.

This enables the users to create a report and disposition for a material non-conformance, and also create a report and disposition for a non-material element, for example, any associated process or procedural non-conformance which contributes to the material non-conformance.

Non-Conformance Report and the Warehousing Module

In previous versions of Infor LN, the user could create a non-conformance material report to record the required disposition of the affected material. However, there was no link between the required disposition contained in the report and the subsequent actual disposition of the non-conforming material. The new non-conformance material report is linked to the new Quarantine functionality of the Warehousing module. Using specific parameters, the non-conformance material disposition can be used to control the subsequent material quarantine and disposition process in the Warehousing module. The available dispositions for the integrated process are: Rework (to existing specification), Rework (to new specification), Reclassify, Return to Vendor, Scrap, Use as is, Repair, and no fault found

The non-conformance material report is updated by LN, modifying the status of the relevant Disposition Order”.

Non-Conformance Report and the Service module

In previous versions of Infor LN, a link between a reported non-conformance and the order origins, available within the service module, could be created. This limited the non-conformance reporting functionality. From Infor LN 10.4 onwards, the user can create a link between a non-conformance report and the following order origins: Service Orders; Maintenance Orders, and Batch Repair.

The non-conformance report can be created directly using the following sessions: Service order (activity and material), Work Order (activity, material incoming, and outgoing sub assembly), Work Order – Batch Repair (activity, material, incoming, and outgoing sub-assemblies, Supplier Claims, and Customer Claim.

The link from the new quarantine/disposition functionality is not available for these Service Order origins. However, the user can link the subsequent Disposition Orders to the non-conformance material report (material element) and automatically update the non-conformance report based on the modified status of the specific Disposition Order.

Miscellaneous

Based on customer feedback, the following enhancements are introduced in the LN 10.4, for the non-conformance report:

- When a user cancels a Non-Conformance Report, LN prompts the user to confirm the cancellation before the request is implemented.
- The material non-conformance dispositions types are “hard coded” in the system but from LN 10.4 users onwards, the user can define multiple user codes and descriptions per disposition type based on their requirements. However, due to dependency on the quarantine location functionality and the subsequent logistical disposition processes, the types of material non-conformance dispositions are the same.

Multiple Lot Numbers and Serial Numbers

Multiple lot numbers and serial numbers can be combined on a non-conformance report, when generating a non-conformance report using the following sessions: Warehouse Inspections, Inspection Orders, Blocked Stock, and Report Operations Completed.

The following order origins can also be used: Sales, Sales Schedules, Purchase, Purchase Schedules, Production (SFC), Material BOM; Routing, Warehouse Transfers, Storage Inspections, Service Orders, Service Work Order, and Service Work Order - Batch Repair.

Inspection Order Refinements

Multiple Lot Numbers and Serial Numbers

Multiple lot numbers and serial numbers can now be combined and printed on an Inspection Order for the following origins: Sales, Sales Schedules, Purchase, Purchase Schedules, Production (SFC), Routing, Warehouse Transfer, and Storage Inspection.

Nominal Values

In previous versions of Infor LN, only values between the “norm” and the upper and lower limits of inspection orders (and for quantitative results) could be measured. The upper limit must be greater than the “norm” and the lower limit must be less than the “norm”. This limitation restricts the use of the LN inspection when values with the upper and or lower limit greater or less than the “norm” value must be measured. For example, the measure values of the diameter of a shaft or a hole.

In LN 10.4, this restriction is removed by introducing nominal value tables where the upper or lower limit value can be greater or less than the nominal value.

Quality Inspection workbench

In previous versions of Infor LN, to specify actual inspection results the user had to navigate from order inspections to an individual inspection order. The inspection results screen contains both quantitative and qualitative data but does not consider the different skill levels and equipment that are required to complete the entire inspection. This situation is further compounded with the introduction of multiple lot and serial numbers in an inspection order. Also, it is not possible to identify any emerging trends from the inspection results and neither was it possible to assess the actual progress of an order inspection

To improve this process, in Infor LN 10.4 the Inspection Workbench is introduced which displays and updates all the information on a single screen. The user can filter the screen content based on the order origin, inspection team, and inspection area. At the order inspection level, the screen displays key dates from the order origin, the aggregated information from the lower levels, maintains a count of the tests to be performed, tests passed, and tests rejected from all inspection orders contained within an order inspection. At the lowest level of the samples, the user can access separate qualitative easy data entry and quantitative easy data entry screens. The cumulative results (with warning and maximum limits) for the inspection order, for an aspect/characteristic combination (to enable the user to recognize any emerging trends within the measurements), is graphically displayed on the quantitative data screen.

Infor LN updates the status of the Inspection Orders is, based on the results specified. The user can complete and process the order inspection using the Inspection Workbench.

Conformance documentation

Purchasing

A business requirement to record details of the various Inspection types that are executed at the source (by the supplier or another approved third party) has been raised. For example, certificates of conformance, supplier inspection reports, first article inspection and so on. With Infor LN 10.4, the conformance document register is introduced which records the relevant details relating to user defined conformance documents or document sets. The user can pre-register and pre-approve the documents prior to the shipment and receipt. The user can either confirm the receipt of a document or the document set at the warehouse inspection site. Also, the relevant document details can be recorded as part of a quality management inspection process. This information is then “matched” against the pre-received conformance documentation as part of the pass/fail process.

First Article Inspection

With LN 10.4, the user can create manual and/or time based triggers to generate the requirement for purchasing (orders and schedules and manufacturing orders) conformance documentation of the type First Article Inspection.

Additional Quality Metrics

The following enhancements are added for the pre-configured quality metrics for the customer:

- Order Inspections average resolution time by origin
- Inspection Orders average resolution time by origin
- Non-Conformance Reports average resolution time by origin
- Corrective Action Plans average resolution time
- Inspection Orders % rejection by origin
- Pareto Analysis, Item reject reasons
- Pareto Analysis, Item non-conformance cause
- Pareto Analysis, Item material non-conformance cause
- Pareto Analysis, Item material non-conformance severity
- Pareto Analysis, Item non-conformance severity
- Distribution Histogram, Quantitative inspection results

Configurable Contract Deliverables

Infor LN offers an integrated product configurator, PCF. Many customers are using this option. However, for some customers the configuration requirements are not completely met by the LN configurator; and are using the more powerful PCM configurator. For Contract Deliverables, the use of configurable items has been requested by several customers and is relevant for this scenario. This is in addition to the one-of-a-kind and Engineer-to-Order capabilities already available. In LN 10.4, configurable contract deliverables can be used. Either PCF or PCM can be considered.

Note: The result of the configuration process is always a standard item. Assembly items are not supported.

Progress Billing for US Government contractors

Infor LN supports the practice of Progress Billing based on completed units. Completed units can be miles of a highway completed, or cubicle meters of building. The billable amount, in this case, is based on the percentage complete; multiplied with the contract amount. This practice is mainly used in the Construction Industry.

Progress Billing terms can also be negotiated in a US Government contracting environment. The billable amount in these environments is not based on the percent complete, but on a percentage (typically between 70 and 90 percent) of the billable cost incurred. When milestone billing or shipment based billing (DD250) is reached, the progress amount is liquidated (that is subtracted). The main objective of progress billing is to protect the cash flow of the contractor for long term contracts.

The screenshot displays the Infor LN interface for a Progress Payment Request. The contract is identified as ZZZ000002, with contract line 999000 and a progress date of 11/14/2013. The form is organized into two main sections:

Section II		Section III	
Reserved (9):	0 USD	Costs for delivered items (20a):	0 USD
Reserved (10):	0	Costs for undelivered items (20b):	125
Costs Eligible (11):	125	Item 20b multiplied by Progress Payment % (20c):	31
Total Contract Costs to Date (12a):	125	Eligible Subcontractor Financing Payments (20d):	0
Estimated Cost to Complete (12b):	0	Limitation (20e):	31
Total Estimated Cost of Performance (12c):	125	Costs included in 11 for delivered items (21a):	0
Item 11 multiplied by Progress Payment % (13):	31	Costs eligible for undelivered items (21b):	999000
Financing Payments paid to Subcontractors (14a):	0	Item 21b multiplied by Liquidation Rate (21c):	249750
Liquidated Financing Payments paid to Subcontractors (14b):	0	Unliquidated Advance Payments plus accrued Interest (21d):	0
Unliquidated Financing Payments paid to Subcontractors (14c):	0	Limitation (21e):	249750
Subcontract Financing Payments for current Payment (14d):	0	Maximum unliquidated Progress Payments (22):	31
Eligible Subcontractor Financing Payments (14e):	0	Total Amount liquidated and to be liquidated (23):	0
Total Amount (15):	31	Unliquidated Progress Payments (24):	0
Contract Price multiplied by Liquidation Rate (16):	249750	Maximum permissible Progress Payments (25):	31
Lesser of item 15 or item 16 (17):	31	Amount of current Invoice (26):	30
Total Amount of previous Progress Payments (18):	0	Amount approved by Contracting Officer (27):	30
Maximum Balance Eligible (19):	31		

Progress Billing invoices must be presented on a mandated SF1443 Contractors Request for Progress Payment form, which is delivered as a template on the Infor Operational Reporting product.

SF 1034/1035 support

Several of the Infor LN customers are contractors of the US Government. The US Government uses various standard forms, especially as part of the invoicing process. The use must have the option to print a Standard Form 1034 and the continuation sheet, Standard Form 1035, in case more lines are to be printed.

To limit the requirement for customization by customers, the standard commercial invoice functionality is enhanced. For example, too many pages are generated for an invoice with a relatively low number of lines. Therefore, the data must be printed more efficiently.

Note: Infor Operational Reporting is required for these options, the standard forms, and the improved commercial invoice for time & materials/cost reimbursement.

Fees and Penalties

In Engineer to Order, Government Contracting, and Construction environments, it is a common practice to agree upon fees and / or penalties as part of the contract. Fees and penalties can be used to incentivize the contractor. For Cost-Plus contracts, the Cost-Plus Percentage Fee (by using Mark Up Percentages on the Contract Line) is supported. With LN 10.4 Fixed, Incentive, and Award Fees are also supported. In addition, Penalties are also supported.

Business examples:

- A Fixed Fee at delivery, regardless of time.
- An Incentive Fee on for on-time delivery.
- An Incentive Fee on a Cost-Plus contract when delivered on or under budget.
- An Award Fee when the customer achieves more than 10% cost saving as a result of the contract work.
- A Penalty for late delivery.

The screenshot displays the 'Fees and Penalties' configuration interface in the Infor LN system. The interface is organized into several sections:

- General:**
 - Fee: 10
 - Fee Type: Fixed Fee
 - Sold to BP: RJ7
 - Contact: RJ000001 (Raytheon Company)
 - Contact: RJ000001 (Jim Browning)
 - Invoicing Method: RJ3 (Installments)
 - Options: Text, Text on Invoice
- Project:**
 - Project: RJP000078
 - Element: HYDR (Hydraulics)
 - Activity: PCA003 (Cost 3)
 - Triggering Activity: PCA002 (Cost 2)
 - Planned Invoice Date: 10/27/2013 (4:54 PM)
- Amount:**
 - Fee Amount: 500.00 USD (384.62 EUR)
 - Invoice Amount: 300.00 USD (230.77 EUR)
 - Options: Approved for Invoicing, Transferred to Invoicing
- Dates:**
 - Contract Effective Date: 9/13/2013 (3:45 PM)
 - Contract Delivery Date: 10/28/2013 (2:03 PM)
 - Start Performance Period: 10/16/2013 (4:54 PM)
 - Finish Performance Period: 10/22/2013 (4:54 PM)

At the bottom of the screen, there are fields for 'Invoice Document' and 'Invoice Date'. The footer of the interface shows 'Modify | tppen0180m000 | 0300 |'.

Fees and penalties may result in additional invoices (or credit notes). Performance evaluation with subjective and objective criteria can be used to decide whether a fee or penalty must be used. Multiple fee lines can be agreed upon for one contract (line). Each fee line can have a validity period. The fee amount is not necessarily fixed and the calculation can be complex. Fees that are not billable must not be included in revenue recognition. However, billable and invoiced fees are paid using the funds (if funding is specified).

Billable Overhead

The overhead costs can aggregate to a significant amount of the total contract cost. For cost-based contracts, the user must be able to bill these cost to the customer. This functionality is now included in Infor LN 10.4 for billable overhead rates and accounting.

Note: All overhead costs are not billable, so the functionality must support this requirement.

The approval of the billing rates by relevant authorities (customer or final contractor such as the government) can take time. Preliminary rates such as the last approved billing rates can be used. When the billing rates are approved, the overhead calculation must be reapplied, including the considered periods and transactions. This may result in retroactive adjustments.

Request for Quote for Project Estimate

In an estimating process, it is important to generate and access request for quotations. An item or a service must be included in the estimate. For items or services that are used for the first time or after an extended period time, it is important to establish the expected cost. However, there is an uncertainty of project estimate being realized, and if the estimate scope and structure will remain the same. Therefore, the estimating process must be linked to the request for quotations procedure of the suppliers.

Note: The project and project structure work authorization may be activated for the estimate.

Estimating Surcharges

In many business environments, one or more surcharges are defined that increase the total cost and/or sales value of an estimate (version). In earlier Infor LN versions, the cost engineer calculated the surcharges externally (for example, Microsoft Excel) and imported the results to LN or manually entered estimate lines of the type Indirect but calculations within LN Project were not supported. In Infor LN 10.4 Project, the LN Estimating functionality includes standard surcharges. The surcharge amounts impact the total cost, sales, and margin amount, which in turn impact the bid to the prospect/customer.

Revenue Recognition

- The revenue recognition settings can be defined by contract, contract line, or the project. This setup is always done at the project-level.
- The two methods to recognize revenue are merged.
- The usability is improved by designing a revenue recognition workbench. Controllers/accountants can review the calculated revenue recognition lines, make adjustments and process the revenues. Data captured at the time of calculation is also displayed.
- Periodic loss on profitable contracts and overall loss on contracts can be processed in line with IFRS/US GAAP.
- An option to calculate percentage of completion based on hour's progress is introduced.

Cost and Service item support

You cannot use items of the type Cost and Service in:

- Estimating
- Budgeting
- Requirements Planning

These item types are be used as contract deliverables or added as costs in Procurement and charged to Project. So, there could be costs without a budget, which is not recommended for budget control.

With Infor LN 10.4, the items can be used in the mentioned domains. The items are part of the cost type Material but not transferred to Warehouse Orders in Requirements Planning.

Note: Project specific Cost or Service items cannot be processed.

Cost Forecasting

Following are the enhancements:

- The Approval option is added to the Cost Forecast sessions by Cost Object.
- The Global Approving (tpppc4200m000) session allows the approval of Cost Forecast for a wider range of projects.
- Only Approved Cost Forecasts are considered for:
 - Cost Control (Monitoring)
 - Interim Results (Revenue Recognition)
 - Program Cost Ledger (BI) using the extended Project Costs BOD
- Approved records cannot be modified.

Note: After migration to LN 10.4, existing customers must approve the existing cost forecasts.

External Scheduling integration

Integration enhancements:

- Use of Calendar is optional during Export.
- Introduced Calendar and Duration on Activity.
- Improved Milestone Handling.
- Allow link to lower levels of the activity structure
- Allow multiple projects to be imported/exported
- XML data made more generic

Usability

Additional selection options are introduced for contracts and contract lines.

Concept Parameters

In case certain concepts/options are not required, the user must be able to disable these options to simplify the application. In LN 10.3, several options were introduced and the same functionality is extended in LN 10.4 with options for the use of plans. If activity types are not used, Organizational Breakdown Structures, linked to the activity type Control Account, can be skipped.

Redesigned Screens

The following sessions screens are enhanced:

Session	Improvement
Delivered Order Lines (Material) (tpsss6550m000)	Three tabs merged to reduce the number of clicks.
Standard Elements (tppdm0580m000)	Terminology on labels; the ordering and grouping of fields
Standard Activities (tppdm1110m000)	The order of the group boxes
Estimate Version (tpest1100m000)	Three tabs merged to reduce the number of clicks.
Elements (tpptc1100m00)	Overview and details session merged.

Session	Improvement
Order Line Balance (tpps6800m000)	Three tabs merged to reduce the number of clicks.
Planned PRP Purchase Order (tpps611xm000)	The order of the fields and grouping of the Equipment, Subcontracting, and Material screens improved.
Planned PRP Warehouse Orders (tpps6815m000)	Reordering of group boxes.
Forecast (tppc21x6s000)	Two tabs merged to reduce the number of clicks This applies to all cost types (Material, Labor, Equipment, Subcontracting, and Sundry Cost)
Cost to be Invoiced (Tppin2100mx000)	Regrouping for fields for improved readability. This applies to all cost types (Material, Labor, Equipment, Subcontracting, and Sundry Cost)
Element Budget (tpptc111xs000); Activity Budget (tpptc211xs000)	The positioning of the group boxes improved. This applies to all cost types (Material, Labor, Equipment, Subcontracting, and Sundry Cost)
Estimate (tpest1200m000)	The fields on the detailed screen are reorganized for better readability and usability.

The Forecast Entry (Estimate Extra Costs (EEC)/ Estimate at Completion (EAC)/ Estimate to Completion (ETC) fields are hidden or visible, based on the value of the Leading Forecast Method field in the Project Progress Parameters (tppc0100s000) session.

If the Leading Forecast Method parameter is set to Estimated Extra Costs, only the Forecast Entry Estimated Extra Costs are visible. If the parameter is set to Estimate at Completion or Estimate to Completion, the Forecast Entries Estimate to Completion and Estimate at Completion fields are visible.

Improved Accuracy of Actual Project Hours

Actual Hours on contracts are used for multiple purposes:

- Time and Material billing
- Overhead Costing: When costs are calculated based on the actual hours for overhead calculations.
- Percent Complete: Progress is calculated based on actual versus estimated hours. The calculated progress percentage is used for project control and revenue recognition.

In case of project peg transfers for manufactured subassemblies and items, the actual hours on a project were accurate. Therefore, only the value of the item was transferred from the supplying project to the receiving project but not the hours spent. Effectively, the actual hours were overstated on the supplying project and understated on the receiving project. This impacts billing, overhead costing, and revenue recognition.

With LN 10.4, the average hours spent to build an item are captured with the inventory value (based on Moving Average Unit Cost) in Inventory Costing. When the item is transferred from one project peg to another, the unit hours are included with the inventory value. This improves the accuracy of the hours spent on projects.

AP 3-way matching for currency variances

Based on the Account Payable 3-way matching, the currency and rounding differences were not divided by project, activity, and element in the general ledger. Therefore, the reconciliation between the project cost ledger and the general ledger displayed differences for these transactions. In Infor LN 10.4, the required solution is included in the functionality.

Refined call priority calculation

In business environments, where service departments must handle multiple calls, prioritizing the calls is important. Major refinements in calculating the priorities are delivered as part of Infor LN 10.4.

Priorities can be defined with a scale from 1 to 99, where 1 is the highest priority and 99 the lowest. These priorities can then be assigned to customers, installation/asset, and problem type. This helps in calculating the weighted priority to be used in the calculation of the required response time of a call.

Call backlogs can be based on the response time, so call agents can focus on the high priority calls.

Installation party tracking

In complex service environments, multiple parties can be involved for an installation:

- The owner that legally owns the installation and the same is specified in the balance sheet.
- The user (owner) of the installation. In case of leasing there can be two different parties.
- The buy-from who supplied the installation.
- The dealer who is maintaining the installation.

When executing service work the ability to track the location of the work to ensure that parts are sent to the correct location, is important. This functionality helps streamline the logistics of parts in environments wherein installations are not always on the same location (for example, airplanes, trains, or other vehicles). A default ship-to can be setup on the installation (for example, the dealer), and if required this can be overwritten based on the scenario (for example, an emergency repair at the location of the user).

The ability to track the party that must receive the invoice is important. A default invoice-to can be set up on the installation that can be overwritten based on the scenario. For example, with leased assets the invoice for regular maintenance work is sent to the owner. However, if the asset is misused; the invoice can be sent to the user, if specified in the clause of the leasing contract. The ability to send the invoice to the right party helps in monitoring cash collection and the number of outstanding days, which improves the cash flow.

Serial Management improvements

Item code change on serial ID

During the lifecycle of a product, the form fit and function can change so that the item code is not accurate. If the item is serialized, the serial can be used as the aftermarket service activities are based on the serial number.

For example, machinery that is disassembled into subassemblies, and then the subassemblies are combined with other subassemblies and reassembled for another machine. However, the changes even though minor can be significant.

Up to Infor LN 10.3, the item and the serial code were connected using a hard link; the modification of an item code on a serial was restricted. With Infor LN 10.4, this restriction is removed. The serial number can be deleted from one item and connected to another item. However, a log of the change, including the as-build and as-maintained structure is preserved for auditing reasons.

Electronic updates of the as-maintained breakdown

The functionality of registering an as-maintained breakdown by a service provider, who has not produced the part, is improved. If the as-maintained is not generated from the as-build using the Infor LN Manufacturing module, the same must be created. Up to Infor LN 10.3, the user had to manually enter the data, which is labor extensive and error prone, especially for complex installations with a serialized components breakdown. With Infor LN 10.4, an open web service is available so that data can also be read electronically. This functionality can also be leveraged for changes in the as-maintained after the initial entry. For example, the default service provider must be informed when a 3rd party replaces a part.

This functionality ensures that the as-maintained data is as accurate as possible, avoiding miscommunication, and reduces the cost of rework.

The screenshot displays the Infor LN WebUI interface for managing physical breakdown changes. The main content area is divided into several sections:

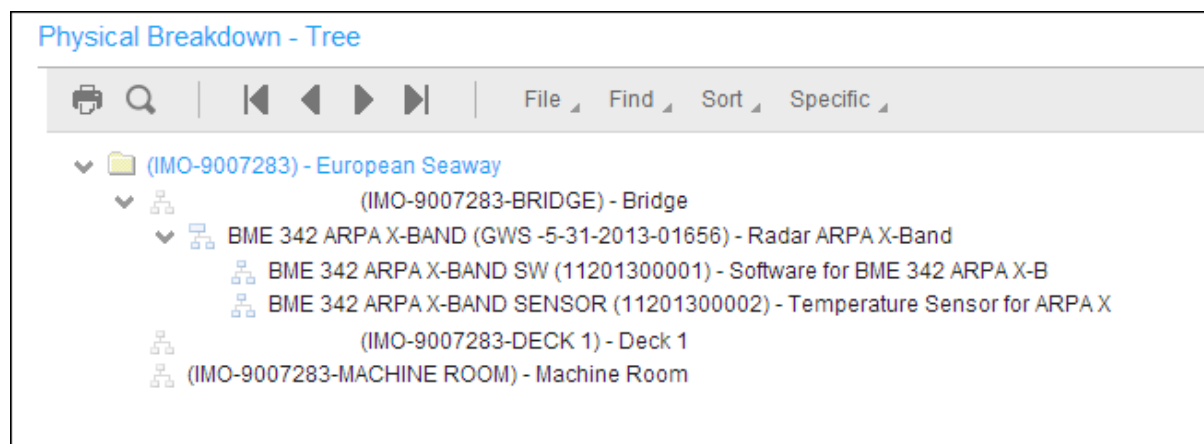
- General:** Shows the item is superseded by another.
- Top Item:**
 - Item: FIRE-ALARM-SYSTEM-TYPE1
 - Serial Number: AW/0453301
 - Description: Fire Alarm for Office
 - Status: In Process
 - Created By: Marco Hoogenraad
 - Creation Date: 11/06/2013 4:36 PM
 - Item Superseded:
- Change for Parent Item:**
 - Parent Item: FIRE-ALARM-MODULE-TYPE1
 - Parent Serial Number: AW/0453302
 - Description: Fire Alarm for Office
 - Change Number: MAH000020
 - Description: change of system
 - Order Reference:
 - Order Type: Not Applicable
 - Order Number:
 - Order Status:
 - Order Release only after Approval of Breakdown Changes:
- Changes:** A table listing the changes made to the breakdown.

Positi	Old Item	Old Serial	Old Item Description	Source of Change	Action	New Item	New Serial Number	New Item Description
10	FIRE-ALARM-TYPE1	AW/0453303	Fire Alarm for Office -303	Manual	Replace	FIRE-ALARM-TYPE1	AW/0453376	Fire Alarm for Office avdl

Structure versus Physical

A physical item can be modeled by defining an item/serial number. However, a structure could not be defined. In LN 10.4, a structure can be defined by only specifying a serial number without an item. For example, a structure can be an entire floor in a building, or a deck on a ship, or a section of a plane.

Recentelijk gebruikt		Serialized Items *		
Item	Serial Number	Description	Structure Type	
<input type="checkbox"/>	IMO-8517736	Pride of Dover	Structure	
<input type="checkbox"/>	IMO-8517748	Pride of Calais	Structure	
<input checked="" type="checkbox"/>	IMO-9007283	European Seaway	Structure	
<input type="checkbox"/>	IMO-9007283-BRIDGE	Bridge	Structure	
<input type="checkbox"/>	IMO-9007283-DECK 1	Deck 1	Structure	
<input type="checkbox"/>	IMO-9007283-MACHINE ROOM	Machine Room	Structure	
<input type="checkbox"/>	IMO-9007295	Pride of Canterbury	Structure	
<input type="checkbox"/>	IMO-9015254	Pride of Burgundy	Structure	
<input type="checkbox"/>	IMO-9015266	Pride of Kent	Structure	



Improved customer owned material handling

With Infor LN 10.4, parts that are disassembled from a customer owned installation can be stored as customer owned. The customer information is captured with the inventory record, to ensure that the parts are not consumed for work of the other customers.

Implementation of Infor LN for service to be more competitive with this improved functionality. Re-use of previously disassembled parts can help to save money, and user can be more competitive when bidding for a new business.

Customer can also supply spare parts to the service provider to save costs and increase the response time on service calls.

Customer owned material is tracked separately in inventory costing for valuation reasons. Finally, the consumption of customer-owned parts for work orders is tracked separately, to ensure that parts (Customer Furnished Material) supplied by the customer are not billed.

Resource management on Work Orders

Functionality was added in Infor LN 10.3 to schedule resources on Field Service Orders based on availability, skills and territory. This functionality is extended in Infor LN 10.4 to Work Orders, where the same planning engine is used to assign resources based on availability and skills. This will help to save cost because of better recourse utilization, and help to increase customer satisfaction because of reduced lead-time.

Claim Management

The claim management module was introduced in Infor LN 10.2.1, where both customer and supplier claims can be requested, submitted, and processed.

In Infor LN 10.4, the enhancements to Claim Management are:

- Claims can be requested from Field Change Orders.
- When Claims are not fully, but partially rejected; reason codes and a justification text can be specified.
- When a Customer Claim Acknowledgement is printed, the user has option to also print the supporting Inspection Results.
- When a Supplier Claim is generated from a Customer Claim, the Inspection Results from the Customer Claim can be inherited to the Supplier Claim. The required additional Inspection Results can be added to the Supplier Claim.
- Non-billable goodwill and warranty amounts on procured goods and services provided on customer claims can be cross charged to suppliers. A work order with invoices to multiple parties can be created when:
 - An invoice is sent to the customer for the service performed.
 - An invoice or credit memo request is sent to a supplier for the guarantee and warranty claims on supplied goods and services.

Advanced subcontracting

In Infor LN Feature Pack 5 and 10.3, advanced subcontracting functionality was introduced in Shop Floor Control. This functionality is now included with the Infor LN Service Management module. The service activities are executed by a subcontractor, who delivers the parts required for the subcontracting work, can now be modeled, if the installation is moved to the subcontractor location and (also referred to as Subcontracting with material flow in the Infor LN Feature Pack 5). This new functionality improves the visibility of the work in process, even if the work is not done in your company.

In previous packages, a purchase requisition had to be created, that allows the buyer to select the vendor for the requisition or launch a request for quote. This is done when the service provider does not select a subcontractor for the subcontracting work. This feature was introduced as part of the functionality for subcontracting tactical sourcing in shop floor control, and is also available for field service and depot repair.

Improved material planning

The required material for work-orders (such as field service, depot repair, and preventive maintenance) is displayed when the planned inventory is moved. Material availability checks can also be executed on orders or activities that are to start or scheduled in the future. This functionality ensures that an engineer starts an activity or order that cannot be completed due to material shortages. Therefore, the inventory is used efficiently, and the lead times on orders are reduced. Also, the order schedule is more accurate.

Service assignments in CRM

The functionality in Infor LN CRM is used to synchronize appointments with customers and prospects with MS Outlook, and is now extended to field service. Any service assignment can also be synchronized as an appointment to Infor LN CRM.

Note: The appointments can be synchronized to MS Outlook from LN CRM from LN FP7.

This functionality helps the sales personnel to identify, the service engineers who interacted with their customer, so that they are better informed when visiting a customer. Field service engineers also have the opportunity to synchronize their field service appointments to their Microsoft Outlook Exchange Server.

Generate Depot Work Order from Service Order

A field engineer may have defective parts that may require repairs. Sometimes the defective part cannot be repaired on site due to lack of tools, skills, or parts and therefore must be repaired at the service center. To facilitate this process, functionality in Infor LN 10.4 is added to generate a Depot Work Order to repair the part. The part is returned as customer owned, or company owned, in case a replacement part is to be assembled on-site.

Flow down of amendments on Maintenance Sales Order

When fields such as Project, Ship-to Business Partners, Delivery Terms, and Carrier are modified on the header of a Maintenance Sales Order; these changes must also be included in the Part Maintenance details such as Loan, Delivery, Receipt, and Coverage Lines. In Infor 10.4, this option is introduced to facilitate this functionality.

Managing Material Demand for Preventive Maintenance

To execute the Planned Activities generated for Preventive Maintenance, resources such as material are required. The demand for these required items is not displayed until the Planned Activity is transferred to an actual order. In situations with long lead time of the items, the Service Order (Field Service) and/or the Maintenance Sales Order (Depot) cannot start in time because the required material is not available. In LN 10.4, the material demand for material linked to the Planned Activity is made available as soon as the status of the Planned Activity is set to Released. The Planning engines can generate the supply orders when required.

Reference Activity based pricing

Before LN 10.4, it was not possible to define fixed prices for Service Activities (Reference Activities). With LN 10.4, the user can define fixed prices for service activities or for a group of activities (Master Routing). The user can also define several fixed price levels on the Service Contract Configuration Line level. These fixed price levels are:

- Reference Activity
- Master Routing
- Master Routing Option

- Any Activity
- Any Order

Work Load Levelling

In group planning, it is possible to group service orders and work orders based on the attributes. For example, all dishwasher repairs in North of Germany are grouped, and all dishwasher repair work in the South of Germany is grouped is assembled in another group.

The example is applicable for field service and also for depot repair. For example, electrical repair for department ELECT and the bogie work for department BOG are grouped separately.

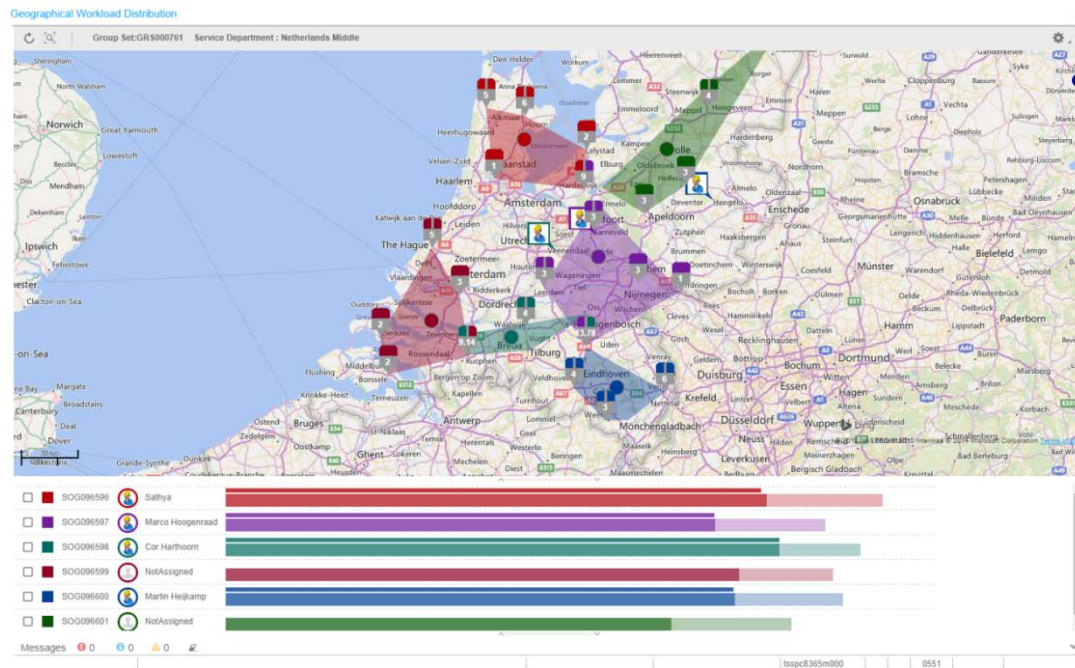
After the grouping process, the system can divide the work, for example, dishwasher > North Germany or electrical > ELEC department, across the number of employees.

Based on the user's decision, if in North Germany, four resources are available for the service of the dishwasher; the system divides the work for the dishwasher across the four groups. The system also optimizes the travel time, and ensures that the sum of the actual work and the estimated travel time is equal for the four groups.

The same applies for the depot repair, when you configure the system such that three resources are available in the ELEC department; the system divides the work for electrical skill – ELEC department across 3 groups. The SLA (driven by the earliest to latest requirement) is considered when dividing the work across the groups. The urgent activities are included earlier in the earlier plans.

The scenarios described for field service, are also referred to as “geographical work load leveling” whereas the scenario described for depot repair, is referred to as “time based work load leveling”.

Note: Apart from the standard Gantt chart, the user can manage the geographical work load leveling work bench:



Usability

Various improvements are included for better usability of the Service functionality. The improvements are discussed in the next sections.

Concept Parameters

Infor LN Service advanced functionality caters to customers varied business requirements. Additional concept parameters are introduced, so that customers can disable certain functionality that is not (yet) used. By disabling the concepts, fields and screens associated with the concepts, are not displayed.

In Infor 10.4, additional concept parameters can be used to disable:

- Depot Repair functionality, for customers with only Field Service operations
- Diagnostics
- Batch Repair functionality on Depot Work Orders
- Subassemblies on Depot Work Orders

Improved Screens

Work Orders

In Infor 10.3, the functionality of Work Orders was distributed across multiple screens. In Infor 10.4, all the Work Order data is now displayed in a single screen.

Functionality to configure tabs that are required by the user is added. Based on a configuration on the Service User Profile (tsmdm1150m000) session, screens such as Estimated Material, Labor, and Other cost that are of relevance for the user can be displayed or hidden.

Next to that the required skills to execute a work order may be of relevance for the dispatcher but not to the engineer. The functionality of displaying tabs that are relevant the end user is added. For example, the Skills tab is only available for the dispatcher and not for the engineer.

The screenshot shows the 'Service User Profiles' configuration screen. The 'Screen Depot Repair' tab is selected. Below the tabs, there are three columns of configuration options:

Maintenance Sales Order	Work Order	Work Order Activity
<input type="checkbox"/> Part Maintenance	<input checked="" type="checkbox"/> Material Resources	<input checked="" type="checkbox"/> Material Resources
<input checked="" type="checkbox"/> Part Loan	<input checked="" type="checkbox"/> Labor Resources	<input checked="" type="checkbox"/> Labor Resources
<input checked="" type="checkbox"/> Part Delivery	<input checked="" type="checkbox"/> Other Resources	<input checked="" type="checkbox"/> Other Resources
<input checked="" type="checkbox"/> Part Receipt	<input type="checkbox"/> Inspections	<input type="checkbox"/> Skills
	<input type="checkbox"/> Hours Accounting	<input type="checkbox"/> Inspections
		<input type="checkbox"/> Hours Accounting

This functionality is available in Infor 10.3 for Field Service Orders and is now extended to Work Orders and Work Order Activities.

Show calendar in use

Multiple calendars are required when planning service activities and resources in a service environment. For the company providing the service the company, departmental and the personal calendar of the service engineer are required. For the company receiving the service, the calendar on the installation is required, for example to track when the machine is in operation and when the machine is available for maintenance. In Infor LN 10.4, clear references to calendars (where applicable) are introduced to the Service module, whereby users can easily identify the calendar in use and also identify the calendar for which availability error messages are generated.

Reduced mouse clicks for transaction entry

In LN 10.3 and earlier, the entry of transactions such as purchase invoices, journal vouchers, and bank statements could be accessed only from the transaction entry sessions. In Infor LN 10.4 this dependency is removed.

The default transaction types by user can now be setup in the Transaction Type Defaults (tfgld0130m000) session. Users can easily access the entry screens (for example, purchase invoice entry) from the menu or the Dashboard 360 sessions. If screens are launched from these, data such as business partner ID's are also included. The user is not required to access the transaction entry screen for the required transaction data. All GL processing data such as document numbers and batches are created automatically.

This new feature reduces the number of mouse clicks. The user can also easily setup role based permissions.

3-Way match currency variances in inventory

In a multi-currency environment, currency variances may occur when matching an invoice to a purchase receipt. When the inventory is valued against the estimated actual cost (for example, Moving Average Unit Cost), it is recommended that the inventory charges are not written off against an expense account, but rolled up against the inventory account. Also, the project sub ledger must be updated when the inventory is project owned. In Infor LN 10.4, the user can post the inventory currency variances to the inventory instead of the expense account. This helps the user to value inventory more accurately for better margin control. The users can also cross-charge currency variances on the inventory for cost-based project contracts.

Segment Reporting

Background

Segment reporting is the reporting of the operating segments of a company in the disclosures accompanying the financial statements which is intended to give information to investors and creditors, regarding the financial results and the position of the most important operating units of a company. This report can be the basis for the decisions related to the company.

One of the requirements of International Financial Reporting Standards (IFRS) is to provide financial information based on the line of business and geographical areas to clearly identify the opportunities and risks in these areas. This is known as segment reporting compliance (IAS 8). This compliance applies to companies wherein equity and debt securities are publicly traded and to enterprises that are in the process of issuing securities to the public. In addition, any enterprise voluntarily providing segment information must comply with the requirements of the standard.

A business segment is a distinguishable part of the company that delivers an individual product or service or a group of products or services, which is subject to risks and returns different from the other business segments. A geographical segment is a distinguishable part of the company that delivers products or services within a particular economic environment that is subject to risks and returns different from those of the components operating in other economic environments.

The segment reporting requirements for the US Generally Accepted Accounting Principles (U.S. GAAP) are stated in FASB Statement No.131 (SFAS 131 - Statement of Financial Accounting Standards No. 131). The requirements of SFAS 131 are based on how the management regards an entity, focusing on the components of the business that the management uses to make decisions about operating matters. In contrast to U.S. GAAP, IFRS requires the disclosure of the entity's financial statement, divided into segments based on related products and services and on geographical areas.

In spite of convergence initiatives of the accounting standards, accounting regulations using segment reporting still differ. The major differences are in the segment definition, accounting policies, and the disclosure of segment information. For example, segment definition is based on risks and return profiles along with internal reporting structure in IFRS, whereas it is based on internally reported operating segments in the U.S. GAAP.

Segment reports prepared for the board of directors, CFO, and CEO must determine segments for external financial reporting. It is important that you first define the segments according to compliance requirements.

You can use the following criteria to define your segments according to IFRS. A segment is a reportable object, if a majority of the revenue is earned from sales to external customers and if:

- The revenue from sales to external customers and from transactions with other segments is at least 10% of total sales.
- The profit and loss is at least 10% of the total profit and loss.
- The assets are at least 10% of the total assets of all segments.

There are some limitations on these segment reporting requirements. One limitation being, a company must generally only detail up to 10 different segments in the annual report, even in a situation where more than 10 segments meet the qualifying limits. In this situation, the 10 largest segments overall must be listed.

Another rule is that all the segments which are listed must combine to comprise of at least 75% of a company's total revenue (the total consolidated revenue). If this isn't the case, additional reportable segments must be added until the threshold is reached, even if the same do not normally qualify. Segment reporting isn't required if a company gets at least 90% of the revenue from a single area of business which cannot be divided. There is also a rule that after a segment is detailed, the rule must be detailed in future years, even if dropped below the qualifying criteria.

For each segment which is detailed, a company must list all the major relevant factors. These can include government contracts, overseas business, and major clients. The report must contain details of the segment's strengths and weaknesses, which can be assessed by investors.

The following information must be included in the segment reports:

- The factors used to identify reportable segments.
- The types of products and services sold by each segment.
- The basis of the organization (such as being organized around a geographic region, product line, and so on).
- Revenues.
- Interest expense.
- Depreciation and amortization.
- Material expense items.
- Equity method interests in other entities.
- Income tax expense or income.
- Extraordinary items.
- Other material non-cash items.;
- Profit or loss.

Available functionality in Infor LN to date

The requirement of segment reporting can be solved in Infor LN by implementing functionality of the GL dimension, which allows the user to capture information from the sub-ledgers such as product and organizational entity on GL Accounts such as Inventory, Work in Process, Revenue, and Cost of Sales. The mapping rules that specify on how to specify the right information in the GL dimensions, from the sub ledgers, are setup in the Integration Mapping. The Integration Mapping is used to map data from the sub ledgers to the GL dimension codes. For example, product line of business and commodity codes and organizational entities such as sales units.

For segment reporting in accounts receivable the sales types functionality can be used to route the open item balances to the appropriate GL accounts.

The limitations:

- When a sales order spans multiple segments, these segments cannot be consolidated on one invoice. Consequentially, the customer receives the overheads of multiple sales invoices, because of the financial accounting requirements that the sender of the invoice.
- Only one dimension can be used as a segment at the same time. If a segment must be based on two dimensions, for example, product and sales organization, this is not possible.

The purchase type functionality is available for payables. When a voucher is matched to the purchase receipt lines, and the postings are also on the receipt line level, multiple segments by voucher are possible. The limitation of multiple dimensions by segment is that only GL accounts can be setup as dimensions.

Indirect expenditure can be allocated to products leveraging the functionality of the overhead cost allocation in the Cost Accounting module. Using this module, overhead rates can be calculated based on cost pools and cost drivers. After, the overhead rates are calculated; the rates can be transferred to the Inventory Costing module as item specific surcharges. An inventory revaluation process can then be run to include the cost against the item.

New functionality in Infor LN 10.4

The segment accounting functionality for is enhanced so that the limitations on Payables and Receivables no longer apply. The functionality implemented is such that, customers who do not require segment accounting are not burdened with additional configuration and screens.

With the new segment accounting functionality it is possible to have a segment distribution under each control account, both payables and receivables. Open items in AR and AP can also be tracked by segment. If a partial payment is done by a customer, the payment can be either distributed pro-rata automatically, or can be allocated to segments manually. As a result true segment reporting can

be performed on the control accounts. This helps auditors get accurate data on the performance of the company; by segments.

Legal requirement changes

The changes in Infor LN 10.4 to match the legal requirements in several countries:

- Germany: Additional column for currency is added in the Z5 Report and all reports can be submitted electronically.
- Germany: Changed format for “Datenträgeraustauschverfahren” (DTAZV).
- Portugal: New report to export payments/receipts to/from other countries for filling Bank of Portugal’s “Estatísticas de Operações e Posições com o Exterior” (COPE).
- France: Legal documents can be submitted in electronic form.
- Bulgaria: Added new VAT requirements to Tax Declaration Master (tfgld1620m000).

Miscellaneous small enhancements

The changes in Infor LN 10.4:

- The (RiBa) reversal flow for Electronic Bank Statements is enabled.
- Customized field descriptions are now available in the Flexible Reporting functionality.
- The order number is added as an initial hidden field in the open entries sessions.
- Several usability improvements in the inquiry sessions.
- Separate Accounts for Paid Advances are introduced to support simplified bookings and currency difference bookings from Invoicing.

Cross validation rules

Cross GL-dimension validation rules (CVR) were introduced in Infor LN 10.3. The enhancements to the usability of configuring the rules in Infor LN 10.4:

- A test tool is available to test the CVR. This also includes the draft CVR, so that you can test the CVR before the same are effective.
- A new printing session is available to display the inconsistencies on CDV to avoid duplicate or overlapping setup.
- The CDV can be cloned across financial companies to avoid a duplicate setup.

Permissions

The user can now setup role and user-based permissions by ledger accounts, GL dimensions, and transaction type. This new capability allows our customers to further refine the rules for segregation of duties and the confidential information.

Workflow

The following processes are now enabled for use with ION Workflow:

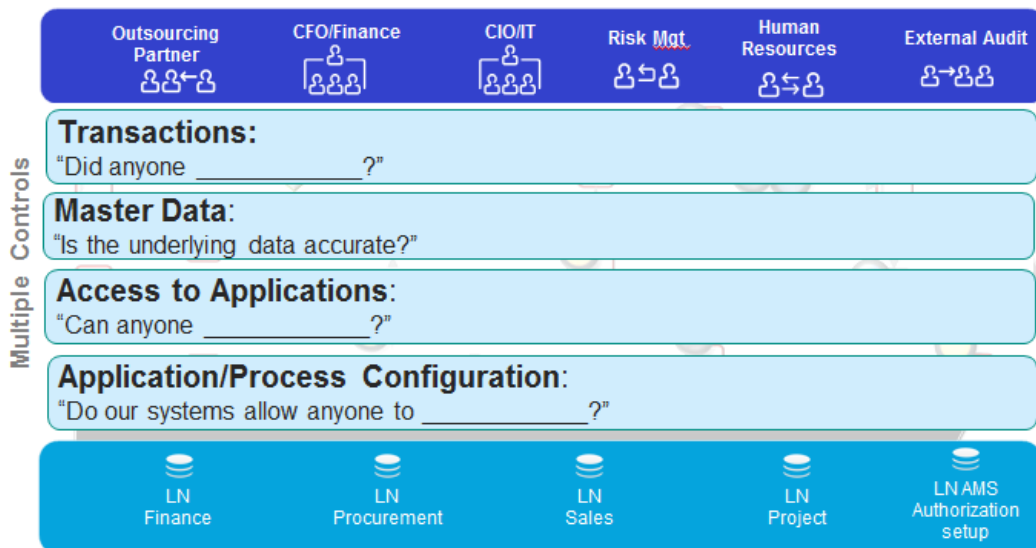
- Procure to Pay for segregation of duties and spend control (the control on spending):
 - Purchase Requisition
 - Purchase Contract
 - Purchase Order (if not generated from pre-approved requisitions and contracts)
 - Purchase Price Variance
 - Purchase Invoice
 - Payment Batch

- Order to Cash for segregation of duties and revenue and profit protection
 - Sold-To Credit Limit
 - Sales Order
 - Sales Order exceptional discount
 - Sales Invoice
 - Credit Memo request
- Project Accounting
 - Miscellaneous Project Cost Entry
 - Contract Revenue Recognition transactions
- Inventory Management
 - Inventory Adjustments and Inventory Cycle Counts
- Service Management
 - As-Maintained Breakdown amendment
- General Ledger
 - Manual journals
 - Imported journals
 - Recurring journals.

The Infor LN processes are now workflow enabled and template workflows are included for the Infor LN ION Content Pack, for rapid implementation.

Companies have spent millions of dollars developing and documenting their processes, policies, and controls, and yet have little visibility if the same are implemented because it is not cost-effective to monitor and test these processes.

Approva continuously monitors transactions and authorization setup.



Automatically exceptions are identified and breakdowns are controlled at the time of occurrence. By locating and rectifying errors immediately users reduce risk, automate compliance obligations, and eliminate wastage. Benefits for the stakeholders:

- **Finance**
 - Reducing risk of financial reporting errors.
 - Identifying, preventing and reducing cash leaks.
 - Ensuring policies and processes are cost effectively enforced.
- **Audit**
 - Reducing time and costs of compliance obligations and external audits.
 - Improving quality and efficiency of the internal audit processes.
 - Addressing audit findings.

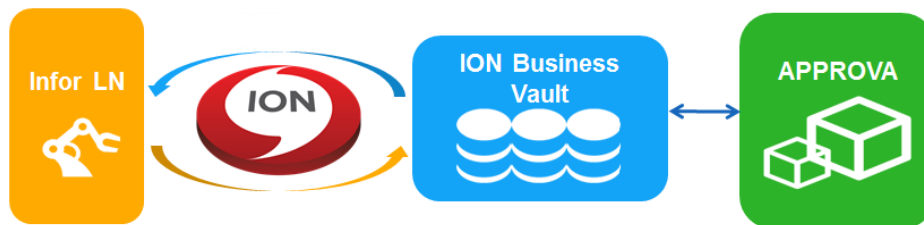
- **IT Security**

- Improving efficiency and effectiveness of managing the user access rights and lifecycle.
- Driving ownership/responsibility for the user access rights to business users.
- Addressing audit findings.

The LN-Approva integration can be divided into two types of monitoring:

- **User Monitoring**, which contains more than 130 out-of-the-box rules (see list below) that continuously monitor the authorization setup in AMS in LN.
- **Transaction Monitoring**, which contains more than 70 out-of-the-box rules (see list) that continuously monitor the LN-transactions entered in by the users.

ION and the Business Vault are used to accomplish the LN-Approva integration.



Approva user monitoring

Infor LN sessions must not be executed by the same user, from a Segregation of Duties perspective, set up in Approva-rules. If the authorization setup in AMS allows a user to execute 2 sessions that conflict with one of the rules, Approva sends a notification to the appropriate person to check and correct the authorization setup.

The user authorization set up in AMS is published using ION to the business vault whenever a 'convert to runtime' is executed.

The LN-Approva integration for User Monitoring consists of the following out-of-the-box rules. The customer can add, change, or delete rules to support their business requirements.

Accounts Payable

- Create Maintain Contract versus Supplier Payment Processing
- Create Maintain Item versus Create Maintain Contract
- Create Maintain Item versus Create Maintain Purchase Order
- Create Maintain Item versus Create Maintain Requisition
- Create Maintain Item versus Receive Material
- Create Maintain Purchase Order versus Process Supplier Invoice
- Create Maintain Purchase Order versus Receive Material

- Create Maintain Purchase Order versus Supplier Payment Processing
- Create Maintain Requisition versus Create Maintain Purchase Order
- Create Maintain Standing Orders versus Supplier Payment Processing
- Create Maintain Supplier versus Create Maintain Purchase Order
- Create Maintain Supplier versus Maintain Supplier Credit Data
- Create Maintain Supplier versus Process Supplier Invoice
- Create Maintain Supplier versus Supplier Payment Processing
- Create Maintain Terms and Conditions versus Process Supplier Invoice
- Create Payment versus Process Payments
- Create Trade Notes Payable versus Process Trade Notes
- Process Supplier Invoice versus Cash Management
- Process Supplier Invoice versus Supplier Payment Processing
- Receive Material versus Material Issue
- Receive Material versus Process Supplier Invoice
- Receive Material versus Supplier Payment Processing
- Supplier Payment Processing versus Bank Maintenance
- Supplier Payment Processing versus Cash Management
- Supplier Payment Processing versus Reconcile Bank Statement

Accounts Receivable

- Commission and Rebates Processing versus Incoming Payment Processing
- Commissions and Rebates Calculation Data versus Commission and Rebates Processing
- Create Maintain Customer versus Incoming Payment Processing
- Create Maintain Customer versus Maintain Customer Credit Control
- Create Maintain Customer versus Process Sales Invoice
- Create Maintain Customer versus Process Sales Orders
- Create Maintain Customer versus Process Shipment
- Create Maintain Sales Contract versus Process Sales Orders
- Incoming Payment Processing versus Bank Maintenance
- Incoming Payment Processing versus Reconcile Bank Statement
- Maintain Customer Credit Control versus Incoming Payment Processing
- Maintain Customer Credit Control versus Process Sales Orders
- Process Sales Invoice versus Incoming Payment Processing
- Process Sales Invoice versus Material Issue and Shipment
- Process Sales Invoices versus Customer Credit Control
- Process Sales Orders versus Incoming Payment Processing
- Process Sales Orders versus Material Issue and Shipment
- Process Sales Orders versus Process Sales Invoice

- Process Sales Orders versus Process Shipment
- Process Shipment versus Incoming Payment Processing
- Process Shipment versus Material Issue and Shipment
- Process Shipment versus Process Sales Invoice
- Reconcile Bank Statement versus Clear Customer Balances

Finance and Controlling

- Bank Maintenance versus Post Journal Entries
- Bank Maintenance versus Reconcile Bank Statement
- Cash Management versus Post Journal Entries
- Create Maintain Asset versus Process Supplier Invoice
- Create Maintain Asset versus Receive Material
- Create Maintain Assets versus Supplier Payment Processing
- Create Maintain GL Accounts versus Post Journal Entries
- Create Maintain Journal Transactions versus Finalize Transactions
- Open or Close Posting Periods versus Post Journal Entries
- Reconcile Bank Statement versus Clear Supplier Balances

Production Planning

- Create Maintain Bill Of Material versus Create Maintain Planned Order
- Create Maintain Bill Of Material versus Create Maintain Production Order
- Create Maintain Bill Of Material versus Create Maintain Purchase Order
- Create Maintain Bill Of Material versus Create Material Requirement Planning
- Create Maintain Item versus Create Maintain Bill Of Material
- Create Maintain Item versus Create Maintain Planned Order
- Create Maintain Item versus Create Maintain Production Order
- Create Maintain Item versus Create Material Requirement Planning
- Create Maintain Production Order versus Approve Process Hours and Expenses
- Create Maintain Production Order versus Create Maintain Adjustment Order
- Create Maintain Production Order versus Create Maintain Cycle Counting Order
- Create Maintain Production Order versus Create Maintain Hours and Expenses
- Create Maintain Production Order versus Create Maintain Issue and Shipments
- Create Maintain Production Order versus Create Maintain Pricing Master Data
- Create Maintain Production Order versus Create Maintain Warehouse Order
- Create Maintain Production Order versus Receive Material
- Create Maintain Routing versus Create Maintain Planned Order
- Production Estimation versus Actuals

- Create Maintain Production Order versus Receive Material
- Create Maintain Production Order versus Material Issue
- Create Maintain Production Order versus Create Maintain Hours and Expenses
- Create Maintain Production Order versus Approve Process Hours and Expenses
- Create Maintain Production Order versus Create Maintain Warehouse Order
- Create Maintain Production Order versus Create Maintain Adjustment Order
- Create Maintain Production Order versus Create Maintain Cycle Counting Order
- Create Maintain Production Order versus Create Maintain Pricing Master Data
- Create Maintain Hours and Expenses versus Approve Process Hours and Expenses
- Approve Process Hours and Expenses versus Create Maintain Approval Authorizations

Project

- Create Maintain Project Estimate versus Create Maintain Bid
- Create Maintain Project Estimate versus Create Maintain Pricing Master Data
- Create Maintain Project Budget versus Create Maintain Purchase Orders and Schedules
- Create Maintain Project Budget versus Receive Material
- Create Maintain Project Budget versus Create Maintain Issue and Shipments
- Create Maintain Project Budget versus Create Maintain Hours and Expenses
- Create Maintain Project Budget versus Approve Process Hours and Expenses
- Create Maintain Project Budget versus Overhead Calculation
- Create Maintain Project Budget versus Revenue Recognition
- Create Maintain Project Budget versus Create Maintain Project Cost Transactions
- Create Maintain Project Budget versus Create Maintain Production Order
- Create Maintain Project Budget versus Create Maintain Warehouse Order
- Create Maintain Project Budget versus Create Maintain Adjustment Order
- Create Maintain Project Budget versus Create Maintain Cycle Counting Order
- Create Maintain Project Budget versus Create Maintain Sales Order
- Create Maintain Project Budget versus Process Sales Invoice
- Create Maintain Project Budget versus Create Maintain Manual Project Revenue
- Create Maintain Project Budget versus Create Maintain Pricing Master Data
- Create Maintain Project Budget versus Approve and Process Transactions
- Create Maintain Project Contract versus Create Maintain Contract Deliverables
- Create Maintain Project Contract versus Create Maintain Customer
- Create Maintain Project Contract versus Create Maintain Project and Deliverables
- Create Maintain Contract Deliverables versus Create Maintain Project and Deliverables
- Create Maintain Project Contract versus Process Sales Invoice
- Create Maintain Project Contract versus Create Maintain Manual Project Revenue
- Create Maintain Project Contract versus Revenue Recognition

- Create Maintain Project Contract versus Approve and Process Transactions
- Create Maintain Contract Deliverables versus Process Sales Invoice
- Invoice Preparation versus Process Sales Invoice
- Invoice Preparation versus Incoming Payment Processing
- Create Maintain Project Contract versus Incoming Payment Processing
- Create Maintain Project Contract versus Maintain Customer Credit Control Data
- Create Maintain Project Contract versus Maintain Customer credit Control
- Create Maintain Contract Deliverables versus Incoming Payment Processing
- Create Maintain Contract Deliverables versus Maintain Customer Credit Control Data
- Create Maintain Contract Deliverables versus Maintain Customer credit Control
- Create Maintain Project and Deliverables versus Create Maintain Purchase Orders and Schedules
- Create Maintain Project and Deliverables versus Receive Material
- Create Maintain Project and Deliverables versus Create Maintain Issue and Shipments
- Create Maintain Project and Deliverables versus Approve Process Hours and Expenses
- Create Maintain Project and Deliverables versus Overhead Calculation
- Create Maintain Project and Deliverables versus Revenue Recognition
- Create Maintain Project and Deliverables versus Create Maintain Project Cost Transactions
- Create Maintain Project and Deliverables versus Create Maintain Production Order
- Create Maintain Project and Deliverables versus Create Maintain Warehouse Order
- Create Maintain Project and Deliverables versus Create Maintain Adjustment Order
- Create Maintain Project and Deliverables versus Create Maintain Cycle Counting Order
- Create Maintain Project and Deliverables versus Create Maintain Sales Order
- Create Maintain Project and Deliverables versus Process Sales Invoice
- Create Maintain Project and Deliverables versus Create Maintain Manual Project Revenue
- Create Maintain Project and Deliverables versus Approve and Process Transactions
- Create Maintain PRP Orders versus Create Maintain Item
- Create Maintain PRP Orders versus Process Supplier Invoice
- Create Maintain PRP Orders versus Receive Material
- Create Maintain PRP Orders versus Supplier Payment Processing
- Create Maintain PRP Orders versus Create Maintain Supplier

Approva transaction monitoring

The processes, policies, and controls a company defines and monitors if executed, can be set up as Approva-rules. Transactions created in LN are published using ION to the business vault. Each new entry in the business vault is checked against the Approva-rules. If a transaction specified by a user conflicts with one of the rules, Approva sends a notification to the appropriate person to check, validate, and correct the transaction and if required, take necessary precautions.

The LN-Approva integration consists of the following 'out of the box' rules for Transaction Monitoring. The customer can add, change, or delete rules to support their business requirements.

General Ledger

- Changes made to any of the GL Account Baseline attributes
- GL accounts that allow manual posting
- Potential duplicate GL accounts with similar description
- Back-dated journal entries
- Exceptional high or low amount journal entries
- Journal entries created on weekends or holidays
- Journal Entries with unusual descriptions such as plug or net to zero
- Unusual credit to expense account
- Unusual debit to revenue account
- Journal entries created and posted by the same user
- Processing delays – Journal entries creation date and posting date over 30 days difference.

Order to Cash

- Changes made to any of the customer baseline attributes
- Changes made to any of the item baseline attributes
- Billing document created before items shipment date
- Billing documents where advance shipments are made
- Billing documents without sales orders
- Exceptional high amount billing documents
- Exceptional low amount billing documents
- Customers missing information
- Duplicate customers - exact match
- Duplicate customers - similar address
- Duplicate customers - similar name
- Exceptional high amount customer return documents
- Duplicate items - exact match
- Duplicate items - similar description
- Items with missing information
- Items with safety stock level not defined

- Sales orders with amount mismatch to sales quotation amount
- Sales orders with quantity mismatch to billing quantity
- Sales orders with quantity mismatch to shipment quantity
- Sales orders with required delivery date different from sales quotation required delivery date
- Sales orders with unit price mismatch to sales quotation unit price
- Large receivable transactions in last 60 days
- Receivable transactions without billing document
- Duplicate sales orders
- Exceptional high or low amount sales orders
- Sales orders payment terms different from billing document payment terms
- Sales orders where advance shipments are made
- Sales orders with customer party different from pay from party
- Late shipments

Procure to Pay

- Changes made to any of the item baseline attributes
- Changes made to any of the supplier party baseline attributes
- Duplicate invoices - exact match
- Exceptional invoices amount - greater than 100000
- Invoices processed before receive deliveries
- Invoices with missing payment term
- Duplicate items - exact match
- Duplicate items - similar description
- Items with missing information
- Items with safety stock level not defined
- Purchase orders with invoice amount greater than purchase order amount
- Purchase orders with invoice quantity greater than purchase order quantity
- Purchase orders with invoice quantity greater than receive delivery quantity
- Purchase orders with invoice unit rate greater than purchase order unit rate
- Purchase orders with quantity mismatch to receive delivery quantity
- Purchase orders with quantity mismatch to requisition quantity
- Duplicate credit memos
- Early payments
- Large payments made in last 60 days
- Late payments
- Over payments
- Payments on hold
- Payments without payment methods defined

- Prepaid Payments
- Total penalty amount paid to supplier
- Duplicate purchase orders - exact match
- Purchase orders created on or after the invoice processed date
- Purchase orders created on or after the receive delivery date
- Purchase orders created without reference to requisition
- Purchase orders open since long time
- Purchase orders payment terms different from invoice payment terms
- Purchase orders with amount greater than 100000
- Purchase orders with nominal or zero line item amount
- Purchase orders with unit price greater than item master unit price
- Same item purchased with different unit price
- Receive deliveries after scheduled delivery date
- Duplicate requisitions -exact match
- Requisitions with exceptionally high amount or with nominal amount
- Unapproved requisitions since long
- Duplicate supplier party – exact match
- Duplicate supplier party – same tax ID
- Duplicate supplier party – similar address
- Duplicate supplier party – similar name
- Supplier party with missing information
- Processing delays - creation of receive delivery and invoice over 10 days difference
- Processing delays - purchase order creation and receive delivery creation over 30 days difference
- Processing delays - requisition creation and purchase order creation over 30 days difference

Today's business is headed towards faster global expansion and penetration into new geographies. Continuous business model innovation is required and must be realized to stay competitive in the business. The IT department owns the charter of delivering the right technology solutions to achieve this and therefore plays an important role in reshaping the business as per the requirements.

In recent years new emerging technologies have become more than just enablers of improvements. The technologies have become the inhibitors to help transform formal organizations from geographic and country-specific sites into global networks of knowledge-driven processes.

Infor has been investing in leveraging these emerging technologies with the Infor10x suite from the 10.2 release onwards. The following overview lists the new functionality of the third milestone of delivering solutions based on this strategy, specifically for LN Enterprise Server 10.4. The features are categorized based on the current business initiatives of our customers:

- **Cost containment:** This plays an important role in business initiatives to stay competitive. Technology is an important inhibitor in realizing cost containment strategies. Examples of cost containment strategies are:
 - Optimize business processes
 - Optimize / shorten supply chain
 - Source components from lower cost regions
 - Outsource manufacturing facilities
- **Better alignment of IT to Business:** The constant changes in business challenge the IT department to continuously and effectively invest in aligning their services to the business requirements. Examples of IT alignment challenges:
 - Quickly deliver new capabilities to support new business needs
 - Streamline compliance and mitigate risk
 - Ability to support market expansion in IT infrastructure

Cost containment

Various options are available to customers that can be implemented in their cost containment strategies and effectively control their costs. Simplification of IT services and reducing the complexity of the IT infrastructure using technology solutions, help customers to achieve better cost containment. LN Enterprise Server 10.4 contains several new features to help IT in this area.

Cloud support

Customers can use the Infor cloud suite solutions to support their expansion or to achieve better cost containment. Infor LN is used by several cloud suites. LN 10.4 is the first release which is used in Infor's cloud suites. LN Enterprise Server 10.4 supports the multi-tenancy concept, which is the foundation for a cloud-based setup.

Easy LN upgrades and extended business processes

IT must be able to quickly deliver new capabilities to support the business requirements, driven by cost containment strategies. The following initiatives can be considered:

- Upgrading to a later LN Feature Pack
- Upgrading to a later LN Enterprise Server release
- Personalizing LN business processes
- Extending LN application logic

The following features are available to LN customers. The feature description refers to the minimum Enterprise Server release level, if required.

Customer-defined fields (CDFs)

If the standard LN application features do not contain all required information, it is recommended to add fields. In certain scenarios, there is no business justification to run an extensive customization project to just add a few fields or only a part of the additional functionality. A simplified development methodology is available based on adding CDFs. CDFs are fields that can be added to LN database tables during deployment.

The supported field data types are similar to regular table fields. Also, interaction can be added to a CDF, for example, to compose a check box selection feature on an LN screen.

LN Enterprise Server 10.3 features:

- Custom-defined enumerated lists (for example, enums)
- Programmable CDFs, to provide similar functionality to a LN table field.
 - The capability to use a CDF to store the result of a calculation.
 - A combination of standard fields and CDFs can be used for calculations and is useful for reporting purposes.
 - Applying conditional formatting rules on CDFs, for example, standard table fields.

LN Enterprise Server 10.4 features:**Create CDFs in tables which do not rely on a Data Access Layer (DAL)**

It is now possible to create CDFs and use programs to control the usage of CDFs in LN database tables even if a Data Access Layer is not used.

Display values of CDFs from referenced LN tables

Access to information in CDFs when used in LN screens was only possible when available in a session's main table. This Enterprise Server release supports the ability to add CDFs in an LN screen from any referenced LN table. This feature only displays the CDFs information; updates are not supported.

Better alignment of IT with business needs

Reducing the total-cost-of-ownership of running the LN technology platform is one of the charters of the IT department. Infor LN Enterprise Server 10.4 contains new features in the technology platform support, which help to deliver cost savings, improve the TCO of the Infor LN environment, or scale the LN platform to the new business requirements.

Database enhancements:

- Enterprise DB's PostgreSQL support: Infor LNs technology stack supports many open source solutions but lacked an open source database option for customers to reduce their software license costs using these solutions. The Infor LN 10.4 technology platform introduces the support for Enterprise DBs PostgreSQL database as an open source database solution:
- The Microsoft © SQL Server driver contains performance enhancements by leveraging the latest tuning features.
- Oracle 12 database support.
- Enhanced reconfiguration performance.

Rebuilding Infor LN's data dictionary using Infor LN's reconfiguration tools is a time-consuming activity. Infor LN 10.4 tools deliver reconfiguration and re-index tools, which leverage features such as the concurrent use of the database processes and the reuse database statistics to improve the lead-time of Infor LN's reconfiguration processes.

Web Application Server enhancements:

- JBOSS AS 7.x support: Based on Infor's open source strategy JBOSS AS is added as another open source application server for LN UI.
- IBM WebSphere AS 8.5: This release is certified for Infor LN UI.

Desktop and Server operating system (OS) enhancements:

- Windows 8.1 support
- Windows Server 2012 R2 support
- Windows Server 2012 Clustering support: Server clustering can be used for load balancing or high-availability support of Infor LN servers. LN Enterprise Server 10.4 is the first release to support server clustering.

Virtualization enhancements:

- Server Virtualization: Microsoft © Hyper-V 2012 support. Running Infor LN in an on-premise situation as a virtual instance is one option for customers when considering cost savings. Virtual platforms are supported for quite a few years. Microsoft Hyper-V is certified to maintain support for the latest virtualization platforms.
- RedHat Enterprise Virtualization (RHEV) support.

LN License Manager (SLM) enhancements

- LN License Manager (SLM) – Enhanced cluster setup: The best practice for high availability support of Infor LN's license manager (SLM) is to deploy several license managers in a clustered setup on local and remote servers. This provides continuous access to license servers in this cluster, in case of access failures. As part of the Infor LN 10.4 release, a new SLM version is released, which supports an enhanced algorithm for selecting the right license server. The algorithm ensures that priority is given to the request of a license from a local license server instance over the remote instances. This improves the process of requesting a license in normal or error situations.
- LN License Manager (SLM) – RedHat Enterprise Virtualization (RHEV) support: Combined with the Infor LN 10.4 Enterprise Server release, a new SLM license manager release is delivered which supports LN deployment to run in a RedHat virtualization (RHEV).

Productivity enhancements for end users and developers

Corporate look-and-feel

Infor-owned design firm 'Hook and Loop' manages the corporate style direction (SOHO) for all strategic product lines in the Infor 10X suite, such as Infor LN. The overall look-and-feel of Infor LN applications is improved by implementing the latest definition of SOHO in the Infor LN user interface (LN UI). The new style provides a more consistent and intuitive experience to the end user.

HTML5 user interface

Starting with LN 10.3, a new Infor LN user interface is supported. The LN UI is completely based on HTML5 technology. Therefore, Java is no longer required on the user client to run LN UI in a certified HTML5 web browser.

New HTML5-based Enterprise Modeler (EME), the Process Modeler Workbench

Modeling content for Infor LN DEM package, such as business control diagrams and business processes requires users to install additional software, such as Enterprise Modeler (EME), on their desktop systems. In Infor LN 10.4, the use of EME is no longer required. This is based on Infor's cloud strategy, which prohibits the use of additional software on desktop systems

The new LN user interface (LN UI) is based on HTML5 technology, and supports the Process Modeler Workbench, the successor of the Enterprise Modeler, based on the same HTML5 technology. Only the use of a certified HTML5-supporting web browser is required, to access and model the Infor LN business processes.

Accessibility support

The Infor LN's new user interface, LN UI, is based on HTML5 technology which implies that the extended support is provided for accessibility guidelines such as Web Content Accessibility Guidelines (WCAG). This enhances the accessibility of Infor LN applications for the physically and visually impaired users.

LN Document Output Management (DOM)

In earlier versions, Infor LN customers required third-party solutions to produce and share presentation-quality output from Infor LN with business partners and employees. Infor LN 10.3 is the first release with electronic document distribution capabilities to send LN reports using an e-mail. The Infor LN 10.4 release, introduces a built-in centralized solution for designing and distributing Infor LN's output in presentation-quality.

Infor LN's Document Output Management uses Infor Reporting to design document layouts including the possibility to design attachments, and the setup of distribution preferences, for example, distributing invoicing. However, because of statutory or customer-specific requirements, the invoice layout and the required output formats or the distribution channels may differ on a customer to customer basis. There also can be different requirements for archiving of invoices that are sent to customers.

Examples:

- US-Government customers require an electronic invoice in an XML format, but regulatory archiving requirements still require a hard copy in the DD250-format.
- US commercial customers require the company's default layout for the US. However, this layout does not include the Value Added Tax information. Distribution of invoices is done by e-mails that include PDF attachments. An electronic copy can be automatically archived when configured in DOM.
- European customers require a printed invoice with the Value Added Tax information. An electronic copy must be stored in the archive.

Similar rules may apply to similar trading documents such as Statements of Account, Order Acknowledgements, and Quotations. Regardless of the document output rules, you may be required to process invoices in a single batch.

You can define rules for this information:

- Specify the report form layout to be used, based on the country and customer group attributes and their associated values, for example, Netherlands or USA, and Commercial or Government.
- Specify the distribution media, for example, paper, e-mail, electronically, or a combination of the distribution media.
- Indicate whether copies for an electronic archive are required. If applicable, specify the location where the copies must be stored.

Personalize scrollbar behavior across multiple companies

The Scrollbar navigation in Infor LN applications can be fine-tuned, if required. Based on the number of records, you can simplify the positioning of the scroll button. This bypasses the requirement for Infor LN's application to calculate the number of records and improves the startup time of an application, when dealing with tables with high volumes of data. This impacted all Infor LN companies. As part of the Infor 10.4 release, the Infor LN Tools admin application ttaad4180m000 is enhanced with a feature to configure the scroll navigation as required.

Default values for hidden fields

Infor LN applications can be personalized in various ways. Using the current release of the Enterprise Server tools, the user can assign default values to the hidden form fields. However, these default values are used when the application data is saved.

Improved browsing performance of Infor LN applications

In Infor LN 10.4, the Enterprise Server improves the performance of the system even when browsing large datasets. This feature is only supported when the latest certified Microsoft © SQL Server and Enterprise DB databases are used.

LN Studio - single LN Studio for all LN development projects

The Infor LN Studio 10.4 release introduces a new and consolidated version of LN's 4GL development studio and the Infor LN integration oriented, Infor Business Studio. Customers do not require multiple Studios anymore to run Infor LN development projects.

Compliance-related enhancements:

- Enhanced Unicode support: User can upgrade to the Unicode-based LN setup, using the improved conversion tools.
- DEM authorization report: With LN 10.3, a new report is developed that details all the DEM and AMS user permissions in a consolidated view. The report is generated in an xlsx format. You can pivot and filter the data to personalize the report as per your business requirements.