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**28-29 July Sydney, Australia**





# Maximo for the Utilities Industry

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**PulseANZ** 2010 



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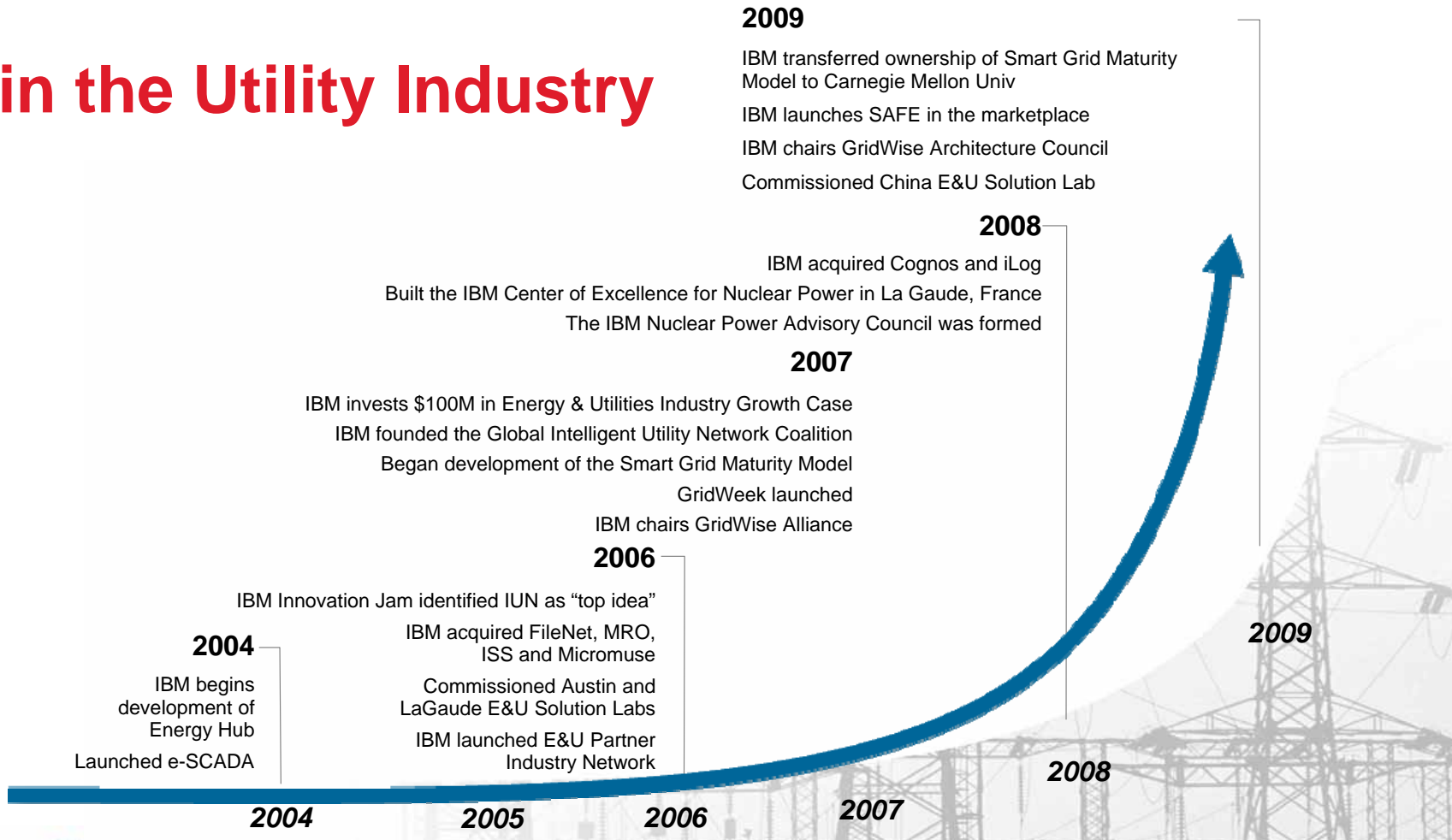
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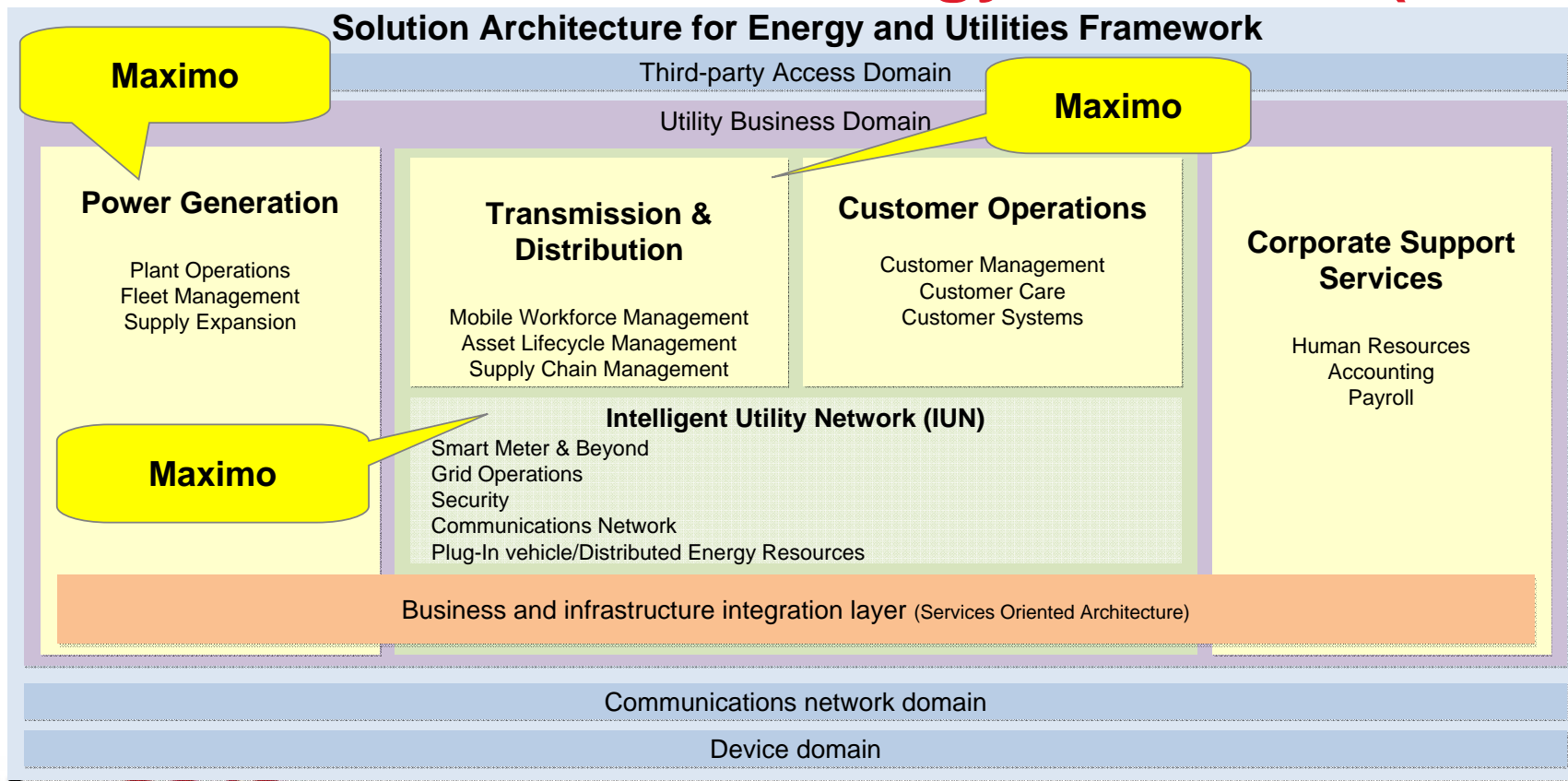
## Maximo Utility Working Group – 3:30, Level 3

- **Join us and be a part of the inaugural MUWG meeting for Australia and New Zealand**
- **Agenda**
  - Meet the Utility Community – Welcome and Introductions
  - Learn about the value of the MUWG community
  - Listen to a Customer story – Mighty River Power
  - Shape the future of the MUWG

# IBM in the Utility Industry



# Solution Architecture for Energy & Utilities (SAFE)



# What Does This Mean for You?



## Asset, Device and Service Monitoring

Visualize infrastructure availability and performance through device, event and usage data, providing real-time control and analysis to speed time to resolution.



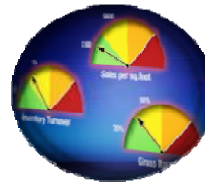
## Informed Decision Making

Use data and information aggregated from business and operation systems to analyze events, develop insights, correlate reactions to change, to improve business flexibility and performance.



## Business Process Automation

Model, manage, and optimize business processes resulting in faster time to market, increased customer satisfaction, and higher productivity.



## Asset Lifecycle Management

Track, document and make decisions about the procurement, deployment, operation, maintenance, and disposal of generation plant, transmission or distribution field assets.



## Improved Customer Experience

Deliver convenient, personalized customer experience, by enabling interactive communication and providing consumers more control of their energy sources and usage.



## Regulatory, Risk & Compliance Management

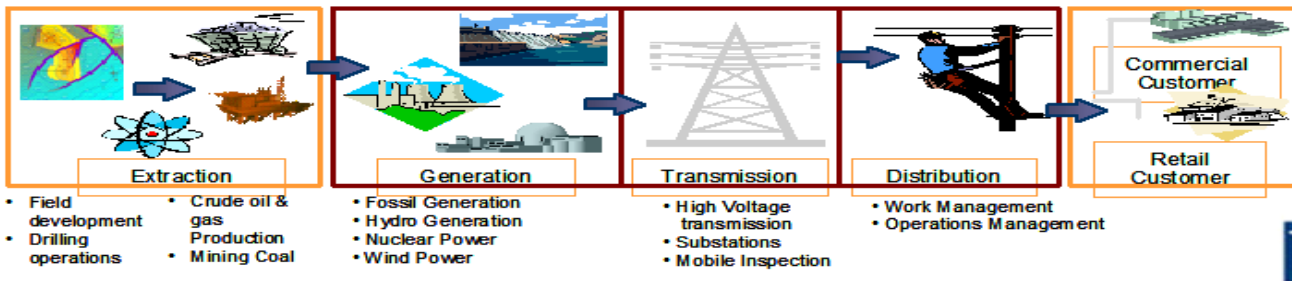
Manage large quantities of utility documents and processes to comply with government mandated regulations



## Security Solutions

Comprehensively manage and prevent security risk across all business domains

# Maximo in the Utilities Industry



**Notable Success**

**300+ Utilities Clients**

**Growing market share in all sectors**

**17 of 30 Fortune 1000 Utility Companies**

**Investor Owned, Merchant, Municipal or Agency**

**Key Utility Sectors**

**Fossil/Hydro Generation** – 45% North American Fossil Generation and 55% of North American Hydro Power Generation

**Nuclear Power** – 12 Customers, 55 Units WW Presence.

**T&D Transmission and Distribution**  
Substation Maintenance, Gas Transmission, Gas Distribution, Water and Waste Water

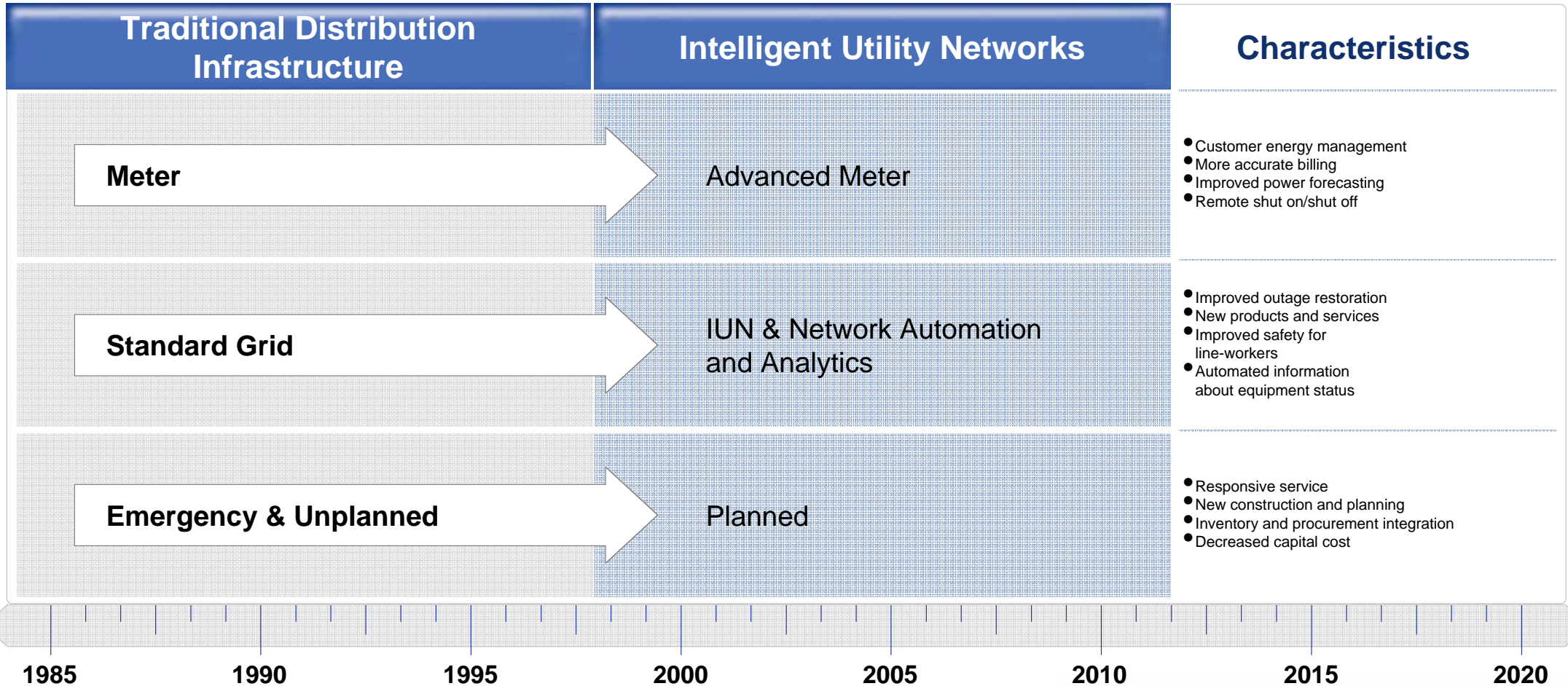
**Top Reasons for Selecting Maximo for Utilities**

- 1. Consolidation of asset management solutions** – for Power Generation, Electric & Gas T&D, Facilities, Vehicles, & IT assets
- 2. Technology** – J2EE Certified, Service Oriented Architecture (SOA) platform – standardization, scalability, usability, security
- 3. Capabilities** – Feature rich solution for managing nuclear power & T&D assets
- 4. Convergence of OT & IT** – IT systems are leveraging the utilities ability to stay competitive
- 5. Leadership Position** – In both the Gartner MQs and ARC EAM WW Outlook
- 6. People** – Two dedicated development teams and client development partners for Nuclear and Transmission & Distribution





# Trends in Transmission and Distribution Operations



Source: IBM Institute for Business Value (IBV) analysis

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## Vision



Enhance Maximo to support Transmission and Distribution utility work process in Electric, Gas and Water.

Support the design, construction, and accounting for new utility infrastructure.

Further development is now focused on supporting IUN/ Smart Grid features for a smarter planet, future development will extend capabilities to gas and water segments as well as electric to maximize business operations with advancing technology

The Integration Framework supports the customer ecosystem of software products that support distribution management (OMS, DMS) and utility operations (GIS, CIS)

Only vendor in the leader's quadrant in Gartner's Analysis of Enterprise Asset Management for Transmission and Distribution

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## History

IBM developed and marketed Maximo CUE for Maximo v4

Maximo for Utilities v5.2 was released in 2004 with an initial focus on Compatible Unit Estimating and Crew Management was added in 2005 for v 6

Maximo for Utilities 6.1 added product GIS integration to ArcGIS server supporting geospatial management capabilities in an asset/work management system

Maximo for Utilities 7.1.1 is currently available adding CPM for Crews and the Service Address application supporting premise geo-coding

IBM Maximo for Utilities Supports DB2, Oracle and SQL Server.

### Utility clients / development partners



**MUWG – Maximo Utilities Working Group**

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## Maximo for Utilities at a Glance ( 40+ Utilities Customers 100 + Spatial)

- Major Components:
  - CU (Compatible Unit) Library and Estimating – Standards based estimating
  - Crews – provide full support for crews (a collection of resources working together)
  - Maximo Scheduler – CPM for Crews
  - TD Adapter downloadable from OPAL- extensions to the MEA – Maximo Enterprise Adaptor (Integration Framework)
    - Mobile Work Force Management
    - Graphical Design Tool
    - Fixed Assets
  - Maximo Spatial Asset Management – GIS Integration to ESRI ArcGIS Server
    - Added GIS Map Tab to Work Order, Asset, Location and Service Request Applications to Spatially enable these applications.
    - Service Address Application supports Premise Geo-coding
    - Goal was to make GIS look like a natural part of Maximo

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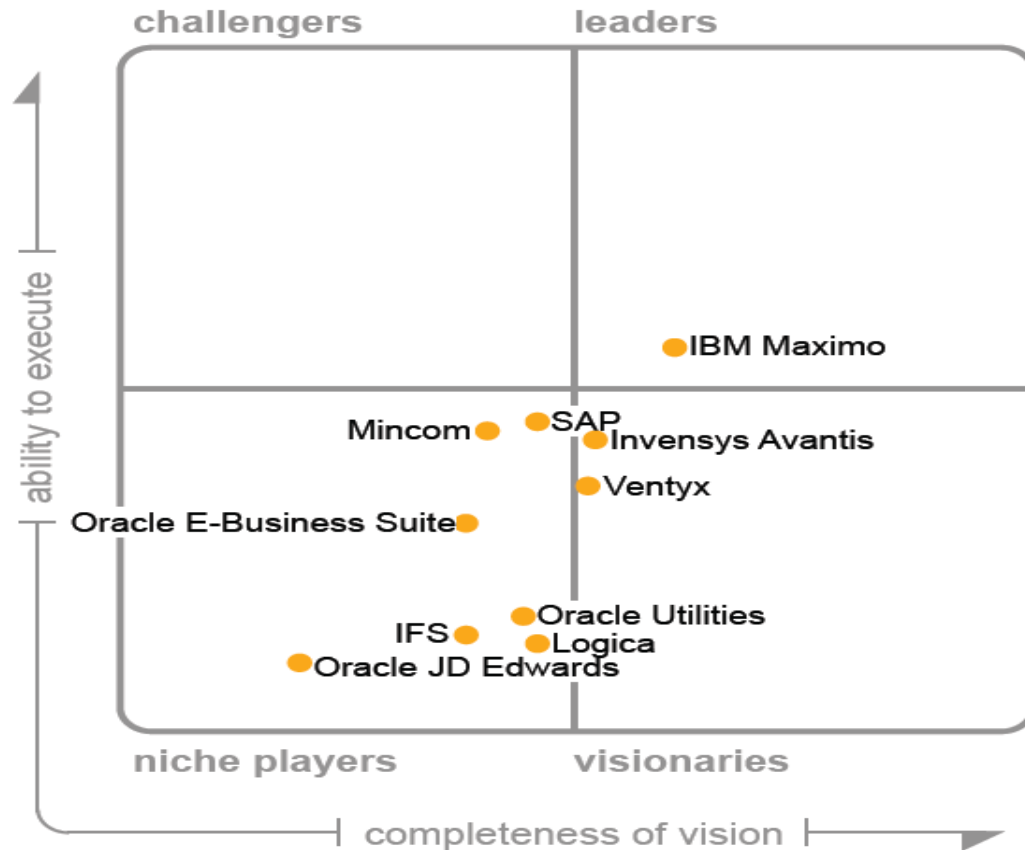
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# IBM Maximo for Utilities Overview

- **Supports work and asset management for transmission and distribution in water, gas and electric utilities.**
- **Helps increase asset and resources effectiveness by providing a platform to support all types of asset classes and all types of work in water, gas and electric utilities.**
- **Create detailed estimates** with Compatible Unit Estimating (CUE) and a multilevel compatible unit library
- **Manage crew type** and crew makeup with enhanced crew management while tracking **labor skills and certifications**
- **Integrated with fixed-asset accounting, mobile workforce management and graphical design** tools based on SOA
- **Includes Maximo Spatial** to support map-based user interface built on ESRI ArcGIS technology.
- **Integrated work and asset management** functionality on a modern, J2EE standards based platform including supply chain management, contact management, and SLA.

# Magic Quadrant - EAM for Transmission & Distribution

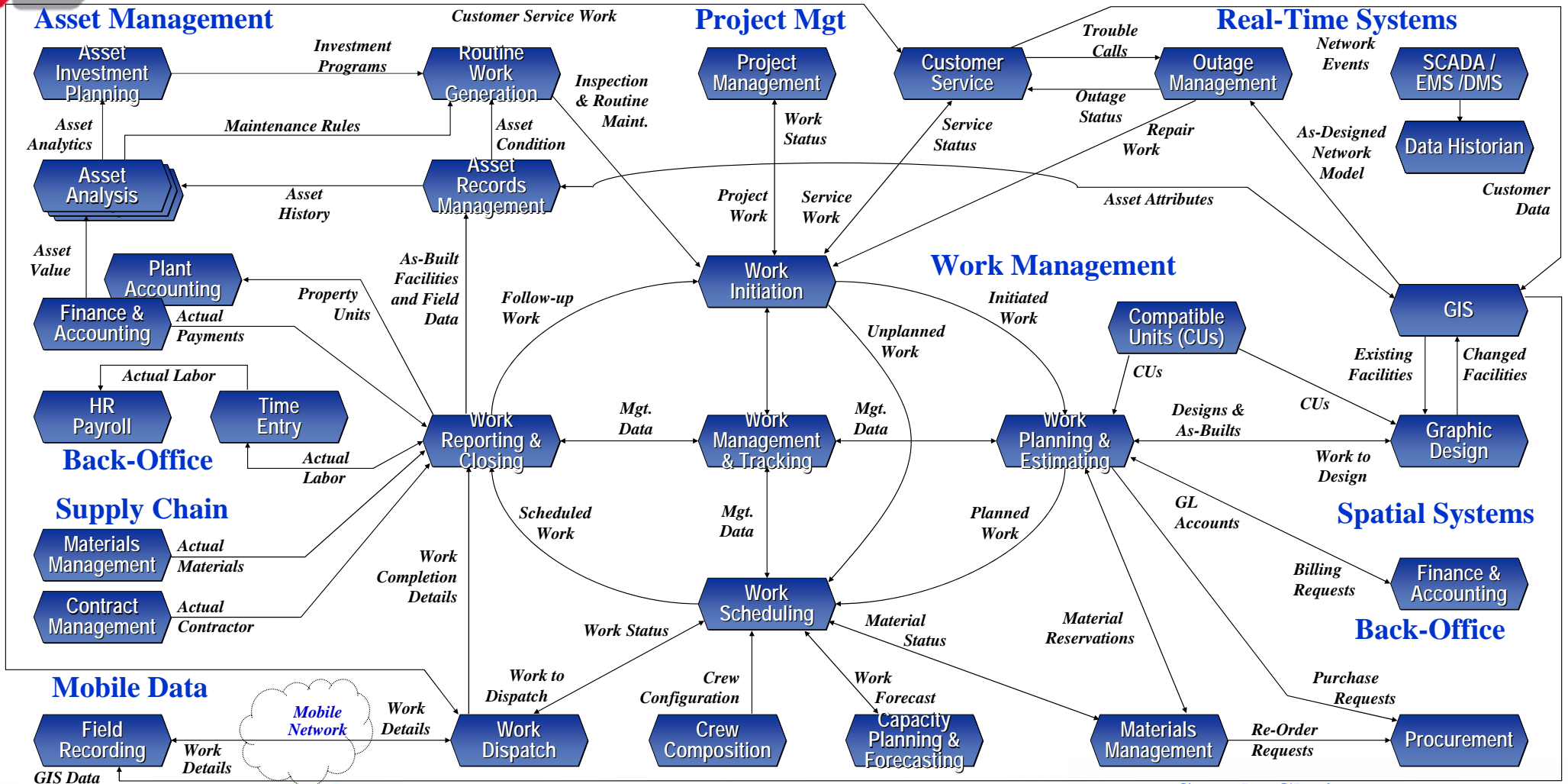


As of September 2009

16 September 2009  
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 Kristian Steenstrup  
 T&D  
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Source: Gartner (September 2009)

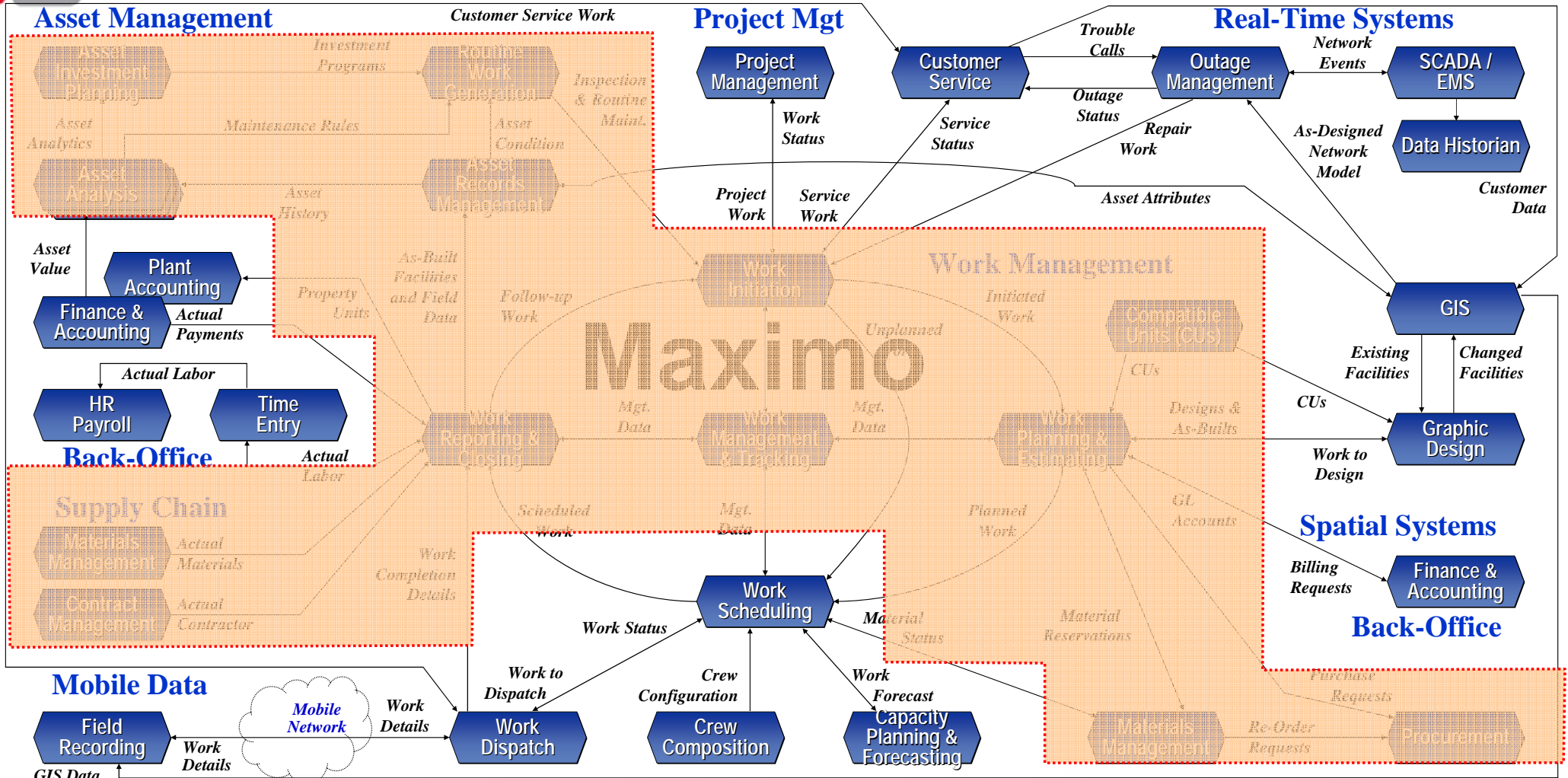
customers



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rest



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Resource Management

Supply Chain

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**Maximo for Utilities 7.1.1 is currently available adding CPM for Crews and the Service Address application supporting premise geo-coding and Spatial 7.1.1 Supports ESRI 9.3.1 and is built using the Java Script REST API 1.5**

## Release 7.1.1

- Enhance CUE Perform Acceptance
  - UI Improvements
  - Crew Gantt View
  - Service Address Supports Geo-Coding \*
  - Auto Create, Auto Locate Work Orders & SRs \*
  - Polygon Selection Sets with defined Actions \*
  - Single Click Linking \*
  - Highlight linked Assets and Locations \*
  - GIS Synchronization \*
  - GIS Adm. Defines User Map Services by site \*
  - Support MultiGeo Databases\*
  - Supports ArcGIS Server 9.3.1
- \* Delivered through Spatial

Spatial 7.1.1.1 now available supporting ESRI 9.3.1 SP1







## Product Discussion Disclaimer – General Product Direction

- *The information on the new product is intended to outline our general product direction and it should not be relied on in making a purchasing decision.*
- *The information on the new product is for informational purposes only and may not be incorporated into any contract.*
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# Maximo for Utilities -- Roadmap

Released 6.3 September 2007	Released 7.1 December 2008	Release 7.1.1 eGA Dec 2009	Release 7.1.2 eGA Q4 2010
<ul style="list-style-type: none"> <li>• Services for CUE</li> <li>• Multi-site Support</li> </ul> <p><u>GIS Spatial Release</u></p> <ul style="list-style-type: none"> <li>• Map Tab for: Work Order, SRs, Assets and Locations</li> <li>• Link GIS Feature to Maximo Entity</li> <li>• Expose GIS Controls via MBOs</li> <li>• Supports Point, Line, Polygons</li> <li>• Non-Version &amp; Version Editing</li> <li>• Layer Filtering</li> <li>• Supports ESRI ArcGIS Server 9.2</li> </ul>	<ul style="list-style-type: none"> <li>• Port to Maximo 7</li> <li>• Specific Spatial Install</li> <li>• Map Tips</li> <li>• Graphic interaction On Map between Feature &amp; Result Set</li> <li>• Spatial SigOption Security</li> <li>• Variable OH Cost For CU's</li> <li>• Associate CU's to Task Type</li> <li>• Supports ESRI ArcGIS Server 9.3</li> </ul>	<ul style="list-style-type: none"> <li>• Enhance CUE Perform Acceptance</li> <li>• UI Improvements</li> <li>• Scheduler for Crews               <ul style="list-style-type: none"> <li>• Gantt View</li> </ul> </li> <li>• Service Address Supports Geo-Coding</li> <li>• Auto Create, Auto Locate Work Orders &amp; SRs</li> <li>• Single Click Linking</li> <li>• Highlight linked Assets and Locations</li> <li>• GIS Synchronization</li> <li>• ESRI ArcGIS Server 9.3.1</li> </ul>	<ul style="list-style-type: none"> <li>• Work Order Pre-requisites</li> <li>• Meter Asset Lifecycle Mgmt               <ul style="list-style-type: none"> <li>• Bulk receipt</li> <li>• Import meter data</li> <li>• Meter Sampling</li> <li>• Bulk Deploy</li> </ul> </li> <li>• Spatial Enhancements               <ul style="list-style-type: none"> <li>• Own roadmap</li> </ul> </li> <li>• Future:               <ul style="list-style-type: none"> <li>Capital Work Planning and Forecasting,</li> <li>Dispatch and Routing</li> <li>Graphical Crew,</li> <li>WO Crediting &amp; Unit Reporting</li> </ul> </li> </ul>
Maximo 6.2.3	Maximo 7.1.1.4	Maximo 7.1.1.7	Maximo 7.1.2



# Maximo for Utilities 7.1.1 Released December 18, 2009

## Product Features for Utilities 7.1.1

- **CU Estimating**
  - Performance Improvements
  - Improve ease of use
  - Improve integration to graphical design tools
- **Work Order, Service Requests, Locations**
  - Service Address Tab
- **Scheduler for Crews**
  - CPM Calculation
  - Visualize resource requirements
  - Drag and drop updating of start and end dates



## Enhancement – Improve Performance

- **What is it?**
  - The Actions for Perform Estimate and Perform Acceptance within CU Estimating were re-designed to improve the speed of these actions. The user will continue to select these choices from the Action Menu.
- **Business Value**
  - Customer will be able to work effectively with larger estimates.

# Enhancement – Improve Ease of Use

- **Within CU Estimating the Estimate Request tab and the Stations tab were redesigned.**
  - Fields grouped more logically
  - More use of non-persistent fields
  - Reduce the need to manually create work set records
  - Allow user to see all CU's for an estimate version
  - Field level help and error messages were updated for the most common support questions.

# Enhancement – Improve Integration for Graphical Design Tools

The screenshot displays the Maximo software interface for managing stations and compatible units. At the top, there are tabs for 'List', 'Estimate Request', and 'Stations'. Below the tabs, the 'Estimate Request' is set to '1006' and 'Estimate Version' is '1'. The 'Request Type' is 'JOB' and 'Estimate Type' is 'DESIGN'. The 'Request Status' is 'OPEN' and 'Version Status' is 'NEW'. The main section is titled 'Compatible Units for Estimate Version 1'. It features a table with columns: Copy, Station, Work Set, CU Name, Description, Work Function, Quantity, Hot / Cold, and Sequence. Below the table, there are several filter sections: 'Labor Filters' (Work Group: 1001, Work Zone, Contractor XRef, Hot / Cold, Inaccessible?, Congested?, Soil Condition), 'Material Filters' (Storeroom: CENTRAL, Site: BEDFORD, Coastal?, Voltage: 13, Pressure: H), 'Accounting Filters' (Apply Contribution: N, Account Override, Financial WO, Vintage Year, FERC Function, Service?, Lighting Type), and 'Targeting Filters' (Defer: N, Support Activity, Work Order, Task). A 'Changed' section shows 'By WILSON' and 'Date 9/22/09 2:49 PM'. A 'New Row' button is located at the bottom right of the interface.

- The graphical design tools currently on the market do not support Maximo's concept of a Work Set.
- This release will reduce the need for the user to manually create work sets and Maximo will create new work sets automatically.
- By adding the logic to create work sets automatically, the integration with Graphical Design tools will be easier.

# Service Address

## NEW - Service Address App

- **Problem** – need a common way to identify a physical locations
- **Solution** – added Service Address to all spatial enabled applications
- Service Address fields added to Assets, Locations, Work Orders and Service Requests
- Enables search by address in Maximo Advanced Search
- Address fields can be exposed on application form using App Designer



Address	Street Address	City	State/Province	Zip/Postal Code	Organization	Site
1010	1453 Banbury Lp N	LAKELAND	FL	33809	EAGLENA	-BEDFORD
1017	1435 Banbury Lp N	LAKELAND	FL	33809	EAGLENA	BEDFORD
1018	8702 Asbury Dr.	LAKELAND	FL	33809	EAGLENA	BEDFORD
1019	6714 Asbury Dr	LAKELAND	FL	33809	EAGLENA	BEDFORD
1012	6331 Asbury Dr	LAKELAND	FL	33809	EAGLENA	BEDFORD



# Enhancement – WO Track changes for Scheduler

Scheduling Information	
Target Start	<input type="text"/>
Target Finish	<input type="text"/>
Scheduled Start	10/11/09 2:54 PM
Scheduled Finish	10/17/09 6:54 AM
Start No Earlier Than	<input type="text"/>
Finish No Later Than	<input type="text"/>
Actual Start	<input type="text"/>
Actual Finish	<input type="text"/>
Duration *	40:01
Time Remaining	<input type="text"/>
Predecessors	<input type="text"/>
Include Tasks in Schedule?	<input checked="" type="checkbox"/>

- **What is it?**
  - There are new scheduling fields on the WO Tracking application to display the critical path dates for the work order and the tasks. These fields are updated by the new Scheduler application.
  - The work order can also be excluded from the Gantt view in the Scheduler application.
  - Duration is calculated from the effort hours on the Plans tab.

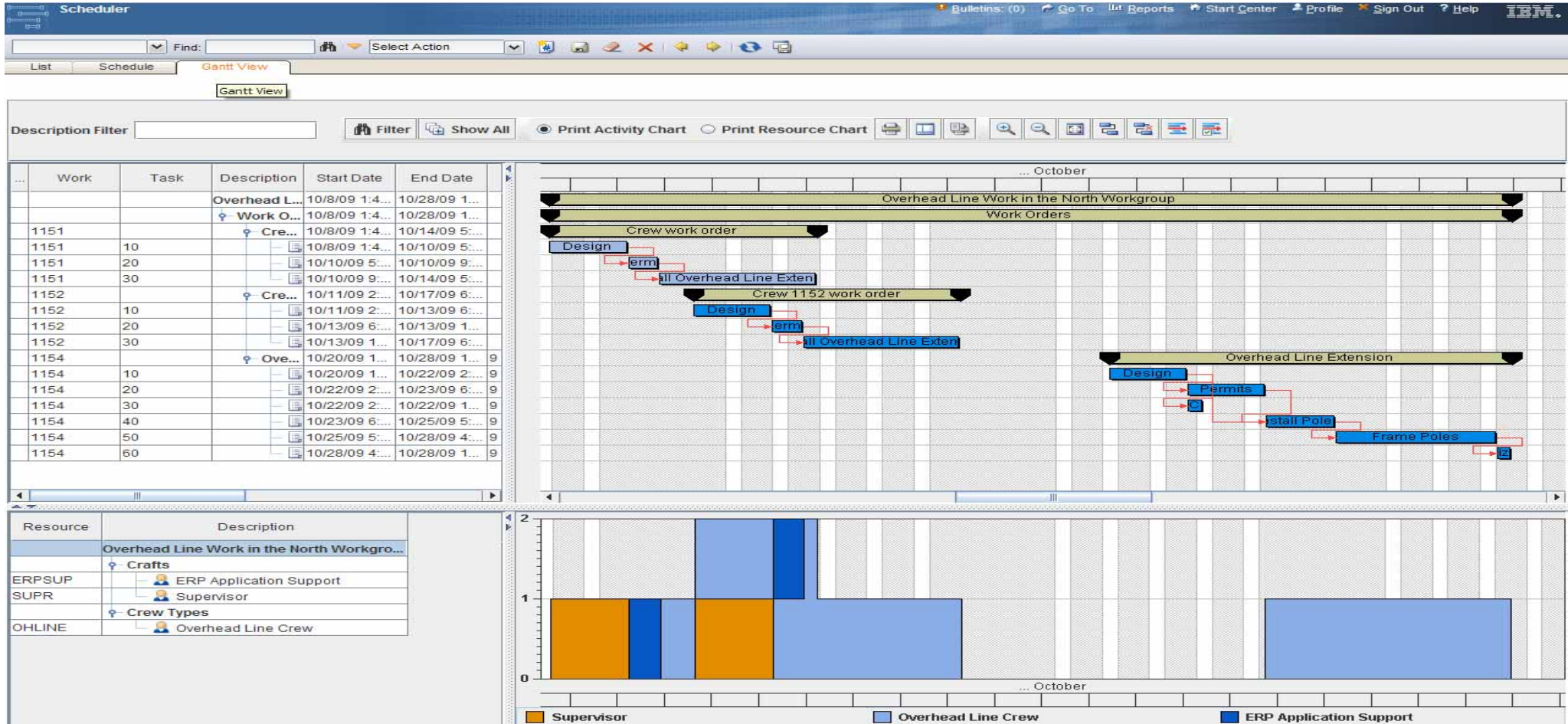


# Enhancement – Scheduler for Crews

The screenshot displays the Scheduler application interface. At the top, there is a navigation bar with options like 'List', 'Schedule', and 'Gantt View'. Below this, a configuration section includes fields for 'Schedule' (CREW1151152), 'Calendar' (DAY), 'Shift' (DAY), 'Organization' (EAGLENA), and 'Start Date'. To the right, there are fields for 'Last Saved Date', 'Last Committed Date', 'Created By' (WILSON), and 'Created Date'. Below the configuration, there are three tables: 'Work Queries', 'Additional Resources', and 'Resource Availability'. Each table has columns for 'Data Source', 'Query Name', 'Description', and 'Where Condition'. The 'Work Queries' table shows two entries with query names '1154' and 'wo1151'. The 'Additional Resources' table shows one entry with query name 'OHLINORTH'.

- What is it?
  - A new application that allows the user to define a project of work orders and the resource pool that will perform the work.
  - The application displays the project as a Gantt view, calculates CPM dates, allows the user to update due dates with the goal of leveling resources.

# Enhancement – Scheduler for Crews





## Enhancement – Scheduler for Crews

- **Business Value**
  - Will assist the user in planning the work to be done in the next week, month or quarter. This process will identify when overtime or contractors must be used to meet the work load demands. By matching work load with all available resources in a graphical format a better schedule can be created.
- **Work List** – Displays all work orders and tasks that were defined for the project. Columns can be configured and dates can be manually updated.
- **Gantt View** – Displays task dependencies, allows task dependencies to be edited, calculates critical path, supports drag and drop due dates and commits new due dates to work orders.



## Enhancement – Scheduler for Crews

- **Resource View –**

Displays a list of resources that are required on the selected work orders. Can also view additional resource pools that are not included as required for list of work orders.

- **Resource Demand –**

Displays the number of resources required and allows the user to compare resources required with resources available for the time period.



## Product Features for Base Maximo 7.1.1.6

- **Base Maximo added new features in the 7.1 release which will now be supported by the Maximo for Utilities solution.**
- **Attribute searching for Classifications**
  - Compatible units can be searched by any attribute or attribute value within the CU Library.
- **Use Cases**
  - A Gas Designer is looking for valve that fits a 4" cast iron main and uses the attribute search dialog to display all CU's that are for use on 4" cast iron pipe.
- **Business Value**
  - Will help Users quickly find the right CU within a large CU Library.

### Enhancement – Base Maximo 7.1.1.6

New features not directly related to the Maximo for Utilities solution

- Web Services Interactions
- ITM for Maximo (Monitoring)
- Cognos Report Integration

# Questions and Discussion?



Backup Slide Details





## Demonstration of Maximo for Utilities 7.1.2 – Beta – Revenue Meter Lifecycle Asset Management



# Meter Assets Application

**Meter Assets (T&D)** | Bulletins: (0) | Go To | Reports | Start Center | Profile | Sign Out | Help

Find:  | Select Action:

Asset:  |  | Site:  | Attachments:

Status:  | Business Unit:  | Meter Type\*:

**Details**

Parent:  | Location:  | Rotating Item:  |  | Serial #:  | Sampling Group:  | Last Sample Date:  | Sampling WO Pending?:

**Purchase Information**

Vendor:  | Manufacturer\*:  | Installation Date:  | PO:

**Meter Configuration**

Utility Type Code:  | Equipment Type Code:  | Meter Size Code:  | Meter Configuration Code:  | Dial Count:  | Multiplier:  | Primary Meter Indicator?:

**Electric Meter**

Meter Phase Code:  | Full Scale Demand Value:  | Demand Constant:

**Gas Meter**

Supercompressibility:  | Meter Pressure:  | Inches of Water:  | Fix Factor Value:

Supports meters as an asset record

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# Test Results Tab

The screenshot displays the 'Test Results' tab for an electric meter. The main window shows a table with columns for 'Test Date', 'Tested By', 'Reason Tested', and 'Notes'. Below this, there are several sections for data entry:

- Testing Details:** Includes fields for Test Date (5/18/10 11:18 AM), Tested By, Reason Tested, and various accuracy and phase error metrics.
- Compensation Variables:** Includes fields for No Load Loss Watts and Load Loss Watts.
- Series Test:** Includes fields for Light As Found, Full As Found, Lag As Found, Light As Left, Full As Left, and Lag As Left for Left, Middle, and Right Stators.

A 'Data Import' dialog box is open in the foreground, showing options to import data from an XML File or Flat File. The dialog includes a table of external systems and a 'Specify Import File' section with a 'Choose File' button.

Supports test results

Able to import an XML or text file from a third party testing application

# Define Meter Templates

Define Meter Sampling Template

Enter the meter sampling templates and identify the Sample Percentage or the specific Sample Size. The Sample Percentage and Sample Size are mutually exclusive. If a non-linear sample size is required, de-select the Linear field and enter the details below. Once the Linear field is de-selected the Sample Percentage and Sample Size fields are no longer editable.

Meter Template	Filter	1 - 3 of 3	Download				
Template Name	Description	Business Unit	Sample Percentage	Sample Size	Linear	Valid Year	Disabled
2PERCENT	2 Percent of all meters will be sampled		2.0000		<input checked="" type="checkbox"/>	2010	<input type="checkbox"/>
5PERCENT	5 Percent of all meters will be sampled		5.0000		<input checked="" type="checkbox"/>	2010	<input type="checkbox"/>
NONLINEA	Non linear example				<input type="checkbox"/>	2010	<input type="checkbox"/>

New Row

Enter the threshold values in decreasing order and the associated sample size. ensure that the maximum threshold is greater then the population size of the meter group.

Threshold details for Meter Template NONLINEA

Filter	1 - 8 of 8	Download
Threshold	Description	Sample Size
1,000,0	Up to 1,000,000 meters	25,000
1,000,0	Up to 1,000,000 meters	25,000
100,000	Up to 100,000 meters	3,000
100,000	Up to 100,000 meters	3,000
10,000	Up to 10,000 meters	400
10,000	Up to 10,000 meters	400
1,000	Up to 1000 meters	50
1,000	Up to 1000 meters	50

New Row

OK Cancel

Templates determine the number of meters that will be sampled depending on the population size. Both linear and non linear sampling templates can be defined.

## Define Meter Sampling Groups

Select New Row to create a new Sampling Group record then associate a Sampling Template and define the condition that should be used to select meter asset records. Select the Exclude? Flag if the Sampling Group is going to be tested on a periodic basis and should be excluded from random sampling.

Meter Sampling Groups Filter > 1 - 2 of 2 Download ?

<input type="checkbox"/> Sampling Group Name	Description	Population Size	Sampling Template	Condition	Exclude	Disabled
<input type="checkbox"/> 5JITRON	Commercial Itron Meters	0	5PERCENT	manufacturer = 'ITRON' and plusmetertype = '...	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 5CITRON	Residential Itron Meters	0	2PERCENT	manufacturer = 'ITRON' and plusmetertype = '...	<input type="checkbox"/>	<input type="checkbox"/>

New Row

Select the Sampling Group record and then the Update Sampling Group button to update the Sampling Group value on the associated meter asset records. Select the Recalculate button to count the number of Meter Assets that are currently assigned to each Sampling Group.

Update Sampling Groups

Only update records where Sampling Group is empty?

Run process in the background?

Update Sampling Groups

Recalculate Population OK Cancel

- Homogeneous groups of meters that will be sampled according to the assigned sampling template.
- Supports the ability to define a sampling group by a SQL statement.
- Supports the ability to update the sampling group field for all asset records that match the SQL statement.
- Supports recalculating the population of assets assigned to a meter sampling group.
- Supports online or in background processing.

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# Generate Meter Sampling WO

Select a sampling group and update the sample size and work order details. If additional testing is required, enter the number of meter sampling work orders in the Sample Size Adjustment field. Select Generate WO to schedule the creation of the meter sampling work orders.

Meter Sampling Groups	Filter	1 - 2 of 2	Download
Sampling Group Name	Description	Sample Size	Last Date Generated
5CITRON	Residential Itron Meters		
5JITRON	Commercial Itron Meters		

**Details**

Sampling Group Name: 5JITRON Commercial Itron Meters

**Last Sampling Batch**

Population Size: [ ] Job Plan: [ ] Scheduled Finish: [ ]  
Sample Size: [ ] Work Type: [ ] GL Account: [ ]  
Sample Size Adjustment: [ ] Work Order Status: [ ] Storeroom: [ ]  
Last Date Generated: [ ] Priority: [ ] Storeroom Site: [ ]

**New Sampling Batch**

Population Size: 0 Work Type: [ ] Scheduled Finish: [ ]  
Sample Size: 0 Job Plan: [ ] GL Account: [ ]  
Sample Size Adjustment: [ ] Work Order Status: [ ] Storeroom: [ ]  
Date to be Generated: [ ] Priority: [ ] Storeroom Site: BEDFORD

Generate WO Cancel

- This dialog displays the last sampling batch details for reference.
- This dialog allows user to define the work order details for the sampling work orders that will be created.
- A cron job will create the work orders in the background after the user selects the Generate WO button.



# Q u e s t i o n s ?

Terry Saunders ([terry.saunders@us.ibm.com](mailto:terry.saunders@us.ibm.com)) for general product questions

Gary Cooper ([gcooper@us.ibm.com](mailto:gcooper@us.ibm.com)) for Maximo Spatial questions (GIS)

Jerry Miller ([jerrym1@us.ibm.com](mailto:jerrym1@us.ibm.com)) for Utilities T&D questions

Ron Wallace ([ron.wallace@us.ibm.com](mailto:ron.wallace@us.ibm.com)) Utilities & EAM Marketing

Dianne DePuy ([ddepuy@us.ibm.com](mailto:ddepuy@us.ibm.com)) Utilities Industry Leader

Kim Woodbury ([kwoodbur@us.ibm.com](mailto:kwoodbur@us.ibm.com)) for commercial & product questions

Don Fenhagen ([fenhagen@us.ibm.com](mailto:fenhagen@us.ibm.com)) for Spatial Implementation questions



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**Pulse2010**

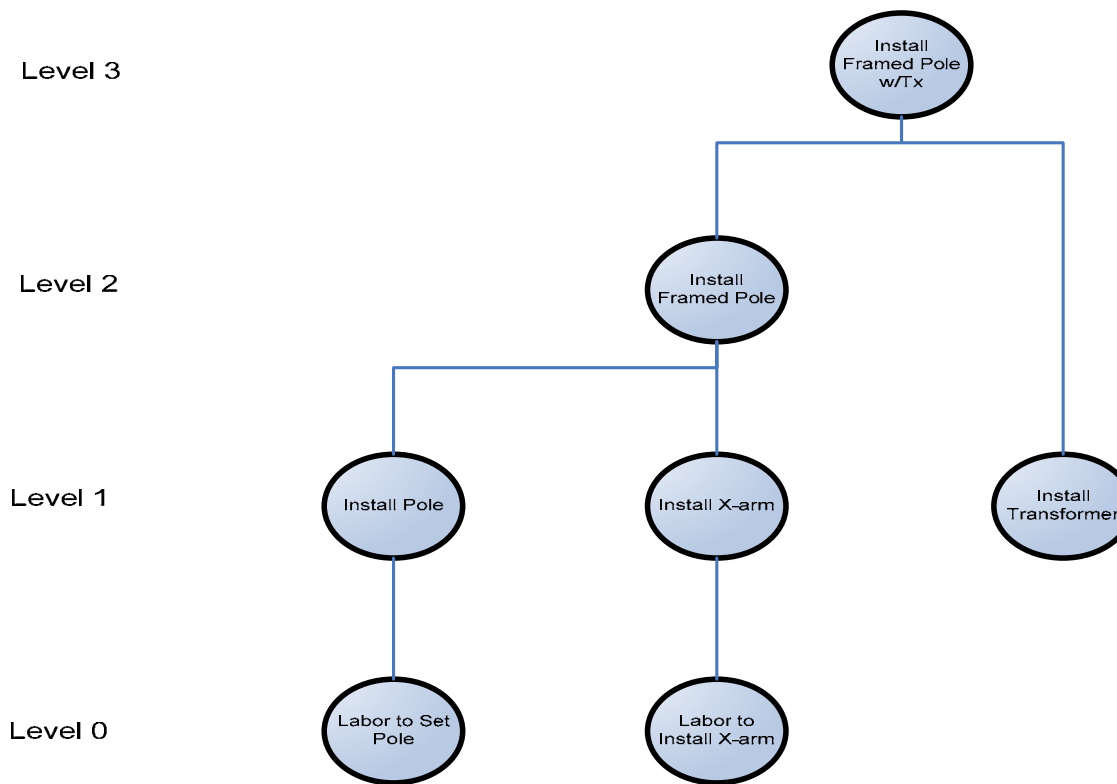
Meet the people who can help  
advance your infrastructure



## Maximo for Utilities CU Library Details

- Provide Designers and Engineers with a standards-based means to estimate labor, materials, services and tools to complete construction work.
- Capture costs of doing that work and the proper accounting.
- Filter concept supports the variables associated with site conditions.
- Supports 10 levels of parent child relationships.
- Recommended best practice is to align the top level CU's with the organizations construction standards.
- There can be one to many relationships among CUs
- Each CU is version controlled and only one version can be active at a time

# Maximo for Utilities CU Library Sample Hierarchy



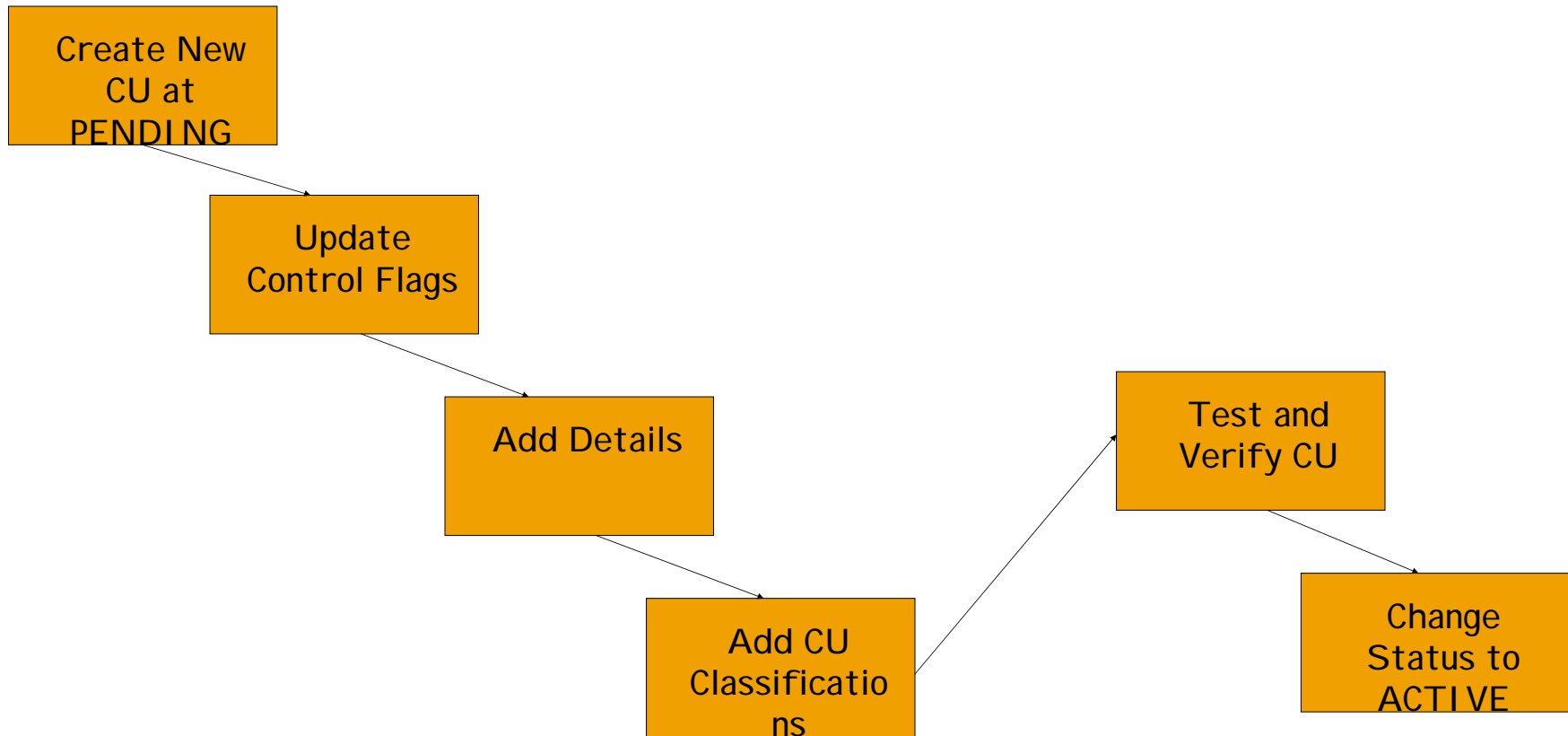
The compatible unit library supports 10 levels for maximum flexibility. This is a distribution example. A substation example might use 5 levels.

Macro units or compatible unit groups

Compatible Units

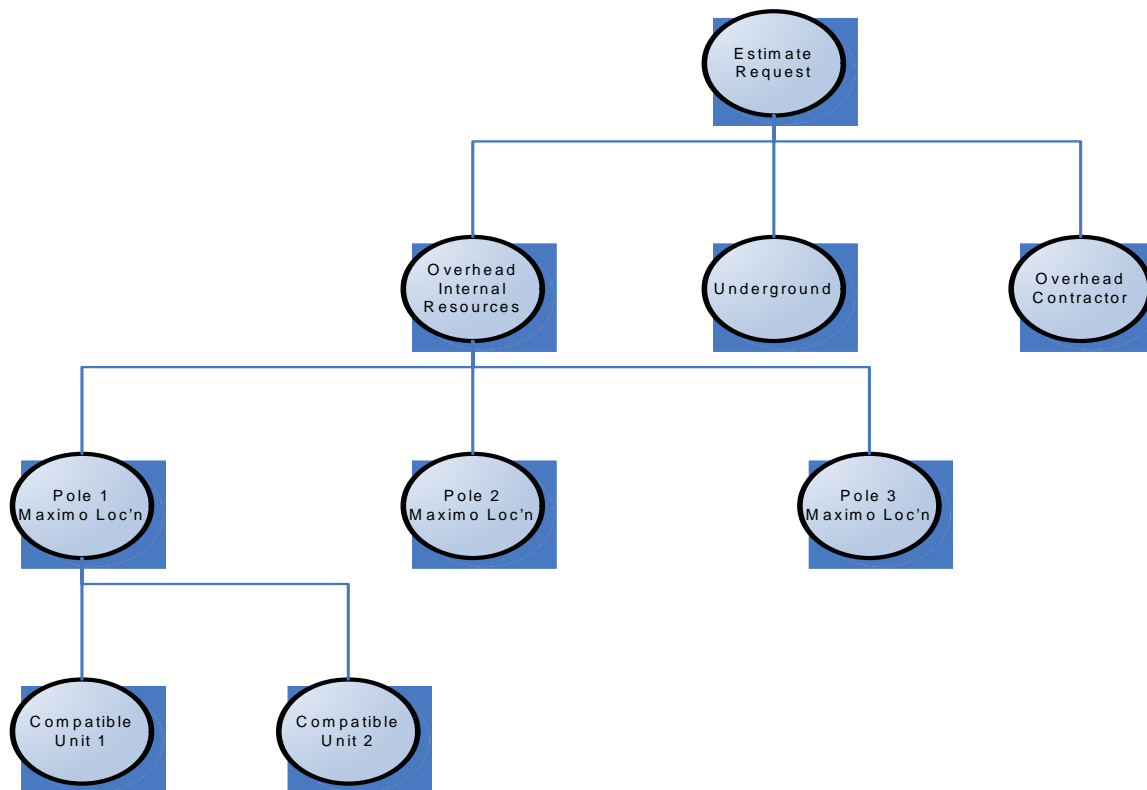
Labor Units are associated to contract lines allowing the user to copy an estimate of internal resources and cost and quickly re-estimate using a specific outside contractor

# Maximo for Utilities CU Library Business Process





# Maximo for Utilities CU Estimate Sample Hierarchy



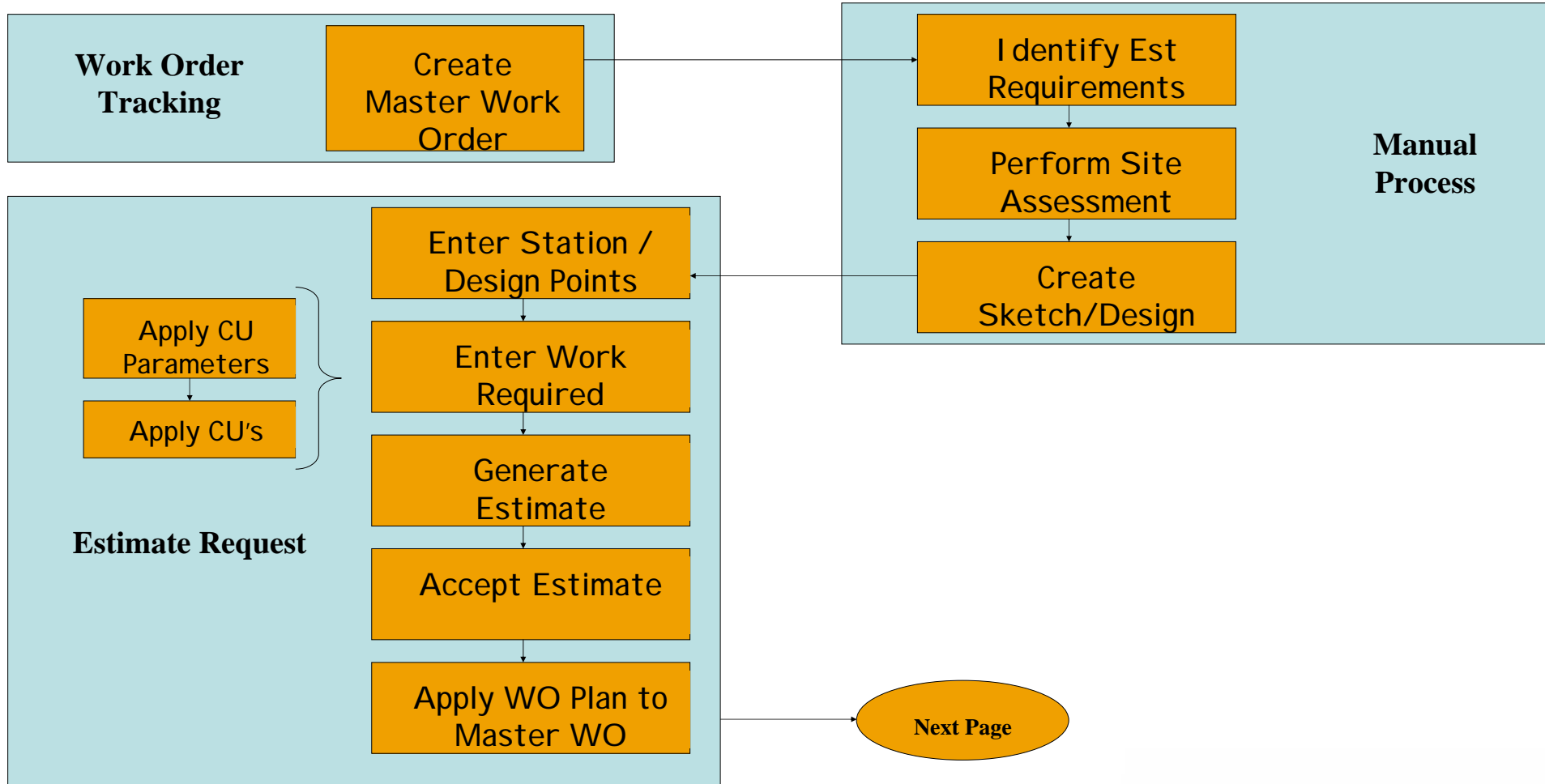
A new estimate request is created for each project.

Different versions can be created to compare costs of different designs. The filters facilitate copying an estimate and re-estimating with different site conditions (such as rock trenching).

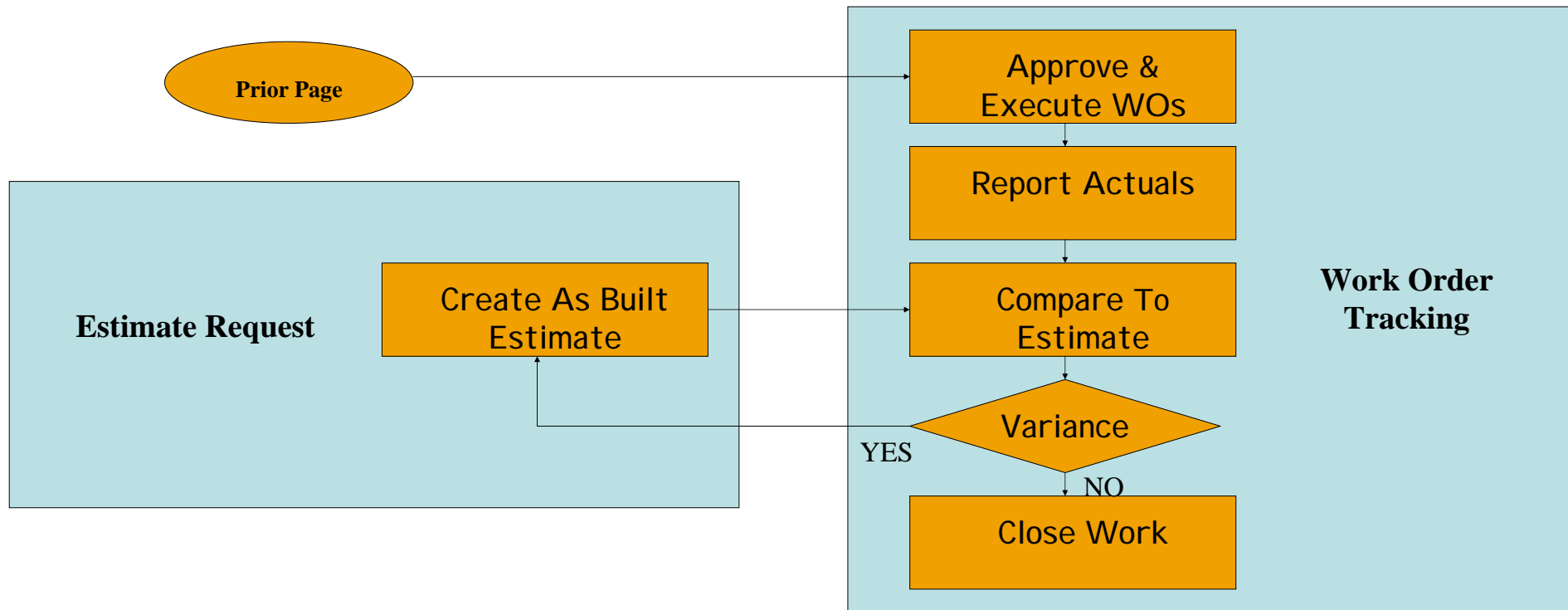
Stations or design points are locations where work is performed. These points can be associated to a Maximo location.

Compatible units are the basic estimating units which contain the labor, material and tool requirements. See the compatible unit library hierarchy.

# Maximo for Utilities CU Estimate Business Process



# Maximo for Utilities CU Estimate Process Cont.



# CU Estimating – Tasks by Type

- Assignment Manager
- The Task Types are logical groupings for the way the work is going to be performed which is different from the way it is estimated. Task Type was added to the Advanced Search Screen and is displayed in the detail section of the work list.

The screenshot displays the 'Assignment Manager (T&D)' application. At the top, there is a search bar with 'Find:' and a 'Select Action' dropdown. Below this is the 'Advanced Search' section with a 'Save Query' button. The main area is divided into several sections:

- Work List:** A table with columns for WO Group, Task, Description, Labor, Craft, Crew, Crew Type, and Work Group. The first row shows WO Group 1145, Task 10, Description 'Set Poles', Labor, Craft, Crew, Crew Type 'OHLINE', and Work Group 'NORTH'. Subsequent rows show tasks 20 ('Frame Poles') and 30 ('Trench'), all with Crew Type 'OHLINE' and Work Group 'NORTH'. A final row is labeled 'task by type example'.
- Work Order Details:** A section with input fields for 'WO Group' (1145), 'Task' (10), and 'Task Type' (SET POLES). The 'Task Type' field is circled in red.
- Assignment Details:** A section with input fields for 'Labor', 'Craft', 'Skill Level', 'Vendor', 'Contract', 'Crew', and 'Crew Type' (OHLINE).
- Labor List:** A table with columns for Crew, Description, Crew Type, Work Group, Shift, and dates (8/10/07, 8/11/07, 8/12/07). Rows include 'LINE101 Line Crew 101' (OHLINE, NORTH, DAY, 9:31), 'SVC201 Overhead Service Crew' (OHSVC, NORTH, DAY, 6:21), 'GAS301 Gas Maintenance Crew 301' (GASMAINT, NORTH, DAY, 9:31), and 'SPLC401 Cable Splicing Crew 401' (CBLSPLCR, NORTH, DAY, 6:21).

At the bottom right, there is a button labeled 'Filter Crew to Match Work'.

# CU Estimating – Multi Site

- Support for Multi-site
  - Allow estimates to reserve materials from storerooms in another site (all changes for this application are shown below). This storeroom and site will be transferred to the target work order during Perform Acceptance.

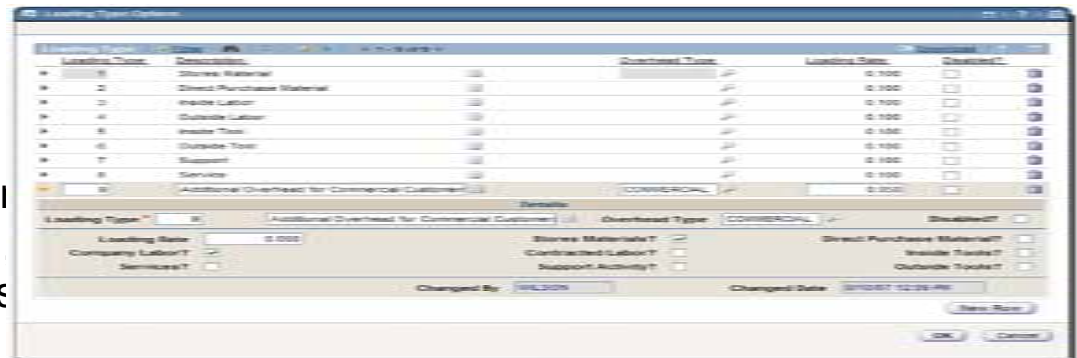
The screenshot displays the CU Estimating (T&D) software interface. The top section shows the 'Estimate Request' form with fields for Estimate Request (1002), Request Type (JOB), Status Date (ACCEPTED), Work Site (SECFORD), and Target WO (task by type example). The 'Attachments' section shows Organization (EAGLENA) and Accepted Design Version (1). The 'By' field is WILSON and the Date is 8/10/07 11:39 AM.

The middle section shows the 'Versions' table with columns for Estimate Version, Description, Status, Estimate Type, Work Group, Storeroom, Financial WO, and Contractor ID. The 'Details' section shows Estimate Version (1), Estimate Type (DESIGN), Status (ACCEPTED), Status Date (8/10/07 11:39 AM), and Date Modified (8/10/07 11:39 AM). The 'Tasks by Type?' checkbox is checked, and the Estimator is WILSON.

The bottom section shows the 'Overhead Type' dropdown menu, which is currently set to 'Design'. The 'Station Filters' section shows Work Group (NORTH), Financial WO, Contractor Xref, Apply Contribution (N), Account Override, Work Zone, Storeroom (CENTRAL), Storeroom Site (SECFORD), Const#?, Voltage, and Pressure. The 'Customer Contribution' section shows Contribution Method, Amount, and Percentage. The 'Labor Filters' section shows Hot/Cold, Inaccessible?, Congested?, and Soil Condition. The 'Accounting Filters' section shows FERC Function, Service?, and Lighting Type.

# CU Estimating – Variable Overheads

- Added Variable Overheads
  - Allows more out of the box configuration of overheads
  - Record 9 is an overhead that will be applied when the user selects overhead type = commercial within the CU Estimating application. If the Overhead Type field is null on this screen the overhead will be applied to all CU Estimates.
- Business Value – Can be used to change the overhead cost calculation for each Work Group.



# CU Estimating – CU Services

- Added CU Services
  - Supports Maximo's standard services on CU's for costs such as police details, tree trimming and road repairs after trenching

The screenshot displays a software interface for managing CU Services. At the top, there are tabs for 'Child CUs', 'Labor', 'Materials', 'Services', and 'Tools'. Below the tabs is a table with columns for 'Service Item', 'Description', 'Quantity', 'Unit Cost', 'Line Cost', and 'Vendor'. The table shows one row with a dropdown arrow next to the 'Service Item' column. Below the table is a detailed form for editing a service item. The form is divided into several sections: 'Details' (Service, Quantity, Work Function, Order Unit, Unit Cost, Line Cost, Vendor), 'Contractor Details' (Apply to Contracted Details?, Override Estimate Vendor?), 'Labor Filters' (Hot/Cold, Inaccessible?, Congested?, Soil Condition), and 'Modified' (By: WILSON, Date: 8/14/07 10:04 AM). There are also checkboxes for 'Cost Overridden?' and 'Absolute?'. A 'New Row' button is located at the bottom right of the form.



# Maximo for Utilities Crew Applications

- Planning/Crew Type
  - Define the basic crew template in terms of craft, qualifications and tools.
- Resources/Crew Management
  - Create actual crew record using Crew Type as a basis.
  - Assign labor and tools to the Crew
- Work Order/WO Tracking (T&D) & Planning/Job Plans (T&D)
  - Extended base solution to support Work Groups, Crew Types and Crews.
- Work Order/Assignment Manager (T&D)
  - Extended base solution to support assigning Crews to work orders and to filter by Work Group
- Labor Reporting (T&D) and Quick Reporting (T&D)
  - Extended base solution to support entering time by crew. This will create the labor and tool transactions for the resources assigned to that crew for the work date.





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