Tivoli software

IBM

Support Technical Exchange: Maximo Linear Asset Manager 7.5

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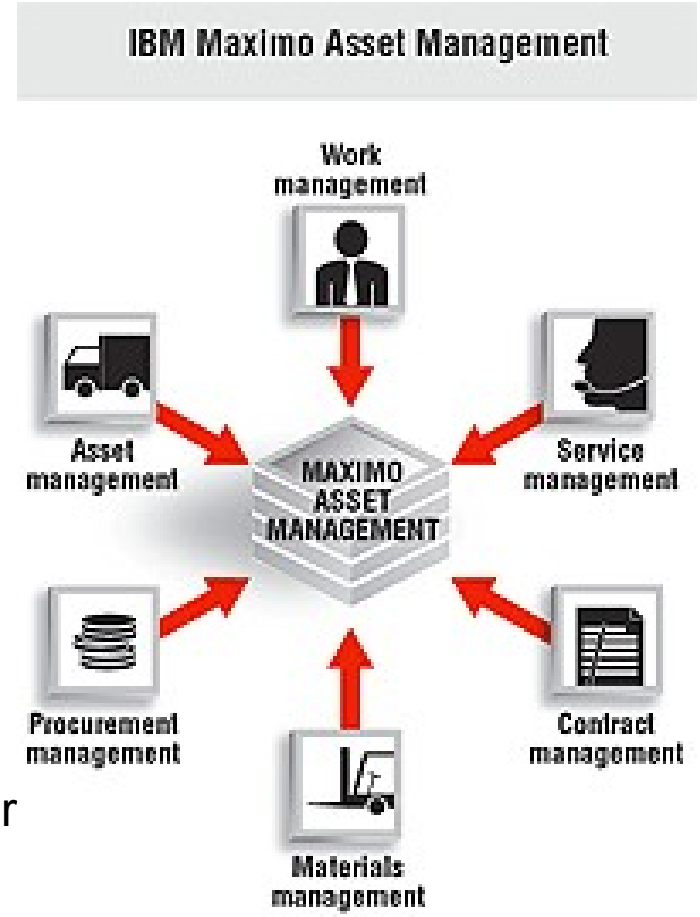
30 October 2012

IBM Maximo Asset Management solution

IBM Maximo Asset Management is a solution that enables organizations to perform the following tasks:

- Manage and optimize the business processes pertaining to fixed, physical, or capital assets. Processes apply to assets that have a direct and significant impact on achieving corporate objectives
- Take an enterprise-wide view of asset performance and the tools required for deriving maximum return on asset investment through its life cycle
- Drive corporate performance by extracting greater lifetime value from asset investment

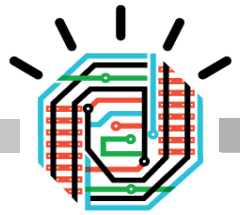


Focus is on the maintenance, repair and operation of Asset's and/or Location's.

A smarter planet...can only be as smart...

telco

traffic

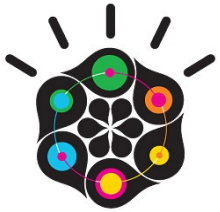


rail

as its infrastructure.

energy

water

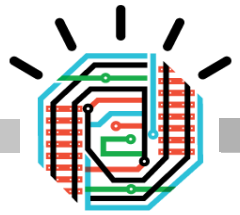


oil & gas

And infrastructure….


telco

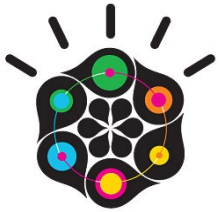

traffic


rail

contains linear assets.


energy


water


oil & gas

Maximo Linear Asset Manager Solution

- **Asset definition**
  - Linear referencing
  - Dynamic segmentation
  - Linear attribute (abstract events)
  - Reference point / offset
- **Asset features**
  - Ties, ballast, welds, collars, mileposts
- **Asset relationships***
  - User defined
- **Condition assessment**
  - Dynamic Condition Monitoring points
- **Work Management**
  - PM segments
  - Ticket segments
  - Work segments
  - Work progress






**In core Maximo as of 7.5*

What is a Linear Asset?

- An asset that uses linear referencing to provide context for asset definition and/or work management


Track


Roads


Pipelines


Streets


Lines


Pipes

And there are many linear use cases






Transportation

- Rail (P/F), metro
- Walking inspections
- Geometry Car Inspections
- Rail grinding
- Ballast cleaning & tamping
- Tie (sleeper) replacement

- Road (state, county)
- Pavement
- Mowing
- Striping
- Snow Removal
- Pothole repair

Oil & Gas

- Oil & Gas
- In-line inspections
- Pigging
- Leak management
- Vegetation management

Government

- Road
- Pavement (PMS
- Striping
- Sweeping
- Snow Removal
- Curb repair/paint
- Water
- CCTV
- Cleaning of mains
- Metro
- Walking inspection
- Distribution

Utilities

- Transmission
- Vegetation Management
- Distribution
- Overhead inspection
- Mining
- Walking inspection

Water

- Potable
- GPS
- Waste Water
- Feet from manhole

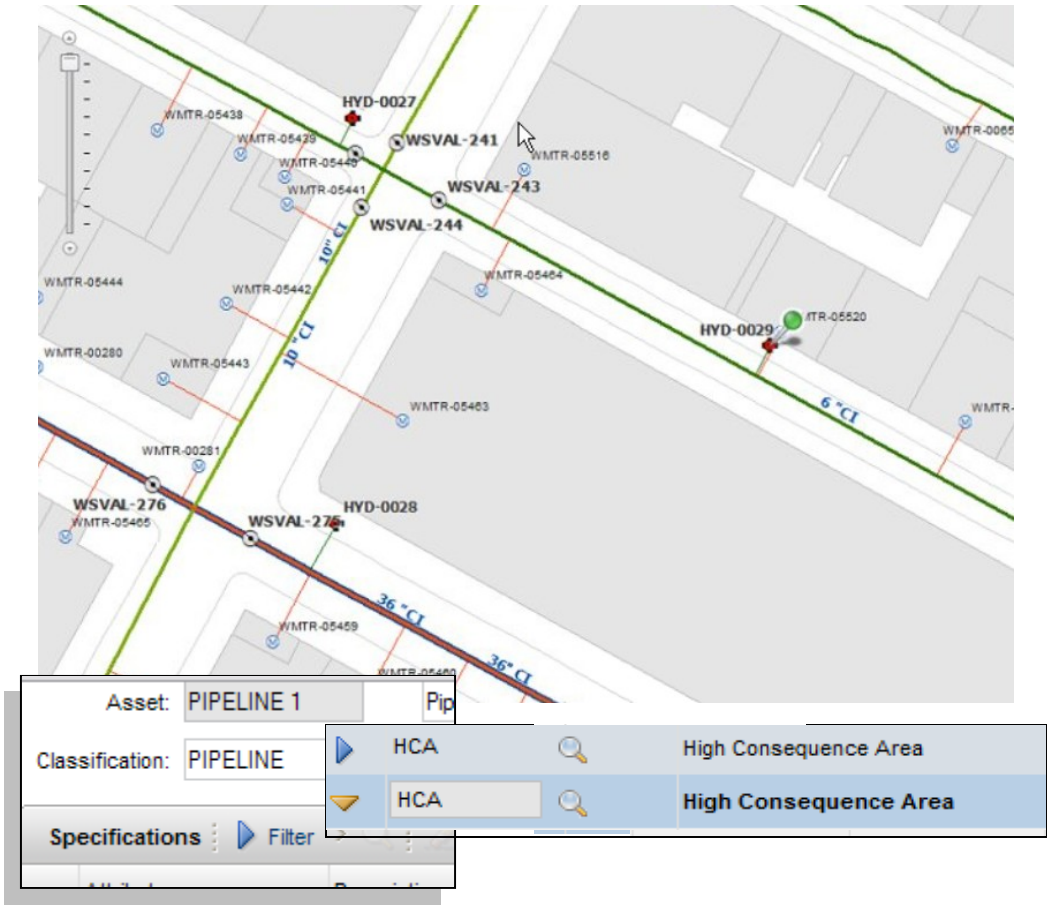
Use Cases

- Challenge
  - When maintenance workers replace pipe segments, the characteristics of that segment must be updated, but an asset can only have a single value for each attribute
- Solution
  - Allow linear assets to have the same attribute multiple times, with different values and start/end measures

Use Cases

- Challenge
  - 49 CFR 192 dictates that operators not only identify which pipe segments reside in High Consequence Areas (HCA), but be able to correlate threats to these pipe segments.

- Solution
  - Allow linear assets to have the same attribute multiple times, with different values and start/end measures

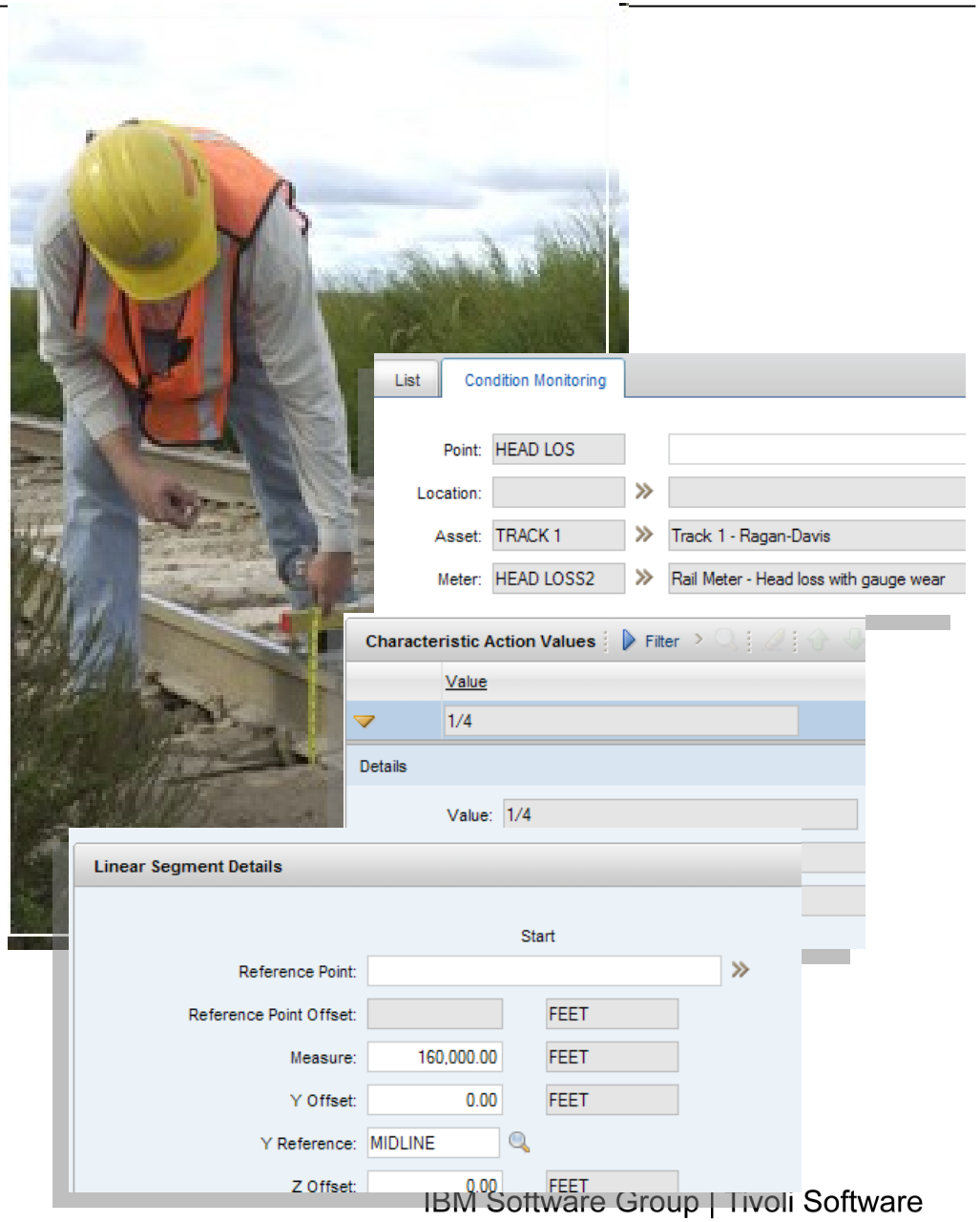


Use Cases

- Challenge
  - Maintenance workers need to identify the measure, as well as the asset, when conducting work. They typically use reference points, not absolute measures, to identify the measure(s).
- Solution
  - Allow assets to be defined as 'linear' with start/end measures. Allow users to create 'features' that can be used as reference points on work orders.

Use Cases

- Challenge
  - Track inspectors can enter condition measurements and observations at any point along the track, yet condition monitoring points were designed for taking readings at specific points.
- Solution
  - Allow gauge and characteristic meter readings to now have a start/end measure, as well as the meter reading, making them dynamic.



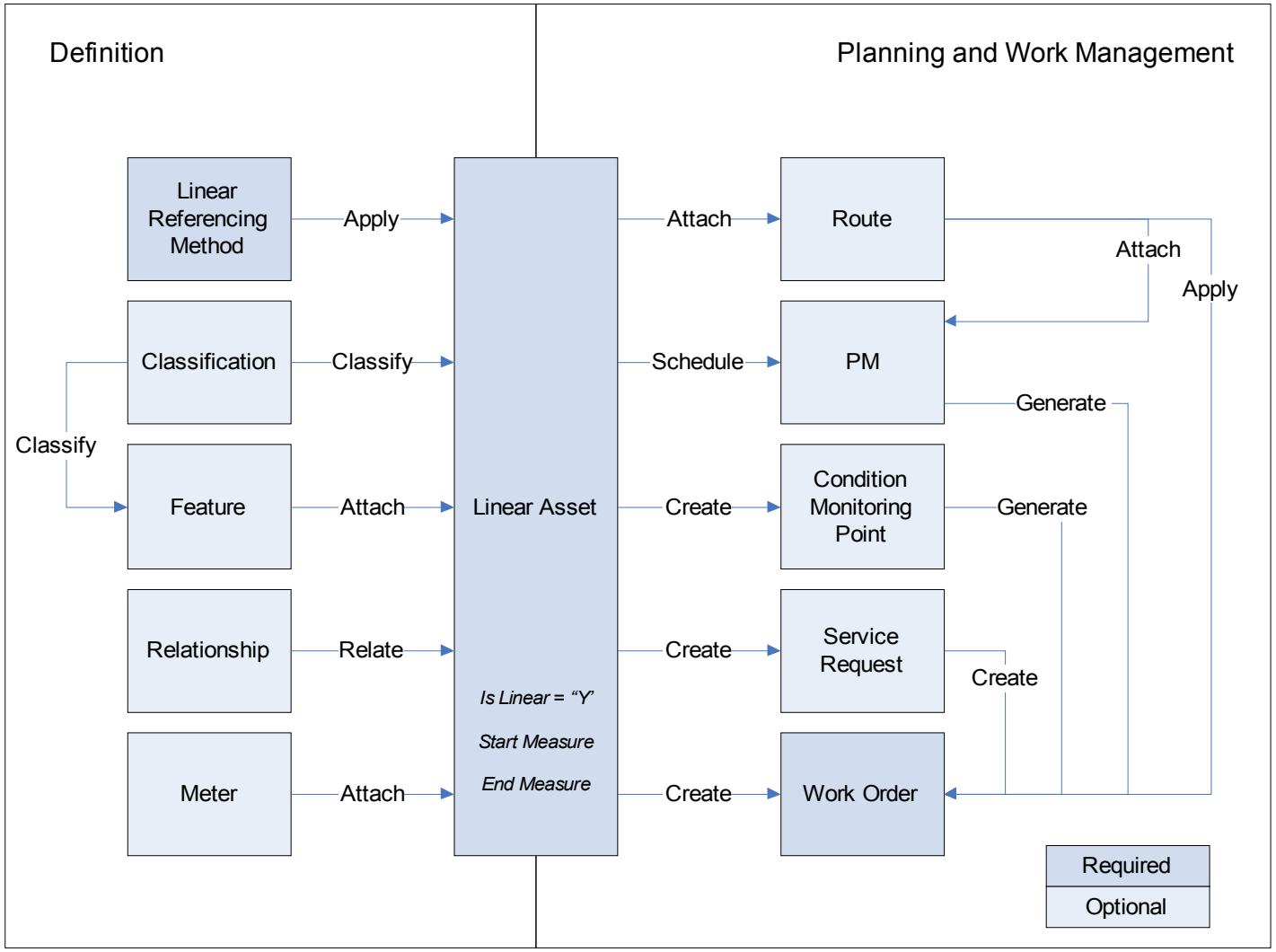
Use Cases

- Challenge
  - Linear assets reside in financial and organizational hierarchies, but operationally they part of a network.
- Solution
  - Allow users to create their own relationships, such as ‘intersects’ or ‘connects’, and use linear measures to state where the relationship takes place.

1 - 2 of 2

Source Asset	Source Start Measure	Source End Measure	Relationship	Target Asset	Target Start Measure	Target End Measure
DAVIS INT	215,945.00	220,945.00	INCLUDES	TRACK 1	215,945.00	220,945.00
TRACK 2	159,917.00	220,485.00	PARALLEL	TRACK 1	159,917.00	220,485.00

Walk before you run design…

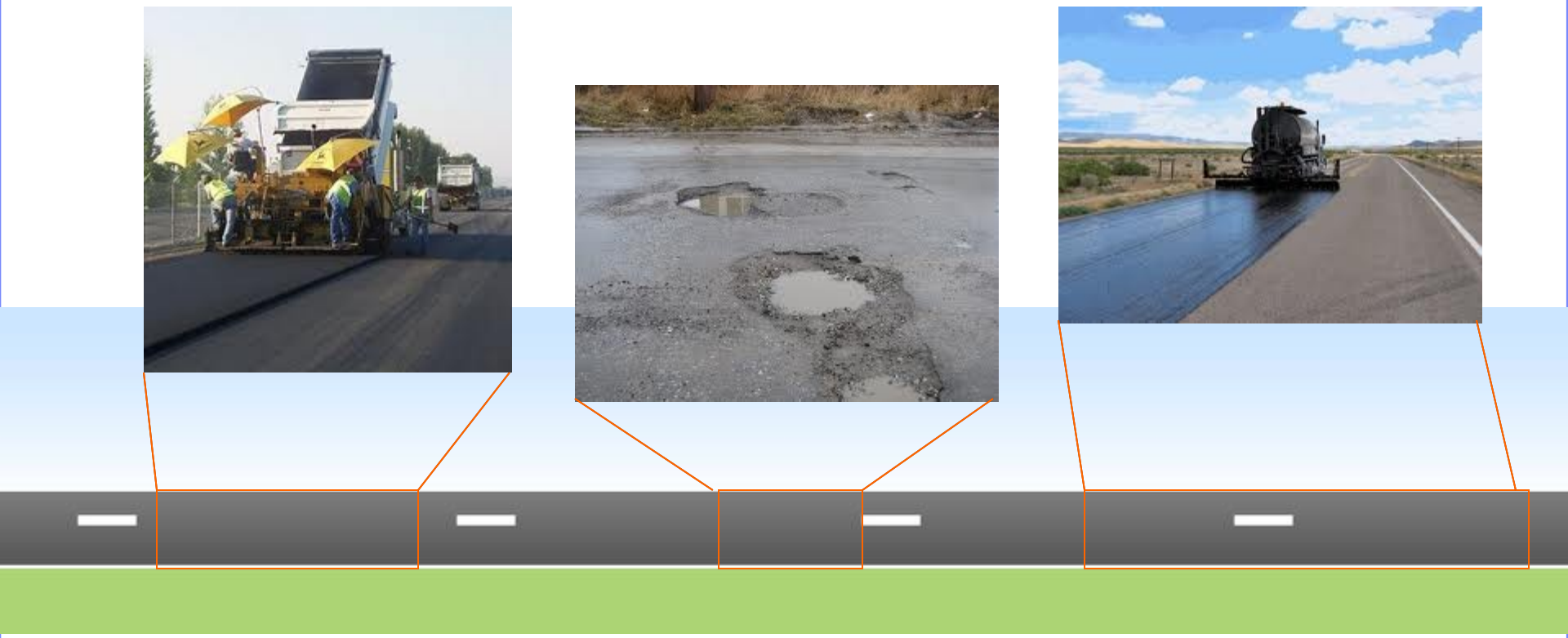


Linear Asset Manager

- The key is dynamic segmentation

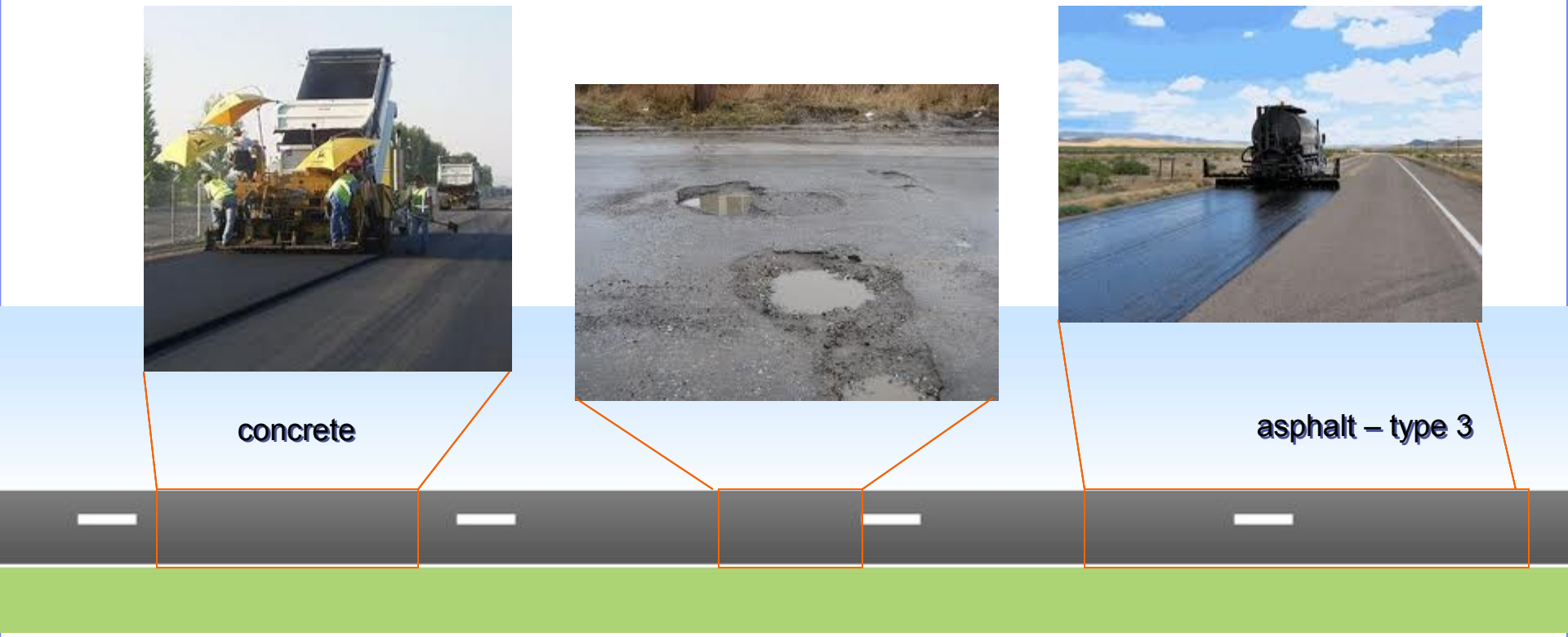
Linear Asset Manager

- We work on linear assets in segments



Linear Asset Manager

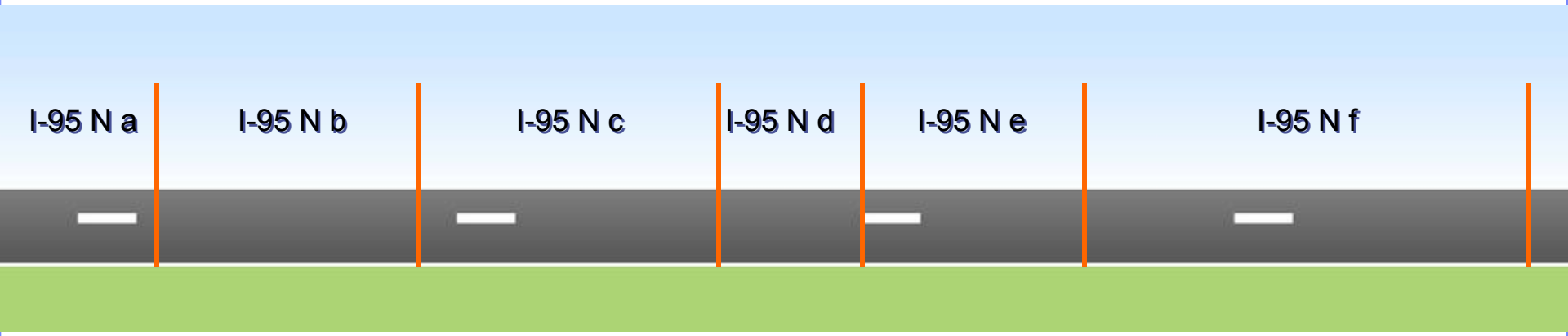
- And the characteristics of linear assets change by segment



Linear Asset Manager

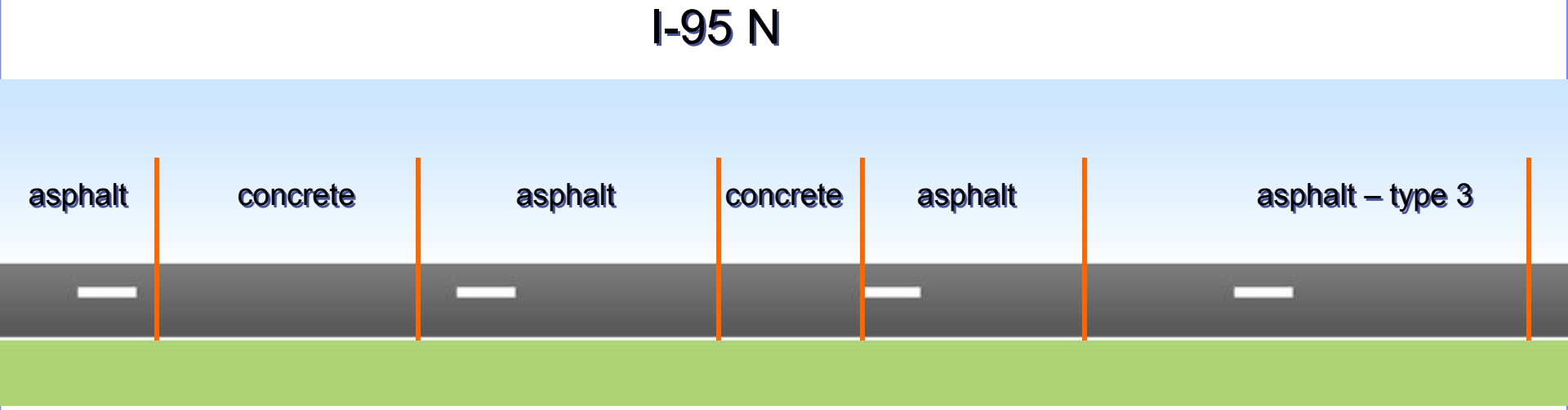
- And due to that – linear assets become defined by segment

- Traditionally, the asset would be retired and multiple assets created to address the changes in characteristics
  - creating a proliferation of assets
  - losing valuable work history



Linear Asset Manager

- Dynamic segmentation means that we no longer have to create a new asset every time a characteristic changes
  - Just update the asset definition

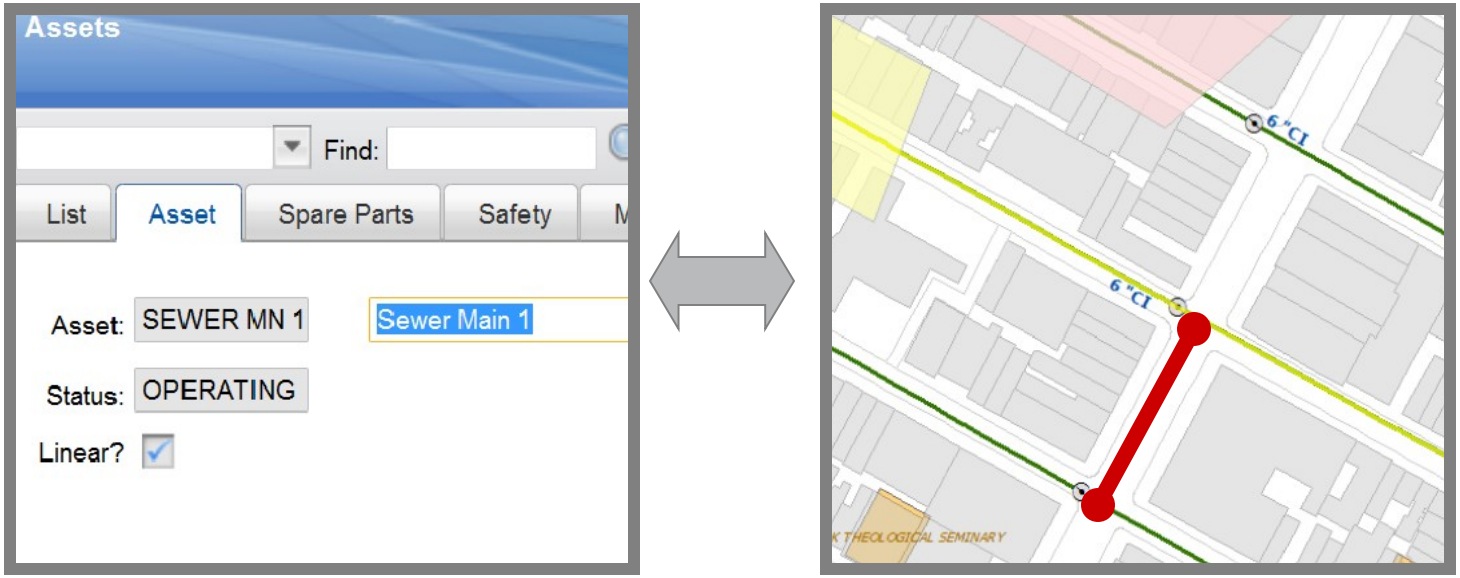


Linear Asset Manager

- And you maintain the work history against the original asset as well

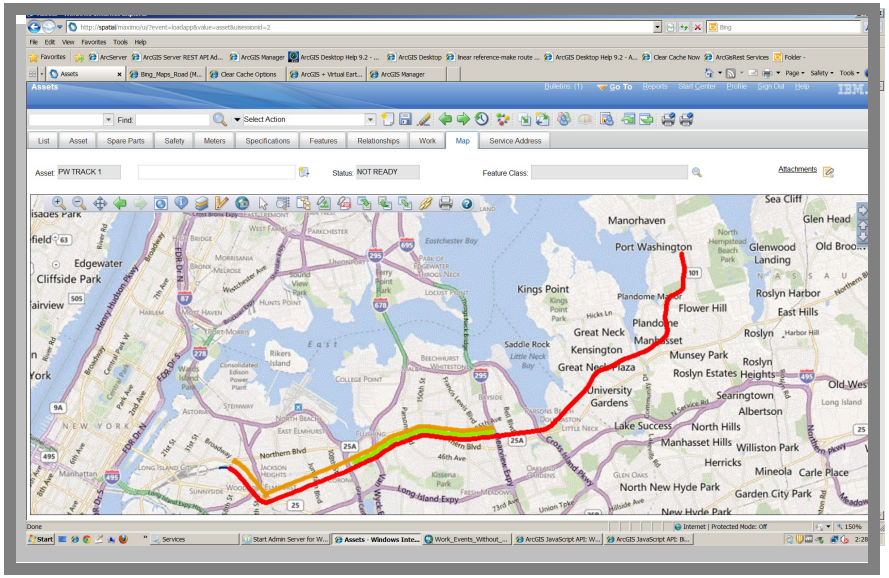
How does it work with Maximo Spatial?

- At the asset level
  - I can locate a linear asset in the map
  - Maximo Asset <-> ESRI Feature



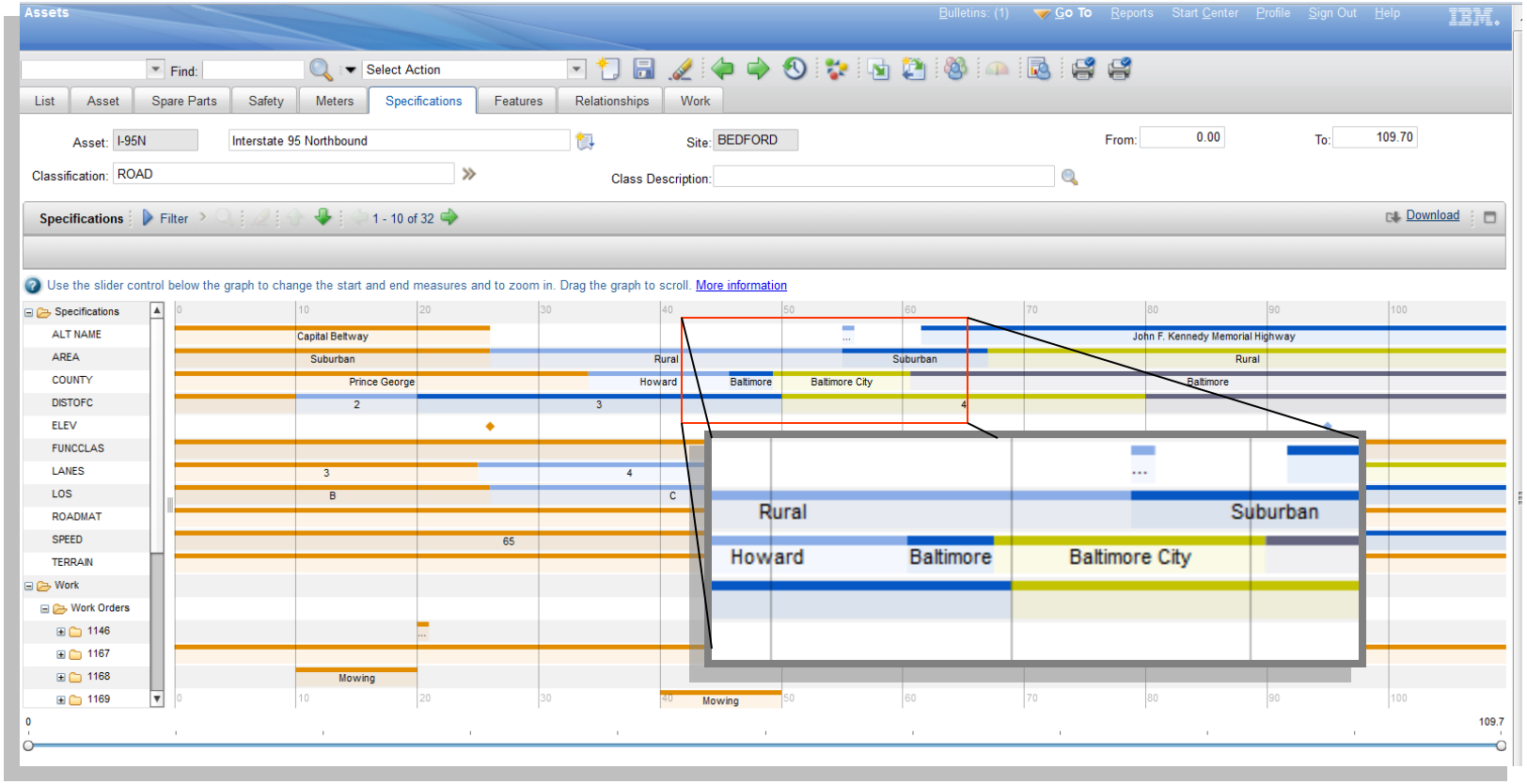
How does it work with Maximo Spatial?

- What about displaying linear work in the map?
  - Displaying Maximo dynamically segmented data in Maximo Spatial
  - Maximo Asset <-> ESRI Route
    - *(Additional details from Pulse 2012 demo available edjones@us.ibm.com)*

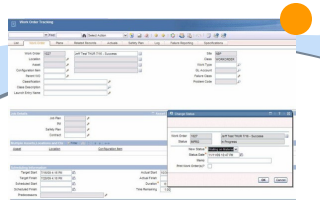


New in 7.5…

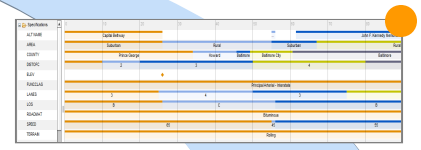
- Linear Visual Control



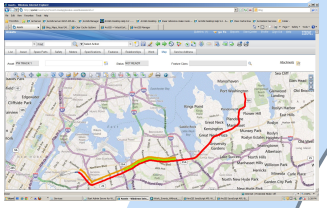
The big picture



Ticket created

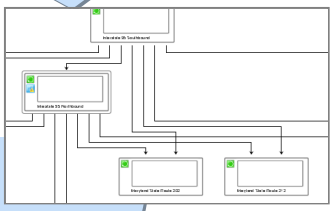


Supervisor uses linear visual control for analysis



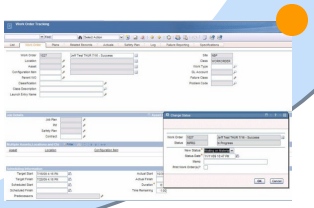
Service Rep uses Spatial to locate linear asset

Now includes linear



Then views topology for impact

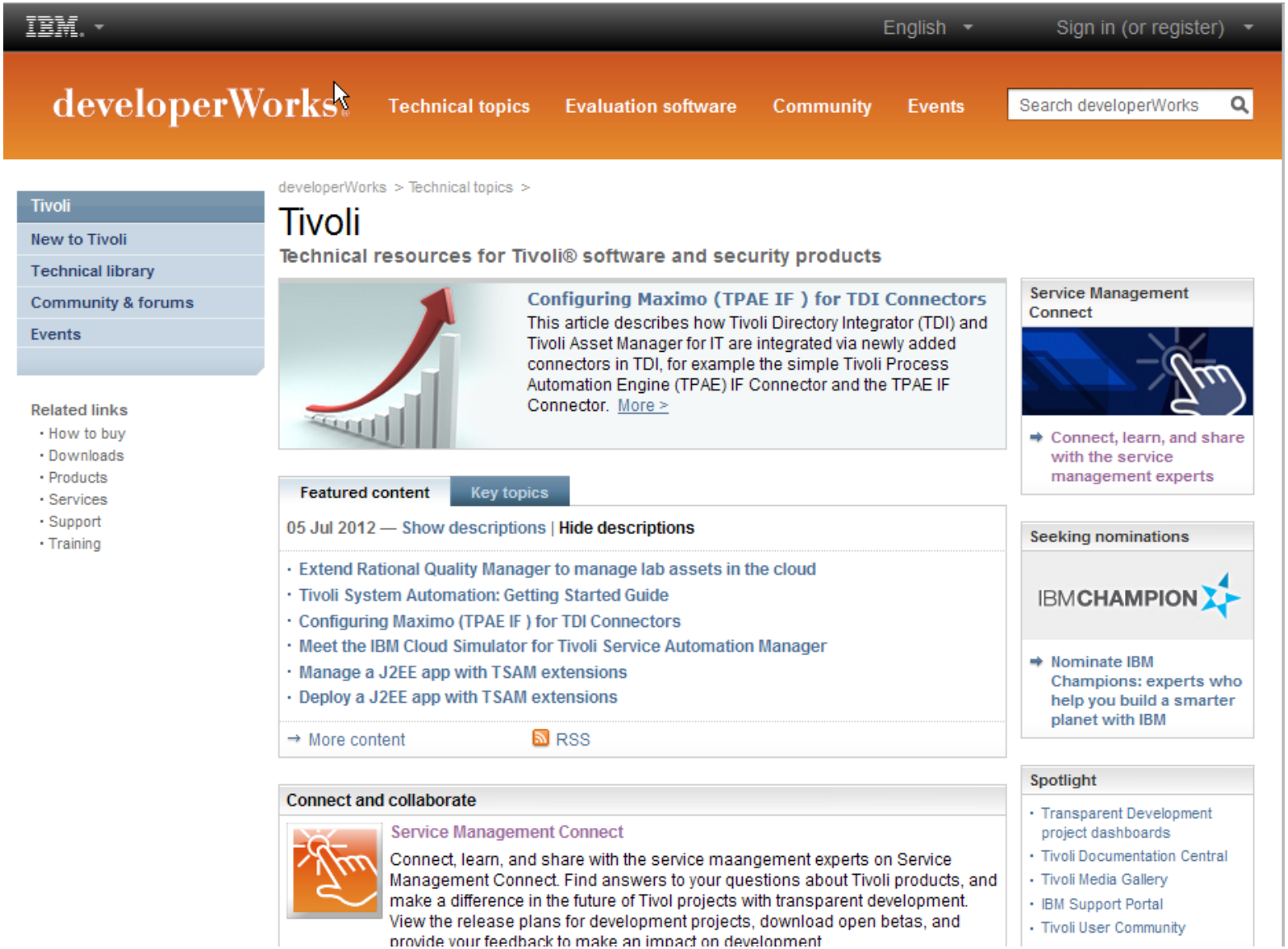
WO completed using Maximo Mobile



WO created

WO added to schedule

More Info



Questions?

Thank you!