Data Creation Best Practices

Discussion on the value and importance of data and how it is used within an organization

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Skywire Visual Suite for Maximo

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Agenda

Best Practices for Data Creation

- EAM
- Why are we Talking about Data Creation
- Data Statistics
- Data Creation Best Practices
- Why?
- How Can AKWIRE Support you
- Conclusion
- Questions and Answers

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Who is Solufy

- Founded in 2003
- 100% dedicated to achieving excellence in Maximo planning and scheduling
- Staff comprised of current and former Maximo users, consultants, implementers, planners and schedulers
- Creators of the AKWIRE Visual Suite for Maximo

Akwire Visual Suite for Maximo

Solufy

Who is Solufy

We help companies who are trying to implement and streamline maintenance planning and scheduling processes by providing best of bread planning and scheduling software, the AKWIRE Visual Suite for Maximo.

With AKWIRE, Organizations:

Gain immediate insight into resource availability and utilization
Maximize “wrench time” of work crews
Achieve increased efficiency of planners and schedulers, and supervisors

All of Which:
Increase productivity
Improve employee satisfaction
Increase profitability

We do this by providing the foundation for sustainable change relating to your planning and scheduling processes.

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EAM Relies on Data

EAM or World Class Maintenance

EAM is the management of assets across departments, locations, facilities and/or business units.

The goal of EAM is for organizations to maximize the return on investment from their asset base by managing the asset throughout its life.

- Acquisition (design, construction, commissioning)
- Operations
- Maintenance
- Decommissioning/Replacement

Benefits

- Improve Asset Utilization and Performance
- Reduce Capital Costs
- Reduce Asset-related Operating Costs
- Extend Asset Life
- Maximize Overall Asset Productivity
- Minimize Total Cost of Ownership
- Know whether it is more cost-effective to continue to maintain, overhaul or replace a failing asset.

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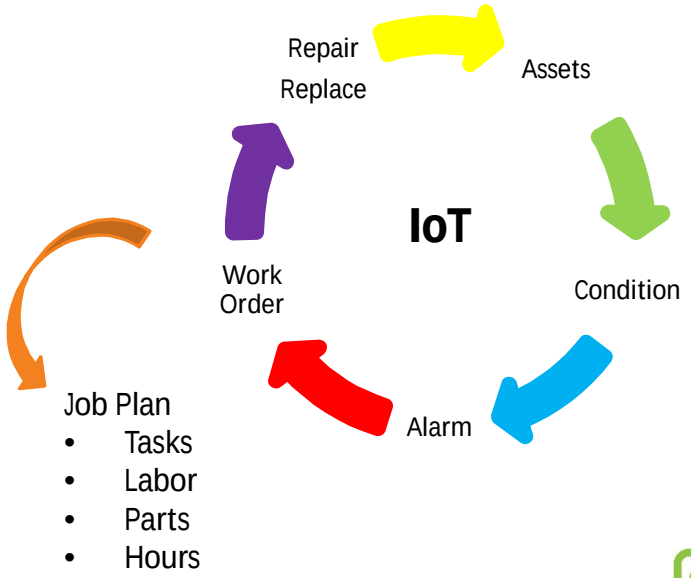
Data Driven World

- Big Data – We are collecting more data every day
- IoT – internet of things
- JobPlans
- Reliability is data driven
- Planning and Scheduling consumes and produces data
- Metrics and compliance reporting



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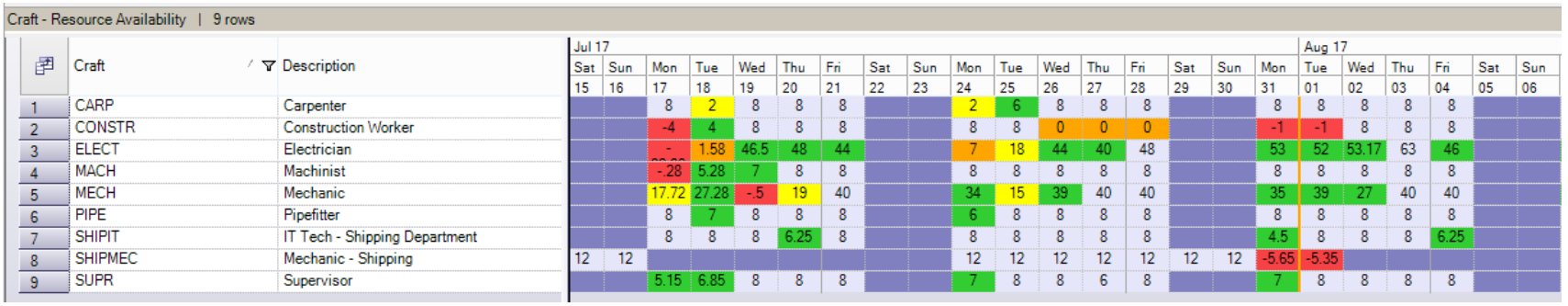
Data

Why are we discussion data at GOMaximo?

- Its ALL about the data
- Everything we do is driven by data
- How accurate is our data?
- What do you do to ensure data quality?
- What do you do with the data?
- Do you have a data strategy defined and documented?
- How does planning and scheduling consume or produce data?



Craft - Resource Availability | 9 rows

	Craft	Description	Jul 17 Sat 15	Sun 16	Mon 17	Tue 18	Wed 19	Thu 20	Fri 21	Sat 22	Sun 23	Mon 24	Tue 25	Wed 26	Thu 27	Fri 28	Sat 29	Sun 30	Mon 31	Aug 17 Tue 01	Wed 02	Thu 03	Fri 04	Sat 05	Sun 06
1	CARP	Carpenter			8	2	8	8	8			2	6	8	8	8			8	8	8	8	8		
2	CONSTR	Construction Worker			-4	4	8	8	8			8	8	0	0	0			-1	-1	8	8	8		
3	ELECT	Electrician			-	1.58	46.5	48	44			7	18	44	40	48			53	52	53.17	63	46		
4	MACH	Machinist			-.28	5.28	7	8	8			8	8	8	8	8			8	8	8	8	8		
5	MECH	Mechanic			17.72	27.28	-.5	19	40			34	15	39	40	40			35	39	27	40	40		
6	PIPE	Pipefitter			8	7	8	8	8			6	8	8	8	8			8	8	8	8	8		
7	SHIPIT	IT Tech - Shipping Department			8	8	8	6.25	8			8	8	8	8	8			4.5	8	8	8	6.25		
8	SHIPMEC	Mechanic - Shipping	12	12								12	12	12	12	12	12	12	-5.65	-5.35					
9	SUPR	Supervisor			5.15	6.85	8	8	8			7	8	8	6	8			7	8	8	8	8		

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Data Statistics

How much data is out there?

- 1992 – 100GB of data was created daily
- 1997 – 100GB of data was created hourly
- 2002 – 100GB of data was created per second
- 2013 – 28,875GB of data was created per second
- 2015 – 2.5 quintillion (18 zeros) bytes of data was created every day
  - This would fill 10 million blue ray discs, as high as 4 Eiffel Towers
- By 2018 – it could be as much as 50,000GB per second
- Why the rapid growth – gathered by cheap and numerous information-sensing Internet of thing devices such as mobile devices, aerial (remote sensing), software logs, cameras, microphones, radio-frequency identification (RFID) readers and wireless sensor networks.
- The world's technological per-capita capacity to store information has roughly doubled every 40 months since the 1980s
- Major issue – less than 0.5% of all of this data is analyzed!

Source – Voucher Cloud 2016, Wikipedia

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Data Statistics

Specific data related to Maintenance

- IoT – more assets are producing data automatically
- 60% of all companies are reactive
- Time based maintenance should be less than 20% of total PMs
- 12 million RFID tags sold in 2012
- By 2021, it's estimated this number will increase to 209 billion
- Sensors are capturing more and more data every second

Plan Do **Check** Act

- Who is checking the data being returned?
- What are we doing with it (feedback loop)?
- What type of analysis are we doing?

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Data Creation Best Practices

ISO 14224

- Provides a comprehensive basis for the collection of reliability and maintenance (RM) data in a standard format for equipment in all facilities and operations within the petroleum, natural gas and petrochemical industries during the operational life cycle of equipment.
- It describes data collection principles and associated terms and definitions that constitute a "reliability language" that can be useful for communicating operational experience.
- Standardization of data collection practices facilitates the exchange of information between parties, e.g. plants, owners, manufacturers and contractors.
- defines a minimum amount of data that is required to be collected, and it focuses on two main issues:
  - data requirements for the categories of data to be collected for use in various analysis methodologies
  - standardized data format to facilitate the exchange of reliability and maintenance data between plants, owners, manufacturers and contractors.

Source: International Organization for Standardization

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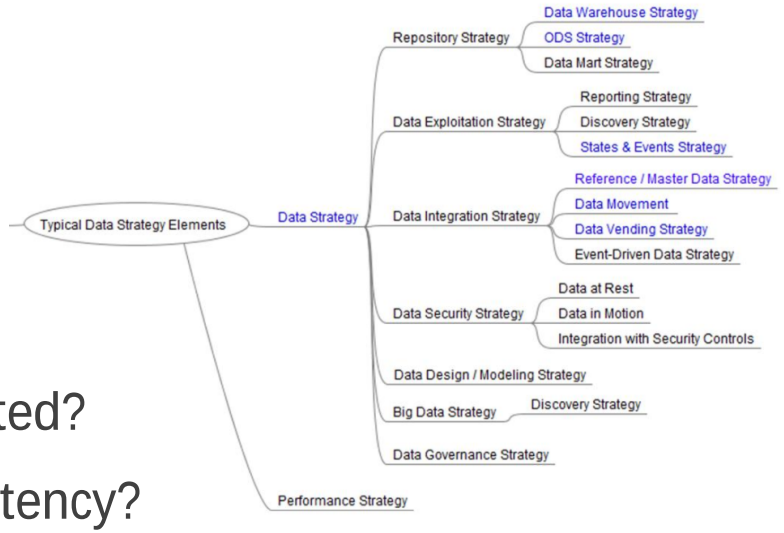
Data Creation Best Practices

What are Best Practices for data creation?

- Understand why you need the data, and what you will do with it
- Know what data you are creating/collecting
- Know why you are creating/collecting the data
- Document the purpose of the data, how it will be created/collected
  - Smart Numbering
  - Dumb Numbering
  - Value lists
- What will be done with the data
- Who will use the data?
- What types of reports will be generated?
- How can you ensure reporting consistency?
- Bottom Line – What is your data strategy? Do you have a document detailing your data strategy?



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Data Creation Best Practices

Why is it important to implement Best Practices for data creation?

- Data consistency
  - Everyone will use the data as it was intended – Well, the guys from the north use that field for something other than what we do.
  - Priority codes mean the same thing across the board
- Data Accuracy
  - Reports can be trusted and have more meaning/value.
  - Avoid MISC codes, Free text and too many options on value lists
  - Its easier to enter MISC than to scroll through a bunch of codes
- Reporting consistency?
  - Reports should have the same meaning across different groups or departments
  - Improved analysis of the data to make better business decisions
- Improved Data Analysis
  - Better business decisions
  - Supported with data and facts

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How Can AKWIRE Help

- vScheduler Gantt Data Editor
  - Able to find missing data and update
  - Allows mass data edits for replacing or populating data
  - Metrics Add-on
- vJobPlan
  - Allows easier analysis of job plan performance
  - Includes standard layouts for performance analysis
  - Can develop layouts for specific needs
  - Update/create job plans
- MPower
  - Allows for data analysis across all Maximo tables
  - Same data editing capabilities as in the Gantt Data Editor
  - Can create different layouts to support different data analysis and update requirements
  - Can add/load/update records to the Maximo

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Conclusion

- Keep it simple
- Document your data strategy
- Document your data creation and management processes
- Understand why you are creating/collecting data
  - Everyone should understand what data you are collecting and why (documented)
  - Everyone should understand what the data will be used for (training)
  - Metrics
- Establish a process to review the quality of the data on a regular basis
- Identify a process to update data as necessary (MPower)
- Publish reports showing how the data is being used

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Data Creation Best Practices

Questions?

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