

APPLYING SUPPLY CHAIN OPERATIONS BEST PRACTICES TO TODAY'S INFORMATION FACTORIES (DCIM 2.0/S&OP)

EXECUTIVE SUMMARY

Around the world, new data center construction and existing data center expansion is absolutely booming with triple digit growth in Southeast Asia – and double digit growth in Western Europe and the US. Although data centers have been around a long time, the boom is being driven by the increasing proportion of big data and multimedia transmission across the web, by social networking, and by cloud computing.

The data center capital investment levels are currently exceeding \$1.4B/month – which will take total worldwide investment to over \$120B by 2015. Add to this Gartner's estimate that worldwide hardware spending will reach \$126B by 2015, and you can see the scale of investment across the total segment. In case you are still not impressed, Google just reported that they spent a whopping \$7.3B on data centers and data center hardware in 2013!

How are data center operations being measured? How are these data centers being managed? How are companies organized to effectively match supply with demand for data center services? Our contention is that there is a significant opportunity for us to enhance the way companies consider data center operations. We believe that data center operations are actually information factories – and that many of the lessons learned since the industrial revolution about factory and supply chain management in traditional “product” factories can and should be applied to the growing body of knowledge called DCIM or Data Center Infrastructure Management.

We see several critical symptoms that point to the need to apply a few important capabilities present in today's typical product factories directly to DCIM – especially within young, fast growing companies where the data center is “out of sight – out of mind”.

Symptoms/Issues

- 1) Total DCIM Spend (CAPEX+OPEX+COS) is rarely measured. (TCO drill-down in terms of \$/MW)
- 2) A significant portion of the data center capacity remains unused over the lifecycle of the data center – in some cases exceeding 50%. Efficient capacity management takes a back seat to “don't ever have slow performance on the website – or worse yet, never shutdown my website!”
- 3) The whole notion of data center throughput is minimized – and is rarely normalized versus company revenue or cost of service. Cooling is not considered a dynamic variable when compared to space and power.
- 4) Asset utilization metrics are lacking – with instead a focus solely on energy efficiency and power effectiveness.
- 5) Traditional S&OP is absent – with little appreciation for how it could be used – especially when it comes to forecasting and demand planning, new product and new content introductions, server/storage/rack CAPEX purchasing - not to mention mid/longer term data center building requirements.
- 6) Companies with significant DCIM have fragmented internal functions operating in silos out of factory ignorance – and are not organized with the alignment and transparency of typical product companies.

DCIM Solutions from the “Product” Factory Operations World

- 1) Every line item of spend is known – and has clear accountability - starting at the senior executive level.
- 2) Capacity Management – link to stronger demand planning utilizing consistent units of measure. Apply simulation to optimize capacity, IT availability and cost.
- 3) Factory throughput – new units of measure – normalized to revenue, gross margin, and operating income.
- 4) Asset productivity and ROIC – deploy new metrics and continuous modeling to reach best-in-class performance levels.
- 5) Sales & Operations Planning (S&OP) – the core process that brings it all together.
- 6) Organizing for success – using Lean to map and measure non-value add and eliminate it

We will take you through these six areas and make specific recommendations about how to enhance the current DCIM body of knowledge to the next level - which we call DCIM 2.0/S&OP!