TIBCO Response to *ofgem* E-Serv Smart Metering Implementation Programme: Communications Business Model:Ref:94d/10

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Should there be any questions, either specifically on the responses herein or more generally on TIBCO and its products they should be addressed to:

1 Introduction

TIBCO Software Inc is pleased to be able to respond to the Ofgem E-Serve Smart Metering Implementation Programme: Communications Business Model document ref94d/10.TIBCO is responding in the capacity of an interested party as noted in the target audience section of the document ref94d/10.

TIBCO would welcome the opportunity to discuss the responses contained herein in further detail with other industry members and interested parties. Please e mail the contacts named in this document in the event you would like to engage with TIBCO in further discussion.

2 Company Overview TIBCO Software

TIBCO Software Inc. (Nasdaq:TIBX) headquartered in Palo Alto, California, is the leading independent business integration software company in the world, as demonstrated by market share and analyst reports. In addition, TIBCO is a leading enabler of real-time business, helping companies become more cost-effective, more agile and more efficient. Our solutions empower our customers to dramatically improve their business performance by enabling interoperability between diverse computer systems, helping them streamline activities that span their extended enterprise, and giving them the power to more quickly identify and respond to opportunities and problems. TIBCO calls this The Power of Now®: The power to ensure that information is available wherever and whenever it's needed. The power to streamline activities for maximum efficiency, effectiveness, and velocity. The power to identify, understand and adapt to opportunities and challenges as they arise.

TIBCO's corporate headquarters is located in Palo Alto, California and TIBCO has field offices in 58 cities around the world in 25 countries. The company is generally managed as three geographic regions, Americas, EMEA (Europe Middle East and Africa) and Asia-Pacific including Japan
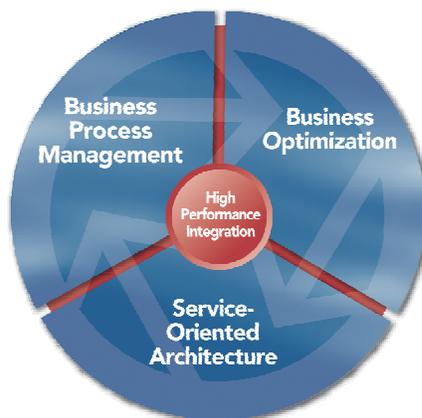
As markets become more dynamic and competitive, the ability to adapt is becoming the key competitive advantage for large organisations. To achieve this critical advantage and stay ahead of commoditization, organisations need the following:

➢ Real-Time Visibility: The power to see what's happening right now across their operation and marketplace.

➢ Real-Time Understanding: The power to make sense of it all so they can understand the impact of developing situations.

➢ Real-Time Action: The power to act and adapt so they can immediately seize opportunities, mitigate risks and proactively manoeuvre around threats.

Together, these capabilities add up to real-time business and give companies what TIBCO calls The Power of Now: the ability to sense and respond to changes and opportunities as they arise.

TIBCO gives organisations The Power of Now by providing innovative software that helps them pursue initiatives in three important areas:

- ➢ SOA: Helping organisations migrate to an infrastructure made up of services that can be assembled, orchestrated and reused.

- ➢ BPM: Helping organisations better coordinate the process flows that control how their humans and applications work together.

- ➢ Business Optimization: Helping organisations convert streams of data into meaningful information and deliver it to employees, customers and partners.

History: The Real-Time Business Pioneer

TIBCO is the successor to a portion of the business of Teknekron Software Systems, Inc. Teknekron was founded in 1985 by Vivek Ranadivé and developed software, known as The Information Bus™ (TIB), for the integration and delivery of market data – such as stock quotes, news and other financial information – in trading rooms of large banks, oil companies and financial services institutions. In 1994 Teknekron was acquired by Reuters Group PLC, which continued the development of TIB software and expanded its use in the financial services markets

In January 1997 TIBCO Software Inc. was established as a separate entity to create and market software solutions for use in the integration of business information, processes and applications outside the financial services sector. In July 1999 TIBCO went public on the NASDAQ Stock Market under the ticker symbol TIBX, and since that time TIBCO has been established itself as the leading independent provider of business integration software.

Vision and Direction: Predictive Business™

TIBCO is focused on leveraging and extending the capabilities of its software to help companies move toward predictive business: an exciting new way to leverage an enterprise's information infrastructure in order to anticipate events, make decisions and take action. The results can be avoidance of potential problems, creation of new opportunities or the ability to make faster decisions.

3 TIBCO Solution History for Energy and Utilities

TIBCO has been providing solutions for Utility entities globally, since the wave of market deregulation/liberalization in the early to mid-1990's. The establishment of wholesale electricity trading markets created the need for trading platforms and infrastructure solutions. TIBCO provided both real-time messaging and integration technologies to many of the worlds largest electric trading companies as well as market makers in order to manage both market feeds as well as trade transaction processing from front to back office.
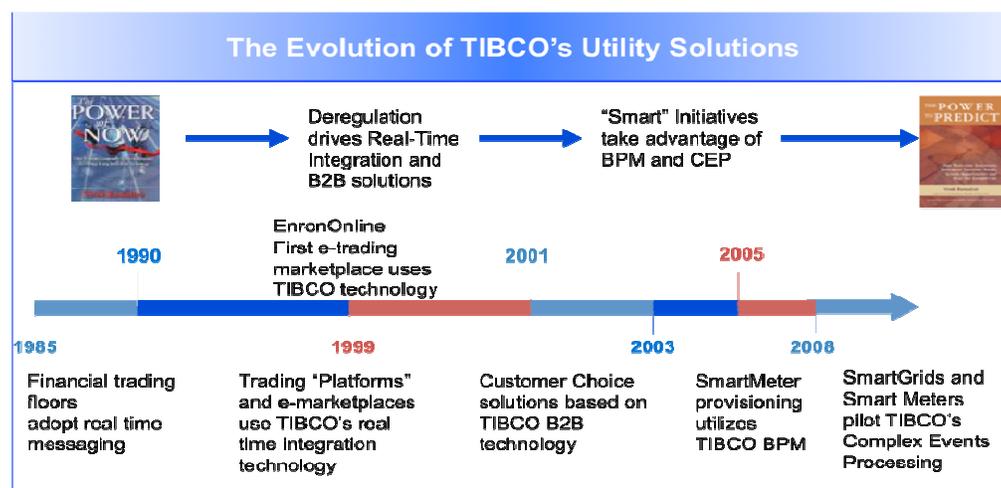
As deregulation progressed beyond trading floors, customer switching or customer choice in many parts of the world became the next regulatory step. TIBCO's B2B technology is used for managing customer switching requiring the coordination and notification of all 3rd parties involved in the switch. These solutions were implemented both in centralized entities responsible for handling all customer information and switches as well as in utilities where each were responsible for communicating and handling the switch among all third party participants.

At the same time, many astute utilities realized that integration architectures (now Service Oriented Architectures) would be necessary across their retail, commercial, and industrial units. Integration across, CRM, GIS, CIS, billing and accounting systems has now become commonplace. These companies have been well positioned for the Smart Meter initiatives and many have capitalized on that. TIBCO is involved in many Smart Meter initiatives in cases where customers already use our Messaging and Integration or SOA platforms and also where these are being considered for the first time. Obviously, these solutions require direct connections with real-time or near real-time meter reads with further connections to billing systems, accounting systems etc.

TIBCO's BPM technology has also been deployed in a number of meter roll out solutions as well as helping to streamline the handling of service order requests for electricity connect/disconnects.

Today, complex event processing solutions are being considered or deployed across broader sectors of the Utility industry from grid component monitoring and alerting to customer transaction monitoring and correlation. Our Smart Metering initiatives in particular all consider the use of complex events processing starting from the time of installation of the meter.

TIBCO Response to Consultation on Smart Metering Implementation Programme:

Communications Business

4 Responses for DCC Communications Business Model

The Scope of DCC Chapter 2 of Consultation Document

Consultation Question 1: Do you agree that access control to secure centrally-coordinated communications, translation services and scheduled data retrieval are essential as part of the initial scope of DCC?

TIBCO Response: Yes, we agree that these points are fundamental functions for DCC given their objective to provide a GB-wide data and communications function.

Consultation Question 2: Do you agree that meter registration should be included within DCC"s scope and, if so, when?

TIBCO Response: Both the central communications and data services that DCC will provide will be transactional of nature. In general transactions are applied to real-world objects, which in IT terms is related to as master data. The main master data entity that these types of transactions will refer to is the meter and grid-connection data. In order to successfully conduct the data- and communication functions, DCC has to be able to validate integrity and consistency of the references to meter- and grid-connections data. Especially as DCC will have to provide a granular level of access control to the meters, which will go beyond the scope of authentication of the communications party but also to authorization of access to individual meters by that party. The meter level access authorization is required both from a market competitiveness perspective as well as from a consumer privacy perspective.

As energy suppliers are competing for profitable customers, no supplier would like the idea that a competitor can get access to usage profile data of their customers due to DCC's inability to properly authorize a meter access request. Furthermore, as with the introduction of smart meters many consumer organizations have expressed their concerns with regard to customer privacy. As the DCC will be established as an independent entity within the GB energy market, it is best positioned to act as a clearinghouse for access to privacy sensitive information by other market parties, such as the granularity of metering data.

As such, we think implementing a central connection and meter register including all data quality management and governance processes to ensure the consistency and integrity of this master data across the country and its market participants is a critical success factor for the implementation of the central data- and communication services by the DCC. Therefore we believe that the model of a Central Connection Register implementation, similar to the register realized by EDSN in The Netherlands for the Dutch energy market, should be part of the scope of DCC from the beginning.

Consultation Question 3: Should data processing, aggregation and storage be included in DCC"s scope and, if so, when?

TIBCO Response: With any service that DCC could provide, it should always take into consideration whether and how it impacts competitiveness in a deregulated energy market. It is foreseen that the roll-out of smart meters will enable a broad diversification of service plans that energy suppliers will bring to the market. This much broader choice of service

plans provides for both market competitiveness and customer choice.

The ability for an energy supplier to define and bring innovative service plans to the market is heavily dependent on the flexibility of the meter data aggregations its IT systems can handle. By providing data aggregation as a central service from DCC, the risk arises that this influences the competition in the market when it comes to product diversification.

In a similar way, centralizing data processing services for metering data quality management reduces the ability for energy suppliers to differentiate themselves in the market by the way they implement resolution processes when irregularities in metering data are identified.

The data storage question has a more technical angle to it. On one hand implementing metering data storage capabilities within DCC will severely enable DCC to spread to load over the WAN communications network with the smart meters, on the other hand it presents a scalability challenge to store 15 minute metering values for all GB domestic connections in a single data storage infrastructure.

In summary, creating a central data store within DCC has a functional advantage in shaping peak load on the communication infrastructure and as long as it is technical and economically viable it makes sense to implement such service within DCC.

With regard to implementing additional services such as data processing for data quality management purposes and aggregation of data, we are very reluctant as it has the risk to impact competition in a deregulated market. As we believe that the major advantage of the implementation of storage facilities are reflected in resource management of the communication infrastructure, the timing of adding such services should be aligned with the roll-out plan of smart meters in the country and the load it will generate on the communication infrastructure.

Consultation Question 4: Do any measures need to be put in place to facilitate rollout in the period before DCC service availability and the transition to provision of services by DCC, for example requiring DCC to take on communications contracts meeting certain pre-defined criteria?

TIBCO Response: The major measures that need to be in place is defining standardized interfaces on the touch points between the market parties and DCC. This mainly relates to interface between the WAN Communication Module and the WAN infrastructure and the interfaces that DCC wants to expose on the Gateway to market parties.

These measures would prevent early adopter projects from disinvestment when the energy suppliers have to move to the DCC at a later point in time.

The Structure and Realization of DCC Chapter 3 of Consultation Document

Consultation Question 5: Do you agree that the licensable activity for DCC should cover procurement and management of contracts for the provision of central services for the communication and management of smart metering data?

TIBCO Response: Yes

Consultation Question 6: Do you consider that DCC should be an independent company from energy suppliers and/or other users of its services and, if so, how should this be defined?

TIBCO Response: Yes we do consider that DCC (DataCommsCo) should be an independent company from energy suppliers and/or other users of it's services.

Clearly the energy industry is in a position to offer expertise and knowledge based on previous programs which have been deployed such as NETTA & BETTA for example. With this in mind it is important that the industry continues to work on an inclusive basis when defining the DCC. Ensuring that the DCC is an independent company will protect against any vested interests or activities promoting success across the industry moving forward.

The concept of the DCC does suggest that the delivery of data and communication services will be delivered centrally however this could be implemented by a number of companies contractually participating under the DCC banner.

Recent analysis papers, such as "Options for the scope of the DCC Interim Impact Analysis" May 2010, indicate three key roles in defining the DCC;

- Provision of Data Services & Central Communications

- Central Contract Management Role for Data Services and Central Communications

- Administrator for Smart Meter Code Legislation

Consultation Question 7: Do you have any comments on the steps DCC would need to take to be in a position to provide its services and the likely timescales involved?

TIBCO Response: It is important to maintain focus to execute and procure contracts for establishment of DCC for successful delivery in autumn 2013 avoiding any slippage in delivery timelines

Consultation Question 8: Do you have any comments on the proposed approach to cost recovery and incentivisation for DCC?

TIBCO Response: No comments at this time.