

PROJECT NEXUS

STAGE 3 CONSULTATION SUPPLEMENT

REVIEW OF TOPICS

November 2008

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1. Introduction

This document supplements our Project Nexus Stage 3 Consultation and contains more detailed comments from our review of topics. The topics for review and the scope of the review were originally set out in our Stage 2 Consultation, and they have been reproduced in Section 2 of this document.

Our Stage 3 Consultation includes the results and conclusions of our review and associated questions for respondents, and is available on the xoserve website at www.xoserve.com/nexus_consultation.asp.

2. Topics for Review and Scope of Review

2.1 Topics for Review

The topics selected for review set out in the table below are as previously consulted on in the Stage 2 Consultation Document. The topics reflect those matters raised by respondents which potentially influence and inform the long term strategic requirements for xoserve's services.

Section	Topic Title	Topic Description
Data Management	Data Hub	The maintenance of a master dataset that is maintained, accessed and referenced by relevant parties.
	Quality Assurance	An industry role to set and monitor standards for the quality of data. An incentive framework on parties around data quality.
	Exchange and Flows of Data	Industry participants' responsibilities to make data available to other industry participants.
SPA	Supplier Switching (Dual Fuel, Bulk Transfer)	Supply point transfer process and timescales, comparison of gas and electricity processes to better facilitate dual fuel site transfers and transfers of groups of supply points (e.g. customer or shipper groups)
	iGT Services	Provision of common services for iGTs on either a similar or reduced scope to those provided for large transporters.
	Market Differentiation	Different processes for different sectors of the market, e.g. domestic and I&C
	Connection & Registration	Review of processes associated with the connection and initial registration of meter points and supply points.
Energy Data	Central Data Store for Smart Metering Data	Provision of a central store of read and asset data, accessed and referenced by relevant parties.
	Increased Reads for Energy Allocation, Balancing and Transportation Charging	Currently a mixture of daily actual and estimated volumes and allocated energy reconciled over a period are used for energy allocation and balancing and transportation invoicing. The availability of additional read data presents an opportunity to increase the proportion based on daily actual energy.
	Reconciliation	Different proportions of the market subject to reconciliation and different reconciliation methods.
	AQ Management	Purpose, calculation and maintenance of annual quantities.
	Volume Capture	The utilisation of metered volumes derived by a party other than the transporter's agent.

Section	Topic Title	Topic Description
Invoicing	Invoicing Rules	Changing the nature, timing and frequency of invoices.
	Treatment of Retrospective Updates	Where data is found to be incorrect, updates processed and appropriate adjustments made to consequential impacts, e.g. transportation charging.

2.2 Scope of Review

The initial review of each topic has taken the form of a high level qualitative evaluation in order to:

- (a) Provide additional information to help to confirm a broad set of requirements; and
- (b) Assist with the definition of the scope of the future phases of Project Nexus.

The scope of the initial evaluation of each topic comprises a consideration of:

- (a) The key impacts on:
 - (i) Arrangements for managing supply point data;
 - (ii) The scope and nature of xoserve's services; and
 - (iii) Interfaces with industry participants and industry processes;
- (b) The key features of the topics that:
 - (i) Influence costs;
 - (ii) Drive the requirement for investment expenditure;
 - (iii) Impact post delivery running costs; and
 - (iv) Influence the benefits case;
- (c) The principal risks, assumptions and interdependencies associated with the topics; and
- (d) The key dependencies on contractual, regulatory and legislative change

The 'description' of each topic is intended to summarise the key feature of the topic, based on respondents' comments. For some topics, we have defined a small number of change options in order to better inform the evaluation. These options do not necessarily cover the whole range of possible change.

The reviews to inform our stage 3 document are necessarily high level and qualitative at this stage. The extent that the topics progress through further stages of definition will determine the level of evaluation required.

3. Data Hub

The distribution of master data across the gas industry.

Option-1: Maintenance of a single central master data set that is maintained and accessed by relevant parties. Other parties may need to copy the master data to run their own processes against but there would be no need to update that data other than by updating and copying the master dataset shared by the industry.

Option-2: Stewardship of master data is spread across the industry according to the type of data, there would be only one master data set for each type of data. Stewardship would be greatly influenced by the industry model for smart metering. In this option xoserve would be one of the master data stewards.

Option-3: The master data set is distributed according to obligation and contractual relationships, with GDNs contracting the master data stewardship to xoserve and each supplier maintaining and notifying the master dataset for their portfolios via SPA and RGMA flows, i.e. as now.

KEY IMPACTS	
<p>Data management arrangements</p>	<p>Data quality: A central master data store could facilitate significant data quality improvements. The industry could focus all its quality improvement resources on one version of the data which would then be available to all authorised parties.</p> <p>Data Validation: If data was captured onto a central datastore directly (from the initial party that collects the data) using an interactive method, then validation standards could be applied once at source and as a consequence validation could be consistent and applied as close to the point of capture as possible.</p> <p>Data Formats: Centralisation of master data storage in itself has no impact on data interface formats but would require a standard format for the storage of each data item and it would be desirable to standardise exchange protocols.</p>
<p>Scope and nature of services</p>	<p>Centralisation of data would facilitate opportunities to extend the scope of services, e.g. some shippers might require centrally maintained emergency contact data.</p> <p>If responsibility for central master data management was spread amongst a number of central parties, MAMs, AMR service providers, each managing part of the overall industry data scope, then current xoserve services related to the data xoserve did not manage might also migrate to the custodian of the relevant master data.</p> <p>If the industry wished to increase the range of data xoserve managed this would naturally be an extension to xoserve services.</p>
<p>Processes</p>	<p>Centralisation of data would in theory be likely to optimise the technical process of data capture and validation, but may not</p>

	<p>simplify processes of parties which use the stored data.</p> <p>A custodian of the master dataset might make data available on a “pull” (user-extraction) basis rather than on a “push” (notification) basis as is generally the case now, enabling parties to refresh the data for which they are responsible and to extract data that they need at the appropriate frequency.</p> <p>Progressing this topic would require significant cross-industry process review. Where an industry party was responsible for capturing and maintaining data it did not use, the activity could be contracted to, or transferred to, the central custodian of the relevant data.</p> <p>Integral to a central data storage hub is a central but universally accessible data exchange hub to capture and disseminate data to and from the storage hub.</p>
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KEY FEATURES INFLUENCING	
Investment Costs	<p>Significant elements of the likely required data storage could be accommodated within the as-is data storage, so long as the range of data items is the same or less.</p> <p>Storing a wider range of data would be expensive if the expansion is a post-implementation enhancement. If defined and designed from the outset, it is likely that the incremental costs will only be relative to the incremental increase in data entities and relationships required compared to the as-is scope. Assuming access by a wide range of parties, the as-is range of interfaces would need to be enhanced.</p> <p>Data that would be centralised is currently held by multiple parties. xoserve currently has the most complete version for the gas industry, although not all potential attributes are held centrally by xoserve. The industry costs of centralising would be influenced by the more varied interfaces with the central store, which would need to allow access to support the processes of all industry participants not just those of shippers and GTs. The interfaces would also have to support processes downstream of those that currently directly interface with xoserve. Data updates could become more fractured, e.g. a complete view of a business event, (e.g. DM meter exchange) would be captured over a series of updates from different parties.</p>
Ongoing Costs	<p>We would expect the increase in support costs for data storage to be relatively low in comparison to increase in function.</p> <p>A single authoritative version of the data could be held which parties access as and when required. This would require appropriate access methods to avoid parties having to take copies of the data to feed their processes. The proliferation of data copies would make the central dataset “authoritative” but not a “single version of the truth”, thus costs would be increased and benefits would be reduced.</p>

	<p>There is likely to be an increase in ongoing costs from the increased number and variety of interfaces with multiple parties, i.e. helpline costs and ongoing external testing and training costs for new market entrants.</p>
<p>Benefits</p>	<p>Industry benefits could be very high if the potential to avoid duplicate databases and apply standard processes were realised. Focus on accuracy of a central data store should enable data quality to be maintained more efficiently.</p> <p>To maximise the benefits of a central master data set, the length of data supply chains for both data capture and data provision should be minimised, ideally via direct access by the party that initially captures the data and the party that needs the data. Necessarily, this would require high volume and frequent data access by a wide range of industry parties that xoserve does not currently interface with directly.</p> <p>The more data that is centralised in a single datastore the more opportunity to establish an understanding across a set of data relationships that no-one in the industry currently has. This could facilitate opportunities to extract benefits not currently available to any single party, thus extending the range of services available from a central data custodian.</p> <p>Change drivers are considered to be strong given that the industry perceives there to be benefits of improved and efficient data handling, and the removal of data duplication and the reduction of queries and corrections. Retrospective or real time data updates appear to be an attractive proposition to most Shipper-Supplier organisations.</p>

<p>PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES</p>	
<p>Risks</p>	<p>The creation of a data hub could have little or no affect on the quality of data that is stored unless there are agreed data standards and validation rules that should be applied to data.</p> <p>Industry participants may not agree on the type of data that should be centralised, the access rights to (data security and commercial confidentiality) and who the respective owners should be for 'non-master' data.</p> <p>Some industry participants may not have the appropriate infrastructure to be able to gain access to the master data set.</p> <p>Once a central master dataset is established and copied, other versions of the data will cease to have any authority even if they hold data more accurate than data held by or migrated to the central data store. So before more accurate data is effectively discarded, the master data set should be as accurate as possible. Unfortunately the extraction facilities and update methods that would ease data cleansing are likely to come with implementation of the central data hub rather than before. Benefits would be reduced and costs higher if an</p>

	acceptable level of master dataset accuracy is not obtained from the start or soon after implementation of the data hub.
Assumptions	The significant process review and regulatory change can be completed in sufficient time in order to realise the potential benefits.
Interdependencies	Most of the other review topics are dependent on significant change to industry data management arrangements. In order to make progress with reviewing business rules for the other topics it may be necessary to make assumptions about the prevailing data management arrangements.

KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE	
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	<p>Significant process review and contractual, regulatory and legislative change will be required. Until there is more clarity of the possible operating models it is difficult to assess the magnitude of this change or whether it could be completed within the time available.</p> <p>The introduction of the industry model for smart metering may influence the decision on the nature of an industry data hub.</p>
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4. Quality Assurance

Overview

Improved administration and monitoring of standards for the quality of data.

Application of incentives on parties to improve data quality.

Clear responsibilities and roles for data quality management

Options:

Option 1: Development of common data standards and validation rules that are governed by technology. Each party would sign up to a “user code” that had sanctions for failure to implement the agreed rules. This option would incentivise compliance with a set of defined rules, but would not incentivise accuracy within the limits of those rules.

Option 2: Development of common data standards and validation rules that are commercially incentivised (and supported by technology). This option could include rules that incentivised accuracy as well as compliance with a set of defined rules.

Both the above options require the following roles...

- Ownership for quality for each type of data
- Administration of validation rules and quality standards
- A policing role to monitor and report non-compliance.
- Role(s) to apply the incentives for confirmed non-compliance.

These roles could be performed by xoserve and/or an independent arbitrator.

KEY IMPACTS	
Data management arrangements	<p>Data Maintenance and Availability: Many consultation respondents suggest that poor data quality could be significantly reduced by having a central master dataset easily accessible by a wide range of authorised industry roles. Once a master dataset is established (that others share and copy) the accuracy of the values in the master data set would assume a greater importance as inaccuracies would result in exceptions across the industry. If data quality is to be monitored by a third party there would need to be user defined and efficient data access to the datastores of those who provide updates to the master data set and datastores that hold master data. The quality manager may need to monitor that parties are copying data accurately.</p> <p>Data Validation: There would be a need to make detailed data validation rules more visible and consistent across the industry. If data quality is to be more actively monitored and this activity appropriately funded, some data rejections may need to be removed and a process of “accept, monitor and report” implemented so that accurate data is not rejected because of rules designed to trap suspect data. Absence of accurate data is as much a quality problem as the presence of inaccurate data, especially to energy balancing.</p> <p>Data Formats: There would be a need to make record format details visible,</p>

	e.g. provide clarity between optional and mandatory data.
Scope and nature of services	<p>All stakeholders have expressed a view that common data standards should be developed and adhered to as well as an increased transparency in validations.</p> <p>Whilst there are existing industry data standards, respondents seem to suggest that they need to be more clearly defined and that validation routines need to be consistent across all systems.</p> <p>Many suggested an industry Quality Manager role to police adherence to agreed quality standards or a 'User Code' that would underpin the approach.</p> <p>Part of this role could be to apply compliance incentives.</p> <p>Most respondents recognised that xoserve are well positioned in the industry to monitor and report on compliance. There was also a suggestion that the Quality Manager role should be performed by an independent arbitrator.</p>
Processes	Additional processes may be required to maintain the validation rules, user code etc., to report on quality standards and to take action where necessary.

KEY FEATURES INFLUENCING

Investment costs	The greatest factor influencing investment costs would be the extent to which responsibilities and standards need to be established. Incremental investment costs are thought to be relatively low, although they would depend on scope.
Ongoing Costs	Quality manager activities could involve significant effort and so ongoing costs could be material.
Benefits	<p>The benefits from centrally administering all quality rules, monitoring adherence to data quality rules and operating a service to detect and report suspect data values would depend on the scope of the data and the likelihood and impact of erroneous data. A cost benefit assessment would need to be undertaken to ensure that any new processes added value.</p> <p>Many respondents suggest Project Nexus presents an investment opportunity to deliver significant quality improvements and many, but particularly networks, point out that the improvements will benefit all industry players.</p>

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES

Risks	<p>There may be high expectations for the quality manager role which cannot be met because the quality rules are either highly complex and expensive to implement, verify and maintain, or too crude, leading to dispute, exceptions, dissatisfaction and instability.</p> <p>Incentives may be inadequate to ensure required behaviour (e.g. USRV incentives) and the administrator may be drawn into expensive resolution activities that are difficult to cost.</p>
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	Responsibility for historic data quality may be difficult to assign.
Assumptions	The potential for cost savings derived from improved data quality justify the additional cost of a more robust quality assurance framework.
Interdependencies	In theory a quality assurance framework could be introduced irrespective of the other topics, although it would have greater potential of realising benefits if data responsibilities, standards etc are clearly defined as part of a review of data management arrangements in the industry.

KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE	
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	Data capture, standards and processes currently operate within a number of different commercial frameworks. It is likely that a stronger quality assurance role will impact all of these frameworks which will require change, or at least recognition of the existence of a quality assurance role in the industry.
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5. Exchange and Flow of Data

Responsibilities for the flow of data between industry parties.

KEY IMPACTS	
<p>Data management arrangements</p>	<p>Data Maintenance and Availability: Efficient, user friendly and universal data update, extraction and notification methods are integral to a beneficial central data storage hub. In a more distributed model it is still highly desirable. Indeed, in both models a central universal data transfer hub would provide flexibility benefits.</p> <p>Data Quality: Allied to a central master data store, better access methods could shorten input and output data supply chains removing risk of data transfer errors. More user friendly data extraction would assist data quality monitoring and cleansing efforts. More timely data provision would increase accuracy of recipient data copies.</p> <p>Data Validation: Direct access methods used at the point of initial electronic data capture could facilitate “validation at source” offering the best opportunity to correct invalid data before it is recorded and shared by the industry.</p> <p>Data Formats: Multiple access methods would result in different physical interface formats for the same business transaction, and so care would be needed to ensure the different physical formats for the same logical process conform to the same logical data format and same logical business rules. All data flows utilised should be documented within a version controlled catalogue. The catalogue would contain all of the information required to populate a data flow to communicate with other industry participants.</p>
<p>Scope and nature of services</p>	<p>An option is to retain the current bulk data transfer capability (as per existing files) but also provide the same functionality in a web-enabled manner. For each current logical interface there could be a more direct interactive access method. Both bulk and interactive access methods may be required where data exchange is currently less automated, e.g. unique sites. The existing and new access methods would probably be applicable for all interfaces in the retail market.</p> <p>From an industry perspective, data supply chains shortened by widely available direct access methods, would simplify processes technically. Whether this would facilitate simplification of business obligations and rules is less clear.</p> <p>The new access methods could include direct data exchange (mainly capture) with automated equipment such as smart meters.</p>

Processes	Allied to central data storage, more direct access methods and better data provision would facilitate opportunities for an agent service to both collect data directly from parties who can provide it and onward provision to those that need it. This would avoid involvement of those in the current data supply chain who do not use the data but have regulatory obligations or contractual requirements to obtain and/or maintain and/or transfer the data. An example would be collection of emergency contact data from end-consumers and its use of the most up to data values by networks when required.
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KEY FEATURES INFLUENCING	
Investment costs	Providing the existing interface formats could be relatively easily accommodated by an as-is solution. Web-enabled interactive update access would be a new service delivery method and could attract an incremental cost. Some of the data provision requirements might fall within the configurable capabilities of other proposed solutions. There could be significant industry investment costs to take advantage of any new interfacing methods.
Ongoing Costs	The access methods, used by a wide range of participants, would be designed to minimise ongoing costs. For example, as one respondent suggested, the need for manual telephone enquiry services could be significantly reduced.
Benefits	<p>The data hub concept has the potential to remove the costs associated with data inconsistencies between parties but only if integrated with the required data update access and timely provision methods to ensure data is both accurate and consistent across the industry.</p> <p>All industry participants could benefit from shortened data supply chains. Those at the start of update chains and those at the end of data provision chains could experience a more responsive service. Those in the middle of data supply chains would not be burdened with data processing that does not add value to their business.</p> <p>A variety of access methods could allow participants to select options appropriate to their resources and portfolio. Market entry costs could be reduced while options will still be available for mature players to maximise the automation of their processes.</p> <p>Those operating in the retail market may be able to integrate web-enabled interfaces to their own interactive interfaces with the retail market.</p> <p>As the volume of available data rises with smart metering and data centralisation, the ability for participants to independently select the data they wish to extract may become more and more beneficial.</p>

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES	
Risks	<p>Volume migration between access methods could lead to the under-sizing and/or under-utilisation of the capacity of different access methods and associated communication channels unless the capacity of the methods and communications are scalable up and down to respond to the demand that grows and/or migrates between methods.</p> <p>A more open environment could increase security risks and costs for all.</p>
Assumptions	<p>It is assumed that the required investment across the industry can be agreed and implemented in a co-ordinated manner.</p>
Interdependencies	<p>Changing the exchange and flow of data, whilst impacting data management processes, may not significantly impact the business rules for other topics.</p>

KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE	
	<p>As with Quality Assurance, this topic may impact a number of different commercial frameworks. The industry's experience of major reform to the exchange and flow of data suggests that such significant change is complex and difficult to introduce.</p>

6. Supplier Switching (Dual Fuel, Bulk Transfer)

Supply Point transfer process & timescales, alignment with electricity timescales to facilitate dual fuel sites & transfer of groups of supply points (e.g. customer or shipper groups).

Transfer of Ownership

Option 1: Reduce timescales for transfer of ownership of all sites. Common processes, standards, file flows etc. for all sites.

Option 2: Align process with electricity timescales to facilitate dual fuel for all sites.

Option 3: Different process & timescales for different market sectors – domestic & non domestic.

Unique Sites

Option 1: All Unique Sites processed along with all other sites; same file flows, formats, process, standards etc.

Option 2: Remove manual processes but maintain Unique Sites specific processes. Standardise files, flows etc.

Bulk Transfer

The facility for a shipper or xoserve (on behalf of the network in a termination scenario) to bulk transfer supply points by shipper, supplier, market sector or customer.

KEY IMPACTS	
Data management arrangements	<p><u>Transfer of Ownership</u> It is assumed that there would be no impact to the data management arrangements currently provided by xoserve to the gas industry for any of the options. Responsibilities and data maintained by xoserve would not change, only the processes and timescales around the management of the data.</p> <p><u>Unique Sites</u> Again assumed no impacts to the responsibilities for the data management but for both options data quality, validation & formats could improve by standardising flows for the industry.</p> <p><u>Bulk Transfer</u> Little impact.</p>
Scope and nature of services	<p>For Transfer of Ownership and Unique Sites the scope of services would not significantly change, although aligning the transfer process with the electricity market could extend scope depending on the approach taken. The additional functionality available under Bulk Transfer would be a change to the nature and scope of services.</p> <p>Some of the options could increase the complexity of the services, although in some areas the industry processes could be simplified: aligning the supplier switching processes with the electricity market; standardising and automating the Unique Sites file flows; and facility to bulk transfer supply points.</p>

	<p>Except for unique sites, it is not thought there would be a requirement to significantly change the existing interfaces.</p>
<p>Processes</p>	<p>All options would only affect supply point services. The impact to invoicing would be low.</p> <p><u>Transfer of Ownership:</u></p> <p>Option 1: The transfer process would be simpler if the same process, standards & timescales existed for all supply points. Reducing the timescales would impact the referral to network process for I&C and new sites. The proposal would be to remove the nomination process and include the referral with the confirmation process. The details provided on the offer could be obtained via an on line 'look up' facility.</p> <p>Option 2: In the electricity market, 16 business days are required from the original request to the site transfer taking place. 5 of these days are the objection window (this is assuming no issues, all relevant data collected and agreed by new and old supplier). Domestic and non-domestic sites have the same process. For gas, it could take as little as 8 days for an existing domestic site where the shipper has already withdrawn from the site to 15 days if no withdrawal. For an I&C site where no withdrawal has been received, the process could take at least 27 days from nomination to the effective date of the transfer where a referral is required and no withdrawal (assuming responses are sent on the day of receipt and shippers confirm on the day of receipt of the offer) or 19 days where there is a withdrawal.</p> <p>To align both domestic and I&C to the electricity market may be complex and difficult to implement due to the differences in requirements for the I&C market for some shippers. However by aligning the main activities (submission of confirmation and objection window) of transfer of ownership to the electricity timeline would in the long term be beneficial to shippers (assuming electricity did not change). Aligning domestic sites only to the electricity market would be easier and provide the greatest benefit for dual fuel demands.</p> <p>Option 3: Aligning the process for domestic sites with electricity timeline (assuming the market differentiation changed to usage). There would be a different process for non domestic sites. It should be borne in mind that this would initially incur costs for the industry within the SPA processes. Currently different processes and files exist for small and large supply points therefore this could still be implemented by using the AQ threshold.</p> <p><u>Unique Sites</u></p> <p>Option 1: Currently approximately 110 sites are identified as Unique Sites, processed separately as they demand different files, timescales (in some cases) and flows to I&C sites held on UKLink. Standardising Unique Sites with all other I&C sites would simplify the process for the industry. There would be a requirement to amend UNC and the NExA to allow this to happen.</p>

	<p>Option 2: Standardising files and flows would simplify the processes for the industry however separate processes would remain to manage and maintain the data.</p> <p><u>Bulk Transfer</u> Process and timescales for transferring sites would remain the same except more than one site, based on selected criteria, would be transferred at one time.</p>
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KEY FEATURES INFLUENCING	
Investment costs	There is likely to be an incremental investment cost for implementing revised processes, the scale of which would be dependent on the model. The liabilities regime for updating supply point data will also be a significant factor in determining the level of investment required. Investment costs for unique sites could be significant, depending on the approach adopted. There could also be substantial investment costs for shippers.
Ongoing Costs	<p>Revised automated processes are unlikely to incur higher ongoing costs where the existing processes are already automated. Ongoing costs for maintaining unique sites could reduce depending on the approach adopted.</p> <p>As the bulk transfer facility is not currently available it could increase costs, particularly if heavy use was made of the new facility.</p>
Benefits	<p>For shippers and suppliers there may be benefits through:</p> <ul style="list-style-type: none"> • Aligning transfer of ownership processes with the electricity market or at least reducing current timescales. • Removing the manual work involved with Unique Sites, standardising files and flows in line with all other sites. • Ability to bulk transfer portfolio rather than on a site by site basis. • Real time/web based responses to enquiries or nominations.

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES	
Risks	<p>Smart metering may change the supplier switching process and the data required on transfer. A number of respondents raised concerns that wholesale changes to existing process should not be made until the smart metering model is defined and the industry have an understanding on how the market will operate.</p> <p>Costs to existing systems for the industry may be significant therefore the level of change will depend on the industry's willingness to invest in systems.</p>
Assumptions	Market sector/usage distinction would need to be implemented to support alignment of SPA timescales to electricity.

Interdependencies	There are limited interactions with the other topics, although the outcome of the smart metering model discussions may impact the nature of the services.
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KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE

	<p>Changes are likely to be required to the UNC, iGT UNC and NExAs.</p> <p>This topic has been considered previously by the industry. The Customer Transfer Programme was formed to review the processes of transferring customers for both gas and electricity. The programme ran from 2003 to 2006.</p> <p>The aim of the group was;</p> <ul style="list-style-type: none"> - hassle free transfer process for customers - efficient transfer process for suppliers - meter readings to be within an acceptable tolerance for billing and settlement purposes - long term improvements to deliver reduction in costs <p>Stage 1 of the project analysed the transfer process, the following is a summary of their findings;</p> <p>There are two noticeable differences in the domestic market between gas & electricity;</p> <ol style="list-style-type: none"> 1. The time between the date the customer signs the contract and the supply start date tends to be quicker for electricity than gas by, on average, 6 days (33 days for electricity & 39 for gas) and 2. The electricity customers were more likely to receive opening and closing bills that start and end on the supply start date. <p>However, there is a view within the industry that more problems exist in the electricity market than gas. Although the electricity processes may be more complex and CTP analysis shows that the electricity market actually performs better, Energywatch Customer Transfer statistics showed that more complaints related to electricity than gas.</p> <p>It may be important to note that RGMA flows were implemented in 2004 and were not included in the Energywatch analysis. The view since RGMA implementation within the industry is the process is far more complex since meter asset unbundling due to the extras flows and communications now involved before a site can be transferred.</p> <p>The following is a summary of the changes/process improvements implemented as a result of CTP to the gas process;</p> <ul style="list-style-type: none"> - Ability for shippers to submit readings obtained via remote reading equipment - Ability for shippers to submit Gas Card estimated readings and old supplier estimated readings to be used as opening readings
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	<ul style="list-style-type: none">- Shippers ability to send Point of Sale readings- Introduction of a daily limit of 400,000 readings xoserve will process per business day <p>At the start of the programme an assumption was made that the scope should include alignment of the gas and electricity transfer periods, however, at the end of stage 2 of the programme it was agreed not to propose this change due to the complexity and likely excessive cost of the changes.</p> <p>Smart Metering</p> <p>The latest consultation document published by DBERR in April 2008 stated that suppliers are required to provide AMR to all business customers with an AQ in excess of 732,000 kWh by 2013. The introduction of smart metering may have an impact on the data supplied during the supplier switching process. Government policy appears to be moving towards a roll out of smart to all households by 2020.</p> <p>EU Energy Policy</p> <p>The draft EU energy directive suggests supplier switching to be completed within 2 weeks, final closure account bills following switching of gas supplier shall be provided no later than one month after informing the relevant supplier.</p> <p>Many shippers made comments on the current lengthy process of transfers and process for aggregating and disaggregation of sites and so changes to the current process are likely to gain support although the level of change could depend on how much shippers are prepared to change existing systems.</p>
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7. iGT Services

Provision of central services for iGTs on either a similar or reduced scope to those provided for large transporters.

Option 1

xoserve provides an 'iGT service' to all iGTs, this could include any or all of the following services:

- Supply Point transfer and administration
- Invoicing transportation charges on behalf of the iGTs.
- Gas allocation and energy balancing.

Option 2

A common agent provides an 'iGT Service' to all iGTs, the information is passed to xoserve to support transportation billing on behalf of the Large GTs.

KEY IMPACTS	
Data management arrangements	<p>Option 1 has the potential to significantly streamline data management arrangements and enable a single integrated data store. Common formats and validation could be more easily applied. This option would facilitate the iGT population following the same principles as the large GT population for this area, i.e. the industry agreeing on an approach for all supply points, regardless of GT.</p> <p>A single iGT agent could provide similar streamlined data management arrangements but within a more limited scope. Interfaces would be required between the iGT agent and xoserve. This less integrated approach is likely to create more complex data management arrangements.</p>
Scope and nature of services	<p>Both of the Options result in an overall increase in the scope of xoserve's services however option 1 is clearly more extensive. Furthermore, there are a range of services within option 1 that could be delivered (supply point transfer, SPA, invoicing, etc.); these are not evaluated individually.</p> <p>The additional services would make only small increases in system and process complexity. The services described are those that xoserve delivers for large GTs, so it can be assumed that they would simply be 'additional supply points'; complexity that may be introduced is within the governance and management of new parties interacting with the Agency.</p> <p>Both of the options would require greater interfaces than currently with the iGTs.</p>
Processes	<p>Shippers' responses to the consultation indicate that they would prefer one source to facilitate the supplier transfer process. This would ensure standardisation across all processes, file flows and timescales for all supply points. The impact to iGT processes would vary. The changes to xoserve processes may not be significant, depending on the extent of any unique iGT features.</p>

KEY FEATURES INFLUENCING	
Investment costs	<p>From a conceptual level, the current system could accommodate the iGT population, however, the 'health' of affected systems would need to be taken into account.</p> <p>The diversification of large GT and iGT populations processing, and the impacts to interfaced systems and consequential treatment of iGT SP would have an impact on investment.</p> <p>The inclusion of iGT supply points in the current system is a significant change to xoserve's systems and processes, however, including the iGT population in an updated system could result in relatively low incremental investment costs depending on the degree of diversification between large GT and iGT supply points and the scope of the service provided.</p>
Ongoing Costs	<p>It is likely that the inclusion of iGT SPs would increase ongoing costs in line with the relative number of large GT SPs to iGT SPs. It should be considered that the iGT population is growing at an increased rate to the Large GT population, and this may have an impact on longer-term operating costs.</p>
Benefits	<p>Maximum benefit for shippers would be gained from all supply points following common processes with a single service provider, thus eliminating the need for parallel processes and systems.</p> <p>Shippers would benefit from having a single interface with common formats, simplification of processing and a more consistent level of service.</p> <p>There would be benefit from consistency of data provision within existing CSEP processes to invoice for GT transportation.</p> <p>iGTs would have a common agent which should provide some economies of scale, and remove the need to manage these services internally.</p> <p>Consumers should benefit from a more assured, single set of industry processes that should provide greater likelihood of accurate services to expected time scales.</p>

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES	
Risks	<p>If the iGT population were to require different services or different services from the large GT population then costs could increase and benefits reduce.</p> <p>Because of the differing services currently provided by iGTs, migration from existing iGT service provision could be complex and expensive.</p>
Assumptions	<p>The topic review assumed that a resolution will be found to the</p>

	governance and funding issues currently being discussed by the industry.
Interdependencies	<p>A clear governance structure that all stakeholders are signed on to is required ahead of detailed discussions in this area.</p> <p>A business rule discussions on a number of other topics would be impacted if iGT supply points are brought into scope.</p>

KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE

	<p>A number of industry discussions, consultations and modifications have existed or are now live. Shippers are keen for a single agent to provide standardised, common files and flows amongst iGTs and ideally the whole gas industry. Modifications have been raised and Ofgem consultation documents issued on the subject. A Review group (RG157) was formed to propose options to improve the current processes and resolve issues surrounding CSEPs.</p> <p>Ofgem have been supportive of a solution to shippers' concerns regarding diverse processes. They have initiated a number of consultations (one of which led to the development of the iGT UNC) but have largely left this subject to be resolved within the industry.</p> <p>xoserve has engaged with the industry for a number of years from two perspectives; GT Agent interfacing (as a GT) with iGTs, and potential service provider to iGTs for a common SPA service.</p> <p>A UNC Review Group, RG157, set up following an Ofgem consultation document regarding issues relating to the existing iGT Settlement and Reconciliation arrangements. The purpose of the review group was to;</p> <ul style="list-style-type: none"> - review in detail the existing industry arrangements - identify and analyse the issues which impact their efficient and effective operation - identify and develop appropriate solutions to rectify the issues identified - develop any contractual changes as required <p>The group produced 4 models:</p> <ol style="list-style-type: none"> 1. xoserve levies a monthly invoice (transportation & energy charges) to the iGT in respect of the aggregate volume transported to the relevant CSEP Network based on the aggregated information provided by the iGT. Subsequently, the iGT would disaggregate the charges to Meter Point level and issue a single transportation and energy invoice to each shipper at MP level. 2. iGTs notify changes in shipper portfolios at MP level far enough in advance so that the effective dates of portfolio changes will be the same in both the iGT databases and xoserve systems. xoserve will issue charges attributable to
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	<p>CSEP's at MP level.</p> <ol style="list-style-type: none">3. Shippers submit SPA files direct to xoserve in UKLink format. xoserve will issue iGT's with information so to maintain a copy of their supply point register. iGTs create meter points and notify xoserve of their creation, the CSEP and initial shipper.4. A common agent will provide an SPA service on behalf of all iGT's in standard flows and formats. Information will be provided to xoserve to support transportation charging on behalf of Large GTs and to iGTs to maintain their own SP Register and billing purposes. <p>In July 2008 xoserve produced cost estimates for each model. At this stage it is understood that Models 1 & 2 were largely discounted as not viable options. xoserve are continuing to support these discussions.</p>
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8. Market Differentiation

Different processes for different sectors of the market, e.g. domestic and I&C.

Option 1: No distinction in the market, all sites receive the same services and processes, this would include SPA activities and invoicing which currently have different processes based on AQ.

Option 2: Provide distinct services for different market sectors based on either usage – domestic or non domestic (alignment with Supplier licence) or AQ (supports UNC & GT Licence).

Note: Further analysis for this area is also covered under Supplier Switching, option 3 of transfer of ownership.

KEY IMPACTS	
<p>Data management arrangements</p>	<p><u>Data Maintenance & Availability</u> There is likely to be little impact to the data management arrangements. The data required to be held for either option could remain largely unchanged, the only difference would be the way the data is used or accessed.</p> <p><u>Data Quality</u> There is little reason why the quality of data would be improved or deteriorate as a result of a change to the market definition.</p> <p><u>Data Validation</u> Option 2 would facilitate different validation in different markets, focussing attention where there is perceived to be the greatest risk.</p> <p><u>Data Formats</u> For either option changes would be required to data formats, the extent would depend on the nature of the change, for example, fields may just need to be changed to 'Optional' or a complete change to file formats may be necessary. Option 2 would allow differing levels of standards to be implemented depending on the market sector, e.g. less for the domestic market.</p>
<p>Scope and nature of services</p>	<p>The scope of high level services should remain broadly similar, although option 2 would focus services for differing market needs and therefore could be considered to be an increase. It is likely that once 'market distinct' services were being considered, any initial alignment of services would diverge over time; i.e. whilst two market types may have a confirmation process, these could and probably would become very different, effectively doubling services where there was a distinction by market.</p> <p>Option 1 would simplify services significantly. All processes, standards, timescales, files and flows would be the same. Invoices would also be standard, although this might not apply to the charges applied to the different markets.</p>

	<p>Option 2. Separate processes for different market sectors would make the services and processes more focused for those markets and therefore could enable simplification of those specific processes. However, the establishment of such distinction would likely make industry governance, business processes and systems more complex to cater for these. It should be recognised that different services already exist for different types of supply point.</p> <p>Neither option 1 or 2 should require xoserve to interface with additional parties.</p>
<p>Processes</p>	<p>In general Option 2 would create greater complexities than option 1 for the industry.</p> <p><u>Option 1</u></p> <p>Under this option, changes to processes for one market sector would apply to both sectors. The processes may or may not be any simpler although they would be standard and consistent for all sites.</p> <p>Services using energy consumption data and invoicing again would be the same for all sites. A possible implication is that all meter points are reconciled at meter point level. An alternative would be for SPA activities only to have the same processes.</p> <p><u>Option 2</u></p> <p>A number of respondents supported the introduction of completely different processes for the different markets. Having the same timescales for domestic to meet dual fuel demand and different processes for I&C sites which are more complex in nature.</p> <p>Domestic transfers could be simpler in nature, more streamlined and quicker than I&C. I&C sites may demand more complex processes and especially with smart metering, require more data to be sent to the supplier than domestic sites.</p> <p>The differentiation could be as far as having different contractual codes for each market sector, different regimes, governance, controls and systems.</p> <p>Changes to codes would be separated which may be beneficial to a number of shippers who wholly or mainly supply one market area.</p>

<p>KEY FEATURES INFLUENCING</p>	
<p>Investment costs</p>	<p>The key factors influencing the costs are complexity and the standards of service required for each market. The extent to which the system is modularised, thus reducing cross-market impacts, will also be a factor.</p> <p>If the process changes are not aligned with investment plans,</p>

	the industry investment costs could be high. Option 2 is likely to result in higher investment costs due to the increased initial complexity.
Ongoing costs	<p>Initially operating costs are likely to be greater for option 2 because the provision of services aligned to markets would increase the complexity and size of the overall process. However, over time it may be possible to simplify a single market, thus reducing costs.</p> <p>The extent to which a system could be 'modularised' so that different services could remain distinct would have a bearing upon the cost of operation, maintenance and change. If business rules were to change for only one market type this could allow for focused, lower cost change delivery, however, if business rules were to change consistently for both market types, it would be necessary to deliver change for both market types which may result in higher costs with option 2 than would be expected under option 1.</p>
Benefits	Benefits could be realised if the opportunity is taken to introduce market specific processes. It is unclear to what extent this might take place and whether the benefit would outweigh any additional operating costs identified above.

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES

Risks	This topic may involve significant changes to governance, processes and associated systems which are not justified by the benefits. If the opportunity is not taken to develop more specific rules, then investment and ongoing costs will increase without any benefits being realised.
Assumptions	Industry agreement can be reached on the definition of appropriate market differentiators and industry systems can be changed to take account of the revised definitions.
Interdependencies	The principle of market differentiation could impact many topics although the issue was most regularly referred to in the consultation responses in relation to supply point switching. If alternative market differentiators were applied across all processes, then the impact could be significant on other topics.

KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE

	<p>A change would be required to the Gas Transporters Licence and the UNC.</p> <p>If iGTs were also required to comply with the changes (see iGT Services) a change to the NeXA and iGT UNC may also be required.</p> <p>Network Code modification 700 was raised in June 2004 to consider formal separation of I&C and domestic processes,</p>
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	<p>procedures and flows. The main reasons for separation outlined by the proposer were;</p> <ol style="list-style-type: none"> 1. Current systems cannot efficiently support the different business drivers of the two markets, i.e. changes made to provide benefits for one market could be solely a cost imposition on the other market. 2. A number of mods had been raised to align gas processes & procedures with the electricity market, dual fuel retailers in the domestic market have principally driven such changes. 3. The separation of processes, procedures & flows will better facilitate the achievement of securing effective competition between suppliers with consequent benefits to end consumers. 4. Separation would allow the optimisation of particular market segments without imposing costs on those not operating in that market segment. 5. Ability to amend the domestic and I&C definition to usage basis to align with licence and electricity market and in a supplier of last resort scenario. <p>The review group were tasked with focussing on the processes in the Network Code, identification of options for the separation of such processes, and assessment of the extent of the benefit likely to be realised by such a split.</p> <p>The review group concluded that;</p> <ol style="list-style-type: none"> 1. Historic evidence did not sufficiently demonstrate that development of the Network Code had been driven by Users solely active in a distinct market sector (i.e. smaller or larger supply points). 2. Historic evidence did not sufficiently demonstrate that a user active in one market sector only had been required to implement change that had been driven by (and only of benefit to) the market sector in which it was not active. 3. Historically, a Modification proposal beneficial to a distinct market sector may not have been raised due to the prevailing change management processes and the market conditions affecting the likely chance of success. <p>The relevant Network Code workstream concluded in March 2005 that there was no requirement to reconvene the review group and therefore recommended closure.</p>
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9. Connection & Registration

Processes associated with the connection and initial registration of meter points and supply points. The following is a summary of the current process:

- Supplier, builder or end user will contact a Connection Company for a gas connection.
- The Connection Company or Utility Infrastructure Provider (UIP) will assign a Meter Point Reference Number (MPRN) to the service at the quote acceptance stage.
- xoserve allocate a range of MPRNs to each UIP.
- The UIP will notify xoserve via email of the MPRN, address and AQ.
- The MPRN is created on UKLink with address and AQ provided by the UIP, the validation and set up is manually carried out.
- Shippers submit details of Meter Points which have not been set up on UKLink. There are a number of reasons for this: MPRN already set up but under an incorrect/plot address; UIP has failed to notify xoserve; request to set up the MPRN rejected but not re-submitted by the UIP.
- Once the MPRN is set up on UKLink a shipper will confirm the site and set up the meter details.
- If the site is not confirmed it is classified as an un-registered site and a team within xoserve manages the process for identifying, monitoring and resolving these meter points.

Exceptions arising from this process can be inaccurate addresses, duplicate meter points and late updating of information. This topic review has considered streamlining and automating the existing process and changing the point in the connection and registration process when the register is updated. We envisage new access methods, including the web, being provided for input of connection information.

Currently, the register should be updated at quote acceptance stage. The later in the process that this is carried out the more likely that the address is to be accurate. Some of the options are on completion of the service, when a meter is installed or when a supply contract is in place.

KEY IMPACTS	
Data management arrangements	<p>Streamlining and automating the existing process would place more emphasis on the originating source for the data to maintain the data and ensure that it is accurate. More flexible access methods would be required to facilitate this change of emphasis.</p> <p>Systemised validations at data entry are likely to reduce the high level of rejections and inaccurate data that currently occurs. The emphasis would be placed on the originator of the data to resolve any exceptions before the register is updated.</p> <p>Common formats for updating the register would need to be agreed, although it may be possible for many updates to be carried out online, providing immediate feedback on any exceptions.</p> <p>The later in the connection process that the registration takes place, the more 'established' the address and therefore more accurate the address data is likely to be, i.e. less plot addresses and dummy postcodes. This would need to be balanced against the impact of connections existing that are</p>

	not registered until later in the process.
Scope and nature of services	There would be little change to the scope of the service but the nature of the services would change towards being more automated with less manual intervention from xoserve.
Processes	<p>There would be process changes for both the provider of the data and xoserve. These are not thought to be significant, but more a rationalising and streamlining of existing processes.</p> <p>There are likely to be changes to interfaces between the various parties with xoserve potentially interfacing with different parties than in the current process.</p>

KEY FEATURES INFLUENCING	
Investment costs	Key factors in determining the investment costs would be the extent to which processes can be streamlined, the degree of automation of exception processes and the nature of the interfaces. As the majority of these processes are currently manual, it is likely that there would be an incremental investment cost for both xoserve and other parties.
Ongoing costs	As the current processes are mainly manual, overall operating costs could be expected to reduce following implementation. This would be dependent on the extent to which exception processes can be automated. It is not clear whether ongoing cost savings would be realised by other parties.
Benefits	<p>The benefits will be realised through streamlining the process and improved handling of exceptions so that the quality of the data on the register is improved, i.e. fewer unregistered sites and better quality address data.</p> <p>The option of shippers updating the register would significantly reduce the number of shipperless sites and improve the quality of the address data. However, this would need to be balanced against the impact of sites being registered later in the process.</p>

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES	
Risks	Sites registered later in the connection process could result in a greater number of connections not being registered or registered late. Whilst the address data for those sites registered is likely to be more accurate, sites not registered could impact the emergency service.
Assumptions	<p>The review has assumed that there will be a greater degree of automation of any new processes.</p> <p>The responsibility for holding and maintaining the data once registered would continue to be xoserve's, on behalf of the GTs.</p>

Interdependencies	There is little interdependency with other topics.
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KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE	
	Changes could be required to GT, Shippers & Suppliers licences and UNC. Changes are also likely to be required to codes of practice to encourage data quality.

10. Central Data Store for Smart Metering Data

As much larger volumes of read data become available and the means of communication with meter assets evolve, an option is a central store of the data, accessible by all relevant parties.

Option 1: xoserve maintain the central database.

Option 2: A third party maintains the central database.

KEY IMPACTS	
Data management arrangements	<p>xoserve already holds a central store of meter asset data. Extending this to cover smart meters may not have significant impacts for data management arrangements. However, there would be a change of arrangements if this was treated as the single store that other parties relied on for meter asset data.</p> <p>Similar considerations apply to meter reads although the potentially significantly increased number of reads would impact data management arrangements.</p> <p>Option 2 would require more extensive changes to data management arrangements as it would introduce an additional party to the data supply chain.</p> <p>As discussed under the Data Hub topic, a master dataset does facilitate more rigorous standards for data quality and validation.</p>
Scope and nature of services	<p>Option 1 would result in an overall increase in the scope and nature of xoserve's services. Both option 1 and 2 could simplify data capture processes. Option 2 would require xoserve to interface with the third party.</p>
Processes	<p>Option 1 would ensure xoserve has all the necessary data to carry out agreed services and would also be in a position to provide data to shippers and transporters.</p> <p>Option 2 would require xoserve to request or access data from the third party to ensure agreed services could continue.</p>

KEY FEATURES INFLUENCING	
Investment costs	<p>The ongoing government (DECC) consultation will play a major part in defining the features surrounding smart metering and may indicate if a central data store is required. The amount and type of data to be stored centrally has not yet been defined and therefore system implications are difficult to assess, although a significant communications infrastructure would be required if the number of reads stored centrally was substantially greater than now.</p>
Ongoing Costs	<p>With the increase in the number of smart meters the amount of data in the data store could theoretically significantly increase up to 368 billion reads per year (2 /hour/21 million meters)</p>

	<p>which compares to around 90 million reads currently received per annum. Operating a data store of this magnitude would be a significant undertaking and would incur significant operating costs. If the data has held by a third party, it is not clear whether xoserve's operating costs would change.</p>
Benefits	<p>General benefits to all parties as there would be one set of master data for the entire industry thus minimising data conflicts and simplifying updating. Potential reduced costs for all users. A central store could also be seen as an enabler for benefits to be realised in other processes making use of the data.</p>

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES

Risks	<p>Establishing a new central data store, if based on legacy data, may result in poor quality data.</p> <p>The potential volume of data that may be stored could make access processes unnecessarily complex.</p>
Assumptions	<p>Smart meters will eventually be rolled out to all gas users.</p> <p>The central data store stores read and asset information for all UNC users but would not preclude other parties' data.</p> <p>Relevant parties will have their own access to the central data store.</p>
Interdependencies	<p>There are clear interdependencies with the Data Management topics. The outcome of the DECC consultation will also significantly impact this topic.</p>

KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE

	<p>Significant contractual and regulatory change is likely to be required.</p> <p>Gas Transporters already have an obligation to record certain asset details which xoserve currently record within its Connections & Disconnections store.</p> <p>DECC are currently consulting with the industry and the consultation is likely to result in the introduction of more advanced or smarter forms of metering within the next 5 years for the business sector. There will be no further direction in the domestic market until the end of 2008, although parliamentary debate suggests a smart rollout to all households by 2020.</p>
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11. Increased Reads for Energy Allocation, Balancing, Transportation Charging and Reconciliation

Currently a mixture of actual volumes and estimated volumes are used to daily allocate energy to supply points. The volumes are reconciled over different periods using a variety of methods. The primary allocations and reconciled values are used for energy balancing and commodity transportation invoicing. The availability of additional read data presents the opportunity to review both the proportion based on actual volumes and the application of the different methods of reconciliation.

There are many combinations of actual volumes and reconciled estimated volumes that could be adopted. The three options considered in this review move from a modest increase in actual volumes to the extreme of utilising actual volumes for every supply point.

Option 1 - Increased use of Larger Supply Point (LSP) actual volumes, RbD retained.

Option 2 - Increased use of LSP actual volumes with full meter point reconciliation for Smaller Supply Points (SSP) sites.

Option 3 - No reconciliation. All sites are billed based on actual volume consumed.

Note: For the purposes of clarity, the review of the 'Increased Reads' and 'Reconciliation' topics described in the Stage 2 Consultation document have been combined.

KEY IMPACTS	
Data management arrangements	<p>Option 1 Additional daily read data would be required depending on the extent of use within the LSP market. Current daily read processing capacity is not sufficient for a substantial increase (currently 2k and potentially 400k daily reads) and re-engineering would be required to maintain validation and quality of data.</p> <p>Option 2 Additional data may not be required beyond that for option 1 as xoserve already receives SSP meter reads for AQ calculation. However, utilising these reads for reconciliation would place a much higher emphasis on validation, which could not be managed within current processes. Additional reads, i.e. shortening the average reconciliation period would exacerbate the position, unless the read and asset data quality could be significantly improved.</p> <p>Option 3 Utilising daily reads for all supply points would require significant changes to data management arrangements which could not be accommodated within current processes or systems. High levels of automatic validation by all parties would be required to ensure the quality of data. Exception and reconciliation processes would still be required.</p>
Scope and nature of services	<p>Option 1 The scope of service would increase from the limited number of supply points that are currently settled utilising daily reads. Existing services are not designed to cope with a material increase in the number of supply points and a change in the</p>

	<p>nature of the service would be required.</p> <p>Option 2 The removal of RbD would not significantly change the nature of services but would significantly change the scope of the reconciliation service. There would be a significant increase in exception management and processing volumes which could not be accommodated within current processes. A reconciliation neutrality process would still be required.</p> <p>Option 3 The overall scope of services would be reduced as all supply points would be treated in the same manner. Whilst many existing reconciliation processes would not be required, some form of reconciliation will still be required to cater for any metering errors, as with currently daily read supply points. This model would require conceptual development, as it would represent a significant move from the current NDM allocation model.</p>
<p>Processes</p>	<p>Option 1 Processes already exist for daily read sites but they would need to be re-engineered in the event of a significant increase in volume. If the whole of the LSP market was daily read, there would no longer be a requirement for non-daily metered reconciliation.</p> <p>Option 2 This option would remove the RbD process but greatly expand the non-daily metered reconciliation process. The most significant impact would be the requirement for new processes for exception management due to the expected increased volume.</p> <p>Option 3 New processes for handling the substantially larger volumes of read data would be required. There would need to be a mechanism for correcting 'drift'. It is likely that parallel processes would need to be retained for a considerable period to allow for non-smart meters.</p>

<p>KEY FEATURES INFLUENCING</p>	
<p>Investment costs</p>	<p>Additional investment would be required for all options. The key factors influencing costs are the volume of data that would be received, the way that data would be processed and the quality of the data. In general, higher volumes of data, making more use of the data and poor data quality would increase costs.</p> <p>Option 2 would require significant investment in exception management processes. The level of exceptions could be expected to be on a scale not envisaged under current arrangements.</p> <p>To allow for daily reads for all supply points to be processed in</p>

	<p>the tight timescales to meet energy balancing requirements would require significant increases in investment. This option, if adopted, is likely to be a material factor in the design and overall cost of any new system. The liabilities regime associated with daily reads would need to be reviewed. There also likely to be cost impacts on other systems.</p>
Ongoing Costs	<p>The factors impacting investment costs can also be applied to ongoing costs.</p>
Benefits	<p>The key factors influencing benefits would be the degree to which more data would improve the accuracy of energy allocation.</p> <p>An increase in actual billing for commercial gas users may reduce the amount of energy reconciled through RbD which could benefit Shippers.</p> <p>Meter point reconciliation of the SSP market would place a much greater emphasis on the accuracy of SSP data, thus potentially improving the accuracy of AOs and allocations.</p> <p>With little estimation being carried out for daily allocations there could be a reduction in the risk for shippers associated with energy balancing. Shippers and end users could benefit from more targeted costs.</p>

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES

Risks	<p>All the options put more reliance on data and its accuracy. Without confidence that new processes and technology will generate accurate data, there is a risk that the volume of exceptions will outweigh any perceived benefit.</p> <p>The level of exceptions may still result in a significant proportion of energy allocated on the basis of estimates or an increased level of unreconciled energy, thus not reducing the level of risk in the market.</p> <p>The envisaged energy balancing benefits from 'more accurate' allocation may not materialise.</p>
Assumptions	<p>It has been assumed that read data will be obtained and processed no more frequently than daily, i.e. within day reads will not be received or processed.</p> <p>There will still be a need to perform some kind of reconciliation for Smart Meter drift.</p> <p>Demand profiles will still need to be calculated for other related processes.</p>
Interdependencies	<p>There are significant impacts on other topic areas, particularly invoicing.</p> <p>Increased availability of daily reads is dependent on the rollout</p>

	<p>of smart metering which is expected to be long after the envisaged investment in new systems.</p>
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KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE	
	<p>UNC modifications will be required.</p> <p>Penetration of AMR in the I&C market is increasing and existing discussions (mod 175) are beginning to take a view on how the additional data in this limited area can best be utilised.</p> <p>Meter point reconciliation for all supply points has been recently considered by the industry and was not considered desirable at that time.</p> <p>The availability of daily read data for all supply points is dependent on the rollout of smart metering to all end users which is expected to require significant regulatory change.</p>

12. AQ Management

Purpose, calculation and maintenance of annual quantities. Mod 209 has been raised to change the current annual AQ review process to a rolling AQ. The review of this topic has concentrated on the general implications of increasing the frequency of AQ calculation rather than the specific proposals included in mod 209.

KEY IMPACTS	
Data management arrangements	<p>Data management arrangements are not likely to be significantly impacted by calculating Aqs more frequently unless there was a significant increase in the number of reads available which triggered recalculation of Aqs. More Aqs and changes in AQ are likely to be generated which would have process rather than data management implications.</p> <p>If a third party calculated Aqs, potentially the same third party that held a central data store of meter asset and read data, then there would be significant changes to data management arrangements.</p>
Scope and nature of services	<p>The scope of service is unlikely to change but there could be significant changes to the nature of the service. A more frequent calculation of AQ would require more systematic validation processes which handled exceptions without manual intervention.</p>
Processes	<p>Calculating Aqs more frequently could generate a smoother, if increased, workload profile for xoserve and shippers but also could increase the numbers subject to exception management. Process changes would be required by xoserve and shippers to handle the new arrangements.</p>

KEY FEATURES INFLUENCING	
Investment costs	<p>The key factors influencing investment costs are the frequency of AQ calculation, the extent to which workload can be smoothed and the complexity of exception handling processes. Additional investment may be required for processes that make use of the AQ data if the number of AQ changes significantly increases.</p>
Ongoing Costs	<p>Ongoing costs are likely to increase due to the number of AQ calculations required, although this could be mitigated through the adoption of more automated exception handling processes. Another key factor is the level of exceptions, which will be largely determined by the quality of meter read and asset data.</p>
Benefits	<p>Aqs based on more recent data could be expected to be more reflective of recent usage, although the relationship between frequency and reflectivity could not be linear. This could flow through to invoicing and energy balancing processes and result in smaller reconciliation volumes.</p>

	More reflective AQs could lead to a reduction in suppressed reconciliations, (although the majority of suppressions are due to consumption errors) and allocations more reflective of actual usage, although the materiality may be small for SSPs.
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PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES	
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Risks	Frequent changes to AQ may introduce instability, particularly for individual supply points.
Assumptions	AQs will still be required following the introduction of Smart Meters.
Interdependencies	Mod 209 outcome and DECC consultation on smart metering.

KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE	
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	Changes will be required to the UNC. Mod 209 is currently being discussed. More frequent changes to AQ may have wider contractual implications, particularly in the area of charging and pricing.
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13. Volume Capture

The calculation of volume is undertaken by a party other than the Transporters' agent. Either Shippers or a third party would be required to maintain read and asset data, calculate volumes and pass the volumes to the transporters' agent.

KEY IMPACTS	
<p>Data management arrangements</p>	<p>The data management arrangements could be largely the same as now except undertaken by different parties. The overall impact could be to further decentralise current arrangements.</p> <p>If the number of parties calculating volumes increased, then there would be more reliance on robust industry data quality standards and data validation in order to ensure no deterioration in data quality. Validation of reads and assets currently undertaken by xoserve would need to be carried out by the relevant parties.</p> <p>Data formats of files from Shippers to xoserve would need to be agreed, although invoicing formats could remain unchanged.</p> <p>There may still be requirements for transporters to retain meter asset information for emergency purposes.</p>
<p>Scope and nature of services</p>	<p>This change would significantly alter the nature of xoserve services due to the number of processes that make use of meter asset and read data. All processes would need to be analysed in detail to determine whether they could still be delivered in the current way.</p> <p>Investigation of exceptions related to read and asset data would need to be undertaken by the provider of the volume information rather than xoserve.</p> <p>Overall the scope of xoserve services is likely to be reduced, with more activities being undertaken by other parties.</p>
<p>Processes</p>	<p>Most of the providers of meter asset and read data (shippers) are likely to be calculating volumes already. Therefore, it may be the case that the majority of process changes impact xoserve rather than the wider industry. The transition to this arrangement would be very complex because of the large number of processes potentially impacted.</p> <p>There are close links between this topic and the 'Data Hub' and 'Central Data Store for Smart Metering Data' topics</p>

KEY FEATURES INFLUENCING	
<p>Investment costs</p>	<p>There would be significant process design costs because of the range of impacts on xoserve. Total investment costs could be reduced but this would need to be balanced against potentially</p>

	additional investment costs incurred by other parties.
Ongoing Costs	Dependent on the model, ongoing costs for xoserve may reduce but costs for other parties may increase. This could be mitigated to some extent through alignment with existing volume calculation activities undertaken by shippers.
Benefits	The key benefits would be that validation of the consumption would be undertaken prior to being forwarded to xoserve, thus reducing the number of exceptions in complex invoicing processes. Shipper and xoserve systems would hold the same consumption information, further reducing exceptions.

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES

Risks	The diversification of volume calculation could reduce data quality and consistency without the application of robust industry data standards and validation.
Assumptions	Meter asset data may still be required to be held by xoserve to meet transporters' obligations.
Interdependencies	There are significant interdependencies between this and other topics.

KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE

	Significant changes to UNC and potentially licences would be required.
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14. Invoicing Rules

Consultation responses included a range of suggestions for changing the way invoices are presented, including:

- The ability to view and download supporting data
- Greater granularity of supporting data to allow charges to be attributed to all individual supply points
- Standardisation of supporting data and file formats
- Removal of off-line processes
- Reduction in the number of invoices issued (currently 29,000 pa)

Some respondents did not want wholesale changes to invoicing arrangements with the option of retaining existing file formats and delivery mechanisms in parallel with any new processes.

KEY IMPACTS	
Data management arrangements	<p>The existing data management arrangements would support the proposed enhancements to invoicing.</p> <p>Providing greater detail of charges would enable queries to be raised at a more detailed level and potentially support improved data quality, although dependent on processing times, it could compromise the ability to issue invoices in the current timescales.</p>
Scope and nature of services	<p>There would be little change to the scope of services. The nature of the service would change where all charges would be captured in a limited number of standard invoices and more flexibility was available to allow greater choice on the volume and frequency of supporting data accessed by a shipper.</p>
Processes	<p>There would be some changes to xoserve's processes with most charges being handled by a limited number of standardised processes. Shippers would need to review their own processes to take account of the changed invoicing arrangements and greater choice over availability of data.</p>

KEY FEATURES INFLUENCING	
Investment costs	<p>The key factors would be the extent to which charges could be included on a limited number of invoices and the degree of choice and flexibility available for shippers to access supporting data. Retaining parallel means of delivering invoices would create additional costs, although this may allow shippers to not invest in revised file formats, etc. The bandwidth required for telecommunications could be a factor.</p>
Ongoing Costs	<p>There is potential to reduce operating costs, both for xoserve and shippers, by streamlining the process and making invoice and charge details more visible to the users. This could be negated by the additional information required to be made available and if existing arrangements are still required to operate in parallel to new arrangements. The impact of making</p>

	greater use of web technology to deliver the information would need to be investigated.
Benefits	There could be improvements to data quality through making charge information more visible, although the extent to which this is likely is unclear.

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES

Risks	<p>It may not be possible to provide more extensive supporting data in timescales that meet the current billing schedule.</p> <p>Extending the range of delivery mechanisms may increase overall costs.</p> <p>There could be implications for the communications infrastructure.</p>
Assumptions	All the data items required for supporting data are already held by xoserve.
Interdependencies	There are limited interactions with other topics, although as invoicing is at the end of the overall process, there is always the potential for impacts to flow through to invoicing.

KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE

	Changes are likely to be required to UNC and UK-Link manual.
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15. Treatment of Retrospective Updates

Where data is found to be incorrect, updates processed and appropriate adjustments made to consequential impacts, e.g. transportation charging.

KEY IMPACTS	
Data management arrangements	<p>Currently data amendments are managed through a number of processes: RGMA flows, Conquest queries and Filter Failures. On receipt of a data amendment, data is corrected going forward and various processes are triggered which make appropriate adjustments. These processes were developed following the original implementation of Network Code as and when the need was recognised.</p> <p>All of the above offers shippers an opportunity to correct erroneous data and drive the adjustment processes. However, the multiplicity of routes and restrictions on when they are applicable (many respondents referred to the limit on replacing only the last meter reading) clearly causes frustration.</p> <p>If this topic is progressed, it would be better to develop more streamlined processes which allowed data amendments to be processed in a consistent manner, to be clearly visible and appropriate adjustments to be made with a minimum of manual intervention.</p> <p>Such a process would need to be based on robust data management and validation principles which minimised the opportunity for creating further incorrect data.</p> <p>If such a regime could be put in place it has the potential over time to improve overall data quality.</p>
Scope and nature of services	<p>There would be little change to the scope of services but the nature of the service would significantly change, reducing the multiplicity of routes and streamlining the service.</p>
Processes	<p>There would be significant changes to processes, both xoserve and shippers. Adjustment processes are notoriously complex and the development of a more limited number of streamlined and integrated processes would need careful analysis. The extent to which automatic processes could handle all types of data amendment, some of which occur very infrequently, would need careful review.</p>

KEY FEATURES INFLUENCING	
Investment costs	<p>Investment costs could be high, particularly if every conceivable type of data amendment was allowed for in automatic processes. It is likely that data flows and interfaces would need to change which would incur costs across the industry.</p>
Ongoing Costs	<p>There is significant potential for a reduction in ongoing costs</p>

	across the industry. Exceptions are always expensive to process and processes to handle them automatically have the potential to save considerable cost. However, the investment still may not be justified where the volume is low.
Benefits	As well as the potential cost reductions, it is likely that data quality would improve if data amendments could be processed at lower cost.

PRINCIPAL RISKS, ASSUMPTIONS AND INTERDEPENDENCIES

Risks	<p>Unless appropriate controls are in place, data amendments could cause unforeseen consequences for other industry parties because of the complex and interrelated nature of industry processes.</p> <p>Making it easier to process amendments may encourage gaming.</p>
Assumptions	<p>Adjustment processes can be automated to achieve the maximum benefit.</p> <p>The liabilities regime for queries and financial adjustments will need to be reviewed in conjunction with the underlying processes.</p>
Interdependencies	Improving the ability to amend data may require a strengthening of data quality assurance arrangements within the industry – see ‘Quality Assurance’ topic. Other topics may need to take account of data being revised.

KEY DEPENDENCIES ON CONTRACTUAL, REGULATORY AND LEGISLATIVE CHANGE

	Consultation responses indicated a strong desire to change the way data is managed and amended within the industry. Detailed discussions would be required to ensure that any new processes could be fully justified. Changes would be required to the UNC.
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