# Nodal Program Oversight Report 9

## System Integration Assessment
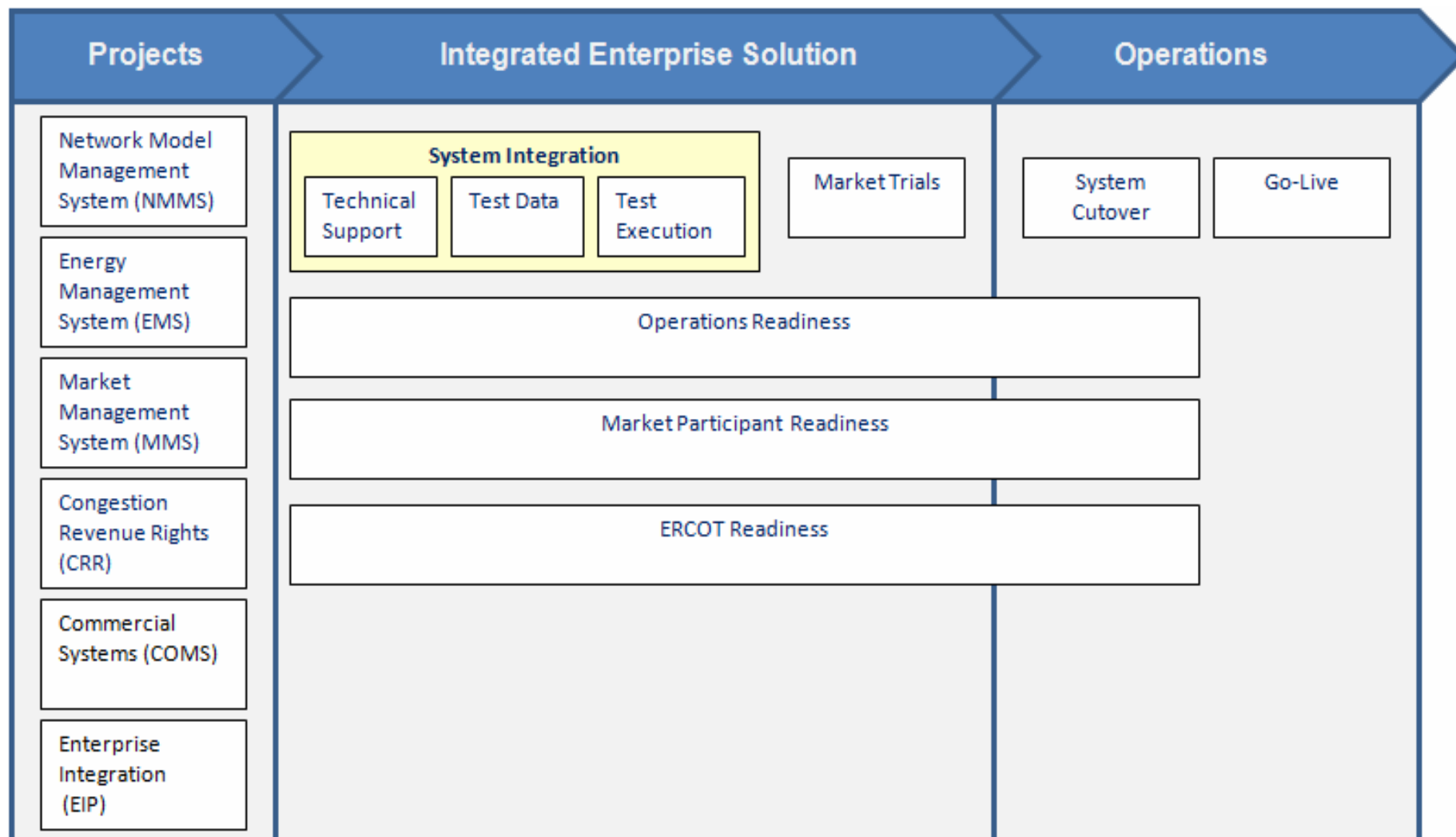
**February 17, 2009**

**Utilicast**

## Scope

The objective of Nodal Market Oversight Report Number 9 is to provide an independent assessment of the Nodal System Integration.

## Approach

- Current state of integration on the Nodal Program
- Integration scope and approach
- Integration project organization structure and resource plan
- Integration technical solution

# Nodal Program Components

| Review Area | Findings |
|---|---|
| **Assess current state of integration on the Nodal Program** | The Nodal Program has made notable progress in:<br>•Redefining the scope and objectives of the integration initiative consistent with requirements.<br>•Developing and communicating a coordinated integration approach.<br>•Assigning ownership and accountability for key integration deliverables.<br>•Hiring knowledgeable and experienced personnel in key leadership roles. |
| | Integration testing is estimated at 5% complete. The tests completed to date are basic application connectivity tests. The business process based end-to-end testing has yet to be completed. |
| | Development of the technical data transfer solution EIP (Enterprise Integration Project - TIBCO data transfer solution) is estimated at 85%-90% complete. |
| | Some of the project teams have made progress in developing and testing the required application interfaces (EMS-MMS and COMS) and are therefore further ahead in integration. |
| **Review overall scope and approach of the Integration Project** | There were unrealistic expectations of the role, responsibilities and deliverables of the integration initiative. |
| | The formal components one would expect to find in an integration approach were poorly defined. |
| | Lack of communication on system specification changes has resulted in a high rate of system fixes and rework on the Enterprise Integration Project. |

| Review Area | Findings |
|---|---|
| Review Organization Structure and Resource Planning | Limited leadership available on the integration team with knowledge of integrating complex solutions and understanding of nodal markets and electricity reliability. |
| | The integration resource plan was not well defined and seems excessive. |
| Technical data transfer solution review | The approach adopted for data transfer between applications has resulted in 3 separate technical solutions being developed.<br>•TIBCO service orientated solution<br>•Point-to-point data transfer<br>•CSI TIBCO orchestration solution<br>Based on our review, these solutions are consistent with program requirements. |
| | The specifications for volumes limits and package content managed by the external web services have not yet been fully defined. Consequently, there is a risk that transactions submitted by Market Participants may not be processed due to system constraints. |

**Because of the urgency of the Nodal Program and to expedite the management response, the Utilicast team communicated findings and made recommendations as they arose. Based on our findings we made the following recommendations and include the management response to date:**

| Recommendations | | Management Response |
|---|---|---|
| 1 | The application project teams should own and be accountable for developing and testing their application interfaces. | The Nodal PMO has reassigned the ownership for interface development and testing to the application project teams. |
| 2 | The scope of system integration testing (end-to-end testing) should be limited to confirming that the individual applications can operate as a single enterprise solution. | The Nodal PMO is in the process of interviewing qualified candidates to lead this effort and develop the necessary test scripts. |
| 3 | Clearly define and communicate the scope, objectives and expected deliverables of the core system integration components. | The Nodal PMO has revised its approach for application interface testing and integration testing (end-to-end business scenario testing). This revised integration approach has been reviewed with the Project Managers, including the scope definition, roles and responsibilities of the Project Teams, and process for aligning approach with project schedules and budgets. |
| 4 | Assign a qualified integration project lead. | The ERCOT executives and the Nodal PMO have assigned a qualified project manager to this role. |
| 5 | Appoint qualified leaders with clear ownership of clearly defined deliverables to the key system integration roles. | ERCOT has posted the leadership positions and has received a number of responses. To date three offers have been extended successful candidates. The goal is to fill these positions with resources that have previous nodal market implementation or large-scale system integration experience. |

| | Recommendations | Management Response |
|---|---|---|
| 6 | Update project plans and budgets based on revised integration scope, objectives, roles and responsibilities. | ERCOT will be revising their project plan and schedule to align with the revised integration testing approach. |
| 7 | Define and implement (in conjunction with the market Participants) the specification for the volume and content of information transmitted over external web services. | |
| 8 | Build and configure a dedicated integration test environment. | Project Manager has been assigned to this initiative. Currently in the planning phase with an expected delivery date of March 2009. |
| 9 | Review access policies and IT controls for non-production environments. | Project Manager assigned to recommendation 8 will also be responsible for reviewing access and control policies. |