Leveraging Business Process Management with Smart Project Orchestration

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Introduction

Network Modernization Drivers

The Telecommunication market is growing rapidly and the time it takes to introduce new technologies needs to shrink to meet customer and market expectations. With the introduction of Next Generation Networks and the convergence of mobile and fixed infrastructures, the requirements for OSS will change significantly. The challenge is to continue to deliver and operate high quality end-to-end services effectively and efficiently. Additional challenges are the result of the introduction of new services over mixed network technologies with a shorter time to market.

New network technologies and architecture changes are the result of the convergence of mobile and fixed line networks and the introduction of mixed access technology ‘HetNets’. While changing modes of operations – for example, network sharing options, managed services, Cloud services, Cloud RAN, etc. – are forcing operators toward network modernization and process transformation. The complexity of operating such multi-domain and multi-technology end-to-end networks is increasing dramatically.

Today’s Network Rollout Tools and Processes

Network rollout processes today are cross functional, involving several organizational teams. Managing the end-to-end process requires many stages, from project initiation, site acquisition, planning and network design all the way through to network build and operate.

At the same time, there are many different organizational teams and departments involved - project managers, site management, finance, planning, field force and operations - as well as many different tools and systems. Each user group often has their own tools to manage their specific roles and functions in the project. Some even use whiteboards, sticky notes, email and spreadsheets to describe business processes and to communicate with each other.

To make things even more complex, many service providers are sharing sites with competitors, divided their network operations across multiple third party contractors, or have outsourced their network operations entirely to a third party or joint-venture enterprise.

Figure 1: Network rollout in a silo organization
Amdocs Network Rollout Solution (ANRS)

Amdocs Network Rollout Solution is a project orchestration system for network build and change management. It provides an automated planning and project orchestration solution that reduces costs and speeds up the planning, building and modernizing of mobile and fixed networks.

ANRS is a smart orchestration layer that sits on top of Business Process Management (BPM) and integrates with Network inventory and planning systems.

Business Process Management (BPM) is a workflow-centric approach for improving business performance that combines technology with best practice governance methodologies during which information, documents or tasks are passed among participants for action in accordance with a set of procedures or rules. Simply put, Business Process Management handles the process and procedures through which tasks are completed.

Operators invest millions of dollars annually in the adaptation and integration of Business Process Management tools with various modules in the OSS layer. The commercial impact from a CAPEX and OPEX point of view has significant results in the length of time to market for new services. It is important to understand that Business Process Management, if used correctly, is basically an enabler that can enhance business significantly by creating faster and more effective processes, but it does not have the ability to fix broken processes.
ANRS Key Capabilities

Amdocs Network Rollout Solution enables end-to-end visibility and control of complex projects. Managing the end-to-end project from business insight and demand planning, project planning, network design and assign through to network build and turn-up.

Many functions need to be attributed to a business process, and unless a process crosses functional boundaries, it is unlikely to create true value. Automating failure is a common mistake when attempting to implement BPM for OSS and third party tools. A bad business processes that become fully automated will simply do the wrong things more quickly. However, the implementation of ANRS, with its seamless BSS and network inventory integration, can result in dramatic benefits for the business by automating efficient processes.
Business Insight

For mobile networks, a key initial stage in network planning is to evaluate the strategic locations where base stations need to be deployed. This can be achieved by applying business analytics and process automation to the problem.

One such tool is Amdocs Smart Cell Placement. The Amdocs Smart Cell Placement solution provides the first stage in small cell network deployment by identifying experience hotspots and candidate cell sites based on their business value. It applies business analytics to correlate data across radio planning, traffic performance, customer profiles and financial information in order to generate a prioritized list of candidate cell sites. This information can then be imported into ANRS, which manages the workflow for the rollout process and offers service providers a sophisticated and flexible network planning approach needed to maximize project efficiency.

Orchestration

Orchestration is the term applied to managing information flow and coordinating business processes across personnel, systems and external organizations involved in a project to ensure they work in harmony, leveraging a common platform with centralized information that is shared across all organizational groups and users. By positioning an orchestration platform on top of such existing systems as demand planning, business process management (which handles workflow), network planning, inventory and workforce management, service providers can leverage the value of each through the end-to-end coordination of processes, tasks and specific technical functions as though it were one single system.

Design and Assign

Design and assign is part of the network planning and build process where process automation can assist network designers and engineers in designing and configuring the network. ANRS applies automated and guided user tasks and processes to reduce the time to plan, design and configure the network, with savings of more than 50% in network design time being achievable.
Add-on Value of ANRS Leveraging Business Process Management

ANRS provides significant additional value as an OSS-specific solution running on top of a Business Process Management system.

- **Amdocs ANRS**
- **Typical Business Process Management (BPM)**

**Figure 4: Differentiation from BPM**

- Catalog driven – Efficient modelling of process flavors
- Best practice templates and know how
- Integration with network inventory – Shared platform and User experience
- Ease of use – visualization and navigation

Telecom OSS specific – OSS/BSS built in Integration
OSS-Specific Solution for Telecom – BSS/OSS Built-in Integrations

ANRS has built-in APIs for Planning, Inventory, BSS and other OSS systems. These APIs enable integration with Smart Cell Placement (ActixOne) and Enterprise Resource Planning (ERP) systems, Resource Management (RM), third-party inventory systems, and Work Force Management (WFM) tools. A common information base for projects, network resources and site inventory, use of these APIs can significantly improve project efficiency and, ultimately, quality of service (QoS).

Shared Platform and User Experience

A shared platform offers a “single source of truth” to ensure that everyone is working with the same common information to get the job done efficiently. Integration with the network inventory system helps to avoid network and service configuration fallout during the actual network assignment process.

Amdocs Network Rollout Solution and Amdocs Resource Manager share the same software framework for seamless design and implementation across the two systems. The unified platform enables a common user interface “look and feel” to handle process tasks that speed up user adoption.

Ease of Use – Visualization and Navigation

Project orchestration tools can be real productivity aids, but only if they are easy to use and if the project workflow is easily accessible and well understood. High-level, configurable management dashboards can provide project teams and senior management with information on all key aspects of the project at a glance.

ANRS provides an innovative plan view – something like a map of the London Underground ‘tube map’, for easy project plan and workflow visibility. The navigation map is ‘zoomable’ to show more details on tasks and events as required.

Typically, Business Process Management systems can only be updated by members of the IT department who have the required skills to make the relevant changes necessary to keep the systems updated. With ANRS, project plans, tasks and workflows are user configurable. They provide end-users with flexibility, and reduce the burden on the IT organization from having to constantly update the BPM system.

Best Practice Templates and Know How

No matter how sophisticated the software may be, a project orchestration solution is only as good as the product designs, best practices and templates contained within it. ANRS covers a wide range of network technologies and plan templates, such as Indoor/Outdoor Small Cells, Carrier Wi-Fi, BVoIP and SDN Ethernet.

Reusability, modularity and flexibility are all key attributes for any network rollout solution if the service provider is to receive the full benefit of managing high volume complex projects. ANRS provides a complete solution that embeds years of practical expertise of network rollout processes used daily by service providers around the world.
Comprehensive Telco Grade Catalog

ANRS incorporates Amdocs Master Enterprise Catalog (MEC), which provides a centralized repository of project building blocks that enables a flexible workflow for dynamic generation of plans. The catalog driven solution offers more efficient modeling of process while avoiding modeling duplication and process complexity. By leveraging MEC, service providers can accelerate the process, thereby increasing both time to market and revenue. MEC is used in all of Amdocs’ key solutions, including in the BSS domain, providing a “single-source of truth”.

Figure 6: Leveraging Master Enterprise Catalog (MEC)
Conclusion

The deployment of networks is becoming increasingly more complex and challenging. Service providers need to move faster and become more agile to meet the demand of rolling out large scale fixed and mobile networks. Current Business Process Management (BPM) tools are inadequate to meet today’s demands. The key to success is end-to-end project orchestration and dynamic plan management, supported by a centralized inventory system.

Amdocs Network Rollout Solution (ANRS) reduces the cost of network deployment by up to 25% and network design time by up to 50% by automating the Planning and Project Management process. Amdocs Network Rollout solution is more than just a workflow tool; it provides a smart end-to-end orchestration layer that leverages existing Business Process Management processes to manage workflow across a wide-range of systems, personnel and processes. By abstracting the orchestration layer above the underlying system functions and incorporating dynamic plan management, the entire system becomes more agile and flexible compared to traditional approaches based on generic Business Process Management only.

Contact Amdocs today to learn more about Amdocs Network Rollout solution – http://amdocs.com/anrs
Sources

- Tmforum – Getting to growth: Leveraging product catalog for faster time to market; December 2014
- NGMN Alliance – NGMN Next Generation Converged Operations Requirements; July 2013
- 3GPP – Network sharing; Architecture and functional description; June 2014

Why Amdocs for the Network?

- **Completely vendor neutrality in our approach** – Removes vendor lock-in and ensures that our solution can be deployed easily in mixed vendor environments interoperating with other network elements.

- **IT software pedigree and experience** – Amdocs is uniquely focused on software solutions, with a broad and proven services practice around carrier-grade software deployments. Our extensive software and services experience gives us unique credentials for next generation software powered networks.

- **Uniquely focused on telecom** – Unlike some of our competitors, we are uniquely focused on the telecom market. Our solutions are predicated on high reliability, availability and have been widely deployed in the most demanding Tier 1 networks globally.

- **Best of breed solutions** – We offer industry-leading solutions garnered through a series of strategic acquisitions over the past several years and fully integrated with our key BSS assets.

- **Unique perspective on customer experience and monetization** – Our BSS heritage affords us a unique vantage point on how to positively impact quality of experience and monetization opportunities in the network by fusing customer and network intelligence to apply software control to the customer data experience.

- **Standards-based** – 3GPP, ETSI aligned as examples.

- **Future proof approach** – Amdocs offers best of breed vendor-neutral software solutions today around key domains such as RAN optimization, network and policy control, online charging, OSS and big data. This set of solutions, combined with Amdocs proven pedigree in delivering large scale transformations, provides a powerful combination of productized software and services that can fully leverage the extensive customer data and insights within business support systems. Amdocs is well positioned to accelerate this next generation network transformation that will heavily leverage the power of software in key areas such as network function virtualization, and cloud computing in the Telco data center.
About Amdocs

For more than 30 years, Amdocs has ensured service providers’ success and embraced their biggest challenges. To win in the connected world, service providers rely on Amdocs to simplify the customer experience, harness the data explosion, stay ahead with new services and improve operational efficiency. The global company uniquely combines a market-leading BSS, OSS and network control and optimization product portfolio with value-driven professional services and managed services operations. With revenue of $3.6 billion in fiscal 2014, Amdocs and its more than 22,000 employees serve customers in over 80 countries.

Amdocs: Embrace Challenge, Experience Success.
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