Integration scenarios, functionalities and processes surrounding the Microsoft Project Server

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Business processes in project management extend today across the most variegated of IT systems whose data have to be consolidated. In most cases, a central project management tool is deployed replacing various isolated applications so as to network the remaining systems with one another. The effort by employees is reduced, and the data quality of the individual systems is increased. Consequently, redundant maintenance requirements are to be excluded with the use of the remaining different systems.

Many companies deploy Microsoft Project Server in order to meet these requirements. "Through the use of Microsoft Project Server, project management tasks can be realised on a tool-supported basis, from project initiation to project and resource planning up to cost controlling. More tools beside the Microsoft Project Server are available during the entire project management cycle in order to support processes and activities as efficiently as possible," says Stephan Fasshauer, Product Marketing Manager Project and Visio, Microsoft Deutschland GmbH, Information Worker Division.

Concrete technical possibilities for integration with the Microsoft system landscape as well as application options, using the examples of Microsoft SharePoint Server, Team Foundation Server, Exchange Server and a tool not based upon Microsoft technologies, e.g. SAP, will be presented below.

Integration scenarios: Project Server and SAP

The classic application of the Microsoft Project Server is the integration of the cost planning from a third-party system (e.g. SAP) within the project management tools, without generating any extra effort by the user owing to double data maintenance. In most cases, the project-specific cost planning is also to be covered by the project management tool when the Microsoft Project Server is being implemented. In the process, cost rates, for instance, are so allocated to the resources existent in the system that the costs incurring are directly connected to the evolving amounts of work and can be calculated automatically.

In many cases, the cost information is processed in systems like SAP, so that the cost data put in and generated have to be transferred to SAP from Microsoft Project Server. To that purpose, the complete structure or only a limited level of structuring of tasks, for example, is transferred to SAP PS upon the successful task planning and scheduling by Microsoft Project Server. The exact structure is selected according to the granularity required for accounting in SAP PS. In addition, the defined task packages from the project plans may be transferred to SAP as PSP elements or network planning procedures.

When employees report back their work via the default functionalities of the Microsoft Project Server, e.g. MyTasks or MyTimesheets, this information about the actual effort entailed may be either aggregated by the Microsoft Project Server or transmitted to SAP CATS, 1:1 per synchronised element. The processes in SAP run as usual after the data input from the Microsoft Project Server.

In order to realise these integration scenarios between Microsoft Project Server and a third-party system like SAP, Campana & Schott, as a certified Microsoft Gold Partner and SAP Service Partner, has developed the interface product CS Connect, among other things. By dint of a completely integrated infrastructure, such a product makes it possible that project data are centrally controlled and made available at various locations in a very simple way. Employees may continue to process the data in the applications they know (e. g. SAP). This data may be subsequently used in a second platform (e. g. Microsoft Project Server) by dint of an interface without having to be additionally maintained there. The application of the interface may be done bidirectionally, so that it is not mandatory to define one system as the leading one.

This calls for a targeted data transfer between MS Project Server and SAP ERP—typically:

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Actual times (centralised chronology)	MSP Server ←→	SAP CO/CATS
Actual costs (including commitments)	SAP CO →	MSP Server
Project master data (including work breakdown structure)	MSP Server ←→	SAP PS
Resources master data	SAP HCM ←→	MSP Server

Typical data transfer between Microsoft Project Server and SAP

When using an interface product like CS Connect for the bidirectional data transfer between Microsoft Project Server and SAP ERP, the project master data, resource data as well as target costs and actual costs are synchronised as a rule between the two platforms. Data subsets from both platforms are integrated in a shared infrastructure and can be retrieved in both platforms.

As a Web-based product, CS Connect is flexibly configurable and may therefore be quickly adapted to the requirements of a customer. The application does not require a client-side rollout. A modular authorisation administration for the local control and administration of the interfaces supports the integration process and day-to-day operation. Detailed transaction logs and error treatments may be queried or received via e-mail as part of the automatic notification on interface events.

The data transfer can be realised with different connections, e.g. default SAP interfaces by RFC/BAPI, SAP PI or on the basis of XML data transfers.
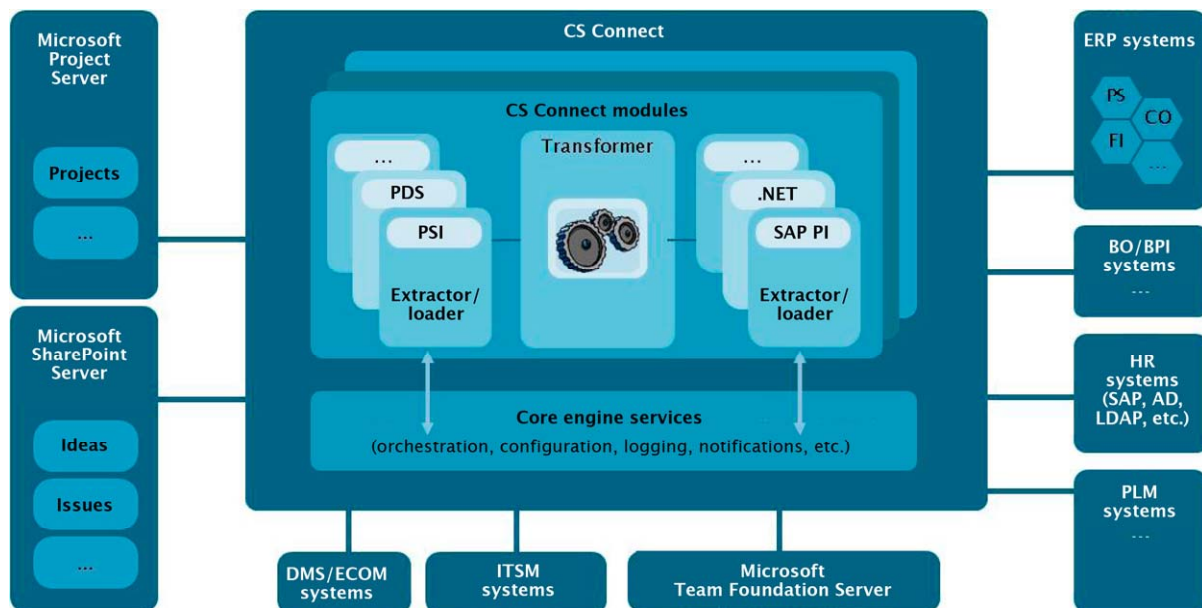
Structure of the architecture of CS Connect

Apart from simple 1:1 relations, 1:n as well as complex n:m relations are feasible within the scope of the deployment of such an interface product. Data between more than two systems are exchanged so that a multi-system integration can be implemented, if required. In such cases, the scheduling and orchestration functionalities of the core engine guarantee the correct chronological order and completeness of the communication across all systems. Thus transaction security is always guaranteed even with complex scenarios.

CS Connect was certified by Microsoft and SAP alike, thus guaranteeing a maximum of reliability and compatibility with the systems of both manufacturers.

## Integration scenarios: SharePoint and SAP

Beyond the deployment of integration options of Microsoft Project Server and SAP, various applications are feasible in which data is exchanged between Microsoft SharePoint Server and software like SAP. One requirement frequently on hand is the transfer of data from vacation applications from or to SAP HCM; or the generation of an order summary for which the data are directly read out from SAP MM. In the latter case, the order summary is created in a user-friendly form via Microsoft SharePoint Server workflow. Subsequently, the data relevant to SAP are forwarded via the interface. Beyond that, more complex scenarios are feasible, e.g. if project applications are processed via Microsoft SharePoint Server release workflows, and the layout of the project is to be mapped in SAP PS/CO with PSP structures.

The data transfer of the datasets of complete dashboards from a SAP BW is also possible with a corresponding interface module so as to avoid any double maintenance effort and ensure a uniform data consistency across different applications. In order to ensure the data transfer between the two systems, an application such as CS Connect, described above, can likewise be drawn upon in this regard.

Moreover, there is a possibility to meet the frequently-posed requirement, namely to provide the user with only one end-user platform for entries in SharePoint and SAP. To this end, "Duet Enterprise" was developed in collaboration with Microsoft und SAP, which is equipped with single sign-on functionality. This means that when the user registers at SharePoint, he also registers automatically in SAP and has access to the respective data and may edit it according to his authorisation.

Duet Enterprise is so conceived that all SAP roles can be adopted in SharePoint. Thus it is always ensured that the user has access to the respective data in SAP according to his authorisation and may also adapt them live, if desired, via an end-user template in SharePoint.

Beyond that, Duet Enterprise provides a corresponding toolset, so that a default access to SAP information on customers, employees, products, customer orders and customer inquiries may be enabled in SAP.
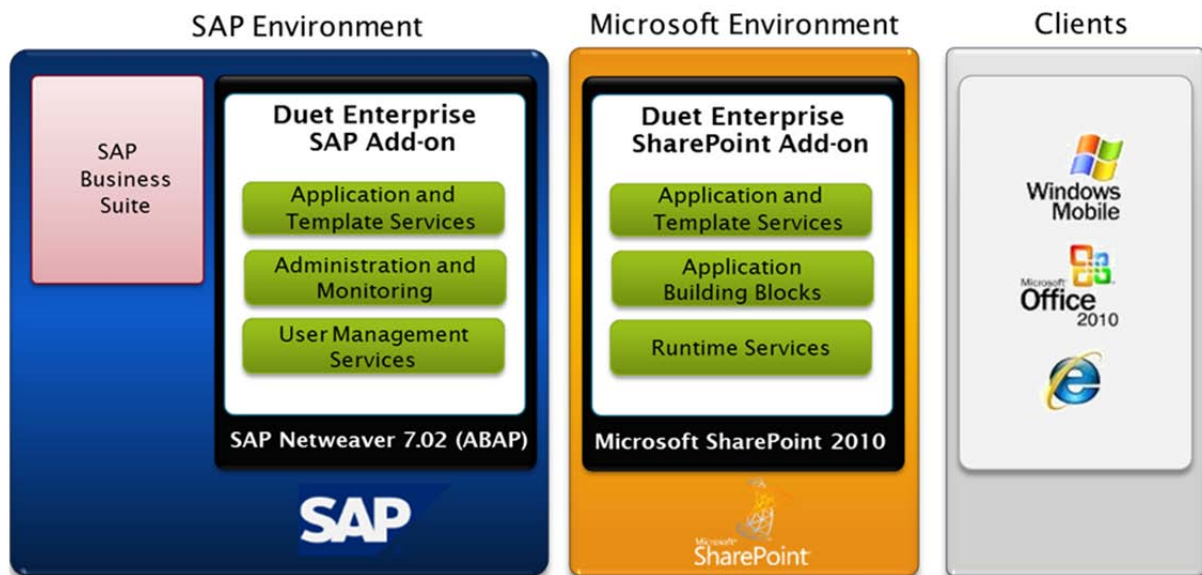
Structure of the architecture of Duet Enterprise

Duet Enterprise draws upon business connectivity services. In so doing, access is facilitated in a SharePoint interface to SAP data and SharePoint data alike. This means a clear simplification for the user when handling different systems.
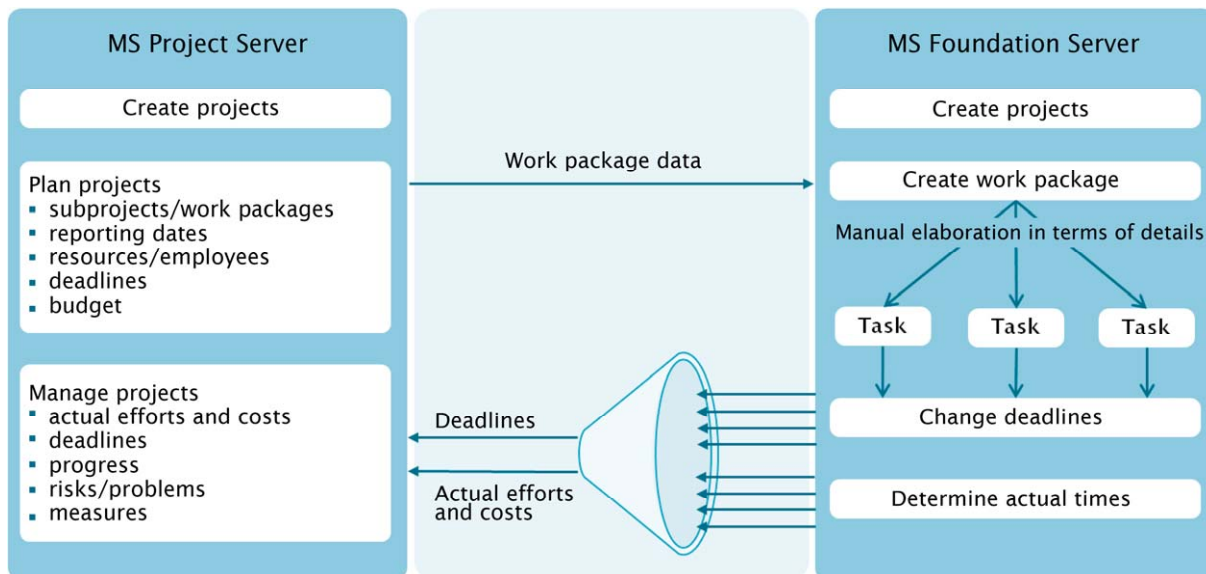
Integration scenarios: Project Server and Team Foundation Server

Another field of application exists as part of IT development projects for which the Microsoft Team Foundation Server as a tool for development planning/controlling and code administration is to be linked with the Project Server.

The challenge in this respect frequently consists in the fact that the software development, supported by the Microsoft Team Foundation Server, runs through its own processes with its own entities, which are not mirrored 1:1 in a project planning tool like Microsoft Project Server. The fine-tuning of the planning is usually effected with the lead developer; the maintenance of the project plan, however, is incumbent upon the project manager, so that system integration makes work much easier here as well.

With a feature pack of Microsoft, available for the integration of the Team Foundation Server and the Project Server, the following quick wins may be gained:

- Improvement in the communication between Project Manager and Development
- Improvement in the allocation of actual efforts and costs to work packages in the project plan, as well as to the development work in the Microsoft Team Foundation Server
- Making work easier for the project manager in progress controlling (tasks, deadlines and progress are compressed to the relevant granularity and exchanged)
- Guarantee of a clear-cut separation of roles

Possible integration scenarios of Microsoft Project Server and Microsoft Team Foundation Server

Integration scenarios: Project Server and Exchange Server

Furthermore, an option exists to implement different integration scenarios with Microsoft Project Server and Exchange Server. A frequent application is the synchronisation of pending tasks in the Microsoft Outlook calendars: when a project plan is published, the activities appear automatically in the Outlook calendar of the designated co-worker and in a task list maintained in Outlook for this. Should the project plan be updated, the changed schedule is updated directly in the calendar or the task list.

In order to exploit fully the advantages that the use of various default tools provides, relieve employees of extra work entailed in double data maintenance and boost the acceptance of IT systems within the company, the tools can be integrated, depending on the requirements, as described above.

Summary

All in all, it may be stated that, in terms of system installation, e.g. Microsoft Project Server, the necessary integration with other systems has to be taken into consideration so as to boost the use of the individual IT systems in a targeted manner and optimise data quality.

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