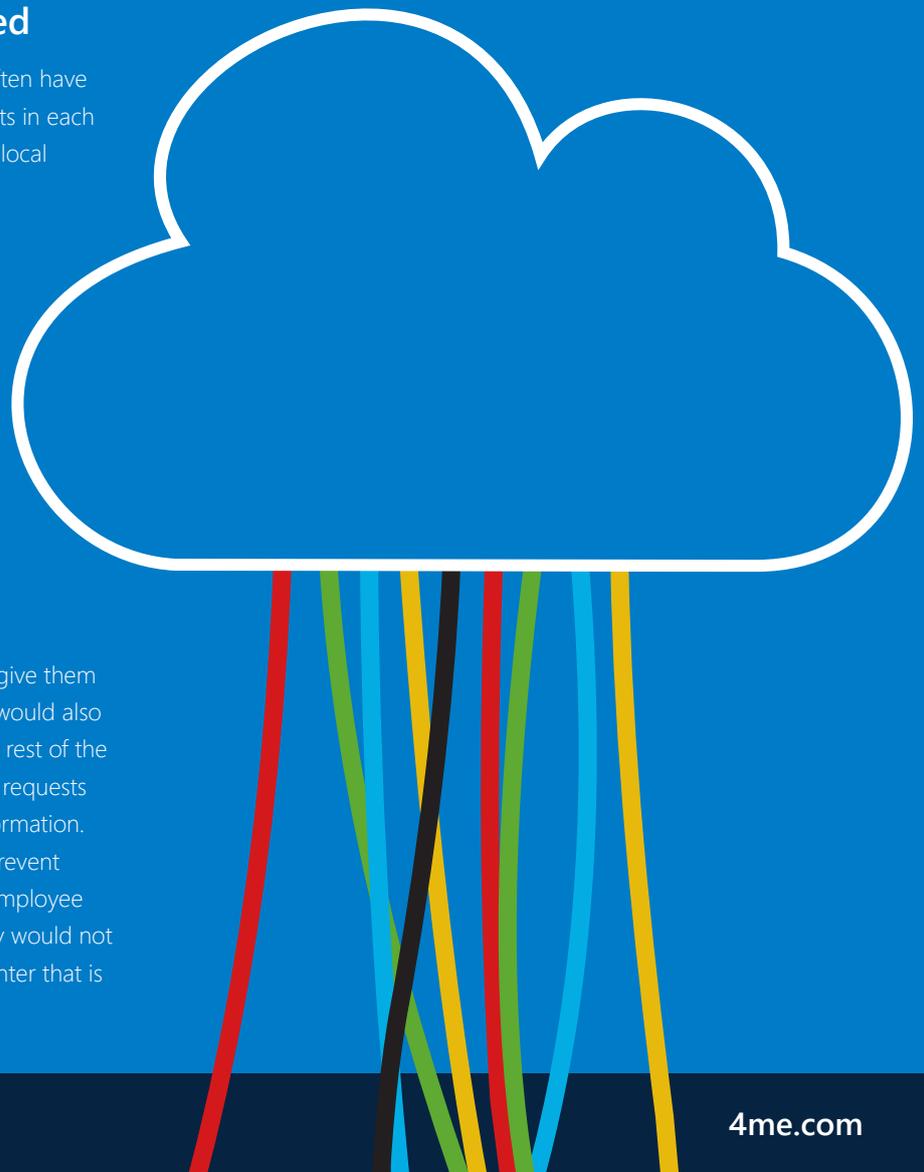# Moving Beyond Multi-Tenancy

Multi-tenancy refers to a single instance of a software application that is used by multiple customers. Several enterprise service management applications enable multiple support departments to share a single installation of the application. This paper explores the reasons why organizations decide to make use of multi-tenancy, the issues they subsequently run into, and how they can avoid these problems using a more modern solution that makes better use of the cloud.

Why Multi-Tenancy Was Invented

Large enterprises that operate in multiple countries often have IT, HR, Finance and Facilities Management departments in each country to offer local support to its businesses. These local departments typically rely on a shared services center for many of the services they provide to the employees they support. All of these internal service providers will want to configure the service management application differently so that it meets their specific needs. They may also not want all their data to be shared with the other providers within the enterprise. Yet they also have a need to work together. For example when a new employee joins, HR will ask IT to prepare a PC and Facilities to prepare a cubicle.

Giving each of the internal providers their own instance of a service management application would give them complete control over the way they configure it. This would also ensure that the data would be kept separate from the rest of the organization, which is especially important for the HR requests from employees, which can contain very sensitive information. But a separate instance for each department would prevent them from working together. For example, when an employee reports an email issue to the local IT department, they would not be able to pass this incident to the shared services center that is responsible for the company's global email service.

Multi-tenancy is an attempt to ensure that multiple service providers can work together, have some ability to customize their service management environments, and can control the data that they share between them. The reason why this sounds attractive is that it avoids the costs of creating and maintaining a multi-instance environment, in which separate instances are set up for the different support domains and integrations are established to allow tickets to be exchanged between them.

The focus here is on the use of multi-tenancy within large enterprises. Later, in the section 'Multi-Tenancy and Outsourcing', we shall also discuss multi-tenancy for enabling collaboration between managed service providers (MSPs) and their enterprise customers.

The Drawbacks of Multi-Tenancy within Enterprises

When multiple tenants use domain separation, it is up to the administrators of the instance to control visibility and data access across the different domains. In addition, because each tenant will have specific processes and workflows, these variations will need to be configured for each tenant in a way that does not affect the other tenants. This may technically be possible, but the complexity increases exponentially with each additional tenant that needs a domain. Maintaining an instance for a midsize enterprise with just three domains (for IT, HR and Finance) can already be a major headache. For large enterprises with many IT and HR departments around the world, supported by several shared services centers, configuration mistakes will be unavoidable, causing sensitive information to become visible to unauthorized users.

Application Response Times

When the support departments of the enterprise are spread out across different continents, there is another disadvantage that limits the usefulness of multi-tenancy. The tenants that are geographically far removed from the data center in which the service management instance is hosted will experience slow response times. Every time their support specialists try to open or update a ticket, they will be looking at a spinner for a few seconds.

If they had their own instance locally, they could work efficiently. Even when the cost of the reduced productivity is ignored, it is frustrating for the support specialists to have to work in a slow application. Rather than supporting multi-tenancy, they will push

for a separate instance. When a few of the departments have their own instances again, the organization is back to a multi-instance environment. Even if each instance runs exactly the same software version, they need to be maintained and secured, plus technical integrations are needed to provide a rudimentary means of passing tickets between each party.

Multi-Tenancy and Outsourcing

So far we have looked only at the use case for multi-tenancy within a large organization that has a number of internal support organizations that need to be able to work together, each with their own service management requirements and the desire to control the data they share with each other. But multi-tenancy is also commonly considered when a managed service provider (MSP) takes over the support of an enterprise customer's services. The enterprise then needs an easy way to request the MSP to resolve the incidents, implement changes and answer questions.

To meet this requirement, many MSPs offer their customers access to their service management instance. Customers that agree to this approach stop using their own service management solution and work only in the instance of the MSP. To make this work, the MSP uses multi-tenancy to ensure that each of its customers can access only their own data.

The obvious downside of this setup is that when the enterprise customer sources support for its services from multiple specialized MSPs, rather than outsourcing everything to a single MSP, the customer will not be able to collaborate with the other MSPs. That's because the other MSPs would not be allowed, or would not be willing, to work in another MSP's service management instance.
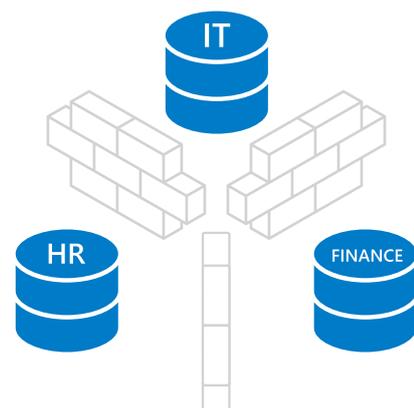
Another disadvantage for the enterprise customers is that they have to give up control of their service management environment, leaving them completely dependent on the MSP for adjustments that would help them improve their support processes. More painful can be the loss of control over their data. Depending on the agreements with its customers, the MSP may have a strong financial incentive to manipulate this data to influence the service level reports.

It is also possible to make use of a service management tool's multi-tenancy capability to support outsourcing initiatives by placing the enterprise customer in control. In such cases, the external providers become a tenant within the customer's service management instance.

This can work well when the support specialists of the MSPs are dedicated to this customer. But having to dedicate each specialist to a specific customer reduces the efficiency of an MSP's resource allocation. By having each specialist support multiple customers, they can dramatically increase productivity. But if these specialists needed to log into a different application instance for each customer, this eliminates the productivity gain.

Another reason why MSPs are not so eager to use their customer's service management instance is that they need their service management environment to be configured in a specific way to be able to extract the data for invoicing. The customer will be reluctant to pay for having these changes made in their service management instance. And finally, the customer is likely to push back each time they need to give another one of the MSP's specialists access, because of the associated license costs.

Moving Beyond the Limitations of Multi-Tenancy

4me is an enterprise service management solution that was built specifically to allow service provider organizations to work together, without the need for technical integrations. It is a true cloud solution in which each provider gets its own account that it can configure to meet its specific needs.

For enterprises with multiple accounts, 4me provides the ability to store the information about their organizational structure, their facilities and their employees in a directory account.

This makes this data available in each support domain account that has been set up for the different support departments of the enterprise. And because of 4me's unique technical architecture, all of these support departments can rely on excellent application response times regardless of their geographical location.

When an enterprise wants to work together with an external provider, they do not need to decide whose instance they will use. Instead, they simply agree to establish a 'trust' between their 4me accounts. A trust allows these organizations to work together on requests, changes and projects. The customer can even ask the MSP to take over the responsibility for supporting some of the configuration items it owns, without needing to transfer the data of these CIs to the MSP's 4me account.

The advantage of each organization owning its own 4me account is that there is no need for an enterprise customer to acquire licenses for the support specialists of its MSPs.
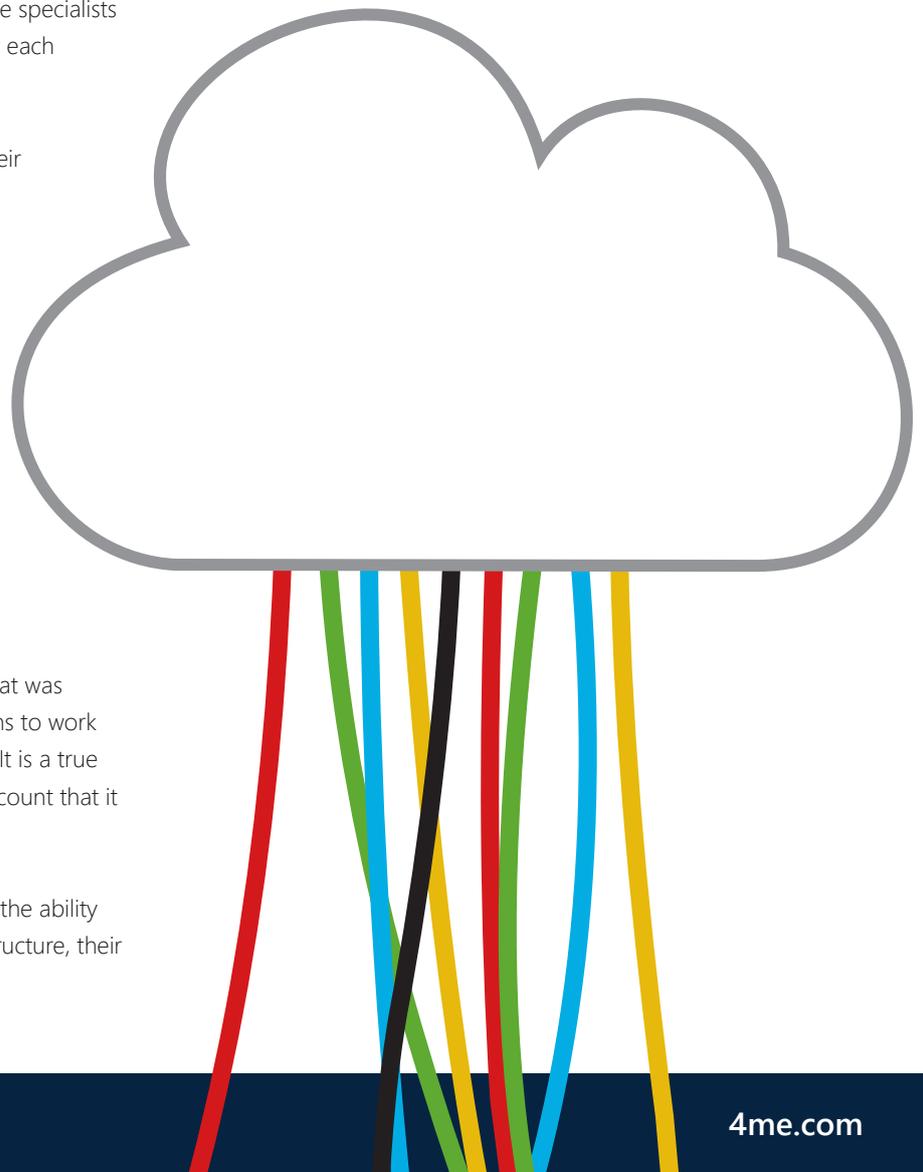
As organizations start to collaborate, 4me automatically starts to track the agreements between them and provides real-time insight into the level of service that is being provided. 4me does this without the need for any customization. Most importantly, when an organization decides to make some adjustments in the setup of its 4me account, it can be confident that this is not going to affect its ability to work with the other 4me accounts that it has a trust with.

Because a trust does not require any technical setup or maintenance, 4me customers can establish as many trusts as they need. This eliminates a major impediment to selective outsourcing. 4me makes it possible to outsource, for example, their SAP environments to a specialized provider, while other providers are contracted to maintain its Salesforce implementation, its corporate website that runs on WordPress, its servers, its network printers, etc.

Final Thoughts

As enterprises go through their digital transformation, they are relying on more and more SaaS solutions. Most have already come to the realization that it is no longer possible to develop the necessary skills in-house to support all these services. Because of this increase in the number of digital services that a modern enterprise relies on, it has also become impossible to simply outsource everything to a single MSP.

Selective outsourcing has therefore become a necessity, which explains the increasing interest in SIAM (Service Integration and Management). But this relatively new management approach alone is not enough. For a successful SIAM implementation, all internal and external service providers need to be able to work together seamlessly and it must be possible to track the level of support that is provided for each service in real time.

Even if technically this could be realized with multi-tenancy, it becomes cost prohibitive because of the amount of consulting effort that is required to maintain the complexity of a single instance with more than a handful of tenants. A multi-instance environment is also too complex and costly because of the integrations that need to be built and maintained to ensure that data can flow securely between all service providers.

That is why the time has come to move past multi-tenancy and to use a solution that was built from the ground up on modern cloud technology to enable service collaboration while providing the highest level of data protection and regulatory compliance. It is time to leave the technical complexity behind, so that enterprises can focus on connecting up with the MSPs that can help them deliver the services that will make their business more successful. It is time to start making use of 4me.

About 4me

4me is an enterprise service management (ESM) solution for seamless collaboration between internal, external and outsourced teams.

4me is the only ESM solution that makes it possible for all internal departments, like IT, HR and Facilities, to work together seamlessly with each other, as well as with the managed service providers to which some services have been outsourced. In addition to supporting the ITIL processes, 4me also provides fully integrated knowledge management, time tracking and project management capabilities. For enterprise employees, 4me is the Self Service app that is always there for them whenever they need some help.