ORSYP: Workload Automation 2.0
Value Proposition

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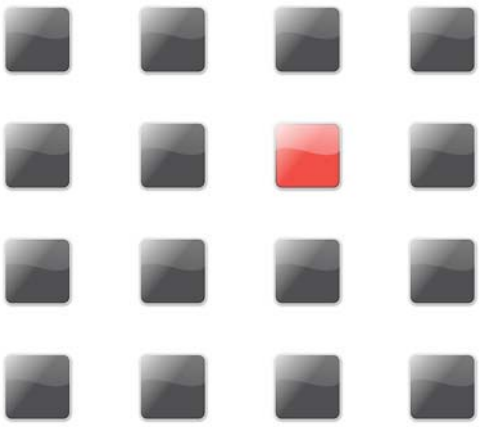

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1. Introduction

This document presents a comparison between the ORSYP value proposition and a large provider of legacy Workload Automation products. It details the key differentiators that demonstrate the proven benefits of ORSYP over the legacy systems.

Most of the companies that have switched from legacy tools to ORSYP have seen increases in reliability, availability and capacity with our solution. These results position ORSYP as the ideal alternative to any legacy systems for Enterprise Workload Automation.

This document also references a real-life case study at one of our customers' site which selected ORSYP Solution as their corporate standard for IT workload Automation in the year 2003 to replace a legacy solution provider.

Since their successful migration from the previous job scheduling environment to ORSYP, productivity has seen dramatic increases and service levels delivered to the core business have exceeded expectations. They have since increased their job scheduling footprint to more than 6,000 servers and are currently running close to 100 million jobs per year.

2. ORSYP: an alternative to the market

ORSYP addresses the most complex Job Scheduling operational needs to over 1400 customers worldwide. Not only does ORSYP deliver higher levels of performance, scalability and ease of administration, it also delivers solid ROI on replacement projects.

One of the reasons for our unrivaled ROI is contingent to ORSYP's unique power grid architecture. The ORSYP architecture shows NO single point of failure and NO need for dedicated systems or servers to fulfill the management or Job Scheduling requirements.

ORSYP offers a practical solution that financially and operationally makes sense for complex and dynamic IT environments. The ORSYP solution helps achieve the following:

1. Reduce IT Costs, by
   - ✓ Removing hardware and DB support costs
   - ✓ Reducing maintenance and upgrade costs
2. Respond Quicker to Business, by
   - ✓ Shortening the integration cycles of new business entities
   - ✓ Improving performance and reduce the Time To Deliver
3. Reduce Operational Risks, by
   - ✓ Facilitating technology-driven change like a business application or OS upgrade
   - ✓ Diminishing risk of catastrophic failures and minimizing the recovery time

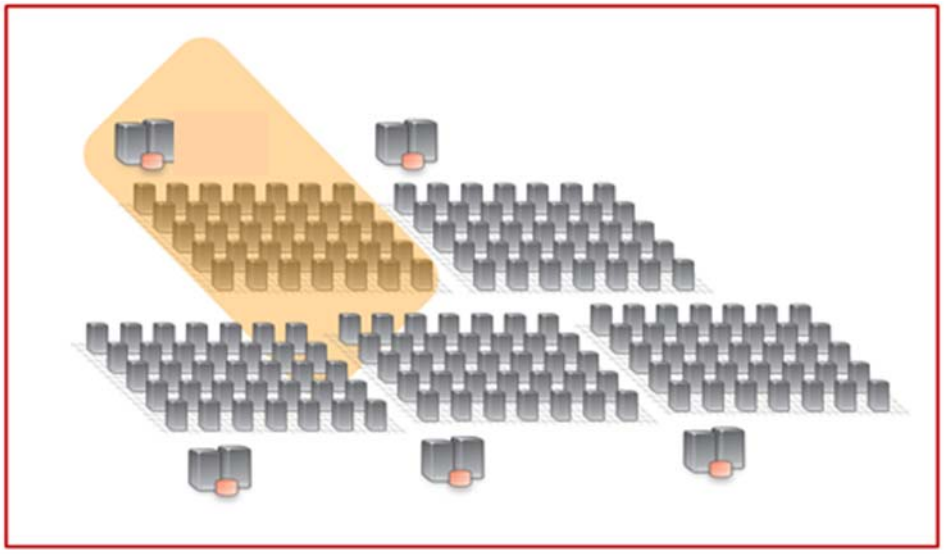
2.1 Reduced IT Costs

The ORSYP solution is a proven innovative approach to workload automation, designed to support the IT and business process automation needs today and in the future.

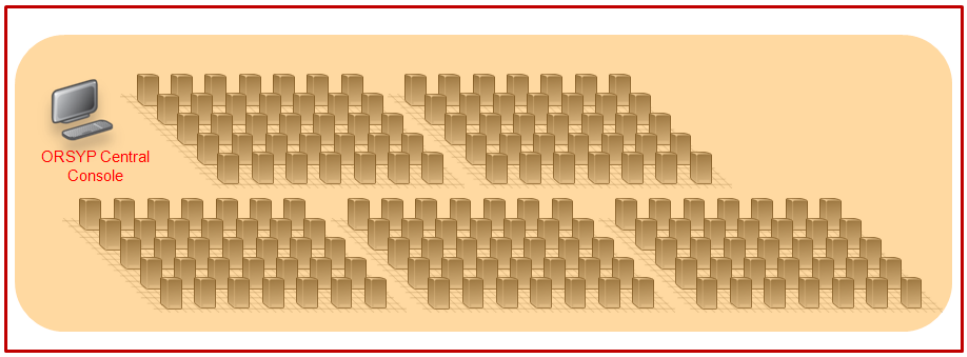
Legacy systems require large-scale master servers to deliver just an adequate level of service. It is built on host-client or master-agent architecture which is prone to difficulties related to scalability, performance and roll out.

Master-Agent architecture increases costs in line with scalability as there can be only so many jobs in a database and only so many agents connected to each master. Too many agents per master lead to performance degradation and significant latency issues. These issues hinder the ability of the IT Manager to ensure business continuity and the Service Level agreements already in place.

When the maximum number of agents is reached, an additional master server must be purchased and installed to manage new agents, which forms islands of technology. Below is an environment which shows several master/agent systems. Each system is comprised of 2 servers (Primary and Shadow) and a database. Each managed server is equipped with an agent and a database agent.



The same environment, managed by ORSYP appears below. Each server is equipped with an autonomous agent providing full automation capabilities, ensuring autonomy of local operations and cross-server communication. Administration, design, monitoring and supervision of the entire environment are therefore performed from a central console.



The ORSYP solution has unlimited scalability and therefore, removes the need to closely monitor the trend analysis of scheduling in order to decide if new masters are needed. This is a level of complexity in planning that does not exist with the ORSYP solution.

In the meantime, ORSYP provides visibility over the entire environment from a single centralized GUI. All executions across all servers can be monitored from a central console. Here are the high-level benefits ORSYP delivers in comparison to legacy tools in terms of cost:

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Customer case study: the ORSYP solution has a significant impact as it has reduced the investment in more hardware and database licenses. By removing unnecessary additional hardware, it removes the complexity introduced by the master servers; system administration, and database administration.

As of today, ORSYP delivers workload automation 2.0 to:

- ✓ 237 application teams
- ✓ more than 2,900 production nodes
- ✓ more than 3,100 nodes in non production
- ✓ more 500 000 job definitions
- ✓ 100 million jobs per year or 8.3 million per month

The table shows the before-after replacement picture.

		Legacy Tools	ORSYP
INITIAL SCOPE	Primary Masters	14	0
	Backup shadows	14	0
	Database instance	14	0
	JS Agents	1,200	1,200
	DBA personnel	0.5	0
	Product Administration	3	3
TODAY	Primary Masters	42	0
	Backup shadows	42	0
	Database instance	42	0
	JS Agents	6,000	6,000
	DBA personnel	1	0
	Product Administration	6	4

Note: Assumption for calculating today's legacy infrastructure: 1 legacy Master Scheduler per group of 140 agents.

Some of the benefits are due to:

- ✓ Cost reductions (Licenses, maintenance, hardware)
- ✓ Optimal IT operations reliability and availability (No daily plan compilation)
- ✓ The leverage of the IT Service Management solution: HP-OM (HP-OVO)
- ✓ Best in class customer care and in-house expert services

2.2 Respond quicker to business

Legacy tool customers are faced with the inability to rapidly change or grow due to rigid automation infrastructure; in turn any change to the job scheduling environment becomes costly, technically demanding and riddled with unforeseen challenges. For example, if the business doubles in size and the automation footprint needs to be expanded, ORSYP's distributed scheduling feature enables the IT Manager to handle the increased production volume as needed accelerating time to market. There are no limitations on the number of jobs and job flows with ORSYP. At the opposite, the legacy products have a limit and for many companies this creates a handicap for growth.

The underlying host-client architecture in legacy tools is again a limiting factor in allowing IT to grow or change with new business demands. For instance the transition from one specific legacy tool version to the next from the same provider is a real migration project, not just an upgrade routine.

Many legacy tool users are using this argument to investigate the other solutions on the market such as ORSYP. In fact, it is generally admitted that one legacy tool migration project requires 12 to 18 months to complete, usually involves a consultant to administer the migration, and retrain the users as the new is much more complex than the previous.

ORSYP is not encumbered by host-client ratios. The IT Manager can continue to add nodes without concerns of host performance or network latencies across a large enterprise. With host-client architecture, operators spend more time managing hosts instead of managing the performance of jobs across the enterprise. ORSYP gives IT Operations a global view of jobs across the entire Enterprise. ORSYP is the only true cross platform, cross application tool as it runs natively on over 25 operating systems including Unix (HP, Sun, IBM), Linux, Windows, OpenVMS, OS400, MPE...

Customer case study: immediately following the migration, they saw benefits in the following areas:

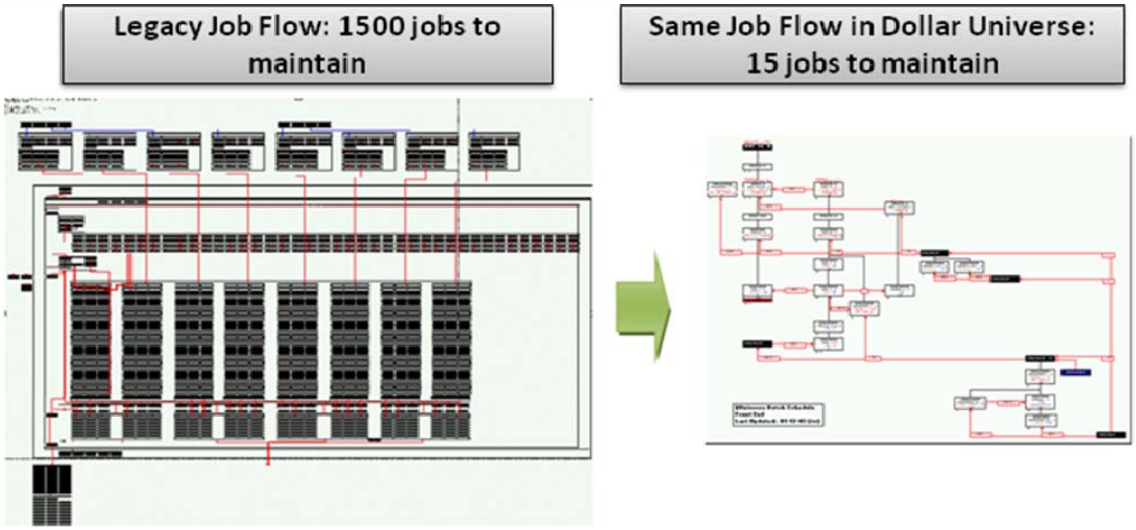
- ✓ Enhanced speed of service delivery by reducing your “batch or production window” as jobs no longer have to go through a central connection point (the host).

  Thanks to the event-driven technology, with ORSYP software there is no need to communicate back and forth with a central master, therefore reducing the overall batch window by more than 20%.
- ✓ Also because there is no daily compilation of the master schedule plan, any modification of the plan is made in real-time. With the legacy tool, that same operation can make the master unavailable for close to one hour.
- ✓ Increased quality of service with increased job scheduling reliability and availability – operational interruptions are drastically minimized because of the “no single point of failure”.
- ✓ Improved productivity by automating more types of jobs across the enterprise (batch, on-demand, real-time, JAVA) including jobs from home grown and mainframes.
- ✓ Faster deployment that adapts to the growth of their business

Deployment of the solution is standardized and made easy as the software is pushed to all new servers as they are provisioned.

- ✓ Improved response times to business needs by rapid and safe transition to production through staging, object based job flows, and replication.

  For instance, the Revenue team was able to drastically improve the management and maintenance of jobs and job flows by reducing the number of job definitions by 90%.



2.3 Reduced Operational Risk

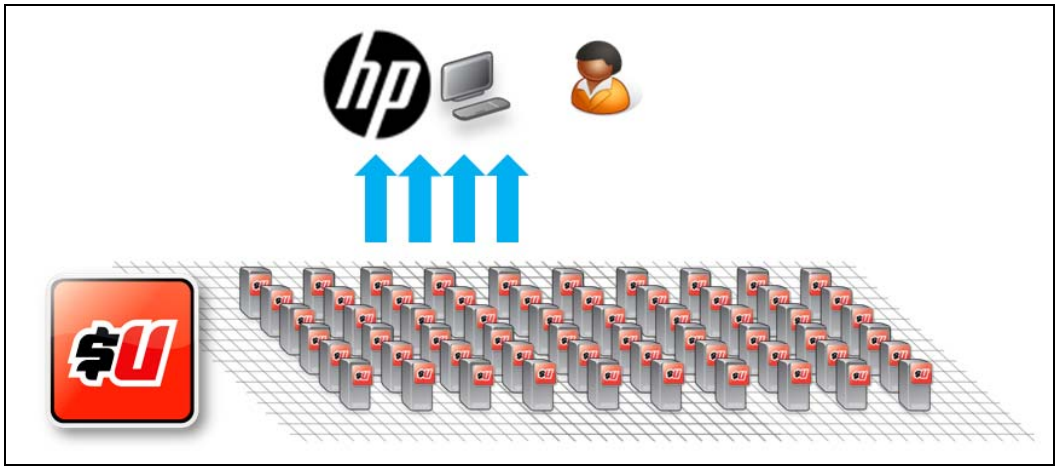
A crash of the automation environment can have serious detrimental effects on the business. A down scenario with one legacy instance can paralyze a significant portion of the production because of its traditional master/agent architecture.

With ORSYP's distributed scheduling capability, there is no single point of failure across the entire enterprise. A failure is contained to one single node and only the jobs that are assigned to that node, minimizing the impact to the enterprise production environment. Production can run locally and autonomously on each server. As a result, with one single node to recover, recovery is rapid, further improving IT availability.

ORSYP has extensive experience migrating legacy customers to the ORSYP Enterprise Workload Automation solution. With field-proven methods and productized migration tools, ORSYP has successfully transitioned large and complex legacy production environments in their entirety smoothly, quickly, and in a cost-effective manner. In no time, the ROI from migration is apparent, and your organization experiences greater efficiencies than ever thought possible. Whether your current job scheduler handles hundreds, thousands, or millions of critical jobs across hundreds or thousands of heterogeneous servers, ORSYP can **guarantee** a fast and painless migration.

ORSYP can further mitigate risk when it is used in conjunction with HP Operations Management software. In this configuration HP-OM can now be the centralized monitoring tool and operators can not only monitor job performance but can also take corrective action as well.

Customer case study: the supervision of IT Operations is done via HP-Operations Manager (Former OpenView Operations) just like shown below.



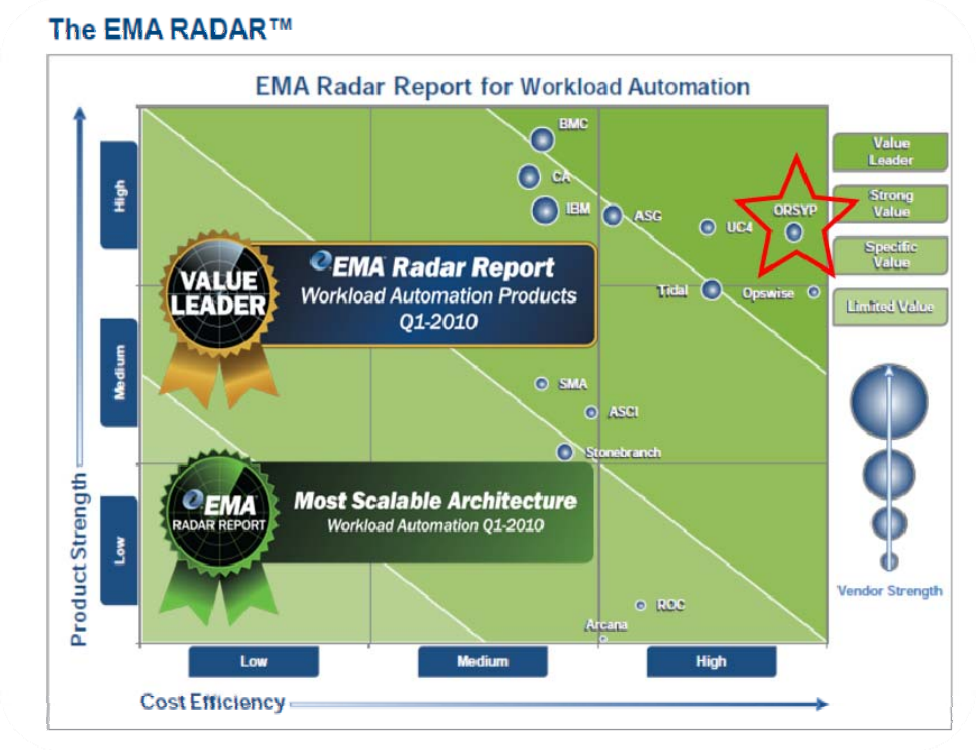
Because of the tight integration between the products, HP-Operations Manager is used to supervise the overall health of the job scheduler network which accounts for more than 6,000 servers. In addition, job status and alerts are displayed in the HP-OM message browser. Directly from the OM console end users access the execution job log, history trace and runbook of a given execution. In addition, failed jobs can be restarted and rerun from the OM console directly replacing the need to log onto the Job scheduler interface.

3. The point of view from Analysts

3.1 What Analysts say about ORSYP Workload Automation solution

"ORSYP'S greatest strength is its Peer-to-Peer (P2P) architecture, an approach that eliminates master servers and reduces management traffic. This architecture has practically unlimited scalability and is resilient. A P2P approach reduces implementation costs by minimizing hardware costs and shortening projects."

(src: Workload Automation - 2010 – EMA Radar Report)



"[ORSYP] Dollar Universe has been able to integrate and invoke Web Services and publish and subscribe to JMS, leading to improvements in its event-driven capabilities. Although Dollar Universe integrates well with packaged applications - such as SAP (which has certified Dollar Universe), Oracle/PeopleSoft (it is a certified Oracle/PeopleSoft partner) - it needs to specifically target these markets."

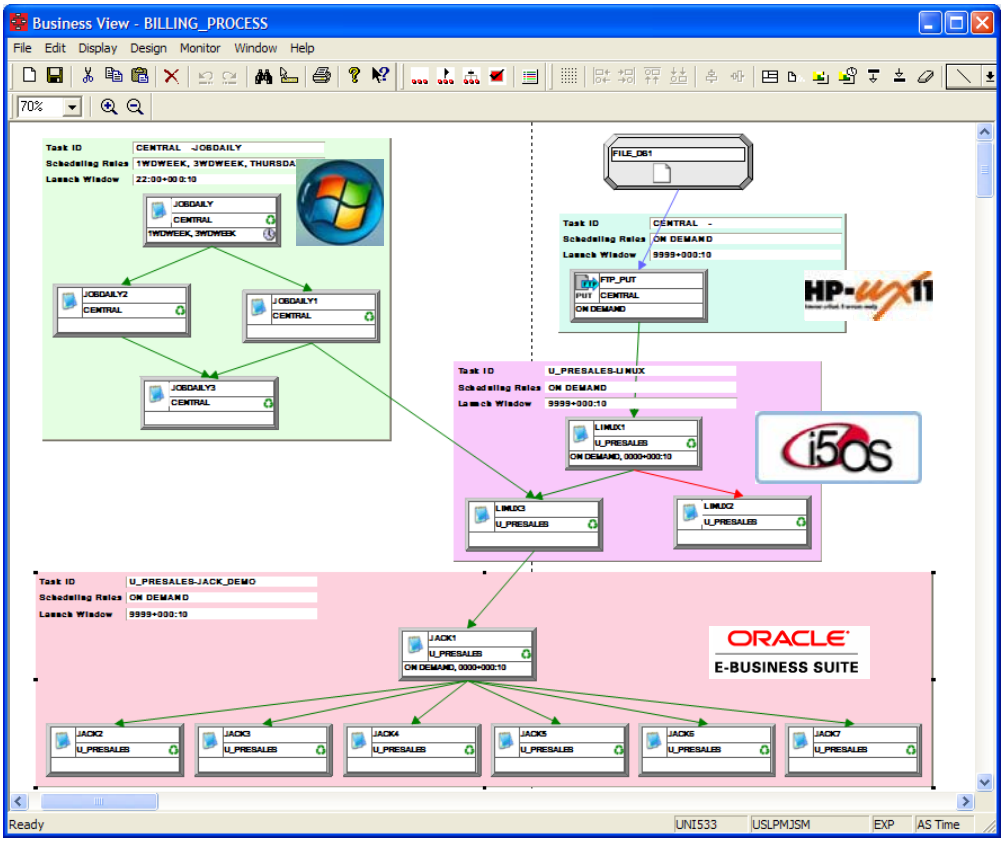
(src: Gartner magic quadrant 2006)

4. Appendix A

4.1 Dollar Universe: Enterprise Workload Automation solution by ORSYP

Dollar Universe is at the heart of the Information System, and at the service of the entire Information System. Multi-platform and multi-application, Dollar Universe automates and orchestrates IT operations on distributed environments.

1. **Cost optimizing solution**
   - Structure and standardize IT processes
   - Automate IT Operation flows



   - Integrate cross platform and cross application activity and manage it with a single tool

2. **Solution that helps increase the quality of operations**
   - Simplify the IT processes (on an ITIL focus)
   - Take advantage of an intelligent tool flexible to the future changes (organization / datacenter) within the company
   - Offer a global IT Operations vision, simplifying daily actions on the business critical processes
3. **Agile solution**
   - Replicate, distribute and generalize configurations easily
   - Implementation is independent of physical and environmental operational constraints
   - A complete solution which works on all Operating Systems, business applications and NSM/EMS tools

4.2 Immediate Productivity and Profitability Increases

Features		A legacy tool provider	ORSYP Dollar Universe
High Availability	Native High Availability	NO	YES
	Same High Availability strategy as Business Applications	NO	YES
	Seamless Cluster integration	PARTIAL	YES
Chnage Management	No impact of any machine downtime	YES	YES
	Installation: small system footprint	NO	YES
	No additional software or hardware to install and maintain	NO	YES
	Easy introduction of a new server	NO	YES
	Easy mechanisms to pass from Test to Production environments	NO	YES
Performances	24x7 non-stop services	NO	YES
	Low CPU consumption (<1% CPU)	NO	YES
	10,000s of jobs per hour on each machine	NO	YES
	Granular Maintenance - upgrades (patch/sytem)	NO	YES

Development	Cross platform job synchronization	YES	YES
	Reusability of objects to fasten implementations	NO	YES
	Availability of job templates for 3rd party applications	NO	YES
	Easy-to-use integration with major Business Application	YES	YES
	Native Workload balancing features	NO	YES
	Central management for calendars and scheduling rules	NO	YES
Graphical User Interface	Cross platform user friendly GUI	YES	YES
	Secured GUI	YES	YES
	Same presentation for job configuration and job monitoring	YES	YES
	Pert and Gantt job monitoring	NO	YES
	Fast and reliable intervention tools on production issues	YES	YES
	Native tool for building html reports	YES	YES
	Native tool for automatic documentation	NO	YES

4.2.1 Power-Grid Architecture

Any Comparison between Dollar Universe and legacy systems must start with the different architectures. Legacy tools are built on the older, restrictive master/agent architecture directly evolved from the centralized mainframe model. Dollar Universe, specifically designed for complex distributed environments using Power Grid Architecture, is based on the peer-to-peer model.

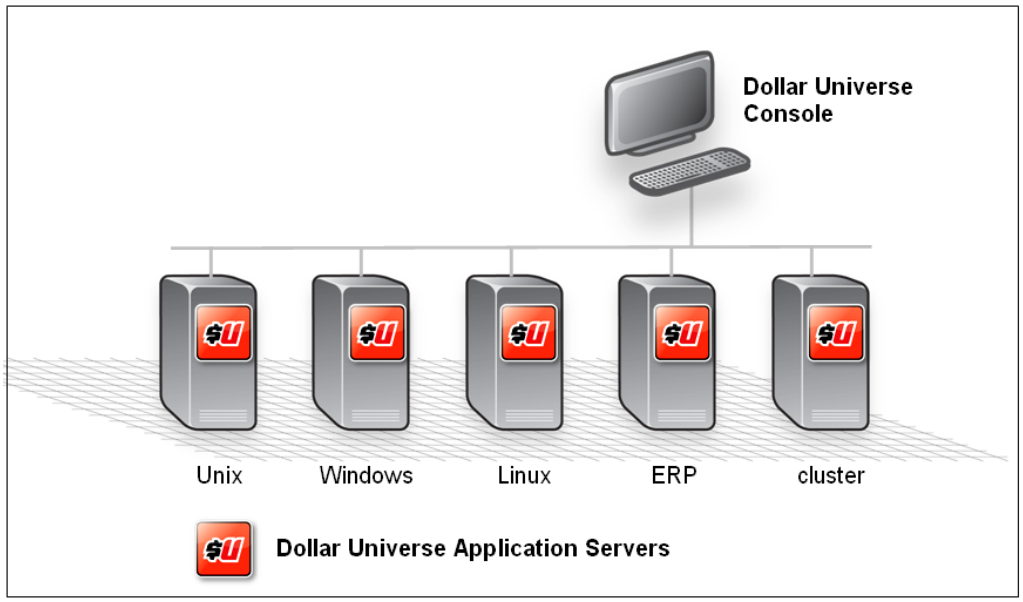
☑ Dollar Universe offers **better performances** as there is no permanent and consuming communication between the master and the agents (network and system performances are reduced at the minimal)

☑ Dollar Universe, with its dynamic calculation plan (calculation of the next launches as it goes along), guarantees **24/7 availability of batch operations**.

☑ Dollar Universe ensures **the best TCO** because it does not require any additional hardware or software (no dedicated server, no database).

☑ Dollar Universe ensures **the best scalability** because the peer to peer architecture by its nature does not impose any limitation in the number of servers

☑ Dollar Universe embraces the SOA concepts and **natively** takes advantage of the **high availability** of the application it automates. IT provides **the simplest DRP** from all the job schedulers.



4.2.1.1 Performances

In legacy systems (and unlike Dollar Universe) a copy all scheduling objects is kept on the master node which ensures network communication to all agents for condition checking, launch requests.

⇨ *A legacy tool providers users often report some performance issues when monitoring the job executions*

The permanent network communication also cause high latency and CPU consumption on the network and server

⇨ *Dollar Universe usage does not exceed **1%** of the total.*

Dollar Universe matches itself to the dimensions of each server dedicated to the application. Thanks to its event-driven engine (without polling), its use of resources is low (less than 1% of CPU time consumed by the application). It thus allows **very high loads** to be supported with thousands of daily jobs per server on an installed base of several hundred servers. ORSYP has customers who schedule more than 4,000 production servers and several hundreds of thousands of executions per day.

4.2.1.2 Application availability

Many legacy tools are built on a static calculation plan phase that leads to a **daily operations shutdown** while the plan for the coming day's production is calculated and distributed.

Dollar Universe, with its peer-to-peer architecture and dynamic calculation plan (calculation of the next launches as it goes along), guarantees continuity of local operation

on each server and thus **24/7 availability** of batch operations. The solution has automated, scheduled procedures for maintenance and does not require shut down of the application servers (e.g. “hot maintenance operations”). Dollar Universe’s architecture supports the principle of continuous business operations and maximum “up-time”.

4.2.1.3 High availability and DRP

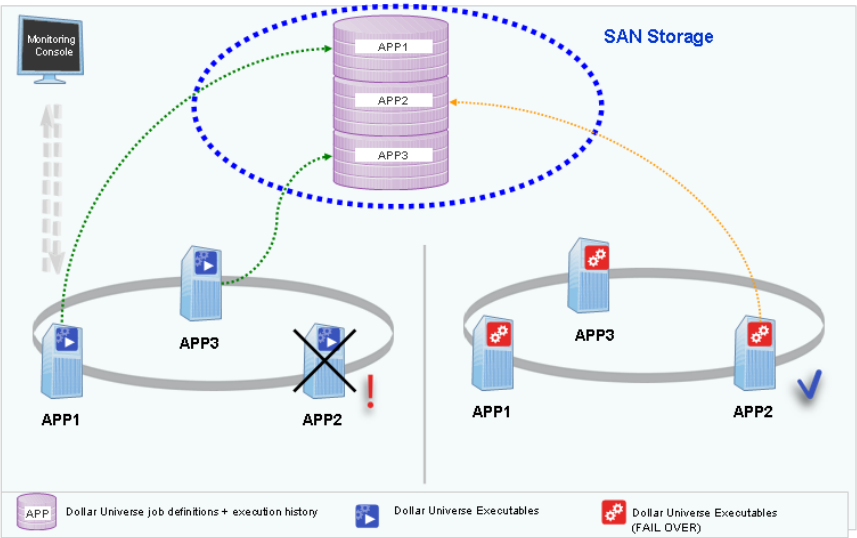
Implementing a DRP with many legacy tools is challenging and a cost-effort.

Dollar Universe **integrates natively with cluster solutions**, on:

- Windows (Microsoft MSCS)
- Unix (HACMP, HP MC/Serviceguard, Sun cluster, Veritas cluster or TruCluster)
- Open VMS

Cluster solutions guarantee an automatic and “almost” instantaneous restart on a backup server for critical applications following a serious incident. This server change (cluster switchover) requires the job scheduler to adapt quickly in order to guarantee service continuity. Dollar Universe’s peer-to-peer architecture (see Distributed architecture) requires an installation of an application server on each of the packages (Unix) or resource groups (Windows) requiring batch process scheduling. Multiple Dollar Universe application servers can run simultaneously on the same physical node of the cluster (for example, one per application package). The solution sticks as close as possible to the application that it schedules and automatically follows the cluster switchover in the event of an incident. In this way, it transparently meets the applications’ high-availability requirement.

Moreover, with its autonomous Application Servers, Dollar Universe sticks **as close as possible to the application** to automate. It thus allows **granular management of the Disaster recovery Plan**. This means that the failover of an application affected by an incident is accompanied simply by the switchover of the Dollar Universe Application Server that controls it. The restart of application activity is then automatic and virtually instantaneous on the backup server.



4.3 Development Cycle Management

☑ **Dollar Universe can help you drastically reduce the number of replicated jobs (backup jobs, jobs with same commands and only differ by different input parameters....)**

☑ **Scheduling is much easier with Dollar Universe and calendars/rules definition can be done centrally to guarantee the homogeneity of the environment and reduce the manual actions.**

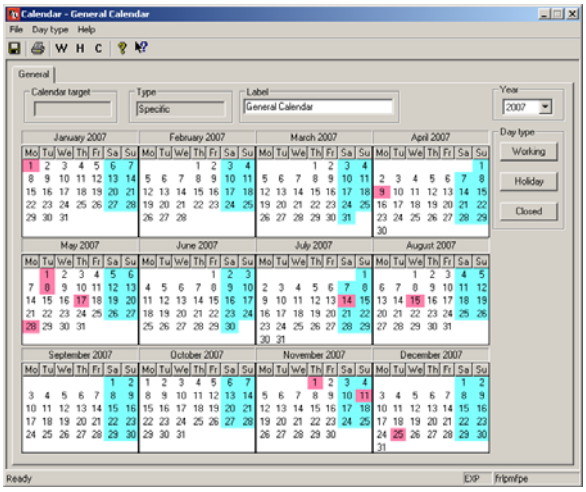
☑ **With Dollar Universe job templates, you can integrate new applications with a few clicks without any need for scripting**

4.3.1 Job Scheduling

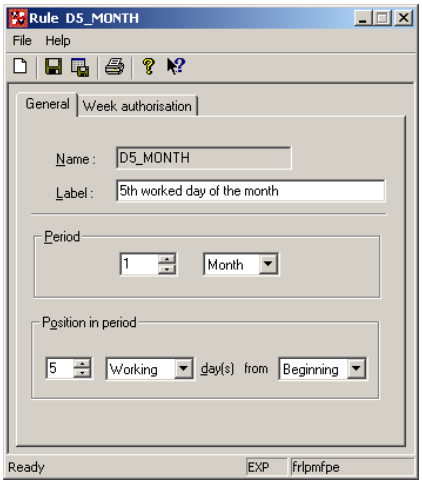
In most legacy tools, a declaration of the calendar that will be used has to be performed for each job. If the scheduler/operator needs to change one scheduling (for instance, to add an exclusion rule on several servers) then the action will have to be performed on each one of the single jobs/job flows.

Dollar Universe offers the possibility to **link** the jobs to the calendars. If an update must be done (for instance, add a new holiday in the billing application calendar, or an exclusion date), this is done **once**.

In addition, the users will be able to create as many calendars as required: one per different countries, per application (billing, financial, standard...)



Calendar



Scheduling rule

4.3.2 Object Oriented

When it comes to WHERE to submit the jobs, Dollar Universe is not based directly on the physical production server, but rather on the definition of **logical execution environments**, called *Management Units*. It executes processes on behalf of *Management Units* (logical links that point to the physical servers) and not directly on behalf of the server.

This virtualization of execution environments masks the multiplicity in the number and the type of servers as well as provides a logical representation of the application, technical and structural organization. The *Management Units* can be affiliated and placed in a hierarchy, enabling a mapping of the organization (subsidiaries, regions, agency networks, stores, business applications).

The resource virtualization allows simple and quick adaptation to changes in organization and equipment:

- If the IT manager moves an application from one server to another (final shut-down of the server, centralization or deployment of applications, etc.), the defined scheduling configuration for the application will not need to be updated or modified – meaning it will be fully operational as it stands. Only the logical link (*management unit*) will require the update,
- In the context of replicated production, the IT manager can deploy the same set of objects, defined in the central repository, for a group of entities (stores, agencies, subsidiaries etc.). The addition of new entities does not lead to the creation of new configurations. The new entity just needs to be declared in the list of *Management Units*. Dollar Universe enables the IT manager to automatically or manually deploy the configuration to the new location. Further, it immediately takes new entities into account, requiring no configuration update or redefinition. By leveraging the "*Management Units" approach*, Dollar

Universe allows IT managers to manage the replicated environments as a single environment

4.3.3 Change Management Cycle built-in

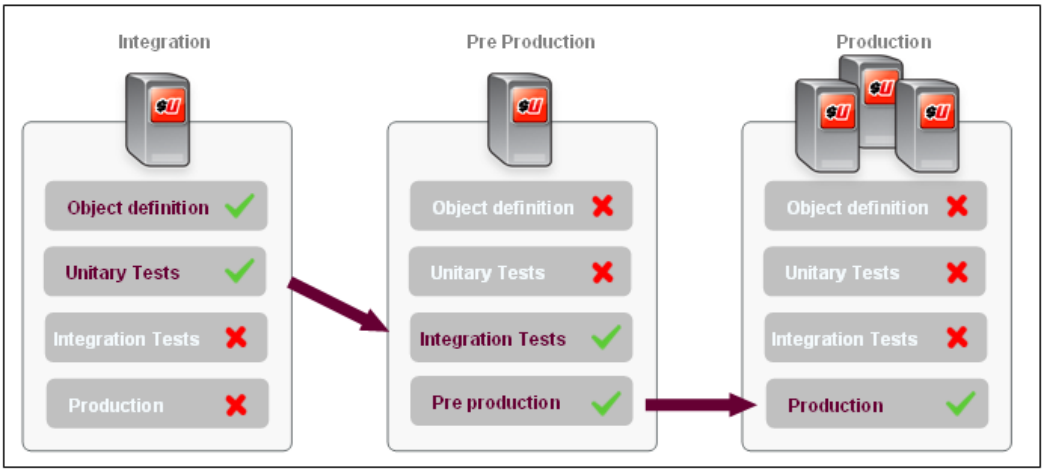
☑ **Simulate your production plans**

☑ **Manage your object versions**

For simple and effective production go-live Dollar Universe offers, for each instance of the product, **four parallel environments**, called *areas*. These environments are generally dedicated by:

- Application (Area dedicated to object definition, in general),
- Integration (Area dedicated to object qualification),
- Simulation (Area dedicated to operation plan simulation or pre-production),
- Production (Area dedicated to production).

Operators can activate these *areas* depending on the servers and requirements. In general, Dollar Universe only activates the production *area* on a production server. Conversely, operators working on an integration server, can use different *areas* and each team involved in the go-live cycle can have its own access rights.



Go-live Cycle Management with Dollar Universe Areas

Dollar Universe allows operators/users to dedicate areas according to requirements for specific purposes such as user training or making validated configuration sets available. Each area is detached and has its own technical and functional services. This approach avoids any risk of the test jobs polluting the data or interfering with the production jobs. In addition, it also enables efficient management of object version. Therefore, operators can differentiate each object or set of configurations by a version number (between 1 and

999). Once the tests are completed, the validated and selected set will be available for commissioning. Operators can choose to keep the other sets of objects for later use.

Operators/Users can switch from one *area* to another by a simple click from the user interface (select object by object, or by group of objects) or by using the export/import commands, that automatically automates the process. The Dollar Universe *areas* thus allow methodical management of the go-live steps and limitation of errors in the validation process.

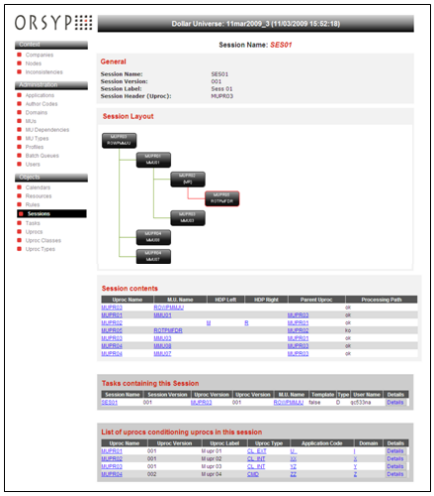
4.3.4 Configuration Management: automatic documentation

ORSYP offers a documentation module, Dollar Universe Publisher, that **automatically generates the documentation** relating to the configuration of all production processes. The operator can interactively update the documentation at any time (from a user interface) or as a batch job (from a scheduled process).

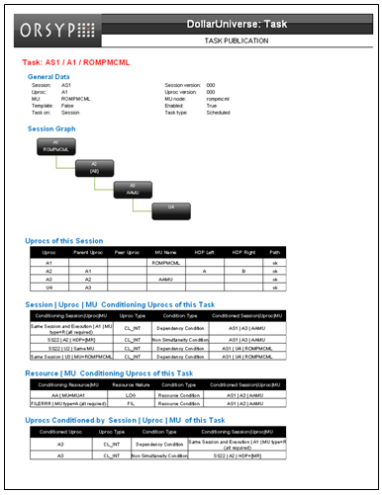
The documentation generated can relate to all or only a part of the configuration, depending on individual needs (administrator, developer, operator etc.). It describes the jobs, their predecessors and successors, the expected resources, the information linked to a job restart in case an incident occurs, operator instructions etc.

Configuration data are extracted in a relational database (Oracle, SQL Server) and documentation is generated in HTML format (Web browser) or RTF format (Text Editor) from this reference.

The generated documentation is easy to access and archive. The information content is standardized for ease of sharing.



HTML format



RTF format

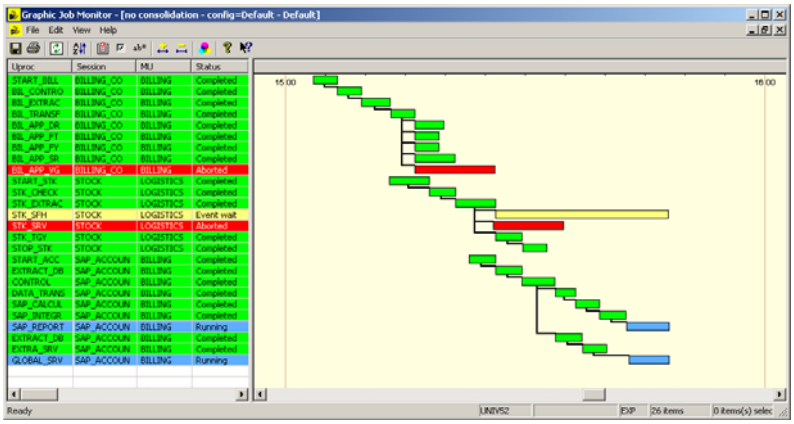
Dollar Universe Publisher: generation of documents relating to the configuration

4.4 Higher Quality of Operations

With Dollar Universe, all scheduled operations can be monitored from the **centralized graphic user interface** integrated in Dollar Universe Console (windows client or JAVA web based).

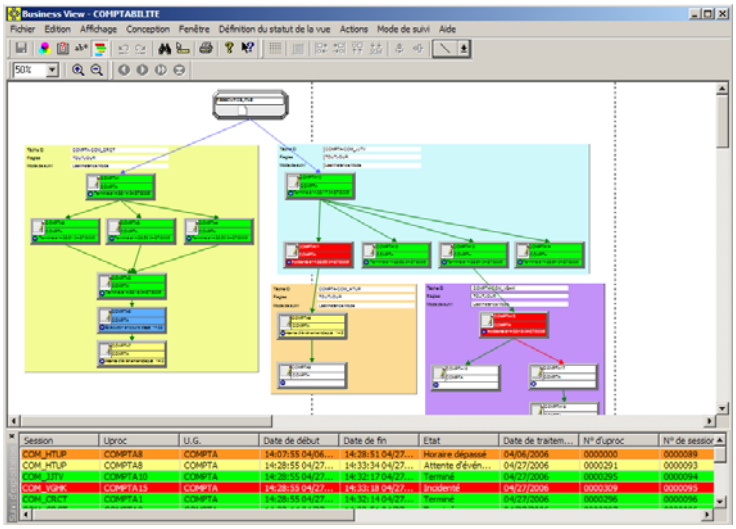
Dollar Universe Console makes available two graphic monitoring interfaces to meet the needs of the various IT production teams. These interfaces provide:

- **chronological monitoring** of the production (Graphical Job Monitor) for the greatest possible ease in following past, present and future operations, whatever the supervised operating system (Unix, Windows, AS400 etc.). This interface shows, in a **GANTT diagram**, the progress in time of the executions (graphical representation of the job execution times) and the links that exist between the processes, whatever the application or type of server. Filters can be used to emphasize the most important information (processes in a critical status, selection by names, by applications, by execution environment, by date and time of execution etc.). This interface is intended for operators for efficient operations monitoring and control,



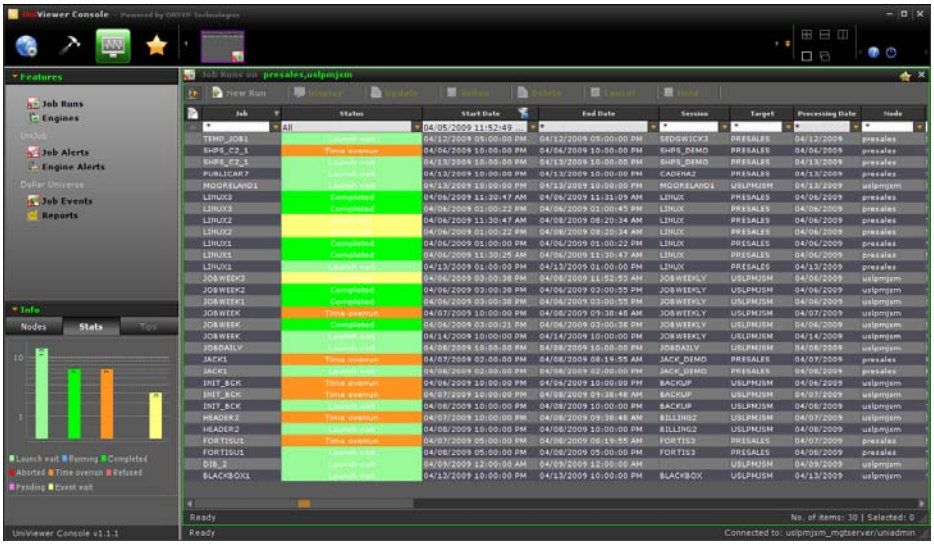
Centralized graphic monitor interface: Dollar Universe Graphical Job Monitor

- **monitoring with Business Views** for a representation in real time of the status of a given business application (**PERT diagram**). This monitoring uses the sequencing scheme of the application (business view), defined in the Business Views configuration (see Dollar Universe rapid ROI, section2). The execution statuses are represented by means of customizable color codes. This interface is intended for project and application managers.



Centralized graphic monitor interface: Dollar Universe Business Views

- The **Web interface**, provides full central control of operations from a remote location. This interface includes all the monitoring features offered by Dollar Universe Console for both monitoring and controlling operations (access to logs, restart of aborted jobs with update of submission parameters if needed, update of the launch window, deletion of launches, stopping running jobs, launch of new job flows etc.).



Dollar Universe Web Console

With these three interfaces, not only can operations be monitored but they can also be checked in real time (impact analysis of an incident, operator instructions (runbook),

access to documentation, restart after incident, modification of launch window, new launches, history analysis etc.).

For optimized, user-friendly supervision:

- configurable color codes (by default, red for aborted, green for successfully completed, blue for running, orange for time overrun etc.),
- information on link representation, conditions between processes, resources awaited etc,
- consolidations, allowing the representation in a line of the most critical status of a job flow, of an application or of jobs launched by a given submission account,
- system logs (standard and error outputs generated by the jobs) and technical logs (formatted execution summary generated by the Dollar Universe application server, showing the job steps completed and, for jobs in launch wait, the events awaited. This execution summary can include comments or operating instructions sent by the application),

The job monitor function operates in an entirely event-driven mode and the events, as they occur, notify graphic job monitor in real-time. Best of all there is no network performance degradation since Dollar Universe does not use a polling mechanism.

4.5 Improve Client Service Levels

4.5.1 Integration with SME

☑ **Notification of production events**

☑ **Supervision of Dollar Universe engines and data**

Dollar Universe integrates with the major Service Management tools: HP OpenView/ Operations Manager, BMC Patrol, IBM Tivoli TME, CA Unicenter, Microsoft MOM/SCOM, SAP Solution Manager. Users can thus be informed of any malfunction relating to its activity:

- **Supervision of Dollar Universe technical processes**: all strategic components can be supervised, in particular the Dollar Universe processes (presence, absence and consumption), the size of the general logs and the log and data directories (disk space check and generation of alarm at a configurable threshold),
- **Supervision of IT operations** managed by Dollar Universe: alarm notification according to processes and their status.

The various actions on this information can be switched on automatically or directly from the supervision console: start or stop Dollar Universe or a process, launch the graphic user interface, purge log entries older than *n* days, maintenance for Dollar Universe, restart a job, viewing job logs etc.

Dollar Universe can also interface with any other type of supervision tool (Nagios, Big Brother), using its Manager for Generic Supervision, which provides real-time notification of job statuses scheduled by Dollar Universe for improved management of operational alerts. The Manager uses, depending on the supervision solution, the SNMP traps (MIB Dollar Universe), the command line interface provided by the tool or the event log.

Integration of Dollar Universe with a supervision tool provides faster reaction in the event of an incident.

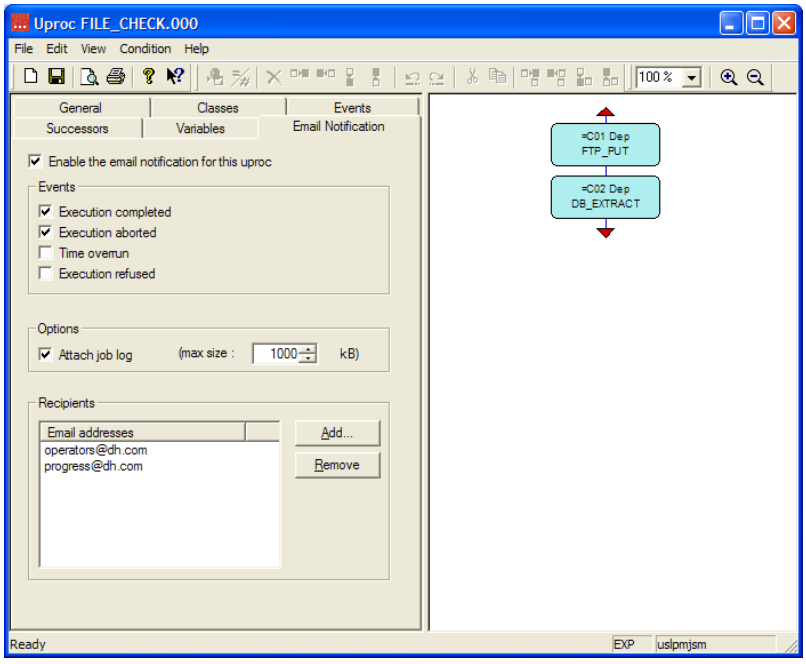
4.5.2 Built-in alarming features

☑ **Notify your alerts in real time**

☑ **Include your operations in the supervision**

Dollar Universe features natively e-mail notification. This function can be activated for each job depending on its importance. Notification parameters for each job are:

- mail notification for job end OK or KO, overrun or launch refused,
- log in attached file with maximum log size authorized,
- recipient list,
- sender.



SMS notification is managed via mail notification to the phone operator.

This notification can be also managed through any third party alerting application, integrated with Dollar Universe.

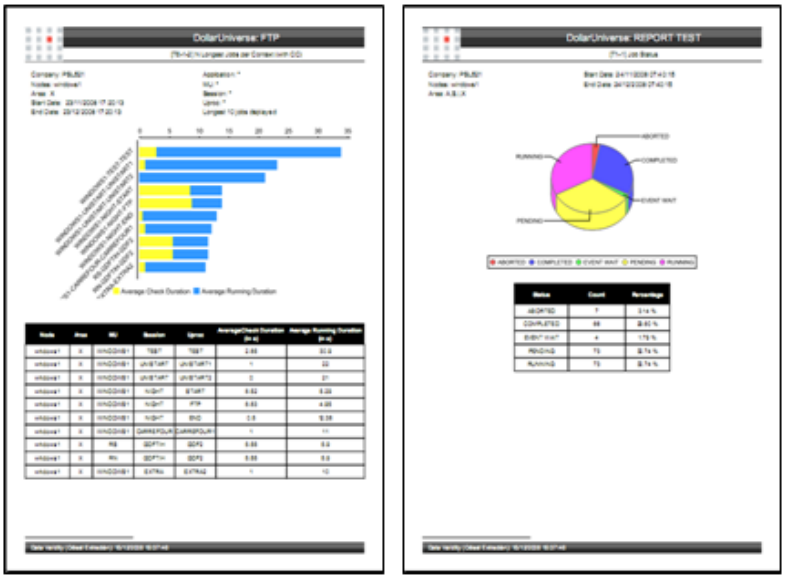
4.5.3 SLA and reporting: delivering trends

Dollar Universe Reporter can generate manually or automatically customizable reports for IT operations. Reports can be:

- viewed directly from the graphical user interface,
- automatically generated and sent by mail in HTML and PDF format,
- saved in RTF, ODT, XLS, CSV or XML formats.

Dollar Universe Reporter gives access to global and summary information on IT operations over a configurable time interval. Managers can configure different reports on servers (groups of servers by OS, by site), applications (ERP), and/or processes (application, technical).

Dollar Universe Reporter consolidates the key output of IT operations in a single document thereby providing summaries of job statuses, execution results by functional views, longest times, abnormal jobs, etc. Furthermore, it offers a package of standard templates and allows operators to build templates for customized reporting. For example, teams can configure their own reports to measure different activities such as one for backup, another one for ERP, and one for Windows servers, etc. Once generated, operators can share the reports without having to connect to the scheduler and they save time by not having to write up activity reports thereby measuring service quality more easily.



Dollar Universe Reporter: automatic production day summaries

4.6 Legacy tool replacement: ORSYP Project Model

This section presents a typical Dollar Universe implementation path involving ORSYP Professional Services for a legacy tool replacement project.

Based on the Kick-off meeting, these steps may vary.

ORSYP Professional Services is very flexible and thanks to 20+ years in the IT production sector, can accommodate your business requirements.

4.6.1 Project Overview

4.6.1.1 Kick-off meeting

During this step, the major actors of the project are identified, agenda is reviewed and milestones are set.

Typical duration: 1 day

4.6.1.2 Preparation: Training

Before any other steps take place, ORSYP recommends that key personnel in charge of architecture, deployment, applications, participate in a training session as to gain the knowledge required in subsequent steps. Other trainings can be delivered later in the project, but this first session will bring the decision makers up to speed on $Universe concepts and vocabulary.

Typical duration

5 days for standard scheduler training - ½ day for operators training

Note: could be several sessions depending on size of the teams to train

4.6.1.2.1 Step 1: Architecture / Best Practices / Norms and Standards

Prior to product deployment, ORSYP recommends discussing how the tool will integrate in the environment. Topics such as the following are addressed:

- Architecture;
- Security requirements;
- Separation between staging environments (development vs. q&a vs. production);
- User interfaces per category of user (for example, interface for developer vs. scheduler vs. operator);
- Naming conventions;
- Integrations required with technical tools and applications already in place;
- Escalation process, automated recovery;
- Disaster Recovery / Business Continuity;

Typical duration

1 to 5 days depending on the criticality, size and complexity of the project

4.6.1.3 Step 2: Deployment

Once these decisions are taken, step 2 "deployment of the tool" can take place.

Thanks to automated silent installers, this phase can be very fast – see durations below.

Customer can also be trained on how to launch these automated installers and have it deployed by sys-admins; this is how thousands of servers can be deployed with minimal ORSYP involvement.

Typical duration

1) For the Application Server $Universe, 5-10 hosts can be installed by ORSYP in a day; when there are many more servers to deploy (hundreds or thousands), we usually train the client during a couple of hours and we support the deployment during 1 or 2 days afterward for any questions/issues.

2) For other modules, the duration varies, usually from a couple of hours to 1 day, usually ½ day.

4.6.1.4 Step 3: Optional development of integrations

When customer has a very specific environment, with home grown tools for example, ORSYP PS can analyse/customize/develop integration modules or scripts to better integrate $Universe in the environment.

Typical duration

This is very project dependent – typical times vary between 0 and 20 days, most often 5 days

4.6.1.5 Step 4: Automated conversions

ORSYP has extensive experience with converting CA-AutoSys jobs and job flows to Dollar Universe. Professional Services developed automated converters for Autosys, and owns also generic tools for other conversions.

ORSYP would propose in this case to convert 1 to 1 the job flows currently in CA-AutoSys.

Using the automated tool, convert 1 to 1 the jobs from Autosys to $Universe; these are imported in a non-production environment – usually, this is performed on the consultant laptop. Manual updates can then be applied.

Note: it is possible to control how the jobs are named in this step.

Typical duration

Typical times vary between 1 and 5 days, most often 2 days for an automated conversion in one shot

4.6.1.6 Step 5: Test/verifications followed by move to production

Now that the definition of job flows are in $Universe, they can be tested and validated, application per application, team by team, or job flows one at a time.

$Universe offers several techniques to validate:

- the job flows
- the schedules

After a first review is done on the consultant's laptop, it is possible to deploy the jobs on non-production hosts, and to run the job flows in the APP area; in this area, jobs do not run their script, but they simulate a run instead (a sleep command). This test is perfect to validate the sequencing and scheduling, without running anything harmful.

Once this is done, it is possible to bring the jobs to a Q/A environment, and run them (or a subset of jobs) against the QA environment.

When validation is complete, the selected jobs can be enabled in $Universe (probably moved from a DEV/QA host to a PROD host).

If the jobs were extracted and converted from another product, they need to be disabled in the other product at this point.

It is very frequent to start with a pilot application, and once the concepts are fully understood by all parties, to move on with other applications.

This phase can be handled with or without ORSYP; If customer wants to minimize ORSYP consulting time, ORSYP can help with a few job flows, and after the customer is comfortable, have customer move on independently in this phase.

Typical duration

This is very project dependent, based on the number of job and job flows, the number of teams to interact with, and the level of knowledge of the application. This goes from a week for a simple conversion/single application, to multi-months for large conversion efforts.

4.6.1.7 Step 6: Production Support

ORSYP can remain onsite to help with production support during a few cycles; this is very helpful for operations team who may not be very experienced yet with $Universe and to improve reactivity during any issues; it drastically reduces the risk of business impact during the transition to the new product.

Typical duration

Usually, we remain available during weeks, but the workload is limited to 1-2 days per application.